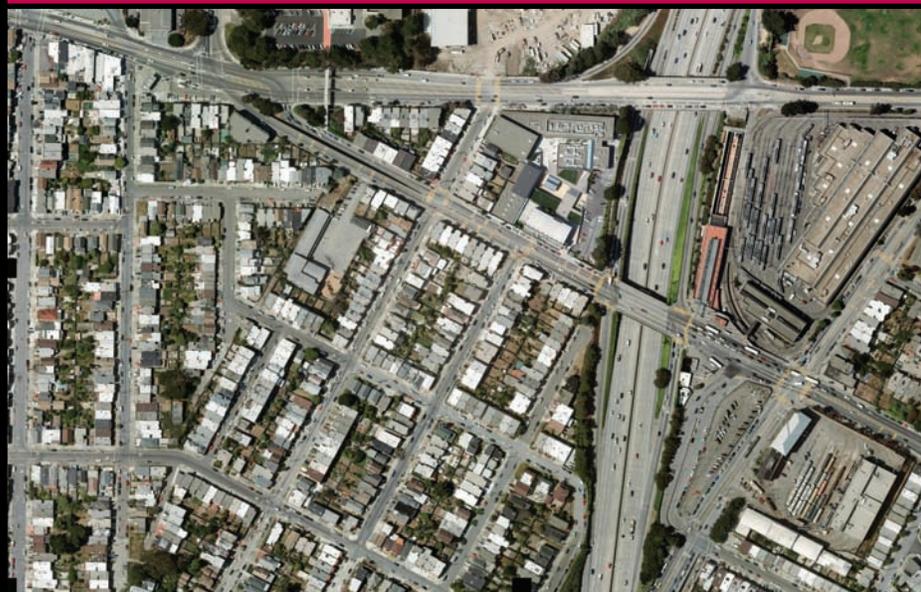


# Balboa Park Station Pedestrian and Bicycle Connection Project

## Executive Summary October 2009



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Municipal Transportation Agency

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The Balboa Park Station Pedestrian and Bicycle Connection Project Technical Report, including an accessible version, will be available on the SFMTA website at [www.sfmta.com](http://www.sfmta.com) in September 2010.

If you would like a copy of the Technical Report please contact Ms. Kim Walton, Study Project Manager.

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## **Background**

The Balboa Park neighborhood in southern San Francisco is centered around an important City park – Balboa Park. It is the location of one of the City’s main streetcar depots—the Geneva Division. As a result, the area developed into a major transportation hub in the early years of the twentieth century. The number of transit users intensified in later years when BART (Bay Area Rapid Transit) constructed a transit station near Balboa Park and Muni (San Francisco Municipal Railway) opened a new vehicle maintenance facility (Curtis E. Green Light Rail Facility) adjacent to the BART station. As a result, Balboa Park has become a crossroads of sorts with a heavily traveled terminal, where BART, light rail and bus lines converge. Passengers transfer from one system to another, while autos and shuttles are constantly arriving to pick up and drop off passengers.

Meanwhile, autos travel at relatively high speeds on the three arterial streets traversing the neighborhood—Geneva, Ocean, and San Jose avenues. Contributing to traffic, and the complex multi-function of the area, are the on and off-ramps for I-280 on Ocean and Geneva avenues directly adjacent to the transit stations. In the midst of this confusion, pedestrians and bicyclists do their best to navigate through the area to major walking and bicycling destinations including City College of San Francisco, Lick-Wilmerding High School, Leadership High School, and the Ocean Avenue commercial Main Street. As a result, sidewalks, crosswalks, and bicycle facilities are often inadequate.

These deficiencies have been recognized for many decades, and many planning studies have proposed possible improvements. Some of these seek to transform the area from one that people pass through to one that is a destination in itself. The objective of such studies is placemaking: that is, creating living, shopping, and work places within an easy walk of the various station facilities in Balboa Park. Central to these visions is the improvement of conditions for pedestrians and bicyclists, which is the focus of the Balboa Park Station Pedestrian and Bicycle Connection Project.



Goals for this project include the following:

- To address activities along the borders of the Balboa Park Station area
- To make the area safer for pedestrians, bicyclists and motorists
- To improve access to transportation services for pedestrians and bicyclists

An endeavor of the San Francisco Municipal Transportation Agency (SFMTA), the project seeks to identify improvements for pedestrians and cyclists that can be implemented in the short and medium-term. Future studies will carry this work forward by advancing more complex, long-term projects in this neighborhood.

### ***Balboa Park Station Area Plan and Environmental Impact Report***

The Balboa Park Station Area Plan and Environmental Impact Report (EIR), which were prepared by the San Francisco Planning Department, identified a set of issues for pedestrians and bicyclists. General areas of concern discussed include:

- An insufficient number of crosswalks on both Ocean Avenue and Geneva Avenue east of City College of San Francisco (CCSF)
- An undesirable walking environment near I-280 due to high automobile traffic
- The potential pedestrian and bicycle safety issue caused by the free-flow right-turn pockets at the intersection of Ocean Avenue, Geneva Avenue and Phelan Avenue
- The potential pedestrian and bicycle safety issue caused by the free-flow off-ramp from southbound I-280 on Ocean Avenue
- Potentially unsafe bicycle conditions at the intersection of Ocean Avenue, Geneva Avenue and Phelan Avenue due to the intersection's unique geometry
- The potential pedestrian and bicycle safety issues at the I-280 on and off-ramps on Geneva Avenue

In addition, the following are recommended/proposed improvement measures discussed in the project plan and EIR:

- Develop enhanced pedestrian facilities on Geneva Avenue, Ocean Avenue, San Jose Avenue and Phelan Avenue
- Establish dedicated bike lanes on Geneva Avenue, Ocean Avenue, San Jose Avenue and Phelan Avenue
- Expand bus loading/unloading zones on Geneva Avenue, Ocean Avenue and San Jose Avenue
- Improve "kiss-and-ride" unloading zone on Geneva Avenue
- Provide pedestrian signals with countdown indicators at all major intersections and at crosswalks that connect to the Muni light rail stops and Balboa Park BART Station
- Provide the Planning Code-required shower and locker facilities for any commercial uses including those within primarily residential buildings
- Provide the Planning Code-required bicycle parking spaces for any commercial uses including separate spaces for commercial uses within primarily residential buildings

### ***Study Area Description***

The study area for the *Balboa Park Station Pedestrian and Bicycle Connection Project* is defined by Ocean Avenue to the north, Geneva Avenue to the south, Howth Street to the west, and San Jose Avenue to the east. The intersection of Phelan Avenue with Ocean and Geneva Avenues has also been examined as part of the study area. The

study area is bisected by I-280, which is a major north-south freeway. The study area also includes the neighborhood directly surrounding the Balboa Park Station.

Geneva, Ocean and San Jose Avenues are all major routes for vehicles traversing the south side of San Francisco. Within the study area, there are six freeway on and off-ramps providing access to I-280. These factors generate substantial vehicular volumes around the station area. In combination with Muni bus and Light Rail Vehicle (LRV) service and signal coordination, the area has consistent traffic congestion. This congestion negatively affects transit times and pedestrians as buses sit in queues and pedestrians must navigate congested intersections.

### ***Existing Conditions***

#### Geneva Avenue

Forming the southern boundary of the study area between Phelan Avenue and San Jose Avenue, Geneva Avenue is an east-west arterial that connects Balboa Park and Visitacion Valley stretching from Phelan Avenue to Bayshore Boulevard.

- Pedestrians utilizing transit frequently exceed the capacity of the sidewalks.
- The Balboa Park “kiss-and-ride” area is located to the south of Geneva Avenue between I-280 and San Jose Avenue, across the street from the main station entrance and is underutilized. Many drivers drop off their passengers (both BART and Muni passengers) on the freeway ramp, and walk the short distance from the ramps. The drivers can then proceed back onto I-280 without significant delay. This behavior slows traffic flow on the ramps and creates a safety issue for pedestrians and vehicles.
- Pedestrians often cross mid-block near the BART station entrance after being dropped off on the I-280 northbound ramp.

#### Ocean Avenue

Ocean Avenue is an east-west arterial that connects the Sunset District and Balboa Park, stretching from Sunset Boulevard to Mission Street. It forms the northern boundary of the study area west to Phelan Avenue and east to San Jose Avenue.

- Pedestrians lack a viable, legal pedestrian crossing along this segment of Ocean Avenue, other than the one recently installed at Howth Street due to City College campus improvements. As a result, mid-block crossings are common on Ocean Avenue between Howth Street and San Jose Avenue.
- There is no marked crosswalk west of San Jose Avenue to connect Balboa Park with the station area. As a result, pedestrians cross mid-block to access the park. While the LRV crossing east of I-280 is an obstacle to crosswalks at that location, the two closest crosswalks are approximately a quarter of a mile distant.

## Pedestrians

There are major pedestrian destinations within the station's vicinity including City College, Lick-Wilmerding High School, Balboa Park and neighborhood retail on Ocean Avenue to the west of the station. The BART station entrance faces Geneva Avenue, and the Muni J/K light rail boarding area is accessed from that station or from the corner of Geneva and San Jose avenues.

Pedestrian activity is highest on the sidewalks directly adjacent to these areas along Geneva and disperses through the neighborhood

## Bicyclists

Both Geneva and Ocean avenues are designated bike routes, however most bicyclists choose Ocean as Geneva has a steep grade at the west end. Ocean Avenue is marked with sharrows, which are arrows showing a bicyclists position in the roadway that designate a lane shared with traffic. Within the study area, there is bike parking at the Balboa Park BART station and a limited supply on the City College campus.



## Collisions

The intersection of Geneva and San Jose avenues has the highest number of collisions within the study area, and also has the highest pedestrian volumes, thus warranting a high priority for this location.

Aggressive driving, particularly at the intersection of Geneva Avenue and the I-280 ramps contributes to conflicts between vehicles and pedestrians.

## Parking

On-street parking is permitted in most areas except Geneva Avenue between San Jose Avenue and southbound I-280 and the north side of Ocean Avenue between the southbound I-280 off-ramp and Phelan Avenue.

There are no residential parking or hourly restrictions for on-street parking within the immediate area, although surrounding neighborhood streets are designated within residential permit area "V". The lack of parking restrictions results in low parking turnover and high occupancy rates. Based on field visits, it appears that most on-street spaces are utilized by BART patrons for the full day, limiting use to a small number of drivers

## Transit

The Balboa Park station is best described as a “station complex.” The BART station serves 15,500 passengers per day and is the busiest BART station outside downtown San Francisco.



- Muni provides light rail and bus service to the neighborhood via the J, K, and M Lines. Bus stops are located on both sides of Geneva Avenue. There are several other bus and rail stops located in the study area, including a major off-street terminal loop for buses and trolley buses at Oceana and Phelan avenues.
- Due to the design of the station complex, there is limited waiting space for Muni LRV passengers.

The main LRV stop is at an area which is not ADA accessible, necessitating a second stop at the accessible platform if requested.

- The nearby sidewalks do not have accessibility features, such as tactile surfaces at curb ramps.

## **Key issues**

The following table and figure summarizes the key issues identified during the Balboa Park Pedestrian and Bicycle Connection Study.

**Summary Issues and Opportunities for the Balboa Park Station Area**

Location	Issues
<b>Geneva Avenue/San Jose Avenue</b>	Signal not coordinated with Caltrans signals; westbound approach frequently congested; delays major transit route; pedestrian safety issues and high potential for conflicts between turning vehicles and pedestrians; pedestrians crossings mid-block
<b>Geneva Avenue/I-280 NB Ramps</b>	Passenger drop-offs on-ramps; bend in east crosswalk difficult for visually impaired pedestrians; queues spill back onto freeway
<b>Geneva Avenue/I-280 SB Ramps</b>	Eastbound approach frequently congested; delays major transit route
<b>Geneva Avenue/Howth Street</b>	Uncontrolled intersection with limited sight distance create safety issues for pedestrians
<b>Ocean Avenue/Phelan Avenue/Geneva Avenue</b>	Free right turns present safety issues for pedestrians; skewed intersection difficult for pedestrians and bikes; large surges of traffic due to CCSF; lack of bike facilities on Phelan Avenue
<b>Ocean Avenue/Howth Street</b>	LRV stop at pedestrian overpass does not directly serve southern entrance to CCSF or Lick-Wilmerding High School
<b>Ocean Avenue/ I-280 SB Off-ramp</b>	High-speed uncontrolled approach with limited visibility
<b>Ocean Avenue/ I-280 NB On-ramp</b>	No pedestrian or bike crossing on Ocean Avenue; sporadic congestion perhaps due to LRV preemption; poor access to BART/Muni; poor pedestrian/bike connection across LRT tracks
<b>Ocean Avenue/ San Jose Avenue</b>	Sporadic congestion perhaps due to LRV preemption; pedestrians make unsafe crossings to make their transit connections
<b>Ocean Avenue Corridor</b>	No bicycle facility; limited access to Balboa Park; buses sit in congestion; ADA compliance issues
<b>Geneva Avenue Corridor</b>	Drop-offs in bus zone; frequent bus and traffic congestion; traffic signals not coordinated; ADA compliance issues
<b>San Jose Avenue Corridor</b>	No bicycle facility; ADA compliance issues

### ***Improvement Options***

To build on the issues and opportunities included in SFMTA's Transit Effectiveness Project, *Bicycle Master Plan*, and the *Better Streets Plan*, this study identifies specific short-term transportation improvements for pedestrians and bicyclists, as well as transit riders and motorists, around the Balboa Park Station area. The study analyzed potential improvements along Geneva and Ocean avenues and focused on the following issues summarized in the table below:

- Pedestrian and bicycle connection improvements
- Pedestrian safety improvements
- Streetscape improvements
- Traffic circulation improvements
- Provision of bike facilities

**Recommended Improvements for the Balboa Park Station Area**

Location	Recommendation
<b>GENEVA AVENUE</b>	
<b>Geneva Avenue / San Jose Avenue</b>	<ul style="list-style-type: none"> <li>1.1 Install curb extensions</li> <li>1.2 Reconfigure westbound Geneva Avenue approach</li> <li>1.3 Streamline LRV boardings &amp; operations on San Jose Avenue</li> <li>1.4 Install ADA-accessible curbs</li> </ul>
<b>Geneva Ave/280 On and Off-Ramps</b>	<ul style="list-style-type: none"> <li>2.1 Realign east side crosswalk</li> <li>2.2 Reduce corner curb radius</li> <li>2.3 Install ADA-accessible curbs</li> </ul>
<b>BART Station Area</b>	<ul style="list-style-type: none"> <li>3.1 Kiss-and-ride reconfiguration</li> <li>3.2 Geneva Plaza sidewalk expansion</li> <li>3.3 Geneva Avenue signal coordination</li> </ul>
<b>Geneva Ave / Howth Street</b>	<ul style="list-style-type: none"> <li>4.1 Signalize Geneva Avenue / Howth Street intersection</li> <li>4.2 Signalize Geneva Avenue / Louisburg Street Intersection</li> <li>4.3 Convert Howth Street to two-way</li> </ul>
<b>Geneva Ave between I-280 Ramps and Howth Street</b>	<p><b>Options:</b></p> <ul style="list-style-type: none"> <li>5.1 Widen north side sidewalk, or</li> <li>5.2 Add vehicle turn lanes, or</li> <li>5.3 Add transit-only lane</li> </ul>
<b>OCEAN AVENUE</b>	
<b>Ocean Ave / Phelan Ave / Geneva Ave</b>	<ul style="list-style-type: none"> <li>6.1 Consolidate vehicular access to southwest corner of Ocean Avenue / Geneva Avenue</li> <li>6.2 Install ADA-accessible curbs</li> <li>6.3 Remove southbound and westbound free right-turn lanes</li> </ul>
<b>Ocean Ave between Howth Street / I-280</b>	<ul style="list-style-type: none"> <li>7.1 Install Class II bike lanes</li> <li>8.1 Improve pedestrian crossings at SB I-280 off-ramp</li> <li>8.2 Short- term options for westbound buses (49 and rerouted 29)</li> <li>8.3 Medium/longer-term options for westbound transit</li> </ul>
<b>Ocean Ave / NB 280 On-Ramp</b>	<ul style="list-style-type: none"> <li>9.1 Stripe crosswalks across Ocean Avenue and construct curb extensions</li> <li>9.2 Create Pedestrian Plaza at BART entrance</li> <li>9.3 Reduce corner curb radius</li> <li>9.4 Install ADA-accessible curbs</li> <li>9.5 Formalize drop-off area on NB I-280 ramp below Ocean Avenue</li> </ul>

## ***Outreach***

To ensure that this study reflected the interest and priorities of stakeholders and the community at large, Agency and public outreach was a high priority. Outreach activities consisted of a Technical Advisory Committee (TAC) and a series of Community Workshops held during the course of the project.

### Technical Advisory Committee (TAC)

The SFMTA established a TAC which included representatives from the following agencies and organizations:

- SFMTA
  - Transit Effectiveness Project
  - Strategic Planning
  - Accessible Services
  - Transit Service Planning
- San Francisco Planning Department
- BART
- Caltrans District 4
- Representative of San Francisco District 11 Supervisor, John Avalos
- Trust for Public Land

The TAC convened three times to discuss general project issues and opportunities, provide information on past planning efforts and provide input on and review the recommendations. The TAC also provided direction for the Community Workshops. Committee members also discussed the framework for evaluating and prioritizing the proposed projects.

### Community Workshops

The aim of these workshops was to ensure broad and inclusive community participation to identify problems and to prioritize and support bicycle and pedestrian improvements in the area. Three Community Workshops were held at Lick-Wilmerding High School, adjacent to the Balboa Park station, within the study area.

The purpose of the first workshop was to introduce the project, solicit input on the study and answer initial questions from the public. The second workshop presented conceptual plans developed for the project and provided a forum for questions and comments. The third and final workshop asked participants for input on community priorities for implementing the pedestrian and bicycle recommendations included in this report.

### ***Prioritization and Implementation***

Once projects are identified and evaluated for technical feasibility and community acceptance, they must be prioritized so that projects with the greatest benefits and broadest support are likely to be constructed first. This process generally follows the following steps:

- Project identification
- Project technical evaluation
- Project ranking and prioritization
- Project implementation (funding, design and construction)

### **Project Technical Ranking and Prioritization**

Project ranking criteria were developed in conjunction with the SFMTA. The criteria used included:

- Improving pedestrian conditions: accessibility and pedestrian safety
- Improving bicycle conditions: access and connectivity
- Improving transit accessibility: transit operations and customer experience
- Enhance neighborhood character: streetscape environment
- Traffic impacts and parking
- Construction impacts

Based on the above criteria, a detailed matrix was developed to provide a framework for evaluating the benefits and impacts of projects. The framework was presented to the TAC during the third Community Workshop to give guidance for ranking high-priority projects. As a result of the Community Workshop Evaluation and technical evaluation of benefits, impacts and order of magnitude costs were used to develop a list of top tier and second tier projects as follows:

### **Top Tier Projects**

1. Stripe crosswalks across Ocean Avenue and construct curb extensions at I-280 northbound on-ramp
2. Improve pedestrian crossing at SB I-280 off-ramp to Ocean Avenue
3. Install Class II bicycle lanes on Ocean Avenue
4. Reconfigure westbound approach to San Jose and San Jose/Geneva intersection
5. Improve transit operations on Geneva Avenue between Howth St. and I-280
6. Remove southbound and westbound free right turn lanes at Phelan Avenue

## **Second Tier Projects**

7. Reduce corner curb radius at northbound I-280 on-ramp/Ocean Avenue intersection
8. Short-term options for westbound buses (49 and rerouted 29)
9. Medium/Longer-term options for westbound transit
10. Reconfigure kiss-and-ride area
11. Convert Howth Street to two-way operations
12. Realign east side crosswalk on Geneva Avenue at I-280
13. Install pedestrian curb extension at northwest corner of Geneva Avenue/San Jose Avenue intersection
14. Coordinate signals on Geneva Avenue

The ranking process does not negate the need for other recommended improvements, but is a basis for determining which projects to pursue in the short term. The complete set of possible improvements will be considered as part of the forthcoming Balboa Park Station Capacity Study which is just being commenced at SFMTA. Because that study is expected to generate long-term improvements, implementing short to medium-term improvements to the existing street network and freeway interchanges will be beneficial and a practical use of existing resources.

## ***Implementation Strategy***

In order to realize the benefits that can be achieved, the SFMTA will continue to work to gain project approval, secure funding and design and construct high-priority improvements. The implementation process for transportation improvements includes conducting an environmental review, coordinating I-280 interchange improvements with Caltrans and seeking funding for the design, engineering and construction.

The implementation strategy identifies the stage of each improvement and next steps. For high-priority projects, the next step is to be prioritized for design and construction funding. For second tier projects, further study may be warranted before the improvements are ready for design and construction funding.

While some high-priority projects require conceptual study, other projects can immediately seek design and construction funding for implementation once the environmental review is completed. Due to the City's current budgetary constraints, the design and construction of the majority of the high-priority improvements will have to come from grants. Implementation of the highest tier projects will include the following:

- Seek grant funding and move forward with design on top tier projects
- Identify candidate funding sources for second tier projects and potentially incorporate design elements into the Balboa Park Station Capacity Study
- Continue to periodically reevaluate lower tier projects as needs and priorities may change in the future