



## Executive Summary

### *ES.1 Study Background*

The San Francisco County Transportation Authority (Authority), in cooperation with partner agencies and the community, undertook a study of transportation needs and opportunities in the Market-Octavia district of San Francisco. The Central Freeway and Octavia Circulation Study (Circulation Study or Study) assessed transportation conditions and needs, advanced a multimodal improvement and policy strategy, and analyzed a number of potential circulation improvements in the Market-Octavia neighborhood and along key corridors that provide access to the neighborhood. The Study's recommendations include a set of near- to mid-term improvements, as well as a strategy for longer-term planning and policy development to address critical circulation issues within and beyond the Market-Octavia area. The Study was made possible by a grant from the Metropolitan Transportation Commission (MTC), through the Station Area Planning Program with local match funding provide by the Prop K local transportation sales tax program. The Study was developed by a Study Team led by Authority staff with technical assistance from a consultant team led by CHS Consulting Group.

Specifically, the Study focused on the effect of the Octavia Boulevard and Central Freeway replacement project, on circulation in and through the area. This transformative project opened to the traveling public in 2005. In conjunction with the development of the Boulevard project, the San Francisco Planning Department undertook the Market and Octavia Area Plan, which was approved in 2007, and sets the stage for the addition of 6,000 households and 3,000 jobs to the Market-Octavia plan area.

The Boulevard brought significant land use and urban design benefits to the adjacent area. The facility's design relies upon the city's grid system of streets to serve traffic flowing to and from the new facility. After Octavia Boulevard and the new Central Freeway ramps opened, traffic



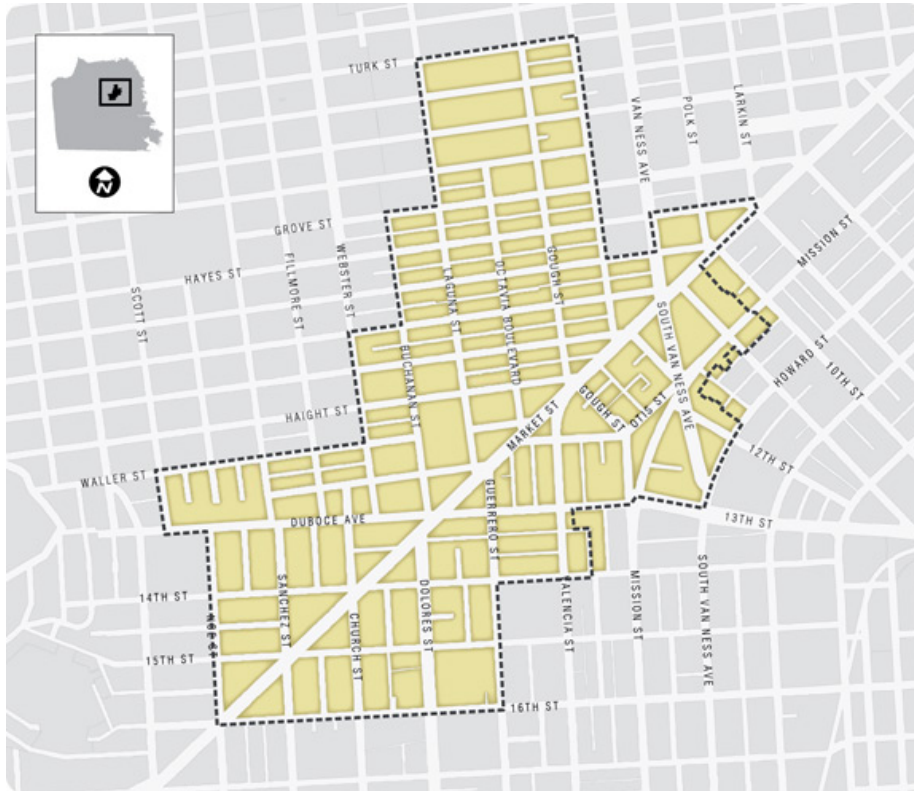
patterns were redistributed with various effects to local and citywide circulation conditions. As a result, there remain significant traffic management, transit, pedestrian, and bicycle circulation needs in the local area and throughout the citywide and regional transportation networks passing through the district. Addressing transportation issues in the Market-Octavia area requires not only neighborhood-level analysis and intervention, but also coordination with countywide and regional planning and investment efforts.



## Study Area

The Study Area is based upon the Market and Octavia Neighborhood Plan plan area, which encompasses portions of the Western Addition, Civic Center, Western SoMa, Castro, and Duboce Triangle neighborhoods. The Study Area is roughly bounded by Turk Street to the north, Polk Street to the east, 16th Street to the south, and Noe Street to the west. A smaller core Study Area was defined for purposes of certain analyses, such as assessment of pedestrian conditions.

### *Market and Octavia Area Plan – Plan Area*



Source: Planning Department

The purpose of the Circulation Study was to:

- **Conduct an analysis of circulation in the Study Area.** This analysis will lead to a better understanding of travel behavior to, from, within, and through the area, to support the development of the medium- to long-term transportation strategy for the area.
- **Recommend a framework for planning and project development in the Study Area.** The framework will guide future planning improvements and will serve as an input into the Authority’s San Francisco Transportation Plan (SFTP) effort, the update to San Francisco’s countywide transportation plan.



- **Develop a small set of projects for near- and medium-term funding opportunities.** In addition to developing new design concepts, these projects may build on planned improvements currently being developed and/or lay the groundwork for additional planning activities.

### **Public and Agency Input**

Throughout the Study process, the Study team solicited public input from a variety of sources, including community stakeholders, partner agency staff, institutional representatives, and the general public. The Study effort also included a Technical Advisory Committee (TAC), composed of staff from the SFMTA, Planning Department, and other relevant agencies. The TAC provided technical oversight and facilitated coordination with related projects. Public, stakeholder, and agency input is reflected and discussed throughout the Final Report. Specifically, public input was critical to the identification and prioritization of Study area transportation needs, development of responsive strategies, refinement of project designs, and formulation of Study recommendations.

## ***ES.2 Existing Transportation Conditions***

The heavily-utilized arterial network in the Study Area is the central transportation challenge confronting the community, both presently and in the future. Traffic congestion is significant during both AM and PM peak periods, impairing surface transit operations and degrading conditions for pedestrians and bicyclists. In particular the set of one-way couplet pairs providing connections to Octavia Boulevard from the west (Oak and Fell streets) and the north (Franklin and Gough streets) concentrate inter-district and regional vehicle demand at the heart of the neighborhood, where pedestrian needs are greatest and where bicycle connections and transit priority treatments are presently weak.

When the original Central Freeway connected directly to Oak and Fell streets, these arterials each served average daily traffic volume of approximately 45,000 vehicles. When Oak and Fell access was removed, but prior to the opening of the Boulevard, traffic on Oak and Fell dropped to 25,000 and 18,000 daily vehicles, respectively. With the new Octavia Boulevard, the Central Freeway functions again as a primary access route to and from the west side of San Francisco and traffic levels have risen—though not as high as with the original Central Freeway facility. These findings highlight the need to implement projects such as Octavia Boulevard in conjunction with demand management strategies and improvements to the multimodal network.



*Weekday Daily Traffic Volumes on Oak and Fell Streets*

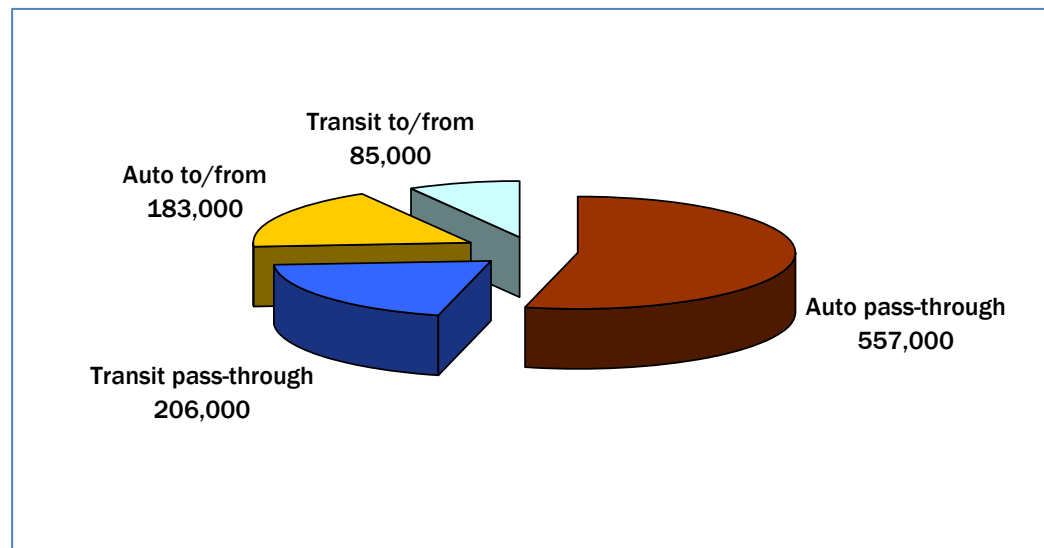
Location	2005			Percent Change 2005 to 2006	Percent Change 1996 to 2006
	1996 (original Central Freeway)	No Freeway connection / before Octavia Blvd.	2006 After Octavia Blvd. completed		
Fell Street – west of Laguna (westbound)	43,000	18,000	33,000	+80%	-30%
Oak Street – west of Laguna (eastbound)	47,000	25,000	41,000	+65%	-15%

Source: SFMTA

High traffic levels in the neighborhood are a reflection of the unique set of roles that the area’s transportation network plays. The Study Area hosts junctures of all of the following: the regional freeway system; high-capacity arterials that serve crosstown and radial functions; minor arterials/collectors; and local-serving neighborhood streets and alleys. In addition, the Study Area hosts key links of the city’s major bus and light rail lines, and connections to key bicycle routes. The origin and destination pattern of motorist traffic in the neighborhood is highly varied. Traffic represents a wide range of local and regional trips, to and from all San Francisco districts and parts of the Bay Area.

Of the 340,000 daily trips with an origin and/or destination in the Study Area, approximately 270,000 are “motorized” trips—either automobile or transit. This, however, is an incomplete picture of motorized travel as it affects the transportation network in the area. An additional 760,000 motorized trips pass through the Study Area daily with both an origin and destination elsewhere. This reflects the citywide and regional function of the roadway and transit network in the Study Area.

*Motorized Travel in the Market-Octavia Plan Area (Daily Trips, 2010)*



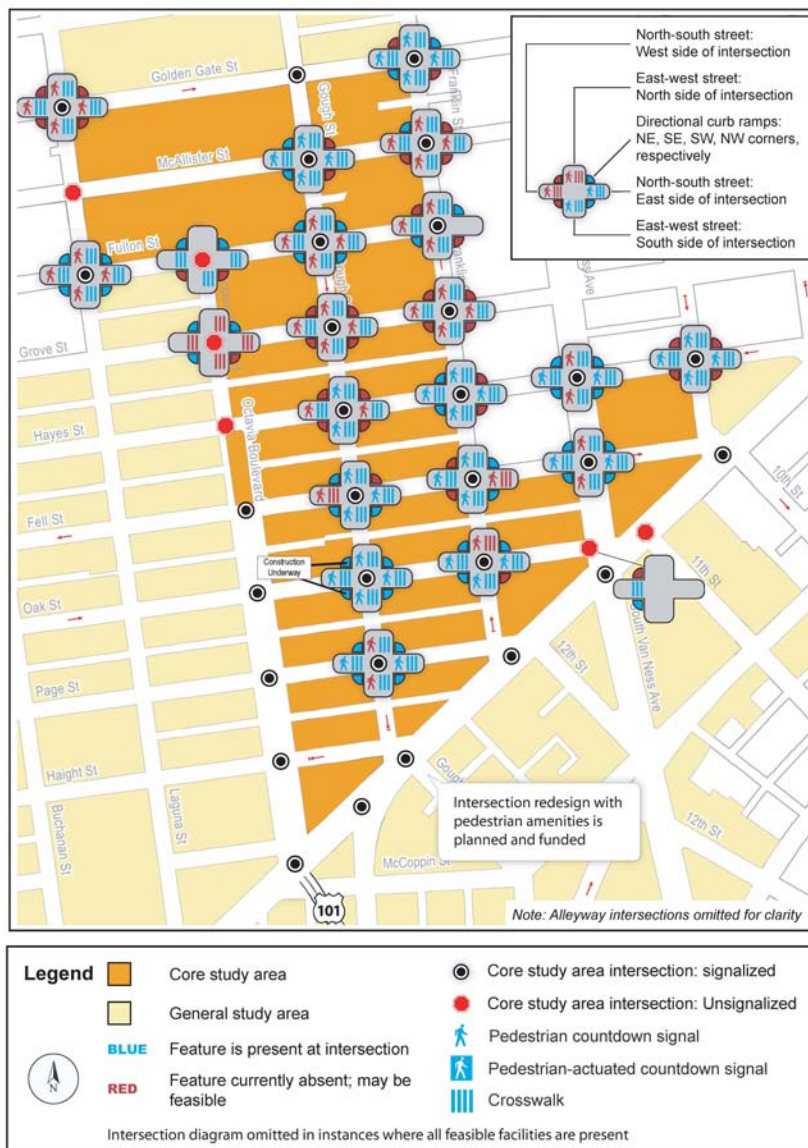
Source: SF-CHAMP



### Pedestrian and Bicycle Issues

All surface streets in the Study Area have sidewalks along both sides of the roadway. Sidewalks are in generally good condition; however, some pedestrian features are absent at various locations. Most strikingly, some crosswalks have been closed in order to accommodate high levels of vehicular turning movements to and from Fell and Oak streets, thus requiring pedestrians to negotiate three crossings to continue on a straight path at certain locations. In addition to closed crosswalks, pedestrian issues in the neighborhood include instances of missing accessible curb ramps, poorly marked or faded crosswalks, extended wait times for “walk” signal phases, and recurrent vehicle incursion into crosswalks at congested intersections. As part of the Study, an inventory of pedestrian infrastructure in the core Study Area was conducted to identify key gaps in pedestrian features at major intersections.

*Pedestrian Features in Core Study Area (2011)*



Source: CHS Consulting. Note: a limited number of features shown as absent have since been constructed.



In addition to pedestrian infrastructure needs, historic collision patterns reveal that multiple intersections and streets in the Study Area have elevated numbers of collisions involving automobiles and non-motorized travelers (pedestrians or cyclists). In 2011, as part of the City's Pedestrian Safety Task Force, the Department of Public Health (DPH) identified a set of high-injury density corridors within San Francisco with a concentration of severe and fatal pedestrian collisions from 2005 through 2009. The identified corridors represent 5 percent of the city's street miles, but account for 55 percent of all severe and fatal pedestrian injuries (and 51 percent of all pedestrian injuries) in the five-year period. Within the Study Area, these pedestrian safety concerns are concentrated along Market Street and Van Ness Avenue, as well as on major streets north of Market and west of Van Ness (e.g., Polk, Larkin, Hyde, etc.).

Despite hills to the north and west, the Study Area has several bicycle facilities and high levels of bicycle activity. Five designated bicycle routes pass through or along the boundaries of the Study Area. Together, these bike facilities compose more than 18 miles of bike paths, lanes, sharrows, and signed routes within the Study Area. Key bicycle network routes in the Study Area include Market Street, Page Street, Webster Street, Polk Street, and the "Wiggle" through the Lower Haight district.

Perhaps the most significant challenge for bicyclists in the Study Area is east-west connectivity. San Francisco's hilly topography places major impediments in the way of cyclists wishing to travel west from the Study Area. Currently, many cyclists utilize the Wiggle to connect from Market Street (at Duboce Avenue) to the Panhandle cycle path and points west. For bicyclists not using the Wiggle, Page Street serves as another key east-west bicycle facility, although traffic queuing at Octavia during peak periods causes conflicts with eastbound cyclists.

### **Transit**

The primary transit service in the area is provided by Muni, San Francisco's local bus and rail system, operated by the SFMTA. Key Muni issues in the study area generally relate to Muni speed and reliability. Stop-level features are also an area of community priority. In addition to speed, reliability, and stop features, transit crowding is a major concern in the neighborhood. The study area includes the Market Street and/or Van Ness Avenue stop for many routes, which is the maximum load point for most Muni radial lines. Traffic conditions hinder bus operations because buses must operate in the same lanes as automobiles and encounter conflicts with parking and loading movements.

Regional transit access is limited in the Study Area. The closest BART stations are at the outskirts of the Study Area, at Civic Center and 16th Street. As the travel demand discussion above noted, much of the travel in the area is regional in nature. However, in order to access regional transit, many travelers walk, bicycle, or utilize a local transit service to get to a BART or Caltrain station or to regional buses.



### ***ES.3 Transportation Goals and Circulation Strategy***

In order to guide recommendations, a set of transportation goal and objectives were developed as part of the Circulation Study. This framework is three-pronged, organized by the following goals:

- **Improve circulation and the multimodal network.** The first goal area is to improve circulation and traffic management in the Market-Octavia neighborhood for all modes, with a focus on addressing traffic hotspots; improving conditions for surface-running transit, bicycles, and pedestrians; and developing improved multimodal corridors for east-west and north-south travel.
- **Shift travel to transit and non-motorized modes.** Improved traffic circulation will—in isolation—tend to encourage more automobile travel as automobile commutes become faster, easier, and more reliable. As a crucial companion to addressing traffic circulation, the second goal is to shift some motorists from their automobiles to other forms of transportation. Since improved circulation will also benefit surface-running transit services and bicycling, these modes will become a more attractive alternative for some trips. In addition, demand management measures reduce real and perceived barriers to the ability of travelers to make trips via modes other than single-occupant vehicles (SOVs).
- **Improve Safety and Walkability.** To encourage travelers to use sidewalks and bicycle facilities as central elements of the transportation network, the third goal focuses on improved safety and walkability in the Market-Octavia neighborhood.

The above three areas encompass a set of more specific objectives to address transportation needs in the Study Area.

#### *Strategic Transportation Objectives for the Market-Octavia Area*

Objective	Circulation/Traffic Management	Mode Shift	Safety and Walkability
<i>Support local and regional mobility</i>	◆		
<i>Balance multimodal needs</i>	◆	◆	◆
<i>Improve traffic circulation in the Market-Octavia area</i>	◆		◆
<i>Manage demand in key corridors to/from Market-Octavia</i>	◆	◆	◆
<i>Improve San Francisco's rapid transit network</i>	◆	◆	◆
<i>Shift more regional travel to transit</i>	◆	◆	
<i>Improve pedestrian and bicycle conditions/network</i>	◆	◆	◆
<i>Enhance safety for all system users</i>	◆		◆



## Circulation Strategy – Key Recommendations

One of the central purposes of the Study was to examine circulation issues and needs in the overall Study Area, in order to develop a high-level circulation strategy to guide the development of future improvements and programs. This Circulation Strategy considers a range of issues including modal priorities, design and service opportunities, physical and other constraints, policy coordination, and other factors.

The approach for development of the Circulation Strategy was as follows:

1. Assess areawide travel demand patterns, the configuration of the current transit and bicycle networks (and relevant planned improvements), and existing on-street transportation conditions such as congestion and transit demand.
2. Identify opportunities—across broadly-defined travel corridors—to improve person-capacity and safety, particularly through improvements to transit service, transit priority, and bicycle network facilities and connectivity.
3. Consider key design constraints and implications at the individual street level, as well areas of coordination and opportunity within and beyond the study area.
4. Recommend policies and/or programmatic strategies, such as demand management and/or enforcement measures, to support identified circulation improvements.

The area of primary analysis for the Circulation Strategy is bounded by the Turk Street and Golden Gate Avenue couplet pair to the north; Leavenworth Street and 7th Street to the east; 16th Street to the south; and Church and Fillmore streets to the west. For purposes of the Circulation Strategy, “corridor” is broadly-defined and refers to a group of adjacent streets serving similar travel demands.

The Circulation Strategy is organized by major groupings of streets, as detailed in Chapter 3 of the full Final Report. Key Study recommendations across these corridors are summarized below:

### *North-South – West of Van Ness*

- Improve conditions for pedestrians on high-volume traffic streets, such as Franklin and Gough. This may be accomplished through coordinated improvements at opportune times, such as planned repavings which are an opportunity to upgrade crosswalks and provide corner bulbs at strategic locations.
- Improve bicycle connectivity along and across Market Street at key locations, such as the northern terminus of Valencia Street and at the Wiggle’s Buchanan street terminus. The street grid is discontinuous at or near Market in multiple locations west of Van Ness, requiring creative designs to provide convenient bicycle connections.





- Improve multimodal conditions along Laguna through an integrated set of design and operational improvements. This may be a combination of public realm, signal, crosswalk, and transit improvements to be further developed with and vetted by the community. Laguna is currently subject to high levels of peak-period traffic, particularly from Guerrero Street to the south.
- Develop designs and strategies to improve transit travel time and reliability on key transit corridors. These improvements will range from potential dedicated rights-of-way (such as on Mission) to other treatments to support improved travel time and reliability (i.e., for Church and Fillmore) such as signal priority, standardized stop spacing, and reduced local traffic circulation through parking management and other strategies.

#### *North-South – East of Van Ness*

- Manage traffic demand and its impacts along the 9<sup>th</sup> and 10<sup>th</sup> streets. This one-way couplet pair connects directly to the regional freeway system. Potential design improvements should improve conditions for pedestrians and should seek to manage traffic through policy and operational measures.
- Improve neighborhood livability and bicycle facilities on 7<sup>th</sup> and 8<sup>th</sup> Streets. This one-way couplet pair serves as a bicycle route connection, the route for Muni’s 19-Polk service, and provides one of the key access routes to Mission Bay. Improvements to these streets should better balance local and regional access needs as this area develops, while maintaining key circulation connections.
- Provide a complete, bidirectional bicycle facility along Polk Street all the way to Market Street and advance planning for a more neighborhood-oriented street along the northern portion of Polk. The lack of a northbound bicycle facility on the southernmost segment of Polk is a significant gap in the San Francisco bicycle route network. There is also a community desire for multimodal improvements to Polk Street to the north of Civic Center.
- Improve pedestrian conditions on Larkin, Hyde, and Leavenworth. These three one-way streets north of Market currently serve a number of functions, including distributing traffic flow to and from the South of Market and neighborhoods to the north, and providing a route for surface transit. There is a need to improve pedestrian safety in this portion of the study area, while also providing for sufficient transit priority, transit stop features, and bicycle network connectivity (i.e., to 7th and 8th streets).

#### *East-West – North of Market*

- Develop the Turk and Golden Gate corridor for bicycle and/or transit priority. Turk Street and Golden Gate Avenue currently provide more roadway capacity than is necessary, particularly as 6th Street (to which they both connect on the eastern end) is traffic calmed in order to improve



pedestrian safety. As such, there is an opportunity to develop a bicycle facility on one or both of the streets, as well as to provide for improved transit priority for the 16AX/BX services that utilize the two streets.

- Improve transit priority on McAllister. The 5-Fulton utilizes McAllister Street in both directions through the Study Area. The 5-Fulton is part of the Muni Rapid network and additional design is recommended to provide for improved transit service along this route, including consideration of dedicated right-of-way east of Franklin Street.
- Take advantage of Grove Street's broad right-of-way in the Civic Center to improve conditions and amenities for non-motorized users. Grove Street is particularly wide between Franklin and Larkin Streets, and congestion is not a significant issue. Improvements to the pedestrian realm are warranted, in particular to provide an improved connection between the Civic Center BART/Muni Metro station at Grove/Larkin/Market and Civic Center Arts destinations at Van Ness/Grove. Given the broad right-of-way, and relatively low traffic, there is also an opportunity to provide an improved bicycle facility.
- Discourage through traffic on Page Street and develop the route as bicycle priority street. For much of its length within and beyond the Study Area, Page is a low traffic volume residential street. In the vicinity of Octavia Boulevard, the street is affected by peak-period traffic congestion. Through traffic, including that accessing the Boulevard, should be discouraged, and design options for a bicycle priority street (such as a bicycle boulevard) should be developed and further vetted with the community.
- Implement two-way transit along Haight Street and provide improved transit priority. The SFMTA is in the process of advancing the Haight two-way project to deliver two-way transit operations on Haight Street across Octavia Boulevard. In addition, further transit priority measures should be developed for this key transit street.

#### *East-West – South of Market*

- Improve pedestrian conditions on Duboce Avenue and 13th Street. Duboce and 13th are subject to high traffic volumes connecting both to adjacent land uses and to the Central Freeway via the Mission Street ramps. This traffic and the route's alignment beneath the Central Freeway creates a relatively unwelcoming environment for pedestrians. Conditions should be improved through strategies to slow traffic, minimize conflicting turn movements, provide better lighting and security, and shorten crossing distances and increase crossing times.
- Improve bicycle connections to and along 14<sup>th</sup> and 15<sup>th</sup> streets, particularly to the east. At the eastern side of the Study Area, street grid connectivity is challenged both by land uses and the freeway system. The irregularity of the grid affects the connectivity for bicyclists along the 14th and 15<sup>th</sup> Street routes. There are opportunities in further land use planning to develop



connections in this location, such as to Alameda Street. Within the center of the Study Area, upgrades to bicycle facilities should also be developed.

- Provide transit priority designs along 16<sup>th</sup> Street. Multiple design options for improving the performance of the 22-Fillmore have been developed as part of various other planning processes, including EN-TRIPS. Following environmental review, a preferred option should be advanced for final design and funding.
- Improve pedestrian conditions at key Market Street intersections, with a priority on the intersection of 16<sup>th</sup>/Noe/Market. The six-legged intersections of Upper Market create long crossings for pedestrians. In particular, the 16<sup>th</sup>/Noe/Market intersection is subject to heavy traffic volumes, particularly from 16<sup>th</sup> Street to Market Street, and is also a high pedestrian activity area. Design improvement concepts have been developed through other planning processes and should be advanced for further design and implementation.

As discussed in Chapter 3, these circulation recommendations may be developed over time as relevant street-level design efforts are undertaken, as land uses change, and as other major capital projects affecting the streets are advanced.

#### ***ES.4 Project Analysis and Project Recommendations***

In addition to the Circulation Strategy, the Study advanced a small set of projects for more detailed analysis and concept design.

The Study Team compiled a list of potential projects/programs/strategies through an initial sketch-level planning exercise based on the existing conditions and needs assessment, past planning efforts, stakeholder outreach, and TAC input. This compilation exercise also resulted in a survey of relevant planned or programmed projects. The full potential project list included a wide range of projects. The Study Team then screened and prioritized this universe of projects based on the following criteria:

- **Strategic Goal Areas:** To what extent would the project be anticipated to address the Study's three goals areas: circulation and traffic management; mode shift; and safety and walkability.
- **Benefit/Impact Area:** Would the project have local effects, regional effects, or both?
- **Community Support:** Has the community articulated a desire for these improvements? Has the project been a high-priority need?
- **Readiness and Coordination:** This criterion reflects a wide range of project coordination and readiness considerations, such as coordinating with adjacent projects including City initiatives, fundability, and likelihood for near- to mid-term implementation.



- Potential for Near-Term Implementation: Could the project be advanced in the near- to medium-term?

Based on the prioritization evaluation, the following projects were selected for project development and analysis:

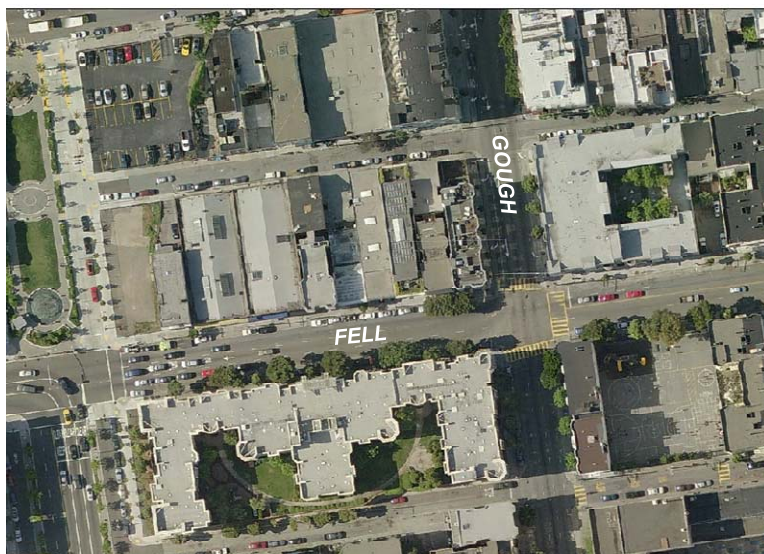
- Missing pedestrian facilities. This project would address key pedestrian infrastructure gaps, focusing on those associated most strongly with circulation needs. In the case of the study area, this corresponds with closed crosswalks at intersections of the area's major arterials.
- Octavia intersections operations/design. This project would design improvements (potentially including pilot/test treatments) at high-traffic intersections, with a focus on locations with conflicts for pedestrians and/or bicyclists.
- San Jose Avenue expressway segment. This project would address traffic issues in the San Jose Avenue corridor, specifically at the intersection/interchange of I-280, Monterey Boulevard, and San Jose Avenue.

### **Closed Crosswalk Analysis**

The Study assessed the potential to re-open closed pedestrian crosswalks at three locations in the Study Area:

- Gough and Fell – west side crosswalk
- Franklin and Fell – east side crosswalk
- Franklin and Oak – north side crosswalk

#### *Closed Crosswalk at Gough and Fell Streets*



Source: SFGIS.



The Study assessed multiple scenarios for re-opening the closed crosswalks at each location. With respect to the closed crosswalks, the Study recommends the following:

- Gough and Fell is the highest-priority for re-opening. Among the three locations, the intersection of Gough and Fell has the most active adjacent land uses at all three corners, including a busy drugstore, fitness studio, and restaurant. The conflicting traffic volume associated with this closed crosswalk is also the lowest among the three locations, and some of it is divertible to an alternate route. There is also the potential to shorten the crossing distance of a new crosswalk in this location through the construction of one or more corner bulbouts.
- Further traffic simulation analysis is recommended, utilizing new traffic data. The implementation of the Hayes and Fell two-way project has redistributed traffic in the area, allowing for some new circulation routes and the reduction in certain turning movements. Updated modeling utilizing traffic turning movement counts reflecting the post-two way implementation should be conducted to more accurately analyze the effects of re-opening the crosswalks, particularly to compare scenarios that maintain multiple conflicting turn lanes versus those that provide a dedicated phase.
- If Fell and Gough is re-opened, its performance should be carefully evaluated to inform potential subsequent improvements at the other two locations.



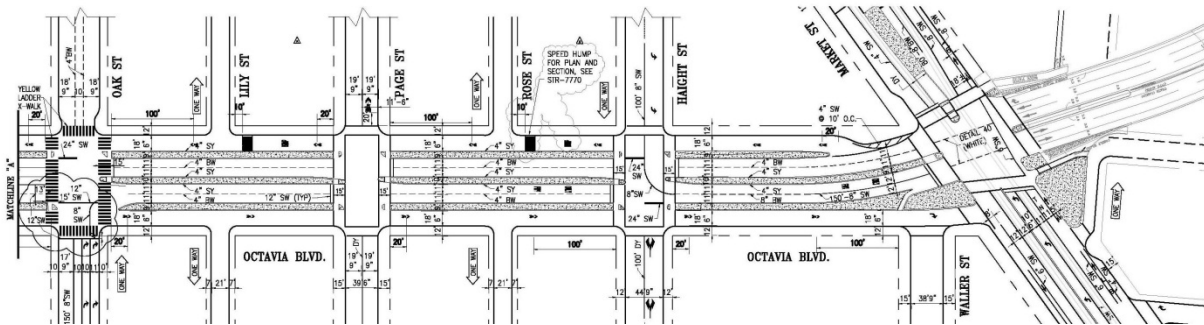
The SFMTA currently has an active Prop K-funded project to plan, design, and implement the re-opening of closed crosswalks at locations citywide.

### **Octavia Operations and Design**

Operationally, Octavia’s intersections are challenged by high levels of peak-period traffic—particularly traffic seeking to access the Central Freeway facility (southbound). (In the opposite direction, the Central Freeway facility itself effectively serves to “store” and “meter” traffic prior to its entry onto surface streets via the Mission Street off-ramp and the Market Street touchdown.) As discussed elsewhere in the Report, addressing many of the concerns and issues relating to the Boulevard ultimately will require robust demand management strategies that alleviate some of the peak-period congestion burden on the facility and surrounding grid system.



### Existing Traffic Striping Configuration on Octavia Boulevard



Source: SFMTA.

The design and analyses conducted for the Study focused on strategies with the potential to be delivered in the near-term, within the general context of the relatively recently constructed Boulevard. In particular, the Oak and Octavia intersection was a focus, due to the high level of vehicular traffic (particularly turning movements) and areas of conflict among motorists and between motorists and other Boulevard users. Although conflicts are less severe at Fell and Octavia, initial design opportunity analysis was also conducted for this location. At both locations, signalization and design issues were considered.

### Design Concept at Oak and Octavia



Source: CHS Consulting Group.



At Fell and Octavia there is limited opportunity to adjust the intersection’s configuration. There is the potential to construct one or more corner bulbs at the west side crosswalk in order to reduce crossing distance and support the elimination of the actuation requirement (i.e., “walk” signal pushbutton) requirement. At Oak and Octavia there is further opportunity to improve pedestrian conditions. This includes extensions of the Octavia median on both sides of the intersection; installation of “safe-hit” posts to improve traffic channelization; and potential striping and towaway lanes changes to improve vehicular queuing. Along Oak to the east of Octavia, there is an opportunity to reduce roadway capacity from three to two lanes to calm traffic and support bicycle network connectivity.

### **San Jose Avenue**

The final area of project development for the Study was focused outside of the immediate Market-Octavia neighborhood; rather, it concerned a key corridor—San Jose Avenue from I-280 to Richland Street, connecting through to Guerrero Street—that serves as a parallel facility to the Central Freeway, and thus was affected by the implementation of the Octavia Boulevard facility.

The Study conducted an initial analysis of traffic flows and design opportunities in the corridor in the vicinity of the Glen Park neighborhood. In this location, a primary function of San Jose Avenue is to connect the Mission District to and from the I-280 freeway. As currently configured, the street acts much like a freeway in this segment, and is frequently referred to as the “expressway” segment.

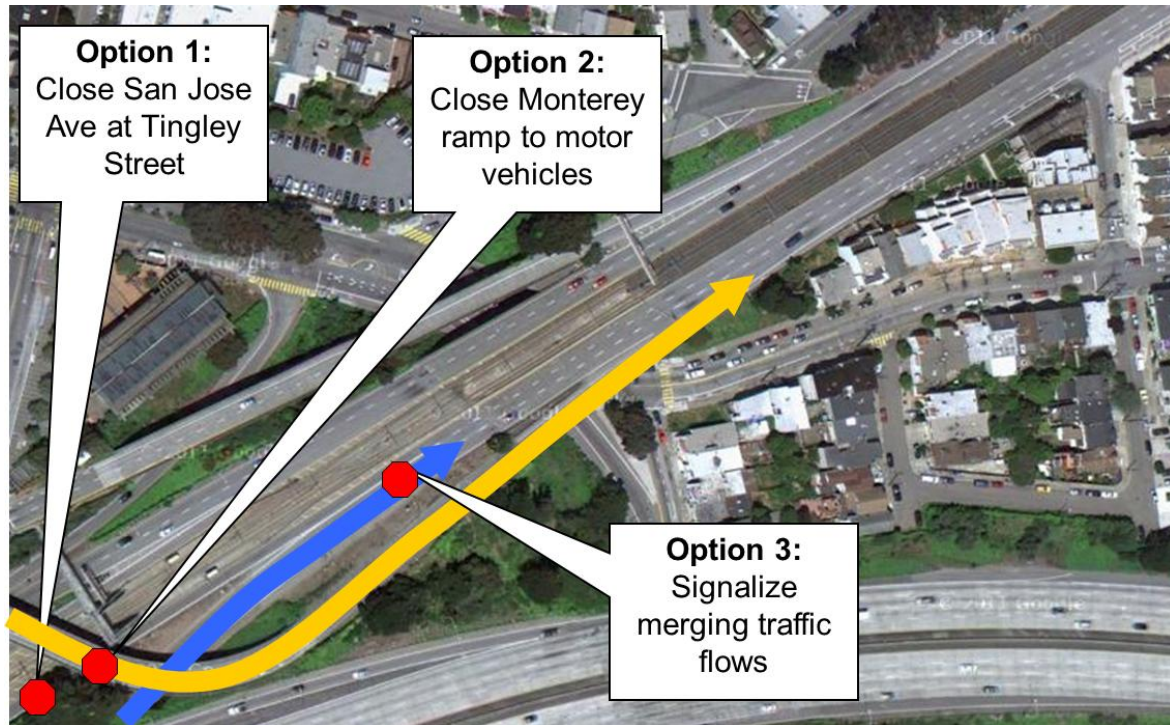
The following objectives guided the process:

- Reduce through capacity on northbound San Jose from three lanes to two lanes, to match southbound San Jose’s capacity
- Improve the northbound bicycle facility and provide convenient pedestrian and bicycle connections to neighborhoods on both sides of San Jose Avenue and to destinations to the south (e.g. Balboa Park) and north (e.g. Valencia Street)
- Facilitate safe traffic movements, particularly weaving from the various upstream traffic flows and turns to local streets
- Provide for sufficient regional connectivity
- Seek to restore the I-280 off-ramp to northbound San Jose to its pre-Loma Prieta configuration.

Three project scenarios were developed that seek to reduce traffic on the “expressway” segment of San Jose Avenue by eliminating and/or metering access points to San Jose. By reducing or managing upstream access points, a road diet of San Jose Avenue is made feasible. (Under the current configuration, three lanes of traffic are necessary to permit safe traffic weaving movements of vehicles from the various traffic flows to both local street access to the east and through movements to the north.)



*Design Options at San Jose Avenue and Monterey/I-280 Merge Point*



Source: CHS Consulting Group.

The Study preliminarily identifies an option of closing the Monterey on-ramp, which sees a modest volume of less than 200 peak hour vehicle trips, as the most promising way to advance conceptual design development. This option would fulfill all of the above-discussed goals, with very limited traffic diversionary impacts. An alternate option, closing upstream San Jose, would have greater traffic impacts, including potential effects to Mission Street, a key transit corridor.

The design options, any variants, and further consideration of modifications to the I-280 off-ramp configuration will be best accomplished through a dedicated planning and design study that should involve significant community outreach and coordination with partner agencies. In spring 2012, the Authority submitted a Caltrans Planning Grant application to conduct this work in collaboration with the community and partner agencies.

Over the course of the Study's development, public and stakeholder input was also received concerning traffic congestion on Monterey Boulevard, to the west of the San Jose Avenue expressway segment. Members of the public expressed concerns regarding traffic utilizing Monterey Boulevard to connect to and from I-280 to the Sunset District. The above-described option involving closure of the Monterey access ramp to San Jose Avenue would relieve some of this traffic. Additionally, the Study Team developed a signage proposal for US-101 southbound and I-280 southbound, which seeks to discourage the use of Monterey Boulevard as a direct access route to western neighborhoods such as the Sunset.





## ***ES.5 Study Findings and Overall Recommendations***

As discussed throughout the Final Report, the Study Area is central to circulation and travel needs for nearly every mode of local and regional travel in the city. In many ways, the Market-Octavia neighborhood is ground zero for the competing interests of neighborhood livability, system performance, and regional access that are developing across the city, including in the burgeoning development areas in SoMa. In addition to these pressures, the Study Area has seen substantial change in motorist accessibility (the reconfiguration of the Central Freeway to terminate at Market Street at a surface-level boulevard) without a commensurate improvement in alternative modes. Notably, improvements to the transit network were not provided as part of the Central Freeway and Octavia Boulevard project.

The Study presents the following high-level findings concerning circulation and transportation needs:

- **Octavia Boulevard brought significant urban design and land use benefits to the Market-Octavia area; however, operational challenges and concerns remain.** The replacement of the Central Freeway’s northern segment with a surface-level boulevard has greatly enhanced the livability and public realm in the immediate area. In particular, the Hayes Valley neighborhood has seen significant revitalization now that an elevated freeway no longer bisects the community. Still, freeway access generates significant travel demand through the area, causing heavy peak-period traffic areawide and severe congestion in a number of specific streets and intersections, such as at Oak and Octavia. This congestion causes air quality and noise impacts, creates conflicts with non-motorized users, and impairs the travel time and reliability of surface-running transit.



- **Given the somewhat lower capacity of the Boulevard as compared to the facility that it replaced, some traffic has diverted to other routes—both nearby and across the city.** Some motorists have diverted to other parallel routes such as 9<sup>th</sup> and 10<sup>th</sup> streets, the San Jose Avenue/Guerrero Street corridor, and 19<sup>th</sup> Avenue/State Route 1. Even when the new facility was opened, some newly established routes taken by motorists were maintained.
- **These shifts in circulation patterns have also been accompanied by a general growth in traffic citywide and regionally, which has obscured the impact of the Boulevard alone.** Over the course of the planning, design, and implementation of the new Boulevard and Central Freeway, travel has increased significantly within San Francisco and the Bay Area due to population growth and economic growth. Thus, it is not possible to isolate precisely the circulation impact



of the facility. Teasing out precise impact levels (such as to the Monterey Boulevard, for example) is not possible.

- **Trips generated to, from, and within the neighborhood have high transit first mode shares; however, the area’s position at the center of the regional roadway network means that it is substantially affected by crosstown and regional traffic.** More than 60 percent of trips made wholly within the Market-Octavia area are taken by foot or via bicycle. A key objective for improvements to the transportation network in the Market-Octavia area is to improve the balance between local transportation needs and regional connectivity. Improvements to the bicycle, pedestrian, and transit networks in the area are warranted to serve the high proportion of local-serving trips in the area. Regional access must also be accommodated, with appropriate management of demand through design strategies and policy measures.
- **High traffic volumes impair the neighborhood’s ability to thrive and grow.** As envisioned in the Market and Octavia Area Plan, growth in the community is intended to support high levels of walking, bicycling, and transit use in a safe and reliable manner. There is extremely limited ability for the street network in the neighborhood to accommodate additional peak-period automobile trips. Accommodating additional residents and workers within the area will require serving growth in travel demand primarily through new non-motorized and transit trips.
- **Addressing transportation needs in this neighborhood is challenged by the diversity of travel and commute patterns on the network.** About three-quarters of motorized travel within the Market-Octavia area is passing through the neighborhood—i.e., it has neither an origin nor a destination within the neighborhood. Managing this travel demand will require providing improved alternatives for travelers in a wide range of corridors and markets, including to regional destinations and for intra-San Francisco patterns not well-served by the existing transit network. A wide range of strategies have the potential to improve circulation in the area—even measures such as Muni FastPass fare policies at the Daly City BART station, which would encourage more travelers from the southwestern portion of San Francisco and northwestern portion of San Mateo County to utilize transit.
- **Improvements to travel alternatives have not kept pace with growing travel demand and did not accompany the reduction in vehicular capacity that the Central Freeway replacement represented.** In the absence of meaningful improvements to travel improvements, the reduction in automobile capacity has not been accompanied by noticeable mode shift. Instead, the neighborhood has been challenged to effectively deal with high peak-period traffic levels and resulting congestion. In this respect, the Boulevard points to the need to pair shifts in automobile capacity with improvements to the bicycle and transit networks and with effective demand management strategies.

While numerous improvements can be advanced to help address transportation needs in the Study Area, comprehensive demand management and investment measures will be most effective in providing sustainable relief to both residents and the traveling public over the long term. The findings of this



Study will help to inform improvements not only for this neighborhood, but also for circulation and mobility in the broader context by informing the update to the San Francisco Transportation Plan.

### Overall Recommendations

Based on the findings described above, the Study makes the following high-level summary recommendations:

- **The grid network should be leveraged to distribute travel demand and accommodate greater person throughput and local accessibility. San Francisco’s grid system of streets is an incredible resource.** The Study recommends developing the grid through multimodal strategies that protect community livability while also improve system efficiency, particularly through improvements to the bicycle and transit networks. The Turk and Golden Gate corridor is a prime example of the potential to develop strong multimodal corridors that will help to relieve travel demands on adjacent streets (e.g., Oak and Fell).
- **Given their varying network roles, different modes warrant varying levels of priority and design accommodation on different streets through the study area.** Across broadly-defined corridors (i.e., collections of parallel streets serving similar travel demands), all modes should be safely accommodated. Collectively, this approach should better balance local, citywide, and regional access and mobility needs and result in more complete streets in the area. Certain streets must be developed to center around the effective functioning of a particular mode—such as advancing Page as a bicycle priority route and providing prioritized, two-way transit operations on Haight through the Study Area.
- **As the design of streets is rebalanced to accommodate and prioritize non-automobile modes, improvements to transit service in affected corridors is also called for.** The reduction of automobile capacity is supported by improvements to transit service to provide improved travel choices for motorists. This entails a combination of physical (street-level) improvements and accommodation, policies (such as enforcement), and support for the operation of increased transit service levels in these areas. The Van Ness Bus Rapid Transit (BRT) and Better Market Street projects are major initiatives as part of the strategy to improve transit through the neighborhood.
- **Demand management strategies, from shuttle services to pricing, are warranted to reduce automobile trip-making, particularly during peak hours, as well as to support competitive options to driving.** Demand management is critical to meeting community objectives for improving transportation and livability within the Market-Octavia neighborhood, especially as planned growth transpires. Pricing strategies, such as roadway and parking pricing, are a particularly robust set of measures for managing high demand for scarce roadway space and should be developed further with careful attention to local conditions and factors within and around affected neighborhoods. Other TDM measures, such as employer-based programs, are also crucial to reducing SOV travel.



- **Pedestrian accommodations should be improved throughout the neighborhood, particularly to help achieve the City’s goals regarding enhanced mobility, sustainability, and livability.** All surface streets should provide clear, safe, and accessible pedestrian paths of travel. The Market-Octavia area must be an increasingly walkable environment in order to accommodate high levels of pedestrian trip-making. Improvements to the pedestrian realm are particularly important on higher-volume and higher-speed streets within the Study Area where collisions have historically been concentrated. Upcoming repaving projects, such as along Franklin and Gough streets, are mechanisms through which to advance pedestrian improvements in a coordinated and cost-effective manner.

The Study and its recommendations provide a key input into the San Francisco Transportation Plan, which will further develop recommendations for circulation in the city’s core areas. Study findings will help both in the technical analysis for this work, applying recommendations for improvements in key corridors in the vision for this area of the city, as well as community requests for broader changes that can address key needs for the Market-Octavia neighborhood, and further contribute to the long-range vision of more vibrant and sustainable San Francisco.

### ***ES.6 Next Steps***

As an areawide planning effort with a particular focus on policy recommendations and coordinated design strategies, the Circulation Study helps to set the stage for a range of further planning efforts and specific project opportunities well into the medium-term. Still, there are a number of areas in which the Study and its recommendations point to various next steps. Highlights among these key activities are as follows:

- **Collaborate with City agencies to improve the design and delivery of streets projects to support “complete streets” and “better streets” objectives.** With the adoption of the Better Streets Plan in 2010, the City Family is making significant progress in coordinating streets and public works projects to support multimodal objectives and to leverage project coordination opportunities. A number of design strategies prioritized through the Study are ripe for implementing in a coordinated fashion. Integrating pedestrian improvements into repaving and transit projects in the Study Area is a key example of this strategy, which will require collaboration between the SFMTA, Department of Public Works, Planning Department, the Authority, and other agencies as appropriate.
- **Advance design efforts for the projects preliminarily analyzed in the Study.** Additional detailed design is necessary for the projects analyzed in the Study. Re-opening closed crosswalks will require further traffic analysis. The SFMTA currently undertakes these activities with funding from the Prop K program. A set of both near- and medium-term improvements for the San Jose Avenue corridor should be developed, including a phasing and funding strategy; this will require



the active involvement of the SFMTA and Caltrans. Design improvements for intersections along Octavia will require engineering design work.

- **Support relevant projects in the design or environmental phase currently.** A number of key projects are well into corridor-level planning, detailed design, and/or environmental reviews. The signature projects of this type are the Van Ness BRT and Better Market Street projects. However, other, smaller projects are also being advanced presently by City agencies, such as the Polk Street bicycle network connection and the Haight Street two-way transit project.
- **Develop other potential projects through planning and design activities.** The Study identified a wide range of potential project opportunities for which the Study only conducted sketch-level planning. The next step is to develop design concepts for community and agency input. Several such project opportunities fit into this category, including Oak Street design options east of Octavia and bicycle facility improvements on Golden Gate Avenue and/or Turk Street.
- **Integrate project concepts and recommendations into citywide planning efforts and funding programs.** For advancement to implementation projects typically get prioritized through citywide processes associated with modal sectors (e.g., a bicycle plan) as well as in programming for specific funding sources (e.g., the Prop K 5-Year Prioritization Programs). Various transportation improvement projects for the Market-Octavia area are already included to some extent in relevant plans and programming documents, and over time additional projects should be advanced to this stage.