ENTRIPS

EASTERN NEIGHBORHOODS

TRANSPORTATION IMPLEMENTATION PLANNING STUDY

1 PROJECT PURPOSE

1.1 INTRODUCTION

Background: The Eastern Neighborhoods Community Planning Process

San Francisco's Eastern Neighborhoods are made up of the diverse communities of the Mission District, South of Market, Central Waterfront, Showplace Square, and Potrero Hill. As home to much of the city's industrial land supply, the transformation of these neighborhoods over the last 15 years resulted in growing land use conflicts. Housing, offices, and the shops and services catering to them were competing for land with industrial businesses. The San Francisco Planning Department initiated a community planning process in 2001 with the goal of developing new zoning controls for the industrial portions of these neighborhoods. The process sought to determine how much industrial land to preserve and how much could be transitioned to a mix of uses, including housing. The planning process was then expanded to address other issues critical to creating complete neighborhoods, in both transitioning and stable areas.

The Planning Department worked with stakeholders to create plans for each neighborhood in the areas of affordable housing, transportation, parks and open space, urban design, and community facilities. Adopted in early 2009, the Eastern Neighborhoods Community Plans call for up to 10,000 units of transit-oriented housing (market-rate and affordable) and 13,000 new jobs over the next 20 years. The plans also identify at a high level the types of infrastructure improvements necessary to enhance livability, enable development intensity, and serve community needs in these changing neighborhoods. Adhering to the spirit of San Francisco's Transit First policy, the transportation investments envisioned in the plans are designed to support integrated, mixed use, transit-rich neighborhoods.

Introduction to EN TRIPS

The Eastern Neighborhoods Transportation Implementation Planning Study (EN TRIPS) begins to implement the transportation vision established in the Eastern Neighborhoods area plans. The result of a multi-agency partnership led by the San Francisco Municipal Transportation Agency (SFMTA) with the San Francisco Planning Department (Planning Department) and the San Francisco County Transportation Authority (SFCTA), this plan addresses impacts of growth and change in the Eastern Neighborhoods and surrounding areas by identifying, designing, and seeking funding for key transportation infrastructure projects.

This Final Report documents the outcomes of the EN TRIPS project. Chapter 1 identifies project objectives and reviews the relevant policy context. Chapter 2 reports forecasts for the land use and transportation changes in the coming decades, surveys transportation conditions, and identifies the key challenges and opportunities. Chapter 3 describes how this project identified and

developed key transportation and public realm infrastructure projects for the Eastern Neighborhoods, including a summary of community engagement. Chapters 4, 5, and 6 detail plans for three vital corridors in the study area, including changes to the wider transportation networks in the Eastern Neighborhoods necessary to support and accommodate the proposed projects. Chapter 7 lays out a funding and implementation of the proposed major projects. Chapter 8 identifies how ongoing efforts of the SFMTA and its partner agencies will continue to address those transportation challenges that occur throughout this large and diverse area. Finally, Chapter 9 describes next steps for developing the transportation system in the Eastern Neighborhoods.

1.2 PROJECT SCOPE AND OBJECTIVES

Project Scope

EN TRIPS addresses impacts of growth and change in the Eastern Neighborhoods by identifying, designing, and seeking funding for key transportation infrastructure projects. The study included completion of the following tasks:

1. Perform technical analysis to determine existing and future circulation needs based on land use growth and change. This analysis included a detailed traffic study focusing on the South of Market area.
2. Select a group of critical transportation projects – "priority corridors."
3. Create conceptual designs for those projects, including associated circulation change in the study area as a whole.
4. Develop funding and implementation strategy for the proposed projects.

The study took a broad perspective, identifying opportunities and constraints on the transportation networks not just in the Eastern Neighborhoods themselves, but also in the surrounding districts that share key transportation corridors.

The infrastructure projects proposed in this plan are not intended to address all of the existing and future transportation needs in the study area. Instead, the project identified and prioritized transportation needs for all modes serving the Eastern Neighborhoods, and then advanced the highest priority transportation projects that were unlikely to be met through other ongoing projects. Following adoption of this plan, the proposed projects will be moved forward into environmental review and detailed design.

Project objectives

EN TRIPS was guided by the transportation objectives established through the Eastern Neighborhoods plan. These objectives have a strong multimodal focus, recognizing the need to efficiently move people and goods through a variety of modes of transportation. Specifically, the objectives call for investing in improved transit, bicycle, pedestrian, and transit facilities and managing the impacts of private vehicle on residents and workers.

As illustrated in Chapter 2 of this plan, guiding investment in the Eastern Neighborhoods toward improved multimodal systems is recognition of simple space constraints. Large increases in population and employment are forecast – not just in the Eastern Neighborhoods themselves, but in the adjoining areas, including Mission Bay, the Transbay District, Downtown, and Bayview/Hunters Point. With this growth will come even larger increases in travel demand. With space precious in a small and densely populated City, San Francisco's roadways and parking facilities cannot be expanded to meet this additional demand. Even if they could, a vast increase in private vehicle trips would have an unwelcome impact on quality of life, both for existing and new residents and workers.

To meet the forecast transportation demand while building the healthy, vibrant, liveable neighborhoods envisioned in these plans and desired by the people who participated in the community planning process, San Francisco will have to invest in transportation facilities that move more people in less space. Achieving this vision will require more efficient transit services, bicycle facilities safe and comfortable enough to attract a larger share of trips, and complete neighborhoods with safe, attractive, well connected streets so that more daily needs to be met by walking. While private vehicles will remain an important part of this multimodal transportation system, vehicular transportation must be calm and safe, with efficiently managed parking, and adequate loading and unloading spaces to allow for efficient goods movement.

Eastern Neighborhoods Plan Transportation Objectives

1. Improve public transit to better serve existing and new development in the Eastern Neighborhoods.
2. Increase transit ridership by making it more comfortable and easier to use.
3. Establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes.
4. Support the circulation needs of existing and new Production Distribution and Repair uses in the Eastern Neighborhoods.
5. Consider the street network in the Eastern Neighborhoods as a city resource essential to multi-modal movement and public open space.
6. Support walking as a key transportation mode by improving pedestrian circulation within the Eastern Neighborhoods and to other parts of the city.
7. Improve and expand infrastructure for bicycling as an important mode of transportation.
8. Encourage alternatives to car ownership and the reduction of private vehicle trips.
9. Facilitate movement of automobiles by managing congestion and other negative impacts of vehicle traffic.
10. Develop a comprehensive funding plan for transportation improvements.

Policy Context

In addition to the goals and policies outlined in the Eastern Neighborhoods Area Plans, other City plans and policies provide extensive input to EN TRIPS.

The San Francisco General Plan

The Transportation Element of the San Francisco General Plan establishes the overall framework for the transportation system in San Francisco. The plan addresses regional transportation, congestion management, vehicle circulation, transit, pedestrians, bicycles, parking, and goods movement. The modal networks identified in the General Plan are illustrated in the modal sections of Chapter 3 of this report. The primary policy governing allocation of transportation rights-of-way and resources in the City and County of San Francisco is the Transit First Policy (discussed in the sidebar on the opposite page).

Major Policy Initiatives

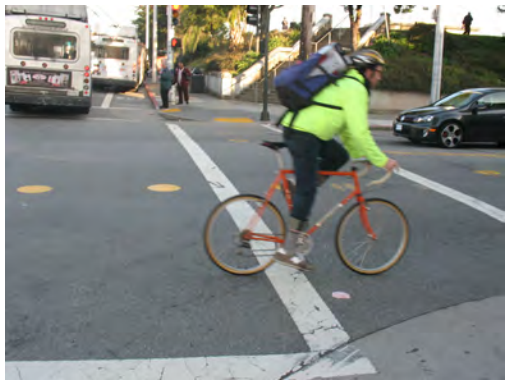
Within this policy framework, City agencies have also developed a group of major initiatives serve as both policy guidelines as well as implementation programs for broad areas of current transportation system development in the City. These initiatives are referred to throughout this plan.

- **The Countywide Transportation Plan**, created by the San Francisco County Transportation Authority and published in July 2004, is the City's blueprint for funding transportation system development and investment over the next thirty years. It is now being updated to include a program of investments through 2035. The Plan further develops and implements General Plan principles by identifying system improvements based on technical review of system performance, extensive public input on key issues and needs, and analysis of financial opportunities and constraints. http://www.sfcta.org/content/view/822/416
- **The Better Streets Plan.** The Better Streets Plan, initiated by the San Francisco Planning Department, establishes principles for the design of streets in San Francisco. EN TRIPS projects strive to adhere to these principles. http://www.sf-planning.org/ftp/BetterStreets/index.htm
- **The Transit Effectiveness Project (TEP).** TEP is a comprehensive audit of Muni service based on extensive data collection and community comment. Its final recommendations included numerous proposals to change routes and frequencies of service, as well as a package of proposed capital investments. TEP recommendations, through not yet fully implemented, will form the baseline for EN TRIPS transit system analysis and development. http://www.sfmta.com/cms/mtep/tepover.htm
- **San Francisco Bicycle Plan.** The bicycle plan is the SFMTA's principle document for guiding bicycle facilities. The near term projects specified in the bike plan will be considered the baseline bicycle network for EN TRIPS. http://www.sfmta.com/cms/bproj/bikeplan.htm
- **SF*park*.** SF*park* is the SFMTA's parking management program. The purpose of the program is to develop and implement a set of strategies to ensure that the City's on- and off-street parking system will be safe, convenient, response, accountable, and cost-effective. http://sfpark.org/

San Francisco's Transit First Policy

Introduced in 1973 and revised by voters in 1999, the Transit First Policy (Section 8A.115 of the City Charter) includes 10 principles intended to guide decision-making processes related to prioritization of transportation resources. The Transit-First Policy is designed to encourage a multimodal or "complete streets" approach to design of the City's public rights-of-way, including transit priority treatments meant to improve transit speed, reliability, and amenity for passengers. Its principles are as follows.

1. To ensure quality of life and economic health in San Francisco, the primary objective of the transportation system must be the safe and efficient movement of people and goods.
2. Public transit, including taxis and vanpools, is an economically and environmentally sound alternative to transportation by individual automobiles. Within San Francisco, travel by public transit, by bicycle and on foot must be an attractive alternative to travel by private automobile.
3. Decisions regarding the use of limited public street and sidewalk space shall encourage the use of public rights-of-way by pedestrians, bicyclists, and public transit, and shall strive to reduce traffic and improve public health and safety.
4. Transit priority improvements, such as designated transit lanes and streets and improved signalization, shall be made to expedite the movement of public transit vehicles (including taxis and vanpools) and to improve pedestrian safety.
5. Pedestrian areas shall be enhanced wherever possible to improve the safety and comfort of pedestrians and to encourage travel by foot.
6. Bicycling shall be promoted by encouraging safe streets for riding, convenient access to transit, bicycle lanes, and secure bicycle parking.
7. Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation.
8. New transportation investment should be allocated to meet the demand for public transit generated by new public and private commercial and residential developments.
9. The ability of the City and County to reduce traffic congestion depends on the adequacy of regional public transportation. The City and County shall promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system.
10. The City and County shall encourage innovative solutions to meet public transportation needs wherever possible and where the provision of such service will not adversely affect the service provided by the Municipal Railway.



Related Plans and Projects

Within the City's framework of transportation policy and major initiatives, several agencies are working to invest in transportation and the public realm in and around the Eastern Neighborhoods. Projects range from traffic calming on individual alleyways to redevelopment plans for whole neighborhoods. Several initiatives vital to the future of the Eastern Neighborhoods are described below. Ongoing planning efforts are reviewed in more detail in the EN TRIPS Existing Conditions Report. The EN TRIPS projects aim to complement these ongoing efforts.

Neighborhood Redevelopment

- **Mission Bay Redevelopment** (Redevelopment Agency): Mission Bay is undergoing redevelopment, with new housing, mixed use, and institutional development slated to come on line over the next several years. Development will include a new UCSF hospital complex planned, as well as a new street grid and open space.
- **Pier 70 Redevelopment** (Port of San Francisco): In 2009, the Port of San Francisco completed a Draft Preferred Master Plan for Pier 70 along the Central Waterfront. The Plan seeks to transform the 69-acre site into a redeveloped neighborhood that combines substantial preservation of the area's historic maritime uses with open space and infill development . On May 11, 2010, the Port Commission endorsed the Pier 70 Master Plan and authorized two development solicitation efforts to attract private partners to realize the Plan.
- **Transit Center District Plan** (Planning): The Planning Department has created a comprehensive plan for the area around the Transbay Terminal, including mechanisms to direct increased development value to help fund the construction of the Transit Center Program and other public improvements. Final EIR and adoption hearings are schedule for 2012.

Transit

- **Transit Time Reduction Proposals** (SFMTA): The SFMTA is working to complete Environmental Review of the major transit system modifications proposed in the Transit Effectiveness Project (TEP). The Notice of Preparation (NOP) for the TEP EIR was published in November 2011, and the EIR kicked off in December.
- **Central Subway Project** (SFMTA): The Central Subway will extend the T-Third Muni Metro line under the 4th Street corridor, adding stations at Fourth and Brannan; Yerba Buena/Moscone, Union Square/Market Street, and Chinatown. The subway is under construction.
- **Van Ness Avenue and Geary Boulevard BRT** (SFCTA): Bus Rapid Transit lines are planned for the Van Ness Avenue and Geary Boulevard corridors, to improve speed and reliability of two of the city's busiest bus lines. Both projects are now in detailed design.
- **California High Speed Rail** (CHSRA): California High Speed Rail is planned to operate between Los Angeles and the Transbay Transit Center in downtown San Francisco. The train is planned to enter San Francisco in existing Caltrain right-of-way. The High Speed Rail authority sees service to San Francisco beginning in 2026. Together with High Speed Rail implementation, or separately, Caltrain may be upgraded to faster, more frequent electrified service. A timeline for this investment has not been set.

Streetscape, Traffic Calming, and Multimodal Plans

- **Better Market Street** (City and County of San Francisco, multiple agencies): Multiple City and County agencies are partnering to develop transportation and public realm improvements for Market Street in time for its scheduled repaving in 2013.
- **Western SoMa Community Plan and Western SOMA Neighborhood Transportation Plan** (Planning, SFCTA): The Western SOMA Community Task Force created a neighborhood plan that includes land use regulations and transportation and public realm improvements. It is now under environmental review. Through the Western SOMA neighborhood transportation plan, the SFCTA is working to implement aspects of the plan related to residential alleys in Western SOMA.
- **The Central Corridor Project** (Planning): The San Francisco planning department is developing land use changes and streetscape proposals for Fourth Street to complement implementation of the Central Subway.
- **Transbay Transit Center** (TJPA): Now under construction on the site of the old Transbay Terminal, the Transbay Transit Center will include a residential tower, park, and transit facility to serve transbay buses, and eventually California High Speed Rail.
- **Mission Streetscape Plan and Folsom Street Streetscape Improvement Project** (Planning, DPW): The planning department completed this plan in 2010. It provides a framework for future streetscape and traffic calming in the Mission, and proposes a road diet for Folsom Street in the Mission. The Folsom Street project is slated for implementation in 2012.
- **Second Street Streetscape Improvement** (DPW): This project will implement the San Francisco bicycle plan's proposed bike lanes on Second Street between Market and King Streets, along with bulb outs, streetscape improvements, and traffic signal upgrades.
- **Showplace Square Open Space** (Planning)**:** This plan was completed in 2010. Building off of the Eastern Neighborhoods framework, it proposes a number of new parks in Showplace Square neighborhood.
- **WalkFirst** (City and County of San Francisco, multiple agencies). The WalkFirst program is a collaborative effort between the San Francisco Department of Public Health, San Francisco Planning Department, San Francisco Municipal Transportation Agency, and San Francisco County Transportation Authority. It will identify key walking streets in San Francisco and will develop criteria to prioritize pedestrian safety improvements throughout the City. http://www.sf-planning.org/index.aspx?page=2568#downloads.

Parking and Demand Management

- **Transportation Demand Management Partnership Project.** An interagency working group comprised of the SFMTA, the SFCTA the Planning Department, and the Department of the Environment is in the process of closely coordinating travel demand management delivery in San Francisco. http://www.sfcta.org/content/view/861/438
- **SF*park* Pilot Projects** (SFMTA): The SFMTA's advanced on-street parking management program began with pilot projects in several San Francisco neighborhoods in 2010, including portions of the Mission District and the South of Market. Final evaluation of the pilot programs is scheduled for 2012.

- **SF*park* Mission Bay Parking Management Plan** (SFMTA); SFpark released a parking management plan for Mission Bay in 2011. The plan includes new parking meters for Mission Bay and surrounding areas.
- **SF*park* 17th and Folsom Area Parking Management Plan** (SFMTA): SF*park* prepared a parking management plan for the area around the proposed park at 17th and Folsom Streets in 2011.

1.3 COMMUNITY ENGAGEMENT

The SFMTA and its partner agencies relied on ongoing community input to craft the recommendations in this plan. The avenues for community input are summarized below.

Eastern Neighborhoods and Western SOMA community planning Process

Residents of the Eastern Neighborhoods have been making their voices heard for many years about the needs in their neighborhoods. In 2001, with the goal of developing new zoning controls for the industrial portions of these neighborhoods, the San Francisco Planning Department conducted a series of workshops in each area Eastern Neighborhoods planning area, where stakeholders articulated goals for their neighborhood, considered how new land use regulations might promote these goals, and created several rezoning options representing variations on the amount of industrial land to retain for employment and business activity. Starting in 2005, the community planning process expanded to address other issues critical to these communities including affordable housing, transportation, parks and open space, urban design and community facilities. Hundreds of community members attended meetings over a period of five years to deliberate and inform the land use regulations and community plan framework that came to be the Eastern Neighborhoods Area plans and Code Amendments. As discussed in chapter 2, the transportation concepts, goals, and objectives of the Eastern Neighborhoods plans were the foundation for EN TRIPS.

Clear articulation of community needs also led to the creation of the Eastern Neighborhoods public benefits framework, a system of development fees that will help to pay for needed public improvements, including for transportation and the public realm. It also led to the formations of the Eastern Neighborhoods Citizens Advisory Committee. This group, discussed further below, is responsible for prioritizing Eastern Neighborhoods public benefits fees.

The EN TRIPS project was also informed by the work of the Western SOMA community planning process. Western SOMA, carved out as a distinct planning area from the Eastern Neighborhoods, has been the focus of a Community Plan process that envisions land use regulations and transportation and public realm investments to improve livability in the neighborhood while preserving its historical character. The plan was created through a multi-year effort led by the Western SOMA Community Task Force. The task force community process includes hundreds of participants over three years, working collaboratively to craft a community-led plan. EN TRIPS corridor selection, as well as project designs and circulation concepts were directly influenced by the work of the Community Task Force and the recommendations of the Western SOMA Community Plan.

EN TRIPS Community Engagement

The outreach process for the Eastern Neighborhoods Transportation Improvements Planning Study included regular meetings with two formally assembled advisory committees – the EN TRIPS Task Force, and the Eastern Neighborhoods Community Advisory Committee (EN CAC) – study area-wide workshops, and meetings throughout the planning process as requested with multiple neighborhood groups and stakeholders throughout the large study area. In total, EN TRIPS outreach included ten Task Force meetings, two community-wide workshops, regular check-ins at the EN CAC monthly meetings, and four neighborhood and stakeholder group meetings.

The EN TRIPS Task Force

When the EN TRIPS project began, the Eastern Neighborhoods CAC had not yet been formed. In order to ensure the project had guidance from the beginning by the input of community stakeholders, an informal 'Task Force' of community representatives was convened in July 2009 with the intention of acting as an "information and communications conduit for organizing community input on the city's Eastern Neighborhoods Transportation Implementation Planning Study"

The work of the task force was facilitated by community partner Urban Ecology. With a membership drawn from areas throughout the Eastern Neighborhoods, this group reviewed early project documents, gave input on the project approach, and helped to direct the project through its existing and future conditions analyses phase. Urban Ecology maintained a blog and a project web site[1] that detailed the work of the SFMTA project team and the EN TRIPS community task force, helping to open the project process to a wider audience.

The Eastern Neighborhoods Citizens Advisory Committee

In December 2010, the work of the EN TRIPS community task force concluded. At this time, the Eastern Neighborhoods Citizens Advisory Committee (EN CAC) began to take a more active role with EN TRIPS, and the Community-wide outreach efforts were about to begin to kick off the conceptual design phase of the study. Empowered by the Eastern Neighborhoods Plans themselves, the EN CAC is the central community advisory body charged with providing input to City agencies and decision makers with regard to all activities related to implementation of the Eastern Neighborhoods Area Plans. A major role of the CAC is to provide input on the prioritization of Public Benefits monies, and updating the Public Benefits program. They are also tasked with relaying information to community members in each of the four neighborhoods regarding the status of development proposals in the Eastern Neighborhoods, and providing input to plan area monitoring efforts as appropriate.

[1] http://urbanecology.org/entrips/

The SFMTA and its partner agencies worked with the CAC periodically over more than a year while crafting the recommendations in this plan. In addition to informal collaboration, work included formal presentations and CAC input on corridor project selection and on the proposed corridor project design alternatives.

The EN TRIPS Technical Advisory Committee

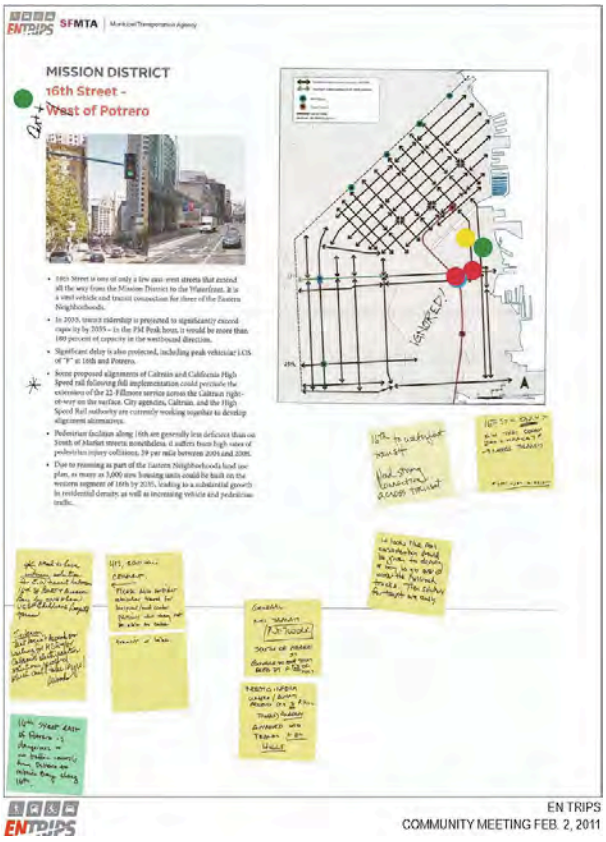
An EN TRIPS Technical Advisory Committee ('TAC") was formed to bring together stakeholder agencies with the project team to help guide the project through the planning process and to support in the review and refinement of plan concepts. The TAC gave important feedback in the final prioritization and refinement of the Priority Corridors that were carried through conceptual design for EN TRIPS.

EN TRIPS Community Workshops

In addition to this ongoing collaboration with the Task force and the CAC, the SFMTA and its partner agencies held two open community workshops in the Eastern Neighborhoods to inform and refine project proposals.

Community Workshop #1

The first of these was held on February 2nd, 2011 at the Recology Center on Seventh and Berry Streets, adjacent to Mission Bay, Showplace Square, and the South of Market. The SFMTA and its partner agencies presented findings of the project's background studies, including the Existing and Future Conditions reports to approximately 35 community stakeholders. The team gave an overview of the Existing Conditions and Future Conditions Reports findings, and presented several corridors that had been identified through technical analyses as having "high needs" in the future of the Study Area



These were presented with the goal to refine the selection to the highest priority corridor segments for the development of conceptual alternative circulation modifications and streetscape improvements for selected corridor segments.

Community members gave input about the future conditions analysis findings and on the needs, opportunities and importance of the group of identified high priority corridor segments. Much of the feedback from the community focused on concerns of issues broader than the corridors alone, such as warning that transportation improvements must be in place before future land use development occurs in the

Study Area, the need to focus on the existing shuttle system, the need for enforcement of transit-only lanes, and the need for additional transit service. Feedback on the corridors highlighted community priorities that included 16th Street and Folsom Street as high priorities for investment. North-south SOMA arterials garnered similar levels of interest and concerns around pedestrian safety, bicycle access and transit service.

Based on community input, the project team began its preliminary refinements towards identifying the key Priority Corridors that would be moved forward into conceptual designs for transportation and public realm improvements. This also led the project team to refine the list of Eastern Neighborhoods priority corridor segments. It then advanced to the EN TRIPS TAC and the EN CAC recommendations for priority projects.

Community Workshop #2

The second community meeting was held on October 5th, 2011 at the Gene Friend Center at Sixth and Folsom Streets in the South of Market area. At that meeting, the SFMTA and project team presented the design alternatives that had been developed for three priority corridors. The meeting was highly focused, using a "round-robin" format where Community members moved between three tables, each with the alternatives for a given corridor. Further detailed presentation by the project team was provided on each concept, and the community gave feedback on the designs and voted on key priorities for each street.

Based on that feedback and further technical analysis, the SFMTA project team refined the designs and worked with its partner agencies to select and develop the conceptual transportation and streetscape improvement recommendations detailed in the remainder of this report.

Recurring themes in community feedback

The very large scale of the study area (about 3,500 acres) allowed for feedback about transportation concerns and priorities that were much broader than the focused Priority Corridors that were carried through conceptual design for EN TRIPS. Some feedback was focused on system-wide transportation needs in San Francisco, whereas other feedback was neighborhood-specific, sometimes to the level of a particular intersection.

Many of these issues were related to a similar type of transportation issue, or "recurring transportation challenges." These challenges generally touched upon a number of major themes that included pedestrian access and safety, speeding automobile traffic, transit service, the use of private shuttles, on-street vehicle parking and conflicts at freeway ramp touch-down locations. The diagram below highlights a few of these recurring transportation challenges show at the study area location where they were pointed out by the community.

Neighborhood Transportation Challenges

Many of the concerns that were raised by stakeholders and which have been identified as recurring transportation challenges impact pedestrian access and safety in the EN TRIPS Study Area. These include:

- Closed or incomplete crosswalks;
- Unmarked and un-signalized mid-block crossings throughout the South of Market;
- Modal conflicts at freeway ramps;
- Missing sidewalks; and
- Speeding traffic.

System-wide Transportation Challenges

Other concerns affect not only the EN TRIPS Study Area, but have implications City-wide. These are challenges that are likely to be addressed through the refinement of City Policy. There were several recurring policy concerns that were voiced by the community:

- Private shuttle coordination;
- South of Market traffic directionality;
- Pedestrian safety policy;
- The impacts of freeway ramps on city streets; and
- Transit Planning for new or expanded service.

Specific solutions for some of these concerns are addressed for particular locations through the EN TRIPS priority projects. Others will be addressed through ongoing SFMTA projects and programs run by the SFMTA and its partner agencies.

2 CHALLENGES AND OPPORTUNITIES

2.1 INTRODUCTION

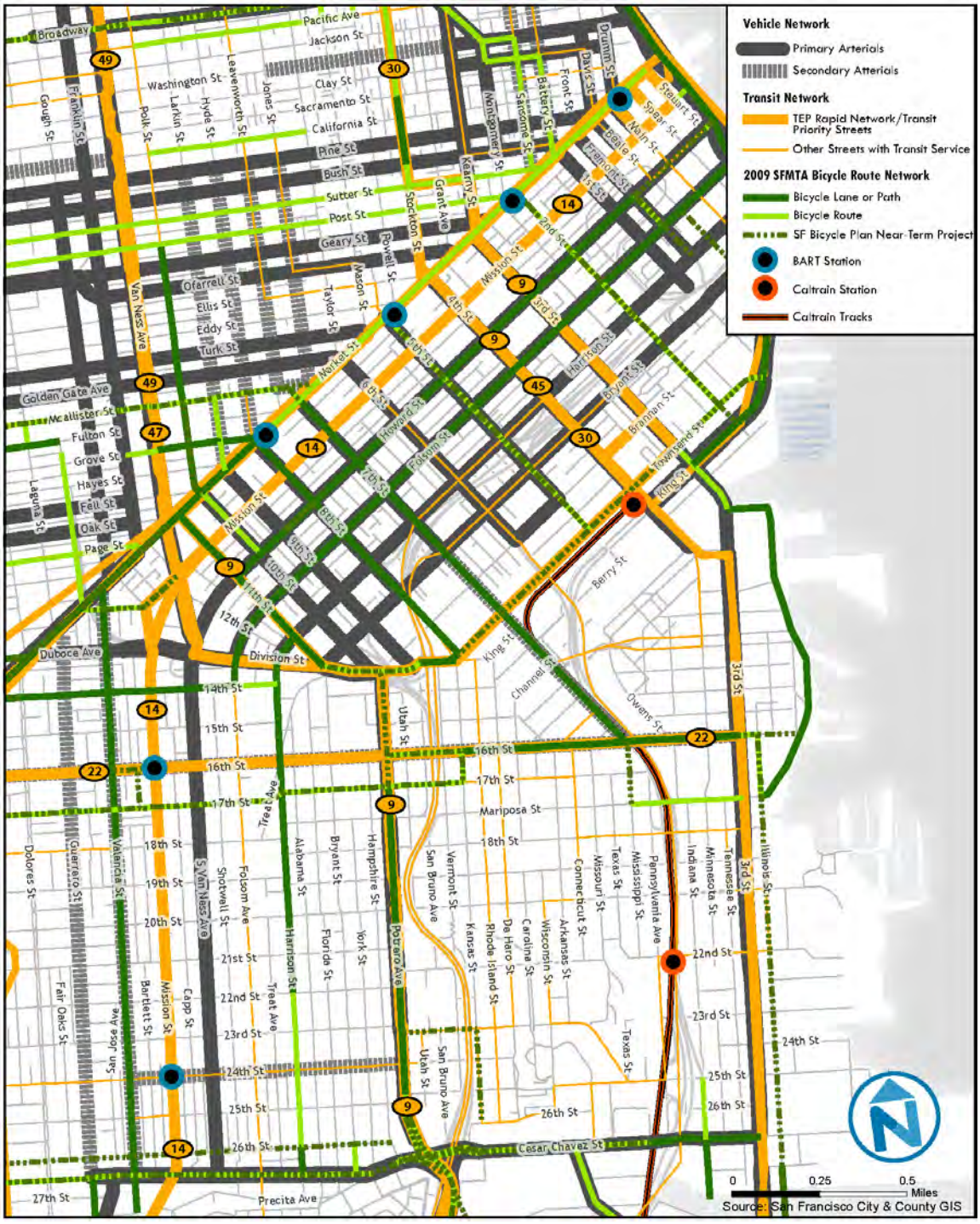
The Eastern Neighborhoods include the Mission District, South of Market, Central Waterfront, Showplace Square, and Potrero Hill. Together with neighboring districts such as Mission Bay, Rincon Hill and the Transbay District, and Downtown, the EN TRIPS study area includes nearly a quarter of San Francisco, including both fast-changing areas and stable neighborhoods.

A rich multimodal transportation system serves these neighborhoods: Pedestrians, cyclists, buses private vehicles, delivery trucks, taxis, and shuttles all make use of city streets. SFMTA Transit operates a large number of local, limited, and express bus routes in addition to Muni Metro service underground. The Eastern Neighborhoods have a concentration of bicycle facilities, including both dedicated lanes and shared bike/vehicle lanes. City streets also make up a large share of the public realm, and they are out living, socializing, and living spaces in this densely populated city.

The Eastern Neighborhoods also include many of the City's connections to regional transportation systems. BART, Caltrain, and the Transbay bus systems all serve the Eastern Neighborhoods. The regional freeway system, including Interstates 80 and 280 and US 101, provide access to the Mission, the South of Market, and downtown while introducing barriers to service transportation in each of these neighborhoods. The South of Market arterial network serves to distribute this regional freeway traffic to and from the freeways to Downtown and to the North of Market network.

In the coming decades, this transportation system will be challenged by growth and change. Whole new neighborhoods will emerge, such as at Mission Bay and Pier 70. Areas of the South of Market, particularly around Transbay, will see vast increases in the number of residents and jobs. Other parts of the Eastern Neighborhoods will see more subtle change, as historically industrial areas transition to mixed use neighborhoods that include both homes and light industrial businesses. This chapter reviews in more detail the major transportation challenges and opportunities in the Eastern Neighborhoods today, and those expected in the coming decades. An understanding of these challenges is the basis for the project proposals developed in Chapters 4, 5, and 6.

Figure 2-1 Combined transportation networks



How are transportation models used in EN TRIPS?

Like other transportation planning efforts in San Francisco, the EN TRIPS project used a group of quantitative tools to help understand existing transportation conditions in the Eastern Neighborhoods, and to make educated guesses about future land use patterns and transportation conditions. These include the following:

- ABAG population and employment forecasts. To assess transportation and public realm needs, the project considered both existing and potential future land use patterns. Estimates of the future distribution of housing and jobs are based on forecasts by the Association of Bay Area Governments. These forecasts were adjusted by the San Francisco Planning Department, based on their knowledge of proposed development projects.
- SF-CHAMP Travel Demand Model Forecasts. The projections of travel behavior presented here were derived using SF-CHAMP (SF-CHAMP 4.2 / ABAG Projections 2009), the travel demand model maintained by the San Francisco County Transportation Authority (SFCTA). SF-CHAMP can be used to assess the effects of land use, socioeconomic, and transportation system changes on the performance of the local transportation system. It includes information about observed travel patterns, transportation networks, transit ridership, roadway vehicle volumes, and demographic characteristics of San Francisco residents and workers. It relies on future-year land use and socioeconomic information projected by the Association of Bay Area Governments. Using future year transportation, land use, and socioeconomic inputs, SF-CHAMP forecasts future travel demand. For additional information on SF-CHAMP, see the SFCTA web site. http://www.sfcta.org/content/category/4/67/145/
- Traffic Modeling. To help evaluate traffic conditions and compare project alternatives, the study team created a model of peak-hour traffic conditions in the South of Market using a traffic software application called Synchro. This software is based on procedures outlined in the Transportation Research Board's 2000 Highway Capacity Manual, and it can be used to perform capacity analysis. The models were coded with the peak hour traffic and pedestrian volumes, vehicle mix, and signal timings.

While these models can be helpful in assessing trends and comparing different project alternatives to each other, it is important to recognize that their findings represent only educated guesses about what will happen in the future. Future land use trends are uncertain, and patterns of transportation behavior can change over time in unexpected ways. Even more important for this study, the decisions and investments that the City and the region makes influence how people will travel in the future.

2.2 LAND USE CHANGE

Population change

Currently, more than half of the resident population of the Eastern Neighborhoods resides in the Mission District. With anticipated changes in land use patterns due both to changes in land use regulations and other causes, population will increase substantially in other neighborhoods.

The majority of this population growth is expected to occur in the South of Market area. Important areas of growth include the areas near Market Street between Seventh and Fifth street; the western end of the South of Market area, particularly the area west of Seventh Street between Market and Harrison; and the area along Bryant, Brannan, and Townsend streets, between I-80 and the Caltrain tracks. Very large increases in population are also anticipated in adjacent areas, including the Transit Center District and Rincon Hill.

While the South of Market and adjacent areas will see the majority of population growth, several areas of growth are projected in the rest of the study area. The largest anticipated center of new population outside the South of Market is Mission Bay, which may add up to 20,000 new residents by 2035.

The Mission District's commercial corridors, and the 16th and 17th Street corridors stretching through Potrero Hill and Showplace Square may also see notable residential development. The Central Waterfront, now very sparsely populated, may begin to develop as a residential neighborhood.

Figure 2-2 Projected Population Growth by District, 2005-2035

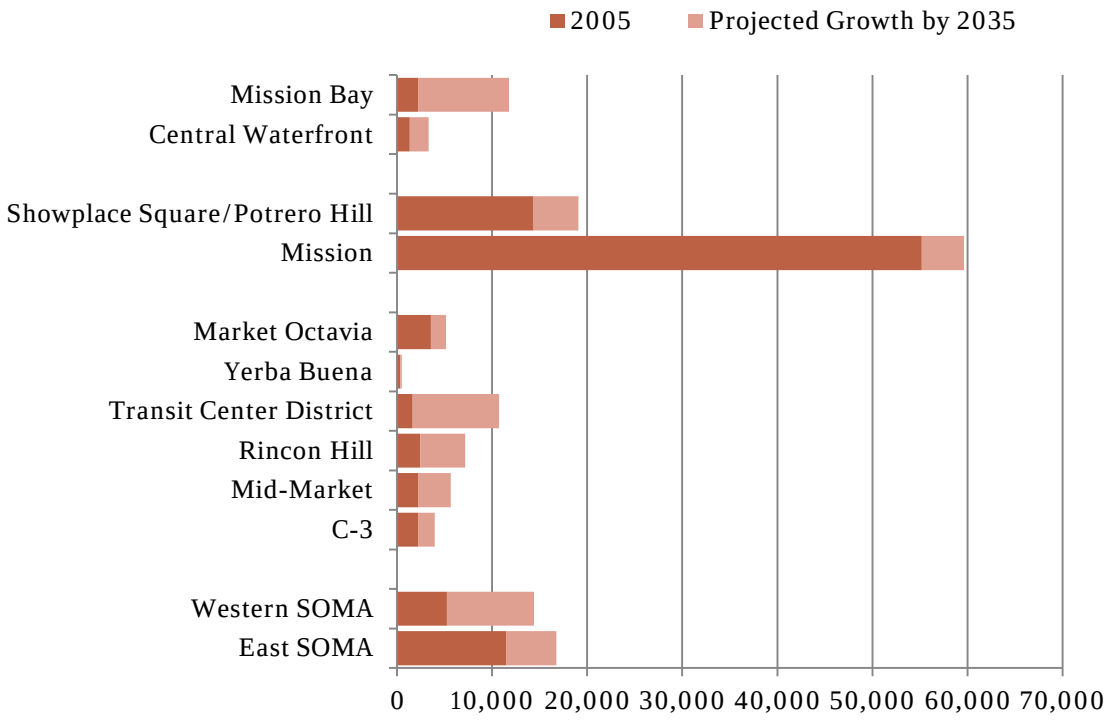
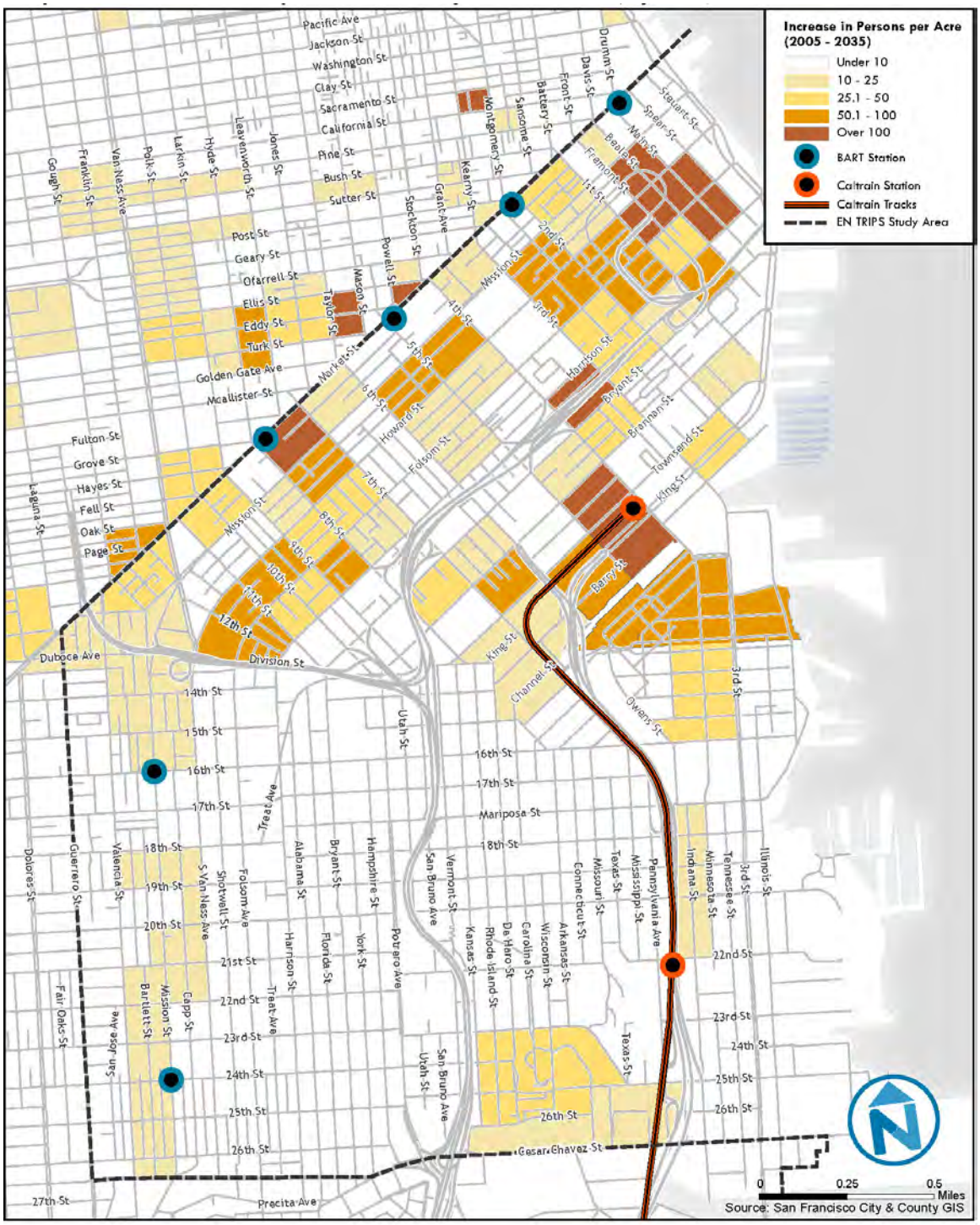


Figure 2-3 Forecast change in Population Density



Employment change

The greatest concentrations of employment in the study area are located in the areas adjacent to downtown (particularly the Transit Center District). Showplace Square, Western and Eastern SOMA, and the Mission District also have concentrations of jobs, including service and light industrial employment.

Substantial office and service employment growth is anticipated in the Transbay District, and in Eastern SOMA. Much of this growth is anticipated in Mission Bay and the Central Waterfront areas, where the expansion of UCSF Mission Bay and associate medical and research facilities, and the potential redevelopment of Pier 70 may add numerous jobs. Extending west from Mission Bay along the 16th Street corridor, employment growth is also foreseen in the southern part of Showplace Square and in the northern portion of the Mission District.

Figure 2-4 Projected Employment Growth by District, 2005-2035

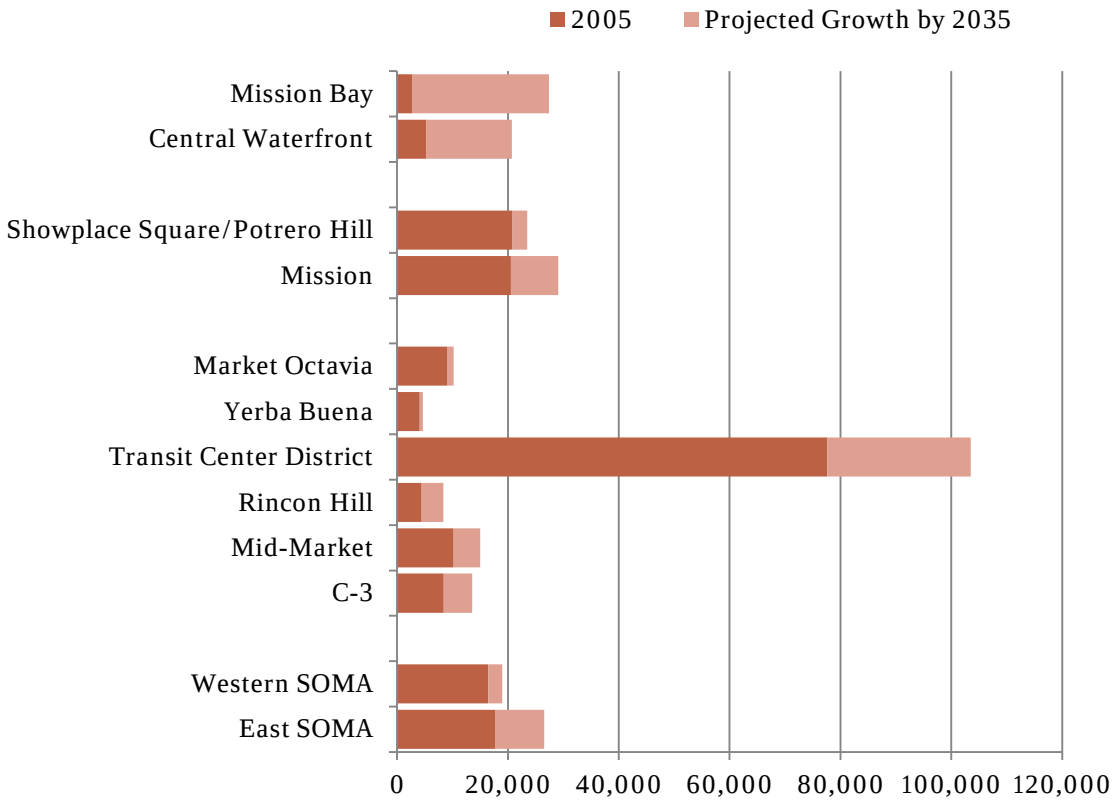
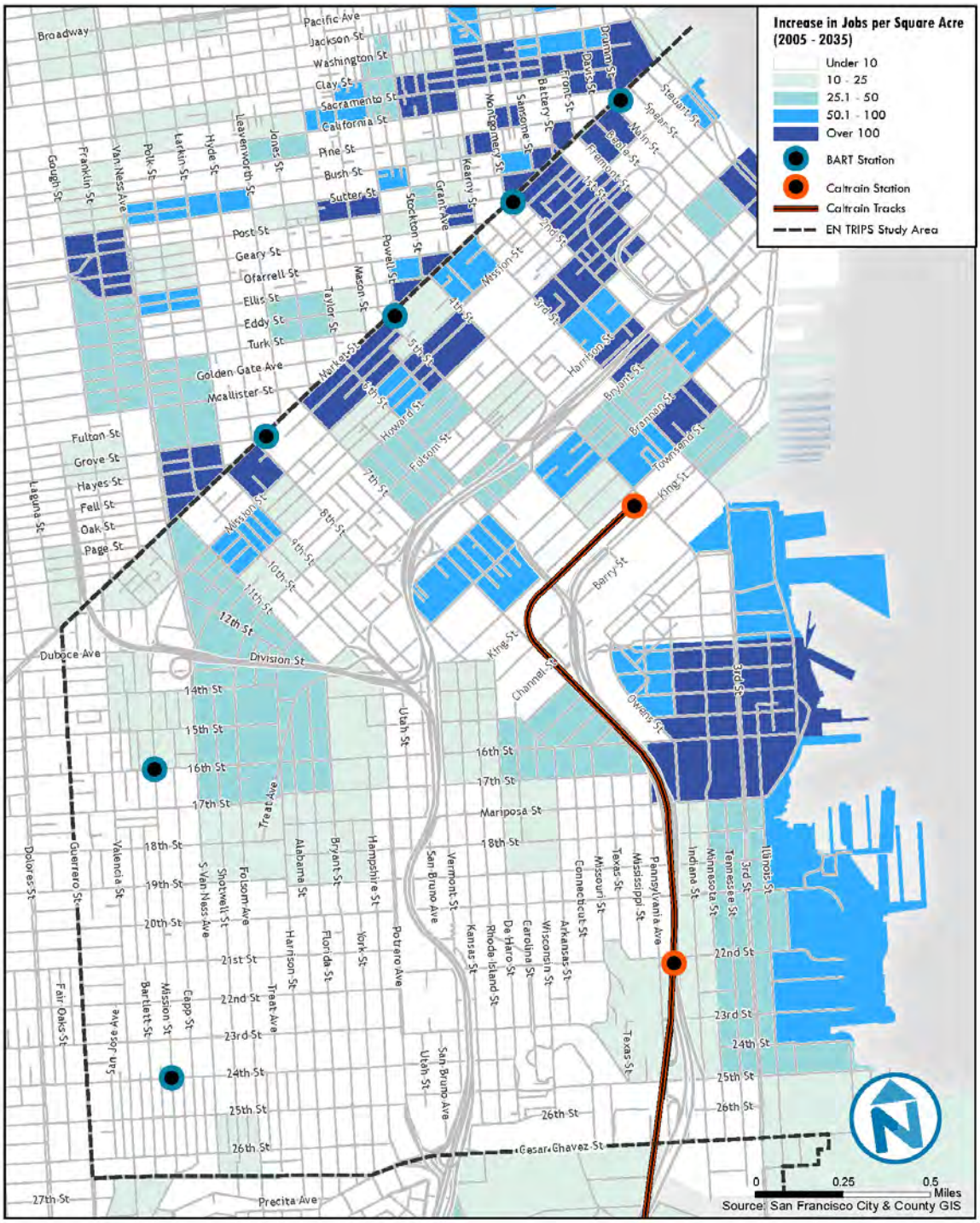


Figure 2-5 Forecast change in employment density



Transportation Demand

The City's travel demand model projects that daily trips by all modes to, from, and within the Eastern Neighborhoods could roughly double by 2035 as a result of anticipated growth.

The South of Market area could see very large increases in trips within the neighborhood, to and from downtown, and between the South of Market and each of the Eastern Neighborhoods areas. From a very low 2005 base, the Central Waterfront area (including Mission Bay) will emerge as a notable origin and destination for trips. With much smaller changes to existing land use patterns expected, the model projects that the Mission District will have modest growth in trips. Showplace Square/Potrero Hill Districts will have small but still substantial increases in travel demand.

One consequence of expanded travel demand could be large increases in motor vehicle volumes on streets throughout the study area. The model projects that mode share will remain mostly consistent between 2005 and 2035, with just a 3 percent shift from private motor vehicles to transit. A rough doubling of vehicle trips on Eastern Neighborhoods streets would have very unwelcome impacts on health and the quality of daily life in the Eastern Neighborhoods, compromising the vision for livable neighborhoods as laid out in the Eastern Neighborhoods plans. However, transportation planning choices or transportation demand management strategies will influence the number of new vehicle trips.

Accommodating most of these new trips through non-auto modes will require more efficient transit services, complete neighborhoods with safe, attractive, well connected streets so that more daily needs to be met by walking, and bicycle facilities safe and comfortable enough to attract a larger share of potential users. While private vehicles will remain an important part of this multimodal transportation system, streets must be designed to ensure that vehicular transportation is calm and safe for all street users, and parking is efficiently managed.

Figure 2-6 Projected Increase in Travel Demand

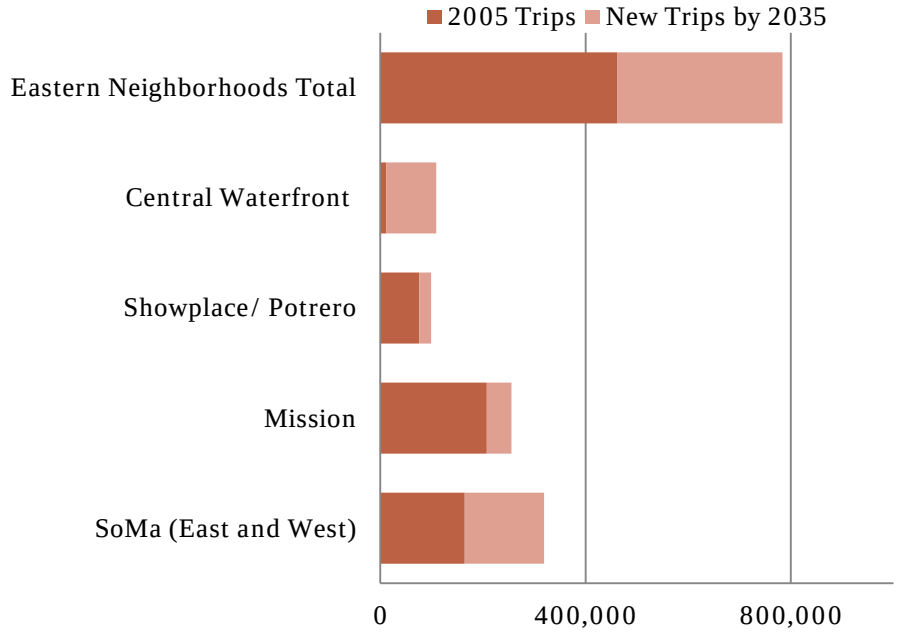
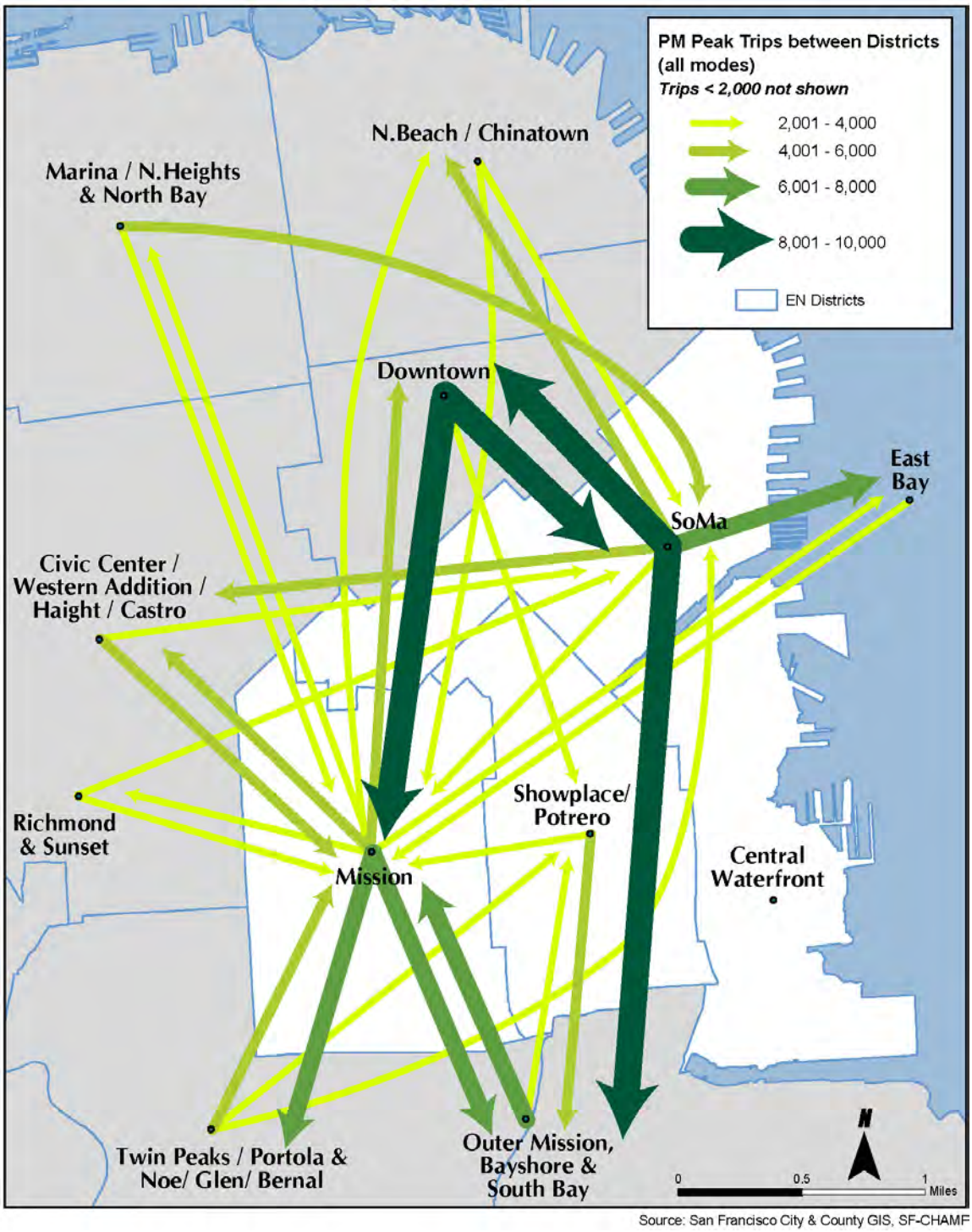


Figure 2-7 Current origins and destinations for neighborhood pairs (PM Peak)



Source: San Francisco City & County GIS, SF-CHAMP

Transit

SFMTA operates local, limited, and express bus routes in the Eastern Neighborhoods. Streets identified by the TEP for transit service are illustrated in Figure 2-8. Transit mode share in the Eastern Neighborhoods (19 percent) is equivalent to the citywide average. It is slightly higher (22 percent) in the South of Market District, which is adjacent Market Street and Downtown.

Existing challenges

Because they must contend with peak period traffic congestion, many of these routes, particularly in the denser parts of the South of Market, Downtown, and the Mission District, operate relatively slowly. In segments of several major streets, including much of Mission, 16th, and 24th Streets in the Mission District, and Mission Street South of Market, buses average less than 8 miles per hour during the PM peak period. However, not all transit delays are due to vehicle congestion. On streets including Mission Street, much of Potrero Avenue, and parts of 16th Street in the Mission, and on segments of Folsom Street and several of the north-south numbered streets in the South of Market, average peak-period bus speeds are less than half of average auto speeds.

A number of transit challenges are unique to individual neighborhoods. For example:

- The South of Market's one-way street network can make transit confusing for some users. Conversion of one or more transit streets to two-way operation could present the opportunity to consolidate transit service and improve the legibility of the overall transit network.
- The poor pedestrian connectivity in the South of Market can also make it challenging for potential riders to access the transit system. The transit and pedestrian networks in the South of Market area are discussed in detail in Chapters 5 and 6.
- There is a wide gap in east-west coverage south of 16th Street due to steep topography, a disconnected street network, and other barriers including the freeways and Caltrain tracks.
- There is also poor north-south connectivity between Showplace Square/Potrero Hill and Downtown.

Improving the efficiency of bus service, particularly on the Rapid corridors that have the most service and carry most of the passengers, is vital to the future of the Eastern Neighborhoods. A number of major improvements to the transit system in the Eastern Neighborhoods are already planned, including SFMTA Transit Effectiveness Project (TEP) changes to improve the efficiency of bus lines, the Central Subway project to extend the T-Third service through the South of Market and north to Chinatown, and the intertwined California High Speed Rail, Transbay Transit Center and Downtown Rail Extension projects.

Figure 2-8 SFMTA Transit Network (TEP Recommended)

Future challenges for transit

Transit service in the Eastern Neighborhoods will face a number of new challenges in the coming decades. Examples include:

- Demand for transit service may exceed available capacity on several routes. Even with service much more frequent than today, the city's travel demand model forecasts peak-period overcrowding in four of the six primary transit corridors: Third Street (the T–Third), Mission Street (the 49–Van Ness/Mission in the Mission District), 16th Street (the 22–Fillmore), as well as Potrero Avenue (the 9–San Bruno). (See Figure 2-9) In some cases, it may not be possible to meet the projected demand given physical constraints. On Third Street, for example, a major investment in additional capacity will already have been made (indeed, much of the increased demand projected for that corridor can no doubt be attributed to the increased capacity and quality of service the Central Subway investment would provide).
- Major new traffic delays are projected in important transit streets, including Third and Fourth Streets (affecting the 45 and the 30), on Division (affecting the 47 and the 9) and on 16th Street (affecting the 22 and the 9). Transit Priority Streets (TPS) and Bus Rapid Transit (BRT) improvements to stops including prepaid and level boarding could be used to reduce delay. However, to provide the level of capacity necessary to meet demand, it might ultimately be necessary to provide exclusively transit lanes in the most important corridors.
- Mission Bay has insufficient transit service for its planned intensity of use. The planned extension of the 22 into Mission Bay would establish important connection to Mission Bay. Howevber, care must be taken to ensure that this route can operate efficiently in a potentially congested corridor. Sixteenth Street and the 22 Fillmore are discussed in detail in Chapter 4.
- The potential exists for greatly enhanced transit demand at the Fourth and King rail station. While construction of the Transbay Transit Center and Downtown Rail Extension would mean that the station would no longer serve as the terminus for Caltrain, it is likely that service to the station would be expanded, as electrification would reduce the cost to provide service and extension to downtown would increase the demand for service. Planning for the area should take into account the potential for greatly increased demand for transit service both at the station and along feeder routes connecting to the station. In particular, bus and Muni Metro stops outside of the station might be reconfigured and/or redesigned to improve connectivity at this important hub, and a coordinated wayfinding strategy should be part of any such process.

Figure 2-9 Forecast transit line load by segment

Walking

While walking is a common mode of travel in the Eastern Neighborhoods (26 percent of daily trips), pedestrian conditions are inconsistent. Some neighborhoods have high quality pedestrian environments, with fine-grained grid patterns that offer strong connectivity and an abundance of amenities. Other areas have a variety of obstacles to pedestrian travel.

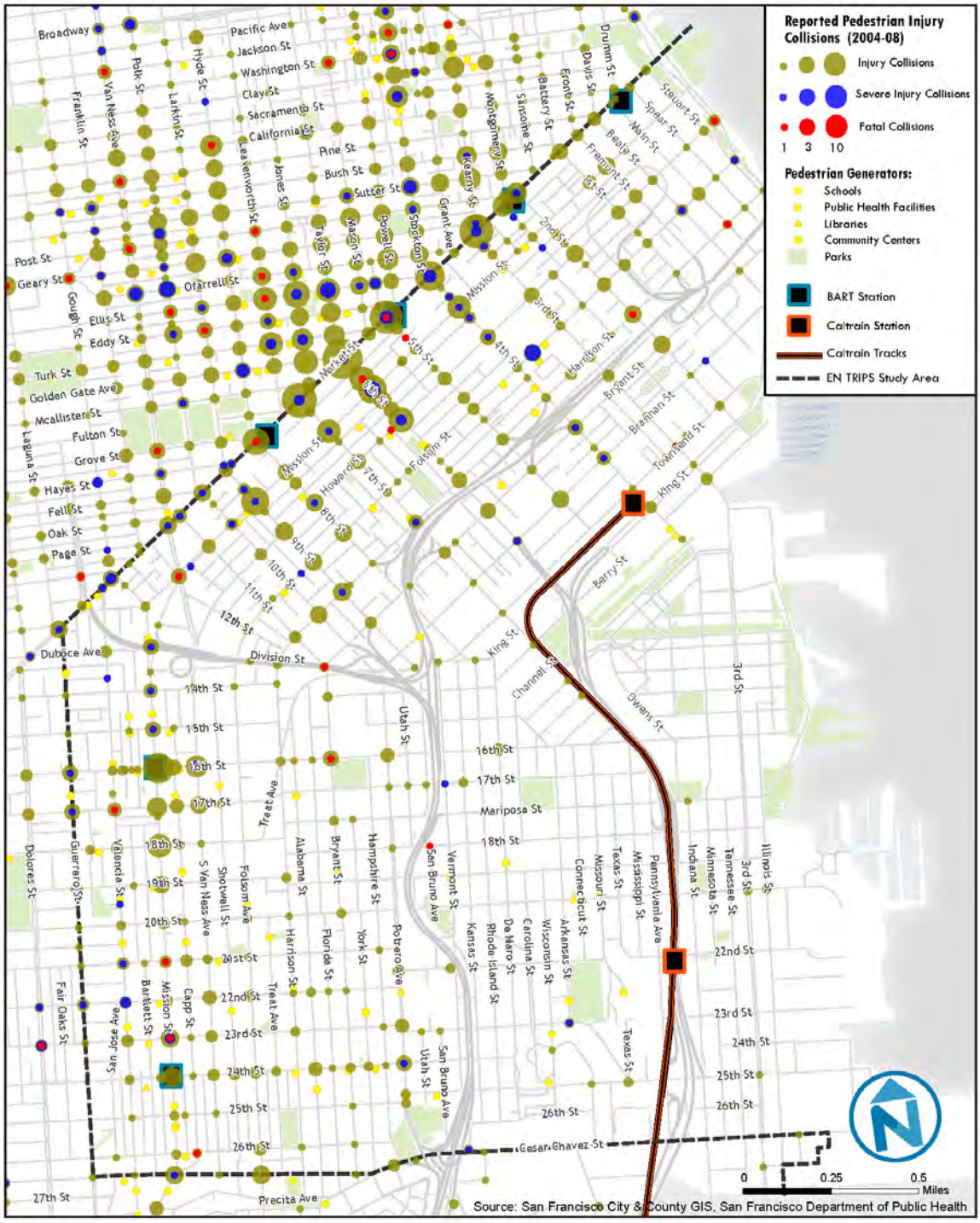
Figure 2-10 illustrates pedestrian injury collisions in the study area over a 5-year period alongside several important generator of pedestrian trips. It shows the highest concentrations of collisions along the South of Market arterials, particularly the north-south arterials, and particularly between Market and Harrison Streets. It also shows numerous collisions in the Mission District commercial corridors, and particularly around the BART stations, reflecting the high volumes of pedestrians in these areas.

Obstacles to pedestrian travel in the Eastern Neighborhoods are diverse. As discussed in detail in Chapter 4., US 101, Interstate 280, and the Caltrain tracks interrupt east-west pedestrian movement between the Mission, Potrero Hill, and the Waterfront. The Central Freeway viaduct, while not a physical barrier to movement between the Mission District and the South of Market, does create a psychological barrier. Where the Mission District grid meets the smaller Potrero grid, there are large parcels, streets jog north and south, and pedestrian paths are interrupted.

The arterial streets in the South of Market present their own unique set of challenges. Long blocks, wide crossing distances, and high vehicle volumes diminish pedestrian connectivity. At several South of Market intersections close to freeway touchdowns, crosswalks and streets with multiple turn lanes interrupt pedestrian paths of travel. Adding to these concerns, very large increases in vehicle volumes are projected in SOMA, which may aggravate the challenges that pedestrians already face. At the same time, increases in residential and employment densities could lead to a greatly increased pedestrian travel. By improving pedestrian conditions, the city has the opportunity to steer a majority of these trips toward walk trips, diverting them from some of its most constrained roadway and transit corridors. A number of alleys in the South of Market present an opportunity to improve the quality of the pedestrian experience and to expand public space.

The other neighborhoods in the study area also have pedestrian and public realm improvement needs. The Mission Streetscape Plan and the Potrero Hill Traffic Calming Plan have developed and prioritized key street improvements for those neighborhoods. The Mission Bay Redevelopment Plan, the Pier 70 Plan, and the Blue Greenway project would serve to reconnect the City with its waterfront. However, deficiencies in the Central Waterfront sidewalk network would remain. In Showplace Square, key pedestrian considerations include an incomplete sidewalk network, as well as a lack of signalized crossings at 16th Street. The difficulty of crossing 16th Street currently presents a barrier to pedestrian connections between Showplace Square and Potrero Hill.

Figure 2-10 Pedestrian Injury Collisions



Bicycling

Cycling currently accounts for an estimated four percent of trips in the Eastern Neighborhoods. However, recent SFMTA bicycle counts indicates that bicycle usage is on the rise, as counts within or adjacent to the study area have shown a 47 percent increase over the past four years.

Aside from Potrero Hill, the flat topography in the Eastern Neighborhoods is highly conducive to bicycle travel, and the myriad of routes provide strong access and connectivity. In particular, Route 45 along Valencia Street and Route 30 on Howard and Folsom Streets offer critical access between downtown and residential neighborhoods and commercial corridors to the south. Connectivity on east-west routes is more challenging, but facilities are provided on Seventh, Eighth, 14th, 16th, and 22nd Streets.

Critical gaps in the bicycle network do still exist. The adopted Bicycle Plan addresses the identified short-term existing needs. The near-term bicycle projects in the Bicycle Plan are designed to accommodate much of the immediate growth, as well as address many of the existing safety concerns. Figure 2-11 illustrates the existing and planned bicycle network. The Second and Fifth Street bicycle lanes will provide improved access to parts of the eastern South of Market and the Transbay District that will see substantial growth. These lanes will also serve to connect the Market Street corridor to the 4th and King Street Caltrain Station. Also important for providing Caltrain Station access is the Townsend Street bicycle lane, which will provide access from the east and west on a rebuilt Townsend Street.

The Eastern Neighborhoods are also home to a number of the City's high bicycle injury collision intersections and corridors. Over the last five years, five intersections within or adjacent to the study area ranked among the City's highest for bicycle injury collisions, while four of the City's top seven highest bicycle injury collision corridors were located in the study area.

The South of Market area presents particular challenges to bicyclists. The grid is dominated by one-way streets, fast moving traffic during non-peak periods, and freeways. The one-way orientation can require bicyclists to circle around very large blocks in order to reach a destination. As a shortcut, some bicyclists will ignore one-way streets and ride on the sidewalk, against traffic, or both. Given projected population and employment densities, the existing pair of bicycle lanes on Folsom and Howard Streets will become an increasingly important path of travel both for trips east and west across the South of Market, and for trips to downtown San Francisco from neighborhoods to the south.

Existing bicycle parking facilities in the study area may be a constraint to bicycling as total demand grows. Particularly in the South of Market, the Mission District, and in Mission Bay, additional bicycle parking may be required as demand grows. The Bicycle Plan will address some of the need through sidewalk racks, but additional capacity may be needed. On-street bicycle corrals offer a potential solution. Additional monitoring of bicycle parking in new developments might also be needed to ensure adequate bicycle parking facilities.

Figure 2-11 Bicycle Network

Motor Vehicle Circulation

Private vehicle travel currently represents just over half of all trips made in the study area and will continue to be an important part of the area's transportation system, even as other parts of transportation system develop. The study area is home to a diverse street typology, including a large portion of the City's freeway system and more than a dozen major arterials.

Existing challenges for motor vehicle circulation

- During the peak period, travel speeds throughout the study area slow considerably, especially in SOMA. In other parts of the study area, vehicle travel slows on Division, Mission, Guerrero, and 16th Streets during the PM peak period. The Bay Bridge currently operates at or near vehicular capacity in the peak direction during PM peak periods, resulting in queuing on local approaches. Queues are most pronounced on southbound First Street, Third Street, Fourth Street, eastbound Folsom Street, westbound Harrison Street, and eastbound Bryant Street.
- North-south streets in the South of Market area, such as, First, Third, Fourth, Sixth, Seventh, and Eighth Streets, have the highest street volumes in the area. Over 70 percent of vehicle trips in SoMa during both the AM and PM peak periods are estimated to be "pass-through" trips (origin and destination both outside of the study area), including freeway trips that do not exit into the neighborhood. Of the total pass-through vehicle trips through SOMA, approximately 40 percent use surface streets.
- Traffic from Interstate 80 is the key factor overloading the SoMa road network. Most congested intersections in the SOMA neighborhood during the PM peak hour are worsened by queues extending back from Interstate 80. During other periods of the day, high volumes of traffic from Interstate 80 result in congestion in the northbound corridors that have limited throughput capacity across Market Street.
- Barriers, including the freeways, breaks in the surface street network, and the Caltrain right-of-way, interrupt east-west vehicle travel. Sixteenth Street is the only east-west arterial that travels all the way from the Mission District to Mission Bay.
- Most of the streets in the Mission District, Potrero Hill, Showplace Square, and Central Waterfront areas are not designated as primary vehicle corridors, and on many of these streets there may be opportunities to focus on multi-modal transportation improvements. In those areas, street design plans can focus on prioritizing travel for other modes and creating quality public spaces. Automobile travel speeds through these areas could be reduced through traffic calming measures where needed, and parking could be priced to ensure availability so that drivers circling for parking do not generate additional traffic.
- Both the physical constraints of the study area and the city's Transit First policy preclude major expansions of roadway capacity as a strategy for dealing with vehicle congestion. Maintaining and improving the quality of life in the Eastern Neighborhoods will require further investment in alternatives to private vehicle travel.

Figure 2-12 Vehicle Network

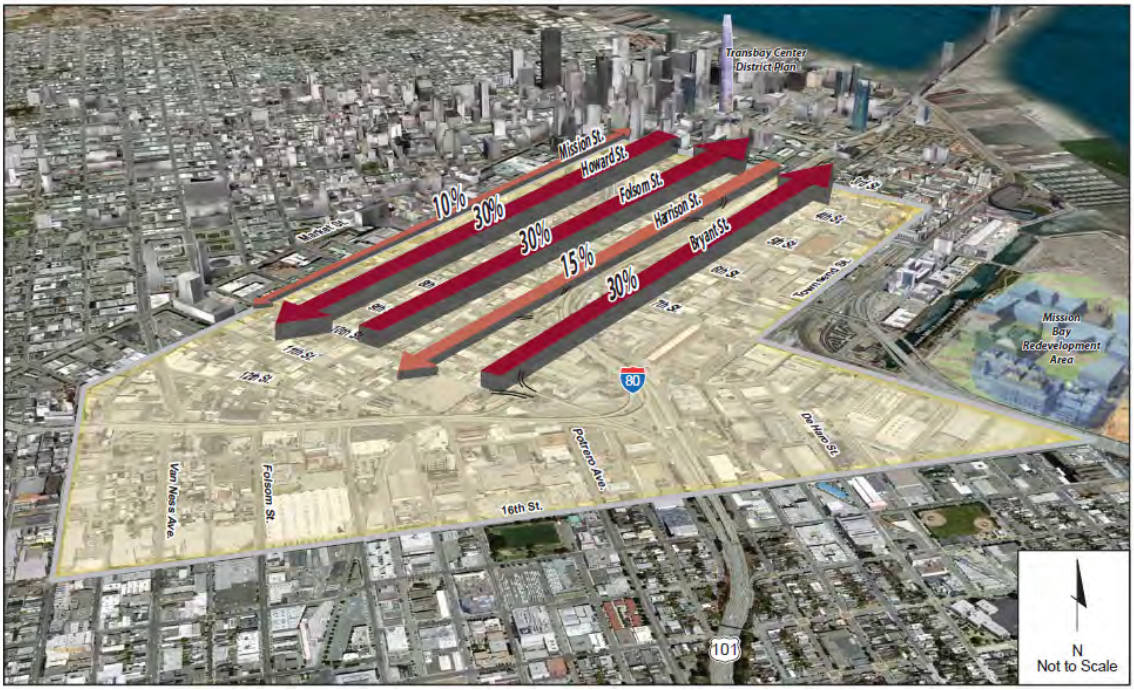
Future challenges for motor vehicle circulation

As a result of large increases in employment and population density in the study area, the travel demand model forecasts that there will be a large increase in motor vehicle travel in the Eastern Neighborhoods. Combined with a large increase in pass-through trips resulting from regional growth, vehicle volumes could increase substantially.

As illustrated in Figure 2-13, the model projects a 15 percent to 35 percent increase in PM peak hour vehicle volumes on South of Market arterial corridors, as well as major increases in vehicle volumes on segments of Third Street, 16th Street, and Cesar Chavez Street outside of the South of Market. Many neighborhood streets could also see large increases in vehicle volumes. Vehicle volume increases on this scale could have negative impacts on traffic operations. Major issues include:

- Some of the areas with the highest projected increases in vehicle volumes and traffic delays (in the South of Market and along Third Street) are the parts of the study area with the largest projected increases in population and employment density. Increased traffic would present challenges to residents, workers, and users of other transportation modes in these areas, including increased exposure to vehicle emissions and noise, increased travel delay, and increased collision risk
- Two intersections on 16th are projected to have major delays during the PM peak hour: 16th and Potrero Avenue, and 16th and Third Street.
- Expanded vehicle traffic through Showplace Square, as well as to and from Mission Bay could have major impacts on both private vehicle and transit operations. The intersection of Division/Eighth/Townsend, where there is now a traffic circle, is projected to have major delays. The intersection of 11th Street and Division is also projected to have substantial delays.
- During the PM peak hour, the projected volume increases would lead to notable new delays in the South of Market, particularly on Third Street at Mission and Fourth Street at Folsom. Harrison Street and Bryant Streets (home to the I-80 freeway approaches) will also have delays, particularly at Harrison and Fifth, Harrison at Seventh, and Bryant at Fifth.
- Three study intersections in the AM peak hour and six intersections in the PM peak hour are forecast to be highly congested. Intersections operating with delay in the AM and PM peak hour are located along streets that are generally heavily used as regional routes, such as Third, Fourth, Fifth, Bryant, Harrison, and Folsom Streets.
- The City has options for managing congestion in the Eastern Neighborhoods without creating new vehicle capacity. Potential solutions include parking management, as well as opportunities to pursue congestion pricing strategies in coordination with regional partners. Additional investment in Transportation Demand Management (TDM) strategies may also help to reduce vehicle congestion.

Figure 2-13 Forecast Increases in Peak-Period Vehicle Volumes on SOMA Arterials



Goods Movement

Goods movement is of particular importance in the Eastern Neighborhoods, where not only retail business but heavy industry and production, distribution and repair (PDR) businesses are prevalent. Delivery vehicles, ranging in size from vans to multi-axle trucks, must navigate the street network and find space to load and unload. The transportation system must accommodate the delivery needs while managing potential impacts on residents, workers, and visitors.

Along the waterfront is a complex of heavy industrial and Port of San Francisco facilities including maritime terminals, warehouses and container freight stations. These facilities rely heavily on high-capacity modes for movement of cargo and freight including oceangoing ships, trains, and semi-trucks. Light industrial and PDR establishments can be found throughout South of Market, the Central Waterfront, Showplace Square, and the Northeast Mission.PDR businesses include specialty manufacturing, food production, construction, delivery , auto repair, arts uses, and other services. These businesses are served by diverse vehicle types including large trucks, commercial vans, sport utility vehicles, and pick-up trucks. Many must rely on curbside parking spaces for loading and unloading, in alleys or on main streets.

Retail storefronts in residential neighborhoods typically rely on curbside spaces for loading and unloading, and are served by smaller vehicles. Grocery stores, “big box” chains, and other large-floorplate retail outlets are generally serviced by large trucks, often at loading docks. A major concentration of big-box retailers can be found in the vicinity of Division Street. City policy regarding goods movement includes the following:

- **Truck Routes.** While a citywide network of designated truck routes (See Figure 2-14) including highways and arterial streets is included in the General Plan, it is advisory in nature, and no signage is posted along these routes.
- **Loading facility requirements.** As part of project review, the Planning Department reviews loading facilities, access to loading facilities, and peak hour loading requirements.
- **Weight Restrictions.** Trucks using roadways under state jurisdiction may not exceed 40 tons (80,000 pounds), and San Francisco applies much more restrictive weight limits on some residential streets. Vehicles weighing in excess of three tons (6,000 pounds) are prohibited on a few streets on Potrero Hill and in the Western Mission. Through the “Overweight Corridor Program,” The SFMTA and Port of San Francisco have designated all streets near the waterfront from Pier 50 in Mission Bay to Pier 96 just south of Islais Creek Channel as appropriate for large vehicles.

Figure 2-14 Recommended Truck Routes

Parking

How San Francisco manages both on- and off-street parking resources is a major factor in shaping its transportation system. Key Issues and Opportunities for parking include:

- Almost 10,000 new units of housing are predicted in the Eastern Neighborhoods as a result of the Eastern Neighborhoods plans. Despite elimination of minimum parking requirements and the requirement for unbundled parking in parts of the plan area, most new housing will include some accessory parking, and vehicle ownership and trip generation rates may therefore be higher among new households than the existing population.
- There are 7 Residential Parking Program districts in the Eastern Neighborhoods, each with its own parking restrictions and level of demand. For example, in the "Y" Zone in SoMa's South Beach, the number of issued RPP permits is roughly twice the number of on-street parking spaces, the highest "saturation" of any zone. In the Mission, the saturation rate for its 3 RPP zones range from 96-105 percent, while the "X" RPP zone in Potrero Hill has a 49 percent saturation rate.
- The South of Market has a large amount of metered, unmetered, and off-street parking, including two city-owned parking facilities and several privately-owned parking lots and garages available to the general public. Paid publicly available parking is concentrated in the downtown financial district area.
- Parking is metered on the Mission, Valencia, and 24th Street corridors, but occupancies exceed 100 percent during peak periods and turnover is low. Vehicles often double-park on Mission Street and on the cross-streets, obstructing buses on an important transit corridor.
- On-street parking occupancies in the Showplace Square area are high, and with substantial growth predicted in this neighborhood. On-street parking in the Potrero Hill area is usually parallel to the street, and mostly unregulated.
- High on-street parking occupancy can increase the likelihood of double parking, which creates obstacles for transit and vehicle circulation. SFMTA's SF*park* program will collect data on parking occupancies, double parking, and transit delays on key Eastern Neighborhoods streets.
- Consistent with the Better Streets Plan, there may be opportunities in the Eastern Neighborhoods for the conversion of some curb parking to other uses such as landscaping; flexible uses such as temporary cafe seating; or to accommodate more pedestrian walking space, bicycle lanes and transit only lanes. The use of some existing curb parking capacity for other uses may become more feasible in the Eastern Neighborhoods once active parking management creates an appropriate balance between supply and demand.

Through the SF*park* program, SFMTA is deploying new meter technology and active parking management in several parts of Eastern Neighborhoods. These efforts are intended to improve parking availability and customer service.

Shuttles, Taxis, and Car Sharing

Taxis, shuttles, and car sharing services all offer opportunities for motorized transportation without the use of a personal private vehicle.

Most taxi stands are concentrated on the Market Street, Third Street, and Fourth Street corridors in SOMA. A review of taxi stand locations revealed that there are few stands around the study area's regional transit stops even though these stations have high walking mode shares. New taxi stands may be warranted in high demand areas, especially around regional transit stations where stands do not currently exist.

Most car share pods are located in the Mission and SOMA areas along primary transit and commercial corridors. There are a limited number of car share pods in the Potrero Hill/Showplace Square and Central Waterfront study areas. Decisions about the expansion and placement of car sharing vehicles are made by private entities, City Carshare and Zipcar. However, the City may be able to assist in providing car sharing parking spaces if high-need areas are identified.

There are a growing number of privately operated shuttle services in the study area, but primarily in the South of Market and Mission Bay. These services include "last mile" employer shuttle services, which offer the final connection to or from a passenger's transit stop and place of employment, as well as regional corporate shuttles and intra city institutional shuttles. Shuttles can be in conflict with Muni buses at bus stops. In many areas, especially residential streets where curbside space is at a premium, shuttles will often use existing Muni bus stops to pick up or unload passengers. Increased enforcement of encroachment into Muni bus stop zones by private vehicles may be needed.

Shuttles serving Downtown and South of Market destinations provide overlapping routes. Some of these shuttles may benefit from shuttle consolidation due to the overlapping nature of their routes and because many services operate below their full capacity, even during peak periods. The SFMTA and SFCTA are working with shuttle operators to develop systems for appropriate coordination.

2.3 SUMMARY OF MAJOR CHALLENGES AND OPPORTUNITIES

Major challenges and opportunities for the Eastern Neighborhoods transportation system are discussed below. The chapters that follow will propose transportation capital investments and circulation changes that will begin to address many of these issues.

Capacity for movement of people and goods

The Eastern Neighborhoods transportation system is already at or near capacity in some corridors during peak periods. As growth occurs, system capacity may be further taxed.

Vehicle travel, goods movement, and transit are all delayed by traffic congestion in some key corridors, particularly in peak periods and peak directions. While Muni Metro services and BART operate in a tunnel under Market Street (and, once complete, the Central Subway), most of the transit services in the Easter Neighborhoods operate on surface streets, in mixed-flow traffic. Today, even in designated transit-priority corridors, vital transit routes operate relatively slowly as they pass through the Eastern Neighborhoods. If vehicle congestion increases in the coming decades, transit routes operating in mixed flow traffic with face further delays. Capacity constraints are foreseen for vehicles and transit on the follow corridors:

- *South of Market arterials.* As a result of the projected growth, there will be competing demands for space on South of Market streets. In addition to new trips within the neighborhood, increased regional travel demand could lead to large increase in travel to and from the South of Market area. If current mode shares persist, the South of Market arterial network may see large increases in vehicle volumes (15 – 35 percent on major arterials), and increased congestion and delay for both transit and private vehicles at key intersections during peak times. Potentially costly delays are projected in the PM Peak on Harrison and Bryant Streets near the I-80 approaches, as well as along Third and Fourth Streets.
- *East-west travel through the central part of the study area faces capacity constraints.* With no change in mode share, Sixteenth Street could see large increases in both vehicle volumes and transit ridership. The 22 Fillmore, which is planned to be re-routed so that it travels all the way to Mission Bay, faces both potential delay from vehicle congestion as well as potential overcrowding of transit vehicles. Other east-west streets in this face a variety of interruptions that limit their usefulness for through-travel.
- *Third Street* is the primary arterial for the Central Waterfront and Mission Bay, connecting these growing areas to the South of Market and downtown. It also provides downtown access for the western side of Potrero Hill. Expected growth in travel demand between these neighborhoods may result in increased travel volumes on Third Street. This growth includes increased vehicle volumes, which are expected to generate major

delays at the intersection of Third Street and 16th Street. Growth will increase demand for the T Third light rail service, which is expected to have average loads exceeding 125 percent of total capacity during the PM peak hour. The SFMTA is currently making a major investment in this corridor with the construction of the Central Subway.

- *On Potrero Avenue and Mission Street*, vehicle congestion may increase, and vital transit services are expected to be over capacity. Mission Street is the Eastern Neighborhood's second-busiest transit corridor, after Market Street. Three major bus routes – the 14-Mission, 14L-Mission Limited, and 49-Van Ness/Mission – utilize the street. Mission is a busy street for all users, with high volumes of pedestrian traffic and a continuous strip of retail that requires access for delivery vehicles. It is a street on which vehicles often double-park, further delaying transit. Even with assumed headways much more frequent than it is currently operating, the 9 San Bruno on Potrero Avenue is expected to have average PM peak hour passenger loads of more than 125 percent of capacity.

Maintaining sufficient system capacity in growing neighborhoods will require improved alternatives to travel by private vehicle. Both the physical constraints of the study area and the City's Transit First Policy preclude major expansions of roadway capacity as a strategy for dealing with projected vehicle volumes and congestion. Achieving the stated goals for the study area will require investments in transportation facilities that can carry more people in less space. Investments could include:

- *Transit Priority*. Maintaining and improving transit speed and reliability is important to passengers, and vital for allowing SFMTA to operate the transit system in a cost-effective way. In some cases, signal priority, bus bulbs, and other transit priority street treatments will be required. Some key corridors will only be able to provide for the expected level of demand if a substantial share of the market shifts from driving to other modes, including transit. In these corridors, dedicated transit lanes will be needed to maintain fast, efficient service.
- *New bicycle facilities*. The system can accommodate some new travel demand through increased bicycle travel. New bicycle lanes planed through the San Francisco bicycle plan can help. In some cases, particularly on arterials with high volumes of vehicle traffic, protected bicycle facilities may be required to attract a larger share of the travel market.
- *Improved pedestrian access*. Complete neighborhoods with safe, attractive, well connected streets can allow more daily needs to be met by walking. The Eastern Neighborhoods plans aims to achieve a mix of land uses in emerging neighborhoods. Investment in improved pedestrian connectivity and more pedestrian-friendly streets will help to complete the vision.
- *Transportation demand management*. San Francisco already has in place a number of strategies for managing demand for vehicle travel, most notably in parking management. City and county agencies are also exploring additional TDM strategies, including expanded efforts at shuttle coordination, further coordination of employer-based trip reduction, and congestion pricing. Each of these strategies is already under study, implementation or development, but potential exists to expand their application.

The Eastern Neighborhoods remain the industrial heart of San Francisco. Even as neighborhoods change, the heavy and light industry businesses that provide nearly 30,000 jobs in Eastern Neighborhoods plan areas will continue to require delivery trucks of all kinds.

Accommodation of freight deliveries over highways and local streets is an economic imperative for the City. In districts that are transitioning from traditional industrial areas to mixed-use neighborhoods, including much of South of Market, the northeastern Mission, Showplace Square

and the Central Waterfront, resolution of tensions between established users and new residents can require a delicate balancing act of competing concerns. To ensure efficient goods movement, the City may need to establish truck routes and regulation for time of delivery that work well for business while minimizing negative impacts. It will also be important to design streets in emerging mixed-use industrial areas that provide a safe and attractive public realm without restricting the ingress and egress of trucks.

Livability

Streets in the Eastern Neighborhoods are not just ways travel – they are also places to spend time and to gather. The need to build and maintain a livable public realm (both in existing and emerging neighborhoods) is a major goal of the in the Eastern Neighborhoods area plans, and one that is further emphasized in San Francisco's Better Streets Plan.

The challenges in the transportation system decrease livability in the South of Market area. Built and operated to accommodate high volumes of regional vehicle traffic, the major arteries in the South of Market area present challenges for pedestrian travel and daily life. Traffic traveling at more moderate speeds, narrower streets and wider sidewalks, more frequently spaced street crossings, landscaping and pedestrian scale lighting on South of Market arterials would improve the quality. In addition, the South of Market area's network of alleyways already provides pedestrians space that is separated from the high vehicle volumes on the arterial streets. Investing in pedestrian amenities and improved connectivity for the alleys can also improve livability.

Areas with lower projected growth will also require pedestrian and public realm improvements. While SOMA has the most obvious needs and the greatest expected growth, in the Central Waterfront, the north east Mission, and Showplace Square streetscape and pedestrian realm improvements are called for to improve the environment for new workers and residents. Many of these needs have been catalogued recently through other ongoing planning efforts. The Mission Streetscape Plan and the Potrero Hill Traffic Calming Plan have developed and prioritized key street improvements for those neighborhoods.

Streetscape improvement opportunities are particularly apparent in the transitioning industrial areas, where pedestrian facilities may simply be lacking at present. The eventual build-out of the Central Waterfront's pedestrian grid in coordination with private development, and the completion of the Blue-Greenway could help open the City's eastern Waterfront to public enjoyment.

Even in established residential neighborhoods such as Potrero Hill and the southern parts of the Mission District, recent community planning efforts have catalogued needed pedestrian and

traffic-calming improvements. Continued efforts by diverse City agencies will be required to ensure that these projects are implemented.

Connectivity

Throughout the Eastern Neighborhoods, barriers such as elevated freeways, railroad tracks, wide arterials, and steep topography interrupt paths of travel and divide neighborhoods. In some neighborhoods, including parts of the Mission District, the street grid is fine-grained and well-connected. However, major challenges remain in other neighborhoods.

Connectivity for all modes is challenged moving east and west through the southern half of the eastern neighborhoods. At Harrison Street, where the Mission District street grid meets the smaller Potrero grid, several streets jog, and others dead-end at large parcels. Steep hillsides (in particular, both the eastern and western slopes of Potrero Hill), freeways (Interstates 80 and 280 and U.S. 101, including the Central Freeway), and the Caltrain tracks and yard north of 16th Street both define and divide the Mission District, Potrero Hill, Showplace Square, and Mission Bay. When there are few through streets, travel demand is focused on the few that do connect, which adds delay and crowding. A focused effort to reconnect the street grid in this corridor could greatly improve mobility.

In the South of Market, the wide arterial streets themselves interrupt paths of travel for pedestrians. This is particularly true where double turn lanes or missing crosswalks prevent street crossings. Freeways also can serve as barriers not just along the mainline roadway but at the touchdown points where on- and off-ramps intersect with the surface street grid, and where pedestrian crossings are often prohibited or problematic.

The regional-scale rail service investments planned for the Eastern Neighborhoods create both opportunities and connectivity challenges. To realize maximum benefit and mitigate negative impacts, there will be a need for complementary smaller-scale investments near stations and along rail corridors. It will be particularly important to invest in pedestrian amenities on corridors that provide paths of travel to important regional transit infrastructure. Townsend Street, which provides access to the Fourth and King Caltrain Station from the east and west, is an important candidate for improvement, as is Fourth Street, which provides access to that station from Market Street.

While the Eastern Neighborhoods stand to benefit greatly from the increased access to be provided by Muni's Central Subway, the Downtown Rail Extension and California High-Speed Rail, these projects also create challenges for the neighborhoods where they will be built. Local

transit and people walking or biking must be able to come and go in large numbers from the station. The project will create new barriers between communities. Examples of this type of challenge include:

- With the downtown rail extension, the Fourth and King Station will be transformed from a commuter rail terminus providing local connections to the Financial District to a major regional and local transit hub. This transformation will place increased demands on the surrounding area, including an increased demand for high-quality pedestrian access. For example, there are currently no sidewalks along Townsend Street to the west of the station, leading toward Showplace Square.
- Transit and pedestrian access to the new Transbay Transit Center from the Eastern Neighborhoods will likewise be an important issue.
- Along with Interstate 280, the existing Caltrain right-of-way forms a barrier between the Mission Bay and Showplace Square neighborhoods. Upgrading of the Caltrain corridor to accommodate high-speed rail service would require grade-separation of all intersections. Redesign of the right-of-way could provide an opportunity to improve connectivity between Mission Bay and neighborhoods to the west.

3 CORRIDOR PROJECT SELECTION

3.1 SELECTION METHOD

Responding to major land use and transportation system changes in the coming decades, the EN TRIPS project sought to develop major capital investments to improve transportation and the public realm on a small number of very important transportation corridors in the study area.

The priority projects aim not only to address major challenges for circulation and livability at the neighborhood scale, but also to address challenges for the overall Eastern Neighborhoods circulation system. While the selected projects were the focus of design effort, the EN TRIPS plan also proposes circulation changes for the surrounding transportation networks where doing so supports the project goals and helps to meet EN TRIPS project objectives. Finally, the project sought to advance corridors for which design and circulation planning work could help to inform future improvement projects for several other priority Eastern Neighborhoods corridors.

To determine which street segments to focus on, the project completed both a technical evaluation and a public engagement process. The public engagement process is described in Chapter 1. Details of the technical evaluation are provided in the EN TRIPS Circulation Alternatives and Preliminary Project-Specific Design Concepts Report, and summarized in Appendix C. It followed these steps:

1. Divide the major transportation corridors in the study area into segments with consistent function and character.
2. Assess which of these street segments fall in high growth areas.
3. Assess each segment based on need for multimodal transportation improvements.
4. Assess outliers that may represent special challenges and opportunities.
5. Of the identified corridor segments, assess opportunities for a near-term corridor improvement projects.
6. Assess capacity constraints and opportunities in the vehicle circulation network.

The evaluation yielded a group of high-priority street segments that were high priority for investment. These high priority segments were then further constrained, eliminating segments that are either improved through other projects, have immediate needs that can be addressed outside of this study process, or have major unknowns that made it impractical to design them within the timeframe of the EN TRIPS project. Considerations for each corridor segment are discussed below.

Figure 3-1 EN TRIPS Priority Corridors

3.2 HIGH PRIORITY CORRIDORS

Folsom Street and Howard Street couplet (South of Market)

Folsom and Howard Streets have been identified as high priority in this analysis, including both the segments between Second and Fifth and the segments between Fifth and Eleventh Streets.

Both streets have substandard pedestrian facilities, such as long distances between crossings (blocks east of Eighth are more than 800 feet long), and long crossings (62.5 feet on Folsom). The Fourth and Folsom Street intersection has multiple turn lanes. Folsom also has relatively high pedestrian injury collision rates of 25 and 32 per mile east and west of Fifth over the period between 2004 and 2008. Sidewalks are 10 feet wide. While east of Fifth, this condition satisfies the Better Streets Plan minimum recommended width for Downtown Commercial streets, to the west of Fifth it does not conform to the Better Streets Plan standard of 12 feet for Mixed Use streets. Forecast growth suggests that overall pedestrian volumes could be expected to rise along the full length of Folsom Street. The Folsom and Howard Street couplet form the major east-west bicycle corridor through the South of Market, and the forecast increase in vehicle volumes may challenge cyclists in this corridor. Folsom Street was also identified as a high-need corridor in the Eastern Neighborhoods Area Plans and the Western SOMA Community Plan.

Based on these needs, Folsom and Howard Streets between Fifth and Eleventh Streets were selected for an EN TRIPS priority project. Along with surrounding streets, they are discussed in detail in Chapter 5 of this report.

Townsend Street

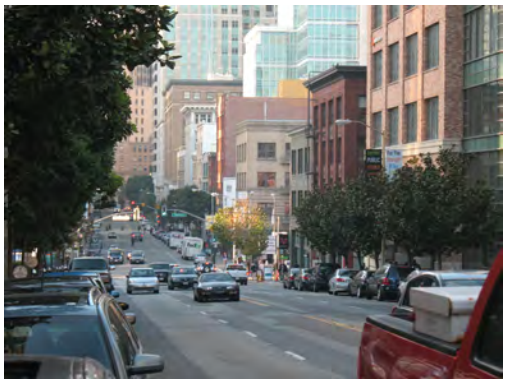
Townsend Street has inadequate pedestrian infrastructure. The north side of the street does not have sidewalks, while the sidewalks on the south side of the street are very narrow and impeded by parked vehicles, especially the motorcycle parking area adjacent to the Caltrain station. Furthermore, the lack of pedestrian amenities on these blocks, such as lighting or landscaped buffers between pedestrian, Caltrain facilities, and parked vehicles makes pedestrian travel challenging. Because this corridor represents a major access route for pedestrians wishing to get to and from the Fourth

and King Caltrain Station, its enhancement is vital to not only improving conditions for the high numbers of existing pedestrians, but also for increasing non-motorized access to regional transit services. The Third to Fifth Street segment of Townsend is projected to have substantial growth in residential density associated with the redevelopment of the rail yards site around the Caltrain station.

Townsend also provides important bicycle access to the Caltrain station. The San Francisco Bicycle Plan specifies that there should be bike lanes on this corridor. The lanes have recently been striped west of Fourth, and bicycle lanes and a travel-lane reduction benefitting pedestrians are planned to the east. Townsend is a high priority transit corridor for SFMTA Transit's Route 47. The intersection of Townsend with Division and Eighth Street, currently a traffic circle, is projected to have high levels of congestions (LOS F) in the future condition.

While all of these factors indicate that improvements to Townsend Street are necessary, the corridor is receiving additional attention as part of planning processes related to the high-speed rail and Caltrain station planned for the site of the current Caltrain station on the south side of Townsend west of Fourth. The design of any additional improvements to Townsend will be contingent on final design of the high-speed rail station. Furthermore, improvements to Townsend could be made as part of station construction. For these reasons, a design project for Townsend Street was deemed premature as part of the EN TRIPS project.

Second Street



While pedestrian conditions along Second Street are not as challenging as along some other SOMA streets, the street is zoned commercial and has suffered from a relatively high pedestrian injury collision rate of 35 injury collisions per mile between 2004 and 2008. Second Street is also the primary bicycle route between the Financial District, Rincon Hill and South Beach. Bicycle lanes are planned for Second Street as part of the San Francisco Bicycle Plan. . The rate of bicycle collisions in the north-of-Bryant segment between 2004 and 2008 was 28 per mile. While Second Street is not a designated rapid corridor for transit, SFMTA Transit Routes 11, 12, and 108 will operate along this corridor in the future condition. Second Street also has extremely high forecast growth.

While high growth makes Second Street a high priority for investment, this project is the focus of a streetscape and bicycle lane implementation effort now being advanced by the Department of Public Works.

Third and Fourth Streets (South of Market)

Third and Fourth Streets, which form a one-way couplet in the eastern South of Market area, have inadequate pedestrian facilities, high rates of growth, and important roles for three modes of transportation (transit, pedestrians, and vehicles). Both streets are important pedestrian pathways between Market Street and the Caltrain station at Fourth and King Streets, and both have high pedestrian injury collision rates. Pedestrian facilities are inadequate, with narrow sidewalks, long crossings, and restricted crossings at several intersections.

Third and Fourth Streets also work together as a crucial transit corridor that suffers from peak period delays. A major investment in transit service is already underway in this corridor, in the form of the Central Subway under Fourth Street. However, even with this investment, the T-Third light rail service is forecast to be over-capacity by 2035. Currently, the speed and reliability of 30 and 45 are poor, and forecast traffic congestion on Third and Fourth Streets could further degrade performance. Because of these challenges, both streets are strong candidates for near term improvement.

Fourth Street will very likely be the subject of a street design effort by the San Francisco Planning Department in the near future, as part of a planned rezoning associated with the construction of the Central Subway. Fourth Street will be the focus of the Planning Department's Central Corridor project. Third Street is a strong candidate for near term improvement.

Fifth Street

Fifth Street is a two-way arterial that serves multiple roles in the South of Market street network. It is an important corridor for cyclists, connecting the Union Square area to Caltrain and Mission Bay. Bicycle lanes are planned on Fifth Street, but have not yet been built. Between 2004 and 2008, the bicycle collision rate here was 39 per mile, among the highest in the evaluation. Fifth Street also has high pedestrian needs, with long crossing distances; multiple turn lanes at Bryant, a restricted crosswalk at Harrison; and narrow sidewalks. Fifth Street north of Brannan is also a transit street, with SFMTA Transit's Route 27 planned to operate in this segment. Fifth Street is a strong candidate for near term improvement.

Sixth Street

Sixth Street is another two-way arterial with a high need for improvements. While it carries large volumes of fast-moving traffic between the Interstate 280 exit ramp and the north of Market street network, Sixth Street also has high residential density and serves large numbers of pedestrians. The greatest challenge on Sixth Street is a pedestrian injury collision rate between 2004 and 2008 of 97 per mile, by far the highest among any of the segments analyzed. Sixth Street also has one of the highest rates of bicycle collisions in the study area, despite not being a designated bicycle route.

In addition to a high collision rate, Sixth Street has long crossing distances; multiple turn lanes at two intersections (Howard and Harrison); 10-foot sidewalks, high year 2035 projected traffic

volume (approximately 3,000 vehicles in the PM peak hour); and numerous intersections with alleys without signalized crossings.

Because of these factors, Sixth Street is a strong candidate for very near term improvement. However, because the primary issue with Sixth Street is a single factor (a high rate of pedestrian injury collisions) that is not directly related to larger EN TRIPS system goals, such as addressing growth and connecting EN TRIPS neighborhoods, Sixth Street is the focus of a shorter timeline effort by SFMTA to directly address pedestrian collision issues.

Seventh and Eighth Streets (South of Market)

Seventh and Eighth Streets form a one-way couplet running north and south through the Western South of Market. The northern segment of both of these streets emerged as high priority in the corridor screening, based primarily on high pedestrian and bicycle needs, and relatively high projected rates of growth.

Seventh and Eighth Streets have inadequate pedestrian facilities and high rates of pedestrian collisions comparable to other north-south SOMA arterials. Sidewalks are 10 feet, below the BSP standard of 12 feet for Mixed Use streets; and notable growth is projected (including a 145 percent increase by 2035 in residential density on Eighth). Multiple turn lanes and restricted crossings occur at Seventh and Harrison. Pedestrian injury collision rates of 35 and 29 per mile, respectively, occurred between 2004 and 2008. Participants in the EN TRIPS community workshop noted concerns about the pedestrian environment on Seventh and Eighth Streets, including conflicts between private vehicles, trucks, and pedestrians.

2035 traffic volumes are projected to be relatively high, roughly 2,000 vehicles in the PM peak hour on each street. Forecast traffic would also degrade conditions for cyclists in the bicycle lanes on Seventh and Eighth, which together make up a key north-south link for between Potrero Hill and the Civic Center area. The Western SOMA Community Plan proposed that Seventh and Eighth Streets be improved. Both Seventh and Eighth Streets are strong candidates for near-term improvement through the EN TRIPS project, both for their own sake and to provide a design template for improving one-way SOMA arterials.

16th Street

Sixteenth Street is the only east-west arterial that extends all the way from the Mission District to the eastern waterfront. As such, it is a vital vehicle and transit connection for three of the Eastern Neighborhoods, and will become even more important as Mission Bay and the waterfront develop.

While it currently turns off of 16th street at Kansas, SFMTA's Transit Effectiveness Project specifies that the 22 Fillmore will run the length of 16th Street, providing the only major east-west connection through the Mission, Showplace Square, and Potrero Hill. In 2035, demand for ridership on the 22-Fillmore is forecast to exceed capacity between Guerrero and Arkansas. Major delay is also projected, including peak vehicular traffic congestion at 16th and Potrero and at 16th and Third Streets. A large amount of growth is also forecast for the 16th Street corridor and the neighborhoods that it links together, including the Potrero Center area, the 16th and 17th Street corridors between the freeways, Showplace Square, and Mission Bay. Ensuring transit priority for the 16th Street corridor should be a priority for the EN TRIPS project.

Based on these needs, 16th Street was selected for an EN TRIPS priority project. While transit priority treatments will be required along the full length of the street, the segment between Potrero Avenue and Seventh Street was selected for focused design due to community priority. Along with circulation issues on surrounding streets, Sixteenth Street is discussed in detail in Chapter 5 of this report.

Third Street (South of King Street)

Third Street in Mission Bay and the Central Waterfront has a high degree of need for transit improvements, because of very high projected demand for the T-Third service. In 2035 forecasts, it is projected that demand for the T-Third will far exceed vehicle capacity in this segment. Current pedestrian and bicycle collision rates are very low on Third Street, due to low densities and low volumes of trips. However, the segment north of 16th Street has very high projected growth, due to employment and population growth forecast for Mission Bay. Third Street is expected to see a very large increase in vehicle volumes and major vehicle delays: For example, the intersection of Third and 16th Streets (included as part of the South of Market Circulation study) is projected to have very high levels of congestion.

A major investment has only recently been made in transit service in the corridor (the T-Third Street Muni Metro line), and this investment will be leveraged with completion of the Central Subway project in a few years. For this reason, it may not be practical for the SFMTA to invest

design effort in transit improvements along Third Street in the near term through the EN TRIPS project.

Division Street

Division Street marks the boundary between the South of Market arterial network and the Mission District, and it runs mostly underneath the Central Freeway segment of US 101. Division Street is an important east-west bicycle route, and bicycle lanes are planned. While high traffic volumes are not projected on Division, two intersections are projected to suffer from substantial vehicle delay in 2035: Bryant and Townsend/Eighth. Participants in the EN TRIPS community workshop noted that Division Street is poorly lit and feels unsafe for pedestrians and bicyclists.

Previous City plans and studies have considered removing part of the overhead Central Freeway and rebuilding Division itself, possibly as a multiway boulevard. While this idea was studied and not implemented in the past, the elevated freeway will require expensive investment if it is to be maintained over the coming years. The SFCTA will consider the future of the Central Freeway as part of the upcoming Countywide Transportation Plan.

Mission Street (South of Market)

Mission Street is a vital east-west transit corridor through the South of Market, used by both the 14 Mission and 14 Mission Limited lines, which are part of SFMTA rapid network. The segment of Mission Street between Third and Fifth has a very important overall circulation function, and important localized needs (particularly for pedestrians).

Mission is a busy pedestrian corridor with relatively long distances between crossings (blocks east of Eighth are more than 800 feet long), multiple turn lanes at the intersection of Fourth Street, and high rates of pedestrian injury collisions between 2004 and 2008: 47 per mile east of Fifth. Both transit and private vehicles are projected to have struggles with congestion delays in the Second to Fifth segments of Mission. However, overall vehicle volumes on Mission Street are projected to be somewhat lower than on other east-west SOMA arterials, in part because of planned diversion of traffic off of Mission at Second as part of the Transbay District Plan. Potential improvement projects could include investment in pedestrian facilities, as well as transit priority treatments. The Better Market Street Plan will consider the function of Mission Street in the South of Market circulation system, and its relationship to Market Street.

Mission Street (Eleventh Street to 16th Street)

The Mission District segment of Mission Street emerges as a high priority corridor primarily because of high transit needs. Muni's 14, 14L, 49, and 49L will continue to operate on this segment of Mission Street in the future condition. Demand for travel on Muni's 49 Mission-Van Ness is forecast to far exceed available capacity by 2035. EN TRIPS community meeting participants noted the need for additional express bus service on Mission Street. As compared to South of Market arterials, existing pedestrian facilities on Mission are strong.

Because of high transit demand and high volumes of traffic forecast, Mission Street requires transit priority treatments. However, the SFMTA's Transit Effectiveness Project has will consider transit priority treatments for this segment of Mission Street.

3.3 SEGMENTS IDENTIFIED FOR PRIORITY PROJECTS

Based on the assessment of needs, opportunities, and community interests, the SFMTA and its partner agencies selected five street segments on three major Eastern Neighborhoods corridors as the focus of intensive design and planning work:

- Sixteenth Street between Potrero and Bryant Streets
- Folsom and Howard Streets between Fifth and Eleventh Streets
- Seventh and Eighth Streets between Market and Harrison Streets

These street segments make up important parts of the corridors that knit the Eastern Neighborhoods together; they will bear the burden of a large share of forecast growth, and they are the focus of community interest as expressed through the Eastern Neighborhoods Community Planning Process, the EN TRIPS outreach workshop, and related planning processes. Finally, design and circulation planning work done on these streets can help to inform future improvement projects for several other priority Eastern Neighborhoods corridors.