

# **Bi-County Transportation Study**

## **Appendix B: Project Evaluation Documentation**

Last Edited: July 22, 2011

### **Evaluations for Priority Project List:**

US101 Candlestick Interchange Re-Configuration  
Geneva Avenue Extension  
Harney-Geneva Bus Rapid Transit (BRT) Line  
Bayshore Station Re-Configuration  
T-Third Light Rail Transit (LRT) Extension (Segment "S")  
Bicycle-Pedestrian Connections Project  
Area-Wide Traffic Calming Program

US101 Demand Management  
US101 Southbound Sierra Point Interchange  
Harney Way Re-Design  
Lagoon Parkway Extension  
Yosemite Slough Bridge  
Oakdale Caltrain Station  
Palou Avenue Transit Preferential Streets (TPS) Treatments

## **Project**

US101 Candlestick Interchange Re-Configuration

## **Description**

This project entails re-configuring the existing interchange to a tight-diamond design. A new US 101 over- or under-crossing would connect the interchange's northbound freeway on- and off-ramps with Harney Way and the southbound freeway on- and off-ramps with the new proposed Geneva Avenue Extension. The new crossing would generally carry three travel lanes in each direction plus turn lanes, sidewalk, and bicycle lanes. The existing Alanna Way would be re-purposed for exclusive bus use. The re-configuration is intended to improve traffic operations, transit reliability, and non-motorized circulation. Defined here, this project does not include the BRT elements, which are instead accounted for within the Harney-Geneva BRT project.

## **Evaluation**

*Test 1: Nexus with developments (PASS)*

Approximately 55% of the users of the interchange are trips from the Bi-County land developments.

*Test 2: Benefits to San Francisco and San Mateo Counties (PASS)*

Of the trips associated with the new developments, approximately 55% of them are related to the San Francisco developments, while about 45% are related to the San Mateo developments.

*Test 3: Effectiveness toward Bi-County Goals (PASS)*

The project would support local and regional strategic priorities by providing the needed capacity for regional vehicle access to support mobility for the new land developments. The project would also support strong transit by creating the opportunity for exclusive bus lanes on Alanna Way by shifting auto traffic to the new over- or under-pass. Without this project, exclusive bus lanes are not feasible across US101.

## **Project**

Geneva Avenue Extension

## **Description**

This project would extend Geneva Avenue from Bayshore Boulevard to the new proposed US 101 Candlestick Point Interchange (see above), connecting to Harney Way, and including a grade-separated Caltrain crossing. This new local street connection would provide access to US 101 from the Brisbane Baylands as well as existing adjacent neighborhoods that would use the new street as a more direct route to US 101 than existing routes. The design would accommodate six travel lanes, two bicycle lanes, sidewalks, and potentially BRT exclusive lanes. The cost of those BRT lanes is not accounted for here and instead within the Geneva-Harney BRT project.

## **Evaluation**

### *Test 1: Nexus with developments (PASS)*

About 50% of the users of the Geneva Extension are trips related to the Bi-County development projects.

### *Test 2: Benefits to San Francisco and San Mateo Counties (PASS)*

Of the development-related users of the Extension, approximately 80% are associated with the San Mateo developments, while the remaining 20% are associated with the San Francisco developments.

### *Test 3: Effectiveness toward Bi-County Goals (PASS)*

The project would support transit if BRT service is operated on the new Extension. The project would also create a new local street connection across the Baylands, supporting local connectivity. Finally, the project would include bicycle lanes and sidewalks to provide key non-motorized connections where none currently exist.

## Project

Harney-Geneva BRT

## Description

This project would provide BRT vehicles, exclusive bus lanes where feasible, signal priority, and enhanced stations. The route would operate as Muni Route 28L from the proposed Hunters Point Shipyard Transit Center to the Balboa Park BART station, by way of the Brisbane Baylands and the Bayshore Caltrain Station. The route can be divided roughly into three portions as follows.

- The eastern portion, from Hunters Point Shipyard to US 101, has been planned as part of the street infrastructure plan for the Candlestick Point-Hunters Point Shipyard development. This portion has been designed at a conceptual level to operate on exclusive bus lanes
- The central portion, from US 101 to Bayshore Boulevard, falls partially within the project area for the re-designed Candlestick Interchange and partially within the proposed Brisbane Baylands development site. This portion has not been designed conceptually and is the one of the study subjects of the Bayshore Intermodal Station Access Study, but exclusive bus lanes are expected.
- The western portion, which would operate on the existing Geneva Avenue from Bayshore Boulevard to the Balboa Park BART/Muni Station. This portion has not been planned and would need further study to determine the appropriate design; exclusive bus lanes may be feasible near Bayshore Boulevard, but they may not be possible near Balboa Park.

## Evaluation

### *Test 1: Nexus with developments (PASS)*

Approximately 55% of the boardings between Hunters Point Transit Center and Balboa Park BART station would have either an origin or a destination within the Bi-County Land Developments. For the portion of the route that is east of Bayshore Boulevard, 70% of the boardings would be associated with the land developments.

### *Test 2: Benefits to San Francisco and San Mateo Counties (PASS)*

Approximately 30% of the boardings between Hunters Point Transit Center and Balboa Park BART station would have an origin or destination in a San Mateo land development (mostly the Baylands) while 70% would be associated with San Francisco land developments (mostly Candlestick Point).

### *Test 3: Effectiveness toward Bi-County Goals (PASS)*

Harney-Geneva BRT would help to achieve the goal of providing strong transit service. In the build scenario, the 28L would have more than 16,000 daily boardings between Hunters Point Shipyard and Balboa Park BART station. **Ridership would increase** by more than

60% with the implementation of BRT features as opposed to standard bus service in the area. The BRT would also allow for a seamless **intermodal connection** at Bayshore Station.

The dedicated transitway from Hunters Point Transit Center, across US 101 and the Caltrain tracks onto Geneva Avenue to Prague Street, along with the other BRT features such as transit signal priority and level boarding, would allow for significant **transit time savings and reliability improvements** for passengers. These travel time savings would also **reduce operational** costs for Muni. Finally, by separating BRT from mixed traffic operations, the BRT would **enhance private vehicles operations** at the US 101/Candlestick Interchange.

## **Project**

Bayshore Station Re-Configuration

## **Description**

This project would re-design the Bayshore Caltrain Station to accommodate new transit connections, including a platform for the T-Third LRT Extension, stations and vertical circulation elements for the Harney-Geneva BRT line, loading areas for other local bus and shuttle connections, and any other needed station access elements and passenger amenities. The project may entail moving the existing Caltrain platforms. Conceptual design for the station is yet to be determined and the subject of the Bayshore Intermodal Station Access Study. Costs here have been estimated based on a similar design to the proposed Oakdale Station.

## **Evaluation**

### *Test 1: Nexus with developments (PASS)*

Approximately one-half of the future boardings at Bayshore Station are associated with the Bi-County land developments.

### *Test 2: Benefits to San Francisco and San Mateo Counties (PASS)*

Approximately 70% of the development-related boardings at Bayshore Station are associated with the San Mateo developments, with the remaining 30% associated with San Francisco developments.

### *Test 3: Effectiveness toward Bi-County Goals (PASS)*

The project would be designed expressly to support strong transit service and strong multimodal connections, by creating a community-oriented station that facilitates non-motorized access from the surrounding neighborhoods and a transit hub that supports seamless transfers to and from Caltrain, buses, and light rail.

## Project

T-Third LRT Extension (a.k.a. ‘Segment S’)

## Description

The T-Third LRT extension would connect the current terminus of the T-Third line with the new Bayshore Intermodal Station. The proposed project would allow for seamless transfers between Caltrain, the Harney-Geneva BRT, and the T-Third line, which will eventually terminate in Chinatown. The project was included as part of the original T-Third line Phase 1 implementation, but could not be completed until further land use decisions had been made.

## Evaluation

*Test 1: Nexus with developments (PASS)*

Approximately 50% of T-Third boardings are comprised of trips associated with the Bi-County developments.

*Test 2: Benefits to San Francisco and San Mateo Counties (PASS)*

Of the development related trips, approximately 75% of T-Third boardings at Bayshore Station are associated with San Mateo developments (mainly Baylands), while 25% are associated with San Francisco developments. This finding is intuitive since the closest San Francisco development (Visitation Valley/Schlage Lock) would be located just as close to the existing Sunnydale Station as to the new Bayshore Station, so travelers to and from those neighborhoods may not see such a dramatic benefit associated with the extension as to prompt travel behavior changes.

*Test 3: Effectiveness toward Bi-County Goals (PASS)*

### a. Support of policy goals (qualitative)

The T-Third Extension **supports strategic land use priorities** in developing the Baylands as a transit-oriented development, providing a high-profile, high-visibility transit investment in the heart of the Baylands. It also **enhances transportation choices** by making a new transit mode available there.

The project **improves transit access** for immediately adjacent neighborhoods, as well as for future riders of the Harney-Geneva BRT and Caltrain via a new direct Bayshore Station connection. The project **increases equity** by providing access for Southeast SF and other area residents to jobs along the Caltrain corridor.

### b. Support of transit goals - regional connectivity and ridership (quantitative)

The T-Third Extension provides critical **connectivity for the regional network** between Caltrain and Muni. More than 20% of the daily riders riding the T-Third and boarding or alighting at Bayshore Station would have an origin or destination outside of San Francisco and the Bi-County Study area. Approximately 80% of these riders are

traveling between southeast San Francisco and San Mateo County (outside the Bi-County Study Area).

The T-Third Extension is expected to generate more than 1,500 riders per day at the Bayshore station and to draw 2,050 riders to both Bayshore and Sunnydale in the future. This represents a **31% increase in boardings** at these two stations for the project scenario versus the no project scenarios. Some of the new riders of the T-Third would have origins or destinations with little to no walking, biking, or transit access to the existing terminus at Sunnydale Station. As Table xx below indicates, boardings at Sunnydale Station would decrease in the event of implementation of the Extension, indicating that many of the Sunnydale Station riders (mostly from the south) would switch stations because the station would be closer to their origin or destination, and thus they would **benefit from travel time savings**.

**Table xx: Daily Boardings for T-Third Light Rail**

	Bayshore Station	Sunnydale	Total
2030 No T-Third Extension	n/a	1,560	1,560
2030 with T-Third Extension	1,460	590	2,050

Projected trip patterns indicate that the T-Third service provides a **local supplement to Caltrain’s regional service**, and is not redundant. Fifty percent of trips boarding the T-Third at Bayshore Intermodal Station have destinations in Southeast San Francisco, including some of the Bi-County land development areas; 20% have destinations in neighborhoods south of Market, including Mission Bay (anticipated to have continued resident and job growth in 2030); 9% have destinations in neighborhoods immediately north of downtown, including Chinatown; 12% of riders that board the T-Third at Bayshore Station have destinations downtown, including the Powell Street and Union Square areas. Since the above-mentioned destinations are not well served by Caltrain, the destination profiles of the ridership are not forecasted to change upon implementation of a Caltrain downtown extension to the Transbay Terminal, indicating that the local T-Third service serves a separate need from Caltrain.

## Project

### Bicycle-Pedestrian Connections

## Description

This project would address the three key regional bicycle-pedestrian gaps identified in the needs and conditions chapter. The key features of any proposed project would be to connect non-motorized users to both the Bayshore Caltrain station and the Bay Trail on both sides of the county line.

## Evaluation

### *Test 1: Nexus with developments (PASS)*

While the pedestrian-bicycle project cannot be modeled, non-motorized modes of travel tend to be for shorter distances. Therefore, improvements that are made near the developments are likely to benefit travelers going to and from those developments. In addition, land development plans and entitlement agreements approved to date have included significant transportation demand management strategies to encourage use of non-auto modes by residents and employees. These policies would further encourage travelers associated with the developments to use any pedestrian and bicycle infrastructure provided near the development sites.

### *Test 2: Benefits to San Francisco and San Mateo Counties (PASS)*

Again, the model is not able to capture use of the non-motorized improvement. However, since the proposed project would be built right along the county line, with the main purpose of connecting both counties to the regional bike path (the Bay Trail) as well as the Caltrain station, it can be assumed that there would likely be a mix of users associated with developments from both sides of the county line.

### *Test 3: Effectiveness toward Bi-County Goals (PASS)*

This project would enhance local and regional connectivity for non-motorized users, increasing **safety among and through neighborhoods**. By providing a pleasant and safe alternative for getting across US 101, the project **increases transportation choices** beyond motorized options. The project would also create a strong **multi-modal connection** by providing better access to regional Caltrain service as well as local Muni service at Bayshore Intermodal Station.

## **Project**

Area-Wide Traffic Calming Program

## **Description**

This program would fund, on a cyclical and competitive basis, traffic calming projects in neighborhoods throughout the Bi-County area that respond to traffic speeding and cut-through issues arising from Bi-County development-related local traffic increases. The cost of this program is a place-holder amount based on a similar program in Bernal Heights, San Francisco.

## **Evaluation**

A traffic calming program with individual projects yet to be determined cannot be evaluated in the same way that the defined projects can. Instead, this program would be defined and administered to fund individual projects that meet the three-part test of having a strong nexus with the new developments, having bi-county benefits, and fulfilling the Bi-County planning goals.

## **Project**

US 101 Demand Management

## **Description**

Demand management refers to moving demand for single-occupancy travel on US 101 either by mode or by time of day, including to High-Occupancy Vehicle (HOV) use, transit use, or from peak periods to non-peak periods. To implement demand management in this corridor, some capital investments would be needed including creation of HOV-exclusive lanes, transit improvements, and road pricing equipment. Demand management efforts were not considered in the Bi-County Study because they address a congestion issue that relates to overall regional land use, rather than the Bi-County proposed developments in particular. Also, other ongoing efforts are exploring demand management possibilities in this corridor, including those led by C/CAG and MTC.

## **Evaluation**

*Test 1: Nexus with developments (FAIL)*

Less than 20% of users of US 101 mainline just south of the countyline would have origins or destinations in one of the Bi-County land developments. The nexus to development is not sufficiently strong to be considered a Bi-County priority project.

*Test 2: Benefits to San Francisco and San Mateo Counties (N/A)*

*Test 3: Effectiveness toward Bi-County Goals (N/A)*

## **Project**

US 101 Sierra Point Southbound Interchange

## **Description**

This project would widen the southbound Sierra Point interchange off- and on-ramps from one to two lanes each.

## **Evaluation**

*Test 1: Nexus with developments (PASS)*

More than 75% of users on the Sierra Point Parkway are projected to have origins or destinations in the Bi-County land developments

*Test 2: Benefits to San Francisco and San Mateo Counties (FAIL)*

Nearly all development-related users of this improvement (97%) would have origins or destinations at the Baylands. San Francisco developments would not benefit directly from this improvement.

*Test 3: Effectiveness toward Bi-County Goals (N/A)*

## **Project**

Harney Way Re-Design

## **Description**

This project would re-design Harney Way, with possible lane additions, from US 101 Candlestick Interchange to Jamestown Road. The Harney-Geneva Bus Rapid Transit (BRT) project is considered separately.

## **Evaluation**

*Test 1: Nexus with developments (PASS)*

75% of all daily users of Harney Way would have an origin or destination at one of the Bi-County land development projects.

*Test 2: Benefits to San Francisco and San Mateo Counties (FAIL)*

More than 90% of development related users of Harney Way would have origins or destinations at San Francisco developments (primarily Candlestick Point and Executive Park). San Mateo developments would not benefit directly from this improvement.

*Test 3: Effectiveness toward Bi-County Goals (N/A)*

## **Project**

Lagoon Parkway Extension

## **Description**

This project would create an additional roadway crossing of the Caltrain tracks to enhance connections between US 101 and Bayshore Boulevard across the southern portion of the Baylands project site, near the Sierra Point Parkway interchange.

## **Evaluation**

*Test 1: Nexus with developments (PASS)*

Nearly 85% of all users of Lagoon Parkway would have an origin or destination at one of the Bi-County land development projects.

*Test 2: Benefits to San Francisco and San Mateo Counties (FAIL)*

Nearly all (more than 99%) of the development related trips using Lagoon Parkway would have an origin or destination at one of the San Mateo developments (mostly the Baylands). San Francisco developments would not benefit directly from this improvement.

*Test 3: Effectiveness toward Bi-County Goals (N/A)*

## **Project**

Yosemite Slough Bridge

## **Description**

This project would extend Arelious Walker Drive into Hunters Point Shipyard development across Yosemite Slough. It includes dedicated transit lanes for use by proposed Harney-Geneva BRT project (see below), pedestrian paths, and bicycle facilities. In addition, on 49er football stadium game days, the bus lanes would also be open to stadium-related auto traffic.

## **Evaluation**

*Test 1: Nexus with developments (PASS)*

Nearly 75% of riders of the 28L across the Yosemite Slough bridge would have an origin or destination at one of the Bi-County land development sites.

*Test 2: Benefits to San Francisco and San Mateo Counties (FAIL)*

Nearly 95% of development related trips on the 28L across the Yosemite Slough bridge would have an origin or destination at San Francisco land developments. San Mateo developments would not benefit directly from this improvement.

*Test 3: Effectiveness toward Bi-County Goals (N/A)*

## **Project**

New Oakdale Caltrain Station

## **Description**

This project would build a new infill station along the Caltrain line between Oakdale and Palou Avenues in San Francisco, intended as a replacement to the former Paul Avenue Station, closed in 2005. SFCTA has conducted a station feasibility and ridership study providing conceptual designs, for which the upper-end cost estimate is provided here.

## **Evaluation**

*Test 1: Nexus with developments (FAIL)*

Less than 20% of daily Caltrain boardings at Oakdale station would have an origin or destination at one of the Bi-County land developments. There is not sufficient nexus to developments for consideration of Oakdale Caltrain Station as a Bi-County priority project.

*Test 2: Benefits to San Francisco and San Mateo Counties (N/A)*

*Test 3: Effectiveness toward Bi-County Goals (N/A)*

## **Project**

Palou Avenue Transit Preferential Street (TPS) Treatments

## **Description**

This project would implement TPS treatments along Palou Avenue, including enhanced stops, transit signal priority, and other traffic management changes to improve bus travel reliability. Improvements would be made between Hunters Point Shipyard and Third Street and have been designed conceptually as part of the Candlestick Point-Hunters Point Shipyard transportation plan.

## **Evaluation**

*Test 1: Nexus with developments (FAIL)*

Around 40% of transit boardings along Palou Avenue between Hunters Point Transit Center and Quint Street would have an origin or destination in one of the Bi-County land developments. There is not sufficient nexus to land developments for consideration of Oakdale Caltrain Station as a Bi-County priority project.

*Test 2: Benefits to San Francisco and San Mateo Counties (FAIL)*

Since the project performed near the threshold for the first test, the Bi-County team evaluated the Palou TPS treatments for the second test. More than 95% of development related trips that boarded transit on Palou east of Quint Street would have an origin or destination in one of the San Francisco land developments. San Mateo developments would not benefit directly from this improvement.

*Test 3: Effectiveness toward Bi-County Goals (N/A)*