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## Appendices

- Appendix A. EN TRIPS Project Alternatives Operations and Circulation Analysis
- Appendix B. EN TRIPS Traffic Study
- Appendix C. Preliminary Corridor Segment Screening Methodology
EXECUTIVE SUMMARY

BACKGROUND AND SCOPE

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. These neighborhoods, along with the San Francisco Planning Department, worked together to complete the Eastern Neighborhoods Community Plan. The plan, adopted in 2009, outlines opportunities for increased housing and new development throughout the eastern third of San Francisco. The plan also includes a vision for changes in the transportation network to support proposed land use changes.

This Eastern Neighborhoods Transportation Implementation Planning Study (EN TRIPS) begins to implement the transportation vision established in the Eastern Neighborhoods area plans. It addresses impacts of growth and change in the Eastern Neighborhoods by identifying, designing, and seeking funding for key transportation infrastructure projects. The study included the following steps, which were all completed with extensive public involvement:

1. Perform technical analysis to determine existing and future circulation needs based on land use growth and change.
2. Select a number of key corridors which are candidates for short term improvement and which are not already being considered in other studies.
3. Evaluate a number of potential concepts for each corridor and determine the overall effect on circulation caused by changes on individual corridors.
4. Create conceptual designs for the most promising alternatives, and evaluate the opportunities and constraints resulting from changing the circulation system.
5. Develop funding and implementation strategies for the proposed projects.

The project sought to identify and prioritize transportation needs in the major transportation networks in the Eastern Neighborhoods, and then advanced the highest priority transportation projects that were unlikely to be met through other efforts. Following adoption of this plan, the proposed projects will be moved forward into environmental review and detailed design.

EN TRIPS was guided by the transportation objectives established through the Eastern Neighborhoods Area plans. These objectives have a strong multi-modal focus, recognizing the need to efficiently move people and goods through a variety of modes of transportation.
SUMMARY OF MAJOR CHALLENGES AND OPPORTUNITIES

Major challenges and opportunities for the Eastern Neighborhoods transportation system are discussed below. The chapters that follow propose transportation capital investments and circulation changes that 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.
- Maintaining sufficient system capacity in growing neighborhoods will require improved alternatives to travel by private vehicle.

Livability

- The challenges in the transportation system decrease livability in the South of Market area.
- Areas with lower projected growth also require pedestrian and public realm improvements.

Connectivity

- Throughout the Eastern Neighborhoods, barriers such as elevated freeways, railroad tracks, wide arterials, and steep topography interrupt paths of travel and divide neighborhoods.
- The regional-scale rail service investments planned for the Eastern Neighborhoods create both opportunities and connectivity challenges.
- 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.

CORRIDOR PROJECTS

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. The recommended project designs are summarized below and detailed in Chapters 4, 5, and 6 of this report.
Figure ES-1  EN TRIPS Priority Corridors
Sixteenth Street is a major east-west corridor connecting the Eastern Neighborhoods and connecting the Eastern Neighborhoods to the rest of the city. In a part of the city marked by multiple barriers (including hilly terrain, US 101 and Interstate 80, and the Caltrain right-of-way), 16th Street it is the only east-west street that allows for continuous travel all the way from the Mission District to Mission Bay. Substantial development is expected in several neighborhoods connected by 16th Street including the north Mission District, Showplace Square, and Mission Bay. The 22 Fillmore currently provides transit service along 16th Street from the Castro district as far east as Kansas Street in Potrero Hill. In the future, SFMTA plans to re-route Route 22 so that it serves the full length of 16th Street to Mission Bay.

Sixteenth Street was identified as a high-need corridor in the Eastern Neighborhoods area plans, and improvements to the corridor were specified as a priority project by the San Francisco Board of Supervisors. The segment of 16th Street between Potrero Avenue and Seventh Street was prioritized for investment because of expected residential growth, forecast vehicle congestion, transit capacity constraints, and community priority.

**Project Objectives**

In designing transportation improvements for 16th Street, the SFMTA was guided by the principles listed below. With a limited right-of-way, project design requires tradeoffs between each of these priorities, but the project alternatives attempt to strike a balance between priorities.

- **Transit performance.** The project should maximize transit speed and reliability on 16th Street while providing a safe and comfortable waiting environment for passengers.
- **The public realm.** Open space, landscaping, and other urban design elements should be enhanced to upgrade 16th Street to a "green connector" street.
- **Pedestrian conditions.** Pedestrian comfort and safety should be improved. Currently, this segment has limited pedestrian facilities.
- **Bicycle conditions.** A safe, comfortable, and attractive bicycle route should be provided within the corridor.
- **Vehicle circulation.** The street grid as a whole should continue to accommodate east-west vehicle travel between the Mission District, Potrero Hill, Showplace Square, and Mission Bay.
- **Parking and loading.** Delivery access to businesses should be maintained and parking opportunities should be provided where possible, but parking and loading is less important than through-travel in this segment.
- **Deliverability and cost-effectiveness.** The project should maximize cost-effectiveness and speed delivery of the most crucial transit priority improvements.

**Project Development**

The EN TRIPS project team developed a total of nine project alternatives. The project alternatives share a number of similarities. First, all of them provide dedicated transit lanes (either on the center or the side of the street), as well as other transit priority treatments such as near-level boarding and transit signal priority. All would restrict left turns for vehicles at most intersections on 16th in order to maintain capacity for through-travel. Most would remove a large share of the
parking on 16th Street. Key differences between the alternatives include the placement of bicycle facilities (either 16th or 17th Street), the type of transit only lane (center or side-running), and the placement of bus stops (boarding island or curb stops).

Based on the evaluation, the three most promising concepts were selected for additional analysis, design, and community input. The concepts advanced include the Median Transitway (Alternative 1), the Center Queue Jump (Alternative 4), and the Green Median (Alternative 7). The Median Transitway is recommended as the concept that provides the greatest benefits across the full range of project objectives. This alternative is summarized below, and developed in detail in Chapter 4.

In addition, in section 4.5 of this report, the two other promising alternatives are summarized. It should be noted that, in the judgment of the project team, the recommended alternative is clearly the strongest concept across the range project objectives. However, these additional options are included for stakeholder review and potential inclusion as alternatives in environmental review.

**Recommended Alternative**

The recommended alternative would provide the strongest transit priority to the re-aligned 22 Fillmore, a service that is of vital importance to the future of the Eastern Neighborhoods as a whole. It would also substantially upgrade pedestrian conditions and improve the public realm. While it would remove a segment of bicycle lanes on 16th Street, bicycle travel would be accommodated in a new high-quality bicycle facility on 17th Street. While this alternative will require major public investment, it can be easily phased, with the most crucial transit priority and pedestrian safety aspects of the project implemented first, followed by the costlier public realm improvements when funding becomes available.

Traffic impacts of the proposed transit priority treatments will be analyzed in detail as part of the TEP environmental review process. This project will maintain one lane of traffic in the eastbound direction (as today) while reducing westbound vehicle lanes from two to one. A number of factors could help offset this reduced capacity: first, a substantial increase in transit performance could reduce the demand for vehicle trips in this corridor. Second, the City can invest in reconnecting the east-west transportation grid in this part of the city, relieving some of the burden on 16th Street as the primary east-west vehicle route. Similarly, continued efforts at Transportation Demand Management and parking management at Mission Bay could also reduce the demand for vehicle trips.
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Figure ES-2  16th Street Corridor Issues and Opportunities

- Several large parcels interrupt the grid west of US 101.
- Potrero Center is an important shopping destination. This parcel is likely to be redeveloped with high-density mixed use in the future.
- US 101 and the Caltrain right-of-way interrupt the grid in multiple places.
- 16th Street Mission BART Station is a major transit transfer point.
- The 22 Fillmore is forecast to be above capacity in this segment in the future.
- 16th Street between the freeways has few pedestrian amenities and a bare public realm.
- Continued redevelopment of Mission Bay will create a major origin and destination in the future.

Legend:
- Bicycle Route 4D
- East-west vehicle routes
- Vehicle congestion forecast
- Breaks in vehicle network
- 22 Fillmore (current alignment)
- Major origin/destination
- New development permitted under the Eastern Neighborhoods land use plans
The recommended alternative for 16th Street is based on a few key features, including increasing transit reliability by the creation of a median transitway; extension of sidewalks; and moving bicycle circulation to 17th Street.

Vehicular traffic will travel in one lane in each direction. Vehicle lefts will be prohibited at most intersections, but vehicles would be able to make right turns on to and off from 16th Street. Not-in-service transit vehicles may be able to turn left where required.

Sidewalks at transit stops will remain 10 feet wide on the stop side to accommodate the bus boarding platform.

Most parking will be removed from 16th Street, but the eight-foot wide sidewalks will allow for occasional placement of parking or loading bays. Placement of the bays will vary from block to block depending on land uses.

While much of the parking on 16th Street will be removed, the maintenance of 90-degree parking on most cross streets means that a majority of the parking in the corridor will be retained. Some additional parking can be added by reconfiguring one or more cross streets for perpendicular parking.

Bike lanes will be removed from 16th Street to allow more room for transit and pedestrians. Bicycle lanes and traffic calming treatments will be added on 17th Streets.

Pedestrian crossings of 16th Street will be 44 feet, approximately 25% shorter than the current condition. Crossings at the transit stops will be 51 feet, but will include an 8-foot pedestrian refuge at the boarding island.

New signals will be added Rhode Island, Wisconsin, and Connecticut to protect transit and improve pedestrian connectivity.

Sidewalks along 16th Street will widen from 8 feet to 10 feet (except at and near transit stops).

Passengers will board buses on median islands, raised to the level of the bus floor to speed up the boarding process. Boarding islands will be accessed via ramps rising from crosswalks. The boarding process will also be made shorter by ticket machines allowing "peepaid" boarding through all doors.

Figure ES-3 16th Street Corridor Operations Concept
Folsom and Howard Streets Corridor

Folsom and Howard Streets are major arterials in the South of Market area running north-east and south-west between the Embarcadero and the Mission District. For most of this distance, they function as a one-way couplet carrying large volumes of vehicles traveling during peak periods. Local transit service operates eastbound on Folsom Street with westbound service provided on Harrison Street. Folsom Street has an important community role in the western South of Market. Already home to much of the neighborhood’s night life, it is envisioned as an emerging daytime neighborhood commercial district between Sixth and Ninth Streets. On the last Sunday in September, the Folsom Street Fair draws many thousands of people to the neighborhood.

The segments of Folsom and Howard between Fifth and 11th Streets have been prioritized for analysis and investment over other segments of the corridor because of expected residential and employment growth and community priority. This segment was identified as an area of need by participants in the EN TRIPS community workshops, Eastern Neighborhoods area plans process, and Western SOMA Community Task Force.

Project Objectives

In designing improvements in the Folsom Street corridor and developing a concept for east-west circulation in the South of Market, the project team was guided by the principles listed below. With a limited right-of-way, project design requires tradeoffs. The design alternatives that follow recognize the need for balance between priorities.

- **Pedestrian conditions.** Pedestrian connectivity, comfort, and safety should be improved.
- **The public realm.** Open space, landscaping, and other urban design elements on Folsom Street should be upgraded.
- **Transit legibility.** Transit service should be consolidated on two-way streets to improve legibility where possible.
- **Transit performance.** Transit speed and reliability should be maintained.
- **Bicycle conditions.** A safe, comfortable and attractive bicycle route should be provided within the corridor.
- **Vehicle circulation.** The project should maintain adequate east-west vehicle capacity in the South of Market network as a whole.
- **Parking and loading.** Parking and loading access to businesses should be maintained.
- **Deliverability and cost-effectiveness.** The project should maximize cost-effectiveness and speed delivery of the highest priority improvements.

Project Development

Based on the evaluation detailed in Chapter 5 of this report, the four most promising concepts were selected for additional analysis, design, and community input. The concepts advanced include all three of the two-way, three-lane Folsom Street configurations and a single one-way option. After detailed review of these alternatives, Alternative 5, with two-way Folsom and Howard Streets and a two-way cycletrack on Folsom, emerged as the concept that appears to provide the greatest benefits across the full range of project objectives.
In section 5.6 of this report, the three other promising alternatives are summarized. Each includes an alternative circulation concept. In addition, the findings of a detailed traffic analysis of the alternatives are provided in Appendix A. Unlike the 16th Street project, where one alternative emerged as clearly the strongest, each of these remaining Folsom/Howard alternatives is competitive with the recommended alternative. Each is a balance of priorities, differing from the other alternatives with respect to the scale of public realm improvements, connectivity for different modes, traffic impacts, transit performance, and cost. These additional options are included for stakeholder review and potential inclusion as alternatives in environmental review.

**Recommended Alternative**

The recommended alternative reduces crossing distances and provides signalized mid-block crossing on every block to improve pedestrian connectivity and safety. It consolidates the TEP's 27 Folsom and the 11 Downtown Connector on Folsom Street, offering eight-minute headways in both directions. By shifting westbound service from Harrison Street, the efficiency of both routes improves, and traffic modeling suggests that transit delay would not increase as a result of increased traffic congestion. A buffered two-way cycletrack on Folsom Street would offer a protected bicycle facility that improves connectivity to the Mission District and points south.

While this alternative would provide additional pedestrian space at corner bulbs and bus stops, it would not widen sidewalks on either Folsom or Howard Streets leaving Folsom with 10-foot sidewalks (Howard Street sidewalks are now 12-feet wide). However, because it would not move curb lines, this concept could be implemented at a substantially lower cost than the others. On Howard Street, a landscaped median will augment the public realm and provide pedestrian refuges.
Figure ES-5  Folsom and Howard Streets Corridor Issues and Opportunities

Howard Street’s westbound bike lane ends at 11th. Cyclists must shift to Harrison to continue towards the Mission District.

Mission Street is the major east-west transit street and the designated Rapid corridor under the TEP, but buses continue to suffer delays.

SOMA alleys that span two or more blocks offer a pedestrian path of travel away from traffic, but lack signalized crossings of arterials.

Under the Transbay Transit Center district plan, land use densities surrounding the transit center will increase substantially and the streets will be redesigned to accommodate their needs of new residents and transit center users.

Bicycle lanes are split between Folsom (northbound) and Howard (southbound).

Long blocks (up to 800’) on east-west SOMA Streets limit connectivity, and wide streets make crossings difficult for slower-moving pedestrians.

The Transbay Transit Center will be served by regional bus services and potentially California High Speed Rail.

TIP-proposed bus service (the 27-Folsom and 11 Downtown Connector) would be split between Folsom and Harrison Streets in the current configuration.

During peak periods, vehicles queue on SOMA streets, waiting to access ramps to the Bay Bridge.

Freeway ramp touchdowns along Harrison and Bryant challenge pedestrians.

The Eastern Neighborhoods area plans permit increased residential density on Folsom Street between 6th and 3rd.

All five east-west arterials in this corridor have high rates of pedestrian injury collisions.

**LEGEND**

- **11 Downtown Connector** (local transit)
- **27 Folsom** (local transit)
- **14 Mission, 14L, 14K** (high-frequency transit)
- **9X (express transit)**
- **East-west bicycle route** (planned)
- **Bicycle route**
- **One-way circulation**
- **Observed Bay Bridge approach vehicle queues**
  In the PM peak hour
The Transportation Concept for Folsom Street converts vehicle travel to two-way, allowing for bi-directional bus service. However, because the street’s "two-plus-one" lane configuration will allow eastward travel to remain dominant, this alternative has characteristics typically associated with one-way travel, such as signal timing, traffic calming, and opportunities for mid-block crossings. The concept also includes a two-way cycletrack that will be buffered from vehicle traffic by the parking lane and a buffer area along the sidewalk edge.

While vehicles have the option of two-way travel, traffic signals are timed to the eastbound traffic, making westbound auto travel more suited to local rather than downtown trips.

Signals will be timed to allow for a consistent 12-15 mph per hour progression to encourage vehicle travel speeds that are safer and more comfortable for cyclists and pedestrians.

Bulb-outs will be added to all intersections where a turn lane is not needed.

Sidewalks on both sides of Folsom Street remain 10 feet wide, but will be treated with new streetedge amenities to increase pedestrian comfort.

Parking lanes are maintained on both sides of the street, except where bulb-outs or turn lanes are required.

The pavement in areas of potential conflict between cyclists and motorists is colored green.

Some parking spaces can be repositioned as bicycle corrals to improve access to the neighborhood commercial district and other important destinations.

New signalized midblock crossings will allow easier crossing of the street between the widely spaced major cross streets.

The 23-Folsom and 11: Downtown Connector will operate eastbound and westbound on Folsom Street every 8 minutes. Riders will board eastbound buses via islands on the street side of the cycletrack.

Bus stops will be located at mid-block crossings to ensure that westbound vehicles do not block intersections while waiting behind a stopped bus.

At intersections with alleys, the alley roadway ramps up to sidewalk grade, slowing cars as they enter and exit the alleys.

A two-way cycletrack is accommodated between the parking lane and the sidewalk. The cycletrack will be primarily at sidewalk grade and have a buffer area separating it from both pedestrians and people exiting parked cars.

Vehicle left turns are restricted at most Folsom intersections, reducing the number of turn pockets required and diverting some trips to Howard, which will provide a left turn lane serving both directions of travel.

At major intersections, the cycletrack ramps down from sidewalk grade to street grade.
Figure ES-7  Howard Street Operations Concept

The Transportation Concept for Howard Street converts vehicle travel to two-way. However, because the street’s “two-plus-one” lane configuration will allow westward travel to remain dominant, this alternative has characteristics typically associated with one-way travel, such as signal timing, traffic calming, and opportunities for mid-block crossings. A center median will allow turn pockets where needed, add a major green design element to the street, and allow for pedestrian refuges at mid-block and some major street crossings.

Howard will have two westbound lanes and one eastbound lane. A two-way configuration provides vehicle circulation options while helping to calm traffic.

A median pedestrian refuge, as well as bulb-outs, will greatly reduce pedestrian crossing distances at mid-block crossings.

The existing westbound bicycle lane will be removed from Howard between 5th to 11th, replaced with a new two-way cycletrack on Folsom.

Landscaped medians will be added in the middle segments of blocks.

Left turn pockets occupy the median space where needed. Convenient left turns off Howard will compensate for restricted lefts off Folsom.

Signals will be timed to allow for a continuous 12-15 mile-per-hour progression to encourage vehicle travel speeds that are safer and make the street more comfortable for pedestrians.

While vehicles have the option of two-way travel, traffic signals are timed to the westbound traffic, making eastbound auto travel more suited to local rather than cross-town trips.

New signalized midblock crossings will allow easier crossing of the street between the widely spaced major cross streets. The median refuge will allow for two-phase pedestrian crossing.

Sidewalks on both sides of Howard Street will remain 12 feet wide, but will be treated with new streetscape amenities to increase pedestrian comfort - see Streetscape/Landscape Concept.

At intersections with alleys, the alley roadway ramps up to sidewalk grade. Slowing cars as they enter and exit the alleys.

Parking lanes will be maintained on both sides of the street, except where bulb-outs or turn lanes are required.

At intersections with major cross streets, such as 7th Street, where a left turn pocket is not needed, the planted median can extend to the intersection, allowing for a pedestrian refuge in the middle of Howard Street.
Seventh and Eighth Streets Corridor

Seventh and Eighth Street work together as a one-way couplet in the South of Market area, traveling north and south between Market Street and Townsend Street. The 19 Polk provides local transit service every 15 minutes, traveling north on Seventh Street and south on Eighth Street. Seventh and Eighth Street are designated as major arterials in the City’s Congestion Management Plan Network.

These two streets share issues and opportunities that are also common to the other north-south arterials in the South of Market area. All of these streets are designed and managed to primarily carry high traffic volumes during peak periods. Improving the public realm and conditions for other modes on these streets will require some reduction in vehicle capacity. Capacity reductions will have to be carefully designed to avoid unwanted impacts on the surrounding transportation networks, particularly transit operating in mixed-flow traffic.

Seventh Street also has a special role as an Eastern Neighborhoods connector street. Unlike parallel streets, Seventh continues south of Mission Creek, traveling through Showplace Square and intersecting with the Potrero Hill grid at 16th Street. The Eastern Neighborhoods area plans indentify Seventh as a “green connector” street.

The Seventh and Eighth Street corridor has three distinct segments: Market Street to Harrison Street, Harrison Street to Townsend Street, and Townsend Street to 16th Street. The full length of Seventh Street has been designated as a “green connector” street in the Eastern Neighborhoods land use plan and will require investment in the public realm. As a first step, and as an investigation in how to address the set of issues that challenge all of the South of Market’s north-south arterials north of the freeways, the Seventh and Eighth Street couplet between Market and Harrison was selected as an EN TRIPS priority project.

Project Objectives

In designing improvements in the Seventh and Eighth Street corridor, the project team was guided by the principles listed below. With a limited right-of-way, project design requires tradeoffs. The design alternatives that follow attempt to strike a balance between priorities.

- **Pedestrian conditions.** Pedestrian connectivity, comfort, and safety should be improved.
- **The public realm.** Open space, landscaping, and other urban design elements should be upgraded.
- **Transit performance.** Transit speed and reliability should be maintained.
- **Bicycle conditions.** A safe, comfortable, and attractive bicycle route should be provided within the corridor.
- **Vehicle circulation.** The project should maintain adequate north-south vehicle capacity in the South of Market network as a whole.
- **Parking and loading.** Parking and loading access to businesses should be maintained.
- **Deliverability and cost-effectiveness.** The project should maximize cost-effectiveness and speed delivery of the highest priority improvements.
**Recommended Alternative**

Based on the evaluation above, the three most promising concepts were selected for additional analysis, design, and community input. After detailed review of these options, the SFTMA recommends Alternative 2, which reduces 7th and 8th Streets to three, one-way lanes, invests in pedestrian connectivity and additional pedestrian space and adds a buffered one-way cycletrack to each street, as the concept that appears to provide the greatest benefits across the full range of project objectives.

In section 6.5 of this report, two other alternatives are summarized with the recommended alternative’s key differences highlighted. In addition, the findings of a detailed traffic analysis of the alternatives are provided in Appendix A. These additional options are included for stakeholder review and potential inclusion as alternatives in environmental analysis of the project.

The recommended alternative reduces crossing distances and provides signalized, mid-block crossings on every block to improve pedestrian connectivity and safety. By maintaining one-way circulation, it allows signals to be synchronized to favor a steady progression of vehicles at a moderate speed. A buffered one-way cycletrack on each street would offer a protected space for cyclists moving north and south in the western South of Market area. It would widen sidewalks on the side of the street opposite the cycletrack providing additional space for pedestrians, landscaping, and other amenities. Investment in the public realm on Seventh Street, in particular, will help that street fulfill its role as a “green connector” as identified in the Eastern Neighborhoods area plans. Sidewalk widening would require substantial resources. However, this alternative could be easily phased with the cycletrack, bulbs, and pedestrian refuges installed in the first phase and sidewalk widening implemented in a second phase when funding becomes available.
Northbound vehicles are routed from 7th onto Leavenworth. High volumes in the AM peak. Bicycles continue in shared lane onto McAllister.

Folsom Street is noted for neighborhood commercial, and proposed for two-way conversion and a new two-way cycletrack in the EN TRIPS recommended alternative.

Howard Street is proposed for two-way conversion in the EN TRIPS recommended alternative.

Redesign of Market Street is underway. Its future configuration is unknown.

Freeway ramp touchdowns between Harrison and Bryant create challenging intersections for pedestrians.

South of Townsend, 7th Street is two-way for vehicles and has north and south bound bicycle lanes.

Southbound vehicles merge from Hyde and grove onto 8th street. High volumes in the PM peak.

Numerous pedestrian and bicycle injury collisions occur on 7th and 8th streets between Harrison and Market.

Townsend Street bicycle lanes connect 7th and 8th.

The 9th-Polk continues to Showplace Square and Potrero Hill.

Legend:
- Freeway ramp touchdowns
- Bicycle route (existing lanes)
- Bicycle route (planned lanes)
- 19-Polk (local transit)
- One-way circulation
- Vehicular flow
Figure ES-10 Seventh and Eighth Streets Operations Concept

The concept for 7th and 8th Streets is based on a few key features, including retention of one-way traffic but reduction to three lanes; a protected cycle track buffered from traffic by the parking lane; and extension of sidewalks on one side of the street.

Each street will be reduced from four to three travel lanes, all going one way.

A one-way cycle track will run on 7th and 8th Streets between the parking lane and the sidewalk. The cycle track will be primarily at sidewalk grade and will have a buffer area from both pedestrians and people exiting parked cars.

The 19 Polk will operate northbound on 7th Street and southbound on 8th Street. On 7th Street, transit will operate on the left side of the street, and transit islands will be added.

Areas of potential conflict between cyclists and motorists are colored green.

Cyclists can turn left out of the cycle track from “bike boxes” aligned with the right sides of major cross streets.

At major intersections, the cycle track will ramp down from sidewalk grade to street grade.

Signals will be timed to allow for a continuous 12-15 mile-per-hour progression to encourage vehicle travel speeds that are safer and more comfortable for cyclists and pedestrians.

Pedestrian bulbouts and pedestrian refugee crossing on the street side of the cycle track will reduce the pedestrian roadway crossing length to only three travel lanes at midblock crossings.

Fixed-time signalized midblock crossings of 7th and 8th will allow easier crossing between widely spaced major cross streets and maintain moderate vehicle speeds.

At intersections with alleys, the alley roadway will ramp-up to sidewalk grade.

Where vehicles cross the cycle track at unsignalized alley alleys, eight lanes will be maintained, turn radii will be tight, and pavement will be mated to reduce the potential for vehicle bike conflict.

Parking lanes will be maintained on both sides of the street, except where built-outs or turn lanes are required.

Sidewalks on the non-cycle track side will widen from 12 to 13 feet. Sidewalks on the cycle track side will remain 12 feet, but pedestrian refuge placed on the street side of the cycle track will reduce pedestrian crossing distance.

At major intersections, cyclists in the cycle track can wait at red lights in a protected area that reduces the conflict of cyclists and right-turning motorists and increases visibility of cyclists. Vehicle right turns and cyclist through travel will have separate phases.

December 21, 2011
Figure ES-11 EN TRIPS Priority Projects Combined Circulation Concept

LEGEND

- One-way circulation
- Bicycle route
- 2-way Cycletrack
- 1-way Cycletrack
- New pedestrian connection
- New vehicle route
- Recommended truck routes

Transit

- 16th Street Transitway (Routes 22 & 33)
- Mission Street Transitway (Routes 14, 14L & 49)
- 11 Downtown Connector (Local)
- 19 Polk (Local)
- 27 Folsom (Local)
- Route 9X (Express)

Implement robust transit priority on Mission Street to create a transit spine through the Mission District and the South of Market.

Enhance alternate pedestrian paths of travel on Minna and Natoma Streets by adding signalized mid-block crossings of arterials, traffic-calming, landscaping, and pedestrian-scale lighting on these alleys.

Create one-way cycletracks on 7th and 8th Streets between Market and Harrison. Extend these facilities south to Townsend as funding becomes available.

Between 14th and 15th streets, create a two-way buffered cycletrack on Folsom Street (remove bike lane from Howard in this segment). Connect to the Mission District with a new westbound/southbound bike lane on Folsom between 14th and 15th.

Consolidate local transit service (27 Folsom and 31 Downtown Connector) on Folsom Street.

Create an east-west rapid transit spine on 16th Street between Church and Third, between Bryant and Third Streets, construct median transitway with boarding islands.

NOTE: This diagram illustrates highlights of the ENTRIPS corridor project circulation concepts. Detail is provided in Chapters 4, 5, and 6. Transit and bicycle routes unaffected by these proposals are not shown.
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A VISION FOR TRANSPORTATION IN THE EASTERN NEIGHBORHOODS

The priority projects presented in this plan were selected not only to meet pressing needs on those particular streets but also because their lessons have the potential to be applied more broadly. Along with their associated circulation concepts, the proposals advance a set of strategies for addressing the major transportation challenges that the city will face in the coming decades. Based on wider application of those strategies, this long term vision for transportation in the Eastern Neighborhoods is as follows.

- **Capacity for movement of people and goods.** In order to accommodate growing travel demand, the Eastern Neighborhoods transportation system will be reconfigured to prioritize high-capacity modes. While vehicles will remain an important mode of transportation, peak period vehicular capacity will be reduced somewhat. Major steps toward achieving this vision will include development of true rapid transit corridors for SFMTA’s most important bus routes, development of a network of bicycle facilities to serve people of all ages and abilities, and strategic efforts to managing vehicle system capacity including both parking and roadway capacity.

- **Livability.** Streets in the Eastern Neighborhoods will be upgraded to meet the vision expressed in the Better Streets Plan. Specific strategies will include adding landscaping and amenities, new pedestrian spaces, enhancing pedestrian crossings, and calming traffic on arterials to speeds that are safe and comfortable for pedestrians. This effort will include particular commitment to creating livable streets in the South of Market.

- **Connectivity.** The Eastern Neighborhoods transportation networks are disrupted by multiple barriers. San Francisco will engage in a gradual, opportunistic, but fully coordinated effort to reconnect the grid and restore connectivity for all modes. Major steps will include a restored east-west grid south of Division Street; a better connected South of Market pedestrian grid; upgraded transit connectivity between Showplace Square, Potrero Hill, and downtown; complete grids in Mission Bay and Central Waterfront; and a full integration with the regional transit system.

NEXT STEPS

The SFMTA and its partner agencies will work toward implementing this vision on several tracks. The first, the City will work toward implementing the EN TRIPS priority projects. The EN TRIPS Funding and Implementation plan, to be published under a separate cover, will detail the specific steps necessary to realize the priority projects. It will include:

- A strategy for environmental review.
- Itemized project cost estimates.
- A timeline and phasing plan to ensure that the most pressing needs can be met as quickly and cost-effectively as possible.

In addition, realizing the vision will require ongoing effort through existing planning efforts and programs. As discussed in the recurring transportation challenges section of this report, the work of existing programs of the SFMTA and its partner agencies will continue to work towards meeting the needs expressed in this planning effort.
Figure 1-1 EN TRIPS Study Area

Source: San Francisco Planning Department