



MISSION – GENEVA  
NEIGHBORHOOD TRANSPORTATION PLAN  
**FINAL REPORT**

APRIL 2007

FUNDED BY:


**Proposition K sales tax  
Caltrans Environmental Justice Planning Grant  
MTC Community Based Transportation Planning Grant**





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## 0. EXECUTIVE SUMMARY

The Mission-Geneva Neighborhood Transportation Plan, led by the San Francisco County Transportation Authority (Authority) is a community-based transportation plan intended to identify transportation improvements that can be implemented in the near- to mid-term to address key neighborhood transportation-related concerns.

As a community-based transportation plan, the Mission Geneva effort has been a collaborative process between the community and the Transportation Authority. The Authority retained a technical consulting team, led by San Francisco-based Nelson\Nygaard Consulting Associates, to assist in developing and refining community-based transportation plans throughout several neighborhoods in San Francisco. In addition to the technical consulting team, the Authority retained the Excelsior Neighborhood Commercial Revitalization Project (ENCoRe), a community-based organization (CBO) with strong ties to the neighborhood, to identify and engage a broad range of input from various community stakeholders. The Authority also assembled a Technical Advisory Committee (TAC) consisting of representatives of various City agencies and two community members to facilitate inter-agency coordination and to make the process more transparent.

Through an extensive community outreach process, which included surveys, focus groups, workshops, and walking tours, three key needs were identified for the study area:



**Transit Reliability** – Transit service on Mission Street is often unreliable due to conditions along the entirety of the Mission Street corridor. In the study area, unreliable transit service manifests itself through unevenly spaced buses, overcrowded vehicles, and sidewalk congestion at bus stops. While improvements in the study area cannot completely resolve the Mission Street transit reliability problems, they can offer moderate benefits, and improve the conditions of those waiting for buses.

**Pedestrian Safety** – One of the key characteristics of Mission Street is high pedestrian activity associated with retail and commercial uses along the corridor. Conflict between pedestrians and cars, especially at unsignalized intersections, is the community's primary pedestrian safety priority. In addition, the corridor includes several large, complex intersections that are challenging and uncomfortable to navigate as a pedestrian. On Geneva Avenue, sidewalks are narrow, and pedestrian circulation space is constrained – especially at bus stops. Crossing the wide, auto-oriented arterial is also a challenge.

**Streetscape Conditions** – The streetscape along Mission Street in the Excelsior District is primarily characterized by the small scale shop fronts and their individual signage. Consistent rows of street trees can define the roadside edges of the pedestrian environment; however, Mission Street has an inconsistent tree line which does not provide visual coherence to the street's appearance or effectively create a pedestrian scale to the street. The key streetscape needs are design treatments that help to define the pedestrian realm and establish a pedestrian scale to the sidewalks.

In addition, the community emphasized the importance of lighting that specifically serves pedestrian needs. This comment reflects the community's concerns about personal security and the desire for the aesthetic enhancements provided by decorative pedestrian streetlight standards.

## 0.1 INTERSECTION IMPROVEMENTS

The Plan recommendations focus on corridor-wide improvements to both Mission Street and Geneva Avenue and some high-priority intersection where improvements consistent with the recommended corridor plan can be constructed in the short-term. These locations were identified by the community through the outreach process as the highest-priority locations for improvements. A description of the specific improvements for these locations is provided below.

### ***Persia Triangle***

The Persia Triangle is formed by the intersection Mission Street, Persia Avenue, and Ocean Avenue, a hub of pedestrian and transit activity in the corridor. Many community members identified the Persia Triangle as the "heart" of the Excelsior District. Therefore, this location was deemed a high-priority for near-term investment. Specific recommendations are as follows:

- Reduce conflicts between pedestrians and cars by reversing the direction of San Juan Avenue's one-way operation and providing corner curb extensions and bus bulbs;
- Slow car traffic by realigning the Persia Avenue / Ocean Avenue intersection;
- Establish a more pedestrian-scale streetscape by planting street trees, creating a landscaped visual buffer between sidewalk edges and surface parking lots, and adding street furnishings and pedestrian scale lighting; and
- Reduce transit delays and improve direct access to Balboa Park BART by rerouting Muni's 29-Sunset to use Ocean Avenue.

### ***Mission Street / Geneva Avenue***

The intersection of Mission Street / Geneva Avenue is where the two study corridors meet. The intersection is congested for traffic, transit, and pedestrians alike. To improve this intersection, the Plan calls for the following intersection improvements:

- Improve reliability and reduce bus stop crowding by constructing bus bulbs and providing left-turn lanes on Mission Street;
- Reduce conflicts between cars and pedestrians by removing the large-radius free-right turn lane at the northwest corner; and
- Improve the pedestrian scale of the streetscape by providing a landscaped buffer between sidewalks and stretches of surface asphalt (e.g., at the northwest corner).

### ***Additional Intersections on Mission Street (Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue)***

Three "T" intersections at Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue should receive priority improvements if the entire corridor improvements cannot be constructed at once. The improvements recommended below are consistent with the recommended corridor treatments for Mission Street:



- Improve reliability and provide sufficient bus stop space by construct bus bulbs consistent with ultimate plan for Mission Street;
- Improve pedestrian visibility and shorten crossing distances by constructing corner curb extensions;
- Visually narrow the street to reduce car speeds by widening sidewalks on the “dead” end of T intersections and installing palm trees.

## 0.2 MISSION STREET CORRIDOR

The Mission-Geneva neighborhood consists of primarily residential land uses surrounding a commercial core on Mission Street. The commercial uses along Mission Street are primarily located on the first floors of two- to three-story buildings, with residential uses on upper floors. Ground floor uses range from professional offices to retail. Although the Mission Street corridor has a relatively high amount of scheduled transit service, residents of the community have voiced a general opinion (consistent with data for on-time performance) that transit service along Mission Street routes is unreliable, which frequently leads to bus overcrowding. The community also feels that the streetscape lacks a consistent identity for the neighborhood and that pedestrian safety could be improved.

**To address these concerns, this Plan recommends converting the existing four-lane undivided roadway to a two-lane roadway with left-turn lanes at intersections and a raised, landscaped median elsewhere. Further study is needed to vet this alternative and better understand the impacts and benefits to transit, traffic and pedestrians.**

Technical analysis identified two primary causes of transit delay along the study portion of Mission Street. The first impediment to transit is due to double-parked vehicles. Because parking in the area is scarce and a number of small businesses along Mission Street rely on regular deliveries, it is rare to travel along Mission Street without encountering at least one double-parked vehicle, usually parked in the same lane that buses use. This forces buses to merge into the center lane to get around the double-parked vehicle. The second factor that slows transit vehicles along Mission Street is lack of left-turn lanes. This means that vehicles must wait at intersections for gaps in opposing traffic before turning left. This frequently blocks the center lane of traffic at intersections. The result is that for much of the Mission Street corridor, the right lane is frequently blocked by delivery vehicles toward the middle of blocks and the center lane is blocked by left-turning vehicles closer to intersections. This forces transit vehicles (and private autos, as well) to weave back and forth around the blockages. As a result, the traffic capacity is approximately the equivalent of one traffic lane in each direction. It is also important to note that current traffic volumes on this portion of Mission Street are similar to other two-lane streets in San Francisco and are lower than a number of other four-lane streets (see the Existing Conditions report).

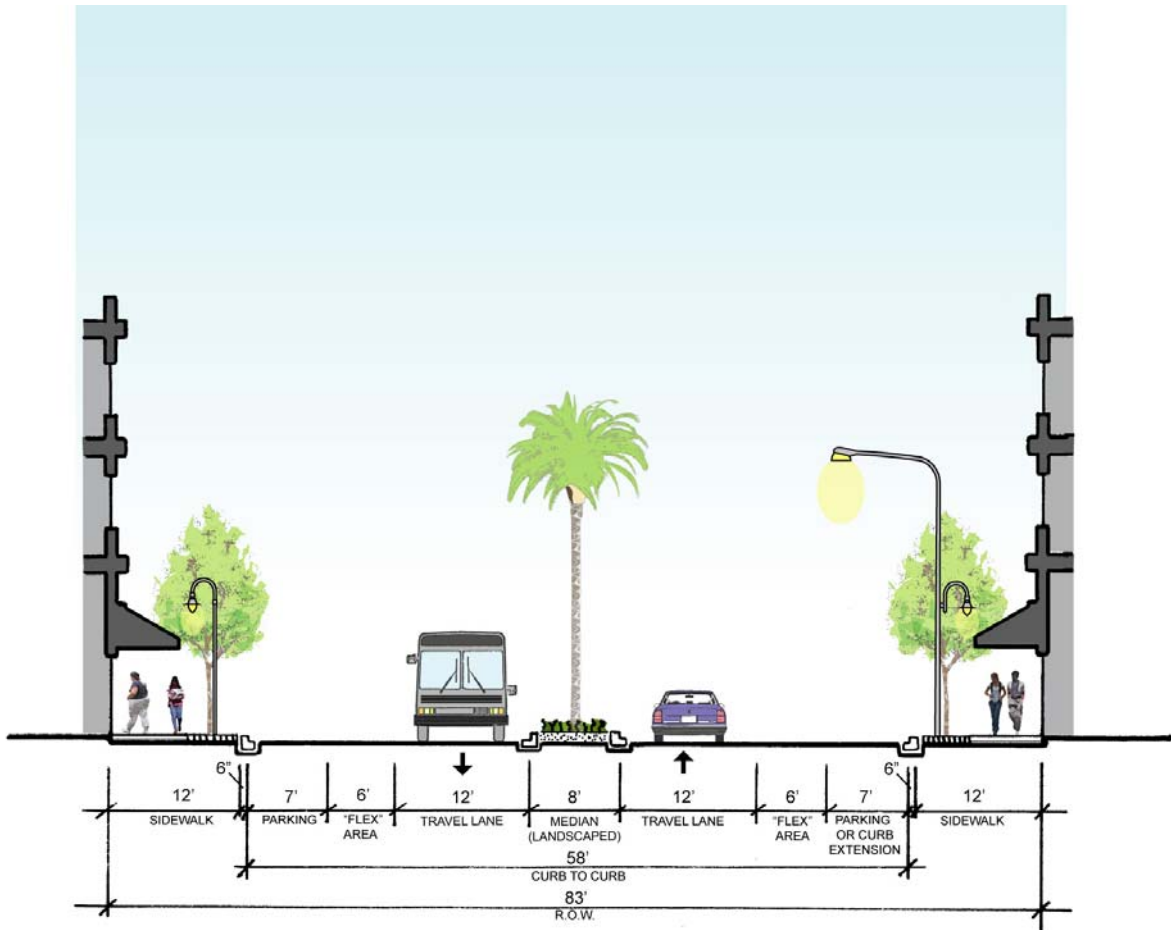


Figure 3.1 – Cross-section view of recommendation for Mission Street

In addition to raised medians and left-turn lanes, there are a number of other details embedded within this concept that work together to achieve the primary goals of the study:

- Provide additional marked crosswalks
- Maintain six-foot “flex space” between on-street parking and travel lane
- Provide corner curb extensions
- Provide bus turnouts with widened sidewalks/bus bulbs

In recommending such a transformative change for Mission Street, this Plan recognizes that some details still need to be worked out. For example, by providing only one traffic lane in each direction and requiring buses to pull out of traffic, there is some concern that buses will have a more difficult time entering the traffic stream. While there are a number of potential design features that can address this concern, more analysis is likely required to identify the best treatments.

This does not mean that nothing can be done while the necessary analysis is performed. In the near- to mid-term, a number of improvements can be implemented that are not dependent on the roadway cross-section. These improvements include the following:

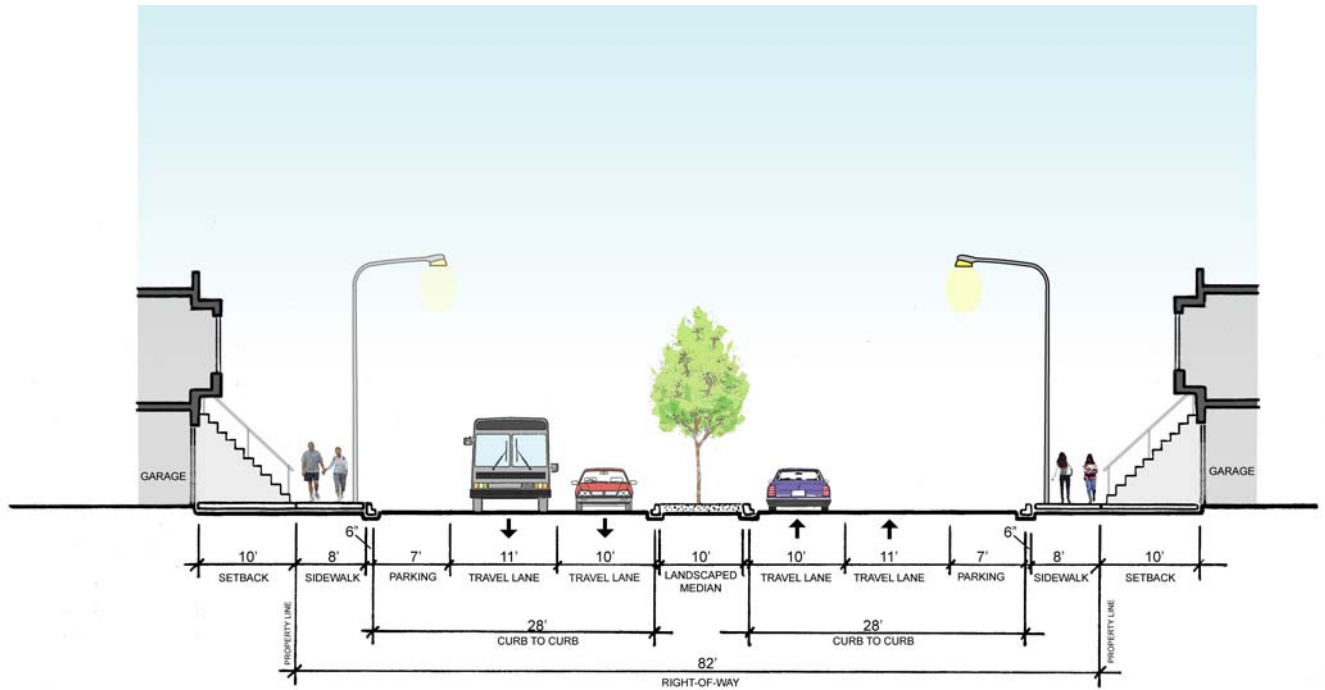
- Extend the improvements recommended for specific high-priority intersections along Mission Street (Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue) to the entire corridor;
- Consider bus stop consolidation and easing transfers with cross-town routes;
- Improve pedestrian comfort and security with pedestrian scale lighting;
- Reduce conflicts between pedestrians and cars at intersections by providing pedestrian countdown signals where missing, providing advance limit lines at crosswalks, and enhancing crosswalk visibility; and
- Reduce double-parking through adjusting siting of loading zones and adjusting parking enforcement beats, and supporting creative strategies for parking management.

### 0.3 GENEVA AVENUE CORRIDOR

The Geneva Avenue corridor is important as a direct route from the neighborhood to the Balboa Park BART Station and Interstate-280, and accommodates a large amount of transit service. Specific recommendations for Geneva Avenue are as follows:

- Reduce the design speed of the street to slow speeding traffic and provide a more comfortable pedestrian environment by installing a landscaped median between Alemany Boulevard and San Jose Avenue, planting consistent street trees (potentially in the parking lane), creating landscaped buffers between sidewalks and extensive surface paved areas;
- Maintain landscaping along lots east of Mission Street (where landscaping is encroaching on sidewalk);
- Reduce transit delays and streamline BART access by consolidate Muni stops and constructing bus bulbs at Cayuga Avenue;
- Increase pedestrian visibility by providing corner curb extensions at Mission Street, Alemany Boulevard, Cayuga Avenue, and Delano Avenue, install high-visibility crosswalks and advance limit lines at marked crosswalks; and
- Smooth traffic flow by considering restricting left-turns from Geneva Avenue to Paris Street and working with Caltrans to coordinate signals at Geneva Avenue / I-280 Interchange. Improve pedestrian crossing conditions by reconsidering a signal at Cayuga Avenue.





**Figure 3.2 – Recommended improvements to Geneva Avenue include providing a raised, landscaped median along Geneva Avenue between Alemany Boulevard and San Jose Avenue.**

This report describes in more detail the technical and community process through which plan recommendations were developed and evaluated and presents a timeline for next steps for implementation of these improvements.

# 1. STUDY OVERVIEW AND OBJECTIVES

## 1.1 STUDY OVERVIEW

The Mission-Geneva Neighborhood Transportation Plan, led by the San Francisco County Transportation Authority (Authority) is a community-based transportation plan intended to identify transportation improvements that can be implemented in the near- to mid-term to address key neighborhood transportation-related concerns.

As a community-based transportation plan, the Mission Geneva effort has been a collaborative process between the community and the Transportation Authority. The Authority retained a technical consulting team, led by San Francisco-based Nelson\Nygaard Consulting Associates, to assist in developing and refining community-based transportation plans throughout several neighborhoods in San Francisco. In addition to the technical consulting team, the Authority retained the Excelsior Neighborhood Commercial Revitalization Project (ENCoRe), a community-based organization (CBO) with strong ties to the neighborhood, to identify and engage a broad range of input from various community stakeholders. The Authority also assembled a Technical Advisory Committee (TAC) consisting of representatives of various City agencies and two community members to facilitate inter-agency coordination and to make the process more transparent.

This Chapter provides relevant background to the study process, describes the study area, presents the findings of previous studies of the area, and details the outreach efforts used to engage a diverse range of community interests.



### 1.1.1 Study Funding

Funding for the study comes from the Proposition K sales tax, a Caltrans Environmental Justice Planning grant, and an MTC Community-Based Transportation Planning grant. The goal of MTC's Community-Based Transportation Planning (CBTP) program is to advance the findings of a Lifeline Transportation Network Report from 2001 that identified transit needs in economically disadvantaged communities throughout the San Francisco Bay Area.

### 1.1.2 Study Timeline

The study process and timeline is as follows:

Study Kickoff	September 2005
Document Existing Conditions	October 2005 - February 2006
Identify and Prioritize Transportation Needs	February – April 2006
Develop Transportation Solutions / Project Designs	May – June 2006
Prioritize Solutions / Project Designs	July – October 2006
Develop Implementation and Funding Plans	October – December 2006
Present Plan to Authority Board for Approval	April 2007

## 1.2 STUDY AREA

The Mission-Geneva study area, shown in Figure 1.1 is comprised of two intersecting corridors in southern San Francisco along Mission Street between Silver Avenue and Rolph Street (just south of Geneva Avenue) and Geneva Avenue between San Jose Avenue (near the Balboa Park BART station) and Paris Street (just east of Mission Street).

**FIGURE 1.1: MISSION-GENEVA STUDY AREA**



Source: Authority and Fehr & Peers, 2006



### 1.3 COORDINATION WITH OTHER STUDIES

There are many transportation and related planning studies in the vicinity of the study area that are either ongoing or have been recently completed. The recommendations of this study are consistent and/or compatible with recommendations from previous efforts.

This section summarizes key findings from studies related to the Mission-Geneva Neighborhood Transportation Plan. The studies include:

- Outer Mission Strategic Analysis Report (SAR) (2002)
- Community Action Plan for Safer Streets in the Excelsior (2003)
- San Francisco Better Neighborhoods 2002 – Balboa Park Plan (2002)
- Balboa Park BART Comprehensive Station Plan (2002)
- Balboa Park Parking SAR (2003)
- Daly City BART Access Plan (2002)
- Daly City BART Capacity Plan (2004)
- Glen Park Community Plan (2003)
- Glen Park BART Capacity Plan (2004)
- Glen Park Traffic Calming Project
- Excelsior Traffic Calming Project
- San Francisco PedSafe (2003)
- Alemany Boulevard Bicycle Lane Project (2005)
- Balboa Park-Ocean Avenue Walkway and Entrance Project (2005)
- Balboa Park Station Master Planning Strategy (2005)
- Mission Street Community Vision: Cesar Chavez to Randal Street (2005)
- San Jose / Guerrero Save our Street Coalition (2005)
- ENCoRe Action Plan
- St. Charles Bridge Project (2002)
- Safe Routes to School Project for Monroe and SF Community Schools (July 2006)
- Outer Mission Transit Preferential Street Study (Future)

#### 1.3.1 Key Findings from Previous Studies

Although some of these studies contain more detailed analysis of the Mission-Geneva area than others, and some include additional concerns beyond transportation, the following are the primary issues echoed in most of the previous studies:

- Pedestrian safety is a key issue in the study area, primarily due to:
  - Difficulty crossing Mission Street at “T” and offset intersections
  - Difficulty crossing specific complex intersections such as Mission Street / Geneva Street and Mission Street / Ocean Avenue
  - Transfers between different Muni lines result in pedestrians running across streets to catch adjacent buses
  - General driver inattention to pedestrians
- Accessing the Balboa Park BART station via Muni from the study area is difficult. Recent service cuts have exacerbated this problem.

- Crosswalks on Mission Street are worn, faded, or inadequate reducing pedestrian visibility
- There is a general lack of landscaping in the study area
- Lack of available on-street parking contributes to double-parking and parking on sidewalks in the neighborhoods
- Sidewalks in the area, particularly at transit stops, are crowded

### 1.3.2 Recommendations from Previous Studies

Several improvements have been suggested to enhance the Balboa Park BART station and to better connect it with the Mission Geneva area, including the following:

- Information displays should be improved at local bus stops, to provide real-time transit information
- Transit reliability should be increased, especially for routes serving the BART station
- Land uses around the Balboa Park BART station should be intensified and focused on uses that support transit
- BART-Muni transfers should be improved
- Pedestrian and bicycle connections between the Balboa Park BART station should be enhanced
- Parking shortfalls around the Balboa Park BART station could be addressed through expansion of residential parking permit zones, installation of parking meters, and prioritization of parking permits at City College of San Francisco to necessary drivers
- The 14-Mission route could be extended to Daly City or Colma to provide better service to BART riders who otherwise drive to Balboa Park BART stations
- Efforts should be made to extend service hours in lifeline transit routes that serve low-income communities in the study area

In addition, the *Community Action Plan for Safer Streets in the Excelsior* developed a series of recommended intersection improvements related to pedestrian safety that generally:

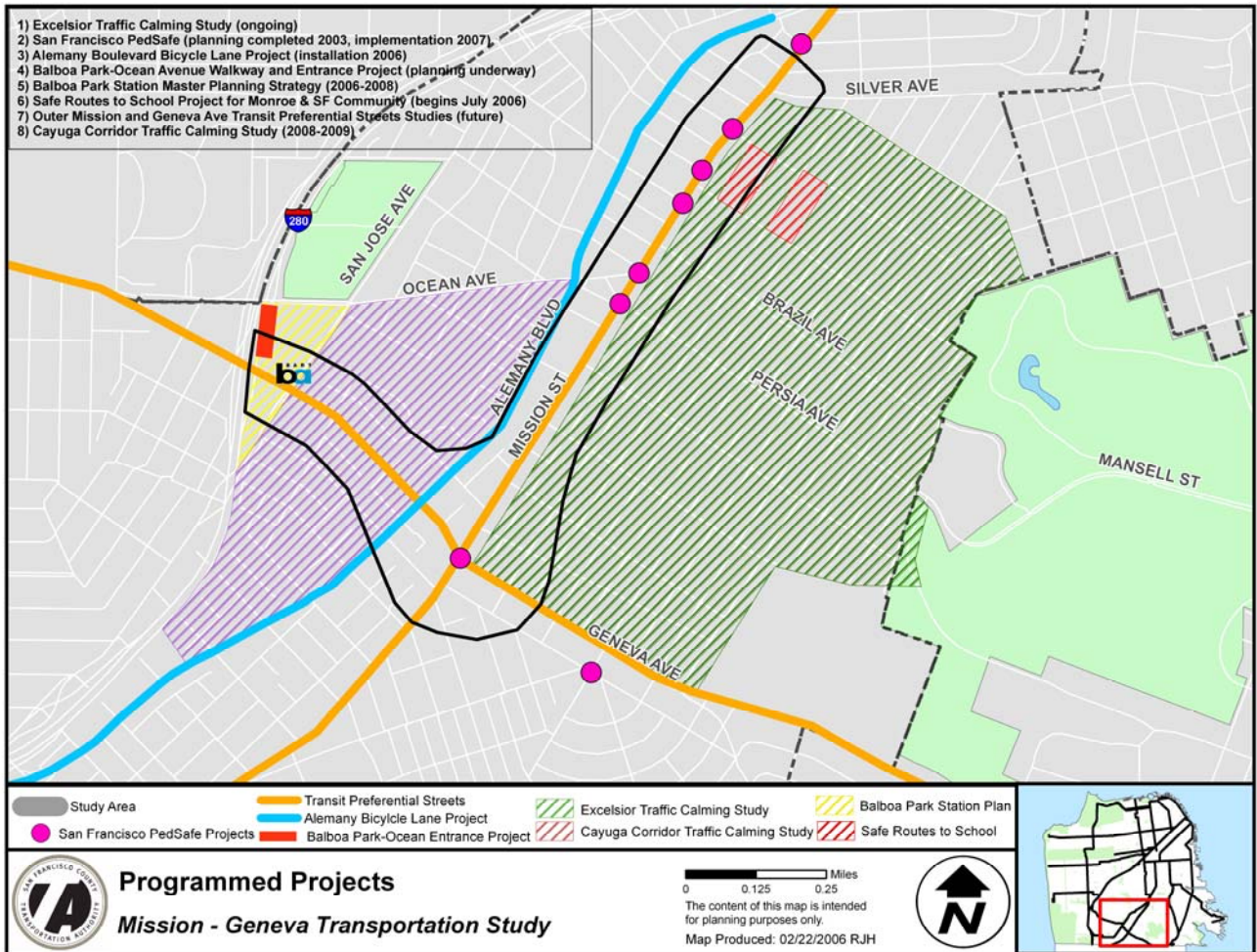
- Improve pedestrian visibility through reduction in double parking, removal or relocation of street furniture, and repainting and upgrading existing marked crosswalks
- Reduce pedestrian exposure through shortened crossing distances (i.e., curb extensions), modified signal timings, and addition of pedestrian countdown signals

Many recommendations from previous and ongoing studies or variations of previous recommendations are currently programmed to be constructed in the study area. A map describing the major projects in and near the study area is shown on Figure 1.2.





**FIGURE 1.2: PROGRAMMED PROJECTS IN THE STUDY AREA**



Source: SFCTA

## 1.4 OUTREACH

One of the key objectives of this plan was to fully engage the community throughout the study process and to develop priorities that reflect the community's perspective. This community involvement was essential both to understand the highest-priority transportation issues and needs and to develop potential improvements that would be supported by the neighborhood. As noted earlier, the Authority retained the services of ENCoRe, a CBO with strong ties to the community, to assist the outreach effort. ENCoRe developed an outreach plan that included a series of community meetings, a survey, multilingual focus groups, a walking tour with community leaders, three public workshops, a number of mobile workshops (e.g., presentations at existing community group meetings), and a booth at the 2005 and 2006 Excelsior Festival. A detailed version of the outreach plan for this project is included in the Appendix.

In addition to engaging members of the community, the Authority assembled a Technical Advisory Committee (TAC). In addition to the Authority, ENCoRe, and the consultant team, the TAC included representatives from the San Francisco Municipal Transportation Agency (including both Muni and the Department of Parking and Traffic), the Department of Public Works (DPW), the Planning Department, the Department of Public Health (DPH), the Metropolitan Transportation Commission (MTC), and two community members-at-large. The composition of the TAC ensured that various City agencies were kept apprised of the study's progress, fostered inter-agency communication and coordination, and ensured that community concerns were addressed. The TAC met at key points throughout the study process to ensure agency and community coordination and to review key study findings and recommendations.



## 2. STUDY AREA NEEDS

The first stage of the study planning process was to understand the existing conditions and work with the community to identify and prioritize key transportation needs. This chapter includes a discussion of the data collected, with some key findings, and a summary of the high priority transportation needs identified by the community and confirmed by the technical analysis. A more detailed discussion of existing conditions was documented in the *Mission-Geneva Study Area – Existing Conditions Report*.

### 2.1 SUMMARY OF DATA COLLECTION AND OUTREACH

This study includes an extensive community outreach and involvement element, which was essential to understanding the primary needs of the study area. The aim of the community outreach component was to ensure broad and inclusive community participation to identify problems and to prioritize and support transportation improvements in the area. Specifically, the community outreach process was designed to engage not only the most actively interested parties (e.g., existing neighborhood organizations and community leaders), but to also engage groups who might not otherwise participate in this process, including, but not limited to youth, off-peak transit users, non-English speakers and other minorities, and seniors.

Outreach to the Mission-Geneva area community was led by ENCoRe and consisted of a three-pronged approach. The first tool used was a one-page survey conducted in October 2005 at the annual Excelsior Festival, a community “block-party” organized by ENCoRe, and other community meetings in the fall of 2005. The second type of community outreach involved detailed focus groups targeting specific populations that are frequently difficult to reach. These populations included seniors (Chinese and Spanish speaking), youth, merchants and commercial property owners, and off-peak transit riders (Spanish and English speaking) from various economic and cultural backgrounds - a diversity of stakeholders reflective of the Excelsior’s demographic. Finally, the third community involvement technique included a walking tour of the area with neighborhood leaders.

The community outreach effort was supplemented by the technical consulting team, which collected and analyzed data related to multimodal transportation conditions in the study area. This data included:

- Existing transit routes and service information, including connections to regional transit (i.e., BART)
- A survey of conditions at bus stops along the study portions of Mission Street and Geneva Avenue
- Muni transit performance data, including load factors, reliability, on-time performance, and travel times
- Morning and evening peak period intersection vehicle turning movement counts, bicycle counts, and pedestrian counts at the following intersections:
  - Mission Street / Silver Avenue
  - Mission Street / Ocean Avenue
  - Mission Street / Persia Avenue
  - Mission Street / Onondaga Avenue
  - Mission Street / Geneva Avenue
  - Geneva Avenue / Alemany Boulevard
  - Geneva Avenue / Cayuga Avenue
- 7-Day, 24-hour machine counts on Mission Street, Geneva Avenue, and Alemany Boulevard





- Observations of congestion on a typical weekday along Mission Street during the morning and evening peaks and the midday off-peak periods
- Parking supply, peak occupancy, and turnover rates
- Pedestrian collision statistics
- An inventory of current turn and parking restrictions

All of this data was compiled and used in the analysis of existing conditions. This information, in combination with the community outreach, formed the basis for understanding the key needs in the community.

## 2.2 SUMMARY OF KEY NEEDS

Based on the extensive data collection and community outreach, three high priority needs were identified.

### *Transit Reliability*

Mission Street and Geneva Avenue are major transit corridors for Muni near many important regional connections, including BART. Bus service arrives frequently in the corridor and provides 24-hour service.

Though distant from San Francisco's downtown core, the Mission-Geneva area is well-served with local and regional transit lines, with the Balboa Park BART Station and the intersection of Mission Street / Geneva Avenue as two primary transit nodes. Transit issues in the area are related to its performance, not to its supply. According to community members, the biggest Muni performance issue in the area is reliability, and original data collected for this report (as well as data collected by Muni) confirm that reliability is poor.

Routes serving the area are among the most heavily used bus lines in the Muni system. Transit vehicles, especially during commute hours, are often heavily loaded while traveling through the corridor, particularly near the Balboa Park Station. As a result, even with buses that are scheduled frequently, high demand coupled with reliability issues results in overcrowding on some buses.

Reliability is measured primarily by on-time performance. On-time performance is complex, being influenced by many factors over the length of a route. Mixed traffic, double parking, pedestrian activity, and passengers boarding at stops all can introduce unpredictable variability in travel times, which can pull buses off schedule and cause them to bunch rather than stay evenly spaced. Because the bus routes that travel through the neighborhood are long, they have many opportunities to develop reliability problems, especially southbound buses on the last leg of their route. Original data collected for this study indicate that conditions along Mission Street in the study area exacerbate these reliability problems.

Another important aspect of transit service is the quality of transit stops, where riders first access the system. Stops that are safe and inviting encourage transit use, while stops that are poorly maintained or threatening may prevent some riders from using the system, and will detract from the overall experience for others. An inventory of bus stops in the corridor revealed that shelters were in good condition with a low occurrence of painted graffiti and



**Figure 2.2 – Transit unreliability contributes to sidewalk overcrowding at bus stops.**

trash. However, lighting at many stops could be improved and some stop locations should be reconsidered to improve their accessibility and usefulness for riders. In addition, many transit stops experience substantial crowding due to inadequate sidewalk space.

### **Transit Delays**

Technical analysis identified two primary causes of transit delay along the study portion of Mission Street. The first impediment to transit is due to double-parked vehicles. Because parking in the area is scarce and a number of small businesses along Mission Street rely on regular deliveries, it is rare to travel along Mission Street without encountering at least one double-parked vehicle, usually parked in the same lane that buses use. This forces buses to merge into the center lane to get around the double-parked vehicle. The second factor that slows transit vehicles along Mission Street is lack of left-turn lanes. This means that vehicles must wait at intersections for gaps in opposing traffic before turning left. This frequently blocks the center lane of traffic at intersections. The result is that for much of the Mission Street corridor, the right lane is frequently blocked by delivery vehicles toward the middle of blocks and the center lane is blocked by left-turning vehicles closer to intersections. This forces transit vehicles (and private autos, as well) to weave back and forth around the blockages. As a result, the traffic capacity is approximately the equivalent of one traffic lane in each direction. It is also important to note that current traffic volumes on this portion of Mission Street are similar to other two-lane streets in San Francisco and are lower than a number of other four-lane streets (see the Existing Conditions report).

### **Pedestrian Safety**



**Figure 2.3 – Long pedestrian crossing distances at the Mission / Geneva intersection**

While the Mission-Geneva neighborhood has one of the highest automobile ownership rates in San Francisco, its commercial corridors and rich transit supply provide many of the infrastructure requisites for a pleasant walking experience and enjoyable street environment. One of the key characteristics of Mission Street is high pedestrian activity associated with retail and commercial uses along the corridor. Conflict between pedestrians and cars, especially at unsignalized intersections, is the community's primary pedestrian safety priority. In addition, the corridor includes several large, complex intersections that are challenging and uncomfortable to navigate as a pedestrian. On Geneva Avenue, sidewalks are narrow, and pedestrian circulation space is constrained – especially at bus stops. Crossing the wide, auto-oriented arterial is also a challenge.

and they are the community's main pedestrian safety concern. Parked cars in the crosswalks at "T" intersections limit pedestrian visibility. Combined with all the activity on Mission Street competing for drivers' attention, many drivers using this stretch of Mission are looking for turning opportunities, rather than driving through – this further increases the likelihood of conflicts between cars and pedestrians.

The stretch of Mission Street in this neighborhood includes a number of unsignalized intersections and "T" intersections. Many of the pedestrian/car conflicts occur at these locations,

Several intersections, most notably Mission/Geneva, are large, complex intersections with long crossing distances and low pedestrian visibility.

Pedestrian conditions on Geneva Avenue exhibit some of these concerns but are further worsened by the very narrow 8' sidewalks.

The community generally perceives that the street environment is not safe or comfortable for pedestrians. Further, the chaotic nature of both Mission Street and Geneva Avenue provides substantial distractions for drivers and reduces the visibility of pedestrians.

### **Streetscape Improvements**

The streetscape along Mission Street in the Excelsior District is primarily characterized by the small scale shop fronts and their individual signage. Consistent rows of street trees could define the roadside edges of the pedestrian environment. However, Mission Street's inconsistent tree line does not lend visual coherence or pedestrian scale. The only other streetscape element that occurs with regularity along the sidewalks is the City's standard trash receptacles.



**Figure 2.4 – Typical streetscape conditions on Mission Street**

Mission Street also lacks lighting that serves pedestrian needs, which contributes to larger concerns related to security for both pedestrians and transit passengers waiting for the bus. The lack of pedestrian-scale lighting was among the top concerns for local residents.

Two areas identified by the community as key nodes in the Excelsior District along Mission Street, the Persia Triangle and the Mission/Geneva intersection, will both benefit from pedestrian safety upgrades accompanied by streetscape enhancements. The Persia Triangle area, which is host to the annual community festival, provides long and short term opportunities for street trees and other landscaping (see

Section 5.1 - Persia Triangle) that will enhance the pedestrian experience by buffering the pedestrian realm from vehicular traffic and auto-oriented uses, and establishing pedestrian scale. The Mission/Geneva intersection will benefit from a similar treatment of landscape buffering between the gas station at the northwest corner of the intersection and adjacent sidewalks and bus stops, and the increases in pedestrian circulation spaces through elimination of the free right turn at the same corner.

Finally, the community expressed interest in adding community art to the corridor by treating signal controller cabinets with public art installations (painting), which could contribute to the unique character of the area.

### 3. OVERVIEW OF RECOMMENDATIONS

This Chapter provides a summary of the recommended improvements for the study area. The recommended improvements were identified through a design charrette with the TAC, a series of public workshops, surveys, and presentations to the community. A number of other options were considered in developing these recommended solutions. More detail about the preferred and other alternatives considered and the results of the technical analysis are provided in subsequent chapters of this report.

#### 3.1 INTERSECTION SPECIFIC IMPROVEMENTS

The Plan recommendations focus on corridor-wide improvements to both Mission Street and Geneva Avenue and some high-priority intersection where improvements consistent with the recommended corridor plan can be constructed in the short-term. Both the technical analysis and community input identified these as highest-priority locations for improvements. A description of the specific improvements for these locations is provided below.

##### *Persia Triangle*

The Persia Triangle is formed by the intersection Mission Street, Persia Avenue, and Ocean Avenue, a hub of pedestrian and transit activity in the corridor. While many community members identified the Persia Triangle as the “heart” of the Excelsior District, this intersection is one of the least safe for pedestrians in the corridor. Therefore, this location was deemed a high-priority for near-term investment. Specific recommendations are as follows:

- Reduce conflicts between pedestrians and cars by reversing the direction of San Juan Avenue’s one-way operation and providing corner curb extensions and bus bulbs;
- Slow car traffic by realigning the Persia Avenue / Ocean Avenue intersection;
- Establish a more pedestrian-scale streetscape by planting street trees, creating a landscaped visual buffer between sidewalk edges and surface parking lot, and adding street furnishings and pedestrian scale lighting; and
- Improve direct access to Balboa Park BART by building bus bulbs and rerouting Muni’s 29-Sunset to use Ocean Avenue and providing signage about the BART connection.

##### *Mission Street / Geneva Avenue*

The intersection of Mission Street / Geneva Avenue is where the two study corridors meet. The intersection is congested for traffic, transit, and pedestrians alike. To enhance this intersection, this Plan calls for the following intersection improvements:

- Improve reliability and reduce bus stop crowding by constructing bus bulbs;
- Reduce cut through traffic on neighborhood streets by providing left-turn lanes on Mission Street;
- Reduce conflicts between cars and pedestrians by removing the large-radius free-right turn lane at the northwest corner; and
- Improve the pedestrian scale of the streetscape by providing a landscaped buffer between sidewalks and stretches of surface asphalt (e.g., at the northwest corner).



### **Additional Intersections on Mission Street (Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue)**

Three “T” intersections at Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue should receive priority improvements if the entire corridor improvements cannot be constructed at once. The improvements recommended below are consistent with the recommended corridor treatments for Mission Street:

- Improve reliability and provide sufficient bus stop space by constructing bus bulbs consistent with ultimate plan for Mission Street;
- Improve pedestrian visibility and shorten crossing distances by constructing corner curb extensions; and
- Visually narrow the street to reduce car speeds by widening sidewalks on the “dead” end of T intersections and installing palm trees.

### **3.2 MISSION STREET CORRIDOR**

The Mission-Geneva neighborhood consists of primarily residential land uses surrounding a commercial core on Mission Street. The commercial uses along Mission Street are primarily located on the first floors of two- to three-story buildings, with residential uses on upper floors. Ground floor uses range from professional offices to retail. Although the Mission Street corridor has a relatively high amount of scheduled transit service, residents of the community have voiced a general opinion (consistent with data for on time performance) that transit service along Mission Street routes is unreliable, which frequently leads to bus overcrowding. The community also feels that the streetscape lacks a consistent identity for the neighborhood and that pedestrian safety could be improved.

**To address these concerns, this Plan recommends converting the existing four-lane undivided roadway to a two-lane roadway with left-turn lanes at intersections and a raised, landscaped median elsewhere. Further study is needed to vet this alternative and better understand the impacts and benefits to transit, traffic and pedestrians.**



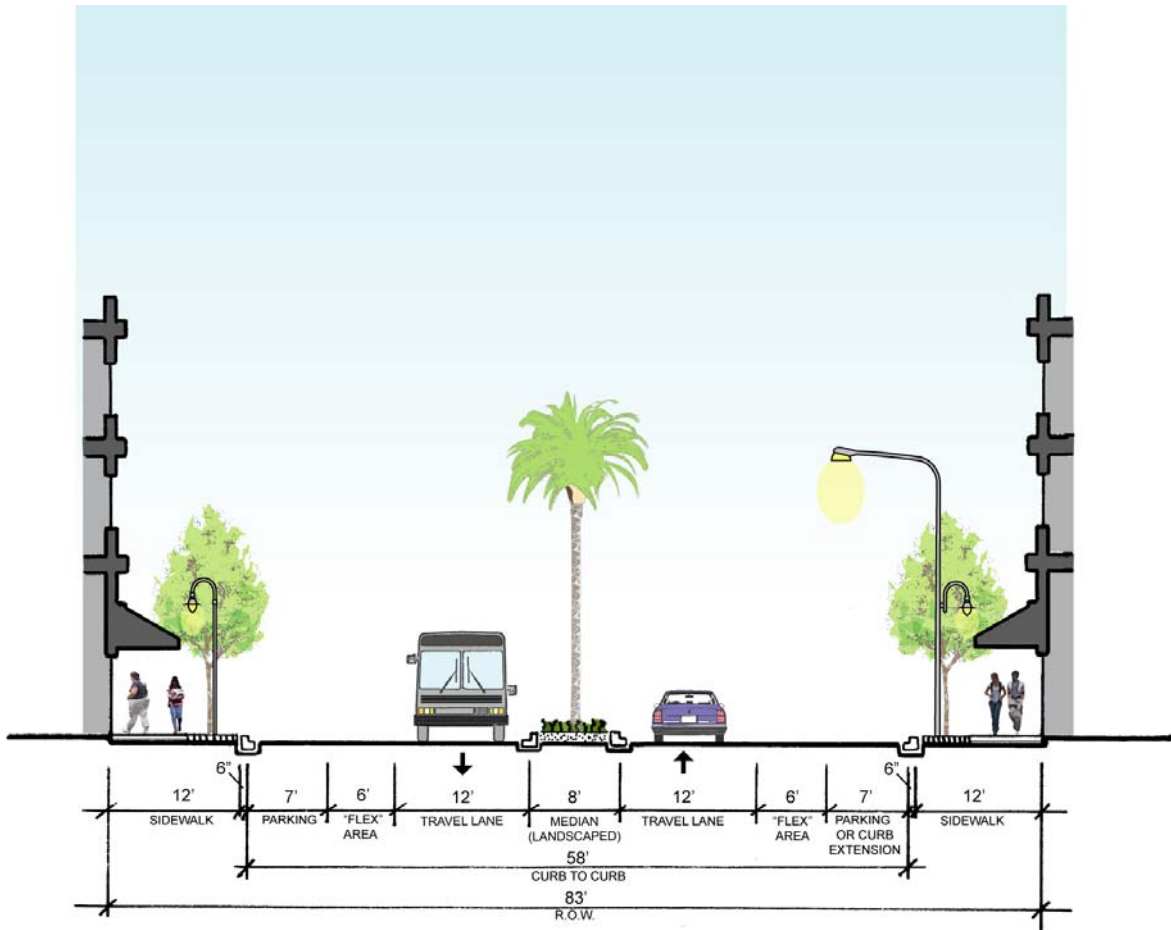


Figure 3.1 – Cross-section view of recommendation for Mission Street

In addition to raised medians and left-turn lanes, there are a number of other details embedded within this concept that work together to achieve the primary goals of the study:

- Provide additional marked crosswalks
- Maintain six-foot "flex space" between on-street parking and travel lane
- Provide corner curb extensions
- Provide bus turnouts with widened sidewalks/bus bulbs

In recommending such a transformative change for Mission Street, this Plan recognizes that some details still need to be worked out. For example, by providing only one traffic lane in each direction and requiring buses to pull out of traffic, there is some concern that buses will have a more difficult time entering the traffic stream. While there are a number of potential design features that can address this concern, more analysis is required to identify the best treatments.

This does not mean that nothing can be done while the necessary analysis is performed. In the near- to mid-term, a number of improvements can be implemented that are not dependent on the roadway cross-section. These improvements include the following:

- Extend the improvements recommended for specific high-priority intersections along Mission Street (Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue) to the entire corridor;
- Consider bus stop consolidation and improved transfers with cross-town routes;
- Improve pedestrian comfort and security with pedestrian scale lighting;
- Reduce conflicts between pedestrians and cars at intersections by providing pedestrian countdown signals where missing, providing advance limit lines at crosswalks, and enhancing crosswalk visibility; and
- Reduce double-parking through adjusting siting of loading zones and adjusting parking enforcement beats, and supporting creative strategies for parking management.

### 3.3 GENEVA AVENUE CORRIDOR

The Geneva Avenue corridor is important as a direct route from the neighborhood to the Balboa Park BART Station and Interstate-280, and accommodates a large amount of transit service. Specific recommendations for Geneva Avenue are as follows:

- Reduce the design speed of the street to slow speeding traffic and provide a more comfortable pedestrian environment by installing a landscaped median between Alemany Boulevard and San Jose Avenue, planting consistent street trees (potentially in the parking lane), creating landscaped buffers between sidewalks and extensive surface paved areas,
- Maintain landscaping along lots east of Mission Street (where landscaping is encroaching on sidewalk)
- Reduce transit delays and streamline BART access by consolidate Muni stops and constructing bus bulbs at Cayuga Avenue;
- Increase pedestrian visibility by providing corner curb extensions at Mission Street, Alemany Boulevard, Cayuga Avenue, and Delano Avenue, install high-visibility crosswalks and advance limit lines at marked crosswalks; and
- Smooth traffic flow by considering restricting left-turns from Geneva Avenue to Paris Street, working with Caltrans to coordinate signals at Geneva Avenue / I-280 Interchange, and signalizing Cayuga Avenue.

This Chapter has presented a summary of the Plan's recommendations. More discussion of recommendations, other alternatives considered, and the technical evaluation of these recommendations is provided in subsequent chapters.

## 4. TECHNICAL EVALUATION METHODOLOGY

### 4.1 PURPOSE OF TECHNICAL EVALUATION

The consultant team prepared a technical evaluation of the potential improvements. The purpose of this evaluation is to provide an objective evaluation of the various proposed changes in the study area, documenting the benefits and impacts of each change to a range of multimodal criteria in the Mission-Geneva study area. This evaluation included the following areas:

- Transit Performance and Rider Experience
- Pedestrian and Bicycle Safety and Access
- Streetscape Environment (Neighborhood Character)
- Traffic and Parking
- Construction Cost
- Construction Impacts

The results of this analysis were provided to the community along with the proposed improvements at the second Public Workshop in July 2006. This ensured that when weighing all of the options and prioritizing projects, community members had the benefit of understanding the potential impacts and benefits of each change.

### 4.2 EVALUATION FRAMEWORK AND METHODOLOGY

The evaluation framework provides a set of multimodal criteria to evaluate the proposed projects. This evaluation framework provided a consistent technical evaluation of the proposed projects. A discussion of the technical analysis methodology used to evaluate each of the criteria is provided below.

#### 4.2.1 *Transit Performance and Rider Experience*

The impacts and benefits of the proposed designs on transit performance were evaluated using several criteria: reliability, travel times, waiting/boarding experience, and wayfinding. Reliability was measured by the expected changes in travel time and headway variation based on similar experiences in other locations. Expected changes to travel time were measured also based on previous experience. Effects on the waiting and boarding experience were based on a project's change to transit stop or platform area; the availability of security features such as lighting; and the quality and condition of bus stops infrastructure. Finally, effects on wayfinding were measured by the directness of transit routes, the availability of maps and signage, and the convenience of transfers.

In addition, the study team completed an inventory of the bus stops on the corridor, noting the condition of the stop, the level of amenities present and how well the stop was marked. This information, combined with the amount of activity at the stop created a hierarchy of improvements at bus stops.

#### 4.2.2 *Pedestrian and Bicycle Safety and Access*

The first category in which pedestrian and bicycle safety and access was evaluated was the "crossing experience." This was measured in terms of:



- Average distance to cross the street (this distance would be lower with curb extensions and/or bus bulbs)
- Number of unmarked unsignalized crossings (this number would be lower for improvements that would safely allow more marked crosswalks)
- Longest gap between marked crossing opportunities
- Volume and speed of traffic on the adjacent street
- Average number of lanes between refuges (this would be lower for improvements that provided center pedestrian refuges)

The second category in which pedestrian and bicycle safety and access was evaluated was “sidewalk conditions.” Sidewalk conditions were evaluated in terms of:

- Average sidewalk width
- Speed of traffic on the adjacent street
- Pedestrian buffer from traffic (on-street parking, street trees, and street furniture provide a buffer between pedestrians and vehicular traffic)

The final category in which pedestrian and bicycle safety and access was evaluated was “bicycle conditions.” Bicycle conditions were evaluated in terms of:

- Width of shared/dedicated bike lane
- Volume and speed of traffic on the street
- Network connectivity
- Degree of “pinching” (projects that call for corner curb extensions, for example, would improve pedestrian crossing distances; however, if designed poorly, they may not fare well in this category if they “pinch” down the available roadway width for bicycles)

#### **4.2.3 Streetscape Environment (Neighborhood Character)**

The first category in which the streetscape environment was evaluated was the “presence of a distinct street identity.” This was measured in terms of:

- Recognizable theme or street element
- Condition and quality of pedestrian amenities

The second category in which streetscape was evaluated was “land use integration.” To evaluate the integration of the streetscape with adjacent land uses, the study considered:

- The quality of access between bus stops and adjacent land uses
- The overall benefit/impact of the streetscape conditions to adjacent businesses
- The presence of a flexible sidewalk space, usable for store displays, outdoor seating, etc.



A third category by which streetscape conditions were evaluated was the overall landscaping conditions. This was measured in terms of:

- The consistency of the landscape footprint
- The degree to which an improvement or alternative would contribute to “placemaking”

The final category by which the streetscape was evaluated was the degree to which various improvements or alternatives would improve sustainable storm water management, specifically in terms of natural storm water retention:

- The permeability of surfaces
- The number and type of new vegetation

#### **4.2.4 Traffic and Parking**

Although most of this Plan’s recommendations call for improvements to pedestrian and transit circulation conditions, they may impact vehicular traffic. Understanding the magnitude of the potential impacts to vehicular circulation and parking conditions is important in evaluating alternatives.

Impacts to vehicular circulation were evaluated based on two sub-criteria:

- Intersection level of service (based on average peak hour vehicular delay per intersection)
- Change in turn restrictions

Impacts to parking were evaluated based solely on the change to overall on-street parking supply.

#### **4.2.5 Costs**

Another important characteristic to understand is its cost. For example, if an improvement performs moderately well in all of the other evaluation criteria, but has a disproportionately high cost, it may not offer the best value. The cost evaluation was based on capital (construction) costs.

Capital costs were estimated based on unit cost figures provided by the San Francisco DPW and SFMTA on other recent projects. The capital cost estimates used for this project are planning-level estimates due to the unknown factors (e.g., location of existing utilities,) that will be identified as part of the detailed design phase. Planning-level cost estimates are detailed enough for a relative comparison of improvement costs and an understanding of the “order of magnitude” costs of various improvements.

Operation and maintenance cost estimates were developed in a more qualitative nature. For example, an improvement that calls for more street trees would likely have increased costs in terms of maintenance (e.g., pruning, replacement, etc.). Improvements were evaluated according to the magnitude and direction (i.e., increase or decrease) in expected maintenance costs.

#### **4.2.6 Construction Impacts**

Many of the truly transformative improvements would require some level of construction. Because construction has the potential to disrupt activities on adjacent land uses as well as transportation circulation for all modes, it is important to understand potential construction impacts before prioritizing improvements. Construction impacts



were evaluated with respect to likely duration (length of construction), potential intensity of disruption, the potential implementation timing (including design, approvals, and construction), and whether or not there would be the possibility of construction phasing to reduce the intensity of construction impacts.

The detailed results of the technical evaluation are provided in the Appendix, along with a summary matrix with arrows indicating the relative magnitude and whether the improvement would offer a benefit or negative impact to each of the general characteristics described above.

## 5. INTERSECTION-SPECIFIC RECOMMENDATIONS

This Plan recommends a consistent corridor-wide set of improvements in the study area, with high-priority locations for near term improvement. This chapter discusses the evaluation of those priority intersections for near-term improvements.

### 5.1 PERSIA TRIANGLE

The intersections of Mission Street / Ocean Avenue, Mission Street / Persia Avenue, and Ocean Avenue / Persia Avenue form the “Persia Triangle” on the western side of Mission Street. Each of the three streets that form the Persia Triangle plays a key role in the neighborhood transportation system. The Persia Triangle is the nexus of two of the most important neighborhood-oriented commercial streets in San Francisco – Mission Street and Ocean Avenue. Persia Avenue is the only through-street in the neighborhood and carries cross-town transit. In fact, the Persia Triangle was pointed out by members of the community as a special place and is home to the neighborhood’s annual Excelsior Festival. The Mission-Geneva Neighborhood Transportation Plan recommends a series of improvements to elevate the design of this intersection to better function as the pedestrian and transit focal point that it is.

#### 5.1.1 Improvements

This section describes the specific improvements recommended for the Persia Triangle area. The results of the technical analysis, describing the benefits and impacts of these improvements, are discussed in the following section. Together, these improvements are intended to enhance the function of the Triangle as a pedestrian and transit hub, and introduce streetscape elements that improve the comfort and enjoyment of this area for pedestrians and transit riders. A summary of proposed improvements is shown on Figure 5.1.

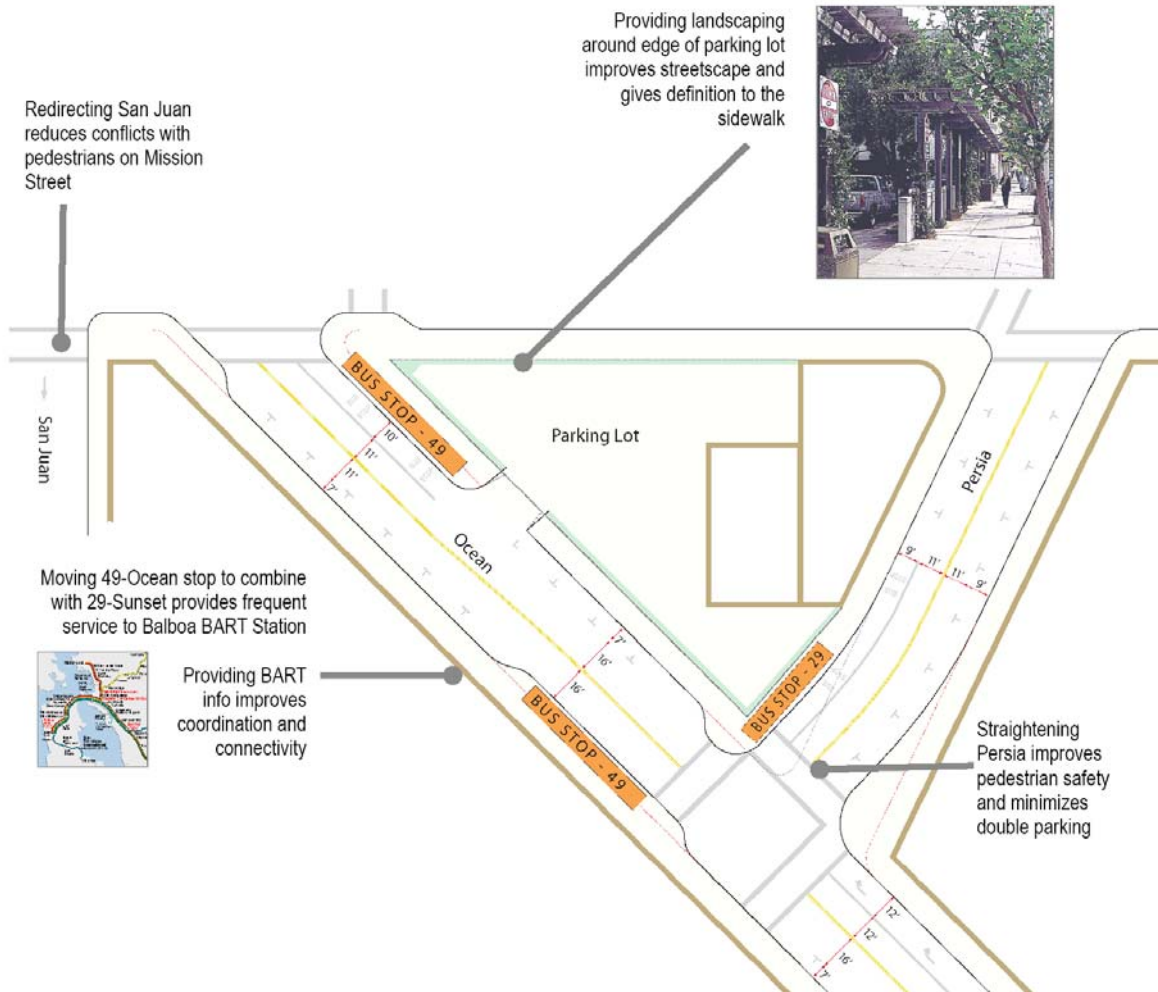
#### Reverse Direction of San Juan Avenue

San Juan Avenue is a small residential street extending between Mission Street and San Jose Avenue. For a one-block segment, between Alemany Boulevard and Mission Street, San Juan Avenue is one-way, permitting only eastbound traffic. San Juan Avenue intersects Mission Street, approximately 20 feet north of the signalized intersection of Mission Street / Ocean Avenue. Only right turns from eastbound San Juan Avenue to southbound Mission Street are allowed; however, drivers occasionally attempt to make illegal lefts at this location.

The adjacent intersection of Mission Street / Ocean Avenue is not readily visible to traffic on San Juan Avenue, both because of the angle of Ocean Avenue as it intersects Mission Street and a building between San Juan Avenue and Ocean Avenue that blocks drivers’ line of sight. The result is that traffic turning right from the stop-sign controlled intersection at San Juan Avenue onto southbound Mission Street turns directly into a signalized intersection. Since drivers are often looking to the left to identify gaps in oncoming traffic, it is not always clear to drivers that they may be turning into a signalized intersection, potentially conflicting with traffic on Ocean Avenue and pedestrians crossing Mission Street.

Therefore, this plan recommends reversing the direction of this block of San Juan Avenue from eastbound to westbound to avoid depositing traffic directly into the signalized intersection of Mission Street / Ocean Avenue.





**Figure 5.1 - Proposed Improvements to Persia Triangle**

Buffer Pedestrians from Auto-Scaled Land Uses

Most of the existing land uses bordering the Persia Triangle are auto-oriented in nature, consisting of surface parking and the yard of an auto service shop. The long-term future for the area may be the redevelopment of the block into a more pedestrian-scale use. This can be accomplished by encouraging in-fill development on existing parking surface lots. Such development will increase the intensity of activities around sidewalks and create fine-grained urban form more suitable for a pedestrian-friendly environment. In the near term, however, the pedestrian experience can be improved by using landscaping to clearly define the pedestrian space and buffering the sidewalk from auto-scaled uses. This can be achieved by constructing a low wall (approximately 30 to 36 inches in height) combined with a wooden trellis structure and landscaping. Figure 5.2 shows a similar structure that has been successfully used for visual shielding of a municipal parking lot on California Street in San Francisco. On Ocean Avenue, the trellis structure should be installed with clearances necessary to facilitate safe ingress and egress movements.





**Figure 5.2 – Example of Proposed Visual Screening/Landscaping Improvements to Persia Triangle**

Because Mission Street sidewalks are narrow relative to demand, the wall-trellis structure and landscaping would ideally be accommodated in an easement located on private property right along the existing property line, rather than on the sidewalk. The proposed improvements could be accommodated within 3 feet of depth, but must be compatible with the planting of vines or other climbing plants right along the wall's edge.

#### Street Trees

A consistent street tree line provides a buffer between traffic and sidewalk activities, shade on hot days, a visually pleasing walking and shopping environment, and spatially frames the pedestrian realm. In addition to the wall-trellis structure, rows of street trees should be established along the sidewalks that surround the Persia Triangle where they are absent. The trees should be Small-Leaf Tristania, such as the ones along Mission Street and be planted at 25 feet on center. Along Ocean Avenue and Persia Avenue, the street trees should be accommodated within 10-foot wide sidewalks. Trees should be planted in 4-foot by 6-foot tree wells<sup>11</sup> that are covered with ADA compliant tree grates. Street tree planting along the Mission Street segment of the triangle should follow the planting pattern proposed for that street (see Chapter 6 of this Study Report) and include palm trees in the curb extensions located at crosswalks.

#### Street Furnishings

The new lighting fixtures proposed for Mission Street (see Chapter 6) should also be installed along all edges of the Persia Triangle. This would visually integrate the Persia Triangle into the overall streetscape environment and neighborhood character.

A series of decorative bollards, such as the series of options illustrated in Figure 5.3, could be considered along the edge of the curb extension that is created in front of the bank by the realignment of the Persia Avenue / Ocean Avenue intersection. This will reduce the illegal use of the space for parking by users of the nearby bank ATM.

Trash receptacles should be installed in conjunction with each of the bus stops illustrated in Figure 5.1.



**Figure 5.3 - A variety of attractive bollards are available that would match the style of**

<sup>11</sup>This size tree well is preferable to 4-foot by 4-foot tree wells. 4 x 4 –foot wells would severely limit the viability of street trees as they fail to provide adequate soil volumes needed by the recommended trees.

### Reroute Muni's 29-Sunset

Improving transit travel time and reliability was a key goal identified by the neighborhood. One proposed improvement would change the routing of Muni's 29-Sunset to increase its travel speed. The 29-Sunset is a cross-town route that travels between the Presidio and Candlestick Point. Within the study area, the 29-Sunset travels on Persia Avenue east of Mission Street, on Mission Street, between Persia Avenue and Geneva Avenue, and on Geneva Avenue between Mission Street and the Balboa Park BART station. From there it travels past City College towards the Sunset, west of the study area. To improve the travel time and reliability of the 29-Sunset, this Plan proposes that instead of traveling along Mission Street and Geneva Avenue, the 29-Sunset should travel along Ocean Avenue between Mission Street and the Balboa Park BART station, as shown in Figure 5.4, below. A stop could be located on Persia Avenue at Ocean Avenue. As figure 5.4 shows, the route shifts from Geneva to Ocean at San Jose, to bring the route "up the hill" to City College. The proposed routing would take advantage of a new Ocean Avenue entrance being designed by BART.

In addition, the existing stop for the 49-Ocean Avenue should be relocated from Ocean Avenue, near Mission Street, to be closer to Persia Avenue. Since both Routes 49 and 29 travel to the Balboa Park BART station, locating their stops adjacent to each other, at the intersection of Ocean Avenue / Persia Avenue, allows passengers to take advantage of the combined frequency of the two routes. To complement this rerouting, this Plan recommends that a real time information display board be installed at the Balboa BART station so that BART passengers exiting the station will have access to information showing the locations and arrival times of buses at the station. Providing this information and combining the stop location for these two routes will enable riders to take the next available bus to their destination.

The relocation of the 29-Sunset bus route, in addition to giving passengers the advantage of dual headways with the 49-Ocean Avenue, will also significantly reduce travel time of the 29-Sunset between the Balboa Park BART station and the Persia Triangle area. The proposed route is more direct (shorter), requires fewer turning movements, and avoids obstacles faced by buses on Mission St., as mentioned previously in section 3.2. The combination of the 29 and the 49 routes will create a mini-transit hub near the intersection with Mission St. Since the Persia Triangle has been identified as a central point of activity in the neighborhood, it would be appropriate to have this location be easier to access by transit from different directions in the city.

Additional community input is needed on the rerouting proposals to ensure that passengers are not negatively impacted by this proposed route change. In addition, signal timing issues at San Jose and Geneva need to be further explored to ensure that travel time savings are significant enough to justify this routing change.

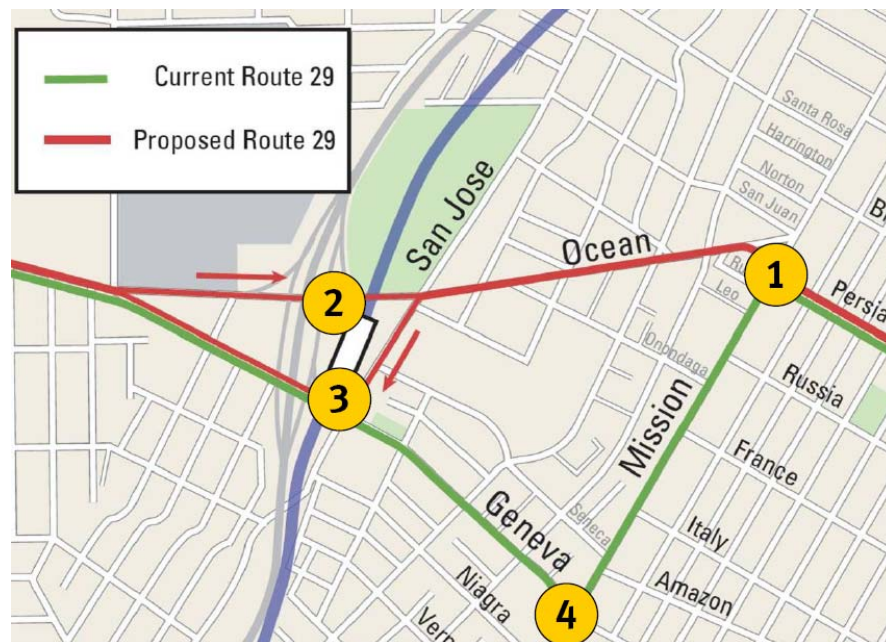


Figure 5.4 – Proposed New Route for Muni Route 29

#### Improve Transit Service Information

As a neighborhood transit hub, expanded transit service information should be prioritized for this location. Two types of improved transit information are recommended for bus stops in the Persia Triangle area: improved signage and wayfinding (including BART information) and Nex.tBus real-time bus arrival data, in particular at stops for buses going to the BART station

Improved BART signage and wayfinding in this area will, at the most basic level, raise awareness that BART is within walking distance and/or a short bus ride away. This will help connect the Persia Triangle and the Outer Mission commercial corridor to the BART station. Possibilities for improved signage include Spanish and Chinese-language signage, signage showing or explaining connections to BART, and signage that explains that Muni's monthly pass can be used on BART for intra-San Francisco trips.

Similarly, real-time bus information at these stops, especially for buses going to the BART station, will improve transit connectivity between this area and the BART station. These signs should be, at a minimum, at the bus stop shelters at the 49-Ocean Avenue stop on Ocean near Persia and the 29-Sunset stop on Persia at Ocean. Each sign is capable of displaying the next arrival times of the next two buses for both routes so people can decide which bus stop to use. It would also allow people to decide whether they should wait for the bus at all – with real-time bus arrival times, people will be able to make an informed decision about whether or not to walk to the BART station.

#### Realign the Persia Avenue / Ocean Avenue Intersection

Persia Avenue currently intersects Ocean Avenue at a skewed angle. This allows drivers to make high-speed turns from eastbound Ocean Avenue to southbound Persia Avenue. This alignment also causes a wider



intersection, which creates longer pedestrian crossing distances and accommodates illegal parking on southbound Persia, in front of an existing ATM. Illegal-parking, in turn, occasionally blocks Muni vehicles attempting to turn from eastbound Ocean onto southbound Persia Avenue. To address this, the Plan calls for realignment of Persia Avenue to intersect Ocean Avenue at a right angle. This improvement should be designed with consideration for Muni vehicles that turn onto Persia Avenue from Ocean Avenue, but should still provide a benefit to pedestrian crossing distances, and discourage illegal parking<sup>2</sup>. Reconfiguring the intersection would require acquiring a small corner of private property on the northwest corner of the Persia Triangle. There is currently no structure on the area of property to be acquired.

#### Provide Corner Curb Extensions and Bus Bulbs

Curb extensions should be constructed on either side of Ocean Avenue at Mission Street to shorten crossing distances for pedestrians traveling along the west side of Mission Street. In addition, bus bulbs should be constructed on Ocean Avenue at the eastbound and westbound stops for the 49-Ocean Avenue.

#### Public Input to Proposed Improvements

Proposed recommendations were presented to the community for the first time during the second of three publicly noticed workshops. At the second workshop, six break-out groups vetted all of the proposed recommendations and ranked their top choices after a facilitated discussion. The Persia Triangle was the top priority project chosen for implementation when compared against proposed improvements for the Geneva-Mission intersection. Changes include redirecting San Juan in the opposite direction to ease pedestrian and automotive congestion at the intersection of San Juan and Mission Streets. Straightening out Persia Avenue by extending curbs and adding bus bulbs at Ocean Avenue, adding landscaping, and moving bus stops were also well-received proposals.

### **5.1.2 Technical Analysis Results**

The following technical evaluation provides site-specific analysis of the likely pedestrian safety, transit service, and streetscape benefits, as well as potential traffic and cost impacts.

#### 5.1.2.1 Transit Performance and Rider Experience

The transit rider experience will be improved with the proposed treatments that increase the visibility and improve the functioning of the Persia Triangle as a mini transit hub. In particular, the Persia Triangle will better serve the transit route transfers that take place here. Specifically:

- **Rerouting the 29-Sunset offers improved transit travel time and reliability.** Rerouting the 29 onto Ocean Avenue will increase the net frequency of Muni service on Ocean Avenue to the Balboa Park BART station. The increase is substantial: in the peak period the frequency would increase from one bus every 8 minutes currently to one bus every 5.5 minutes (assuming current Muni peak period frequencies for Routes 29 and 49 are retained). This will significantly decrease the expected wait time for Muni service to and from the BART station, improving the usefulness of this service and connection of these adjacent but, from a pedestrian's perspective, somewhat distant (~0.7 miles) locations. In addition, the travel time savings to passengers already on the 29-Sunset has been estimated to be approximately five minutes, a substantial travel time reduction.

Removing the 29-Sunset from Mission Street and Geneva Avenue will reduce somewhat the net Muni service frequency on that street; however, the 14-Mission bus service operates every 6 to 8 minutes for most of the day. By moving Route 29 to Ocean Avenue, both Ocean Avenue *and* Mission Street can enjoy high service frequency. For a relatively small number of passengers boarding on Geneva headed beyond the BART station to the Sunset, frequencies on Geneva will be reduced. However, these passengers may choose to walk to Ocean or to transfer at Balboa Park station to access the Sunset.

- **Adding bus bulbs offers improved transit reliability and passenger waiting/boarding experience.**
  - The waiting area around bus stops is much more spacious, especially if there is a bus shelter.
  - Bus reliability improves and delays are reduced because the bus does not have to pull in and out of stops; reducing lateral side-to-side motions also improves passenger comfort once on the bus.
  - Boarding and alighting the bus from bus bulbs is easier, faster, and more convenient because it is easier for bus operators to pull up to stops flush to the curb. Passengers rarely have to step up into or down out of a bus into the street or gutter, reducing the distance they must climb or descend to get on or off the bus.
  - Bus bulbs are typically located at corners, and serve dual purposes as corner curb extensions that make crossing intersections easier and safer for pedestrians; because all bus riders must walk to and from the bus; this is an indirect but significant benefit for transit riders.
- **Enhanced wayfinding, particularly with BART information, will improve the passenger waiting experience.** With so many transit routes converging near the Persia Triangle, this change will provide passengers with the information necessary to identify the best route to reach their destination.

#### *Public Input to Proposed Transit Improvements*

Adding curb extensions and bus bulbs to Ocean and Persia Avenues. were popular amongst community members. Overall feedback was extremely positive given that transit service is a top priority for a majority of Excelsior/Outer Mission residents.

Combining bus stops on Ocean Ave. was also supported and viewed as another strategy to minimize car backups at the intersection of Mission and Ocean Ave.

Rerouting the 29-Sunset bus-line was met with mixed results depending on where workshop participants resided and their individual movements. Those who relied on the 29-Sunset to travel to Geneva Ave. were less likely to support rerouting the 29 line and eliminating a direct connection to Geneva Ave. Those relying on transit to reach BART from Persia Ave. were more likely to support having an additional option to the 49-Ocean for connecting to BART. More study will need to be done to assess transit rider impacts for rerouting the 29-Sunset bus line.

The community is concerned with any potential for negative construction impacts.

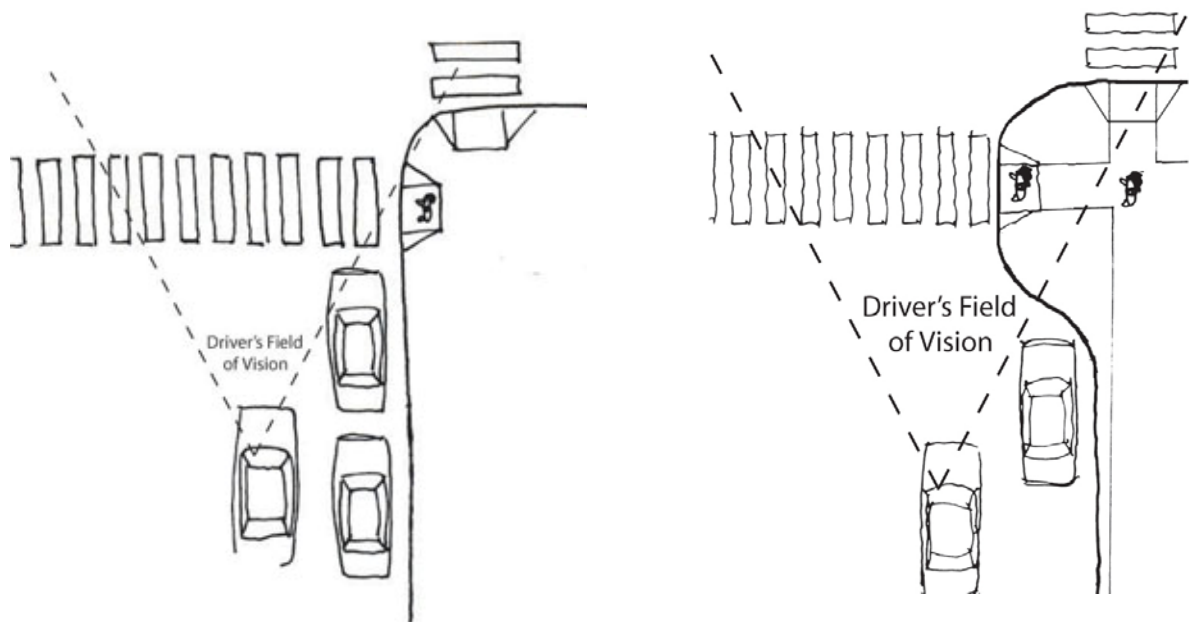
#### 5.1.2.2 Pedestrian and Bicycle Safety and Access

The pedestrian safety benefits of the Persia Triangle improvements are derived from:

- **Improved (shorter) crossing distances** - Curb extensions at the Mission Street / Ocean Avenue and Persia Avenue / Ocean Avenue intersections will shorten pedestrian crossing distances and improve pedestrian visibility to drivers. Figure 5.5 illustrates the benefits of curb extensions with respect to pedestrian visibility.



- **Increased driver awareness and pedestrian visibility** – Switching the direction of San Juan Avenue will reduce pedestrian-vehicle conflicts near the Mission Street / Ocean Avenue intersection. Realigning Persia Avenue at Ocean Avenue will slow traffic turning from Ocean Avenue to southbound Persia Avenue.
- **Improved pedestrian circulation** - Bus bulbs for the 49-Ocean Avenue will improve pedestrian circulation by providing additional sidewalk waiting area for bus patrons, reducing the interaction between transit passengers waiting for buses and pedestrians traveling along the sidewalk.



**Figure 5.5 – This sketch demonstrates the improved ability of drivers and pedestrians to see each other at corners with curb extensions.**

*Public Input to Proposed Pedestrian Improvements*

Pedestrian safety improvements were enthusiastically received at the second community workshop, and at subsequent mobile workshops. Redirecting San Juan Ave., a one-way street leading onto the busy intersection at Mission and Ocean Ave. in the opposite direction addressed pedestrian and motorists' frustrations with traffic backups and safety issues. All six groups unanimously agreed that this was a good proposal.

Curb extensions along Ocean Avenue and on Persia Avenue. were also well received, given problems with speeding cars on Persia and the dangerous conditions this intersection creates for pedestrians. Several pedestrian-auto collisions were cited at the workshops making improvements here a priority by both residents and the merchant community surrounding the area.

Curb extensions to straighten out Persia Ave.. at Ocean Ave. received the most vocal support as they were viewed as a valuable traffic calming tool, as well as minimizing double parking and traffic backups as a result of motorists utilizing an ATM at this corner, again, a very dangerous pedestrian intersection.

### 5.1.2.3 Streetscape Environment (Neighborhood Character)

The proposed streetscape improvements in the Persia Triangle area are intended to establish a more pedestrian-scale sidewalk with pedestrian and transit rider amenities. The proposed improvements will support the use of the area for community activities. Extending the Mission Street streetscape design treatments around the edges of the Persia Triangle fully integrates the Triangle into the corridor and provides a center of pedestrian activity generated by a cluster of bus stops and a multitude of uses around the triangle.

Specific benefits include:

- Street trees buffer pedestrians from traffic and visually define the edges of the Persia Triangle;
- Trellis-wall structures provide a buffer between the pedestrian realm and auto-scale uses; and
- The overall streetscape image created by the improvement “announces” the arrival to the Mission Street corridor and Excelsior Neighborhood for those traveling east on Ocean Avenue.

The proposed streetscape improvements complement the pedestrian safety improvements discussed above (realignment of Persia Avenue/Ocean Avenue intersection, construction of curb extensions, improved pedestrian safety and circulation) and together with these may create an incentive for future redevelopment in the Persia Triangle area.

#### *Public Input to Proposed Streetscape Improvements*

Overall, there was overwhelming support for greening and adding trees and other visual interest to the Persia Triangle, particularly since this intersection is a priority location for improvements and is viewed as the central location for business activity along the commercial corridor- the “heart” of the district. A trellis or some other visually interesting structure to further break up the streetscape and concrete was also suggested. One participant was concerned about who would actually maintain the street trees once they were installed.

### 5.1.2.4 Traffic and Parking

The primary traffic impacts associated with the proposed changes for the Persia Triangle are related to the reversed direction of San Juan Avenue. Traffic counts show that approximately 150 vehicles during the evening peak hour use this street to access Mission Street. With this movement no longer permitted, vehicles would disperse to other roadways, possibly including Ocean Avenue, Leo Street, or Onondaga Avenue. This level of traffic shift is not expected to contribute noticeably to traffic on other streets in the area. In addition, some traffic would likely shift from other streets onto San Juan Avenue when its direction is reversed, making the net change in traffic volumes on each street negligible.

The proposed improvements would result in a net loss of an estimated three to seven parking spaces, depending on potential bus stop consolidations. The parking loss is primarily due to the construction of bus bulbouts at locations where parking is now allowed at bus stops.

### 5.1.2.5 Costs

Based on unit costs provided by the Department of Public Works, these improvements are expected to cost approximately \$800,000 (not including property acquisition).



## Construction Impacts

Construction impacts associated with the proposed Persia Triangle improvements would likely be limited to the area around the Persia Avenue / Ocean Avenue intersection. The realignment of this intersection could likely be accomplished while maintaining existing traffic circulation, but may result in minor delays to traffic and Muni. Measures should also be taken to promote access to the adjacent businesses during construction and to schedule construction to mitigate impact on business activity.

## **5.2 MISSION STREET/GENEVA AVENUE INTERSECTION**

The intersection between Mission St. and Geneva Ave. was targeted as an important intersection to improve the transit, pedestrian, and streetscape environments by stakeholders in the neighborhood.

Both Mission Street and Geneva Avenue carry relatively high volumes of transit passengers. As such this intersection forms a key transit transfer point, particularly for passengers traveling between the Balboa Park BART station and other destinations on the Mission Street corridor. Existing transit passenger waiting areas are congested; the interaction between buses and vehicles exacerbates traffic congestion; and the angle of the intersection creates relatively long pedestrian crossing distances. There are many opportunities to improve the conditions at the intersection for pedestrian safety and comfort as well as transit operations and rider experience.

### **5.2.1 Improvements**

Specific recommended intersection improvements are described below.

#### Construct Bus Bulbs and Relocate Eastbound Bus Stop on Geneva Avenue



**Figure 5.6 – Current Muni Stop on eastbound Geneva at Mission**

All of the stops at this intersection are heavily used by both riders and Muni buses. By itself, this high level of activity justifies the expense of adding bus bulbs to facilitate loading and unloading. The numerous benefits of bus bulbs are listed in the discussion of the technical analysis for the corridor-wide improvements, but for the Mission-Geneva intersection, improving waiting conditions is particularly important. At present, the stops and their shelters are located on relatively narrow sidewalks that at times make it difficult for pedestrians to pass and uncomfortable for those waiting for Muni. The extra area provided by bus bulbs will improve waiting and pedestrian conditions at these busy bus stops and sidewalks.

Bus bulbs at the northeast corner of Mission and Geneva would reduce crowding at this important pair of stops, transferring the heaviest transfer movement between westbound Geneva and northbound Mission. A bus bulb has also been considered to expand the bus stop size at the eastbound stop on Geneva at

Mission (see Figure 5.6), and this possibility was discussed at community meetings. On the other hand, moving this stop from its current nearside location to the far side of the intersection would improve bus operations by potentially reducing the amount of delay that buses experience at the traffic signal. The other benefit of stop relocation is that a bulbed farside location would not interfere with eastbound drivers on Geneva turning south on

Mission. A nearside bus bulb would potentially increase the likelihood of conflicts between motorists and Muni. The Authority and SFMTA Service Planning should perform additional analysis before making a final recommendation for the location of this stop.

Regardless of location, adding a bulb to each of these busy stops will allow for larger bus shelters that can accommodate more people. The current shelters are too small for the larger numbers of people waiting to board Muni buses. Larger shelters are especially important at this intersection that, as the community reports, can be very windy and unpleasant while waiting.

#### Eliminate Large-Radius Southbound Free-Right-Turn Lane

There is currently a large-radius free-right turn lane from southbound Mission Street to westbound Geneva Avenue. This dedicated turn lane was constructed to facilitate easier transit movements for the 29-Sunset. While perhaps a necessary feature to accommodate efficient transit service, there are several negative consequences of this turn lane to pedestrians. First, the large radius allows cars to execute the turn comfortably at higher speeds. Also, pedestrians crossing from this corner must cross the turn lane and wait on a raised island with traffic on both sides before continuing across either Mission Street or Geneva Avenue.

As noted earlier, this Plan calls for rerouting the 29-Sunset so that it no longer uses this intersection. Since no other transit route makes this turn, the separate turn lane can be eliminated. This would shorten pedestrian crossing distances and discourage traffic from making this turn at high speeds. The radius shown in the Figure 5.7 is conceptual and the ultimate design should ensure that large trucks and buses can continue to make the turn

#### Provide Northbound and Southbound Left-Turn Lanes on Mission Street

The Excelsior traffic calming study, currently underway, identified the need for left-turn pockets at this location. Facilitating easier left turns from Mission Street onto Geneva Avenue has several benefits. First, as identified in the Existing Conditions and Needs Report, left-turning vehicles are a notable source of delay to traffic and transit on Mission as they wait in queues for breaks in oncoming traffic. Second, the Excelsior traffic calming study documented the community's concern that drivers have difficulty turning left from Mission onto Geneva, and to avoid the intersection turn onto non-arterial streets to access Geneva. Left-turn lanes would increase the intersection's capacity to handle left-turn movements.





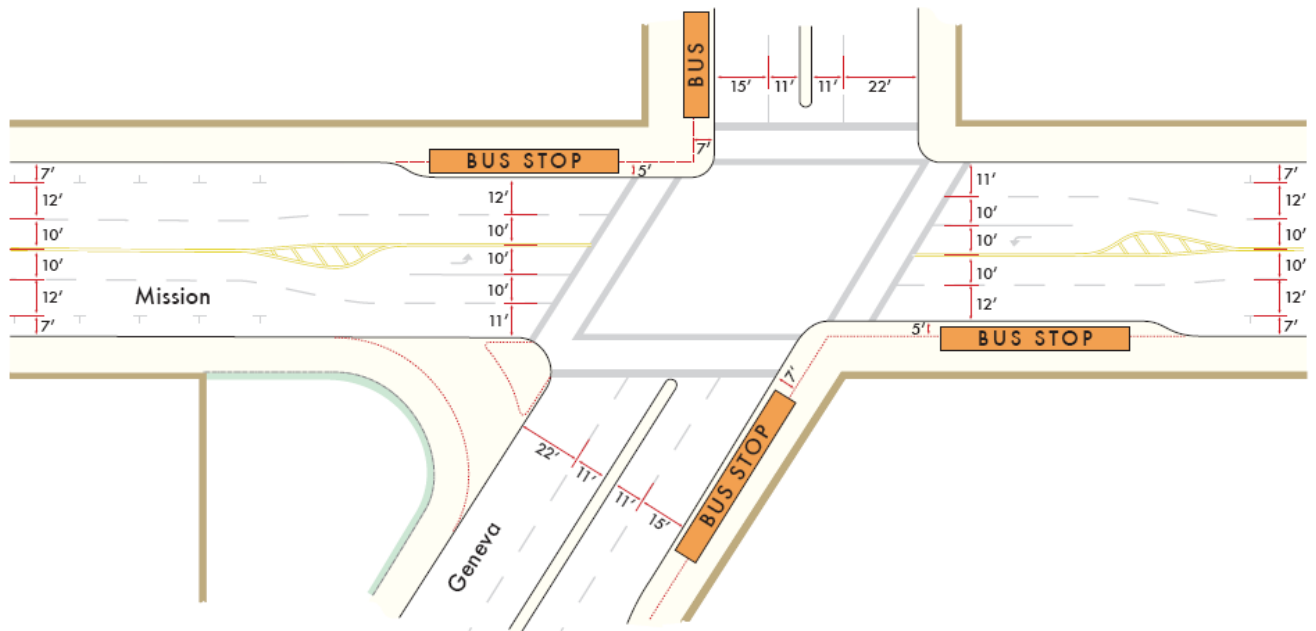


Figure 5.7 – Conceptual redesign of Mission Street / Geneva Avenue intersection.

Provide Landscape Buffer between Sidewalk and Gas Station on Northwest Corner

A gas station is located on the northwest corner of the Mission Street / Geneva Avenue intersection. Unlike the other corners of this important intersection, which are characterized by multi-story buildings and street-fronting retail, the only structure on the gas station is located at the rear of the site, with ample paved circulation space around the gas pumps. As is the case with many gas stations, the circulation space for automobiles directly abuts the adjacent sidewalks along the edges of the gas station. The pedestrian space is not delineated from the auto circulation area, and creates uncertainty for pedestrians and drivers about which space is for them. It also produces a visually and spatially auto-scaled environment. The spatial openness of the gas station in this particular location is inconsistent with the sense of enclosure and human scale provided by buildings along the majority of the remaining Mission Street corridor.

In order to improve the current conditions, a landscape buffer is recommended between the gas station and the sidewalk, similar to that shown in Figure 5.8. This would accomplish two goals: a clear distinction between the gas station circulation area and the adjacent sidewalks, as well



Figure 5.8 – Landscaping can provide a visual buffer between the roadway and adjacent pavement.

as a better spatial definition of this corner of the Mission Street /Geneva Avenue intersection. The latter will be best achieved through the use of trees within the landscape buffer (see Figure 5.8) and can be further enhanced by integrating a low wall (about 30 inches tall) at the backside of the buffer. If a wall is used it should be designed so as to not invite sitting in order to avoid conflicts with cars circulating in the gas station and to reduce damage of the landscaping within the landscape buffer<sup>3</sup>. Overall, the creation of a landscape buffer will visually separate the gas station from the intersection and provide a more pleasant pedestrian environment.

Particular attention should be given to the design of the landscape buffer along its western end on Geneva Avenue. This is the location of a busy Muni bus stop and currently bus riders wait scattered around near a particularly uninviting portion of the gas station. Here a wall/trellis design similar to that proposed for the edges of the Persia Triangle could be used west of the gas station driveway to help delineate pedestrian circulation space and the bus stop area from auto circulation space. As with the gas station access driveway on Mission Street, the one on Geneva Avenue adjacent to the bus stop should be reduced to a minimum width required for safe ingress and egress of cars (not wider than 28 feet).

At driveway locations, the landscaping should be clearly delineated by curbs to avoid damage by moving vehicles and to create an entry/exit that is clearly "legible" for drivers and pedestrians alike. The number of driveways into the gas station should also be reduced to a minimum. Narrowing and reducing the number of driveways will significantly reduce the potential conflict points between vehicles and pedestrians.

## **5.2.2 Technical Analysis Results**

The following is a technical evaluation discussion about the proposed improvements at the Mission / Geneva intersection.

### 5.2.2.1 Transit Performance and Rider Experience

The proposed changes to the transit stops at the intersection include using the bus bulbs as upgraded bus stops in their current locations. There is also a proposal to move the eastbound Geneva Ave. stop to the far side of the intersection. The potential effects of these proposals are as follows:

- **Adding bus bulbs offers improved transit reliability and passenger waiting/boarding experience.**
  - The waiting area around bus stops is much more spacious, especially if there is a bus shelter.
  - Bus reliability improves and delays are reduced because the bus does not have to pull in and out of stops; reducing lateral side-to-side motions also improves passenger comfort once on the bus.
  - Boarding and alighting the bus from bus bulbs is easier, faster, and more convenient because it is easier for bus operators to pull up to stops flush to the curb. Passengers rarely have to step up into or down out of a bus into the street or gutter, reducing the distance they must climb or descend to get on or off the bus.
  - Bus bulbs are typically located at corners, and serve dual purposes as corner curb extensions that make crossing intersections easier and safer for pedestrians; because all bus riders must walk to and from the bus; this is an indirect but significant benefit for transit riders.

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<sup>3</sup> The top of the wall can be beveled to discourage sitting. The application of spikes or other hostile looking elements add-ons to the top of the wall is not recommended.



- **Moving the Eastbound Bus to the far side of the intersection will eliminate a conflict between Muni buses stopped for passengers and right-turning traffic onto Mission St.** It might also lower delay a bus might experience after picking up passengers and stopped at the stop light. A far side bus stop allows the bus driver to fully take advantage of any green time allocated to Geneva Ave. The likelihood of the driver losing out on green time because of delay at the bus stop is not known and may have to be studied further. On the other hand, keeping the bus stop in its current location allows for efficient passenger transfers between eastbound and southbound routes. The likelihood of a passenger missing a quick transfer would be lower with this configuration.
- **Enhanced wayfinding, particularly with BART information, will improve the passenger waiting experience.** Real time arrival information would also improve passenger experience.

#### *Public Input to Proposed Transit Improvements*

Bus bulbs to speed transit service were a clear priority amongst workshop participants and in the surveys collected from various follow up events. Bus stop amenities such as larger bus shelters and nicer waiting areas with benches and/or shade were also welcomed. Next Bus technology, given the many transit options at this key intersection would assist transit riders to utilize their time better and make quick decisions to catch a bus or walk to their destinations.

More frequent connections to BART, especially by the local 52-Excelsior bus line were also proposed improvements forwarded by workshop and focus group participants. At the mobile workshops, we heard from various neighborhood groups and their members the desire to terminate the 52-Excelsior at the Balboa BART station rather than on Geneva Ave.- or to run a shuttle from Geneva and Mission to BART.

Rerouting the 29-Sunset was met with mixed results, depending on the final destinations of transit riders; additionally, some participants voiced concerns for San Francisco State University and City College Students who connect to campus from Geneva and Mission.

#### 5.2.2.2 Pedestrian Improvements

**The construction of bus bulbs and the filling in of the right turn lane will have many immediate benefits to pedestrians navigating the intersection.**

- **Eliminating the right turn lane of southbound Mission Street traffic will eliminate a conflict with pedestrians crossing Geneva Ave. or Mission St.** Pedestrians will no longer need to compete with automobiles for this space. Additionally, drivers will be more likely to exhibit caution when they need to slow down to execute a sharper right turn. The landscaped delineation between the gas station lot and the sidewalk will also eliminate conflicts between autos on the lot and pedestrians occupying the sidewalk area.

**A sidewalk bulb in place of the right turn lane would increase pedestrian visibility to drivers.** As drivers approach the intersection, pedestrians crossing the street would be more visible as they would have more protected space to inhabit closer to the driver's field of vision. Additionally, having a sidewalk barrier moved close to the travel lane would cause drivers to slow down and execute more caution when driving near intersections.

- **Shorter Crossing Distances** - Pedestrians will effectively have a shorter distance to cross the street with sidewalk bulbs at the intersection.
- **Improved Pedestrian Circulation** - The increased pedestrian realm will also provide ample space for efficient pedestrian circulation, particularly at bus stops.



### *Public Input to Proposed Pedestrian Improvements*

Proposed improvements to the Mission/Geneva intersection were overwhelmingly supported by workshop participants and the residents surveyed. Mostly seniors and youth are concerned about fast-moving and a heavy flow of cars at this busy intersection, and identified pedestrian safety as a top priority for any improvements, followed closely by transit efficiency. The proposed left-turn pocket lane from Mission St. onto Geneva was also met with enthusiasm and was seen as a great way to divert traffic off of the residential streets from northbound motorists on Mission St. attempting to get onto Geneva Avenue westbound. Shortening the intersections by adding curb extensions were also supported, given the high demand for safer crossings.

#### 5.2.2.3 Streetscape Improvements

The following are the potential effects of the proposed improvements in regards to the streetscape environment.

**Landscaping between the Gas Station and the Sidewalk** – The landscaping treatments will provide a clear distinction between pedestrian space and auto circulation areas, and provide a buffer between auto movement and the adjacent sidewalks and bus stops. Visually, landscaping will also help define this corner of the Mission Street /Geneva Avenue intersection. The addition of the landscaping buffer between the gas station lot and the sidewalk would improve the sustainability aspects of the neighborhood in relation to storm water management. It is an opportunity to open up a permeable surface in the middle of a relatively large area of impermeable pavement covering. Diverse vegetation may be planted in this buffer area and increase green space in the neighborhood.

The type of landscaping planted in this buffer should be selected carefully to ensure that the planting improves pedestrian safety and comfort. Low-lying bushes or grasses would distinguish the pedestrian from the auto circulation space, improving pedestrian comfort and safety. The species planted in the area, if consistent with other plantings in the corridor, would unify the look and appearance of the neighborhood. In most scenarios a buffer would likely provide an improved experience and sense of safety from auto uses for pedestrians and transit patrons.

### *Public Input to Proposed Streetscape Improvements*

Landscaping, especially in front of the gas station, was largely supported. Shade provided by trees was also met favorably by transit riders. Greening projects are largely supported by Outer Mission/Excelsior residents who feel that too many tree wells sit empty and that existing trees are mismatched and poorly maintained. Concerns about maintenance are a recurring issue and a maintenance plan would need to be incorporated into any funding and/or implementation plan.

#### 5.2.2.4 Traffic flow and Parking

The addition of left turn bays and bus bulbs would have the following effects:

**Improved Left Turns** – Left turn bays eliminate conflicts between through traffic and vehicles waiting to turn left, reducing delays for traffic and transit vehicles that must wait behind existing queues of vehicles waiting to turn left. Traffic and transit would operate more smoothly and efficiently through the intersection.

**Potential Delay Due to Bus Loading** – Bus loading would take place in the general stream of traffic, potentially delaying auto traffic when there is a bus stopped at an intersection. However, the traffic analysis completed for this study suggests that the delays to traffic would be negligible. These delays may be partially offset by the efficiency improvements gained by adding left turn bays.

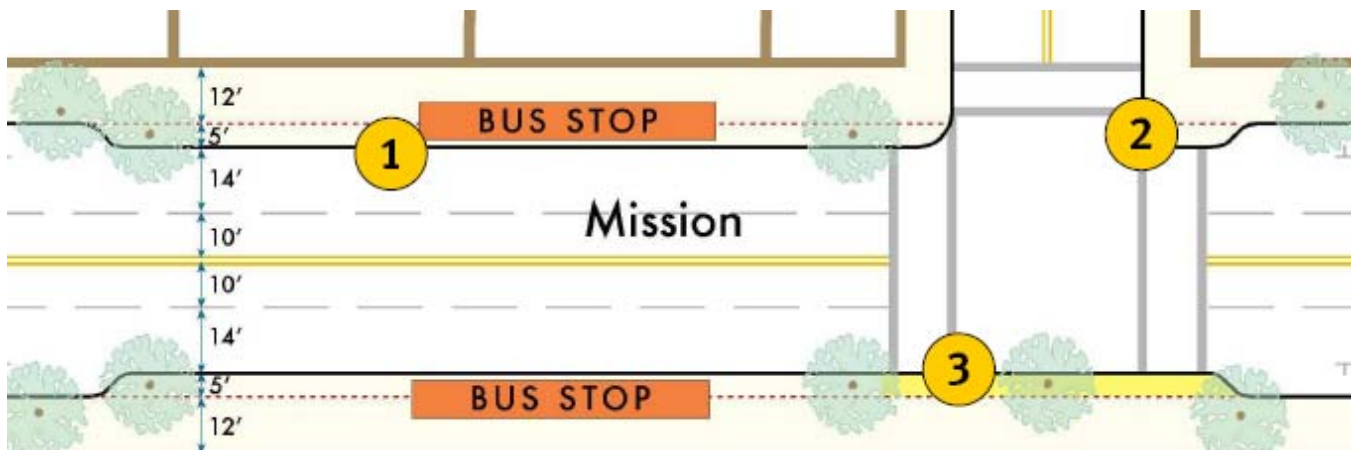
**Marginal Reduction in Parking Supply** – Some parking may be lost due to the construction of bus bulbs. However, parking loss can be minimized depending on the final design of the bulb. Bulbs would occupy the street space currently allocated to bus stops, which is restricted to parking.

#### 5.2.2.5 Costs

The cost for the improvements to the Mission/Geneva intersection, as described above are estimated to be around \$800,000.

### 5.3 ADDITIONAL INTERSECTIONS ON MISSION STREET (SILVER AVENUE, SANTA ROSA AVENUE, AND ONONDAGA AVENUE)

This Plan recommends a consistent street treatment for the entire study portion of Mission Street and Geneva Avenue. However, there are certain locations along Mission Street that have been identified as having the highest need for these improvements. Therefore, if the improvements recommended for the entire corridor are not constructed simultaneously, the intersections of Mission Street with Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue should receive the first priority for transportation investment, along with the Persia Triangle and Mission Street / Geneva Avenue intersection improvements discussed above. These intersections were selected based on the volumes of pedestrians crossing, the incidence of collisions, and other existing conditions that make them more complex. A summary of the improvements that could be completed at these intersections follows. Figure 5.9 shows a typical intersection improved as described in this section.



**Figure 5.9 – Typical improvements recommended for Mission Street intersections with Silver Avenue, Santa Rosa Avenue, and Onondaga Avenue.**

### 5.3.1 Improvements

#### (1) Construct Bus Bulbs

Bus bulbs would offer expanded waiting area and would speed up the boarding process for transit, improving transit reliability and travel time. Note that under the ultimate plan for Mission Street, while wider sidewalks at bus stops may still be accommodated, space would need to remain for bus turnouts. Construction of bus bulbouts at these key intersections should consider the long-term recommendation for Mission Street.

#### (2) Construct Corner Curb Extensions

Corner curb extensions should be constructed at these key intersections to shorten pedestrian crossing distances and improve pedestrian visibility.

#### (3) Widen Sidewalks and Provide Trees at "T" Intersections

Mission Street is the intersection of offset street grids, and as a result, relatively few streets cross Mission Street. Instead, many streets terminate at Mission Street, at so-called "T" intersections. This reduces the visual cues to drivers that they are approaching intersections and must yield to pedestrians. Extending the sidewalks into the street, similar to a curb extension along the "dead end" side of the street, would provide a visual cue to drivers. The cue could be enhanced by installing a unique tree, such as a Mexican Fan Palm or other distinct tree consistent with goal of being easily distinguished from the small leaf tristantias from a distance, to visually narrow the roadway at these locations and provide an additional signal to drivers to watch for crosswalks.

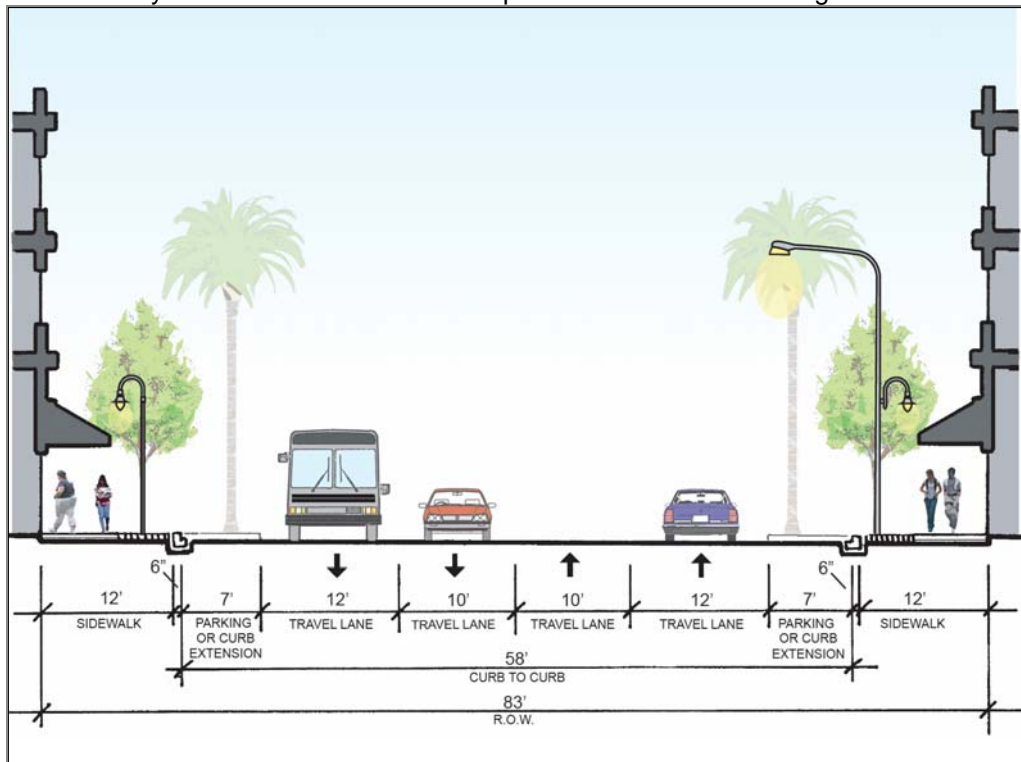


Figure 5.10 – Planting two types of trees would have the effect of narrowing the street.

Curb extensions, especially at “T” intersections, would improve safety by increasing visibility of pedestrians and drivers’ awareness of the intersection. Placing trees on these curb extensions further reinforces this effect.

### **5.3.2 Technical Analysis Results**

The improvements listed above for specific high-priority intersections along Mission Street are consistent with the ultimate recommendations for the entire Mission Street corridor. Therefore, the technical analysis for the Mission Street corridor included these intersections as part of the overall analysis, similar to the Persia Triangle technical analysis. The discussion below is a qualitative assessment of the potential benefits and impacts of the recommended intersection improvements.

#### 5.3.2.1 Transit Performance and Rider Experience

Bus bulbs are recommended to both improve transit performance and enhance rider experience. Bus bulbs have significant benefits to both transit riders and pedestrians in general because they widen the useable sidewalk space and provide a waiting area for bus passengers outside of the pedestrian flow. In addition, bus bulbs improve transit reliability and passenger comfort by eliminating the need to weave in and out of the traffic lane. Boarding and alighting the bus from bus bulbs is easier, faster, and more convenient because it is much easier for bus operators to pull up to stops flush to the curb. Bus bulbs can accommodate additional stop amenities such as larger shelters and real-time information

#### 5.3.2.2 Pedestrian and Bicycle Safety and Access

Two primary features of the recommended treatments for these key intersections significantly improve pedestrian conditions. First, corner curbs shorten pedestrian crossing distances, increase pedestrian visibility to drivers, and generally slow traffic speeds, particularly for turning vehicles. Second, the proposed treatment at the end of T-intersections provides visual cues to drivers that a crosswalk exists.

#### 5.3.2.3 Streetscape Environment (Neighborhood Character)

As described above, the most critical streetscape element at the described key intersections is the introduction of visually distinct street trees (i.e., palms) where crosswalks occur across Mission Street (including T-intersections). If consistently applied and successfully combined with other measures recommended in this study, this concept would further enhance pedestrian safety in the corridor while simultaneously strengthening the neighborhood character through a stronger sense of identity. The identity building characteristic of this streetscape treatment is associated with the rhythm introduced into the tree planting pattern along Mission Street by the occurrence of the “special” trees.

#### *Public Input to Proposed Streetscape Improvements*

As stand-alone improvements or in conjunction with the Option B cross section for Mission Street, the community expressed support for redesigning these “T” intersections as described above. The most common feedback included support for the curb extensions, the shorter crosswalks, and the increased lighting and landscaping.

#### 5.3.2.4 Traffic and Parking

Bus bulbs would allow buses to stop in the curb lane for passenger loading and unloading. While this would block the curb lane for through traffic, it may not represent a substantial degradation to traffic circulation compared to existing conditions. Even today, the curb lane does not have 100% of its capacity for traffic flow since transit vehicles operate in that lane, and often do not pull fully out of the roadway when approaching bus stops. As a





result, the curb-side travel lane is frequently blocked by buses making stops and provision of a bus bulb would not likely exacerbate this situation.

Parking loss at these high-priority intersections would be minimal, and corner curb extensions could be designed so as to minimize the parking loss. Bus bulbs would shorten the required lengths for bus stops because the transition distance to pull into and out of stops would no longer be required. This would free more curb space for parking.

However, parking would be removed from the middle of existing T-intersections to accommodate wider sidewalks and special trees. The net result is a minor parking loss at these intersections dependent upon the intersection.

#### 5.3.2.5 Costs

Cost estimates for the four key intersections discussed above are as follows:

- Mission Street / Onondaga Avenue - \$400,000
- Mission Street / Santa Rosa Avenue - \$250,000
- Mission Street / Silver Avenue - \$500,000

Note: These costs are planning-level cost estimates and are subject to change pending detailed design and field investigation.

#### 5.3.2.6 Construction Impacts

Construction of bus bulbs, corner curb extensions, and wider sidewalks at key intersections would not likely contribute to substantial disruption to traffic flow on Mission Street. Pedestrians and transit patrons may be inconvenienced as these improvements are proposed to take place at locations where pedestrians cross and bus passengers load and unload. However, the long-term benefits to pedestrians outweigh the short-term construction impacts.

## 6. MISSION STREET CORRIDOR

Mission Street is one of the most important streets in San Francisco. It serves as a key transit corridor, a major commercial area, and, in the study area, functions as the heart of the Excelsior District. Within the study area, Mission Street is a relatively chaotic environment, which contributes to unreliable transit, a reduced sense of pedestrian safety, and a general lack of a unified streetscape.

The proposed improvements for the Mission Street corridor include a series of basic improvements that can be implemented all along the corridor and three alternative roadway configurations to improve the operations of the roadway. The basic improvements are described in the next section, followed by a discussion of the three corridor options considered.

### 6.1 BASIC IMPROVEMENTS

Several basic improvements should be provided throughout this portion of Mission Street. These amenities are described below.

#### *Provide Pedestrian-Scale Lighting*

Currently, Mission Street is lit by “cobra-head” light fixtures fitted with high-pressure sodium lamps. The fixtures are spaced 80 to 100 feet apart, depending on driveway locations and other conditions that may affect fixture placement. This type of fixture is designed primarily to provide light for vehicular traffic and only to a lesser degree to light sidewalks used by pedestrians.

One of the critical needs identified by the larger Excelsior community and local stakeholders was for improved pedestrian-scale lighting along Mission Street. Pedestrian-scale light fixtures along the street can significantly improve both safety and comfort of the pedestrian experience on this corridor and introduce a civic streetscape element that upgrades visual character of the street and furthers the development of neighborhood identity. Also, the envisioned crosswalk improvements on Mission Street can effectively be combined with new pedestrian-scale lights provided within the



**Figure 6.1 – New pedestrian-scale fixtures (left) and retrofitted existing fixtures (right).**

bulbouts at each crossing. This would give further functional and visual emphasis to the improved crossing locations. Finally, the combination of public safety and aesthetic aspects of a coherent system of well-designed pedestrian-scale light fixtures can provide future benefits for revitalization efforts in the area.

In the short term, lighting conditions can be improved by replacing the high pressure sodium (HPS) lamps of the existing cobra-head fixtures with metal halide (MH) or similar lamps and conversion kit parts. Metal halide lamps have a significantly better color rendition than HPS because they give off a white light that is more similar to daylight. If the right wattage is used, these lights can create a more natural and brightly lit environment.

Ideally, pedestrian scale lighting improvement would involve the replacement or retrofit of all existing light fixtures with pedestrian-scale (12 to 14 feet tall) light fixtures, that are oriented toward the sidewalk and whose light source is located about 12 to 14 feet above the sidewalk surface. A modern-looking pendant type fixture, compatible with the look of the existing cobra-heads, should be used (this type of fixture is most suitable as a retrofit fixture with the existing cobra-head posts). Additional pedestrian-scale fixtures of the same design (left example in Figure 6.1) could be added between the retrofitted cobra-heads to reduce distance between lights. The overall spacing of retrofitted cobra-heads and additional pedestrian scale fixtures should approximately 30 to 40 feet between fixture locations (or about two pedestrian scale light fixtures between each modified cobra-head fixture). Existing light fixtures should be painted to match the color of the new pedestrian light fixtures for aesthetic unity, and in fact, new signal posts could be painted in the same color as the new light fixtures to further unify the visual appearance of the most prominent vertical elements in the corridor.

The City's Better Streets Master Plan effort, currently underway, will establish the most cost-effective approach to providing expanded pedestrian-scale lighting in neighborhoods. The BSP will answer questions about retrofitting versus replacing existing street light fixtures and what type of bulb to use in what application.

### ***Provide Consistent Street Tree Plantings***

Street trees help establish a comfortable pedestrian environment by providing a buffer between traffic and sidewalk activities, shade on hot days, and a visually pleasing walking and shopping environment. They also spatially frame the pedestrian realm and, for drivers, visually narrow the width of the street, an effect that contributes to speed management. Street trees can also provide a strong sense of identity and a unifying character to the overall streetscape. Providing continuous and consistent planting at the scale of the entire corridor can improve the character of an area by making it look well cared for and contributing to the desired unified local identity that is partially achieved by the use of pedestrian light fixtures of a consistent design along the corridor (see discussion above). The existing complement of street trees can be improved by reinforcing use of the dominant existing tree: the small-leaf Tristania.

Existing small-leaf Tristianias should be preserved if they are in good condition, and replaced where they are failing. Many of the inconsistent trees, such as the intermittent Windmill Palms, should be removed and replaced with small-leaf Tristianias. New small-leaf Tristianias should also be planted where there are any gaps in the street tree line.

Mexican Fan Palms or a similarly distinct tree should be planted in bulb-outs at all crosswalk locations. Trees may also be planted at bus stops if consistent with SFMTA's recently adopted policy. This would provide visual cues to pedestrians and drivers regarding the location of intersections and crosswalks, improving both aesthetics and safety at crossing locations. Mexican Fan Palms are recommended as they have a tall and narrow trunk, which makes them visually stand out in the streetscape without blocking sight lines between pedestrians and drivers.

### ***Consider Displaying Community Art on Traffic Signal and Utility Boxes***

Traffic signal and utility boxes can provide an opportunity for local public involvement in implementing streetscape improvements and enhancing neighborhood character. Rather than seeing them as a blight or unavoidable functional object, many cities view these facilities as an opportunity to add small-scale public art projects to the streetscape. Local artists and community members can participate in the neighborhood and corridor improvements by painting the exterior faces of utility boxes, both beautifying their community and taking more ownership of the public realm in their neighborhood. This effort should be



**Figure 6.2 – Community art display on utility box**

coordinated with SFMTA/DPT, PG&E, and other appropriate authorities, as necessary.

### ***Provide New Trash Receptacles***

Additional trash receptacles would decrease the amount of litter on the street and contribute to a cared-for appearance. Many other neighborhood improvement programs in San Francisco, such as in the Castro district, have selected trash receptacles with an updated look to reinforce a unique aesthetic character for the neighborhood.



**Figure 6.3 – An updated look for trash receptacles will add to the streetscape character and encourage people to use them.**

high-visibility crosswalk that could be installed at locations other than near school zones, such as high priority transit stops and transfer points. The City will develop a design standard for visible crosswalks as part of the Better Streets Master Plan, currently underway. Such a treatment should be considered along this corridor.

### ***Provide Real-Time Transit Information (i.e., NextBus)***

As recommended for other locations in the study area (i.e., the Persia Triangle and the Balboa Park BART Station), NextBus real time arrival information should be installed along transit routes on Mission Street between Silver Avenue and Geneva Avenue, with the

### ***Provide Pedestrian Countdown Signals***

Pedestrian countdown signals are pedestrian signals that display the amount of time remaining until the light turns red. While most intersections along the Mission Street corridor currently have these devices, some do not, such as Mission Street / Excelsior Avenue. All crossings at all intersections should be outfitted with pedestrian countdown signals. A planned Safe Routes to School project, led by the SFMTA, will upgrade this signal.

### ***Provide Advance Limit Lines at Crosswalks***

Advance limit lines are white lines painted across the road in advance of crosswalks. These limit lines have been shown to cause drivers to allow more room between their stopped car and the crosswalk. This provides additional buffer between pedestrians and vehicles.

### ***Enhance Crosswalk Visibility***

The City of San Francisco currently has a policy of designing only basic crosswalks at all locations, except within one-quarter mile of a school. Within this distance, the City will allow a “yellow ladder” type crosswalk. This Plan recommends that the City adopt a new design standard for a



**Figure 6.4 – Example of traffic signal mast arms and pedestrian countdown signals**

highest-volume bus stops prioritized.

### ***Implement Transit Signal Priority***

SFMTA has installed transit signal priority (TSP) equipment on its buses and at some Mission Street intersections. This technology extends the green light phase of a traffic signal to enable an approaching bus to make it through the intersection. At present, several intersections have TSP equipment on this segment of Mission Street: Silver (outbound), Brazil (outbound), Persia, and Italy (inbound). SFMTA could also install this equipment at the following intersections: Silver (inbound), Excelsior, Ocean, Brazil, Onondaga, and Geneva.

### ***Provide More 14L-Mission Service***

The community spoke clearly about its desire to see the hours and frequency of the 14-Limited be expanded. At present, the 14-Limited is scheduled to operate every 20 minutes from approximately 9am to 4pm Monday through Friday and every 15 minutes from 9am to 5pm on Saturday. At this frequency its utility for area residents is limited because it does not operate frequently enough to provide a real choice for riders; few people wait for the 14-Limited because the likely wait time (compounded by the lack of real-time bus arrival information) often negates any travel time benefit.

As part of ongoing Transit Effectiveness Project (TEP), Muni will evaluate (in Spring 2007) its current service plan and allocation of service hours. The community's input from this project is going to be taken into account by the TEP but final TEP recommendations will not be available until winter 2007.

### ***Reconsider Community Request to Reinstate Routes 52-Excelsior and 54-Felton***

Recently, two community bus routes serving the Mission-Geneva corridor experienced service cuts. The 52-Excelsior's route was truncated to terminate at Luther Burbank School, and its mid-day headway increased from 20 to 30 minutes. The 54-Felton was rerouted to cover the discontinued 52 service. Corridor residents were negatively affected by these changes because of reduced capacity and increased headway to and from the Balboa Park and Glen Park BART stations. In 2005, the Excelsior District Improvement association recommended that Muni extend the 52-Excelsior along Geneva Avenue to Balboa Park and City College, restore the 54-Felton to its route along Persia and Ocean Avenues, and permanently release the 52-line layover area at Amazon and Mission.

### ***Consider Bus Stop Consolidation***

One of the most effective and inexpensive ways to improve transit speed and reliability – two of the key issues for transit service on Mission Street – is to optimize the spacing and location of its stops.

For northbound Mission Street between Silver Avenue and Geneva Avenue, Muni should consider consolidating the current stops at Persia Avenue and Brazil Avenue (resulting in a net loss of one stop in this travel direction) to a new midblock location between Persia Avenue and Brazil Avenue. This would make stop spacing more consistent with Muni's standards of 800 to 1,000 feet between transit stops (stops about two generic city blocks apart), helping the 14-Mission strike a more consistent balance between transit speed, reliability, and walk access distances. Apart from this stop consolidation, the other stop relocation that is recommended for the northbound travel direction is to move the current nearside stop at Russia Street to the farside of the intersection.

In the southbound direction, Muni should eliminate the current low usage stop at Ruth Street. In addition to this stop elimination, one stop relocation has been considered and will be evaluated in more detail: moving the current stop between Norton Street and San Juan Avenue to the Persia Triangle between Ocean Avenue and Persia Avenue. Both potential stop locations have tradeoffs: the Persia Triangle location offers more possibilities for a





pleasant waiting area and its farside location has the potential to slightly improve Muni’s speed and reliability, but these benefits come at the expense of requiring transit riders to cross Ocean Avenue to get to/from this stop (because most people who use this stop appear to come from the commercial core slightly to the north of Persia Triangle). Keeping the stop at its current location is viable, if the stop is bulbed to relieve overcrowding.

**Address Bus Stop Delays Through Bus Bulbs**

As mentioned in chapter 5.6.2 in the *Existing Conditions and Needs Assessment Report*, Muni busses experience variable and significant delays at a number of locations on Mission Street. Bus bulbs can address these delays by giving passengers waiting to board separate space from nearby pedestrians and thereby eliminating conflicts. It can also bring the passenger boarding area closer to a bus’s line of travel. Often busses cannot turn close enough to a curb to allow for direct boarding from the sidewalk, forcing passengers to step down into the street then climb the stairs into a bus, adding discomfort and delay. Bulbs can address this problem. The table below shows the proposed locations for bus bulbs.

Proposed Bus Bulb Locations (Mission Street)		
Cross Street	SB	NB
Silver	X	X
Francis	X	
Excelsior		X
Brazil		X
Norton	X	
Ruth	X	
Persia		X
Russia		X
Onondega	X	
Italy	X	X
Geneva	X	X

**Improve East-West Transit Service**

Cross-town, or east-west serving transit, does not function for the community as well as north-south service. The main area to improve, through combinations of transit priority treatment, is reliability. The recommendations of the SFMTA’s TEP study, currently underway, will provide a guide for improving the performance of these routes. Circuitousness in the route of the 29 will be addressed through a recommendation elsewhere in this Report.

**Consider Expanding Use of Muni Fast Pass on BART**

At present, full price Muni Fast Passes (i.e., Muni’s monthly unlimited use transit pass) are valid on intra-San Francisco BART trips, but discounted youth and senior passes are not. This reflects the financial arrangement between BART and Muni and the rate at which Muni must reimburse BART for carrying “Muni” passengers. This Study recommends that the SFMTA and BART renegotiate the current arrangement to allow all Fast Passes to be valid on BART, ideally with a neutral financial impact for Muni. There is also community interest in extending the use of Fast Passes to the Daly City and Colma BART stations.



**Figure 6.7 – Double-parking is frequent on Mission Street**

**Reduce Double-Parking Through Design and Increased Enforcement**

Regardless of the ultimate design adopted for Mission Street, reduction in double parking through design treatments and through increased or more effective enforcement would improve both auto and transit circulation in the area. This Plan calls for an SFMTA review of loading zones and a review of the current PCO beat structure in conjunction with local merchants to identify whether more or relocation of existing commercial loading spaces would be beneficial.

### **Support Creative Strategies for Parking Management**

One way to increase the efficiency of the parking supply and provide more short-term parking for shoppers along the Mission Street corridor is to work with private parking facilities, such as churches, where parking is only used during certain time periods. During times when these facilities are not in use, opening them up to public parking may alleviate parking problems in the area and generate revenue for the parking facility owners. As part of its Parking Management Study, the Authority is developing a toolkit for approaches such as shared parking and other creative ways to more effectively manage the City's parking supply.

### **Public Input into Proposed Improvements**

The consensus amongst participants via surveys, workshops and focus groups is that there is a need for significant capital investment in the appearance and function of the commercial corridor along Mission Street. Therefore, community feedback on basic improvements to Mission Street was overwhelmingly positive. Transit improvements called for more frequent bus service and increased hours of operation for the 14-Limited. Overall, transit riders favored faster travel times over more frequent bus stops, although some seniors expressed concern about eliminating specific bus stops. We heard loud and clear from almost all participants that they would not advocate for increased MUNI fares.

Pedestrian improvements that received the most support included countdown signals and increased pedestrian level lighting. Some changes suggested at the workshops included making sidewalk repairs and the overall poor condition of the sidewalks, tree wells, and crosswalk striping.

Streetscape improvements received quite a bit of excitement and support from workshop and focus group attendees. Overall, pedestrian scale lighting was the community's top priority. Many participants also expressed interest in street trees and art such as murals on utility boxes.

## **6.2 CORRIDOR OPTIONS**

In addition to the basic improvements described above, three alternative cross section configurations were developed and evaluated for improving Mission Street operations. These alternatives are generally intended to address the highest priority transportation needs – transit reliability, pedestrian safety, and streetscape conditions – through corridor-wide thematic changes with the potential to transform the feel of the Mission Street corridor into a more vibrant, pedestrian-friendly atmosphere, and to improve Muni service along Mission Street. The options are summarized below.

### **Option A – Add Bus Bulbs and Curb Extensions, While Maintaining Existing Four Lanes**

In addition to the general recommendations described in Section 6.1, Option A would involve constructing bus bulbs and curb extensions at corners along the entire Mission Street corridor between Geneva Avenue and Silver Avenue. Mission Street's many "T" intersections would also be upgraded with widened sidewalks and additional landscaping in Option A, so that drivers would receive visual cues that they are approaching intersections and must yield to pedestrians. Unique trees, such as Mexican Fan Palms, could enhance the visual narrowing of the roadway at intersections.

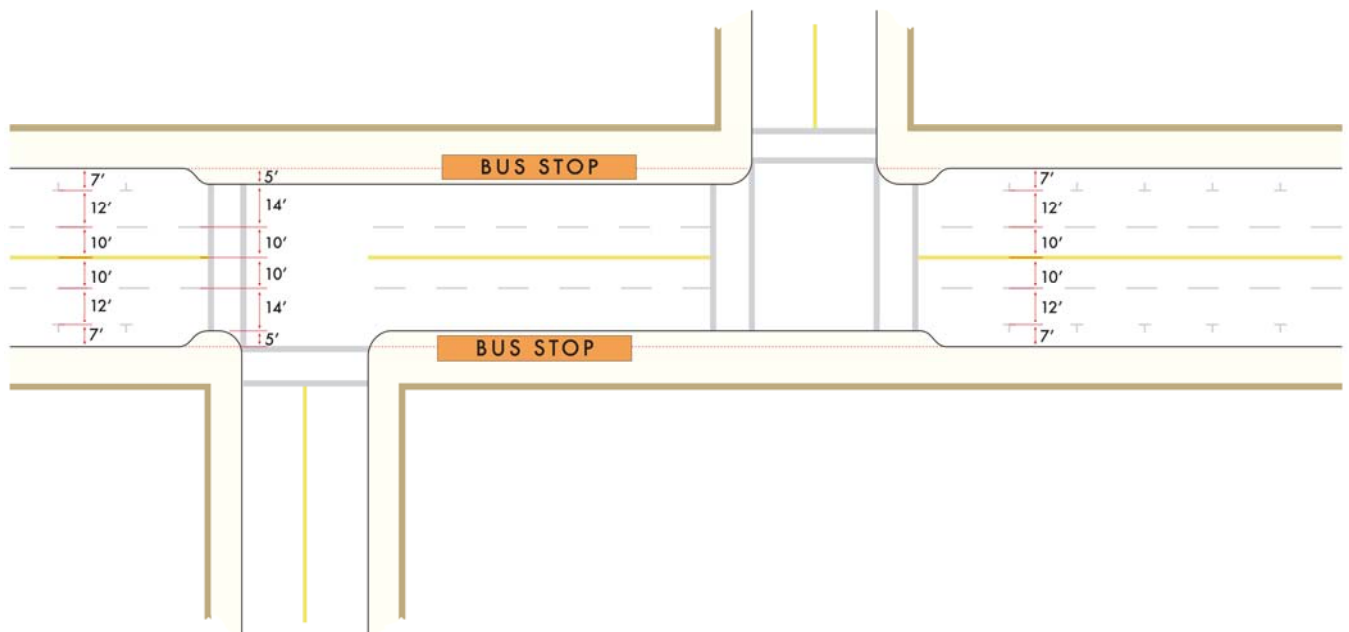
Because this option is the most similar to the current roadway layout, it would require a greater reliance on increased enforcement against double parking, which was identified as a significant contributor to transit delay along the study corridor. Option A is illustrated in Figure 6.8.

Option A:



- Provides a number of pedestrian benefits without making major changes to the roadway operations and traffic circulation;
- Improves transit travel time and reliability through bus bulbs;
- Can be constructed in phases. Improvements would generally occur at intersections, which means higher-priority locations could receive improvements first, as funding is available, with the other intersections receiving improvements later. Constructing in phases would also reduce construction impacts that affect traffic flow, pedestrian circulation, and adjacent businesses.

One drawback to Option A is that it relies on enforcement rather than engineering design to reduce double parking. Because of this, transit performance would still be affected by double parking in the corridor and may not benefit as much as in Options B and C.



**Figure 6.8 – Option A calls for providing bus bulbs, corner curb extensions, and increased enforcement against double-parking**

### ***Option B – Convert Mission Street to Three-Lane Street with Left Turn Lanes and Landscaped Median***

Option B would likely be the most transformative option to the Mission-Geneva area. Option B calls for converting the roadway from four travel lanes to two. The remaining space would allow for an 8-foot raised, landscaped median, left-turn lanes at intersections, and a 6-foot “flex space” between the travel lane and on-street parking. Bus bulbs and corner curb extensions could still be constructed at key locations, but would not be as prevalent as in Option A.

The primary concept behind Option B is that there are a number of obstacles to efficient through-movement of vehicles and transit along Mission Street. Traffic in the right lane is regularly blocked by double-parked vehicles.

Traffic in the left lane is frequently blocked by cars trying to make left-turns, waiting for a gap in oncoming traffic. The result is that during peak periods, through-traffic (including, most importantly, Muni buses) must constantly weave from the right lane to the left lane and back to avoid these frequent, recurring obstacles. Thus, although two lanes are provided in each direction, due to the constant blockages, Mission Street functions very similar to a street with one lane in each direction. The traffic volumes on Mission Street bear this fact out, as they are similar to other two-lane streets and much lower than other similar four-lane streets in San Francisco.

Option B:

- Benefits pedestrians by providing a median refuge;
- Smooths traffic operations with left turn pockets and
- Provides a design treatment for reducing conflicts between through traffic and double parkers.

One of the largest challenges to Option B is that transit vehicles may have difficulty pulling back into traffic after making a stop.

Despite the challenges and questions that remain, Option B is recommended as the best long-term improvement to the study area (pending the results of further analysis) with widespread community support. Option B is illustrated in Figure 6.9.

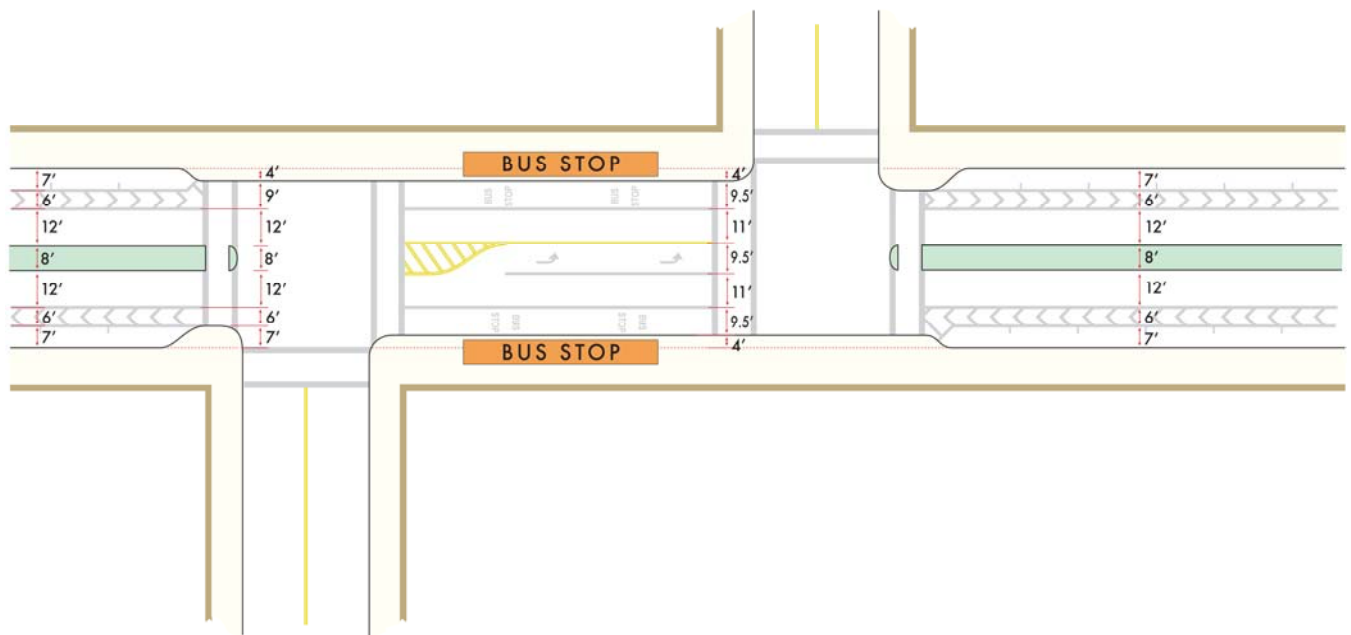
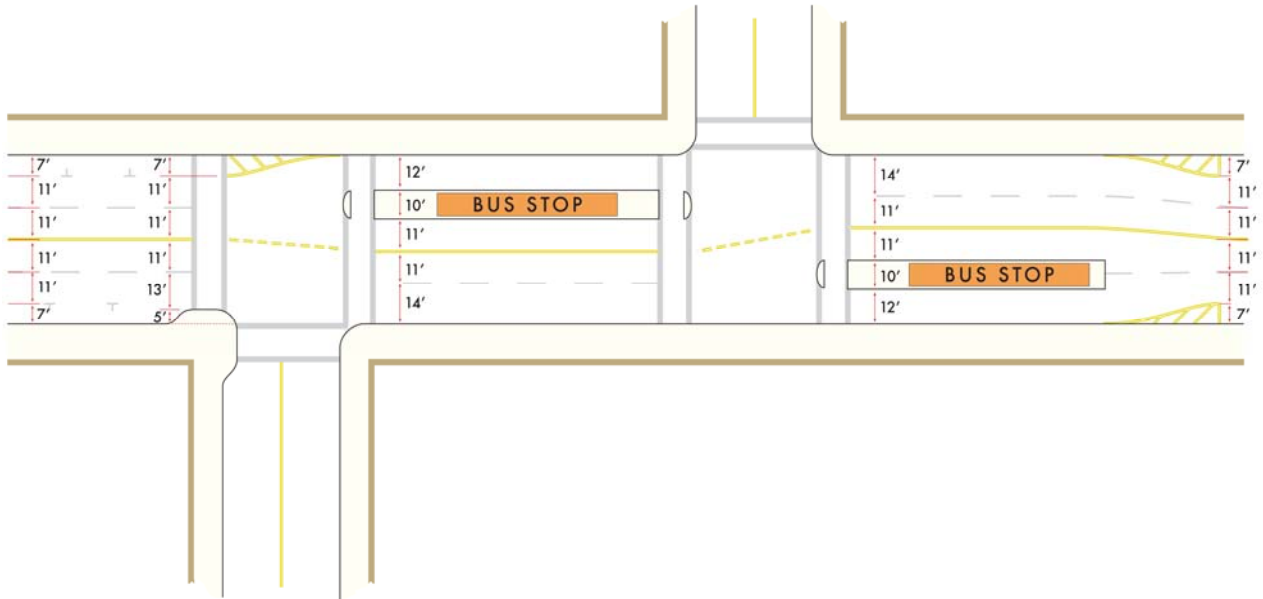


Figure 6.9 – Option B calls for reducing the number of travel lanes from four to two, providing a raised, landscaped median, and a “flex space” between the travel lane and the on-street parking.

**Option C – Operate Buses in Center Lanes by Shifting Bus Stops to Center Boarding Islands**



**Figure 6.10 – Option C calls moving transit operations to the center lane and constructing center loading platforms.**

The third option developed for Mission Street calls for shifting the transit operations from the curb lane to the center lane and constructing center loading platforms, similar to Church Street. While corner curb extensions would not be feasible within the available right of way at locations with transit platforms, they could still be installed, similar to Option A, at other intersections. This option, much like the other options, would require increased enforcement against double-parked vehicles.

Option C:

- Reduces conflicts between transit vehicles and double-parking and right-turning vehicles, so that transit reliability and travel times would be significantly improved;
- Benefits transit reliability with loading platforms that offer benefits similar to bus bulbs, in that transit vehicles would not have to pull in and out of traffic to load and unload.
- Reduces sidewalk overcrowding near popular transit stops because transit patrons would wait on the center loading platforms.
- Provides a crossing island for pedestrians via the center loading platforms.

Despite the numerous benefits associated with Option C, it has trade-offs as well. One such trade-off is that waiting on relatively narrow center median transit islands may be uncomfortable for transit passengers, although the medians would be wider than those currently existing on Church and Market Streets. A second trade-off is that some left-turn movements would be prohibited, primarily near bus stops, so that left-turning vehicles do not



inhibit transit vehicles' ability to access the loading platforms. If bus platforms are staggered as shown in Figure 6.10, parking loss can be minimized. Option C is illustrated in Figure 6.10.

### **Public Input to Proposed Corridor Improvements**

Workshop participants felt that all three improvement options adequately addressed the three transportation priorities identified at the beginning of the study through our first community workshop, multi-lingual focus groups, and community surveys.

Given overall community feedback for significant capital investments, it is not surprising that the most popular options for improvements were the most transformative proposals, and include landscaped medians, curb extensions and improved transit service.

Community feedback on the three options for improvements was fairly uniform across workshop participants. Option B for Mission Street and for Geneva Avenue received the most support from all break-out groups except for one (out of 6) Option A was attractive to some participants due to its perceived speed for implementation as well as lower cost, as one participant commented, "Option A can be implemented fairly quickly and serve as a starting point to eventually get to Option B".

Option C was not preferred. Participants expressed concern about the potential for jaywalking between the sidewalk and the transit platforms, creating new pedestrian safety problems. The community emphasized that the platforms must be of a comfortable width to ensure that the transit waiting experience does not degrade. Finally, the potential for parking loss was a concern expressed during outreach on Option C.

For Mission Street, Option B makes the most dramatic changes and addresses the need to manage double parking- a priority for transit users- as well as add street trees and slow traffic. Some concerns at the workshops amongst both merchants and residents included projected costs, construction impacts and the reduction of automobile capacity. More study would be needed to understand potential traffic diversions onto Alemany Blvd, which would cause concern amongst Alemany Blvd. residents.

During the mobile workshops, wherein ENCoRe staff presented those results to various neighborhood organizations and associations, older residents- predominantly from the Outer Mission Residents Association (OMRA) were not as enthusiastic about any improvements. In particular, there was concern over converting Mission Street from a 4-lane to a 3-lane street; mostly around the cost and reduced traffic capacity. Many felt this would create traffic flow problems and more education and analysis would be needed to assuage those concerns. However, since many of the members of this neighborhood association were not present at the workshops, they were encouraged by their president to attend the final workshop, ask questions and provide feedback. Post workshop comments from OMRA members were much more supportive, especially since at this workshop there was more opportunity for discussion of specific improvements at key intersections and along Mission St. and Geneva Ave, as well as an opportunity to view the study findings.

## **6.3 TECHNICAL ANALYSIS RESULTS**

This section provides a summary of the results of the technical evaluation conducted for Options A, B, and C. A more detailed discussion of the evaluation results is presented in the Appendix.

### **Transit Performance and Rider Experience**

All three options benefit transit reliability and travel time. Option C would provide the greatest improvements to transit reliability, because the bus would be traveling in the center lane and would avoid parking movements and double parked vehicles, as well as turning vehicles. Options A and B enhance the passenger waiting and



boarding experience by providing bus bulbs and improved waiting areas. Option C would provide center loading platforms, which would provide a dedicated place for passengers to wait, but would force passengers to wait in the middle of the street, which may be less comfortable. For this reason, Option C was considered to have no net change to the passenger boarding experience.

	Transit Operations & Passenger Experience			
	Transit Reliability	Transit Travel Time	Waiting/Boarding	Way-finding
Option A	+	++	++	+
Option B	+	++	++	+
Option C	++	++	No Change	+

	Pedestrian & Bicycle Safety and Access		
	Crossing Experience	Sidewalk Conditions	Bicycle Access
Option A	+	+	No Change
Option B	+++	+	+
Option C	++	+	No Change

**Pedestrian Safety and Access**

Option B has the greatest benefit to pedestrian and bicycle safety and access given the raised, landscaped median, which would provide a pedestrian crossing refuge and would allow for striping of additional

crosswalks at unsignalized intersections. However, all options improve the quality of the sidewalk and offer some enhanced crossing experience.

**Streetscape Environment (Neighborhood Character)**

Option B provides transformative streetscape change to the corridor by introducing a thematic median landscape feature, unique to the neighborhood. In addition to the numerous transportation-related benefits of this option, the landscaped median would provide a memorable image that announces to people that they are in the Excelsior neighborhood. Option A would also significantly improve the streetscape character. Providing trees on the sidewalk and on the bulb outs visually narrows the street and creates a stronger identity, as well as increased opportunities for landscaping and more permeable surfaces. Option C provided the fewest improvements, but would still represent a positive change over current conditions.

	Streetscape Environment (Neighborhood Character)			
	Street Identity	Land Use Integration	Landscaping	Sustainable Storm Water Mgmt
Option A	++	++	++	++
Option B	+++	+++	+++	+++
Option C	+	No Change	+	+



**Traffic and Parking**

All three options have modest but similar parking impacts, although Option C would have higher impact. Bus bulbs and corner curb extensions may eliminate a few spaces at intersections. This small reduction could be offset by adding new parking spaces where existing Muni stops are consolidated, and by instituting creative parking management strategies. Option C would require removing more parking spaces than Options A and B because the parking on both sides of the bus stop would need to be removed to allow sufficient space for the center island.

Options A and B would have negligible impacts to traffic circulation. The potential impact to traffic associated with the lane reduction in Option B would likely be offset by the separation of left-turning traffic from through traffic. As noted earlier, these are preliminary evaluations and more detailed study of Option B is recommended. Option C would result in a slight degradation to traffic circulation because some left turns would be restricted at center median bus stops.

	Traffic & Parking Impacts	
	Traffic Circulation	Parking Capacity
Option A	No Change	-
Option B	No Change	-
Option C	-	-

**Construction Costs**

The planning-level cost estimates developed for these alternatives show that Option B would be the most costly. This is primarily due to unknown factors associated with median construction, which may involve the relocation of underground utilities.

	Cost (Relative Comparison)	
	Capital	Operating/Maintenance
Option A	\$	\$
Option B	\$\$\$	\$\$\$
Option C	\$\$	\$\$

	Construction Impacts (Relative Comparison)		
	Duration	Intensity	Timing and Staging
Option A	-	-	-
Option B	--	----	--
Option C	--	--	--

**Construction Impacts**

Options B and C would have the greatest construction impacts, mainly because they cannot be easily phased.

Improvements associated with Option A could be constructed on an intersection-by-intersection basis. Options B and C require simultaneous construction.



## 7. GENEVA AVENUE CORRIDOR

Geneva Avenue provides direct access by car, transit, foot, and bicycle (Geneva is a Class III Bike Route in the City's Bicycle Network) from Mission Street to the Balboa Park BART/Muni Station and Interstate-280. Despite its role as a multi-modal access route to regional transit, Geneva Avenue does not provide the type of pedestrian-friendly, multi-modal feel that many in the neighborhood feel that it could. The study process identified a series of basic improvements that can be implemented throughout the study portion of Geneva Avenue and a set of three options to improve pedestrian, transit, and streetscape conditions.

### 7.1 BASIC IMPROVEMENTS

Basic improvements for Geneva Avenue are described below.

#### ***Provide Curb Extensions and Bus Bulbs***

Geneva Avenue is currently only 8 ft wide between Alemany and San Jose. To cost effectively widen it at key locations curb extensions and bus bulbs are recommended. These improvements will also shorten pedestrian crossing distances and improve pedestrian visibility at key intersections on Geneva Avenue, including Mission Street, Alemany Boulevard, Cayuga Avenue, and Delano Avenue.



**Figure 7.1 – Implementing corner curb extensions and bus bulbs on Geneva Avenue will have a benefit to pedestrian, transit passengers, and the neighborhood streetscape.**

In addition to the bus bulbs already discussed at the Mission Street stops, bus bulbs are also recommended for the two stops located at Cayuga Avenue. At the westbound stop, the current nearside stop should be “bulbed,” even if in the mid to long term it is expected to be moved to a far side location when the intersection is signaled, because the shelter at the current stop severely constricts the narrow existing sidewalk.

### ***Consolidate (and Possibly Relocate) Transit Stops***

The pair of Muni bus stops at Delano Avenue are recommended for removal. These stops are about one block away from the Balboa Park BART/Muni station, a local and regional transit hub. The volume of people using these stops is very low.

The potential stop relocation is the westbound stop at Cayuga. Currently this intersection is controlled by stop signs and there is a near side stop. This plan recommends that this location eventually be signalized to improve pedestrian safety and transit operations; however, there is currently a lack of community support for this change. If the intersection is signalized, this stop would need to be relocated to the far side of the intersection to take advantage of the potential speed and reliability benefits.

### ***Improve Transit Amenities (i.e., NextMuni)***

The Balboa Park BART/Muni station is a major transfer point between BART and Muni. A panel display of real-time bus arrival information at this location would benefit many people who transfer from BART to Muni. By locating real-time information inside the Balboa Park BART/Muni Station, passengers who could take multiple routes could make more informed decisions about which exit to use. This would maximize the utility of the new BART entrance on Ocean Avenue currently under construction and would also support the rerouting of the 29-Sunset.

### ***Install High-visibility Crosswalks and Advance Limit Lines at Marked Crosswalks***

This recommendation is similar to one made for Mission Street. High-visibility crosswalks, if developed for use by the City, would improve pedestrian visibility along Geneva Avenue. Advance limit lines would provide additional buffer between vehicles and pedestrians in crosswalks.

### ***Establish Landscape Buffer at Gas Station***

The edges along the gas station located at Alemany Boulevard and Geneva Avenue should be treated with a landscape buffer similar to that recommended for the facility on the Mission Street / Geneva Avenue intersection. Each option considered also recommends additional landscaping to improve the quality of the streetscape and improve stormwater management in this location. The Islais Creek runs underground on Geneva, causing the area to be prone to flooding.

### ***Improvement of Existing Landscaping***

Just west of the intersection with Delano Avenue, a City-owned property extends along the northern edge of Geneva Avenue. It is separated from the sidewalk with a fence that is overgrown with ivy. Over the years the ivy has steadily taken up an increasing amount of the already narrow sidewalk space in this location. Today the clear width of the sidewalk is reduced from the typical 8 feet along Geneva Avenue down to about 4 to 5 feet. The Authority should work with the City agency responsible for maintenance of the property to reestablish the original sidewalk width of 8 feet. In addition, consideration should be given to widening the sidewalk in this location as it is in close proximity to the Balboa Park BART and MUNI Station and constitutes the beginning of an important pedestrian route between these stations and the Excelsior District/Outer Mission.

### ***Consider Bicycle Lane between Paris Street and Alemany Boulevard***

There are currently dedicated bicycle lanes on Geneva Avenue between Moscow Street and Paris Street. West of Paris Street, Geneva Avenue is designated as a Bicycle Route. While some details would need to be worked





out, this Plan recommends further study related to the feasibility of extending the existing dedicated bicycle lane from Paris Street to Alemany Boulevard, which would provide a direct connection to the recently implemented bicycle lanes on Alemany.

### **Restrict Left Turns from Geneva Avenue to Paris Street**

Left turns are currently prohibited from Geneva Avenue to Mission Street. As a result, eastbound traffic on Geneva Avenue travels through the intersection and turns left onto residential streets. To reduce the impacts of this neighborhood cut-through traffic, left turns have been prohibited from Geneva Avenue onto London Street, the first street after Mission Street. This funnels the majority of the cut-through traffic onto Paris Street. To minimize this, left turns should be prohibited along Paris Street, and possibly other adjacent residential streets, during peak periods to reduce the neighborhood cut through traffic caused by prohibiting left turns onto Mission Street.

### **Work with Caltrans to Coordinate Signals at Geneva Avenue / I-280 Interchange**

The traffic signals at the ramps onto and off of I-280 are maintained and operated by Caltrans. There is an adjacent signal at the intersection of Geneva Avenue / San Jose Avenue that is close to the two freeway ramp intersections. This traffic signal is maintained and operated by the City of San Francisco. The City and Caltrans should work together to ensure that the timing of all three signals is complementary. In other words, the three signals should work as a system, despite being operated by separate jurisdictions.

### **Consider Signal Cayuga Avenue**

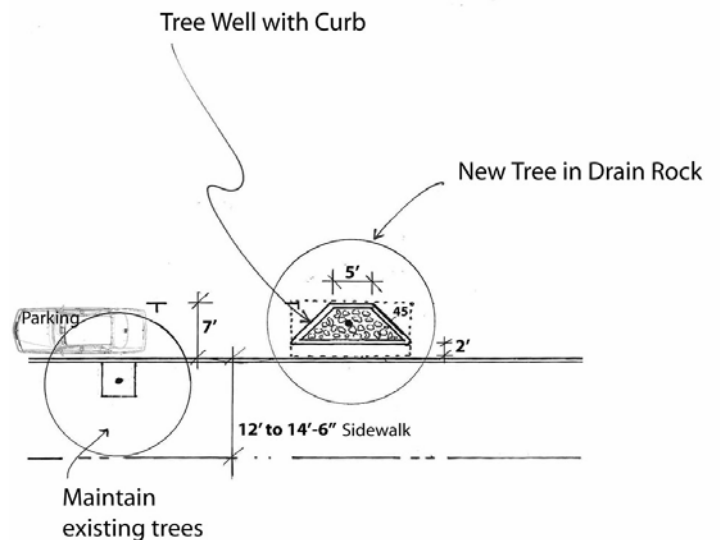
A proposal for signalization of the Geneva Avenue / Cayuga Avenue intersection predates this Plan. Although a final decision has not yet been made, there may be some substantial benefits, particularly to transit, of installing a signal here. This plan suggests further consideration of a signal at this intersection. However, regardless of the outcome, a final decision is important so that bus bulbs can be installed at the proper locations.

## **7.2 CORRIDOR OPTIONS**

Similar to recommendations for Mission Street, the study of improvements to Geneva Avenue developed three alternative street configurations that could be implemented on Geneva Avenue between Alemany Boulevard and San Jose Avenue. Those three alternatives are described below.

### **Option A – Trees in Parking Lane**

Option A involves maintaining the existing sidewalk and painted median. Improvements intended to reduce the visual width of the street and to create a minimum of a landscape buffer



**Figure 7.2 – Street tree planters in the parking lane should be designed so as to allow cars and street sweeping equipment to easily turn into parking spaces on either side of them, and to allow water in street gutters to bypass them.**

between sidewalks and traffic under this option are limited to the planting of street trees in tree planters in the parking lane, enhancing the function of the trees planted in conjunction with the proposed bus bulbouts. Figure 7.2 shows the possible geometry of such a tree planter. In addition to these benefits, the planting trees in the parking lane can serve important environmental functions. Because these planters can be designed to have more available soil volume than often provided with traditional street tree plantings, trees would have improved health and longevity, adding to the aesthetic character of the streetscape and their environmental function. The increased soil volume can also aid in stormwater infiltration.

This strategy may not result in a regular pattern of street trees, as the locations available for trees in the parking lane are limited due to existing driveways. This can be alleviated by removing some parking spaces per block face to accommodate a minimum of two or three trees (in addition to the trees located in bus bulbs at the end of the block). Further study would be necessary to determine the potential pattern and placement of these tree islands to maximize the number of trees and minimize the displacement of parking.

A cross-section view of Option A is shown in Figure 7.3.

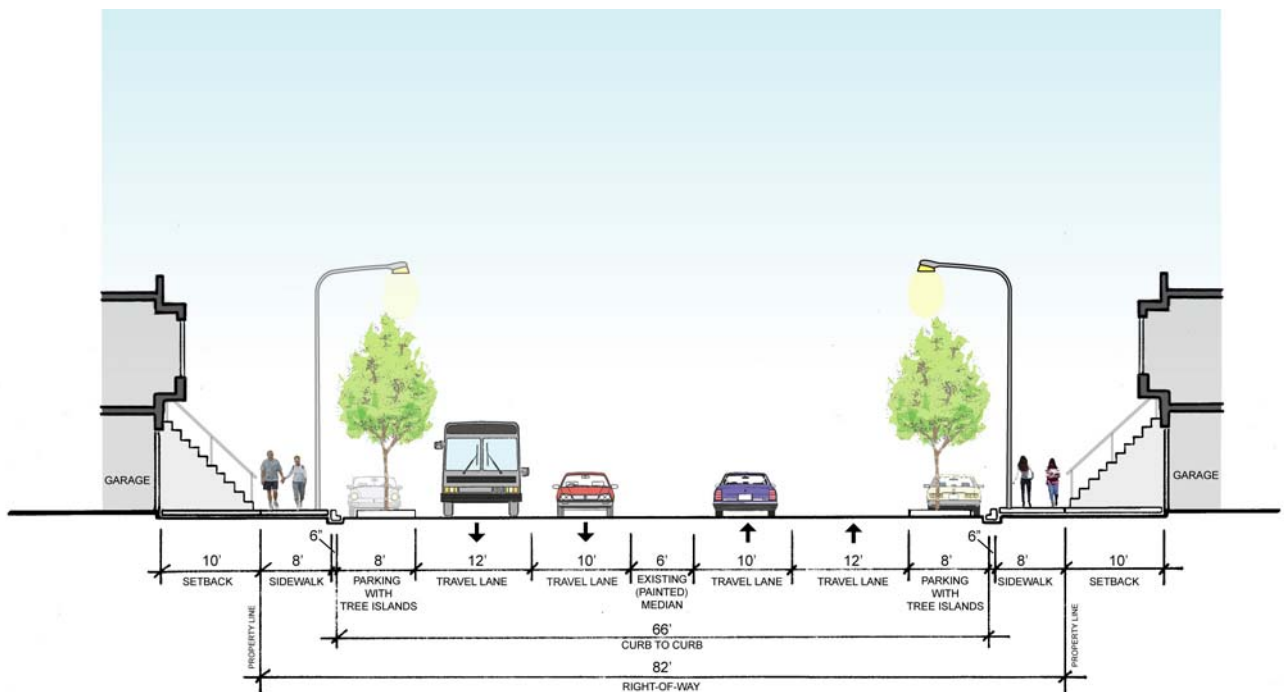


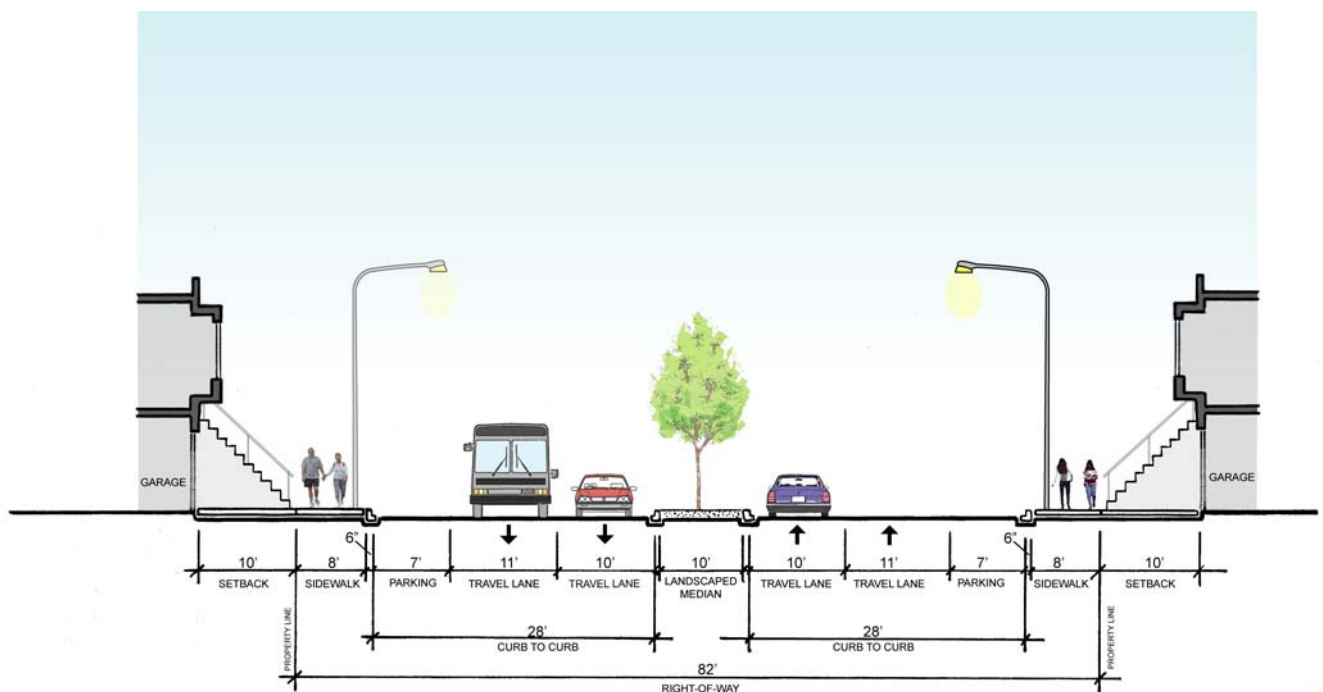
Figure 7.3 – Option A calls for providing tree plantings in the parking lane

### Option B – Landscaped Median

Option B involves planting street trees and other landscaping in a raised-curb median. Under this option, the existing six-foot wide median would be widened to as much as 10 feet and be retrofitted with curbs and exposed

soil similar to, but wider than, improvements recently completed on Portola Avenue. If the necessary maintenance budget is available, street trees could be complemented by shrubs and low ground cover underneath the trees. This option has the highest storm water management function and adds significant environmental and aesthetic quality to the street. This is particularly beneficial for the largely residential land uses along the corridor, a fact not reflected in the visual character of today's streetscape. The tree-lined and landscaped median would also effectively reduce the apparent width of Geneva Avenue help to beautify the corridor in the most significant way.

Local community members identified this option as the preferred approach in stakeholder outreach meetings. A cross-section view of Option B is illustrated in Figure 7.4.



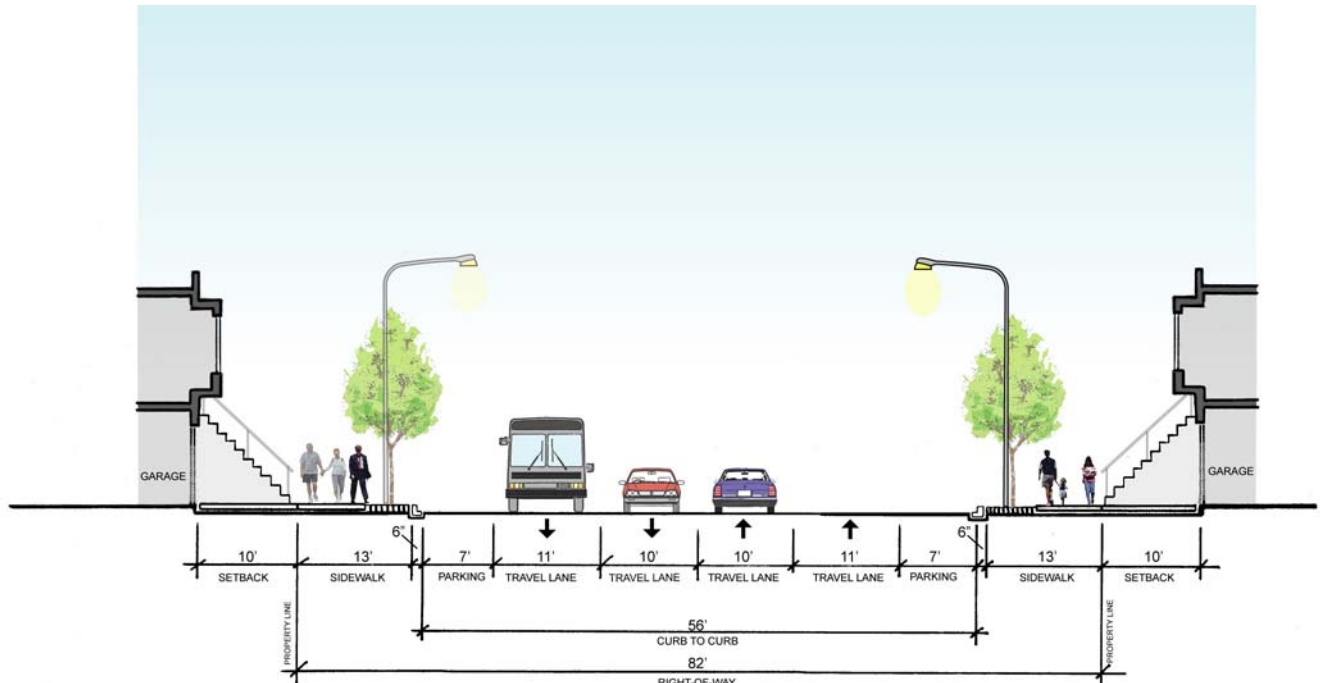
**Figure 7.4 – Option B calls for providing a raised, landscaped median along Geneva Avenue between Alemany Boulevard and San Jose Avenue.**

***Option C – Widened Sidewalk, No Median, Street Trees in Sidewalk***

Option C is focused on sidewalk widening to improve the pedestrian realm along the sidewalks on Geneva Avenue and with that its function as an important route to transit (BART/Muni). Under this option, the existing six-foot wide median would be removed, and travel and parking lanes re-striped to narrow the curb-to-curb roadway width. These shifts allow for the widening of each sidewalk by five feet. This extra space would allow the

introduction of rows of street trees along the corridor planted in the sidewalk. It would also create a more generous pedestrian environment for residents and extra space for the pedestrian throughway.

Figure 7.5 presents a cross-sectional view of Option C.



**Figure 7.5 – Option C calls for eliminating existing painted median and widening sidewalks on Geneva Avenue, with new street trees, between Alemany Boulevard and San Jose Avenue.**

#### *Public Input to Proposed Corridor Improvements*

Option B had the most support from workshop participants because of its ability to slow down traffic, create permeable surfaces to address flooding issues and create a pedestrian refuge between two lengthy corners. Concerns about option B were 1) cost and fundraising; and 2) construction impacts on both commercial and residential tenants.

Although workshop 2 was focused on initial options to address the top 3 priorities, it was not until workshop 3 that community members could really get behind one option over another given construction and cost concerns. There was a strong sentiment at Workshop 2 that Option C was too expensive for the level of pedestrian traffic on Geneva. Also, at both workshops some people liked the idea of combining Options A and B.

### 7.3 TECHNICAL ANALYSIS RESULTS

This section contains a brief comparison of the technical analysis results for the three Geneva Avenue options. A more detailed discussion of the analysis results is provided in the Appendix.

#### **Transit Performance and Rider Experience**

All three options would provide net benefits to transit performance and rider experience. Because of the relatively short length of the study section of Geneva Avenue, the positive impact to transit reliability and travel time would be modest, but the overall improvement to passenger waiting, boarding, and wayfinding would be dramatic under all three of the options.

	Transit Operations & Passenger Experience			
	Transit Reliability	Transit Travel Time	Waiting/Boarding	Way-finding
Option A	+	+	+++	+++
Option B	+	+	+++	+++
Option C	+	+	+++	+++

#### **Pedestrian and Bicycle Safety and Access**

Both Options B and C would offer the most improvement to the pedestrian crossing experience because they would shorten pedestrian crossing distances. Option C would provide the best overall improvement to general sidewalk conditions because it would substantially widen the existing sidewalks and provide street trees.

#### **Streetscape Environment (Neighborhood Character)**

Option B provides the best overall improvement to streetscape conditions on Geneva Avenue. A raised, tree-lined median along Geneva Avenue provides a distinct, memorable identity to the study area.

	Streetscape Environment (Neighborhood Character)			
	Street Identity	Land Use Integration	Landscaping	Sustainable Storm Water Mgmt
Option A	+	+	+	+
Option B	+++	++	+++	+++
Option C	++	++	++	++

	Pedestrian & Bicycle Safety and Access		
	Crossing Experience	Sidewalk Conditions	Bicycle Access
Option A	+	No Change	No Change
Option B	++	No Change	No Change
Option C	++	+	No Change





**Traffic and Parking**

None of the three options would cause noticeable changes to traffic circulation. All three would cause minor impacts to the on-street parking supply, primarily due to construction of corner curb extensions. Option A would have slightly higher impact to parking supply because existing spaces may be replaced by in-street tree plantings.

	Traffic & Parking Impacts	
	Traffic Circulation	Parking Capacity
Option A	No Change	--
Option B	No Change	-
Option C	No Change	-

**Construction Costs**

Options B and C would both have moderately high costs, due to the median construction in the case of Option B and the sidewalk widening and curb and gutter work required for Option C. Option A would have a somewhat lower cost.

	Cost (Relative Comparison)	
	Capital	Operating/Maintenance
Option A	\$	\$
Option B	\$\$	\$\$
Option C	\$\$	\$\$



**Construction Impacts**

Option A would have the lowest construction impacts, because all work would occur in parking lanes. Option B could have the highest impact due to the median construction, which may require short-term lane closures, or at a minimum, traffic lane shifts. Option C may require lane closures and also may involve temporary parking restrictions along Geneva Avenue while construction occurs along the sidewalk.

	Construction Impacts (Relative Comparison)		
	Duration	Intensity	Timing and Staging
Option A	-	-	-
Option B	--	---	--
Option C	--	--	--

## 8. FUNDING AND IMPLEMENTATION PLAN

This Chapter describes the next steps for funding and implementing the top priority projects discussed in Chapters 5 through 7. The detailed Funding and Implementation Plan is shown in Figure 8.1.

### 8.1 STEPS IN PROJECT IMPLEMENTATION

Typically transportation improvements go through the following steps:

- Seek funding for conceptual study and conduct conceptual study;
- Seek funding for engineering and design and conduct engineering and design;
- Seek construction/implementation funding; and
- Construct project.

The funding and implementation plan identifies the stage of each improvement and next steps. For many projects, the next step is to be prioritized for design and construction funding. For others, further study is needed before the improvements are ready for design and construction funding.

### 8.2 NEAR TERM PROJECTS

Strategies for funding and implementing the near-term recommendations of the Mission-Geneva Neighborhood Transportation Plan include:

- Prioritizing projects within the next updates to the Prop K Five Year Prioritization Programs (5YPPs), which identify the priorities for Prop K funding for 5- year periods. The 5YPPs will be updated this Summer 2007.
- Developing specific design guidance for a number of improvements through the City's Better Streets Master Plan (BSP), currently underway.
- Future cycles of the Metropolitan Transportation Commission's (MTC's) Lifeline Transportation Program.
- SFMTA's State Road Fund.
- Regional grants such as MTC's Safe Routes to Transit (SR2T) and Transportation for Livable Communities (TLC).

#### ***Pedestrian Safety and Streetscape Environment.***

Many types of crosswalk improvements have an existing, clearly defined path to implementation and can be prioritized now for funding and implemented in the near term. These include countdown signals and crosswalk striping, such as advanced limit lines. The next step for countdown signals and advance limit lines is to prioritize Mission-Geneva locations in the 5YPP updates for the Pedestrian Circulation/Safety and/or Traffic Circulation/Safety categories. Prop K funding is always competitive; Mission-Geneva locations will need to be taken into consideration as a priority relative to other citywide needs. However, their inclusion in this Neighborhood Transportation Study provides a boost as the City and the Authority weigh priorities for Prop K funds. This FYPP, like all Prop K FYPPs, will be updated this summer and fall, 2007.



The segment of Mission Street between Silver and Rolph has been identified as a location where a more significant crosswalk treatment is needed – more visible than a standard crosswalk, but distinct from the “yellow ladder” school crosswalk. As described in the Projects Development and Evaluation Report, the City currently does not install visible crosswalks other than at school area locations. However, the City, in conjunction with the Authority and the Planning Department, is currently re-evaluating this policy as part of the Better Streets Master Plan (BSP). The BSP will identify a visible crosswalk design to be used at locations other than school areas, and will develop guidelines for its implementation. The Mission Street crosswalks should be evaluated according to BSP guidelines for visible crosswalks. Any locations identified could be striped through Prop K’s Pedestrian Circulation and Safety category.

Pedestrian scale lighting to improve pedestrian access, safety, connectivity, and security is also addressed by the BSP, which will provide the roadmap and funding sources for providing pedestrian scale lighting on the sidewalks. The BSP is will establish designs and implementation guidelines for providing pedestrian scale fixtures as part of routine street lighting infrastructure. The BSP’s effort will include identifying the responsible agency (DPW or PUC), fixture types, and criteria for prioritizing areas around the city to receive pedestrian scale lighting. The guidelines from the Better Streets Master Plan will direct how pedestrian scale lighting is implemented in Mission-Geneva.

### ***29-Sunset Rerouting. T***

The 29-Sunset bus rerouting project will be implemented in the near term with Funds from MTC’s Lifeline Transportation Program, which have already been awarded. Before the changes are put in place, next steps include resolve signal timing at San Jose and Geneva, conducting additional community outreach, and coordinate with BART on real-time information.

### ***Parking Management.***

SFMTA works with neighborhoods on an ongoing basis to review loading zone siting and to ensure that PCO beats are structured efficiently. This program is funded by an internal SFMTA source. Stakeholders can contact Manito Velasco at SFMTA to request the initiation of a loading zone or PCO beat review. . If the community and merchants are interested in pursuing parking changes and increased enforcement, SFMTA staff is available to partner in this effort. Members of the Technical Advisory Committee are available to coordinate with ENCoRe and the merchants association on this issue.

Finally, the Authority’s Parking Management Study, currently underway, will identify a toolkit of creative parking management strategies, such as shared parking, that neighborhoods can undertake to improve the efficiency of existing parking spaces. The recommendations of this study will include a roadmap for neighborhoods seeking to implement parking management techniques. The study will be available this Spring 2007.

### ***Persia Triangle.***

The Persia Triangle improvements are together a unified package of placemaking, pedestrian safety, and transit operations improvements that will compete well for future cycles of regional grants such as the Lifeline Transportation Program, Safe Routes to Transit, and Transportation for Livable Communities. SFMTA should continue to work with the Authority to submit applications for regional grant funding for this project.

### ***Mission-Geneva Intersection.***

SFMTA is currently working with the Authority to submit an application for Safe Routes to Transit grant funds for the package of Mission-Geneva intersection improvements. This combination of transit operations improvements, BART access improvements, and pedestrian access to transit enhancements should compete well for regional SR2T.



### 8.3 MID/LONG TERM PROJECTS

Various categories of Prop K are a key source for many of the mid and longer term improvements, although MTC's Lifeline Transportation Program should also be available with regional grant opportunities.

#### ***Mission Street "T" Intersections.***

Prop K's Pedestrian Circulation / Safety program provides funds for pedestrian safety improvements such as the pedestrian visibility and traffic calming effects intended by the Mission Street "T" intersection re-designs. Future cycles of MTC's Lifeline Transportation Program funding may also be a good source for funding these improvements at Silver, Santa Rosa, and Onondaga Streets.

#### ***Geneva Avenue Redesign.***

Several potential sources could fund a Geneva Avenue redesign from Paris to San Jose in the mid term. These could include a Safe Routes to Transit grant, a Regional Ped/Bike grant, a Prop K TPS/BRT grant, or future cycles of the Lifeline Transportation Program. The redesign would add bus bulbs to the street and landscape the center median to improve the pedestrian scale of the street, calm traffic, and improve bus stop conditions. The total cost of this redesign is estimated at \$2-3 million.

The next steps in the Geneva Avenue redesign are to complete a detailed design; compile design recommendations to inform the Geneva Transit Priority Study; and coordinate with the City's Bicycle Master Plan. The community should participate in the SFMTA Transit Priority Study and write letters of support for the project.

#### ***Mission Street Road Diet.***

In the mid/long term, a major redesign ("road diet") of Mission Street from Silver to Rolph could be undertaken with the goals of reducing Muni delays, increasing landscaping along the street, smoothing traffic flow, and improving pedestrian conditions. Elements of the design to be studied include:

- Studying a 4 lane to 3 lane conversion (1 lane in each direction with left turn pockets)
- Creating a landscaped median
- Adding bus bulbs to reduce crossing distances
- Adding pedestrian scale lighting

Funding for the planning of this redesign could come from a Caltrans Planning Grant or Prop K BRT/TPS categories. The next step is apply for the planning funds to conduct the detailed operational analysis. The community should participate in planning the next steps and track the FYPP update process for the BRT/TPS categories.





	Potential Project	Phase	Project Description	Status / Next Steps	Cost	Potential Source(s)	Timeframe	Lead / Contact	Community Role
1	Reroute 29-Sunset and Expand Service	<b>Construction</b>	Reduce transit travel times and delays between the Balboa Park BART/Muni Station and the Excelsior/Outer Mission neighborhoods by: <ul style="list-style-type: none"> <li>- Establishing more direct routing (on Ocean) for the 29-Sunset between Persia St and the Balboa Park BART/Muni Station</li> <li>- Provide NextMuni display panel at Balboa Park BART/Muni Station</li> <li>- Expanding service in the peak period and adjusting the scheduled running time throughout the day</li> </ul>	<ul style="list-style-type: none"> <li>- Resolve signal timing at San Jose &amp; Geneva</li> <li>- Additional outreach</li> <li>- Coordinate with BART on real-time information display panel</li> </ul>	\$1M+	<ul style="list-style-type: none"> <li>- Lifeline Transportation Program (awarded!)</li> </ul>	near term	SFMTA (Peter Straus)	<ul style="list-style-type: none"> <li>- Speak out to policy makers about the community benefits of re-routing the 29 (completed)</li> </ul>
2	Persia Triangle (Mission-Persia-Ocean Intersection)	<b>Construction</b>	Improve pedestrian crossing conditions, slow traffic, reduce bus delays, and define pedestrian space by: <ul style="list-style-type: none"> <li>- Converting San Juan to a westbound street</li> <li>- Landscaping around parking lot perimeter, providing definition at sidewalk</li> <li>- Moving the 49-Ocean stop to Persia, to combine with 29-Sunset</li> <li>- Combine bus stops on either side of Persia, and provide bus bulbs for all stops, reducing crossing distances</li> <li>- Straightening Persia</li> </ul>	<ul style="list-style-type: none"> <li>- Engage nearby businesses</li> <li>- Property acquisition required</li> </ul>	\$800,000	<ul style="list-style-type: none"> <li>- Prop K</li> <li>- Future cycles of Lifeline Transportation Program</li> </ul>	near term	SFMTA	<ul style="list-style-type: none"> <li>- Participate in future planning, especially around landscape edge</li> <li>- Pilot community art on utility boxes as part of arts commission funding or public-private partnerships</li> </ul>
3	Mission-Geneva Intersection	<b>Construction</b>	Improve pedestrian crossings, reduce pedestrian / vehicle conflicts, provide adequate bus stop space, and define pedestrian space by: <ul style="list-style-type: none"> <li>- Filling in channelized right turn with sidewalk (reduces ped/vehicle conflicts)</li> <li>- Expanding sidewalks at northeast and southwest corners (reduces crossing distance)</li> <li>- Adding larger shelters at bus bulbs</li> <li>- Landscaping perimeter of gas station (defines pedestrian space)</li> <li>- Adding southbound left turn pocket</li> <li>- Rerouting the 29-Sunset down Ocean Avenue</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinate w/Geneva Transit Priority Study</li> <li>- Prepare grant application</li> </ul>	\$800,000	Safe Routes to Transit	near term	SFMTA, Steve Patrnick	<ul style="list-style-type: none"> <li>- Pursue crime camera (approved!)</li> <li>- Work with SFMTA Service Planning on Geneva TPS</li> <li>- Letters of support for Safe Routes to Transit grant application</li> </ul>
4	Mission St. Parking Management	<b>Policy/Study</b>	<ul style="list-style-type: none"> <li>- Improve parking availability by supporting creative strategies for parking management (e.g., shared parking lots)</li> <li>- Rationalize loading zones to reduce double parking</li> <li>- Revise PCO beat design to increase the effectiveness of enforcement</li> </ul>	<ul style="list-style-type: none"> <li>- Work with SFMTA traffic engineers to initiate loading zone and PCO beat review</li> <li>- Coordinate with recommendations of Parking Management Study</li> </ul>	TBD	<ul style="list-style-type: none"> <li>- SFMTA Road Fund</li> </ul>	near term	SFMTA, Manito Velasco	<ul style="list-style-type: none"> <li>- Work with merchants to identify frequent double parking locations, need for more loading zones</li> </ul>
15	Advance Limit Lines	<b>Construction</b>	Increase pedestrian visibility and reduce conflicts between pedestrians and vehicles by striping advanced limit lines at crosswalks	<ul style="list-style-type: none"> <li>- Identify priority locations</li> </ul>	N/A	Prop K Pedestrian Circulation / Safety or Traffic Circulation / Safety category	Near Term	SFMTA, Manito Velasco	
5	Pedestrian Scale Lighting	<b>Policy</b>	<ul style="list-style-type: none"> <li>- Improve pedestrian access, safety, connectivity, and security, particularly on routes connecting to regional transit, by establishing a standard street light fixture with a pedestrian element as part of routine street lighting infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>- City's Better Streets Master Plan (BSP), underway, to develop standards, policies, funding sources</li> <li>- Coordinate with Bernal Heights Neighborhood Plan</li> </ul>	TBD through BSP	To be identified through BSP. May include Transportation Enhancements	near- to mid-term	Adam Varat, Planning Dept	<ul style="list-style-type: none"> <li>- Work with policymakers and local businesses to prioritize</li> <li>- Track Better Streets Plan</li> </ul>

	Potential Project	Phase	Project Description	Status / Next Steps	Cost	Potential Source(s)	Timeframe	Lead / Contact	Community Role
6	Mission St. Intersection Improvements – Silver, Santa Rosa, Onondaga	<b>Construction</b>	Improve pedestrian visibility and reduce crossing distances at "T" intersections, reduce transit delays, and visually calm traffic through: <ul style="list-style-type: none"> <li>- Bus and corner bulbs</li> <li>- Vertical landscape elements on bus / corner bulbs</li> </ul>	<ul style="list-style-type: none"> <li>- Detailed design needed</li> <li>- Prioritize in Prop K Ped Circulation / Safety FYPP</li> </ul>	\$250,000 - \$500,000 Per intersection	<ul style="list-style-type: none"> <li>- Prop K</li> <li>- Future cycles of Lifeline Transportation Program</li> </ul>	mid term	SFMTA, Manito Velasco	Track 5YPP development
7	Geneva Ave Re-Design (Paris to San Jose)	<b>Construction</b>	Improve pedestrian scale of street, calm traffic, and improve bus stop conditions by: <ul style="list-style-type: none"> <li>- Adding bus bulbs</li> <li>- Landscaping a center median</li> </ul>	<ul style="list-style-type: none"> <li>- Detailed design needed</li> <li>- Design recommendations to inform Geneva Transit Priority Study</li> <li>- Coordinate with Bicycle Master Plan</li> </ul>	\$2-3M	<ul style="list-style-type: none"> <li>- Safe Routes to Transit, Regional Ped/Bike, Prop K TPS/BRT, Lifeline Transportation Program</li> </ul>	mid term	SFMTA, Manito Velasco	<ul style="list-style-type: none"> <li>- Participate in SFMTA Transit Priority Study</li> <li>- Letters of support</li> </ul>
9	Mission St. 4-lane to 3-lane conversion (Silver to Rolph)	<b>Study</b>	Seek reduced Muni delays, increased landscaping area, smooth traffic flow, and improved pedestrian crossing conditions through: <ul style="list-style-type: none"> <li>- Studying 4 lane to 3 lane conversion (1 lane in each direction with left turn pockets)</li> <li>- Considering how this improvement might connect to other segments of Mission Street.</li> <li>- Creating landscaped median</li> <li>- Bulbing out bus stops, reducing crossing distances</li> <li>- Adding pedestrian scale lighting</li> </ul>	<ul style="list-style-type: none"> <li>- Corridor Study of Mission Transit Priority treatment needed</li> </ul>	\$8-12M	<ul style="list-style-type: none"> <li>- <i>Planning</i> - Caltrans Planning Grant, Prop K BRT/TPS</li> </ul>	<i>Planning</i> - mid term <i>Implementation</i> – long term	SFMTA, Manito Velasco w/Authority	<ul style="list-style-type: none"> <li>- Participate in planning next steps</li> <li>- Track 5YPP update process for the BRT/TPS category</li> </ul>
10	Countdown Signals (Mission St. between Silver and Rolph)	<b>Construction</b>	Improve pedestrian crossing conditions by adding countdown signals where needed (e.g., Excelsior) through SFMTA's ongoing Pedestrian Countdown installation program. Include upgraded curb ramps and signal infrastructure as applicable.	<ul style="list-style-type: none"> <li>- Implement at Excelsior as part of Safe Routes to School Grant</li> <li>- Prioritize other locations among all citywide locations for funding in the 5YPP for Pedestrian Circulation / Safety or Traffic Signal Rehabilitation</li> </ul>	TBD based on intersection	Safe Routes to School Prop K	Mid Term (dependent upon FYPP prioritization)	Brian Dusseault / Cristina Olea, SFMTA	Track FYPP development
11	Bus Stop Improvements (Mission St. between Silver and Rolph)	<b>Construction</b>	Improve transit travel times and reliability by consolidating some bus stops.	<ul style="list-style-type: none"> <li>- Additional community outreach</li> <li>- Coordinate with Transit Effectiveness Project</li> </ul>	N/A	N/A	mid term	SFMTA, Steve Patrnick	<ul style="list-style-type: none"> <li>- express support to SFMTA Board</li> <li>- Talk to merchants and riders near affected stop locations</li> </ul>
12	Crosswalk improvements (Mission St. between Silver and Rolph)	<b>Construction / Policy</b>	<ul style="list-style-type: none"> <li>- Improve pedestrian safety by establishing a visible crosswalk design (greater visibility than standard crosswalk but distinct from yellow ladder school crosswalk) and policies for implementation</li> </ul>	<ul style="list-style-type: none"> <li>- To be evaluated through the City's Better Streets Master Plan (BSP), underway.</li> </ul>	TBD through BSP	To be identified through Better Streets Plan. May include: Prop K Transportation Enhancement	BSP underway	SFMTA, Britt Thesen	Track Better Streets Plan