MUNI FORWARD

Implementation Workbook

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Last Updated April 22, 2015

SFMTA
Municipal
Transportation
Agency

MUNI FORWARD

Implementation Workbook

Transit Priority Projects | Muni Service Changes

Contents

Contents

Proposals by Route Continued

Contents

Proposals by Route Continued

Contents

Vision

San Francisco: great city, excellent transportation choices.

Mission Statement

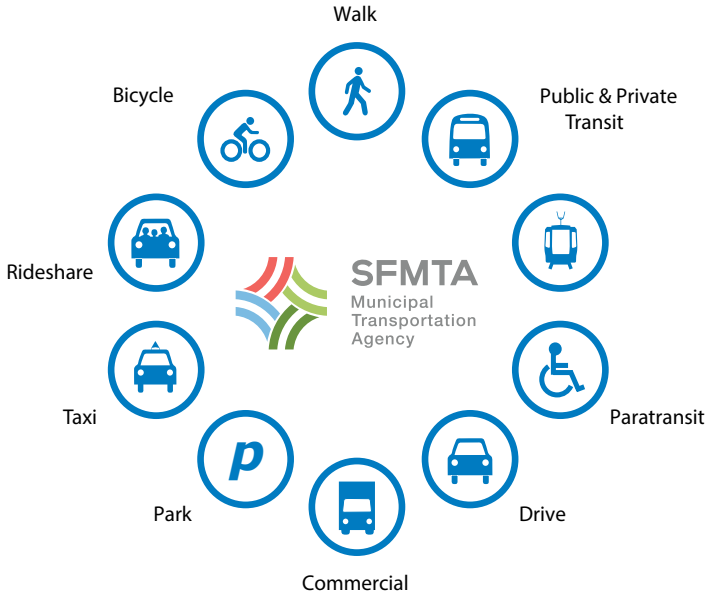
We work together to plan, build, operate, regulate, and maintain the transportation network, with our partners, to connect communities.

Who We Are

The San Francisco Municipal Transportation Agency, a department of the City and County of San Francisco, is responsible for the management of all ground transportation in the city. The SFMTA keeps people connected through the San Francisco Municipal Railway (Muni), the nation's seventh largest public transit system. The agency's additional responsibilities include managing parking and traffic, bicycling, walking and the regulation of taxis. With a staff of more than 4,700, the SFMTA's diverse team of employees is one of the city's largest with representation by 18 labor organizations.

What We Do

The SFMTA plans, designs, builds, operates, regulates and maintains one of the most comprehensive transportation networks in the world. The agency directly manages five types of public transit in San Francisco (motor coach, trolley coach, light rail, historic streetcar and cable car) and promotes other forms of transportation including walking, bicycling, taxi and auto use. In addition to overseeing paratransit service for those unable to use fixed-route transit service, the agency also regulates the taxi industry and oversees on- and off-street public parking spaces.



With more than 3,500 transit stops, Muni keeps people connected, delivering more than 700,000 passenger boardings on an average weekday and offering unmatched accessible transit service to San Francisco's 800,000 residents and a workday population of approximately 1.2 million.

The SFMTA also manages 450,000 on and off-street parking spaces, 19 public parking garages and lots, more than 28,000 meters, nearly 282,000 street signs and 1,200 traffic signals on 946 miles of city streets. The agency is responsible for traffic calming, pedestrian and bicycle safety, traffic enforcement and the painting and striping of roads, including those that define 217 miles of the city's growing bicycle network. As a part of the SFMTA's pedestrian safety initiatives, the agency also manages the School Crossing Guard Program to keep children safe when crossing city streets.

The Transit Effectiveness Project

Introduction

San Francisco is more than just transit rich–it is transportation rich. It is a city where residents and visitors alike are empowered with the freedom to choose how they get around. Recent trends show more and more San Franciscans leaving their private cars behind, and weaving themselves into the public realm through overlapping networks of transit, taxi, bicycle, and pedestrian routes. This shift towards more sustainable transportation helps all San Franciscans–whether they live, work, or play here–by reducing greenhouse gas emissions, improving air quality, reducing congestion and noise pollution, and creating more active, more vibrant, more humane streets. These trends will move the city closer to its future vision of a more efficient, equitable, and environmentally sustainable transportation network, assuming of course that we can overcome near-term challenges that act as barriers to change. After all, it is difficult to imagine life without a personal vehicle and a two-car garage when Muni can be slow and unreliable, taxis are hard to find, and many streets still prioritize fast-moving cars over the movement of people in all modes.

The Transit Effectiveness Project (TEP), a multi-year planning effort has informed this Muni Forward Implementation Plan. The focus of the TEP was Muni: at once, the transit backbone of a transportation-rich system that connects all modes and all people, but also a system that needs updating to keep pace with an evolving San Francisco. The TEP represented the first major evaluation of San Francisco's mass transit system in thirty years, and combined an extensive, data-supported planning process, engaged the community at various levels, and utilized critical lessons learned through the implementation of pilot projects,all resulting in solutions designed to improve the end-to-end customer experience–the walk, the wait, and the ride–for all Muni customers.

Project History

In 2006, the SFMTA and the Controller's Office undertook a detailed evaluation of the existing San Francisco Municipal Railway (Muni) system to identify ways to improve service, attract more passengers, and increase efficiency. During the initial planning phase, from October 2006 to November 2007, the SFMTA collected and analyzed extensive data, which included market research on customer preferences and priorities for Muni service, changing travel patterns within the City and through the region, and route-by-route Muni ridership data. Based on this detailed research, best practices from other cities, and input from stakeholders, the SFMTA developed a set of preliminary recommendations to update the transit network and reflect changing travel patterns. In 2008, the SFMTA conducted public outreach on its preliminary recommendations to refine and develop draft TEP recommendations for the SFMTA Board of Directors (SFMTA Board). The SFMTA Board endorsed the draft recommendations for environmental review in October 2008.

In April 2009, the SFMTA Board declared a fiscal emergency. The 2008 draft TEP recommendation helped SFMTA make strategic, targeted cuts that would allow Muni to reduce its operating costs while still protecting the vast majority of its ridership. The SFMTA Board approved an amended 2009-2010 Operating Budget and related actions, which included some route eliminations and transit service changes to route alignment, vehicle type, frequency, and hours of service; some frequency increase and route additions were also added at that time. These emergency changes helped SFMTA successfully weather the fiscal emergency. Service has largely been restored to pre-2009 levels, although some route changes have been retained, especially those that help Muni operate leaner and more efficiently.

In fall of 2011, the SFMTA initiated the environmental review (California Environmental Quality Act, or CEQA) process for the TEP, with the filing of a Notice of Preparation (NOA) on November 9, 2011. The TEP proposals initially developed in 2008 during the planning phase of the TEP were re-evaluated and refined in order to capture more recent land use and ridership trends, as well as integrate service changes that were implemented in 2009 and 2010. The first version of this implementation plan was also developed, which builds upon past planning documents and strategies to present current priorities, funding needs, and schedule for improvements. The implementation plan will be continually updated to reflect the most current needs and improvements.

The SFMTA published an initial environmental study in January 2013 and the Draft Environmental Impact Report (DEIR) in July 2013, and a Response to Comments (RTC) in March 2014. All potential near-term and long-term environmental impacts were analyzed and disclosed in these documents. On March 28, 2014, the SFMTA Board certified the Final TEP EIR. This decision by the SFMTA is the nexus to begin the implementation of the TEP proposals using the Muni Forward program (Muni Forward details described on upcoming pages) which combines TEP projects, TEP service recommendation, and other Muni projects that are currently or will improve Muni service reliability in the coming years.

More information on these processes can be found at http://www.sfmta.com/tep.

SFMTA's 2013 to 2018 Strategic Plan guided the development of the TEP proposals and continues to shape the implementation of Muni Forward projects. The six-year SFMTA Strategic Plan is a work-plan to meet the mid- and long-term goals of the Agency and is the basis for the two-year capital and operating budgets to meet the strategic goals and objectives. The plan is divided into the four overarching goals that shape how the Agency focuses its attention, resources, and staff.

1. Create a safer transportation experience for everyone.
2. Make transit, walking, bicycling, taxi, ridesharing, and carsharing the preferred means of travel.
3. Improve the environment and quality of life in San Francisco.
4. Create a workplace that delivers outstanding service.

Associated with each goal is a variety of objectives that enable actionable and measurable progress toward achieving the respective goal. The specific SFMTA Strategic Plan objectives that guide this implementation workbook include the following:

Goal 2 - Objective 2.2: Improve transit performance.

Goal 2 - Objective 2.3: Increase use of all non-private auto modes.

To improve transit speed, reliability and safety—thereby increasing the system's cost effectiveness, productivity, and attractiveness for customers— Muni Forward recommends redesigning routes; reducing travel time along high ridership corridors by optimizing transit stop locations, implementing traffic engineering changes, and constructing capital infrastructure projects to reduce stop delays; and improving safety at intersections by introducing changes (i.e. pedestrian bulbs, transit bulbs etc.) that lead to safer transit operations.

Goal 3 - Objective 3.1: Reduce the Agency's and the transportation system's resource consumption, emissions, waste, and noise.

Goal 3 - Objective 3.3: Allocate capital resources effectively.

Goal 3 - Objective 3.4: Deliver services efficiently.

Muni Forward projects will implement service modifications that include route restructuring, frequency improvements, vehicle type changes, and reducing hours of service and frequencies on low ridership routes while increasing frequencies on crowded routes, to improve the cost effectiveness of transit operations by improving network efficiency and to reduce system redundancy.

Muni Forward

Overview

Muni Forward (muniforward.com) aims to make getting around San Francisco safer and more reliable. Informed by the Transit Effectiveness Project, the SFMTA Strategic Plan Goals 2 & 3, and extensive community input, Muni Forward's upcoming route changes, service improvements, and transit priority projects will help reallocate limited resources where they are needed most to provide excellent transit service.

The **Implementation of a Rapid & Transit Priority Network** of core routes serving nearly 70% of all riders will provide a more reliable trip. Updating our transit fleet and making important safety and accessibility projects across the city, combined with the WalkFirst projects, will help us to better accommodate the needs of families, seniors, and the disabled, and **enhance comfort and safety** for all our customers. Using technology more effectively by improving the integration of our transit system with traffic signals and bringing more real-time information to our customers will **make our transit system smarter**, and more reliable. To clarify the intended purpose of each Muni Forward project, they are grouped into the following 4 categories.

- **Creating a Rapid Network** - We're planning a Rapid Network that will make it more efficient to travel on our most heavily used routes.
- **Improving Reliability** - We're working to modernize the Muni network to make it more reliable.
- **Enhancing Safety and Access** - We're working to improve the experience of riding Muni by making it easier, safer, and more pleasant to take our service.
- **Making the System Smarter** - We're improving our use of technology and infrastructure to make Muni smarter and more reliable.

By harnessing the combined benefits of Muni Forward projects, many of which are already underway, we are working to give back to our customers what they value most: their time.

This Implementation Workbook describes the plans to both Create a Rapid Network and Improve Reliability. These two objectives will be achieved with the combined implementation of the two primary implementation programs described on the following page.

The focus of this Implementation Book is two primary sets of changes to the transit network: (1) service and route restructuring, and (2) Transit Priority Projects. These changes necessitate new service categorizes that more clearly articulates Muni's different roles in the communities it serves, and how different routes can be designed to serve different needs.

Service Categories
SFMTA proposes a new framework that reorganizes Muni service into transit categories:

Metro/Rapid (10 mins or less & skip stop service): These heavily used bus and rail lines form the backbone of the Muni system. With vehicles arriving frequently and transit priority enhancements along the routes, the Rapid network delivers speed and reliability whether customers are heading across town, or simply traveling a few blocks.

Frequent Local (10 mins or less service): These routes combined with Muni Metro and Rapid Bus create the Rapid network. They provide high-quality, frequent service but with more stops along the route.

Grid (12 - 30 mins service): These citywide routes combine with the Rapid network to form an expansive core system that lets customers get to their destinations with no more than a short walk, or a seamless transfer. Depending on demand, they typically operate less frequently than the Rapid Network routes.

Connector (Over 30 min service): These bus routes predominantly circulate through San Francisco's hillside residential neighborhoods, filling in gaps in coverage and connecting customers to major transit hubs.

Historic: Historic Street Cars and Cable Cars.

Specialized: These routes augment existing service during specific times of day to serve a specific need, or serve travel demand related to special events. They include AM and PM commute service, owl service, weekend-only service, and special event trips to serve sporting events, large festivals and other San Francisco activities.

1 - Muni Service Changes
The service changes being implemented will reduce crowding, improve system-wide neighborhood connectivity and access to regional transit, and redirect finite public resources to where they are needed most. Combined, the changes represent a 12 percent increase in Muni service. The proposals, initially drafted by SFMTA, were presented to members of the community, and refined through an iterative process of public comment, additional data collection, and technical analysis. Specifically, these proposals include:

- Increasing frequency of transit service along heavily used corridors
- Creating new routes
- Changing existing route alignments
- Eliminating underutilized routes or route segments
- Introducing larger buses on crowded routes
- Changing the mix of local/limited/express service
- Expanding limited services

While many of these proposals can be delivered without capital changes, some of the service changes require capital investments, such as overhead wire and terminal expansions.

Muni Metro & Rapid	J Church, KT Ingleside/Third Street, L Taraval, M Ocean View, N Judah, 5R Fulton Rapid, 7R Haight/Noriega Rapid, 9R San Bruno Rapid, 14R Mission Rapid, 28R 19th Avenue Rapid, 38R Geary Rapid
Frequent Local	1 California, 7 Haight/Noriega, 8 Bayshore, 9 San Bruno, 14 Mission, 22 Fillmore, 28 19th Avenue, 30 Stockton, 38 Geary, 47 Van Ness, 49 Van Ness/Mission
Grid	2 Clement, 3 Jackson, 5 Fulton, 6 Haight/Parnassus, 9 San Bruno, 10 Townsend, 12 Folsom/Pacific, 18 46th Avenue, 19 Polk, 21 Hayes, 23 Monterey, 24 Divisadero, 27 Bryant, 29 Sunset, 31 Balboa, 33 Ashbury/18th, 43 Masonic, 44 O'Shaughnessy, 45 Union/Stockton, 48 Quintara/24th Street, 54 Felton, 55 Mission Bay Shuttle
Connector	11 Downtown Connector, 25 Treasure Island, 35 Eureka, 36 Teresita, 37 Corbett, 39 Coit, 52 Excelsior, 56 Rutland, 57 Park Merced, 66 Quintara, 67 Bernal Heights
Historic	California Cable Car, Powell/Hyde Cable Car, Powell/Mason Cable Car, F Market & Wharves
Specialized	NX Judah Express, 1AX California A Express, 1BX California B Express, 7X Noriega Express, 8AX Bayshore A Express, 8BX Bayshore B Express, 14X Mission Express, 30X Marina Express, 31AX Balboa A Express, 31BX Balboa B Express, 38AX Geary A Express, 38BX Geary B Express, 41 Union, 76X Marin Headlands Express, 81X Caltrain Express, 82X Levi Plaza Express, 83X Mid-Market Express, 88 BART Shuttle

2 - Transit Priority Projects

Muni Forward includes engineering improvements—also known as Transit Priority Projects (TPPs)—designed to address transit delay, improve reliability, and increase the safety and comfort of customers along the most heavily used Rapid routes. The TPPs include a variety of standard roadway and traffic engineering features that specifically address the root causes of delay and passenger frustration, including traffic congestion, transit stops that are spaced too close together, narrow travel lanes, and slow boarding times. These elements are referred to as the Transit Priority Features (TPF) and include lane modifications, traffic signal and stop sign changes, transit stop changes, parking and turn restrictions, pedestrian improvements, and many others.

Detailed proposals have been developed for eleven corridors and conceptual proposals were developed for an additional six. As the TPPs affect the allocation of scarce roadway space among different users by utilizing space for elements that prioritize transit, more than one alternative was typically proposed at locations with limited roadway space, each balancing different trade-offs. The precise components of each Muni Forward Transit Priority Project to be implemented will be decided by the SFMTA Board of Directors, who will consider the details of the project proposals as well as the results of the environmental impact analysis, following public outreach to be held for each individual Muni Route (outreach on some lines is already underway).

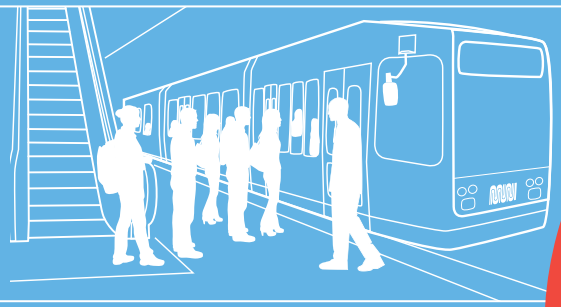
Muni Forward Transit Priority Projects

Muni Forward Transit Priority Projects will be implemented based on funding and resources available. As of December 2014, more than ten projects (40 miles of investment) are in the preliminary planning and engineering stages, and have funding strategies identified for construction. To minimize customer disruption and optimize financing, projects will be implemented in segments. More detail can be found on the individual route pages in the “Proposals by Route” chapter below.

The City and County of San Francisco’s 2014 Capital Plan and the San Francisco 2030 Transportation Task Force (T2030) have both recommended General Obligation Bond (GO Bond) funding for design and construction of many Muni Forward projects. On November 4, 2014, San Francisco voters approved Proposition A which includes $150 million in funding proposed to design and build Muni Froward projects. Future funding is expected from other sources for a combined total funding of $230 million. Vision Zero improvements, including bicycle and pedestrian capital improvements will be built in coordination with Muni Forward Transit Priority Projects to improve safe and easy access to transit.

Muni Forward aims to make getting around San Francisco **safer** and **more reliable.**

THE CHALLENGE



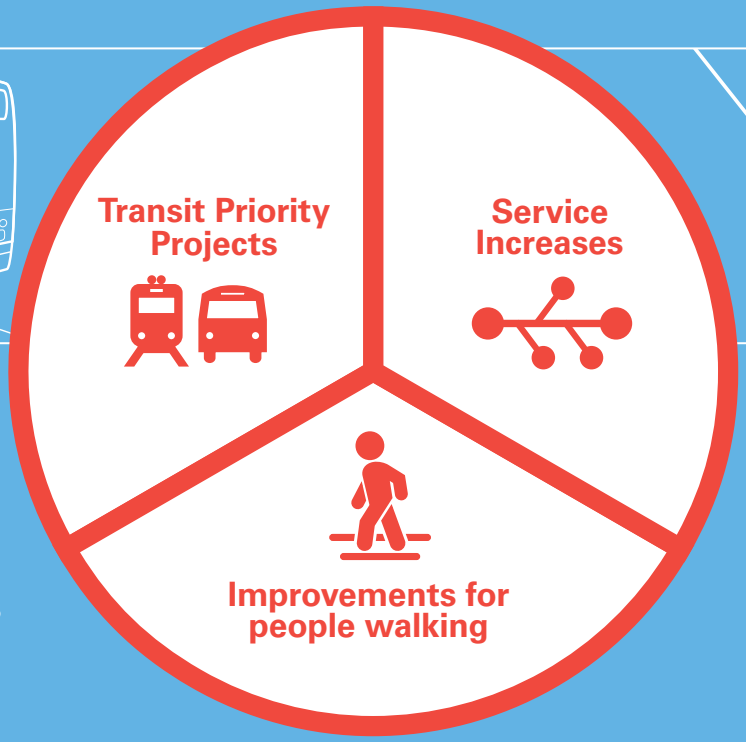
Unreliable service

Crowded vehicles

Frustrating **delays**

Too many **traffic collisions**

THE SOLUTION



THE RESULTS

Predictable arrivals

Fewer delays

Less crowded trips

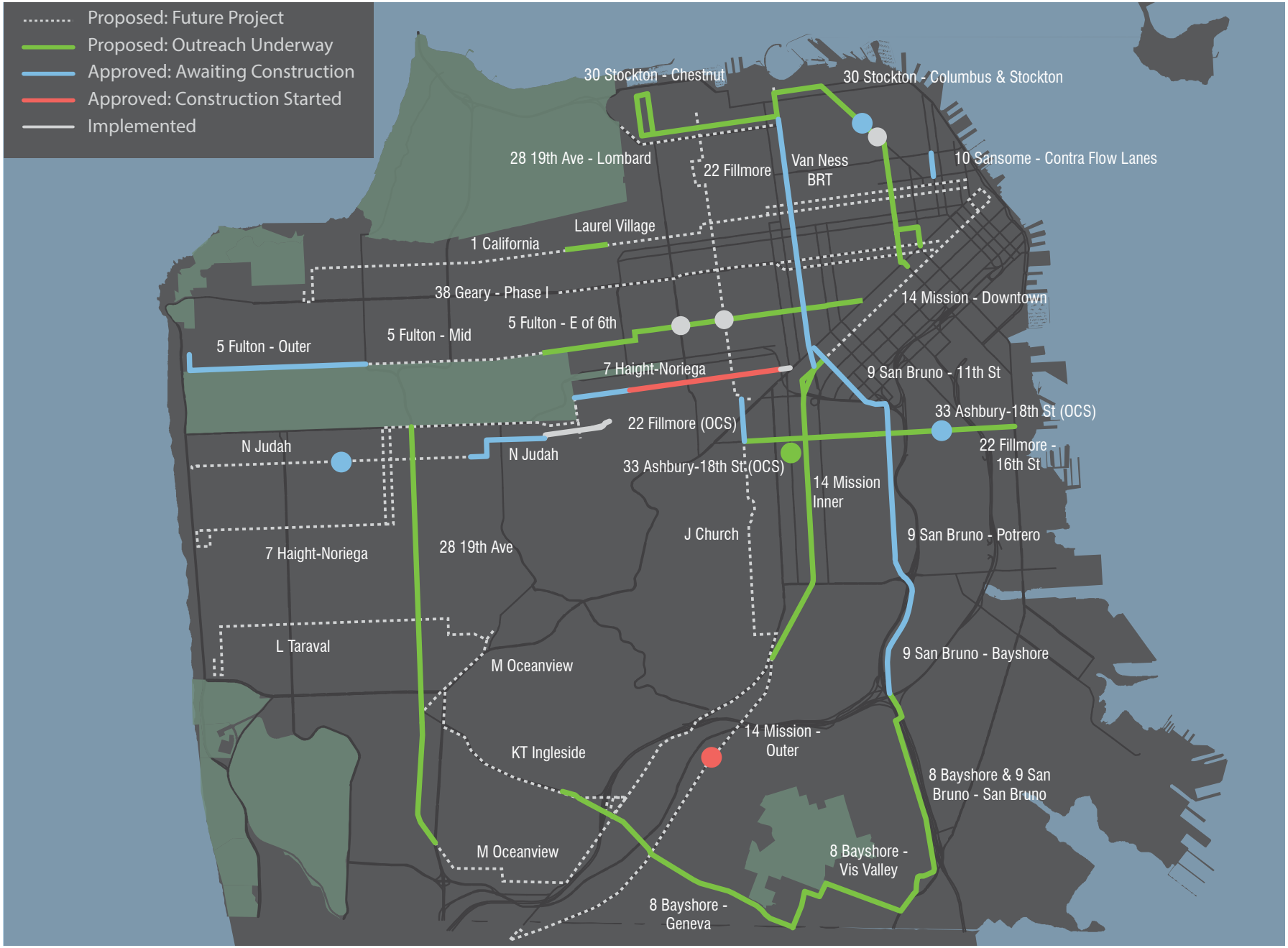
Shorter travel times

Safer streets

Muni Forward Transit Priority Projects

Muni Route	Route Segment	Project Status
N Judah	Arguello to 9th Ave	Approved: Waiting Construction
	28th Ave & Judah	Approved: Waiting Construction
	9th Ave to Beach (Outer)	Proposed: Future
5 Fulton	McAllister St at Fillmore & Divisadero	Implemented
	E of 6th (Inner)	Proposed: Outreach Underway
	6th Ave to 25th Ave (Mid Route)	Proposed: Future
	25th Ave to 46th Ave (Outer)	Approved: Construction Started
8 Bayshore	Geneva & Vis Valley	Proposed: Outreach Underway
	San Bruno Ave (Silver to Bayshore)	Proposed: Outreach Underway
	Kearny Street	Proposed: Outreach Underway
9 San Bruno	11th St & Bayshore	Approved: Waiting Construction
	Potrero Ave	Approved: Construction Started
10 Townsend	Sansome St	Approved: Waiting Construction
14 Mission	Mission & Silver (Bulbs)	Approved: Construction Started
	30th St Bulbs	Proposed: Outreach Underway
	11th St to Randall (Inner)	Proposed: Outreach Underway
	Mission & S Van Ness	Proposed: Outreach Underway
	Randall to Terminal (Outer)	Proposed: Outreach Underway
	Spear to 11th St (Downtown)	Proposed: Future
22 Fillmore	16th Street	Proposed: Outreach Underway
	Fillmore St	Proposed: Future
28 19th Avenue	S of GG Park	Proposed: Outreach Underway
	Lombard St	Proposed: Outreach Underway
30 Stockton	Stockton & Columbus (Bulbs)	Approved: Construction Started
	E of Van Ness	Proposed: Outreach Underway
	Stockton St	Proposed: Outreach Underway
	Chestnut (W of Van Ness)	Proposed: Outreach Underway
	OCS Terminal Upgrades	Proposed: Outreach Underway
7 Haight-Noriega	Stanyan to Laguna	Approved: Waiting Construction
	W of Stanyan	Proposed: Future
J Church	Surface Route	Proposed: Future
L Taraval	Surface Route	Proposed: Outreach Underway
K-T Ingleside	Surface Route	Proposed: Future
M Ocean View	West Portal to 19th Ave	Proposed: Outreach Underway
	Surface Route	Proposed: Future
1 California	Downtown & Outer	Proposed: Future
	Laurel Village	Proposed: Outreach Underway

Map: Muni Forward Transit Priority Projects



Implementation Program Features

Feature Summary

Improvements to Muni Routes described in this Implementation Workbook consists of various features designed to improve Muni Reliability and Create a Rapid network. The following typology lists the various implementation features included for each Muni Route:

1 - Muni Service Changes

- NR — New Route
- RE — Route Elimination
- RA — Route Alignment
- HC — Headway Change
- VC — Vehicle Type Change
- EH — Expanded Hours

2 - Transit Priority Features

MUNI STOP LOCATIONS

BUS STOPS

- Relocate Stops
- Adjust Stop Spacing

PEDESTRIAN ENVIRONMENT

PEDES-TRIAN

- New Transit Bulb
- New Ped Bulb/Island
- Boarding Island
- Widen Sidewalk
- Extend Bulb
- New Crosswalk
- Extend Boarding Island

CURB SPACE

CURB SPACE

- New Loading Zone
- New Tow-Away Zone
- New Bus Zone
- Remove Loading Zone
- Extend Loading Hours
- Extend Tow-Away Hours
- Extend Bus Zone
- New No Parking Anytime

SIGNALS AND RULES OF THE ROAD

SIG-NALS

- New Traffic Signal
- Bus Only Signal
- Turn Restrictions
- Extend Transit Hour Lanes
- Remove Stop Sign

ROADWAYS

ROAD-WAYS

- New Transit Lane
- Traffic Calming
- Reconfigure Lanes
- New Bike Lanes
- New Turn Pocket

Muni Service Changes

The service changes for route restructuring, frequency improvements, and vehicle type changes, which will direct resources where they are needed most, reduce crowding, and improve connections to regional transit. As part of Muni Forward implementation, service changes include:

- Increase overall transit service by 12%
- Redesign routes to streamline travel and improve efficiency
- Enhance neighborhood connections
- Increase frequency on popular routes
- Reduce crowding
- Modify or discontinue low-ridership routes/segments
- Expand limited-stop service

These changes will better serve Muni customers, reflect changing travel patterns within San Francisco, provide improved connection to regional transit, streamline routes for improved reliability and reduced delay, and maximize the benefits from public resources.

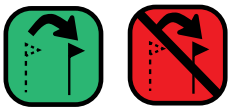
Transit Priority Features

Research conducted by the SFMTA during the initial planning phase of the TEP identified the following as major causes of transit delay: intersection congestion, traffic congestion on roadways, narrow mixed-flow lanes, and closely spaced transit stops. Other sources of transit delay identified in the research were associated with dwell time, traffic signals, and transit zone operational delays (i.e., the time for transit vehicles to pull into a stop or merge back into traffic after a stop).

The SFMTA has identified a set of standard traffic engineering features that address these issues and can reduce transit travel time when applied to streets along a transit corridor. These elements include adding transit bulbs/boarding islands; transit stop changes including moving, adding, or eliminating stops; the addition of turn lanes, turn restrictions, and transit-only lanes; pedestrian improvements such as curb extensions and other crosswalk treatments; and the removal of stop signs and installation of traffic signals or other traffic calming measures at intersections. Collectively, these features are called the Transit Priority Features (TPF).

Muni Stop Locations

- **Relocate Stops**
- **Adjust Stop Spacing**



Signals and Rules of the Road

- **New Traffic Signal**
- **Bus Only Signal**

- **Turn Restrictions**

- **Extend Transit Hour Lanes**

- **Remove Stop Sign**

Roadways

Transit Priority Features

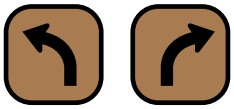
- New Transit Lane

- Traffic Calming

- Reconfigure Lanes

- New Bike Lanes

- New Turn Pocket



Curb Space

- New Loading Zone

- New Tow-Away Zone

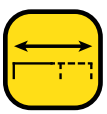
- New Bus Zone

- Remove Loading Zone

- Extend Loading Hours

- Extend Tow-Away Hours

- Extend Bus Zone



- New No Parking Anytime

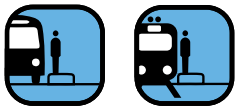
Transit Priority Features

Pedestrian

- **New Transit Bulb**

- **New Ped Bulb/Island**

- **Boarding Island**

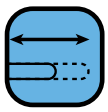


- **Widen Sidewalk**

- **Extend Bulb**

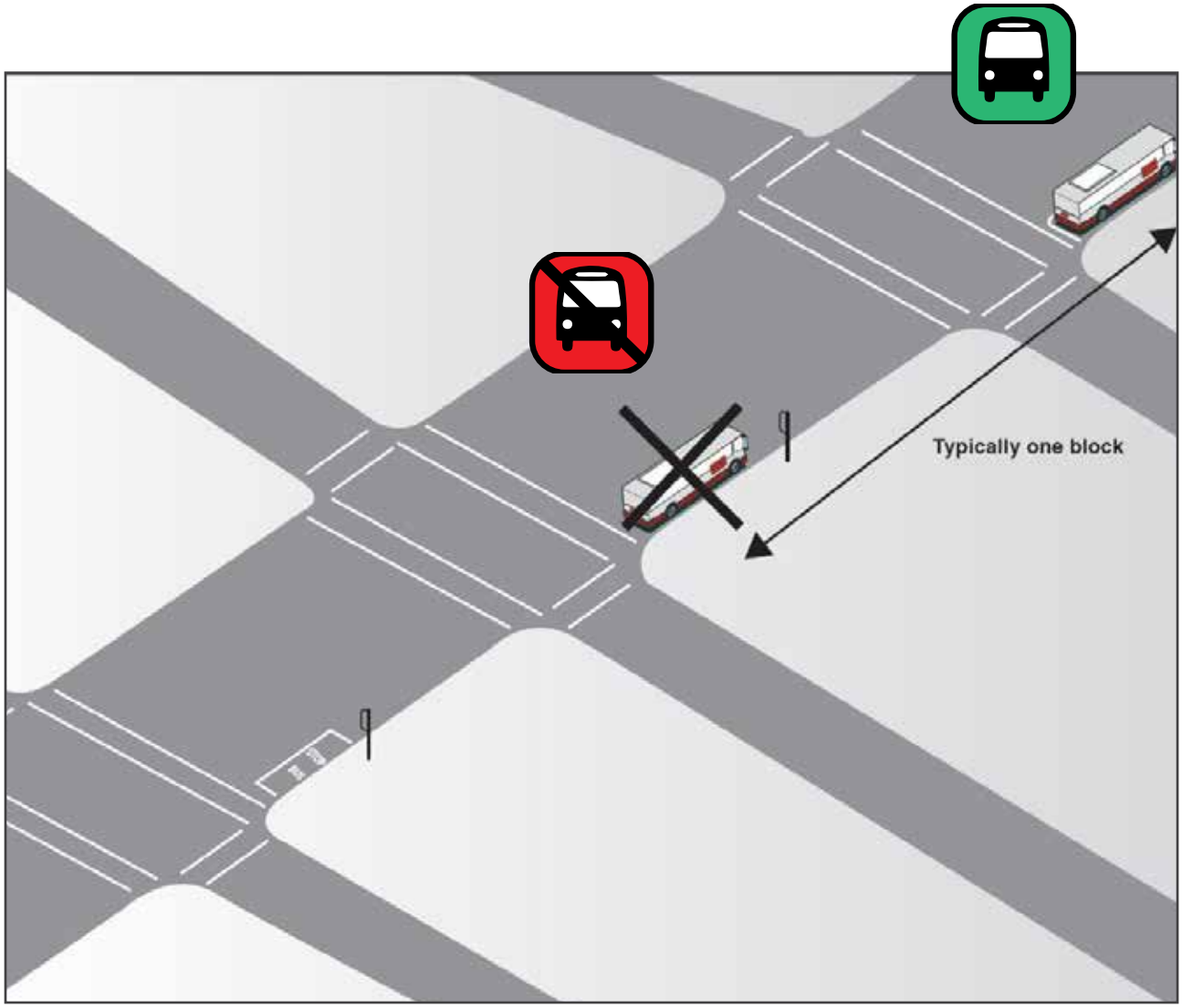
- **New Crosswalk**

- **Extend Boarding Island**



The Pedestrian improvements listed above are changes to the street included in Muni Forward projects that support SFMTA's goal of achieving Vision Zero. Vision Zero is San Francisco's policy commitment to eliminate all traffic-related fatalities by 2024. The frequency of traffic fatalities in the City of San Francisco constitutes a public health crisis. More information and additional projects is available at: http://www.sfmta.com/projects-planning/projects/vision-zero/

Features: Muni Stop Locations

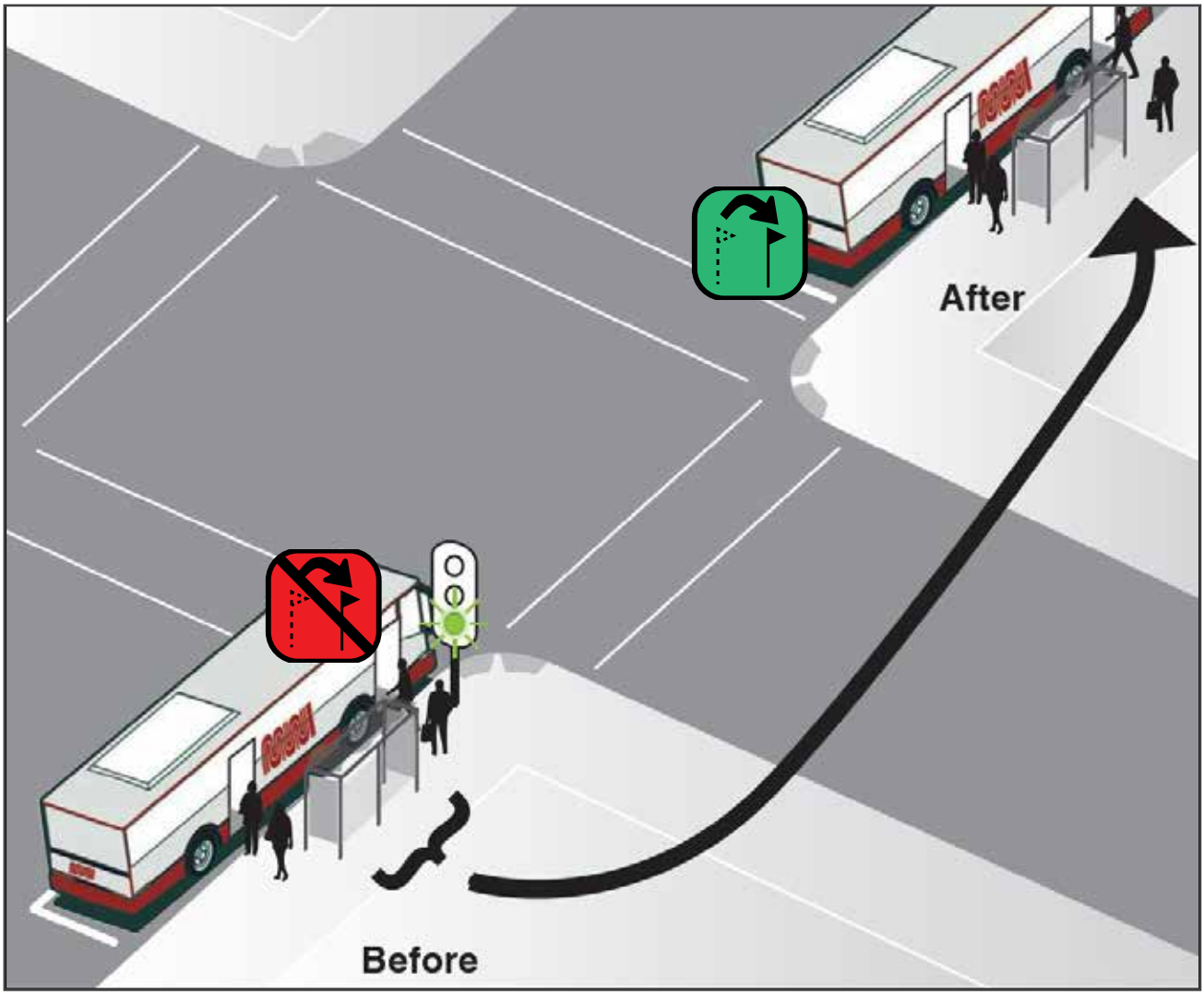


Adjust Stop Spacing

New Stop
Adding a stop in this location would space stops more evenly along the route. Even spacing provides a balance between time spent walking to or from a stop and time spent riding the bus for the average person.

Remove Stop

Fewer stops along the route means Muni can travel the same distance in less time. Stops are removed in places where another stop is nearby.



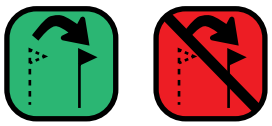
Relocate Stops

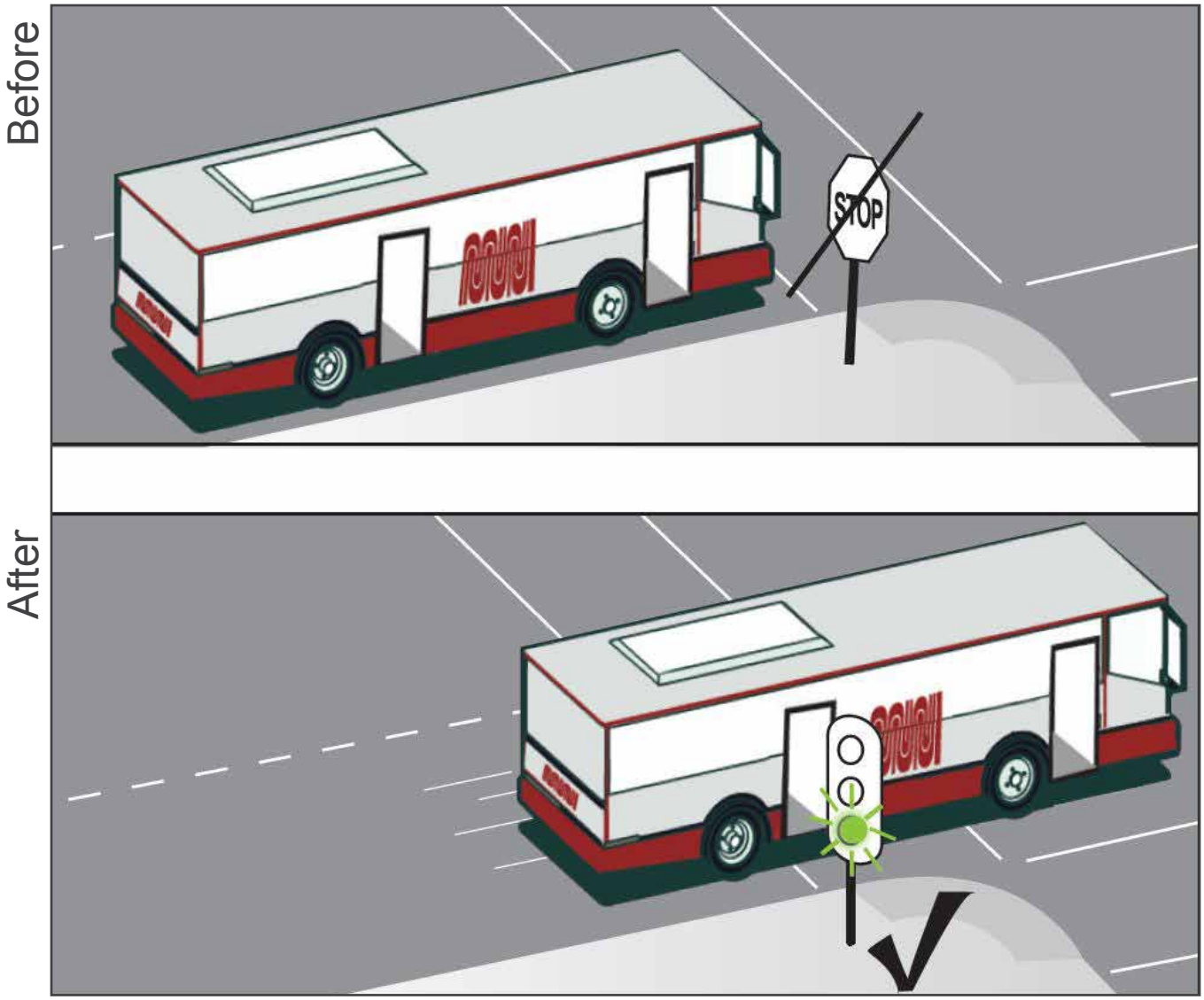
At intersections with stop signs:

Places the stop next to the stop sign at this intersection. Stopping at the stop sign while picking up passengers saves time.

At intersections with traffic lights:

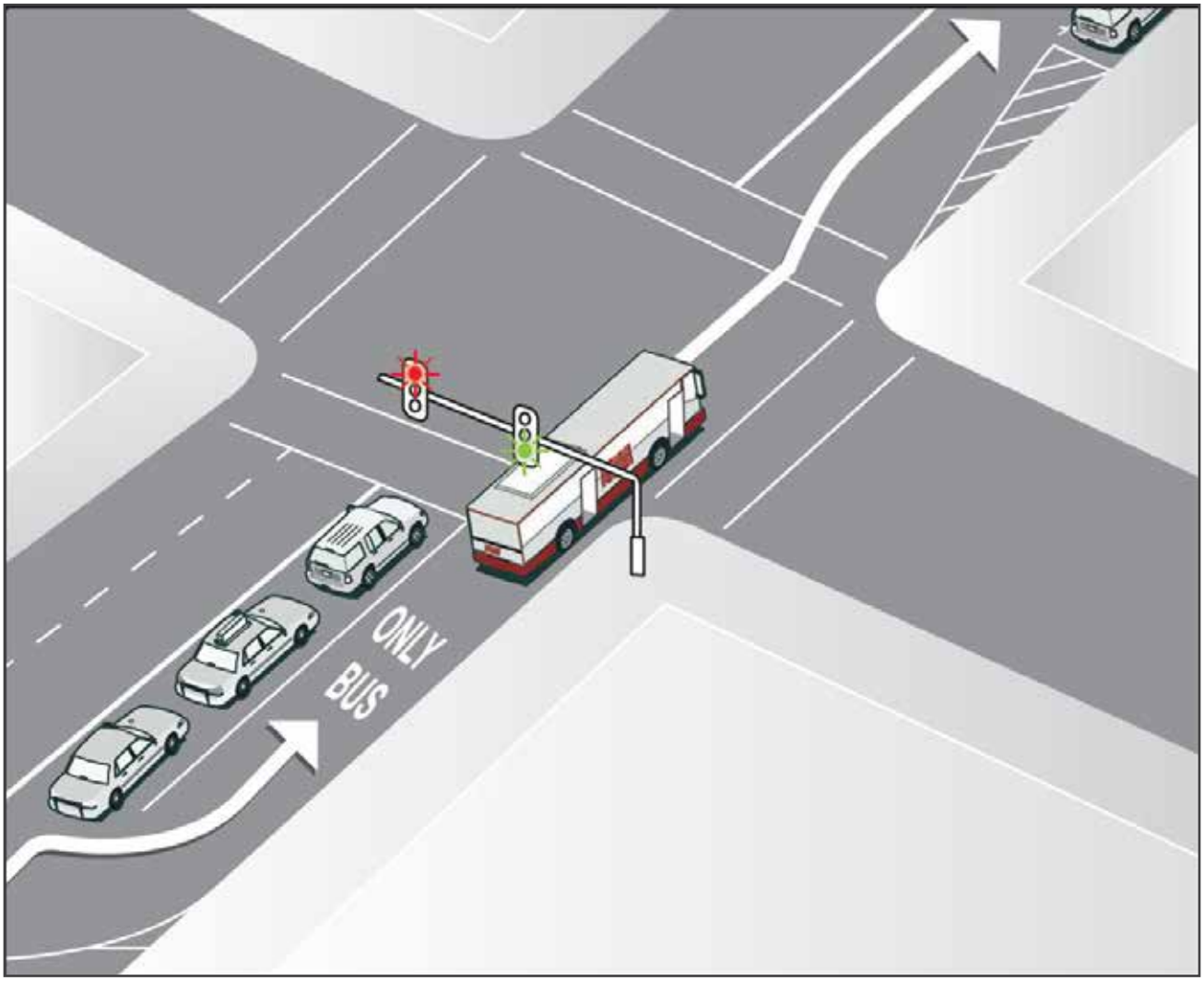
Places the stop on the other side of the traffic light, so that Muni can get through the intersection prior to loading and unloading passengers. This saves time and makes Muni more reliable.





New Traffic Signal

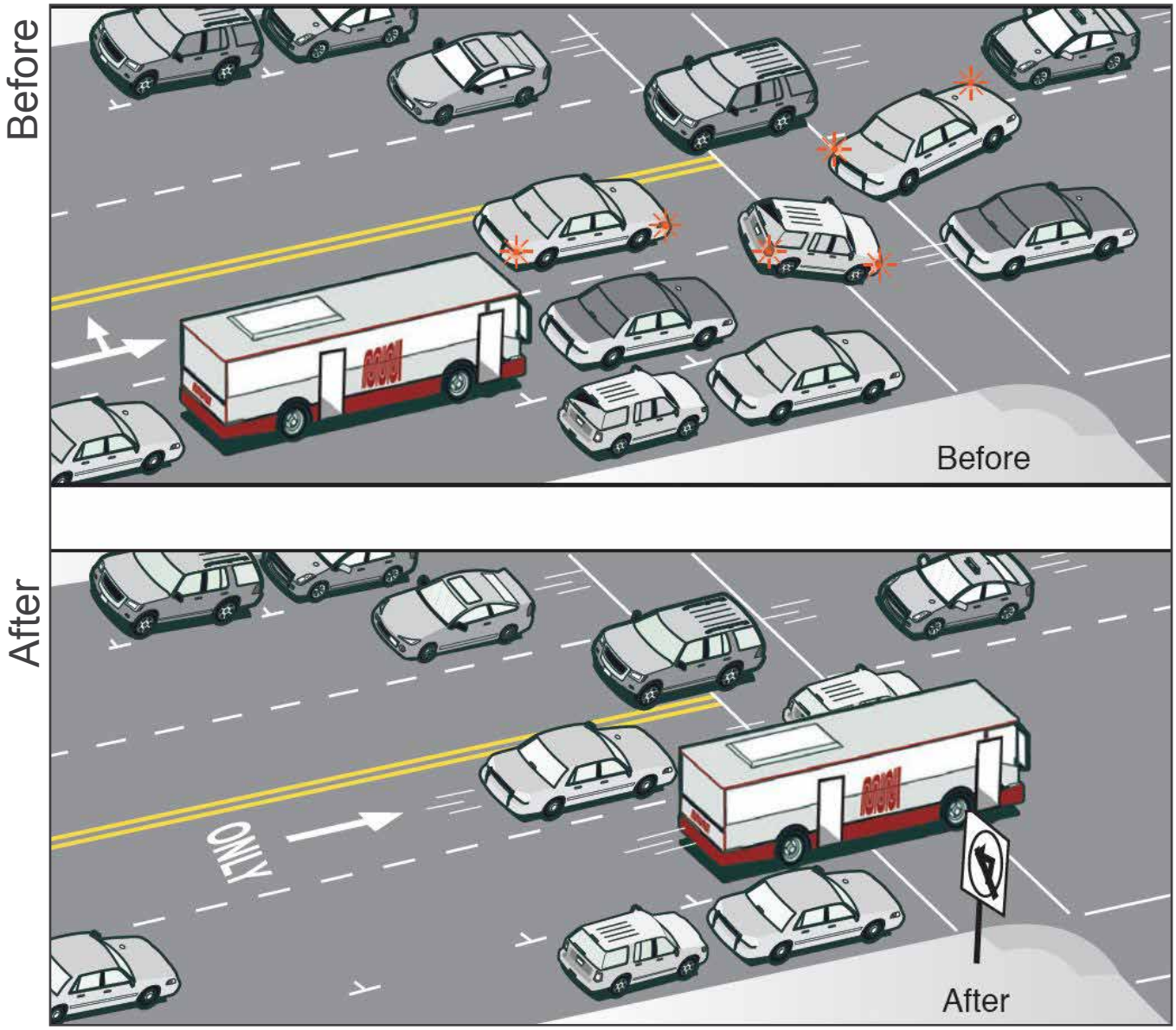
Reduces the amount of stops the bus makes along its route and makes it possible to introduce transit signal priority (TSP) at intersections.



Bus Only Signal

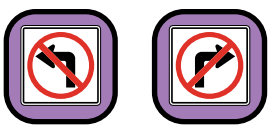
A bus-only signal gives Muni a green light before the rest of traffic, allowing Muni to bypass a long line of cars waiting at the light instead of waiting for room to merge into traffic. This would save time and improve reliability.

Features: Signals and Rules of the Road



Turn Restrictions

Cars waiting to turn block the intersection for through traffic, including Muni. Prohibiting turns at the intersection would reduce delays to Muni.



Extend Transit Lane Hours

Congestion extends beyond the peak period, requiring extended hours to maintain reliable buses throughout the day. Also, a 24-hour lane is less confusing to drivers than a lane which is restricted only at certain times.

Remove Stop Sign

Removing a stop sign at intersections saves time by eliminating an extra stop from the route. Other traffic calming and safety measures would be added to slow down speeding cars without affecting Muni.

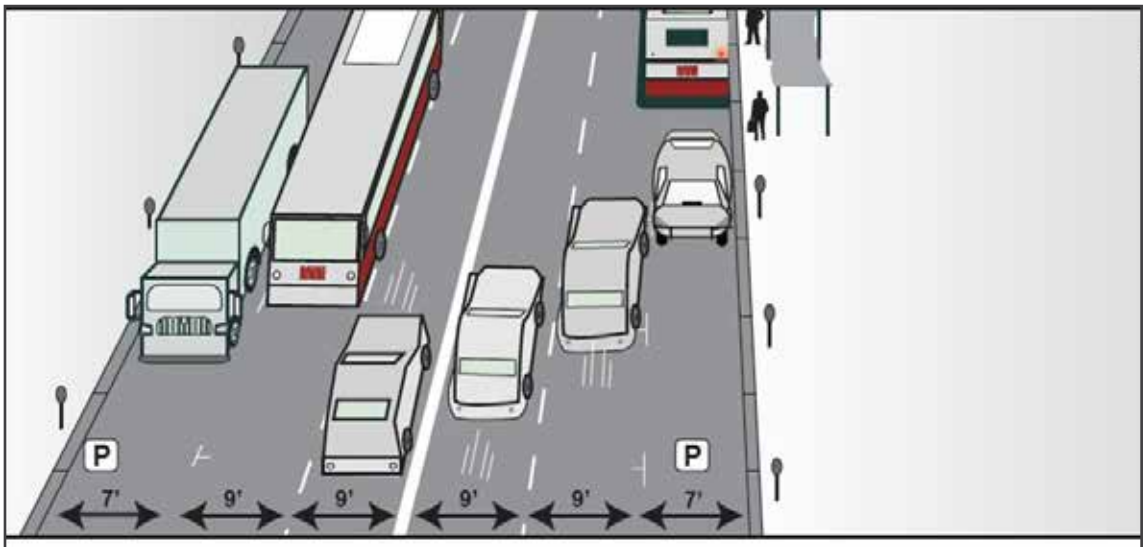
New Transit Lane

A transit only lane gives Muni vehicles their own lane separate from regular traffic. This helps Muni bypass traffic jams, which saves time and improves reliability.

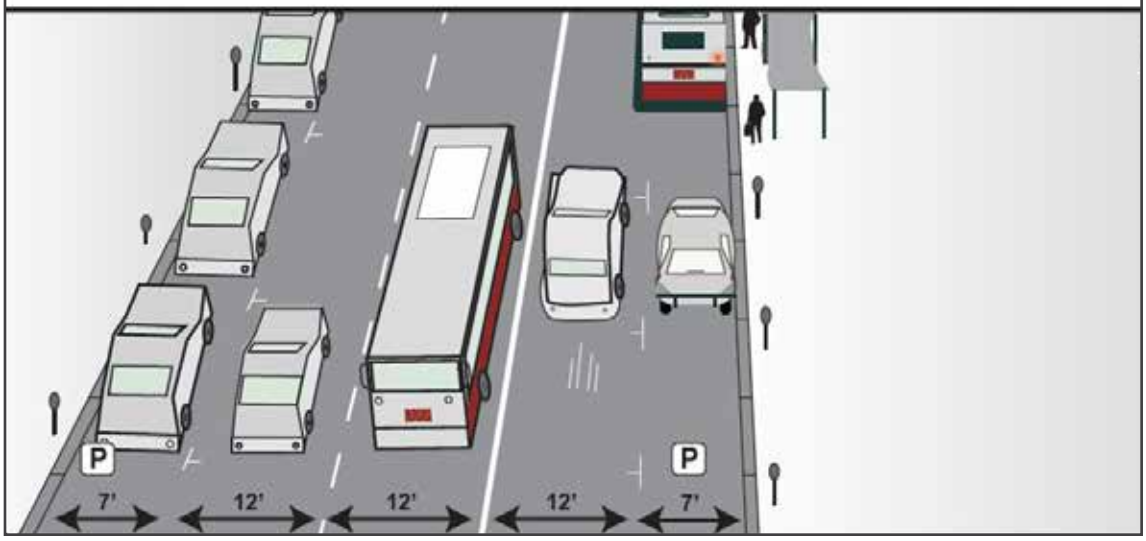
Traffic Calming

Traffic calming improves pedestrian and traffic safety, promotes non-motorized activity along the street, which can encourage transit use. Traffic calming measures used instead of stop signs reduce Muni travel times while slowing down the speed of vehicle traffic.

Before



After



Reconfigure Lanes

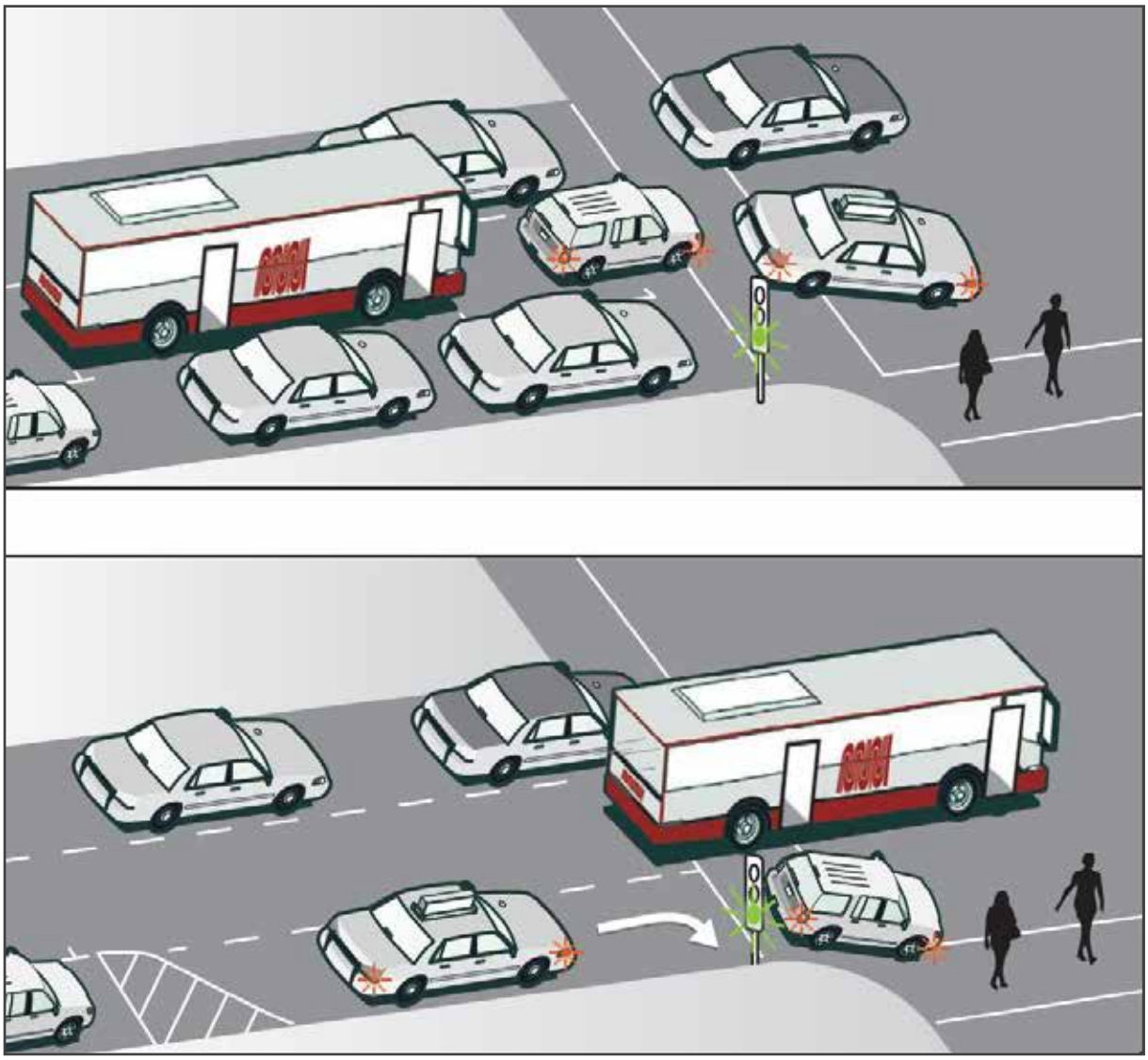
Widens the travel lanes, reducing the number of times Muni is blocked by a vehicle in an adjacent travel or parking lane. This would reduce delays and make Muni more reliable.

New Bike Lanes

Adding a bike lane makes a street safer for cyclists, and can also reduce delay for Muni. A separate bike lane provides space for these vehicles to pass each other safely and with less friction.

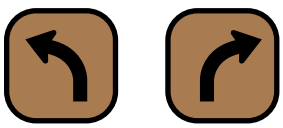
Before

After



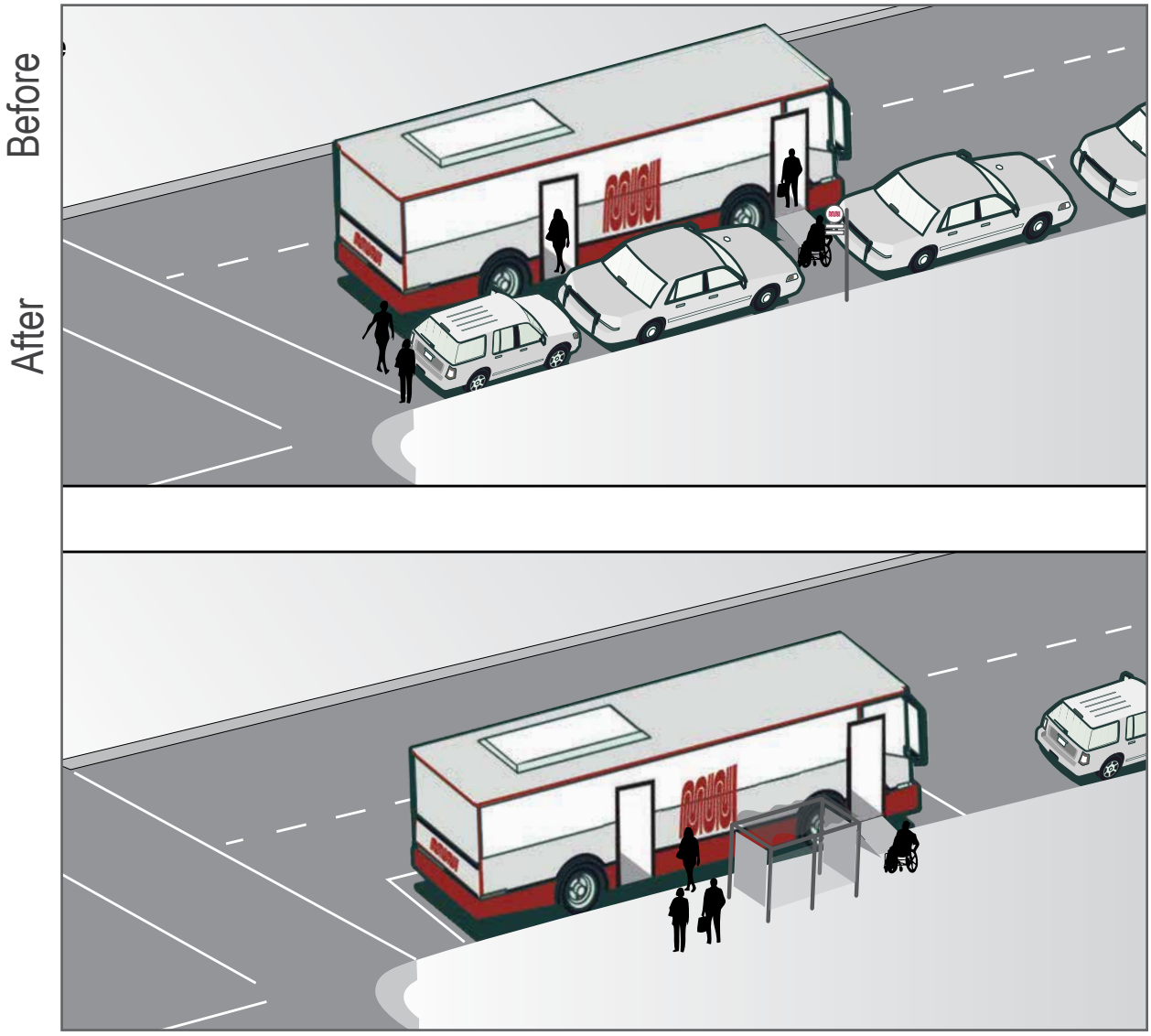
New Turn Pocket

Allows turning autos to clear the through travel lane, reducing the delay buses experience due to heavy traffic.



New Tow-Away Zone

Tow Away Zones create an additional lane for traffic in peak periods, which reduces traffic jams while allowing parking when the extra lane isn't needed. Relieving traffic congestion would reduce delays and make Muni more reliable.



New Bus Zone

New bus zones allow customers to board by the sidewalk, instead of boarding on the street. This makes boarding faster and saves time at each stop as customers don't have to walk through parked cars.

New Loading Zone

A loading zone provides space for commercial vehicles to pull over, preventing them from double parking when making deliveries and blocking Muni. This would reduce delays and make Muni more reliable.

Remove Loading Zone

Traffic on this street is often jammed, slowing down Muni. Removing this loading zone would create an additional lane of traffic and help relieve this congestion, reducing delays and making Muni more reliable.

Extend Loading Hours

In this area, extended hours would allow more deliveries using the same space, preventing them from double parking when making deliveries and blocking Muni. This would reduce delays and make Muni more reliable.

Extend Tow-Away Hours

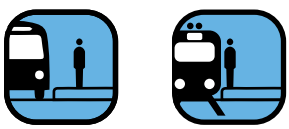
Traffic on this street is often jammed, slowing down Muni. Extending the hours that the tow away zone is active would help relieve this congestion, reducing delays and making Muni more reliable.

New No Parking Anytime Zone

This can be used if traffic on this street is often jammed, slowing down Muni. Removing parking would create an additional lane of traffic and help relieve this congestion, reducing delays and making Muni more reliable.

New Transit Bulb

Buses are delayed merging back into traffic after serving a bus stop. Bulbs reduce this delay, and provide transit riders with a safe place to wait. Additionally, transit bulbs makes boarding safer and faster.

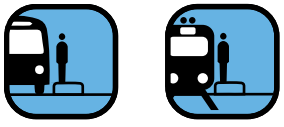


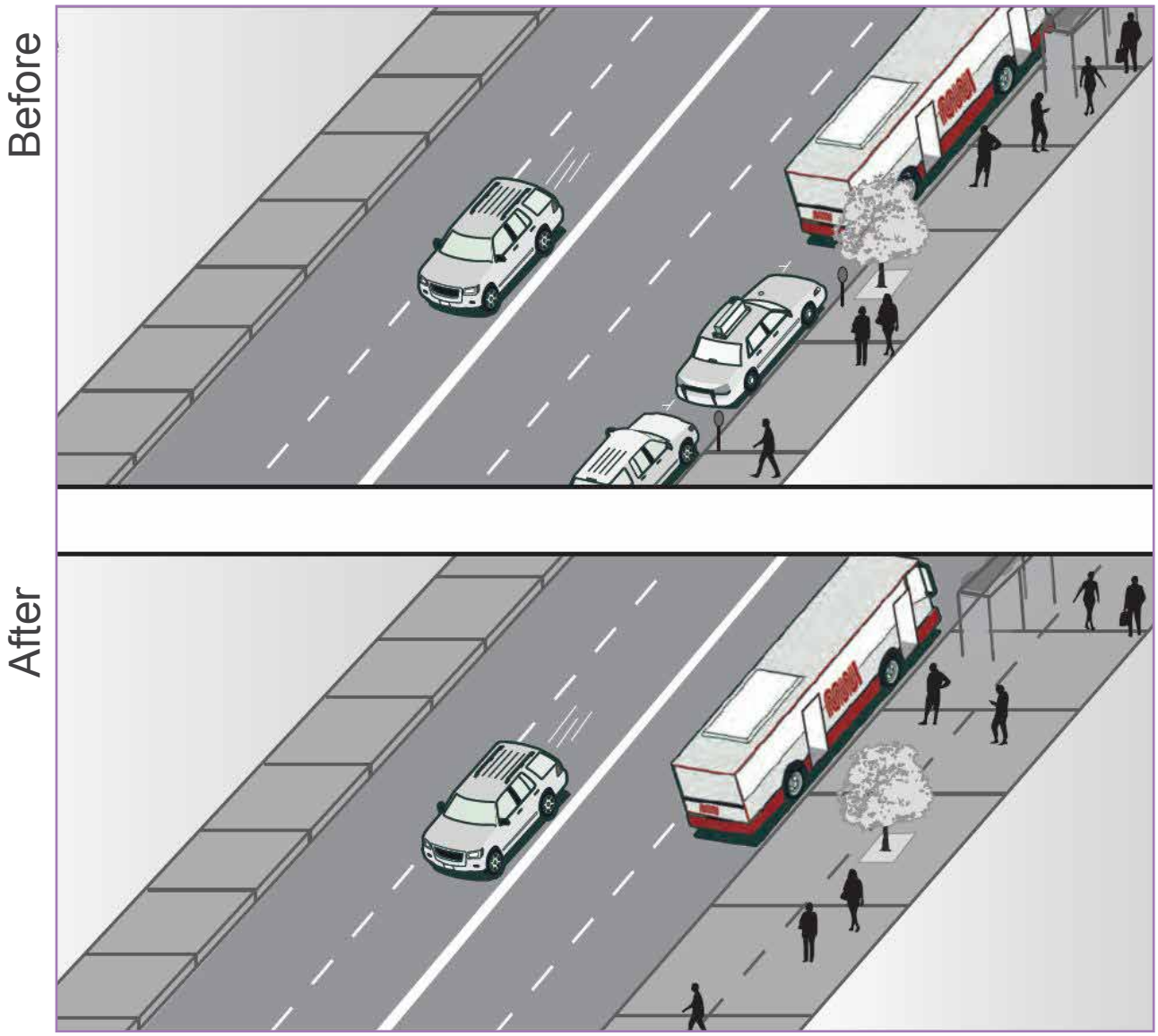
Pedestrian Island and Pedestrian Bulb

A new pedestrian island or bulb improves safety by reducing the crossing distance at intersections. A shorter crossing distance for pedestrians also means less time stopped at red lights for buses.

Boarding Island

Islands provide transit riders a safe place to wait for their train or bus. Customers would no longer have to wait on the sidewalk and board in the street. This makes boarding faster and saves time at each stop, making every passenger's journey shorter.





Widen Sidewalk

A widened sidewalk would improve pedestrian safety and promote walking along the street, which can encourage transit use.

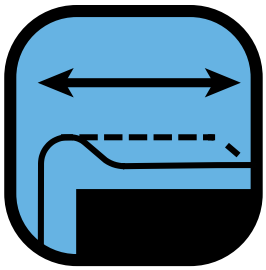
Widening sidewalks can provide space for amenities like café seating, benches, transit shelters, bike racks, trees, and landscaping depending on community input.

New Crosswalk

Crosswalks provide a safe place for pedestrians to cross the street and access transit. This can promote walking along the street, which can encourage transit use.

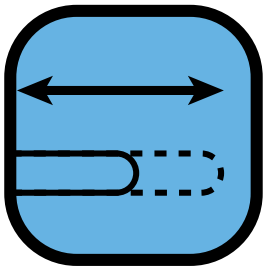
Extend Bulb

Enables bulb to handle more than one vehicle at a time, ensuring arriving Muni vehicles do not have to wait to pick up and drop off passengers.



Extend Boarding Island

Enables boarding island to handle more than one vehicle at a time, ensuring arriving Muni vehicles do not have to wait to pick up and drop off passengers.



Pilot Projects

Overview

Prior to full implementation of the TEP, three pilot projects were launched to gauge the potential costs and benefits of various TEP proposals, and refine our community outreach efforts. These pilots include:

- Church Street Transit-Only Lane
- 76x Marin Headlands Express route
- 5L Flying Fulton pilot

The Church Street Rapid Pilot was launched in March 2013, and establishes center-running, dedicated transit-and-taxi-only lanes along three blocks of Church Street, in both directions,

Church Street Transit-Only Lane

between 16th Street and Duboce Avenue. To protect the integrity of these lanes, the pilot includes left turn restrictions, parking changes, and a red paint treatment that has proven effective at reducing transit lane violation rates in New York City and abroad. The primary goal of the pilot is to reduce congestion-related delay and improve service reliability along one of the slowest segments of the 22 Fillmore and J Church routes. The impact of the pilot on transit service, local circulation, and driver compliance rates are summarized below:

Transit Service

- The pilot has largely eliminated congestion-related delay on the J Church and 22 Fillmore through the corridor.
- The pilot has been effective at improving the reliability by up to 20% of outbound trips through the corridor.
- The pilot has been effective at reducing the frequency and magnitude of extreme delay depending on the time of day.

Local Circulation

- The pilot has not led to a significant increase in delay to personal vehicles along the Church. St corridor, except at the northbound approach to Duboce Ave, where congestion was already an issue.
- The pilot has not led to significant traffic diversion to parallel streets.

Driver Compliance

- The red paint treatment has been very effective in reducing transit lane violations. Observations confirm a 50% reduction in violations compared to a non-colored transit-only lane.

Muni started service on the 76X Marin Headlands Express on November 17, 2012 to test:

- **The effectiveness of service changes to address travel time and reliability concerns**: As part of the pilot, the route no longer travels south of Market Street to Caltrain, and a new terminal is located at Montgomery BART station. Additionally, remaining stops within the City

76X Marin Headlands Express

of San Francisco are more widely spaced (although all connections to major Muni transfer points will remain). All of the discontinued stops are served by other high-frequency Muni lines.

- **Ridership demand for expanded service:** Route 76 previously ran on Sundays and holidays only, hourly, from 9:30 am to 6:30 pm. As part of the pilot, service has been expanded to Saturdays through a grant from the Golden Gate National Recreation Area (GGNRA).

Since the launch of the pilot project in November of 2012, the route has experienced the following highlighted improvements:

- On-time performance has improved from about 10% to 50%
- The overall one-way travel time on the route decreased roughly 18 minutes
- Between Montgomery Station and Fort Cronkhite, which is the portion of the route that remained in-effect after the pilot launch and where almost 20 stops were consolidated in each direction, the route has increased its speed at a rate of almost 40 seconds per consolidated stop

Furthermore, customers' perceptions of the 76 service have improved since the pilot launch, with riders indicating perceived improvements in route reliability, travel time, and overall transit experience.

5L Fulton Limited

Muni launched the 5L Fulton Limited pilot project on October 28, 2013, as part of the Transit Effectiveness Project (TEP), which introduced limited stop service to improve service reliability and provide quicker travel times along the 5 Fulton corridor. Additionally, the pilot has increased bus frequency along the corridor with 20-30 percent more capacity during peak periods. Lane reconfigurations along Fulton Street have also been implemented for the purpose of enhancing safety.

Specifically, the pilot program's various improvements include the following:

Service Improvements

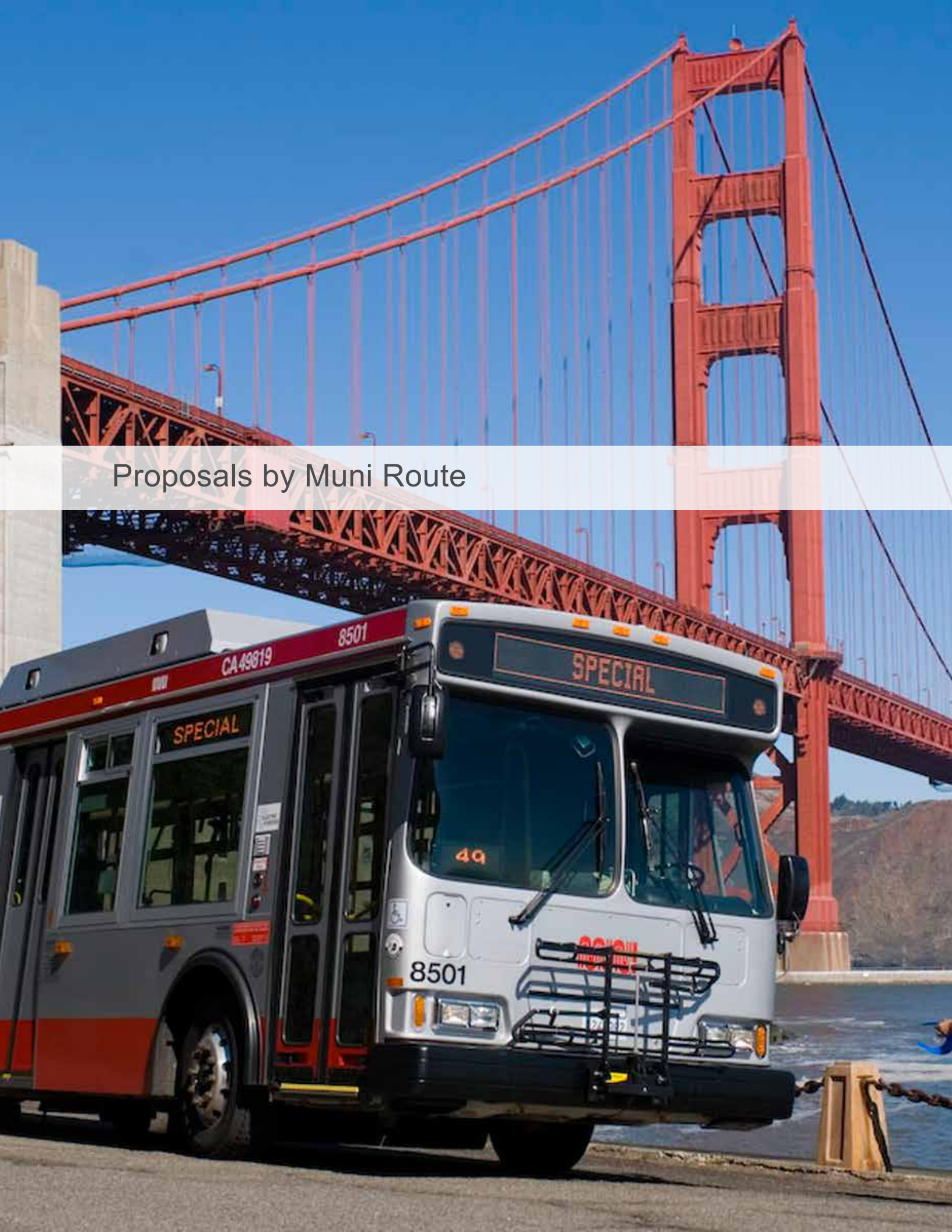
- Providing up to 30 percent more capacity on the most crowded portion of the 5 Fulton between Fulton Street/6th Avenue and the Temporary Transbay Terminal
- Evening/weekend service similar to existing service with all electric buses serving all stops.
- Weekdays until 7 p.m., the 5L Fulton Limited electric buses will make all stops between La Playa/Cabrillo streets and Fulton Street/6th Avenue, then limited stops between Fulton Street/6th Avenue and Market/McAllister streets, then all stops between Market/McAllister streets and the Temporary Transbay Terminal.
- Limited stops include Fulton Street at Arguello Boulevard, Fulton Street at Parker Avenue/Shrader Street, Fulton Street at Masonic Avenue, McAllister Street at Divisadero Street, McAllister Street at Fillmore Street, McAllister Street at Van Ness Avenue and McAllister Street at Leavenworth Street (inbound) and Jones Street (outbound).
- Weekdays until 7 p.m., the 5 Fulton short line motor buses will provide added capacity at all stops between Fulton Street/6th Avenue and the Temporary Transbay Terminal.

Street and Bus Stop Improvements

- Extend bus zones to make room for both limited and local buses at shared stops, and to improve safety and accessibility at local stops while allowing limited buses to pass.
- Consolidate bus stops at 10 intersections to reduce bus delays associated with closely spaced stops.
- Relocate bus stops across the street at seven intersections to reduce bus delays at traffic lights and to improve pedestrian safety.
- Widen travel lanes on Fulton Street between Baker and Stanyan streets to improve safety and provide up to 20 new parking spaces on Fulton Street between Central Avenue and Baker Street.
- Remove up to five parking spaces on the east side of Central Avenue between Fulton and McAllister streets to reduce bus delays on this narrow block from congestion.
- Add right-turn lanes at three intersections to help turning traffic and reduce bus delays.

Since the pilot launch, transit service speed and reliability within the Fulton Street corridor has increased and transit riders have provided positive feedback about the added limited stop service.

Proposals by Muni Route



Muni Network Summary

The following chapter provides detail on improvements and features identified for each Muni Route. The below proposals incorporate public feedback and comments received to date. Before implementation additional outreach will be conducted for each project. For a description of how each Muni route's proposal has changed thus far from the original proposal, please refer to the "Revision History" chapter below. Muni routes listed in the table of contents that include a indicates the project proposal has been modified based on stakeholder feedback. For details each implementation feature, please visit the "Implementation Features" chapter above.

Feature Summary

Improvements to Muni Routes described in this Implementation Workbook consists of various features designed to improve Muni Reliability and Create a Rapid network. The following typology lists the various implementation features included for each Muni Route:

1 - Muni Service Changes

NR	New Route	HC	Headway Change
RE	Route Elimination	VC	Vehicle Type Change
RA	Route Alignment	EH	Expanded Hours

Implementation Status Legend

- **Implemented**: The service change or transit priority project is in effect.
- **Approved**: The service change or transit priority project has been legislated by the SFMTA Board of Directors but has not yet been implemented. (Please note: approved service changes may not be implemented).
- **Proposed**: The service change or transit priority project is pending further community outreach.

2 - Transit Priority Features

MUNI STOP LOCATIONS

BUS STOPS

Relocate Stops
Adjust Stop Spacing

PEDESTRIAN ENVIRONMENT

PEDES-TRIAN

New Transit Bulb
New Ped Bulb/Island
Boarding Island
Widen Sidewalk
Extend Bulb
New Crosswalk
Extend Boarding Island

CURB SPACE

CURB SPACE

New Loading Zone
New Tow-Away Zone
New Bus Zone
Remove Loading Zone
Extend Loading Hours
Extend Tow-Away Hours
Extend Bus Zone
New No Parking Anytime

SIGNALS AND RULES OF THE ROAD

SIG-NALS

New Traffic Signal
Bus Only Signal
Turn Restrictions
Extend Transit Hour Lanes
Remove Stop Sign

ROADWAYS

ROAD-WAYS

New Transit Lane
Traffic Calming
Reconfigure Lanes
New Bike Lanes
New Turn Pocket

Muni Route Index

PROPOSALS BY ROUTE

Route	Features	Revision
E Embarcadero	NR	
F Market & Wharves	HC	
J Church	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
KT Ingleside / Third Street	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
L Taraval	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
M Ocean View	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
N Judah	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
Nx Express		BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
1 California	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
1AX California “A” Express		BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
1BX California “B” Express	RA, HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN
2 Clement	RA, HC, VC, EH	
3 Jackson	HC	✳
5 Fulton / 5R Fulton Rapid	NR, RA, HC, VC, EH	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN ✳
6 Haight-Parnassus	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN ✳
8 Bayshore	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN ✳
8AX Bayshore “A” Express	HC	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN ✳

Muni Route Index

PROPOSALS BY ROUTE

Route	Features	Revision
8BX Bayshore “B” Express	HC; BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	✳
9 / 9R San Bruno	HC; BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	✳
10 Sansome	RA, HC, EH	
11 Downtown Connector	NR	✳
12 Folsom/Pacific	RE	✳
14 Mission	VC; BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	
14R Mission Rapid	RA, HC, VC, EH; BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	
14X Mission Express	HC; BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	
17X Noriega Express	RA	
57 Park Merced	RA, HC	✳
18 46th Avenue	RA	
19 Polk	RA	✳
21 Hayes	HC	
22 Fillmore	RA, HC, VC; BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	
23 Monterey	RA	✳
24 Divisadero	HC	
27 Bryant	RA	✳

Muni Route Index

Route	Features	Revision
28 19th Avenue	RA HC	BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN ✳
28R 19th Avenue Rapid	RA HC EH	BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN ✳
29 Sunset	RA HC	
30 Stockton	HC VC	BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN
30X Marina Express	HC	
31 Balboa	HC	
31AX Balboa Express	**No Changes**	
31BX Balboa Express	**No Changes**	✳
32 Roosevelt	**Proposal Dropped**	
33 Ashbury-18th St	RA HC	
35 Eureka	RA HC VC	✳
36 Teresita	**No Changes**	✳
37 Corbett	RA HC VC	✳
38 Geary	HC	
38R Geary Rapid	EH	
38AX Geary Express	**No Changes**	
38BX Geary Express	**No Changes**	

Muni Route Index

Route	Features	Revision
39 Coit	**No Changes**	
41 Union	HC	
43 Masonic	RA HC	✳
44 O'Shaughnessy	HC	
45 Union-Stockton	**No Changes**	
47 Van Ness	RA HC VC	✳
48 Quintara-24th Street	RA HC	✳
49R Van Ness-Mission Rapid	BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	
52 Excelsior	RA HC	
54 Felton	RA HC	✳
56 Rutland	**No Changes**	✳
58 24th Street	RA	
66 Quintara	**No Changes**	
67 Bernal Heights	**No Changes**	
7/7R Haight-Noriega	RA HC EH; BUS STOPS, SIG-NALS, ROAD-WAYS, CURB SPACE, PEDES-TRIAN	✳
76X Marin Headlands	RA	
81X Caltrain Express	**No Changes**	

Muni Route Index

Route	Features	Revision
82X Levi Express	**No Changes**	
88 BART Shuttle	**No Changes**	
90 Owl	HC	✳
91A Owl	RA	✳
91B/N Owl	RA	✳
25 Treasure Island	**No Changes**	

E Embarcadero

Historic Streetcar

Recommended Route

Feature Summary

NR

E Embarcadero

Overview

- A new historic streetcar line would be established to connect Fisherman's Wharf and the northeast waterfront to AT&T Park and the Caltrain Station.
- The line would start at the F Market & Wharves' northern terminus at Jones Street, then travel south along The Embarcadero to Market Street, and then follow the N/T Line alignment to King Street to the E Embarcadero terminus at the Caltrain Station at Fourth and Townsend streets.
- A capital project is proposed to develop a new independent terminal for the E Embarcadero at the north end of the route near Jones and Beach streets. The terminal would facilitate independent movements of E and F streetcars, which would improve reliability for both routes by allowing for independent terminal departures.
- Initially, beginning in the summer of 2015, the E Embarcadero will provide service on weekends only between 11am and 7pm with 15 minute headways. In the spring of 2016, the E Embarcadero service will be introduced every day of the week.

New Terminal at Jones Street/Beach Street - Capital Project

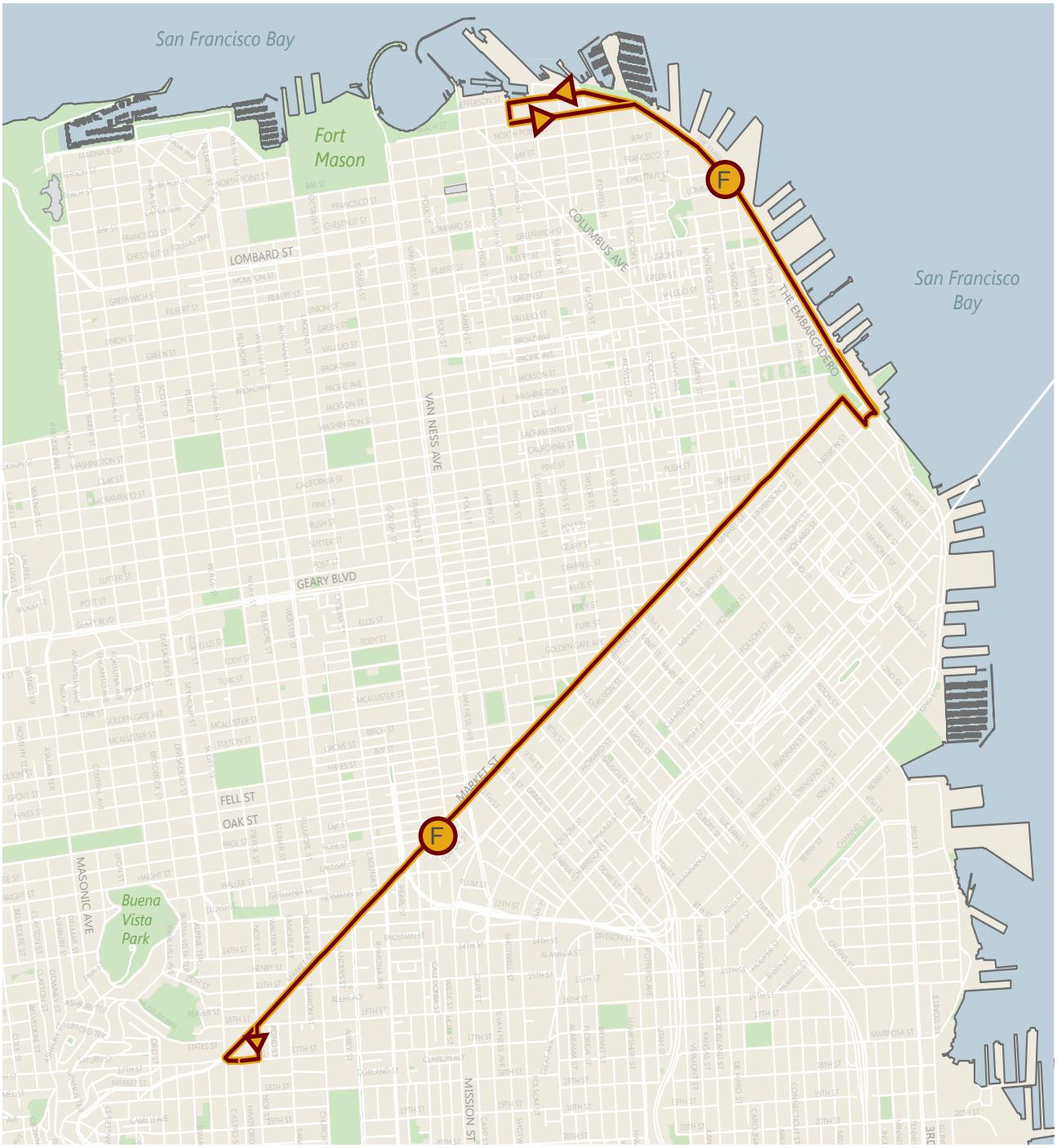
This project would build a new independent terminal stop for the E Embarcadero Line at the north end of the route near Jones and Beach streets. A separate stop would facilitate independent movements of E Embarcadero and F Market & Wharves streetcars at its northern terminus, which would improve reliability for both routes by allowing for independent terminal departures and preventing trains on one route from getting delayed behind trains from the other route. Development of the new terminal would require the installation of new bypass rails, track work turnouts, track switches, and overhead wires and poles, and possibly sidewalk modifications.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	N/A	15	N/A
PM	N/A	15	N/A

F Market & Wharves



Historic Streetcar

Recommended Route

Feature Summary

HC

F Market & Wharves

Overview

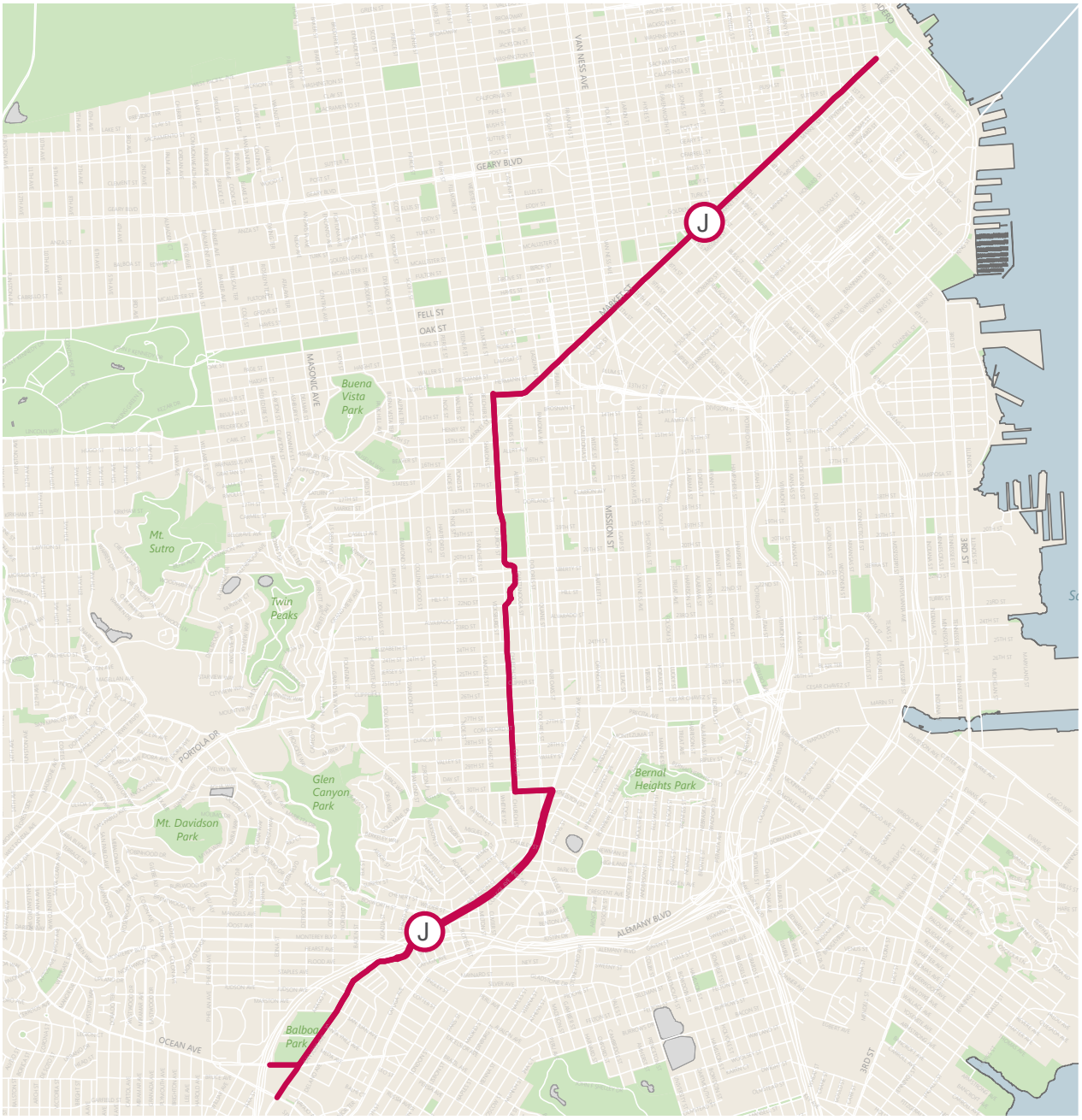
- No route changes proposed.
- Frequencies would be reduced in the morning due to the additional capacity provided by the new E Embarcadero Line.
- Midday frequency would change from 6 to 5 minutes.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	6.5	7.5	−
PM	6	5	+

J Church



Muni Metro

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

Overview

- The J Church line is one of the highest ridership Muni corridors and carries more than 14,000 daily customers on an average weekday.
- The Transit Priority Project is proposed to improve transit travel time, improve reliability, and decrease delay caused as a result of long passenger loading and unloading times, traffic signal delay, traffic congestion, a high number of STOP signs along the route and areas of closely spaced transit stops.
- The J Church project study area is the four mile stretch between Church and Duboce and the J Line's terminal at Balboa Park Station.
- The proposed changes are anticipated to reduce the travel time of the J Church within the study area by about 6.5 minutes total in both directions (12% reduction), resulting in an average operating speed of nine miles per hour and improving service reliability.
- Other changes such as transit signal priority improvements, operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.

J Church Transit Priority Project

This project is designed to improve transit travel time and reliability along the corridor between Church and Duboce and the J Line's terminal at Balboa Park Station. Within the study area, the J Church operates at an average speed of eight miles per hour during peak periods. There are 19 transit stops in the inbound direction and 18 transit stops in the outbound direction. The average transit stop spacing between Duboce Avenue and Randall Street is 975 feet, with stops located about every two to four blocks. In the southern part of the line between Santa Rosa Avenue, and Balboa Park Station, the average stop spacing is 1,380 feet, or about every two to three blocks.

The main causes of delay to the J Church include long passenger loading and unloading times, traffic signal delay, traffic congestion, a high number of STOP signs along the route and areas of closely spaced transit stops. In order to reduce transit travel times and improve reliability, the SFMTA proposes a toolkit of measures within the study area. The proposals include:

- Replacing all-way STOP-controlled intersections with traffic signals or traffic calming measures at four intersections. Traffic calming measures such as corner bulbs, speed humps, and sidewalk extensions provide improved pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists and reducing the speed of motorists turning from cross streets.
- Adding a transit-only lane on three blocks. In areas of high traffic congestion, transit-only lanes can save significant travel time for the J Church by giving the train its own exclusive lane.
- Turn Restrictions at two intersections. Left-turn restrictions can reduce transit delay by ensuring that auto traffic does not block intersections while waiting to turn left.
- Adding pedestrian bulbs at one intersection. Pedestrian bulbs are sidewalk extensions at intersection corners that improve pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists, and reducing the speed of motorists turning from cross streets.

- Optimizing transit stop locations at three intersections. Relocating transit stops from the near-side to the far-side of intersections at existing and proposed traffic signals would allow streetcars to take advantage of planned transit signal priority improvements. At all-way STOP-controlled intersections, transit stops would be relocated from the far-side of the intersection to the near-side, eliminating the need for streetcars to stop once for the STOP sign and again for customers to board the train.
- Create more consistent stop spacing. The J Church stops an average of once every two blocks for a majority of its route. However, at two locations, this distance is shortened to as little as once every block. This proposal moves towards at least a two-block spacing throughout the route. By stopping fewer times, the train would take less time to move through the corridor
- Adding transit bulbs at seven intersections. Transit bulbs are sidewalk extensions alongside transit stops that allow passengers to get on and off without having to walk between parked cars and cross a lane of traffic. They enhance the ability of streetcars to take advantage of all-door boarding and provide extra space for transit shelters and other customer amenities. Transit bulbs also improve pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists, and reducing the speed of motorists turning from cross streets.
- Extending boarding islands at two intersections. Boarding islands are dedicated waiting spaces for customers located between travel lanes. Extending existing boarding islands would cover the full length of the train and allow for passengers to be picked up and dropped off without having to walk between parked cars or cross a lane of traffic when the train arrives.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	9.5	8	+
PM	9	9	=

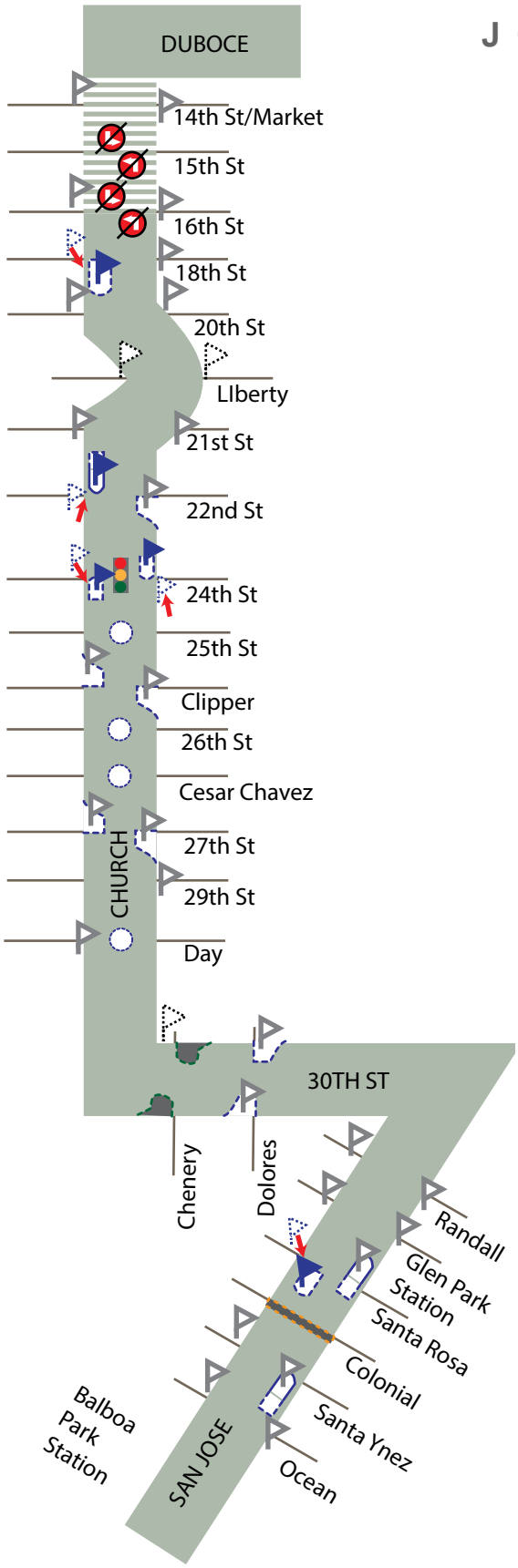
*Increasing light rail service is dependant upon vehicle availability. Fleet rehabilitation is underway and is scheduled for completion by the end of 2015.

Budget

Project Phase	Total
Construction	$10,800,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning and conceptual engineering.

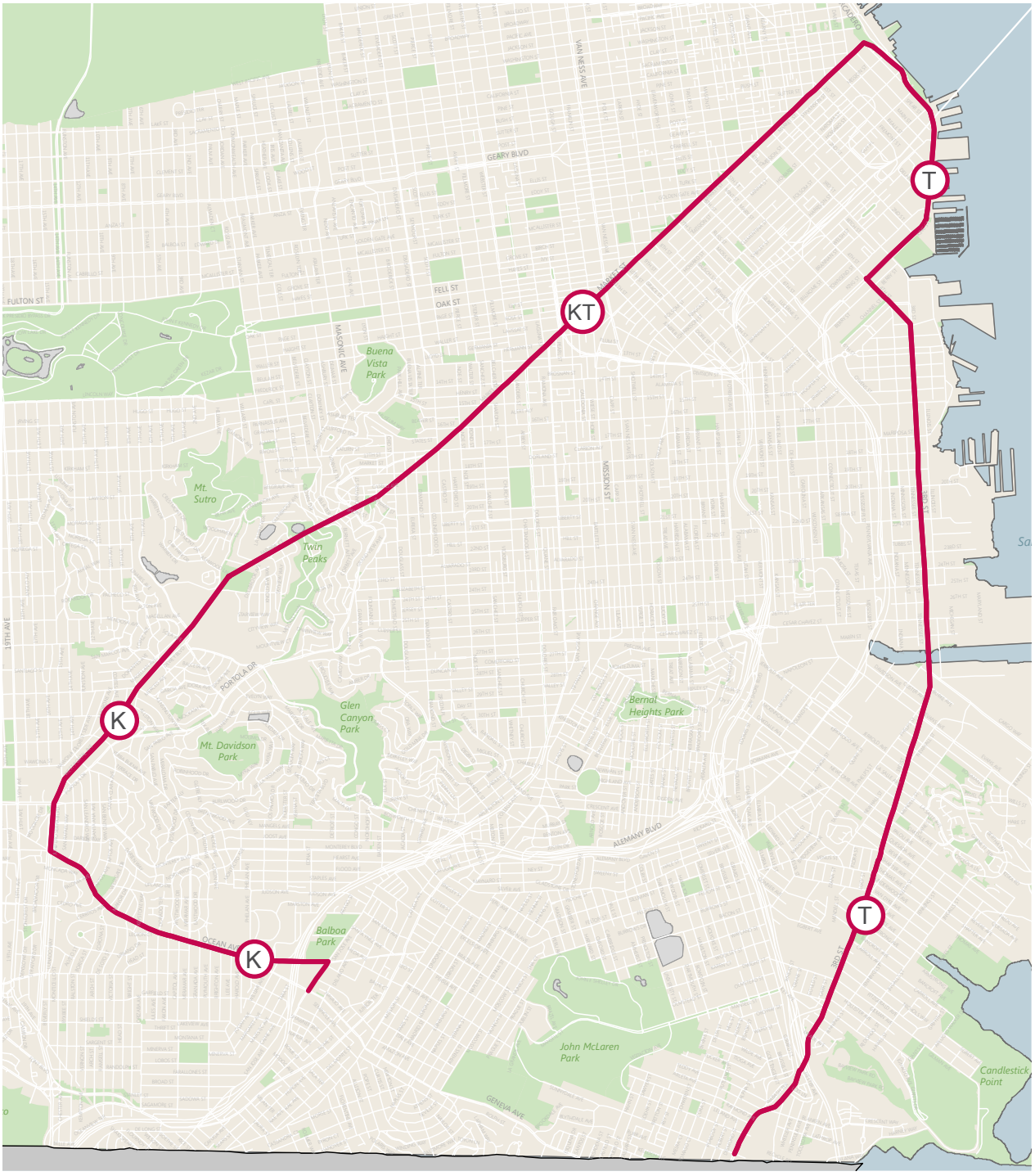
J Church Transit Priority Project



Features

- Existing Stop
- Stop Removal
- Stop Relocation
- New Transit Bulb
- Extend Existing Boarding Island
- Proposed Transit Only Lane
- Traffic Calming
- New Traffic Signal
- New Boarding Island
- No Left Turn Restrictions
- New Pedestrian Bulbs
- Crosswalk

KT Ingleside / Third Street



Muni Metro

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

KT Ingleside / Third Street

Overview

- The KT Ingleside/Third Street line is one of the highest ridership Muni corridors.
- The KT Ingleside/Third Street Transit Priority Project will improve transit travel time, improve reliability, and decrease delay caused as a result of various factors such as long passenger loading and unloading times, traffic signal delay, traffic congestion, a high number of STOP signs along the route and areas of closely spaced transit stops.
- The proposal is a program-level project where specific treatments have not been identified at this time.
- The proposal study area stretches from the intersection of San Jose Avenue and Oneida Street (Balboa Park Station) to Sloat and Junipero Serra boulevards.

KT Ingleside/ Third Street Transit Priority Project

This proposal is a program-level project where specific treatments have not yet been identified for the corridor. For this and other programmatic proposals, the Transit Priority Features would be applied along Junipero Serra Boulevard and Ocean Avenue, from the intersection of San Jose Avenue and Oneida Street (Balboa Park Station) to Sloat and Junipero Serra boulevards.

This Rapid Network corridor provides transit connections between the West Portal, St. Francis Wood, and Ingleside neighborhoods as well as the City College of San Francisco (CCSF) main campus and vicinity and Balboa Park Station. Inbound, the K Ingleside enters the Muni System underground at West Portal Station. From West Portal Station the K Ingleside becomes the T Third Street and continues to Embarcadero Station, providing connections from the above neighborhoods to Forest Hill, Midtown Terrace, the Castro/Eureka Valley/Corona Heights, Duboce Triangle, Church and Market streets vicinity, and destinations in Civic Center and Downtown before resurfacing after Embarcadero Station to provide transit service along the Embarcadero, through SoMa and Mission Bay, to Potrero Hill, Hunter's Point, Bay View and Visitacíon Valley neighborhoods.

KT Ingleside / Third Street

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	9	8	+
PM	9	8	+

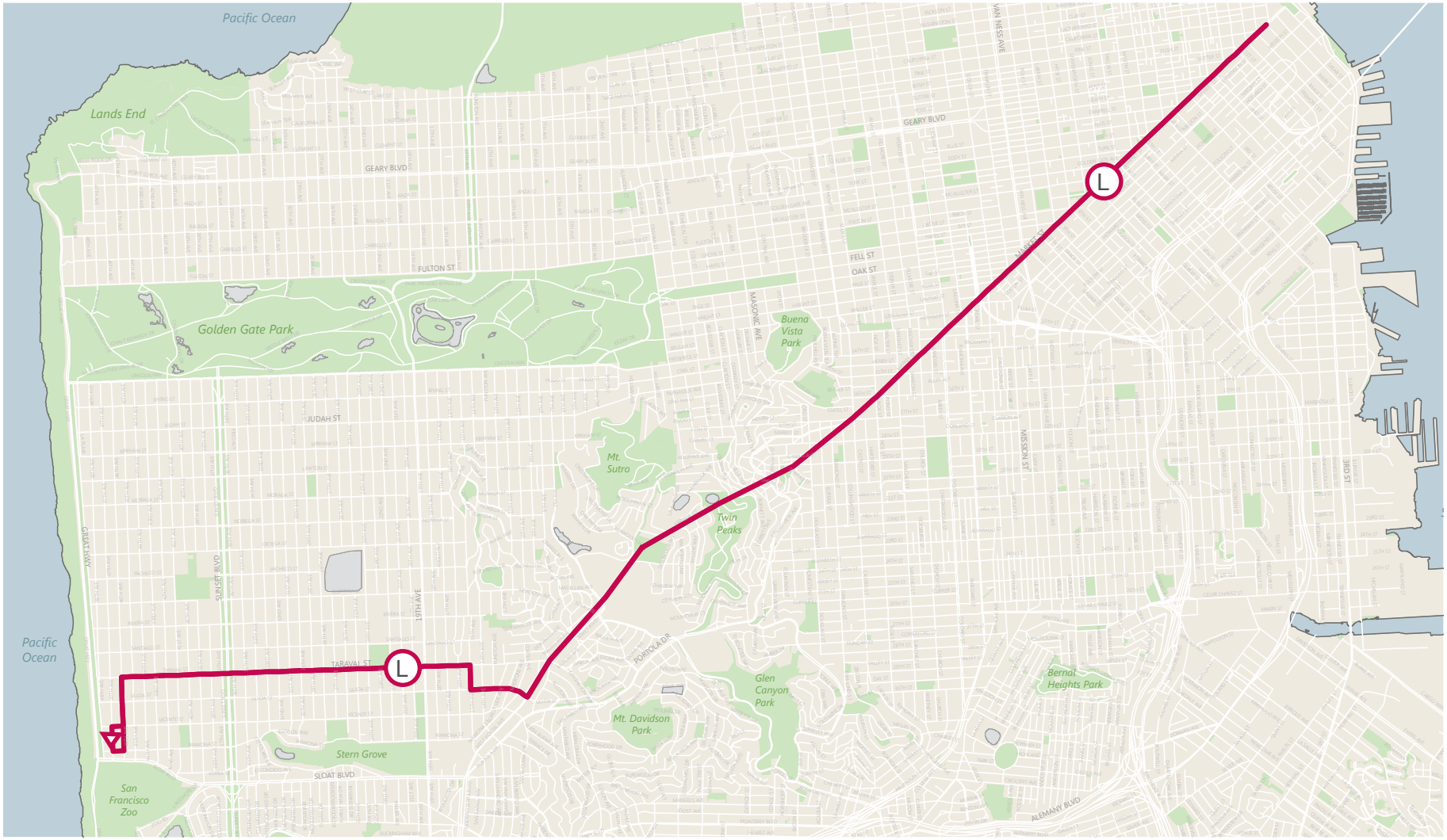
*Increasing light rail service is dependant upon vehicle availability. Fleet rehabilitation is underway and is scheduled for completion by the end of 2015.

Budget

Project Phase	Total
Design & Construction	$4,720,000

* No funding source identified for this project through 2018.

L Taraval



Muni Metro

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

L Taraval

Overview

- The L Taraval line is one of the highest ridership Muni corridors.
- The L Taraval Transit Priority Project is proposed to improve transit travel time, improve reliability, and decrease delay caused as a result of long passenger loading and unloading times, traffic signal delay, traffic congestion, a high number of STOP signs along the route and areas of closely spaced transit stops.
- The proposed improvements are anticipated to reduce travel time of the L Taraval within the study area by about 6.5 minutes total in both directions (12% reduction), resulting in an average operating speed of nine miles per hour and improving service reliability.
- Other changes such as transit signal priority improvements, operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.
- No service route changes are proposed.

Frequency

Service during peak periods (headway between vehicles, in minutes)

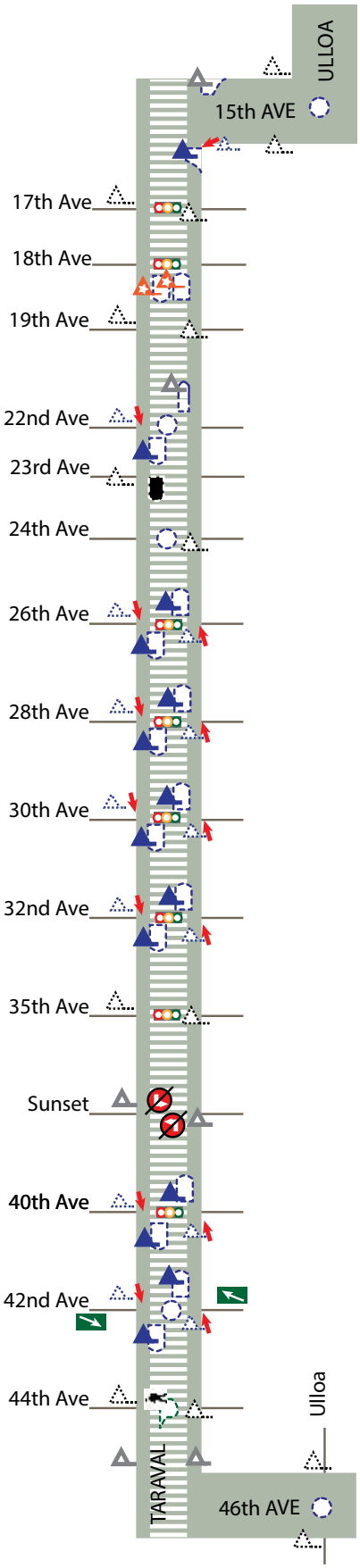
	Current	Approved	Frequency
AM	8	7.5	+
PM	7.5	7.5	=

*Increasing light rail service is dependant upon vehicle availability. Fleet rehabilitation is underway and is scheduled for completion by the end of 2015.

Budget

Project Phase	Total
Design & Construction	$21,739,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning and conceptual engineering.

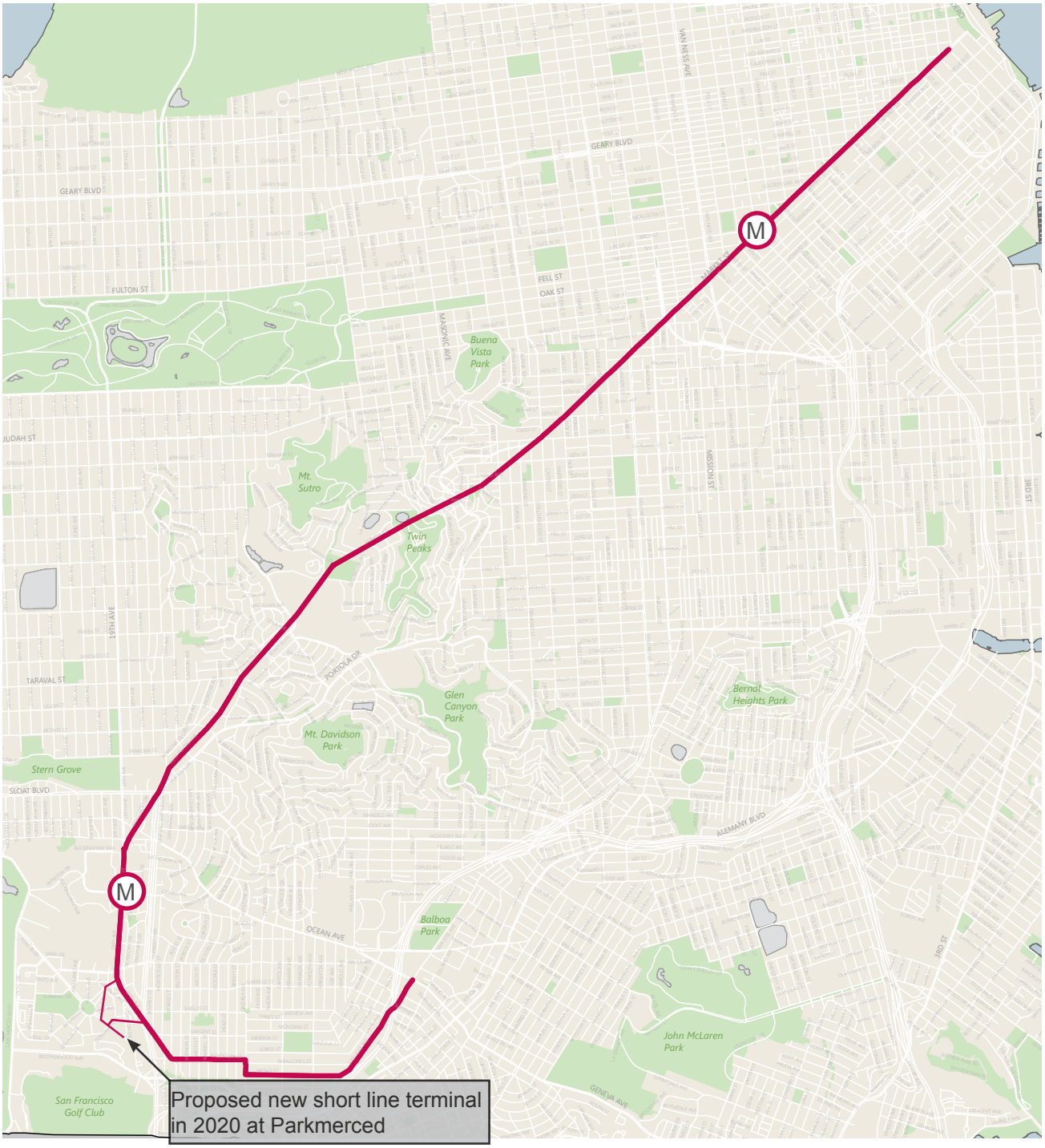


L Taraval Transit Priority Project

Features

- Existing Stop
- Stop Removal
- Stop Relocation
- New Transit Bulb
- New Pedesrian Refuge Island
- New Boarding Island
- Extend Boarding Island
- New Traffic Signal
- Remove Stop Signs and Replace with Traffic Calming Measure
- New Stop
- No Left-Turn Restriction
- Center Transit-Only Lanes (both directions)
- Remove Exist. Boarding Island
- Right-Turn Only Restrictions

M Oceanview



Muni Metro

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

M Oceanview

Overview

- No route changes proposed.
- New terminal at Park Merced is planned and would be funded by the private developer with an estimated completion in 2020. During peak periods, alternate trips would originate/terminate from/to the Balboa Park Station and this new terminal.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.

M Ocean View Transit Priority Project Overview

For this proposal, the Transit Priority Features would be applied along the dedicated right-of-way south of St. Francis Circle, 19th Avenue, Park Merced local streets, Randolph Street, Orizaba Avenue, Broad Street and San Jose Avenue, from the intersection of 19th and Holloway avenues to Geneva and San Jose avenues near the Balboa Park Station. This corridor provides transit connections between West Portal Station and Balboa Park Station (Muni and BART), and includes transit service for the West Portal, St. Francis Wood, Stonestown/San Francisco State University, Ingleside and Park Merced neighborhoods. The M Ocean View continues along West Portal Avenue to West Portal Station, where inbound it enters the Muni System underground to Embarcadero Station providing connections from the above neighborhoods to Forest Hill, Midtown Terrace, the Castro/Eureka Valley/Corona Heights, Duboce Triangle, Church and Market streets vicinity, and destinations in the Civic Center and Downtown.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	9	8.5	+
PM	9	8.5	+

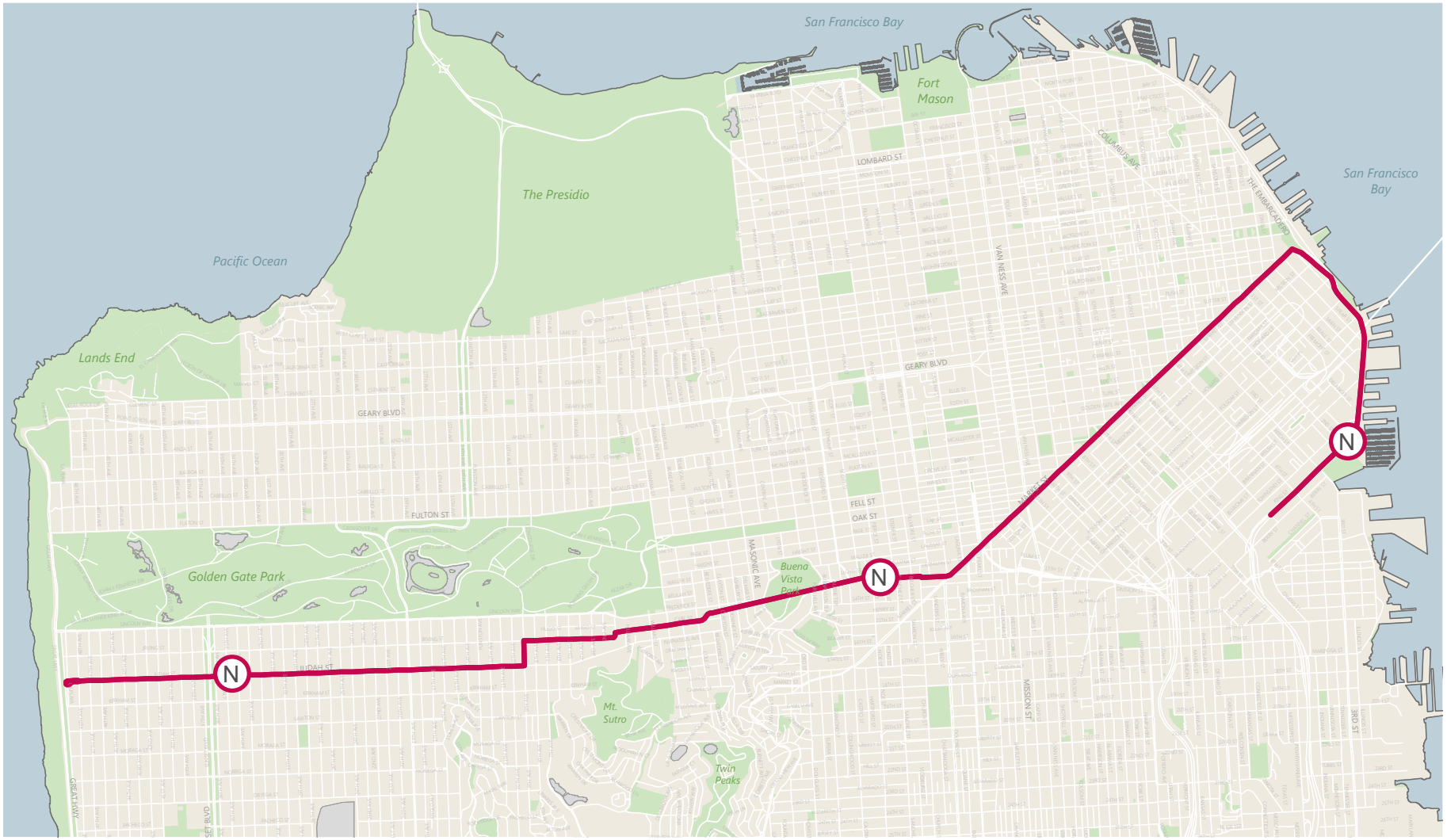
*Increasing light rail service is dependant upon vehicle availability. Fleet rehabilitation is underway and is scheduled for completion by the end of 2015.

Budget

Project Phase	Total
Design & Construction	$7,120,000

* No funding source identified for this project through 2018.

N Judah



Muni Metro

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

Overview

- Muni's N Judah rail line has one of the highest riderships in the Muni Network and carries approximately 45,000 daily customers on an average weekday. The main causes of delay to the N Judah include long passenger boarding and alighting times, a high number of stop signs along the route and areas of closely spaced transit stops.
- The N Judah Transit Priority Project is proposed to improve transit travel time, improve reliability, and decrease delay caused as a result of long passenger loading and unloading times, traffic signal delay, traffic congestion, a high number of STOP signs along the route and areas of closely spaced transit stops.
- The project study area extends between Carl and Cole and Judah and Great Highway. Within the study area, the N Judah operates at an average speed of 8 miles per hour during peak periods. There are 21 transit stops in each direction. The average transit stop spacing between Carl and Cole and Judah and Great Highway is 850 feet, with stops located at every two to three intersections.
- The proposed changes are anticipated to reduce the travel time of the N Judah rail service by about 5 minutes in each direction (10 minutes total) within the study area (19% reduction), improving average operating speed to 9.5 miles per hour and improving service reliability. Other changes such as transit signal priority improvements, operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.

N Judah Transit Priority Project

In order to reduce transit travel times and improve reliability, the SFMTA proposes a variety of improvements within the study area. These proposals include:

- Replacing all-way STOP-controlled intersections with traffic signals or traffic calming measures at eight intersections. Currently, the N Judah is delayed by having to come to a complete stop at multiple intersections with stop signs. These stop signs could be replaced with traffic signals equipped with transit signal priority. This would reduce delay at intersections because the signals could be programmed to hold green lights for approaching trains. Alternatively, traffic calming measures such as corner bulbs, raised crosswalks, and sidewalk extensions could be installed to provide improved pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists and reducing the speed of motorists turning from cross streets. Traffic calming measures would have a similar effect of reducing intersection delays for trains, by eliminating the need for the train to come to a complete stop.
- Optimizing transit stop locations at four intersections. Relocating transit stops from the near-side to the far-side of intersections at existing traffic signals would allow streetcars to take advantage of planned transit signal priority improvements. At all-way STOP-controlled intersections, transit stops would be relocated from the far-side of the intersection to the near-side, eliminating the need for streetcars to stop once for the STOP sign and again for customers to board the train. One of the relocated transit stops at Sunset and Judah would require new boarding islands and extend into the intersections of 36th Avenue and 37th Avenue. The

boarding island would block through traffic and drivers would only be allowed to turn right at these intersections.

- Increasing transit stop spacing from two to three blocks to three to four blocks. Currently the N Judah stops every two to three blocks within the study area. This proposal moves toward a three to four block spacing for most stops. By stopping fewer times, the train takes less time to move through the corridor.
- Adding transit bulbs at five intersections. Transit bulbs are sidewalk extensions alongside transit stops that allow passengers to get on and off without having to walk between parked cars and cross a lane of traffic. Transit bulbs enhance the ability of streetcars to take advantage of all-door boarding. Transit bulbs provide space for transit shelters and other customer amenities. Transit bulbs also improve pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists, and reducing the speed of motorists turning from cross streets.
- Extending boarding islands at 13 intersections. Boarding islands are dedicated waiting spaces for customers located between travel lanes. Extending existing boarding islands would cover the full length of two-car trains and allow for passengers to be picked up and dropped off without having to walk between parked cars and cross a lane of traffic when the train arrives.

N Judah

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	7	5.5	+
PM	7	6	+

*Increasing light rail service is dependant upon vehicle availability. Fleet rehabilitation is underway and is scheduled for completion by the end of 2015.

Budget

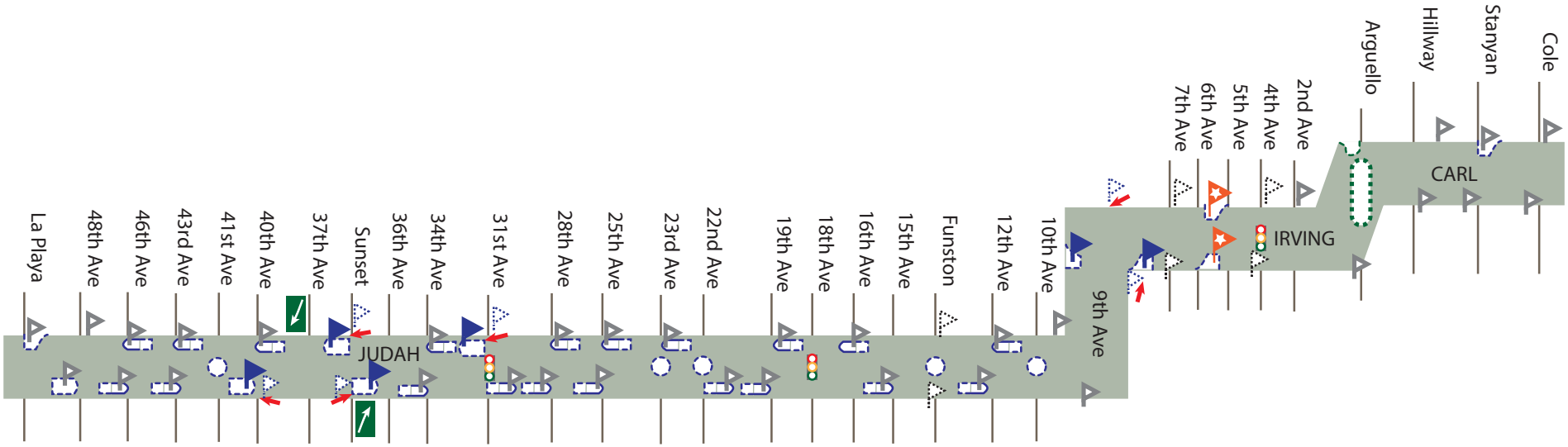
Project Phase	Total
Design & Construction	$26,841,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning, conceptual engineering, and design. MTC TPI funds will also be used to complete several fast-tracked improvements identified for Irving Street.

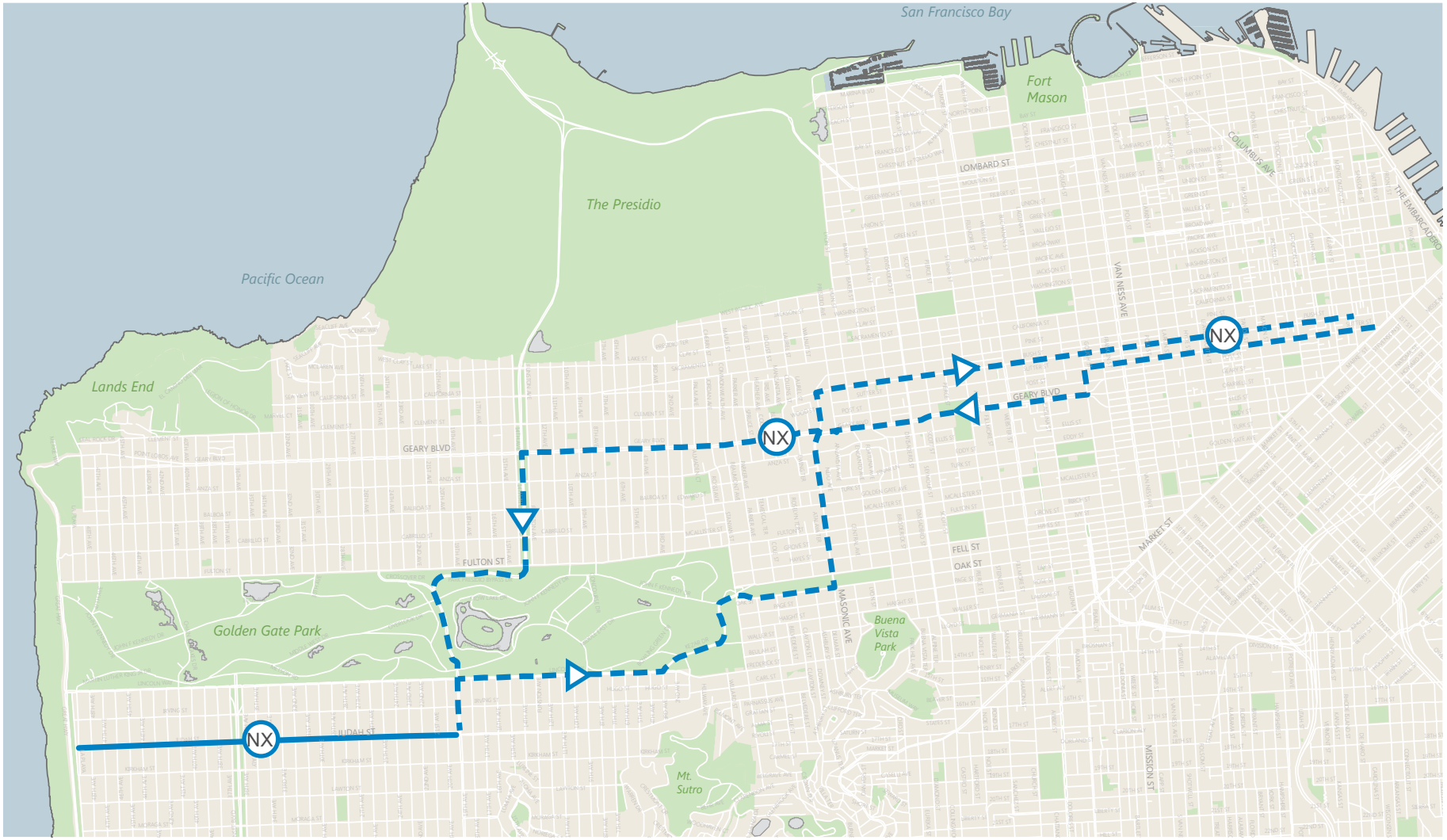
N Judah Transit Priority Project

Features

- Existing Stop
- Stop Removal
- Stop Relocation
- New Transit Bulb
- Extend Existing Boarding Island
- Proposed Transit Only Lane
- Traffic Calming
- New Traffic Signal
- New Boarding Island
- No Left Turn Restrictions
- New Pedestrian Bulbs
- Crosswalk



Nx Express



Express

- Recommended Route
- Express Segment (no stops)

Feature Summary

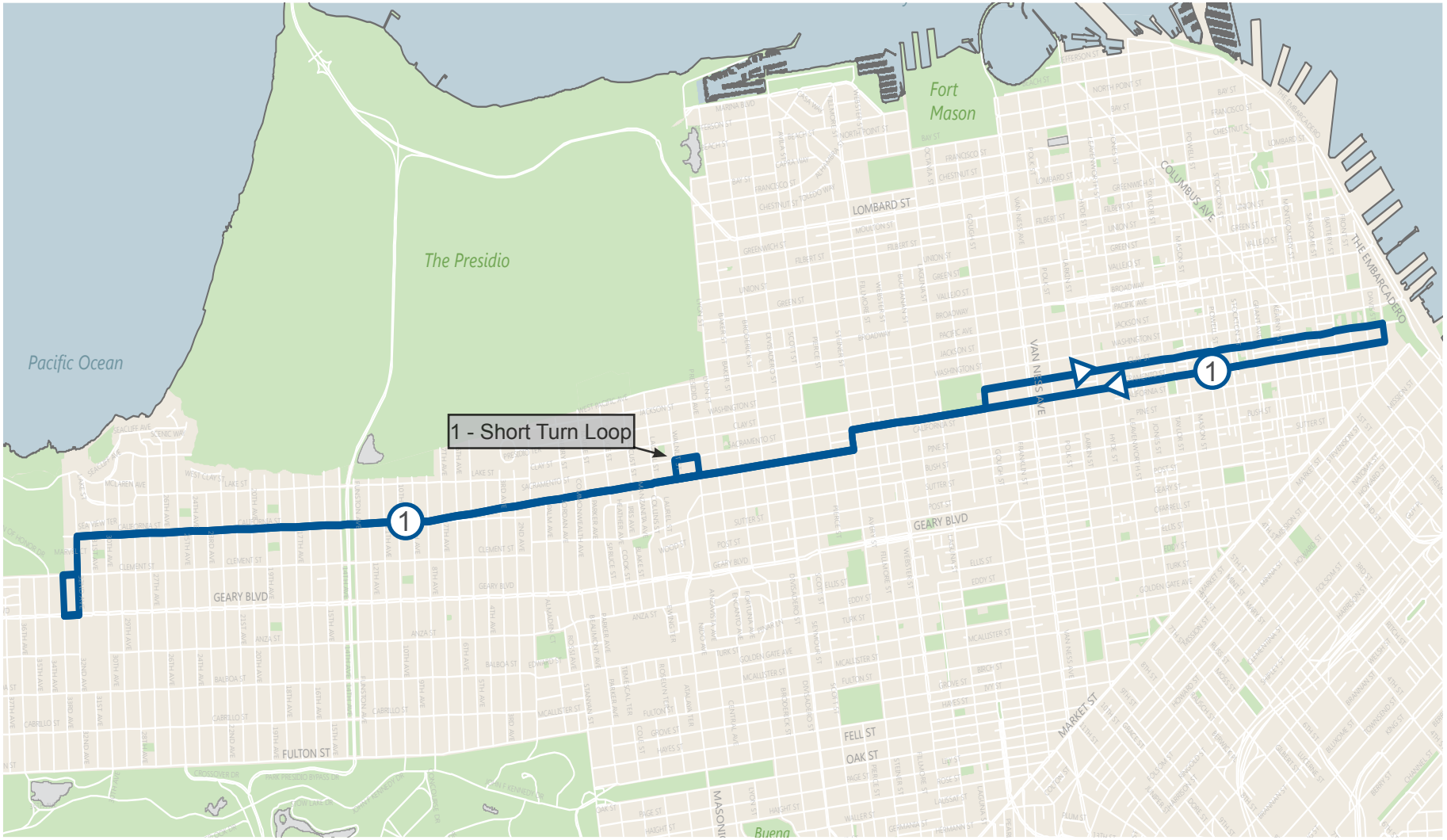
BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

Nx Express

Overview

- No route changes proposed.
- A Transit Priority Project for the N Judah will improve travel time and reliability on this route.

1 California



Frequent Local

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

Transit Priority Project

For this proposal, the Transit Priority Features would be applied along the 1 California route. These improvements would be implemented along the following streets: Drumm, Sacramento, Steiner, and California streets, 32nd Avenue and Geary Boulevard (outbound), and along Geary Boulevard, 33rd Avenue, Clement Street, 32nd Avenue, California, Steiner, Sacramento, Gough and Clay streets (inbound). The corridor extends from the intersection of Geary Boulevard and 33rd Avenue to the intersection of Clay and Drumm streets, providing transit improvements to a major east-west route in the Rapid Network. This Rapid Network corridor provides transit connections between the northern portion of the Richmond District and neighborhoods to the east, including Pacific Heights, Nob Hill, Chinatown, the Financial District and the Embarcadero.

California Bypass Wires at Terminal Location

This project would install bypass wires to improve terminal operations where multiple trolley coach routes share a terminal. This project would provide trolley coach access to and egress from terminals and would improve route reliability by preventing trolley coaches from one route from getting stuck behind trolley coaches from another route. Currently, at terminals shared by multiple trolley coach routes, operators must exit their vehicle and pull trolley poles in order to pass a coach already in the terminal. Including an additional terminal location for the 41 Union/ 45 Union Stockton, a combined total of about 1,200 linear feet of overhead bypass wires and the installation of about 50 poles is proposed also at the 1 California terminal location at Presidio Avenue and Sacramento Street (Terminal for Routes 1 California and 2 Clement short-line).

This proposal would provide a common inbound stop for the 1 California and its short-line and would also accommodate the western 2 Clement short-line terminal, which would use trolley coaches. New poles, overhead wires, and duct banks, would be constructed. Four new curb ramps to meet accessibility standards are proposed for both the Laurel Street and Walnut Street intersections with Sacramento Street; in addition, four curb ramps are proposed on the north side of California Street at its intersection with Laurel and Walnut streets for a total of eight curb ramps. The installation of poles and underground wiring may require minor utility relocation, such as moving catch basins.

1 California

Frequency

Service during peak periods (headway between vehicles, in minutes)

West of Presidio Ave.

	Current	Approved	Frequency
AM	7	7	=
PM	7	6	+

East of Presidio Ave.

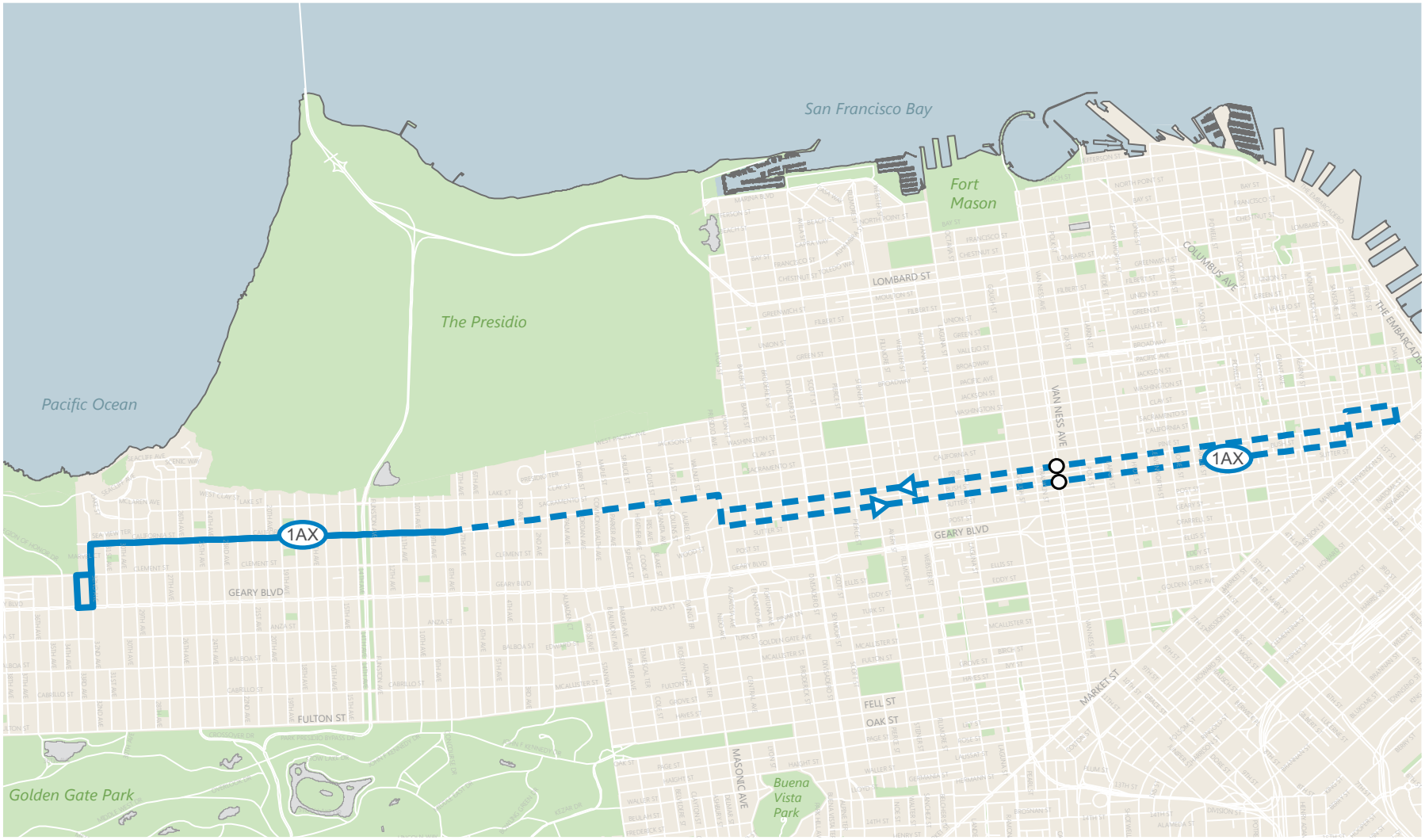
	Current	Approved	Frequency
AM	3.5	3.5	=
PM	3.5	3	+

Budget

Project Phase	Total
Design & Construction	$8,920,000

* No funding source identified for this project through 2018.

1AX California “A” Express



Express

- Recommended Route
- Express Segment (no stops)

Feature Summary

BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

1AX California “A” Express

Overview

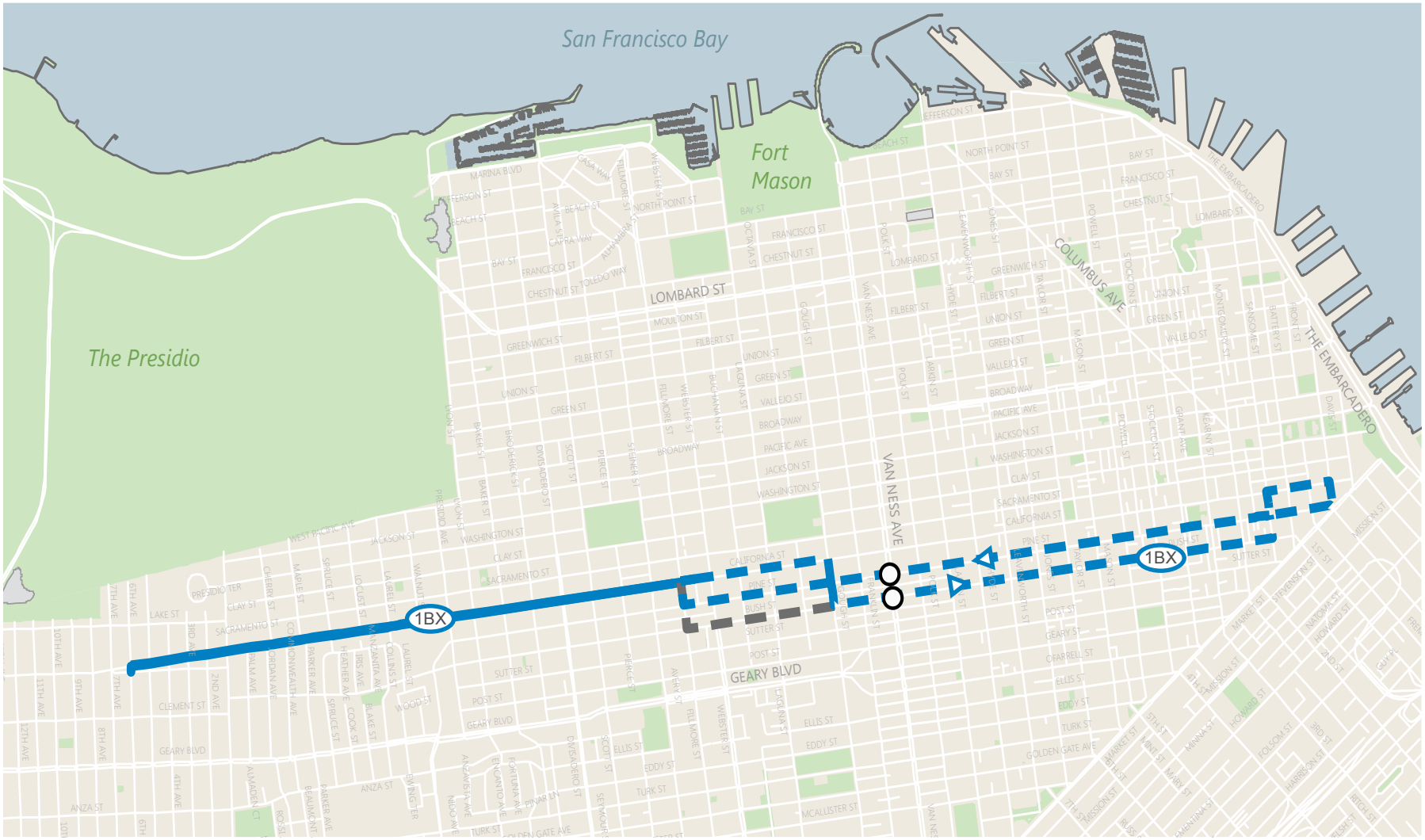
- No route changes proposed.
- New transit stop would be added on Pine Street (p.m.) and Bush Street (a.m.) at Van Ness Avenue to improve transit connections to the Civic Center and the northern waterfront.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	10	=
PM	13	13	=

1BX California “B” Express



Express

- Recommended Route
- Express Segment (no stops)
- Segment Proposed for Elimination

Features

HC RA BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN

1BX California “B” Express

Overview

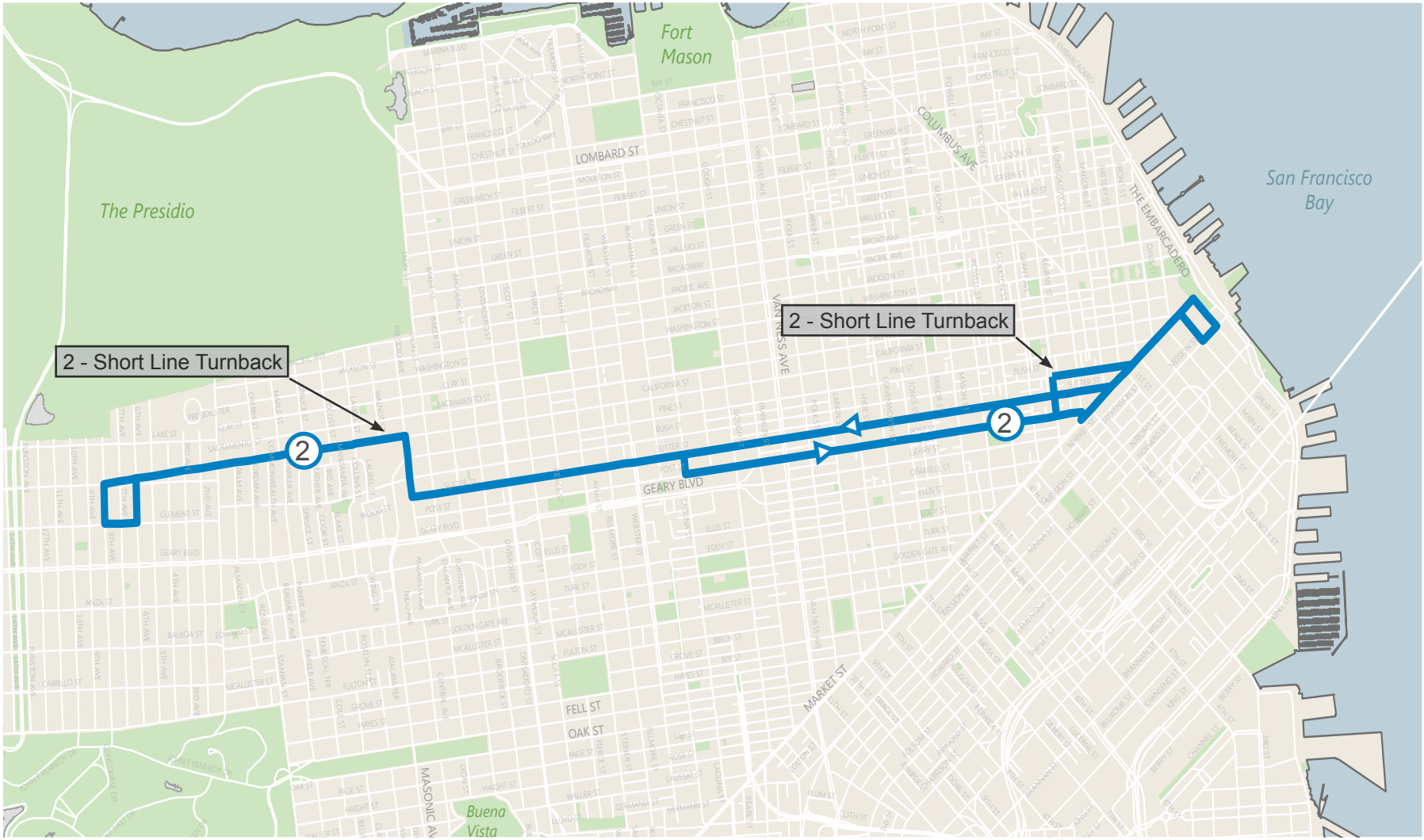
- No stops would be eliminated, but the route alignment would change. Where the inbound (eastbound) route currently turns south on Fillmore Street, the proposed route would continue on California Street and turn south on Gough Street to Bush Street. The route segment that extends south on Fillmore Street and east on Bush Street to Gough Street would be discontinued.
- New transit stop would be added on Pine Street (pm) and Bush Street (am) at Van Ness Avenue to improve transit connections to the Civic Center and the northern waterfront.
- A Transit Priority Project is proposed for the California Street corridor to reduce transit travel time.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	7	7	=
PM	11	11	=

2 Clement



Grid

Recommended Route

Feature Summary

RA HC VC EH

2 Clement

Overview

- To improve 2 Clement Service, it is recommend to use an alternative alignment that would utilize existing overhead wires for trolley coach service on the entire Sutter Street corridor. Instead of operating on Clement Street from Arguello Boulevard to Park Presidio Boulevard, the route would continue on California Street to Eighth Avenue, then south to Clement Street to Sixth Avenue. This service would include a terminal loop at Sansome Street in the Downtown area.
- Supplemental trolley coach service would be added between Downtown (Sansome/Market streets) and Presidio Avenue to improve current transit frequencies on Sutter and Post streets due to the reduced 3 Jackson service on this segment.
- A 2 Clement service would continue service to the current terminal on Clement Street and 14th Avenue.
- East of Fillmore Street during peak hours, the combined 2 Clement and 3 Jackson lines would operate with five minute headways. Between Fillmore Street and Presidio Avenue, the 2 Clement would operate with 7.5 minute headways.

Frequency

Service during peak periods (headway between vehicles, in minutes)

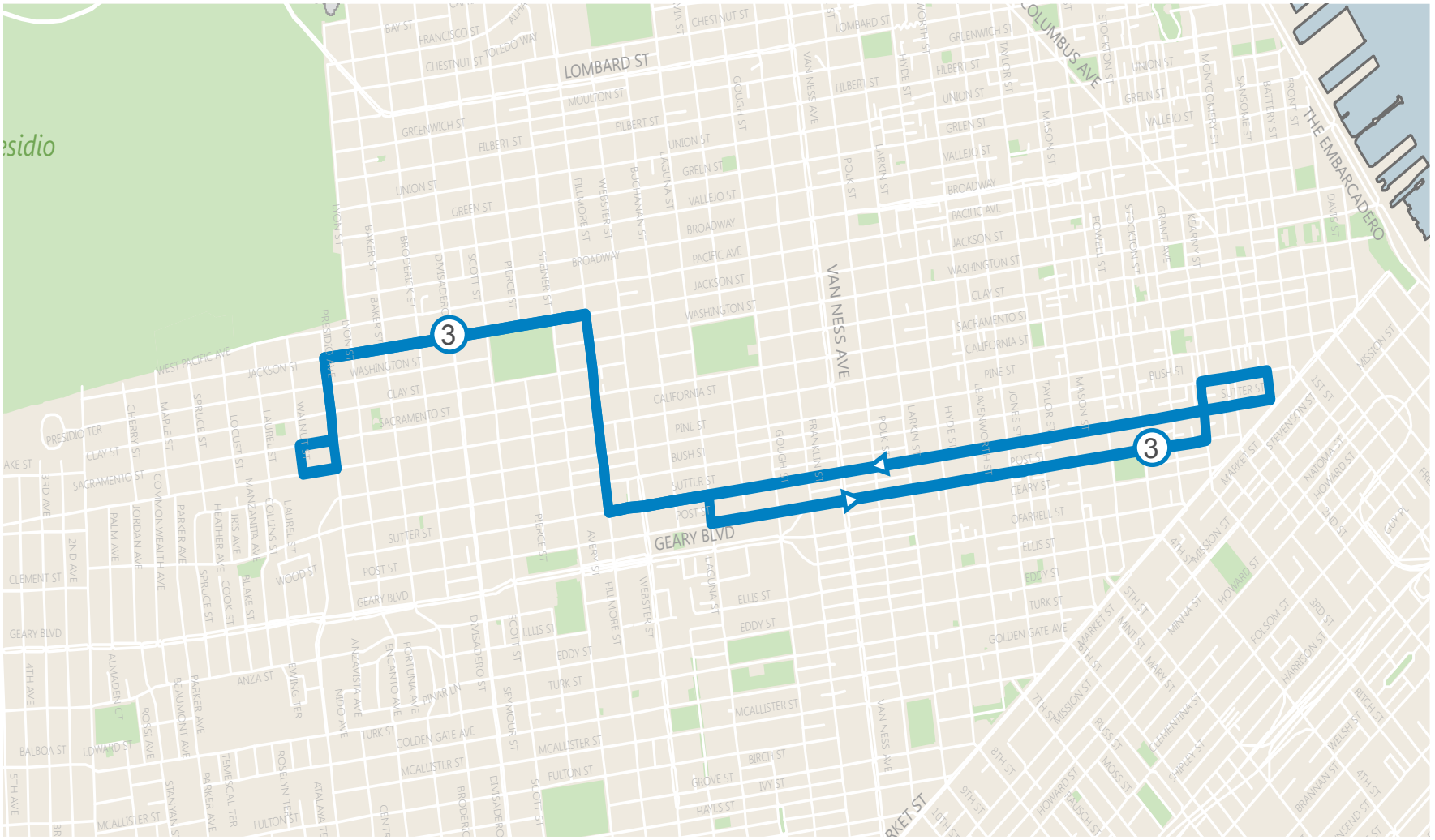
West of Presidio Ave.

	Current	Approved	Frequency
AM	12	15	–
PM	12	15	–

East of Presidio Ave.

	Current	Approved	Frequency
AM	12	7.5	+
PM	12	7.5	+

3 Jackson



Grid

Recommended Route

Feature Summary

HC

3 Jackson

Overview

- Route would be retained and its frequency would be reduced.
- Transit headways on Sutter Street would be increased by adding supplemental trolley coach service on the 2 Clement between Downtown and Presidio Avenue.
- Midday service frequency may be reduced from 20 minutes to 30 minutes.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	12	15	—
PM	12	15	—

5 Fulton / 5R Fulton Rapid

Rapid

Recommended Route

Feature Summary

NR RA HC VC BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN

5 Fulton / 5R Fulton Rapid

Overview

Muni's 5 Fulton bus route carries about 19,000 daily customers on an average weekday. The route's study corridor is 5.6 miles long and includes Fulton Street between La Playa and Central Avenue, Central Avenue between Fulton and McAllister streets, and McAllister Street between Central Avenue and Market Street. Within the study corridor, the 5 Fulton serves over 13,000 customers on an average weekday.

Within the study area, the 5 Fulton operates at an average speed of 9.7 miles per hour during peak periods. Sources of delay include closely spaced bus stops, traffic congestion and frequent STOP signs along the route in the Western Addition.

- New Rapid Service route would make local stops west of Eighth Avenue, limited stops between Eighth Avenue and Market Street, and resume local stops on Market Street to the Transbay Terminal.
- 5R Fulton Rapid would be supplemented by 5 Fulton short-line with local service from Eighth Avenue to Downtown. Working together, the 5/5R would serve all local stops from Ocean Beach to Downtown; passengers who want to travel from a local stop west of Eighth Avenue to a local stop between Eighth Avenue and Market Street would need to transfer from the 5R Fulton Rapid to the 5 Fulton Short-line route.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.
- The 5 Fulton will operate the 5 Fulton short-line with motor coach service prior to the installation of bypass wires.

5 Fulton Transit Priority Projects

- Increasing bus stop spacing from 1.5 blocks to two blocks east of Arguello Boulevard and from two blocks to three blocks in the Richmond District. Currently, the 5 Fulton stops about every 1.5 blocks between Market Street and Arguello Boulevard and about every two blocks in the Richmond District. This proposal moves toward a two-block spacing between Market Street and Arguello Boulevard where blocks are longer and toward a three-block spacing in the Richmond District where blocks are shorter. By stopping fewer times, the bus would take less time to move through the corridor.
- Optimizing bus stop locations at 12 intersections. Relocating bus stops from the near-side to the far-side of intersections would allow buses to take advantage of planned transit signal priority improvements that could allow traffic signals to be programmed to hold green lights for approaching buses. Where the 5 Fulton turns at the STOP-controlled intersection of Central Avenue and McAllister Street, this proposal would relocate the bus stops to the near-side of the intersection, eliminating the need for buses to stop once for the STOP sign and again to pick-up and drop-off customers.
- Adding transit bulbs at 16 intersections. Transit bulbs are sidewalk extensions alongside bus stops that allow buses to pick-up and drop-off customers and reduce delay by preventing the bus from having to pull out of the travel lane into a bus stop and then wait for a gap to merge back into traffic. Transit bulbs enhance the ability of buses to take advantage of all-door

boarding and provide space for transit shelters and other customer amenities.

- Replacing all-way STOP-controlled intersections with traffic signals or traffic calming measures at nine intersections. Currently, the 5 Fulton is delayed by having to stop at multiple intersections with STOP signs. Some STOP signs could be replaced with traffic signals that could be programmed to hold green lights for approaching buses. At some intersections along McAllister Street, traffic calming measures could replace STOP signs and eliminate the need for buses to come to a complete stop while maintaining pedestrian safety. Potential traffic calming measures include traffic circles or sidewalk extensions.
- Adding right-turn pockets at 4 intersections. Right-turn pockets would reduce Muni delays associated with buses waiting behind right-turning motorists by providing a dedicated space for turning vehicles to queue.
- Implementing a road diet on Fulton Street between Stanyan Street and Central Avenue. Within this six block segment of Fulton Street, the travel lanes are too narrow to allow large vehicles such as buses to travel alongside other vehicles moving in the same direction. By removing one travel lane in each direction and widening the remaining travel lanes, delays would potentially be reduced.
- Adding peak-period parking restriction along east side of Central Avenue between Fulton and McAllister streets. Parking and loading along this block of Central Avenue delay Muni vehicles and make it difficult for buses traveling in opposite directions to pass each other. Restricting parking on the east side of Central Avenue during peak periods would provide more space for buses to maneuver and would reduce Muni delays.
- Adding pedestrian bulbs or islands at 3 intersections. Two treatments are being considered to shorten crossing distances and improve pedestrian safety. Pedestrian bulbs are sidewalk extensions at intersection corners that improve pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists, and reducing the speed of motorists turning from cross streets. Pedestrian islands provide a raised refuge area in the middle of the street for crossing pedestrians.

Summary

Together, the proposed changes are anticipated to reduce the travel time of the 5 Fulton by about six minutes in each direction (12 minutes total) within the study area (18 percent reduction), improving the average operating speed to 11.7 miles per hour and improving service reliability. Transit signal priority improvements are anticipated to save an additional 1.5 minutes in each direction. Other changes such as operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.

5 Fulton / 5R Fulton Rapid

Frequency

Service during peak periods (headway between vehicles, in minutes)

West of Eighth Ave.

	Current	Approved	Frequency
AM	6	6	=
PM	9	7	+

East of Eighth Ave.

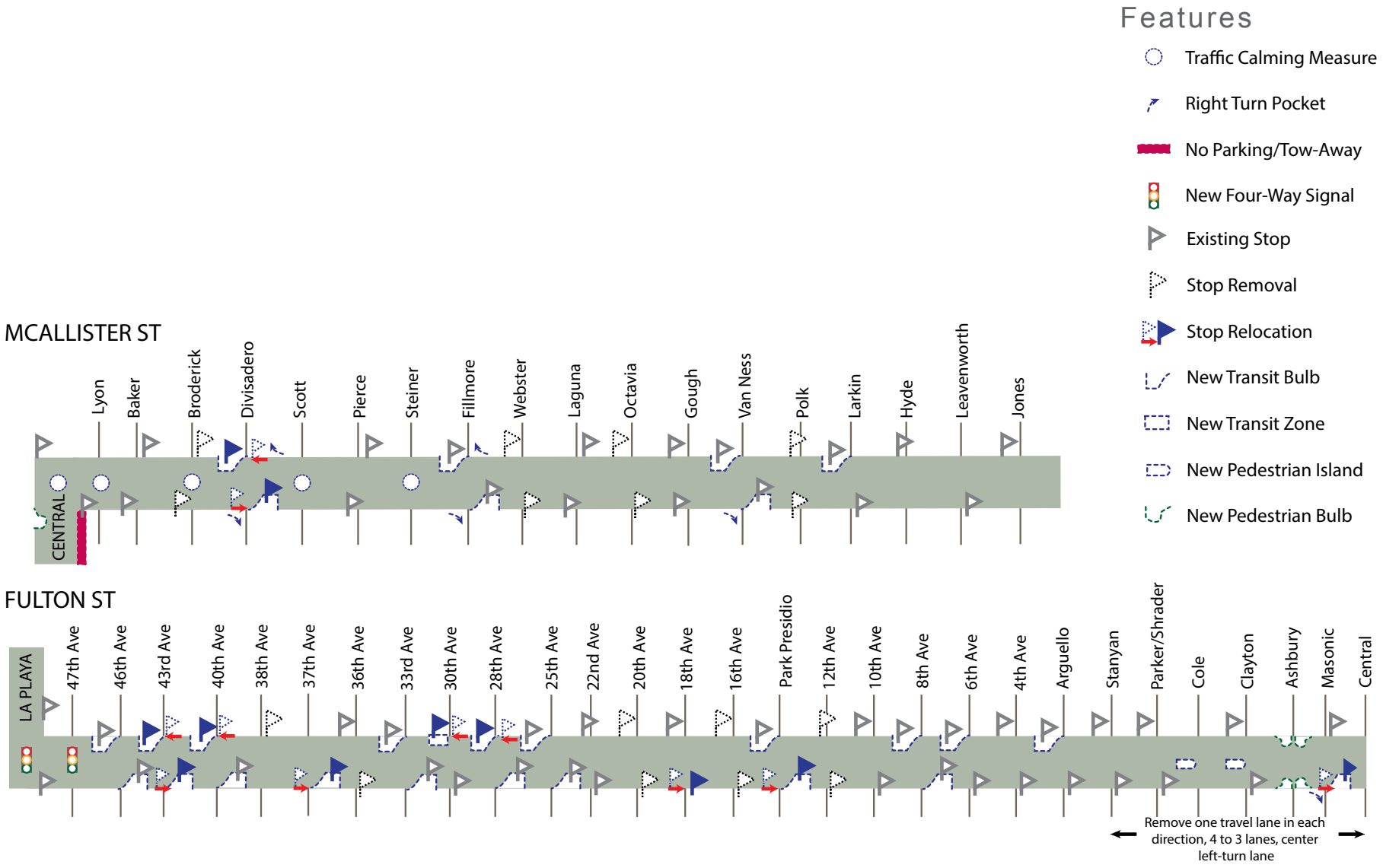
	Current	Approved	Frequency
AM	4	3	+
PM	4.5	3.5	+

Budget

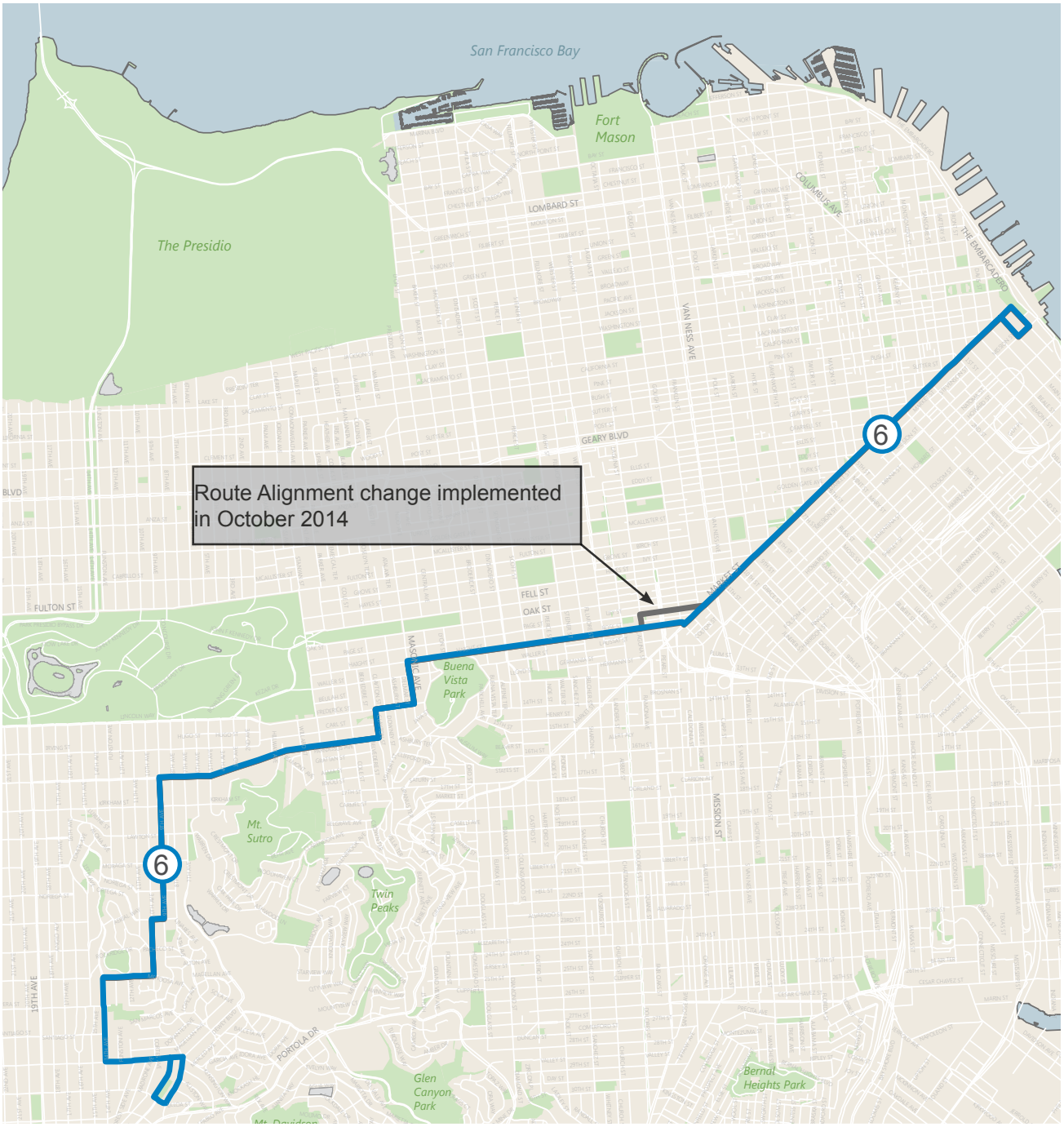
Project Phase	Total
McAllister St - Construction	$800,000
6th Ave to 25th Ave - Design & Construction	$22,700,000
East of 6th Ave - Design & Construction	$5,500,000
Total	$29,000,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning, conceptual engineering, and design.

5 Fulton Transit Priority Project



6 Haight-Parnassus



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

BUS STOPS · SIG-NALS · ROAD-WAYS · CURB SPACE · PEDES-TRIAN

6 Haight-Parnassus

Overview

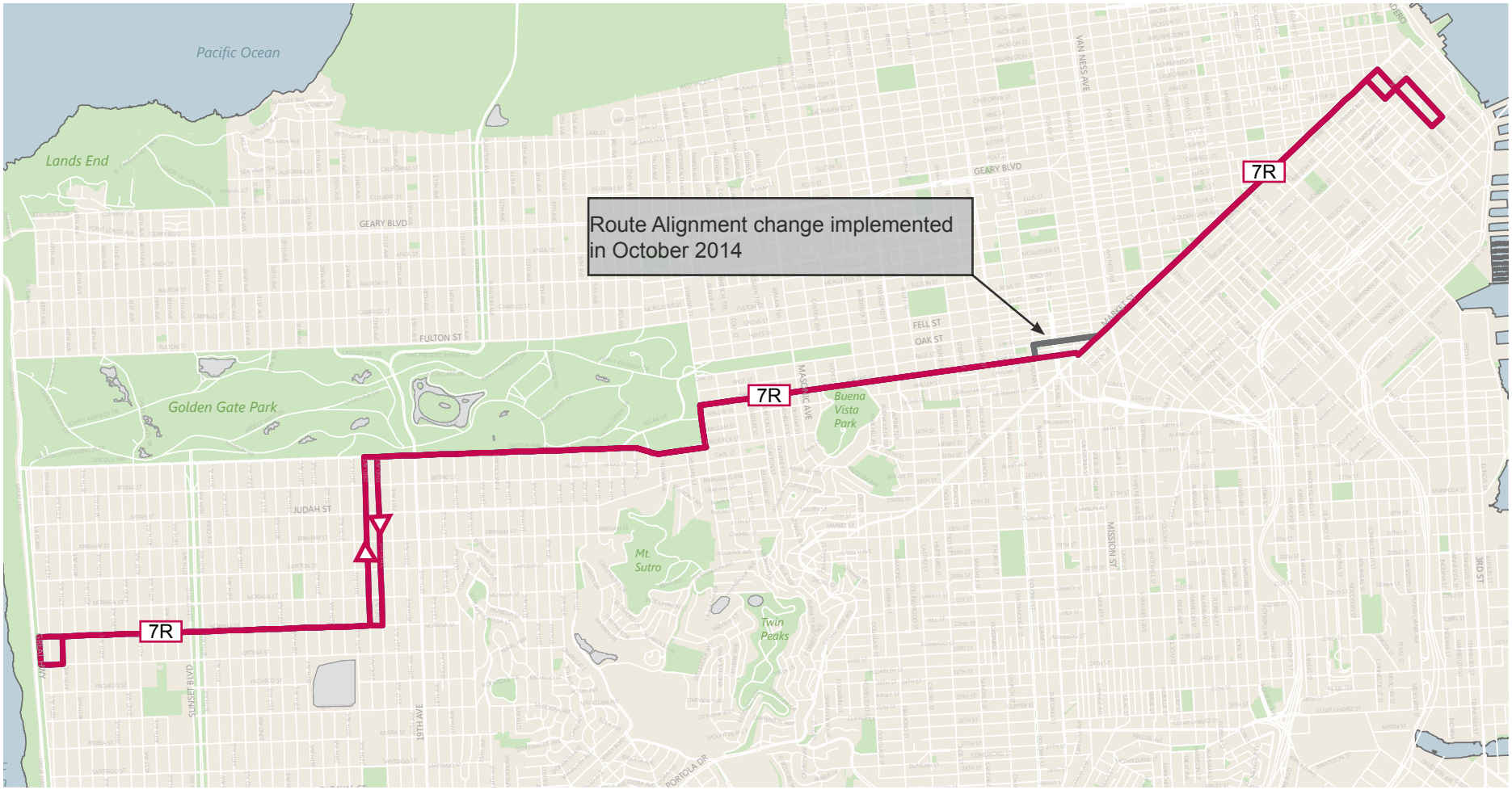
- 6 Parnassus will remain in current alignment but at a lower frequency.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time (See the 71 Haight-Noriega project description below).

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	12	—
PM	10	12	—

7/7R Haight-Noriega



Rapid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC EH

BUS STOPS · SIG-NALS · ROAD-WAYS · CURB SPACE · PEDES-TRIAN

7/7R Haight-Noriega

Overview

- No route changes proposed.
- Route will be renamed 7 Haight-Noriega and 7R Haight-Noriega Rapid.
- Existing 71L Haight-Noriega Limited, which operates only in the peak period and peak direction, will replace the 7 Haight Noriega and provide all day limited-stop service on Haight Street in both directions.
- Route will make local stops west of Masonic Street and on Market Street; route would make limited stops between Masonic and Market streets.
- Route includes inbound/outbound service on 22nd/23rd Avenue couplet. 7R Haight-Noriega Rapid service will evaluate two-way, inbound/outbound service on 22nd Avenue to improve connections to the N Judah.
- Midday frequency will change from 12 to 7.5 minutes.
- A Transit Priority Project will reduce transit travel time on this corridor.

Transit Priority Project - Stanyan to Laguna

The following changes have been approved by the SFMTA Board of Directors:

- Optimizing transit stop locations at four intersections. Relocating transit stops from the near-side to the far-side of intersections at proposed traffic signals would allow buses to take advantage of planned transit signal priority improvements.
- Increasing transit stop spacing from two to three blocks to three to four blocks. Currently the 7 Haight-Noriega stops at approximately every other block within the study area. By stopping fewer times, the bus takes less time to move through the corridor.
- Adding transit bulbs at two intersections. Transit bulbs are sidewalk extensions alongside bus stops that allow buses to pick-up and drop-off customers without having to pull out of the travel lane into a bus stop and then wait for a gap to merge back into traffic. Transit bulbs enhance the ability of buses to take advantage of planned all-door boarding and provide space for transit shelters and other customer amenities.
- Creating signalized transit queue jumps at one location. Signalized queue jumps allow a transit vehicle to proceed through an intersection during its own green-light phase, ahead of the lines of auto traffic waiting at a red light.
- Replacing all-way STOP-controlled intersections with traffic signals at nine intersections. Installing traffic signals at locations that currently have stop signs would allow buses to take advantage of planned transit signal priority improvements.

Transit Priority Project - 9th Ave to Great Highway

For this proposal, the Transit Priority Features would be applied along a segment of the 7R Haight-Noriega Rapid and 6 Parnassus routes. The Transit Priority Features would be implemented along the following streets: Ortega Street, 47th Avenue, Noriega Street, 22nd Avenue, Lincoln Way, Frederick, Stanyan, and Haight streets (inbound), and along Haight, Stanyan, and Frederick streets, Lincoln Way, 23rd Avenue, Noriega Street, the Great Highway and Ortega Street (outbound). This corridor extends from the intersection of Ortega Street and 48th Avenue to the intersection of Market and Gough streets. This would improve an east-west portion of the Rapid Network connecting the Outer and Inner Sunset Districts with Cole Valley, the Haight Ashbury, the Lower Haight, Hayes Valley, Civic Center and Downtown and providing a future connection to the Van Ness BRT and Better Market Street Project improvements.

Frequency

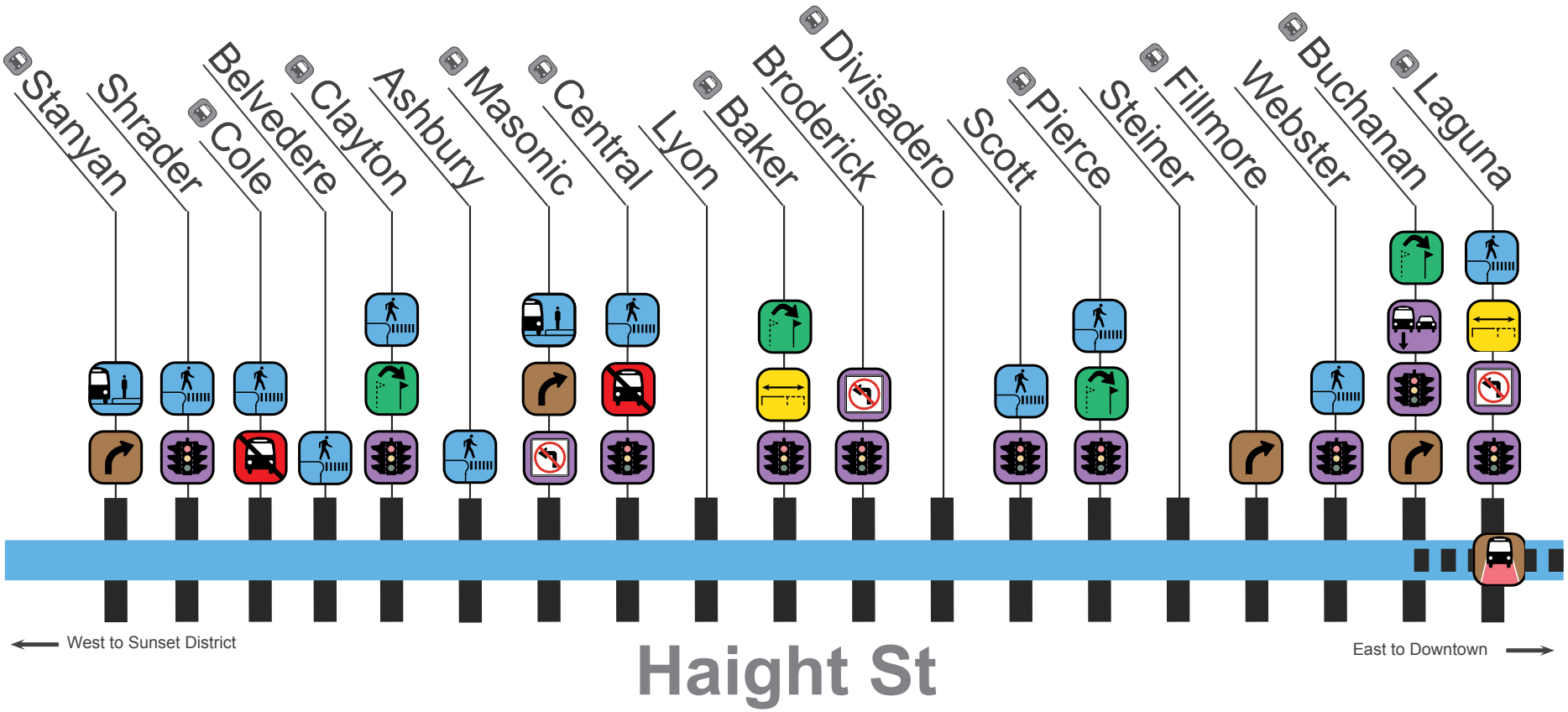
Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	7.5	+
PM	10	7.5	+

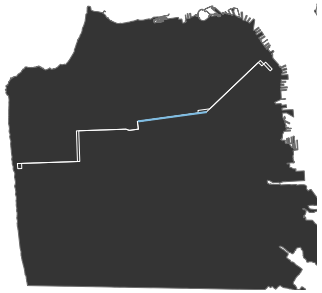
Budget

Project Phase	Total
Stanyan to Laguna - Design & Construction	$14,171,000
9th Ave to Great Highway - Design & Construction	$8,520,000
Total	$16,420,000

7/7R Haight-Noriega Transit Priority Project



Segment Location

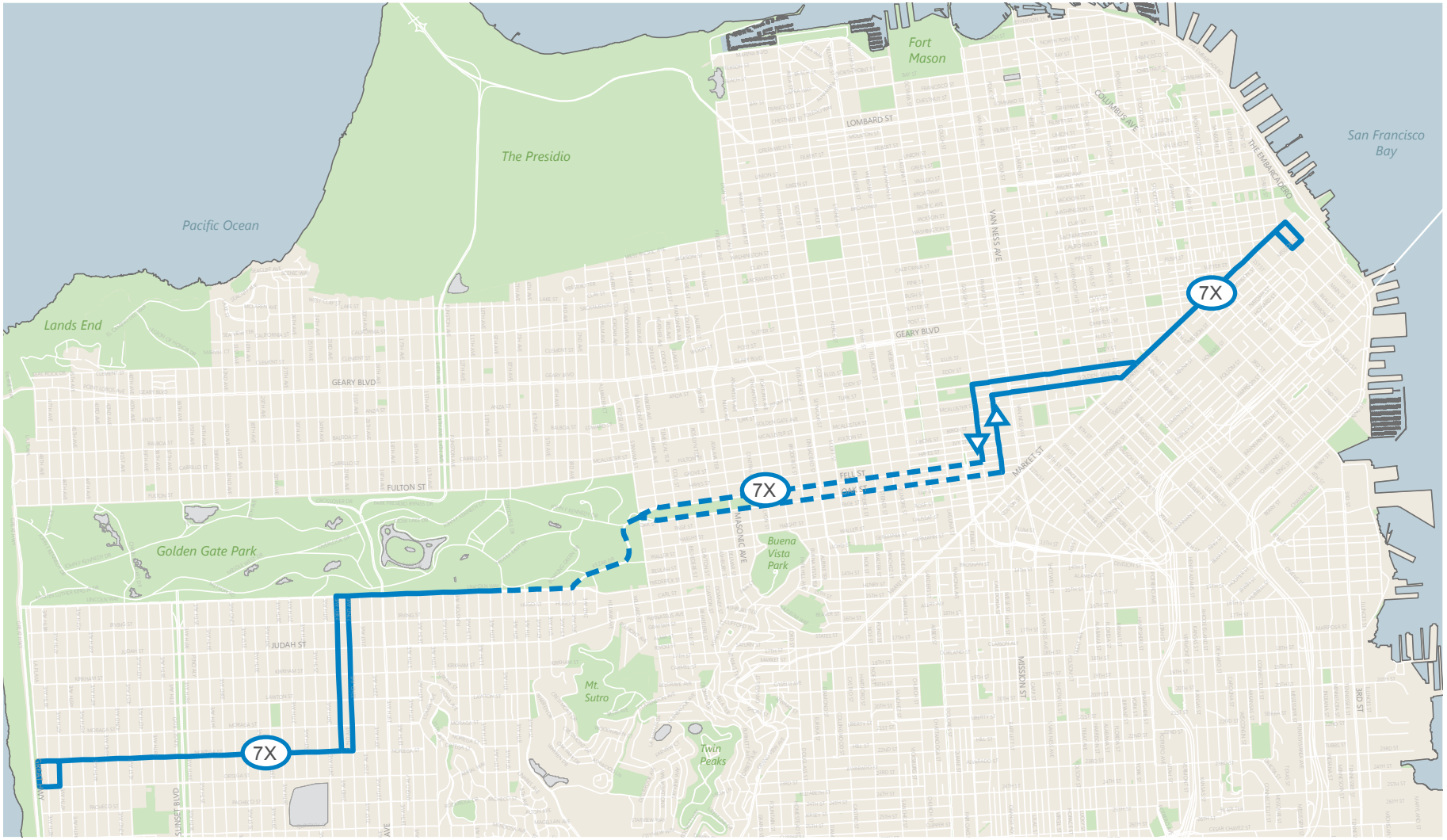


Existing Stop

Summary of Proposals

- Relocate Stop
- Stop Removal
- New Pedestrian Bulbs
- Turn Restrictions
- Bus-Only Signal
- Extend Bus Zone
- New Transit Bulbs
- New Turn Pockets
- New Traffic Signal
- Transit-Only Lanes

7X Noriega



Express

- Recommended Route
- Express Segment (no stops)

Feature Summary

RA

7X Noriega

Overview

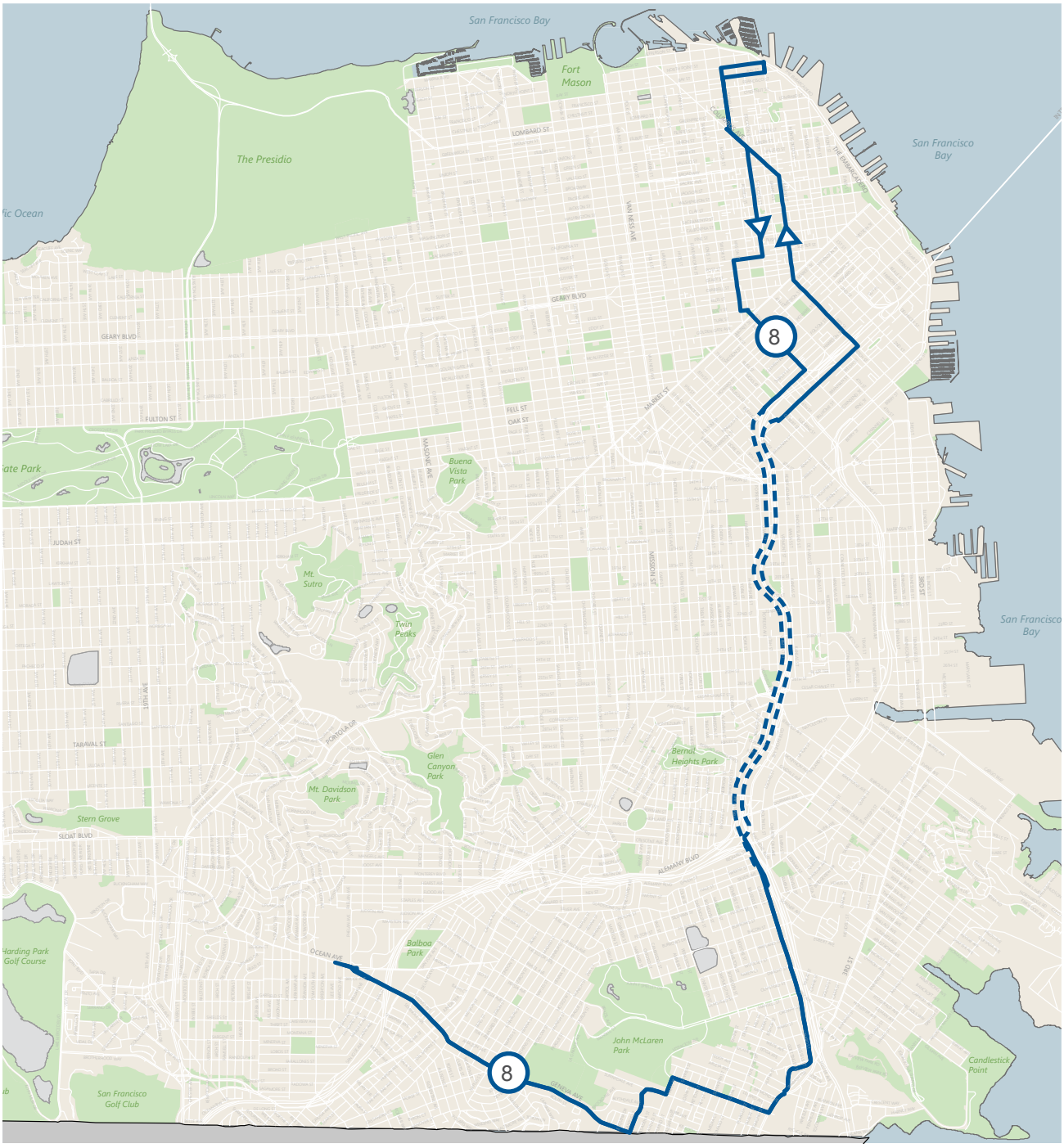
- Route will be extended to Market and Spear streets in the Financial District (currently terminates at Fourth Street).
- The route will extend on Market Street from 4th Street to Spear Street, Spear Street between Market and Mission Streets, Mission Street between Spear and Main Streets, and Main Street between Market and Mission Streets.
- To create a 100-foot-long terminal layover space during the peak period, a peak tow-away zone from 4 to 6 p.m. would be adopted on the south side of Mission Street between Steuart and Spear streets. This would require a reduction of up to five parking spaces during the peak period.
- Under existing conditions, the outbound route operates on 23rd Avenue between Lincoln Way and Noriega Street, and inbound on 22nd Avenue. The proposed 16X service would operate two-way inbound/outbound service on 22nd Avenue to provide better connections to the N Judah.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	9	9	=
PM	9	9	=

8 Bayshore



Frequent Local

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

8 Bayshore

Overview

Muni's 8 Bayshore bus route carries more than 23,000 daily customers on an average weekday. Over 12,000 of these customers board at stops located within the project study area, located along 5 miles between San Bruno and Silver and Geneva, Ocean and Phelan. Within the study area, the 8 Bayshore operates at an average speed of 7.7 miles per hour during peak periods. There are 36 transit stops in each direction. The average transit stop spacing between San Bruno and Silver and Geneva, Ocean and Phelan is 735 feet, with stops every two blocks.

The main causes of delay to the 8 Bayshore include long passenger boarding and alighting times, general traffic congestion in certain locations, a high number of stop signs along the route and areas of closely spaced transit stops.

- During non-peak periods, half of the 8 trips would layover on Kearny Street between Pacific Avenue and Broadway and the other half would terminate at the current terminal on Kearny Street. In addition to the existing transit zone, a reduction of five parking spaces would be required (parking is currently prohibited from 3 to 6 p.m. as part of the Kearny Street tow-away zone.) The parking restriction hours would need to be extended to all day.
- Midday frequency would change from 9 to 7.5 minutes.
- In the p.m. peak, the 8AX and 8BX would have separate terminals as they do today.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.
- Currently, there is a temporary reroute in the southbound direction along Mason and Fifth streets to accommodate the Central Subway Project construction. The reroute is expected to be in place for several years.

8 Bayshore Transit Priority Projects

In order to reduce transit travel times and improve reliability, the SFMTA proposes an variety of improvements within the study area. These proposals include:

- Replacing all-way STOP-controlled intersections with traffic signals or traffic calming measures at five intersections. Currently, the 8X Bayshore Express is delayed by having to come to a complete stop at multiple intersections with stop signs. These stop signs could be replaced with traffic signals equipped with transit signal priority. This would reduce delay at intersections because the signals could be programmed to hold green lights for approaching buses. Alternatively, traffic calming measures such as corner bulbs, raised crosswalks, and sidewalk extensions could be installed to provide improved pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists and reducing the speed of motorists turning from cross streets. Traffic calming measures would have a similar effect of reducing intersection delays for buses, by eliminating the need for the bus to come to a complete stop.
- Optimizing transit stop locations at 8 intersections. Relocating transit stops from the near-side to the far-side of intersections at existing traffic signals would allow buses to take advantage of planned transit signal priority improvements. At all-way STOP-controlled intersections, transit stops would be relocated from the far-side of the intersection to the near-side, eliminating the need for buses to stop once for the STOP sign and again for customers to board the bus.
- Establishing one mile of transit-only lanes. Transit-only lanes provide exclusive right-of-way

for buses to travel unimpeded by general traffic congestion. These lanes would be established on Geneva Avenue between Santos and Moscow/South Hill and also on westbound Geneva Avenue between Delano and San Jose and between the Interstate 280 freeway ramps.

- Increasing bus stop spacing on average from two blocks to 2.5 blocks. Currently, the 8 Bayshore stops at every two blocks between San Bruno and Silver and Geneva, Ocean and Phelan. This proposal moves toward a slightly wider average 2.5 block spacing for most stops. Some stops would be expanded by every three blocks. By stopping fewer times, the bus would take less time to move through the corridor.
- Adding turn pockets at up to six intersections. Turn pockets would reduce Muni delays associated with buses waiting behind left- or right-turning motorists by providing a dedicated space for turning vehicles to queue.
- Adding transit bulbs at 11 intersections. Transit bulbs are sidewalk extensions alongside transit stops that allow passengers to get on and off without having to walk between parked cars and cross a lane of traffic. Transit bulbs enhance the ability of buses to take advantage of all-door boarding. Transit bulbs provide space for transit shelters and other customer amenities. Transit bulbs also improve pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists, and reducing the speed of motorists turning from cross streets.
- Extending transit stops at seven intersections. Extending existing transit stops would accommodate multiple transit vehicles and would improve the ability of transit vehicles to maneuver in and out of stops.

Summary

Together, the proposed changes are anticipated to reduce the travel time of the 8 Bayshore bus route by about 7 minutes in each direction (14 minutes total) within the study area (18% reduction), improving the average operating speed to 9.4 miles per hour and improving service reliability. Transit signal priority improvements are anticipated to save an additional 1.5 minutes in each direction. Other changes such as operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the route and allow for service to be cost effectively increased.

8 Bayshore

Frequency

Service during peak periods (headway between vehicles, in minutes)

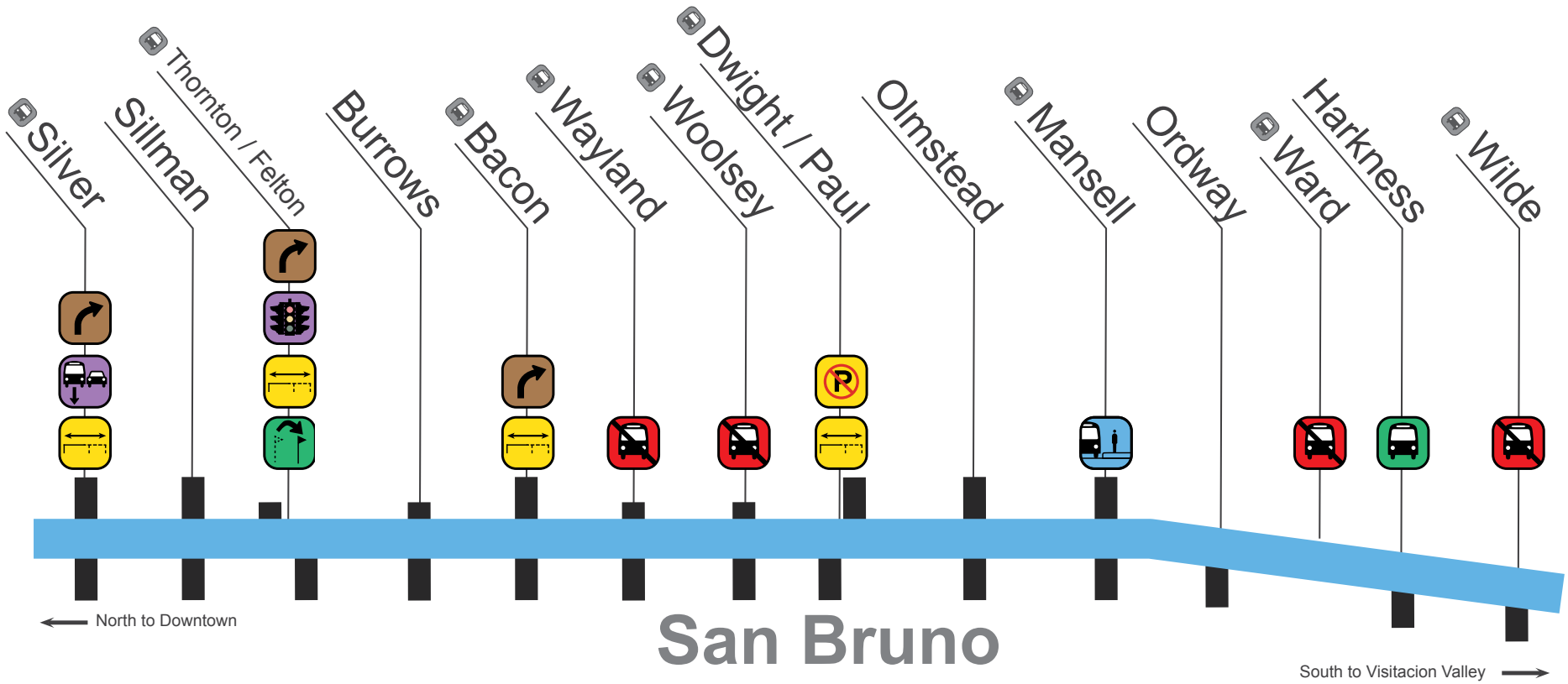
	Current	Approved	Frequency
AM	7.5	6	+
PM	7.5	7	+

Budget

Project Phase	Total
San Bruno Ave - Construction	$8,250,000
Geneva Ave & Vis Valley - Construction	$19,186,000
Total	$27,436,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning, conceptual engineering, and design.

8 Bayshore Transit Priority Project



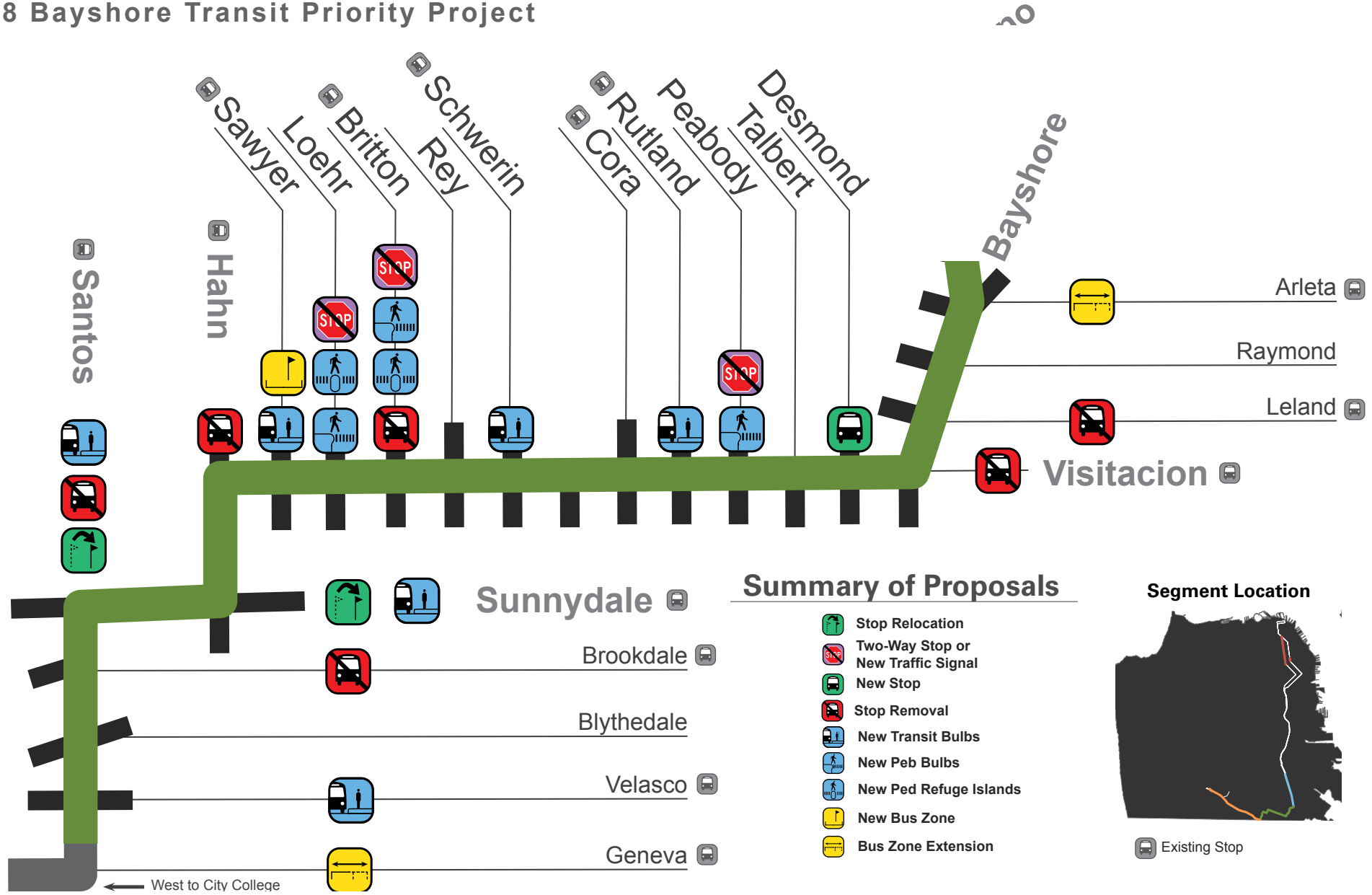
Segment Location

Existing Stop

Summary of Proposals

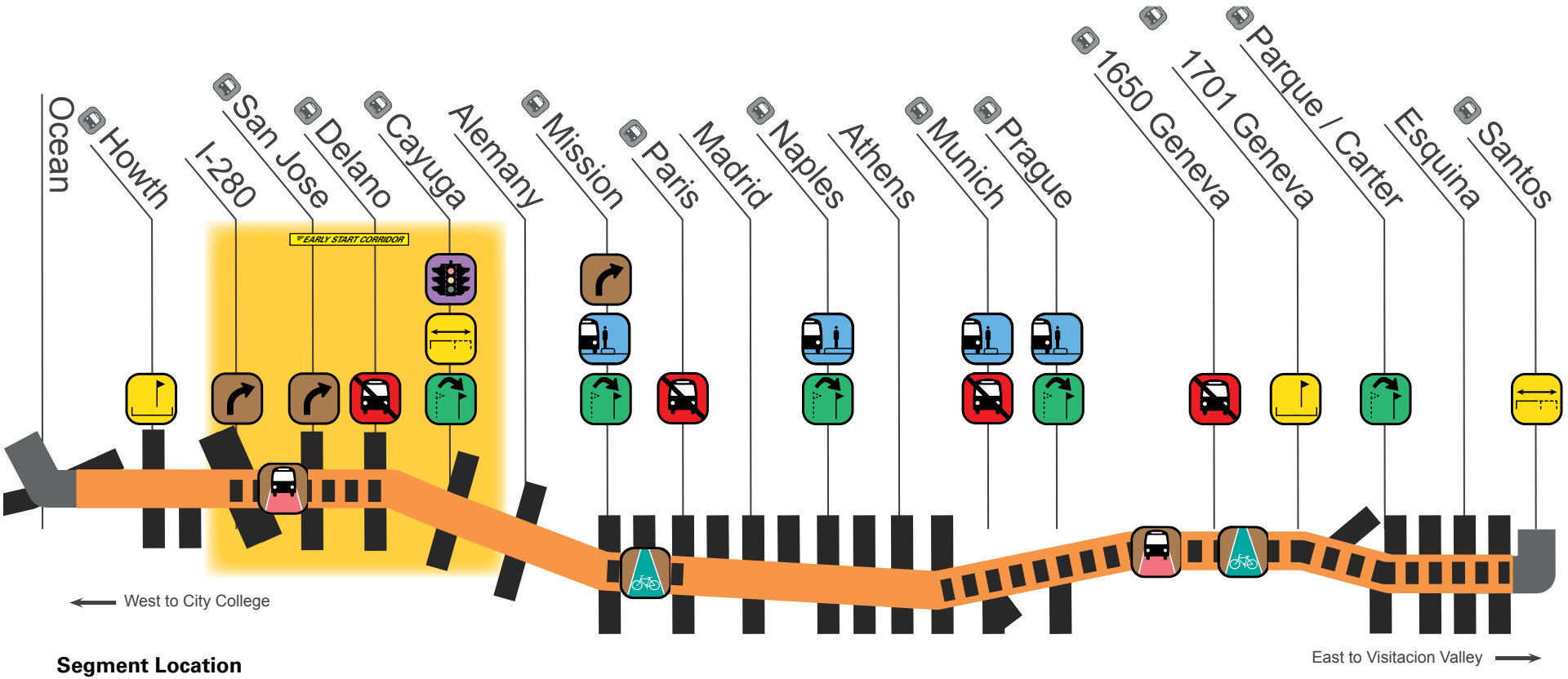
- Queue-Jump Signal
- New Stop
- New Transit Bulbs
- Stop Removal
- New Transit Island
- Lane Widening
- Transit-Only Lanes

8 Bayshore Transit Priority Project



8 Bayshore

8 Bayshore Transit Priority Project



Segment Location

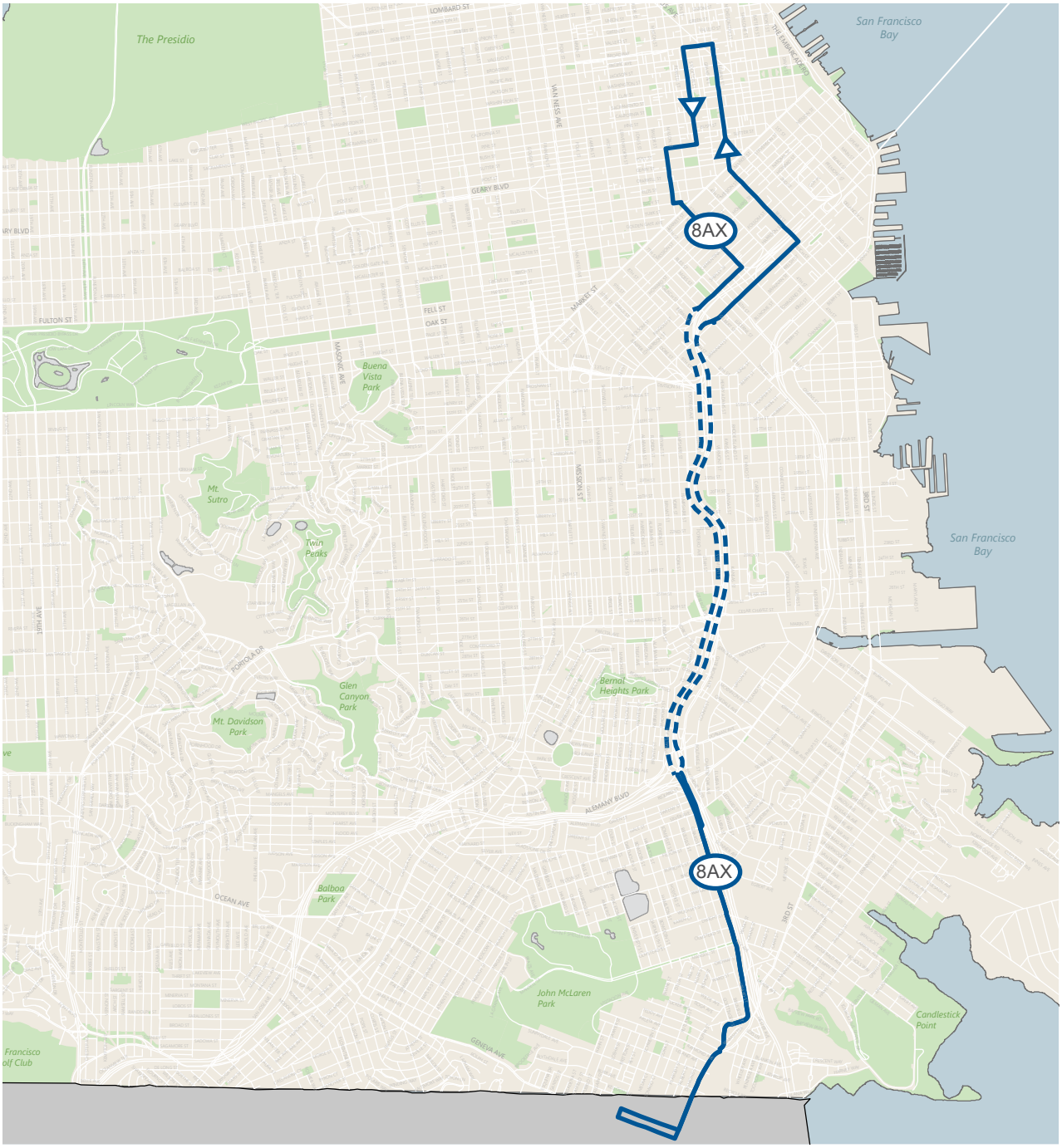
Existing Stop

Summary of Proposals

- New Stop
- Stop Removal
- Stop Relocation
- New Bus Zone
- Bus Zone Extension
- New Ped Refuge Islands
- New Transit Bulbs
- New Right Turn Pocket
- Transit-Only Lanes
- Bicycle Lanes

EARLY START CORRIDOR — Improvements already in progress through other projects

8AX Bayshore “A” Express



Express

- Recommended Route
- Express Segment (no stops)

Feature Summary

HC · BUS STOPS · SIG-NALS · ROAD-WAYS · CURB SPACE · PEDES-TRIAN

8AX Bayshore “A” Express

Overview

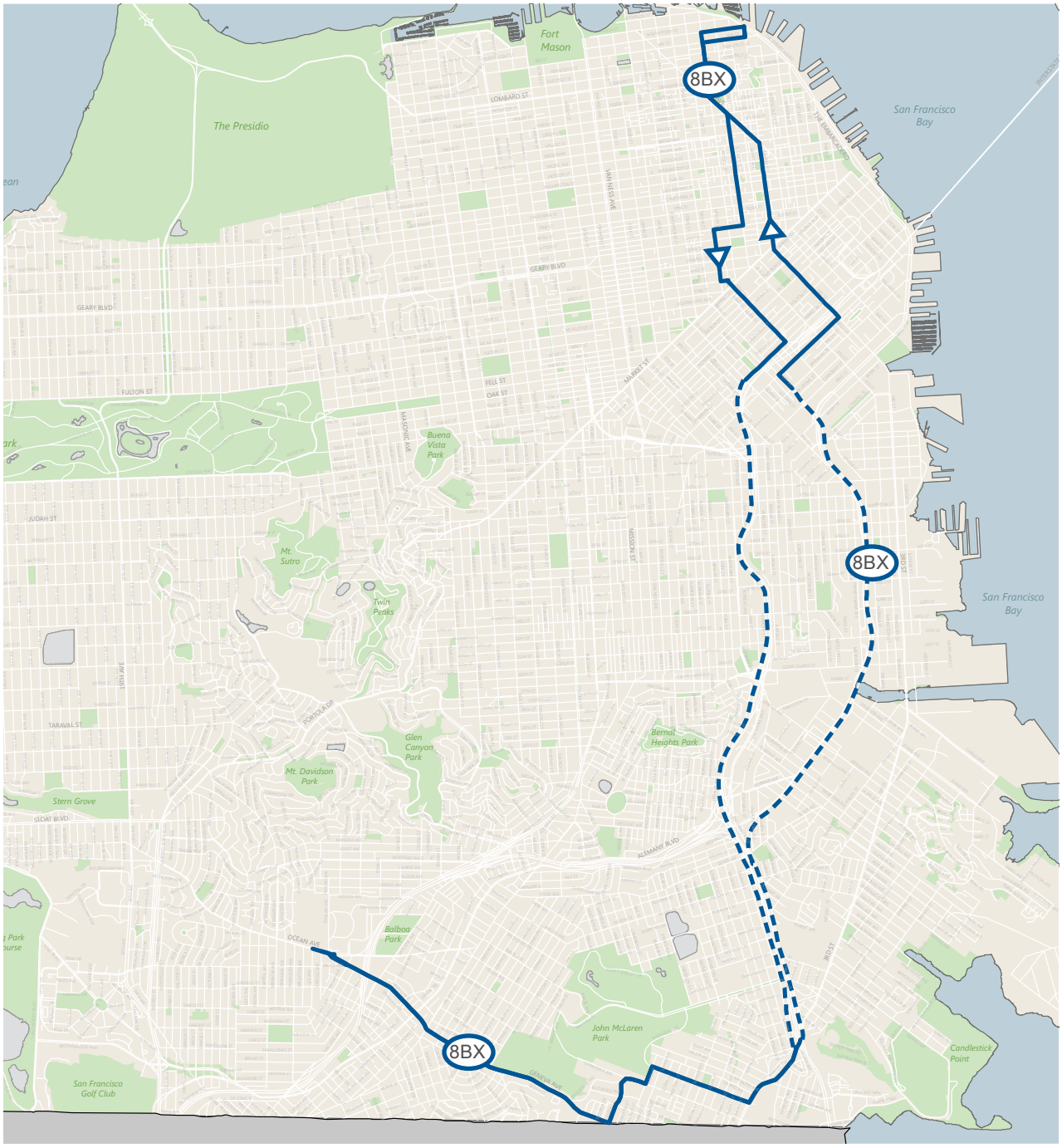
- No route changes proposed.
- A See 8X Bayshore Express for terminal details.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.
- Currently, there is a temporary reroute in the southbound direction along Mason and Fifth streets to accommodate the Central Subway Project construction. The reroute is expected to be in place for several years.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	7.5	6	+
PM	7.5	7	+

8BX Bayshore “B” Express



Express

- Recommended Route
- Express Segment (no stops)

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

8BX Bayshore “B” Express

Overview

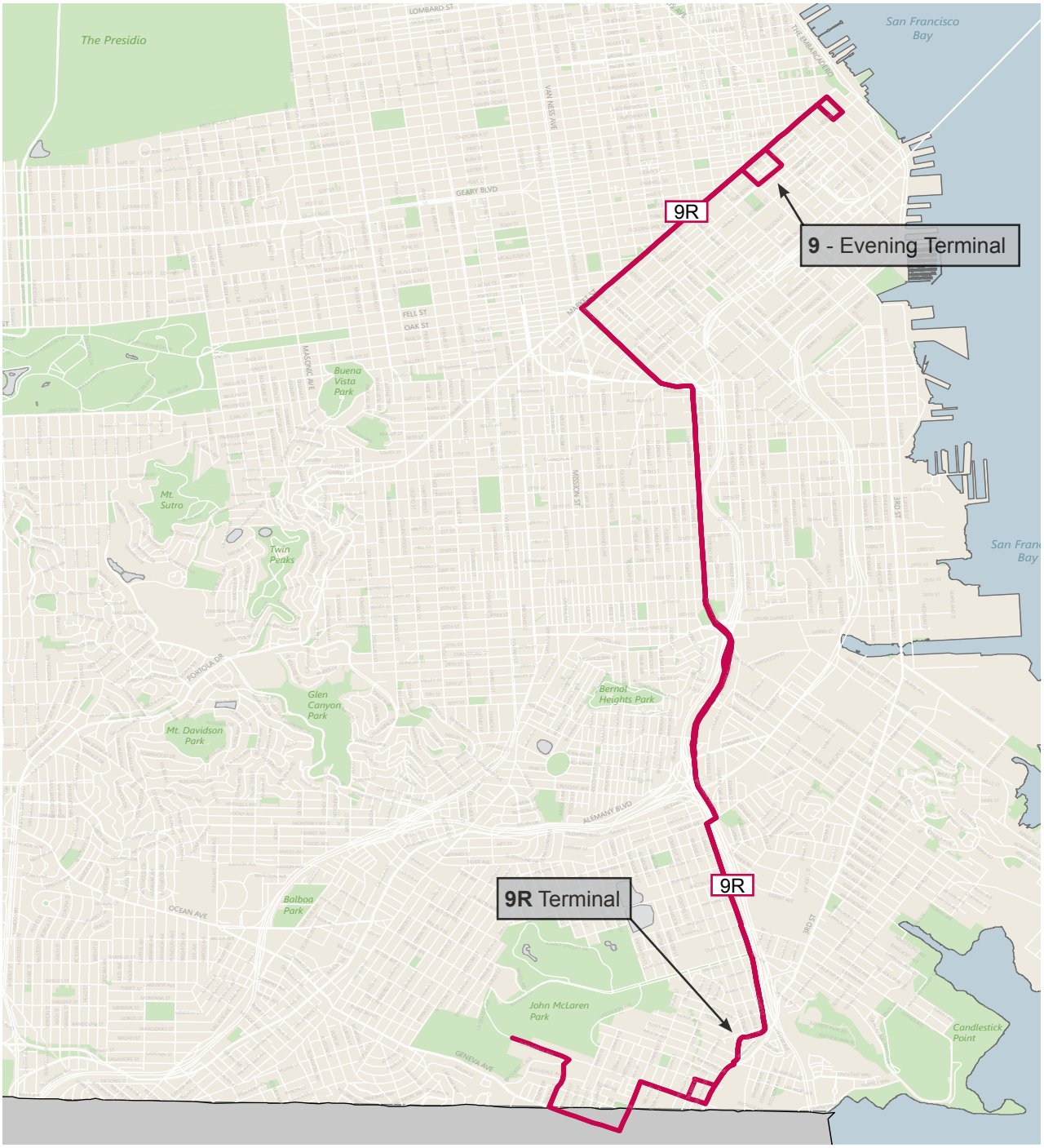
- Route 11 Downtown Connector would provide supplemental service on Powell Street and Columbus Avenue. E Embarcadero and F Market & Wharves Lines service would be available nearby on Jefferson and Beach streets.
- See 8 Bayshore for terminal details.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.
- Currently, there is a temporary reroute in the southbound direction along Mason and Fifth streets to accommodate the Central Subway Project construction. The reroute is expected to be in place for several years.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	8	6	+
PM	7.5	7	+

9 / 9R San Bruno



Rapid

Recommended Route

Feature Summary

HC | BUS STOPS | SIG-NALS | ROAD-WAYS | CURB SPACE | PEDES-TRIAN

9 / 9R San Bruno

Overview

- No route changes proposed.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.

9 San Bruno Transit Priority Projects

For this proposal, the Transit Priority Features would be applied along two segments of the 9 San Bruno/9R San Bruno Rapid routes: 1) 11th St, Division St, and Bayshore Boulevard; and 2) Potrero Avenue. Transit Priority Features will also be applied to San Bruno avenue (see 8X Bayshore Express description above for details). The 9 San Bruno is a major north-south route in the Rapid Network and provides transit connections between the Civic Center and Downtown and neighborhoods to the southeast, including SoMa, the Mission, Showplace Square, Potrero Hill, Bernal Heights, Portola, Silver Terrace, Bay View, and Visitacion Valley.

San Francisco General Hospital Transfer Point

This project would design and implement a new transfer hub in the vicinity of San Francisco General Hospital on Potrero Avenue between 23rd and 24th streets. The proposed transfer point improvements would facilitate transfers between Routes 9 San Bruno Local/9R San Bruno Rapid, 10 Sansome, 19 Polk, 48 Quintara-24th Street and the proposed new 58 24th Street. Improvements may include rerouting bus service on several lines to a shared transit stop, parking removal to accommodate longer transit zones, and the construction of transit bulbs.

9 / 9R San Bruno

Frequency

Service during peak periods (headway between vehicles, in minutes)

9 San Bruno

	Current	Approved	Frequency
AM	12	10	+
PM	12	10	+

9R San Bruno Rapid

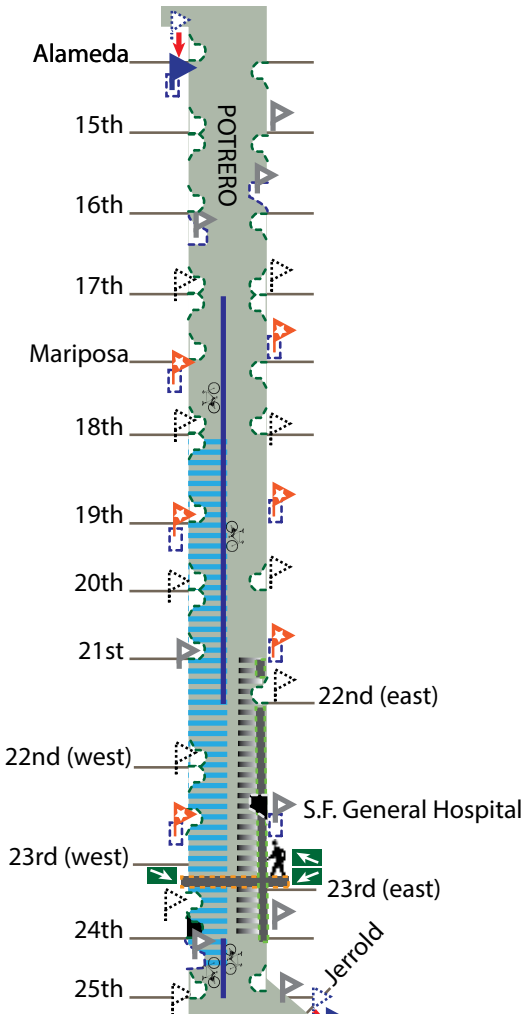
	Current	Approved	Frequency
AM	12	10	+
PM	12	10	+

Budget

Project Phase	Total
11th St, Division St, Bayshore Blvd - Construction	$4,840,000
Potrero Ave - Design & Construction	$4,133,000
Total	$8,973,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning, conceptual engineering, and design.

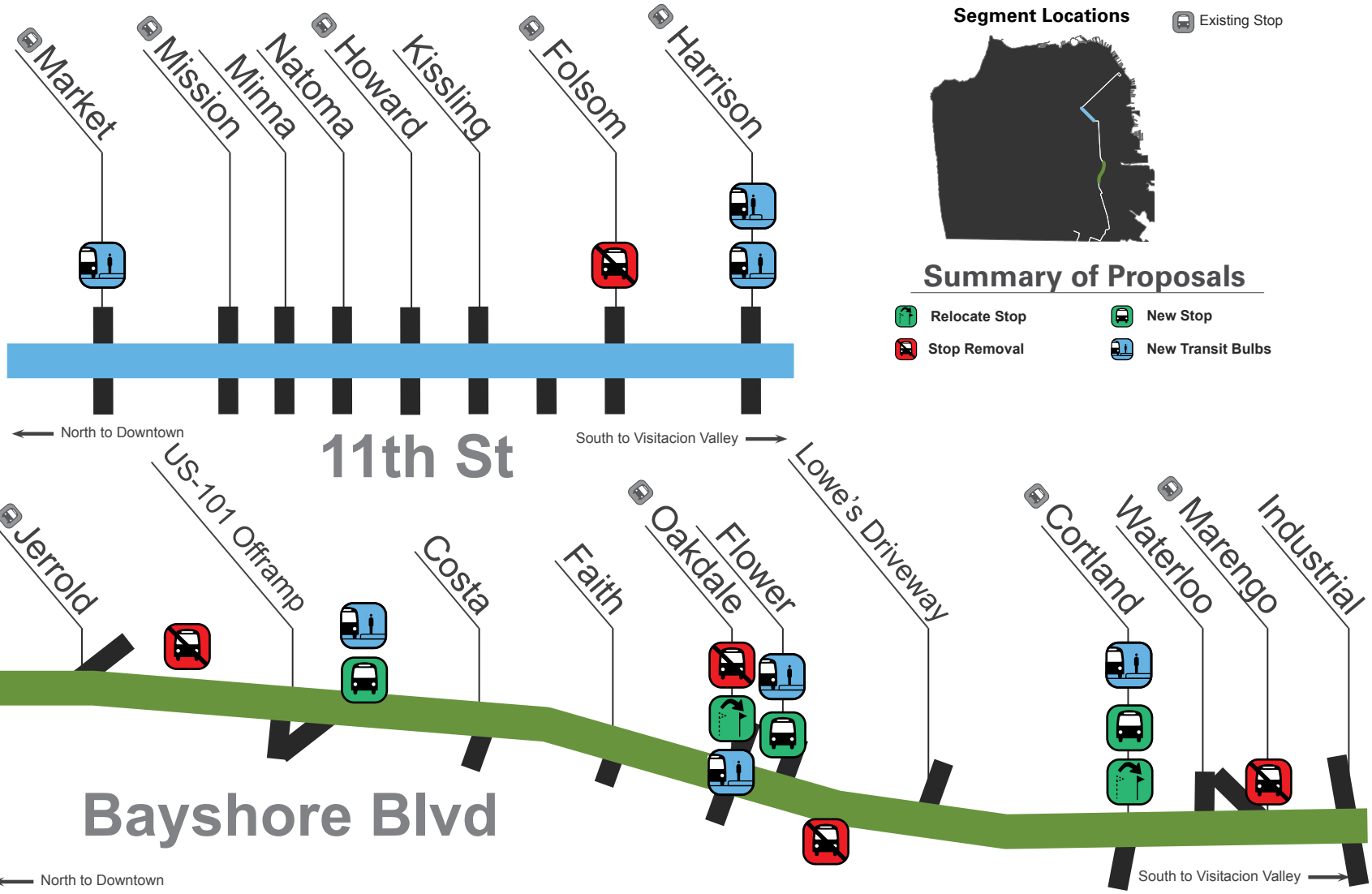
9 / 9R San Bruno - Potrero Transit Priority Project



Features

- Existing Stop
- Stop Removal
- Stop Relocation
- New Transit Bulb
- New Pedestrian Bulb
- Crosswalk
- Transit-Only Lane
- Bus Queue Jump
- Add buffers to bike lanes
- Remove Transit-Only Lane
- New Transit Zone
- Left-Turn Only
- Right-Turn Only
- New Stop
- Remove Transit Bulb
- Widen Sidewalk

9 / 9R San Bruno - 11th St & Bayshore Transit Priority Project



10 Townsend

Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC EH SCI

10 Townsend

Overview

- 10 Townsend will be renamed the 10 Sansome, because service will be rerouted off of Townsend Street.
- Service will operate on new segments on Sansome Street from Broadway to Washington Street, 4th Street between Townsend and Long Bridge Street, Long Bridge Street between 4th Street and Mission Bay Boulevard, Mission Bay Boulevard between Long Bridge Street and Owens Street, Owens Street between Mission Bay Boulevard and 7th Street, 7th Street between Owens Street and Irwin Street, Irwin Street between 7th Street and 16th Street, 16th Street between Irwin Street and Connecticut Street, Connecticut Street between 16th and 17th Streets, Potrero Avenue and Hampshire Streets between 24th and 25th Streets, 24th and 25th Streets between Potrero Avenue and Hampshire Street.
- Proposed eliminated segments will be on Townsend Street between 4th and 8th streets, Division Street between Rhode Island and Henry Adams Streets, Rhode Island Street between Division and 17th Street, 16th Street between De Haro and Rhode Island Streets, De Haro Street between 16th and 17th Streets, 17th Street between Rhode Island and Connecticut Streets, Utah Street between 23rd and 24th Streets, and 24th Street between Utah Street and Potrero Avenue. The segment on Townsend Street between Fourth and Eighth Streets will be served by the rerouted 47 Van Ness route.
- The northern terminal will continue to be located on Jackson Street between Fillmore and Steiner streets. On the weekends and evenings, all trips will continue to terminate at Van Ness Avenue, but will use a slightly different route. From Jackson Street the route will continue right on Franklin Street and right on Pacific Avenue. The one block segment on Van Ness Avenue between Jackson Street and Pacific Avenue may be eliminated to reduce conflicts with the proposed Van Ness BRT Project. This will be addressed as part of the Van Ness BRT study.
- Southern terminal will be located on Hampshire Street adjacent to James Rolph Jr. Playground.
- Midday frequency would change from 20 to 10 minutes.

Sansome Street Contraflow Lane Extension

This project will extend the existing southbound “transit-commercial” contraflow lane three blocks to the north on Sansome Street from Washington Street to Broadway. Under existing conditions, Sansome Street is a one-way northbound street north of Washington Street with transit-commercial contraflow lane south of Washington Street to Market Street. The inbound (southbound) Routes 10 Townsend and 12 Folsom currently follow Broadway, make a right on Battery Street and then, right onto Washington Street to access Sansome Street south of Washington Street.

The contraflow lane extension will require roadway restriping, signage and modification of three existing traffic signals from Broadway to Washington Street. Existing traffic signals at the Sansome/Washington streets, Sansome/Jackson streets, and Pacific/Sansome streets intersections will be modified in order to control traffic in the southbound direction. Curb ramps will also be installed at each of the four corners at these intersections.

10 Townsend

Proposed signal modifications at each of the three intersections will include the installation of two traffic signal mast-arm poles (excavation dimensions of approximately nine feet in depth and three feet in diameter) and six standard traffic signal poles (excavation depth of approximately three feet and one foot in diameter). Excavation for traffic signal infrastructure, including foundations for mast arms signal poles and conduits, will be required to implement this project. It is anticipated that up to 16 of the 26 parking spaces along the west side of Sansome Street will be converted to commercial loading zones as a result of this project. The other 10 parking spaces are existing commercial loading zones.

Frequency

Service during peak periods (headway between vehicles, in minutes)

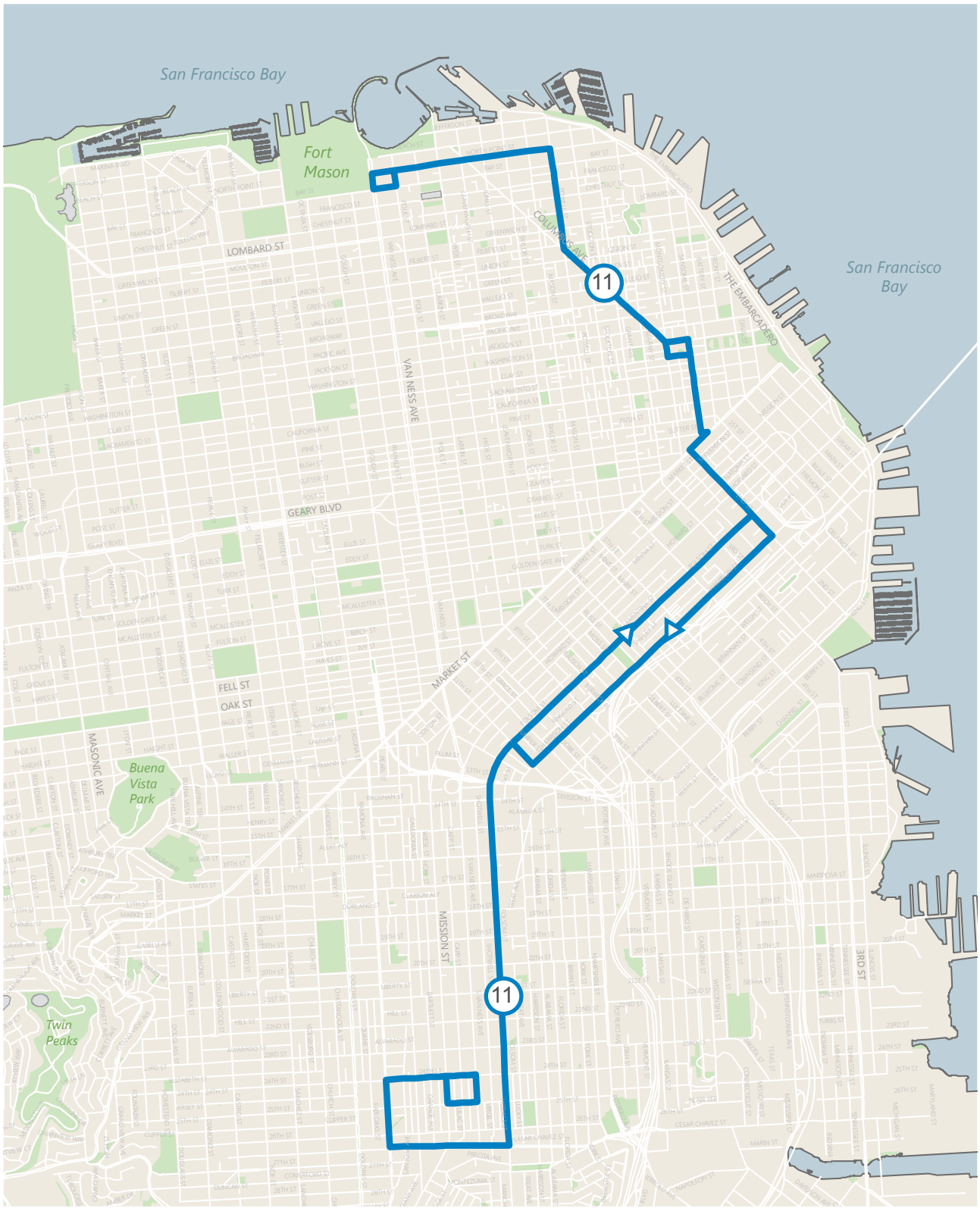
	Current	Approved	Frequency
AM	20	6 (east of Van Ness Avenue)	+
PM	20	6 (east of Van Ness Avenue)	+

Budget

Project Phase	Total
Construction	$2,059,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning, conceptual engineering, and design.

11 Downtown Connector



Connector

Recommended Route

Feature Summary

NR

11 Downtown Connector

Overview

- New 11 Downtown Connector will provide connections between the Mission, SoMa, Market Street, the Montgomery BART Station, North Beach, the Financial District, and the northern waterfront.
- The new route will operate on Van Ness Avenue and Polk Street between Bay and North Point Streets, Bay and North Point Streets between Polk Street and Van Ness Avenue, North Point Street between Polk Street and Powell Street, Powell Street between North Point Street and Columbus Avenue, Columbus Avenue between Powell Street and Washington Street, Washington and Clay Streets between Sansome and Montgomery Streets, Montgomery Street between Columbus Avenue and Clay Street, Sansome Street between Washington and Market Streets, Market Street between Sansome Street and Second Street, Second Street between Market Street and Harrison Street, Folsom and Harrison Streets between Second and 11th Streets, 11th Street between Harrison and Folsom Streets, Folsom Street between 11th Street and Cesar Chavez Street, Cesar Chavez Street between Folsom and Valencia Streets, Valencia Street between Cesar Chavez and 24th Streets, 24th Street between Valencia Street and South Van Ness Avenue, 25th Street between Mission Street and South Van Ness Avenue, and South Van Ness Avenue and Mission Street between 24th and 25th Streets.
- The southern terminal will be located at the current 12 terminal on 24th Street.
- The northern terminal will be located on Van Ness Avenue between Bay and North Point streets.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	N/A	15	N/A
PM	N/A	15	N/A

12 Folsom/Pacific - Proposed

Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RE

12 Folsom/Pacific

Overview

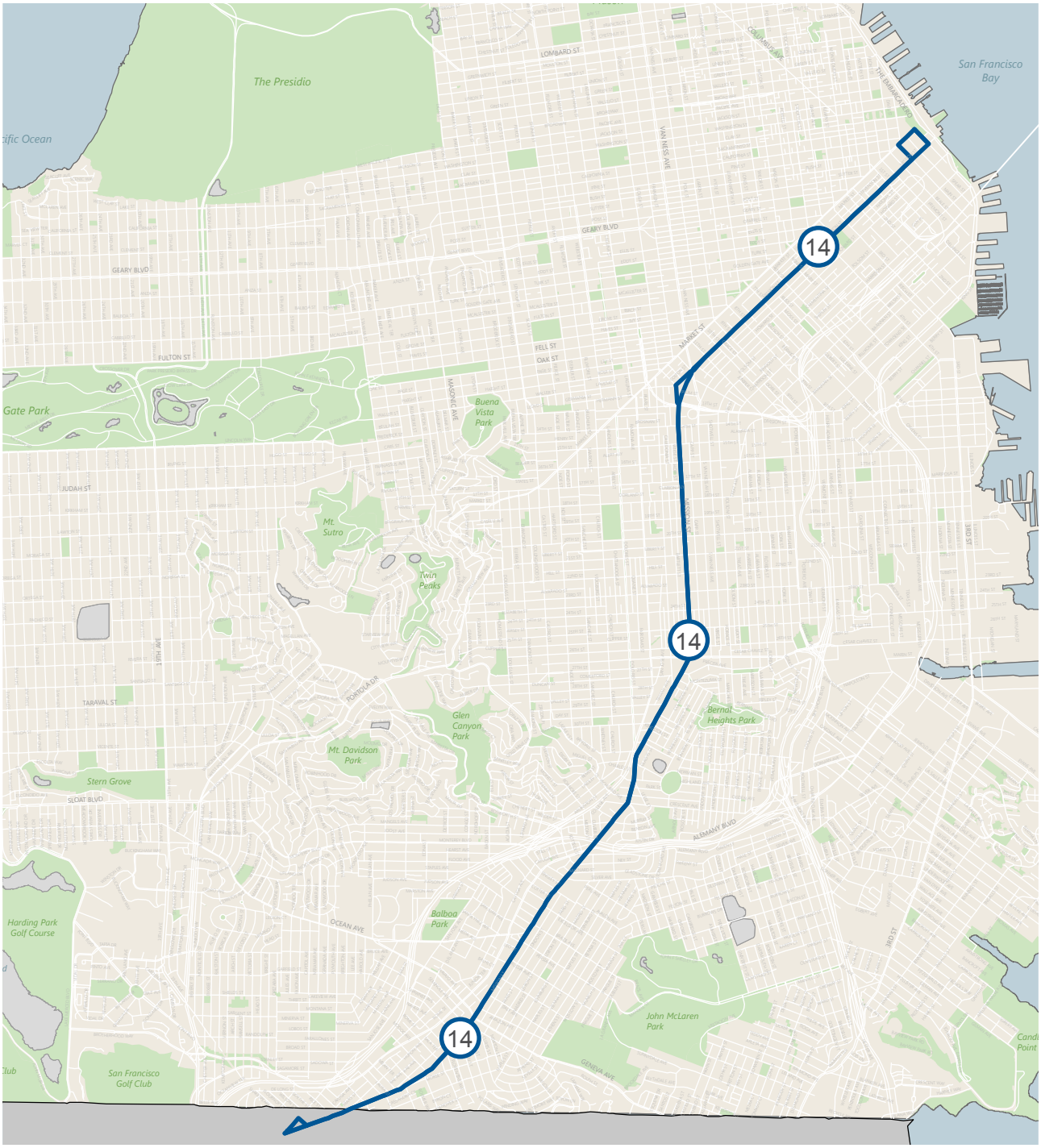
- Route will be discontinued.
- Service on Folsom Street from Second Street to 24th Street Mission BART Station will be provided by the 11 Downtown Connector.
- Service along Pacific Avenue, Sansome and Second streets will be provided by the expanded 10 Sansome. The 11 Downtown Connector will also provide SoMa service on Folsom and Harrison streets, and Downtown service across Market Street on Sansome and Second streets.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Proposed	Frequency
AM	20	N/A	N/A
PM	20	N/A	N/A

14 Mission



Frequent Local

Recommended Route

Feature Summary

VC BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN

14 Mission

Overview

The 14 Mission local service is complimented by the 14R and the 14X routes which carry more than 46,000 total customers on an average weekday. The 49 Van Ness-Mission carries more than 24,600 customers per average weekday, approximately half of which are boarding on Mission Street. The project study area is the approximately seven and a half mile stretch of Mission Street between Steuart Street near the Ferry Building and San Jose Avenue in Daly City.

Within the study area, the 14 Mission operates at an average speed of six miles per hour. There are 50 transit stops in the inbound direction and 52 transit stops in the outbound direction. The average transit stop spacing along the route is 791 feet, with stops located about every one or two blocks. The 14R limited stops are spaced approximately 1880 feet apart, and allow customers to travel through the corridor while stopping less frequently.

The main causes of delay to the 14 Mission include long passenger boarding and alighting times, friction between parking and loading vehicles, double-parked vehicles, getting stuck behind right-turning cars, narrow lanes, and areas of closely spaced transit stops.

- No route changes proposed.
- Proposed conversion from trolley to motor coach.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.
- Also proposed is a new pedestrian bulb at the northwest corner of Ocean Avenue and Mission Street (see 29 Sunset Route Proposal).

Transit Priority Projects

In order to reduce transit travel times and improve reliability, the SFMTA proposes a variety of improvements within the study area. The proposals include:

- **S Van Ness Ave to Cesar Chavez**: Create transit-only lanes through lane reduction (Duboce to Cesar Chavez). In the Inner Mission District, reducing the northbound direction from two to one general traffic lanes can reduce delay by providing wider lanes for buses to travel. With wider lanes, a southbound transit-only lane can be created to save significant travel time for the 14 Mission by giving the bus its own exclusive lane.
- **Cesar Chavez to Geneva Ave**: Create transit-only lanes through lane conversion (Cesar Chavez to Randall and Silver to Geneva). South of Cesar Chavez Street, Mission Street is six feet wider than in the northern portion of the corridor. Transit-only lanes can be created by converting a general traffic lane to transit-only in order to save significant travel time for the 14 Mission by giving the bus its own exclusive lane.
- Create right-turn pockets at key intersections. Right-turn pockets can reduce delay by giving turning vehicles their own lane to wait for pedestrians to cross before completing right turns, allowing buses to pass through the intersection without missing the green light.
- Convert side-running transit-only lanes to center-running transit-only lanes between 1st and 6th streets. In areas of high traffic congestion, center-running transit-only lanes can save significant travel time for the 14 Mission by giving the bus its own exclusive lane in the center

of the road. This would allow the bus to avoid the delay caused by right-turning vehicles, cars trying to park and wide delivery trucks. This proposal is compatible with the Transit Center District Plan.

- Adding transit boarding islands at six intersections. Transit boarding islands would be installed at six intersections where center-running transit-only lanes are proposed in order to allow the buses in the center lanes to serve bus stops without having to return to the curbside lanes.
- Creating signalized transit queue jumps at two locations. Signalized queue jumps allow a transit vehicle to proceed through an intersection during its own green-light phase, ahead of the lines of auto traffic waiting at a red light.
- Increasing bus stop spacing from one to two blocks. Currently, the 14 Mission stops at almost every block in many portions of the Mission corridor. This proposal moves towards at least a two-block spacing. By stopping fewer times, the bus would take less time to move through the corridor.
- Optimizing transit stop locations at six intersections. Relocating bus stops from the near-side to the far-side of intersections would allow buses to take advantage of planned transit signal priority improvements.
- Adding transit bulbs at seven intersections. Transit bulbs are sidewalk extensions alongside bus stops that allow buses to pick-up and drop-off customers without having to pull out of the travel lane into a bus stop and then wait for a gap to merge back into traffic. Transit bulbs enhance the ability of buses to take advantage of planned all-door boarding and provide space for transit shelters and other customer amenities.
- Extending existing transit stops at two locations. Some Rapid transit stops on Mission Street are currently sized for one articulated 60’ bus. Often times due to the high frequency of transit service in this corridor, two or more buses will arrive at a stop at the same time, delaying the second vehicle as it waits to service the stop. With a longer transit stop, up to two articulated 60’ buses would be able to serve the stop at the same time, reducing delays.
- Replacing all-way STOP-controlled intersections with traffic signals at two intersections. Installing traffic signals at locations would allow buses to take advantage of planned transit signal priority improvements.
- Turn Restrictions at 14 intersections. Extending the hours of existing left-turn restrictions can reduce traffic delay by ensuring that auto traffic does not block intersections while waiting to turn left. A right-turn-only lane on Mission and 1st streets would allow the northbound transit-only lane to continue to the future Transbay Terminal area.

Summary

Together, the proposed changes are anticipated to reduce the travel time of the 14 Mission by about 8-10 minutes in each direction (16-20 minutes total) within the study area (12-14 percent reduction), improving the average operating speed to 7-8 miles per hour and improving service reliability. Transit signal priority improvements are anticipated to save an additional four minutes in each direction. Other changes such as operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.

Frequency

Service during peak periods (headway between vehicles, in minutes)

North of Lowell Street

	Current	Approved	Frequency
AM	7.5	7.5	=
PM	7.5	7.5	=

South of Lowell Street

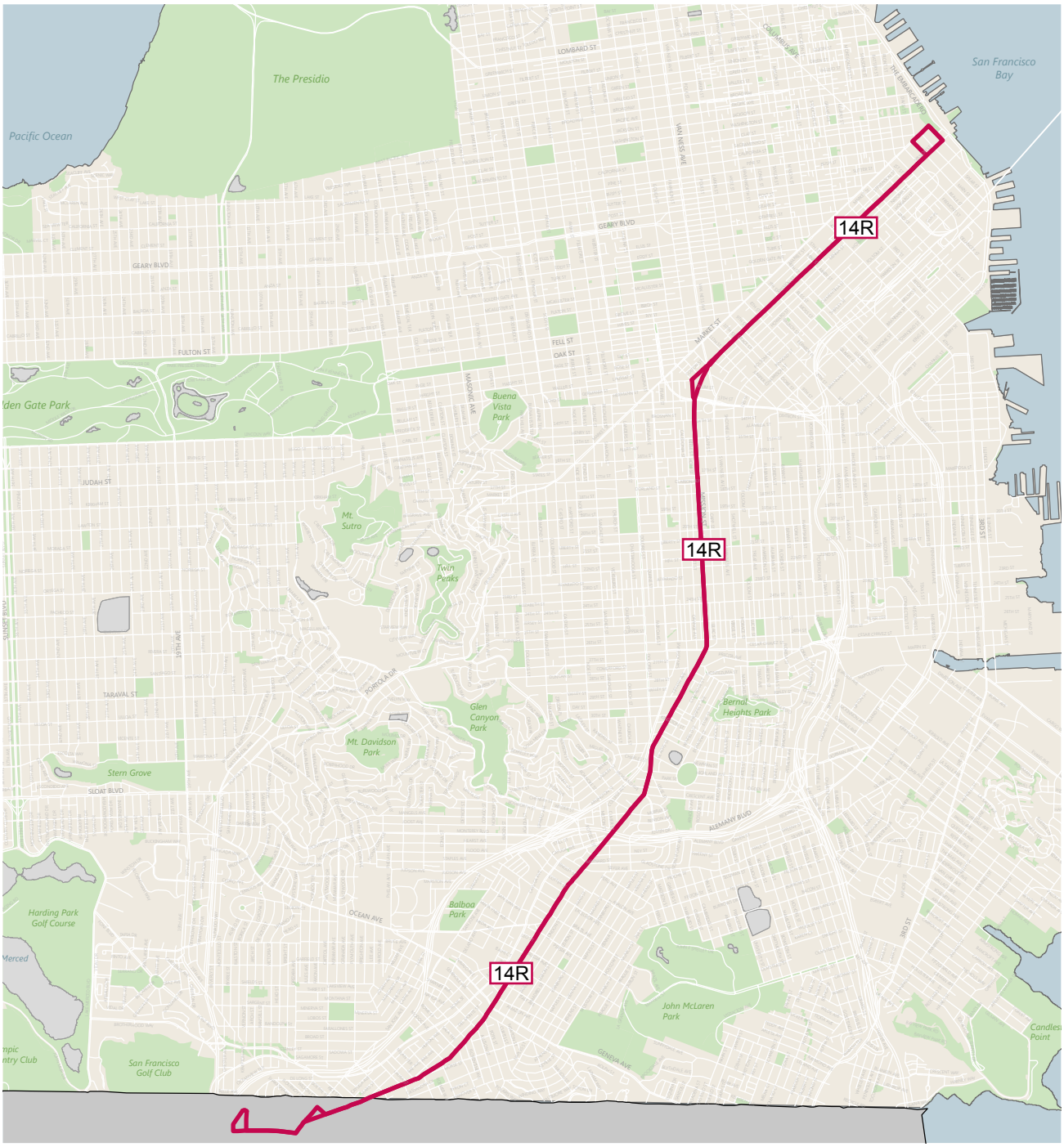
	Current	Approved	Frequency
AM	15	15	=
PM	15	15	=

Budget

Project Phase	Total
Downtown - Design & Construction	$21,922,000
Inner Mission - Design & Construction	$7,224,000
Outer Mission - Design & Construction	$9,033,000
Total	$38,179,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning and conceptual engineering.

14R Mission Rapid



Rapid

Recommended Route

Feature Summary

HC VC RA

BUS STOPS · SIG-NALS · ROAD-WAYS · CURB SPACE · PEDES-TRIAN

14R Mission Rapid

Overview

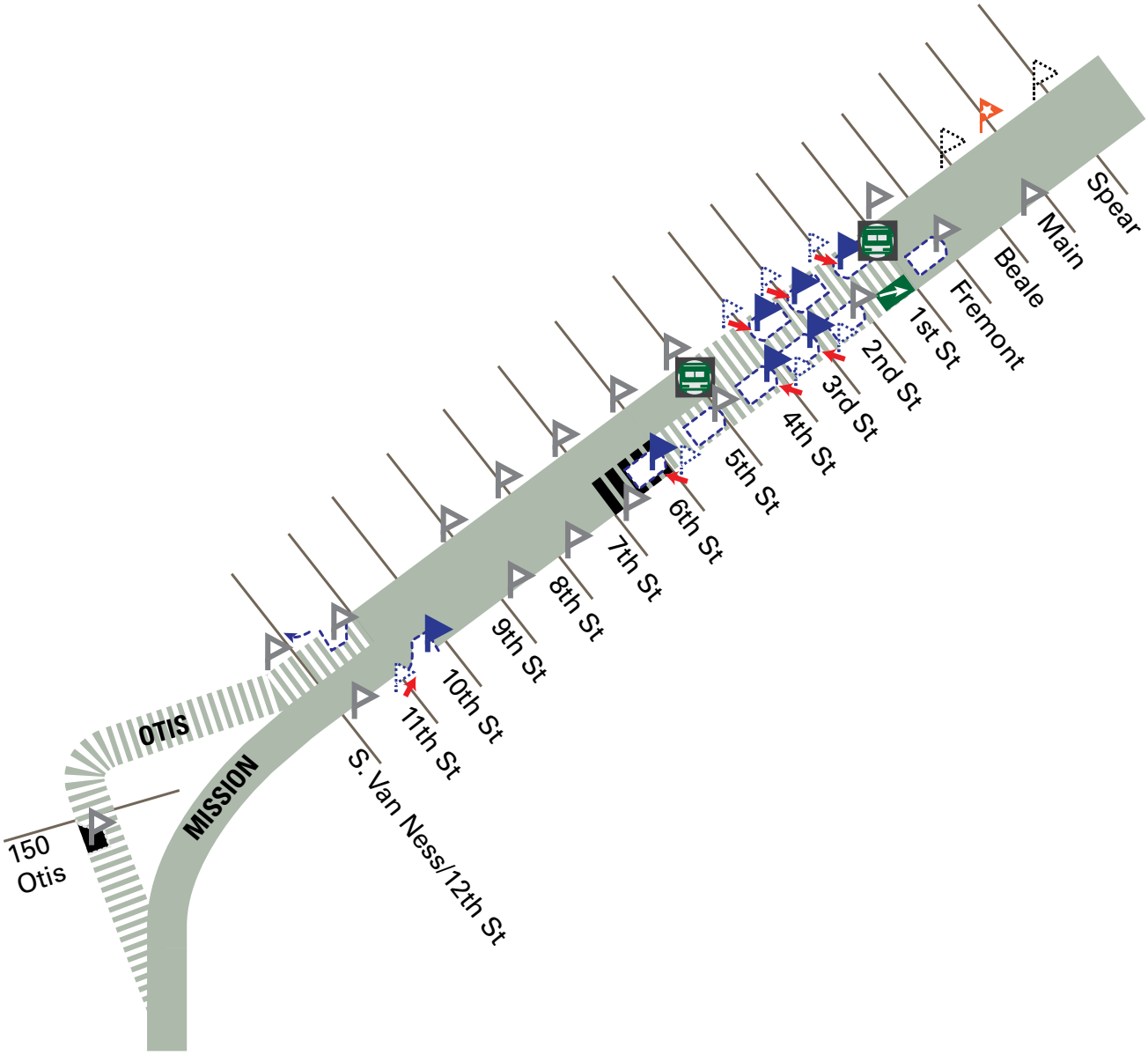
- No route changes proposed.
- Route would operate as a trolley coach service, replacing current motor coach service, along with the 49R Van Ness-Mission Rapid. The 14 Mission Local would be converted to motor coach to allow limited-stop services to pass local services.
- Service will be extended all day to Daly City Bart.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	9	7.5	+
PM	9	7.5	+

14 / 14R Mission Transit Priority Project - Downtown

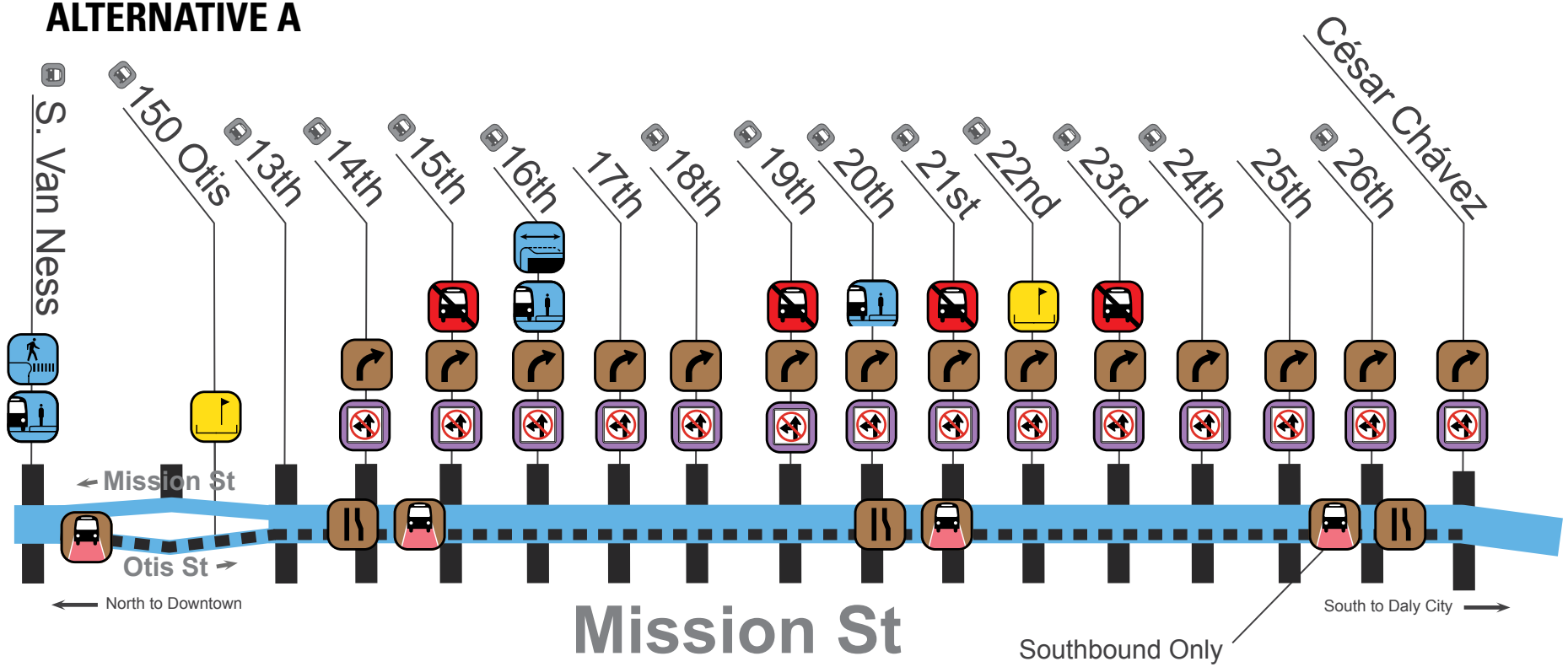


Features

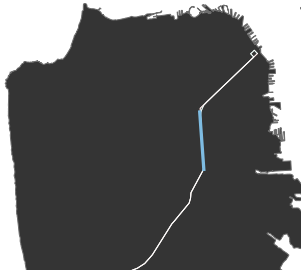
- New Traffic Signal
- Muni Queue Jump Signal
- Remove Stop Signs on Visitacion Street and Replace with Traffic Calming or Traffic Signal
- New Stop
- New Transit Bulb
- Stop Relocation
- Removal of Stop
- Extend Bus Zone
- Convert Stop (from flag to bus zone)
- Turn Pockets
- Parking Restriction
- Transit-Only Lane
- Bike Lane
- Existing Stop
- New Boarding Island

14 / 14R Mission Transit Priority Project - Inner Mission (Option 1)

ALTERNATIVE A



Segment Location



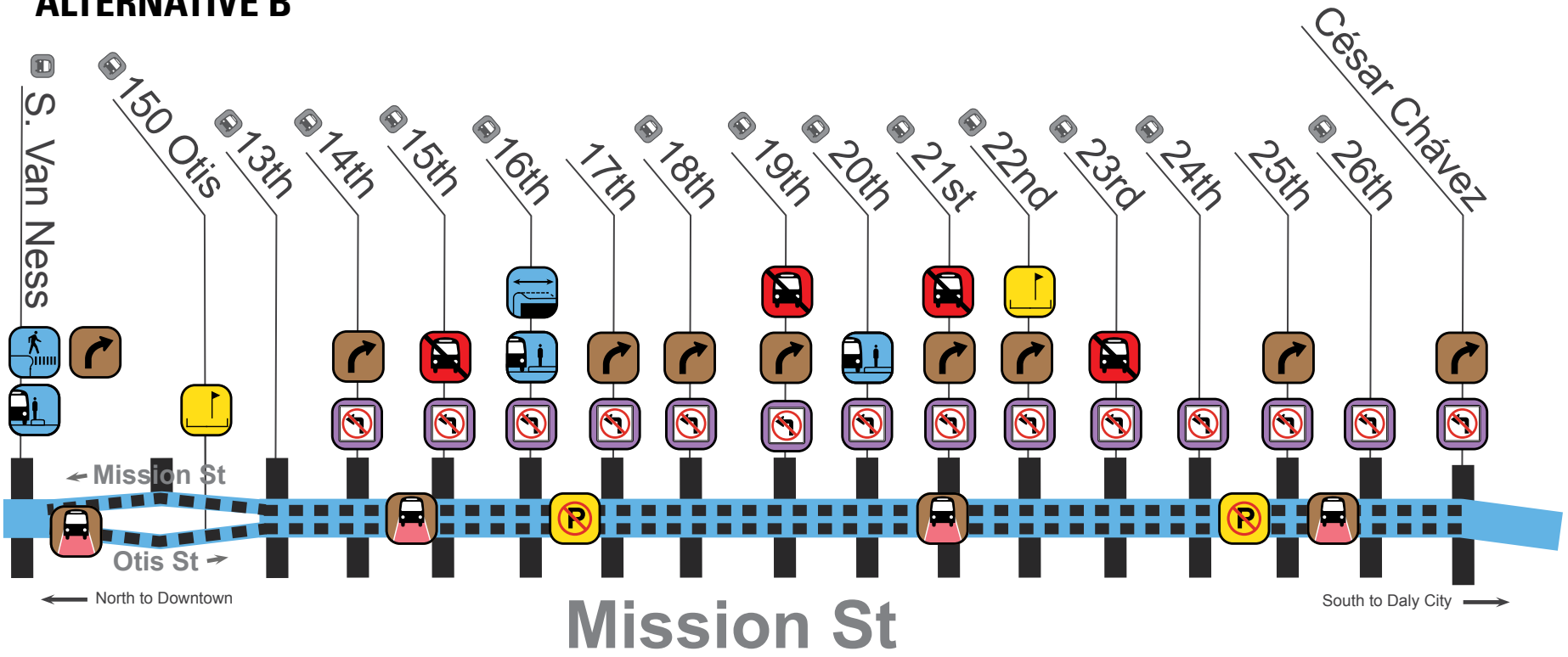
Existing Stop

Summary of Proposals

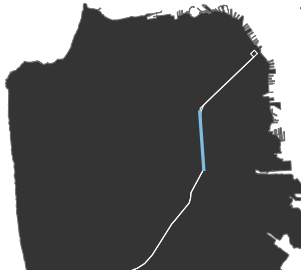
- New Pedestrian Bulbs
- New Transit Bulbs
- Stop Removal
- Lane Reduction (from 4 lanes to 3 lanes)
- Transit-Only Lane (southbound only)
- New Turn Pockets
- Right Turn Only (northbound) & No Left Turn (southbound)
- Extend Transit Bulbs
- Convert Bulb to Bus Zone

14 / 14R Mission Transit Priority Project - Inner Mission (Option 2)

ALTERNATIVE B



Segment Location

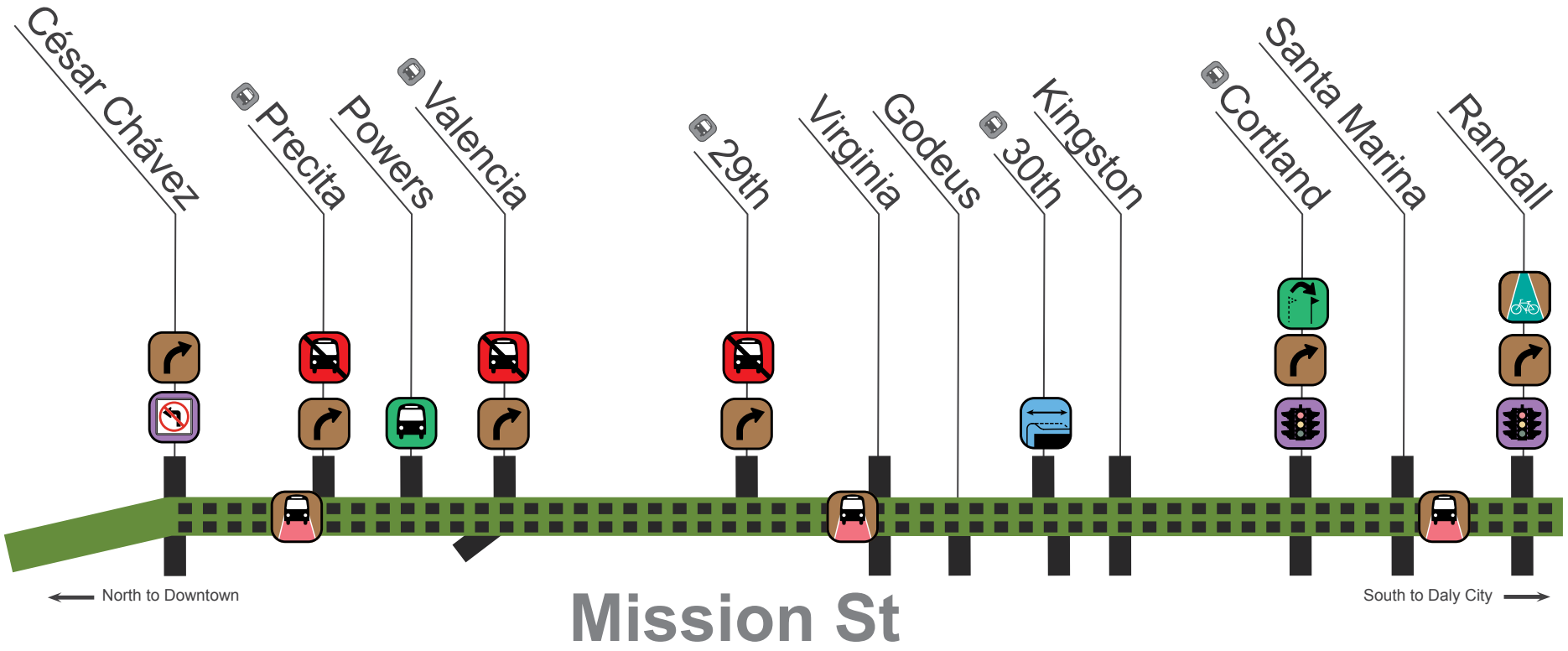


Existing Stop

Summary of Proposals

- Parking Removal
- New Pedestrian Bulbs
- Left Turn Restrictions
- Convert Bulb to Bus Zone
- New Transit Bulbs
- Stop Removal
- Extend Transit Bulbs
- New Turn Pockets
- Transit-Only Lanes (both directions)

14 / 14R Mission Transit Priority Project - Inner Mission



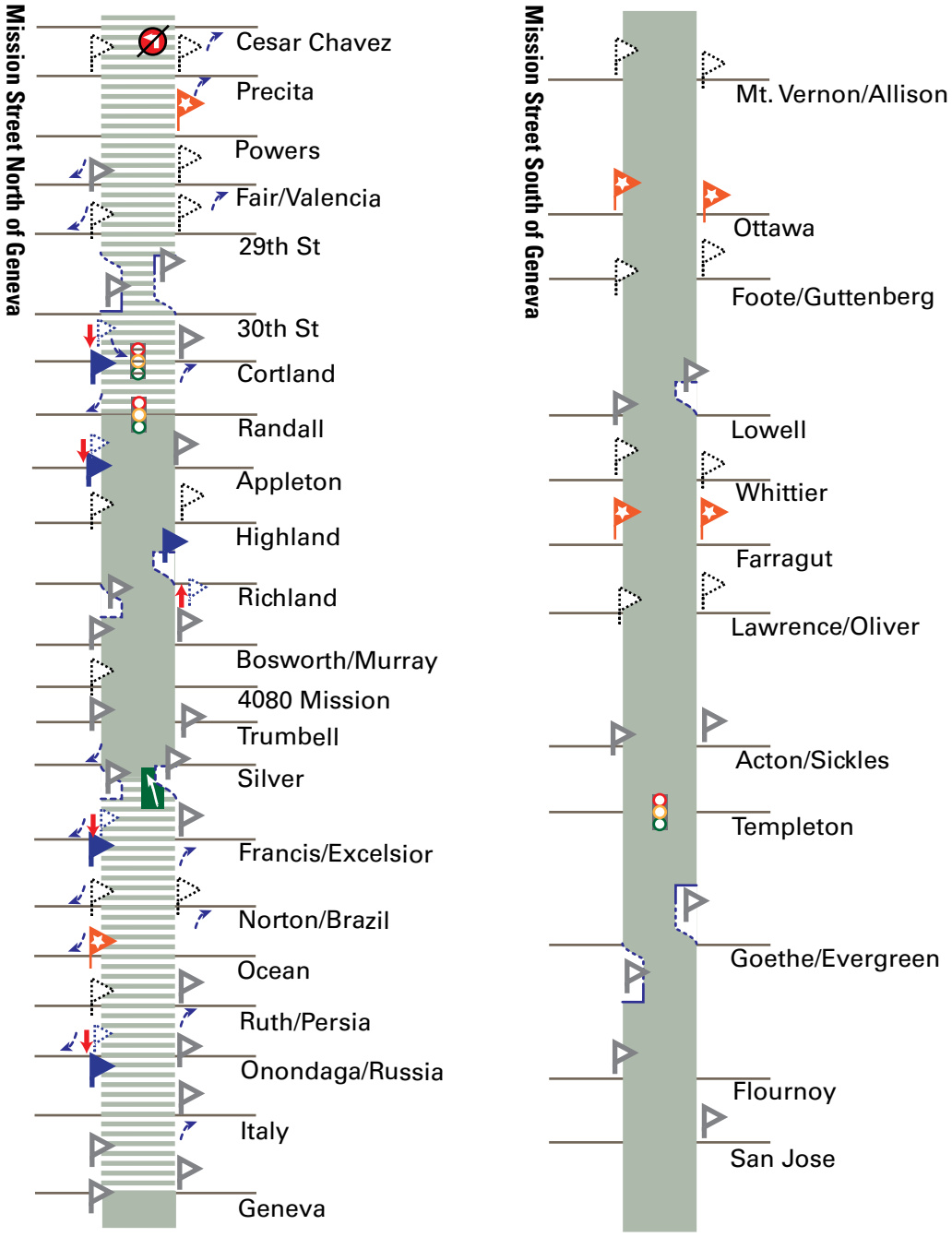
Segment Location

Existing Stop

Summary of Proposals

- Extend Transit Bulbs
- Stop Removal
- Turn Restrictions
- New Turn Pockets
- New Bike Lane
- Relocate Stop
- New Stop
- New Traffic Signal or Signal Timing Changes
- Transit-Only Lanes

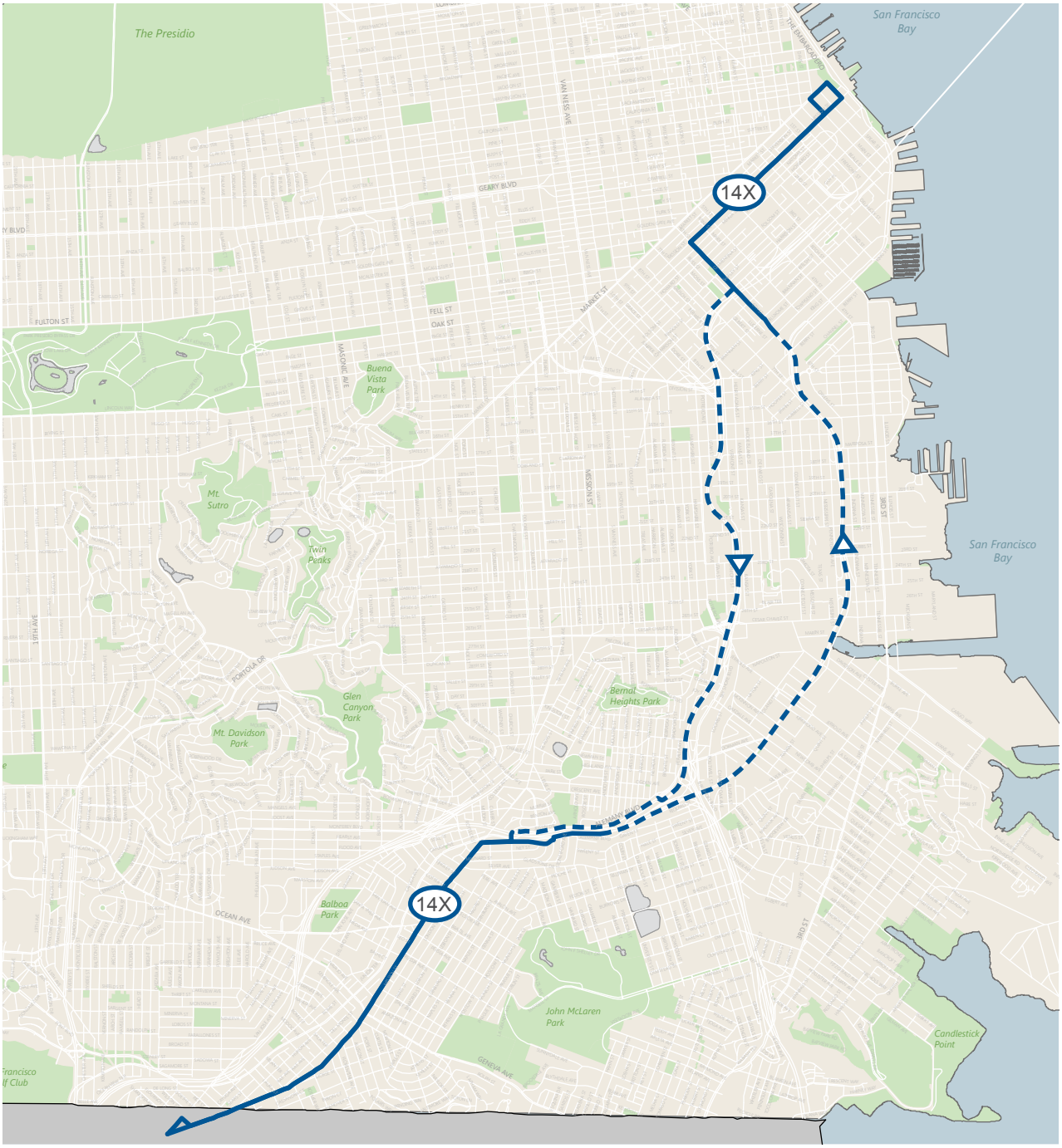
14 / 14R Mission Transit Priority Project - Outer Mission



Features

- New Traffic Signal
- Muni Queue Jump Signal
- Remove Stop Signs on Visitacion Street and Replace with Traffic Calming or Traffic Signal
- New Stop
- New Transit Bulb
- Stop Relocation
- Removal of Stop
- Extend Bus Zone
- Convert Stop (from flag to bus zone)
- Turn Pockets
- Parking Restriction
- Transit-Only Lane
- Bike Lane
- Existing Stop
- New Boarding Island

14X Mission Express



Express

- Recommended Route
- Express Segment (no stops)

Feature Summary

BUS STOPS · SIG-NALS · ROAD-WAYS · CURB SPACE · PEDES-TRIAN

VC · EH · HC

14X Mission Express

Overview

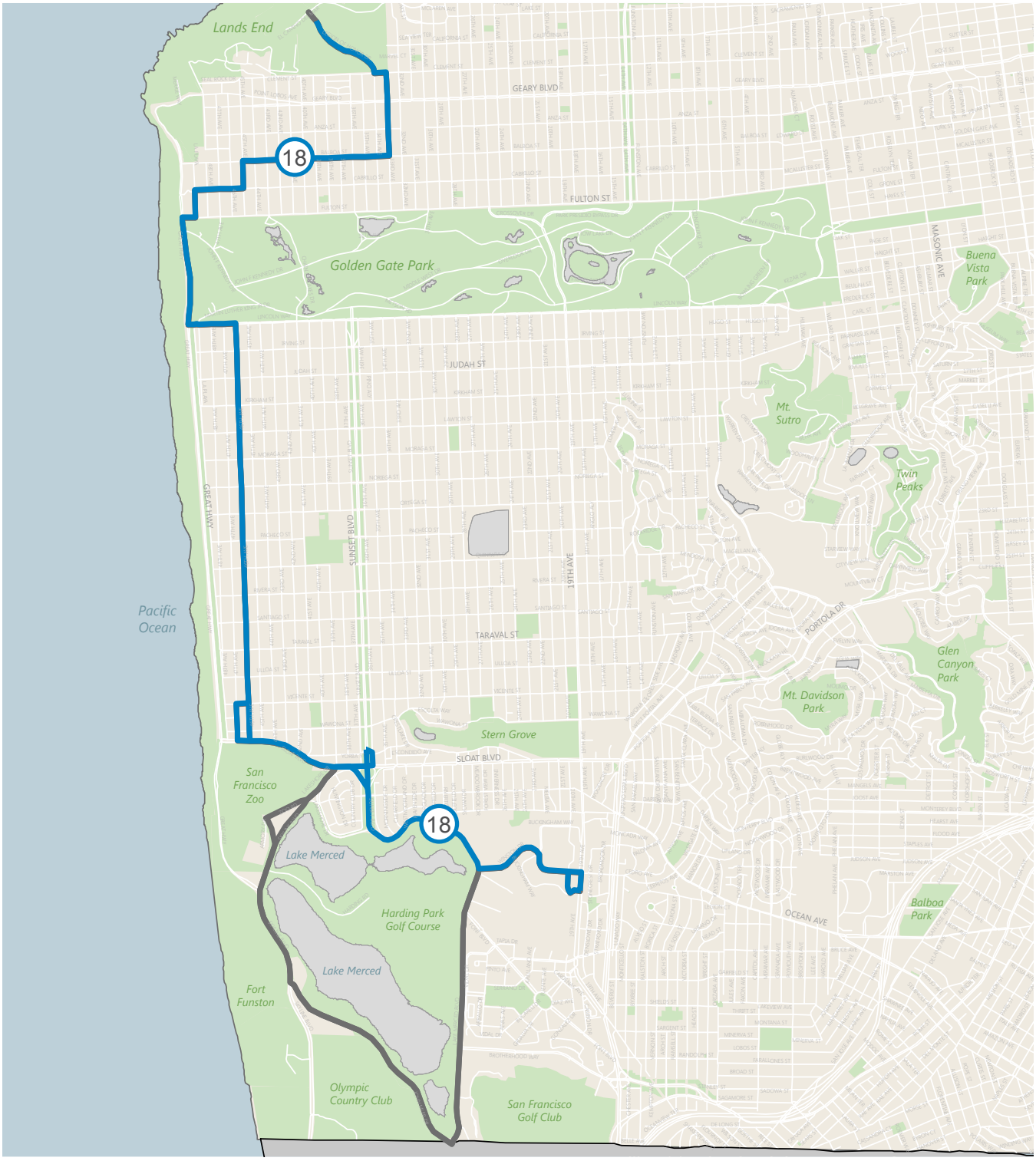
- No route changes proposed.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	8	7.5	+
PM	10	7.5	+

18 46th Avenue



Connector

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA

18 46th Avenue

Overview

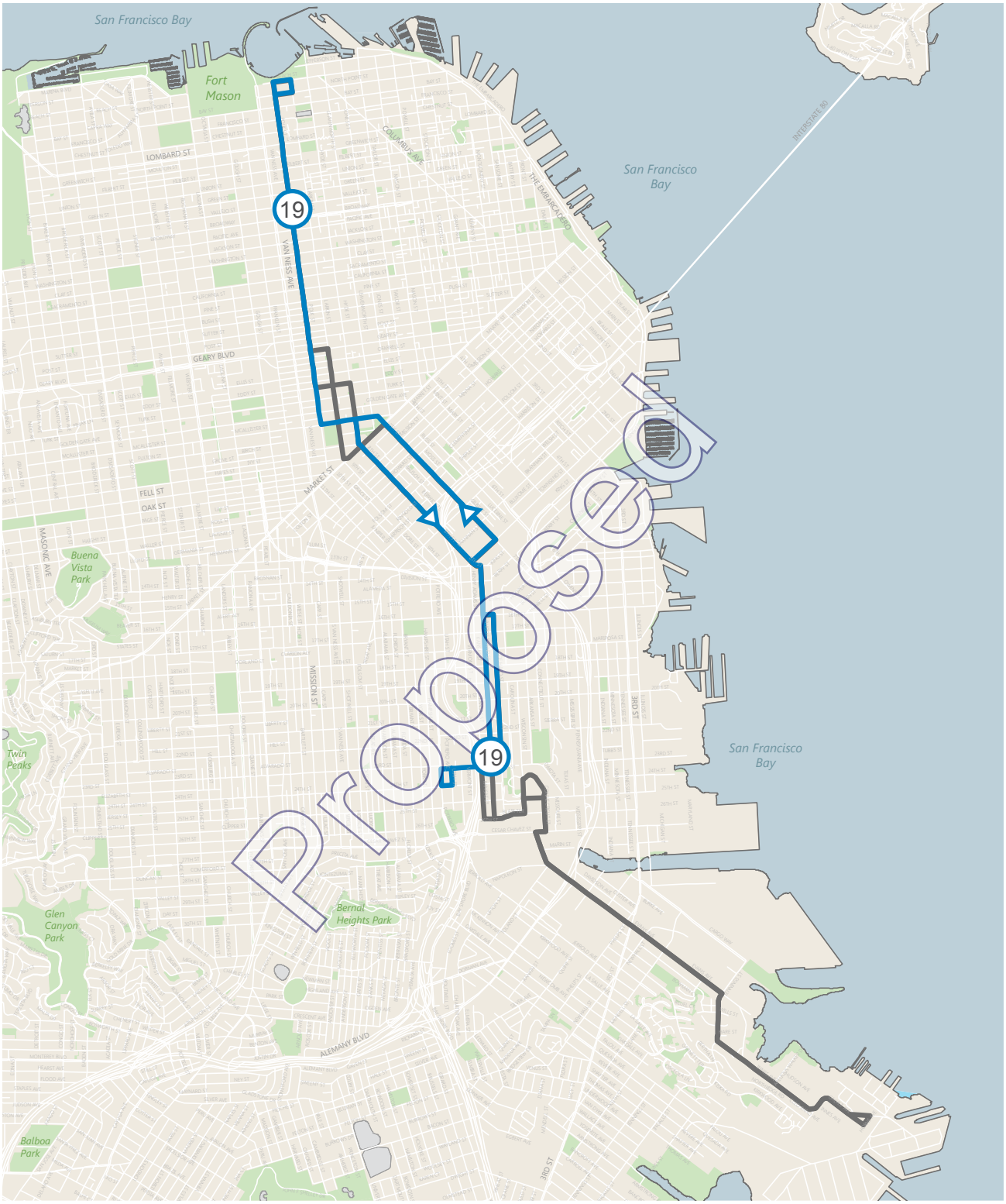
- Proposed alignment will operate on a more direct route between the San Francisco Zoo and Stonestown Galleria shopping center. Service will be added along Sloat Boulevard between Skyline and Sunset Boulevards, Sunset Boulevard between Sloat and Lake Merced Boulevards, and Lake Merced Boulevard between Sunset Boulevard and Winston Drive.
- Service will be discontinued on Skyline Boulevard between Sloat Boulevard and John Muir Drive, Herbst Road, John Muir Drive between Skyline Boulevard and Lake Merced Boulevard, Lake Merced Boulevard between John Muir Drive and Winston Drive. Service around Lake Merced will be picked up by the modified 17 Park Merced line described above.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	20	20	=
PM	20	20	=

19 Polk - Proposed



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA

19 Polk - Proposed

Overview

- Proposed route would continue to operate between Van Ness Avenue/North Point Street but service to the south would be cut back to San Francisco General Hospital at 23rd Street and Potrero Avenue. The route segment south of 24th Street would be replaced with the rerouted 48 Quintara. With this change, passengers would be required to transfer to reach the Civic Center, but would have a more direct connection to Potrero Avenue, the Mission (including 24th Street BART Station), Noe Valley and the Sunset District.
- Route would be modified in Civic Center area to simplify route structure and reduce travel times in both directions. The line would run from Seventh and McAllister streets to Polk Street, and from Polk, McAllister, to Hyde Street. With these changes, the 19 Polk would no longer run on Market Street (between Seventh and Ninth streets), Larkin, Eddy or Hyde (between Eddy and McAllister) streets, or on Geary Boulevard (between Larkin and Polk streets).
- Southbound routing to San Francisco General Hospital would be from Rhode Island Street, right on to 23rd Street, left on Utah Street, right on 24th Street, right on Potrero Avenue, and right on 23rd Street.
- New terminal would be located at the existing 10 Townsend terminal on 24th Street at Potrero Avenue.

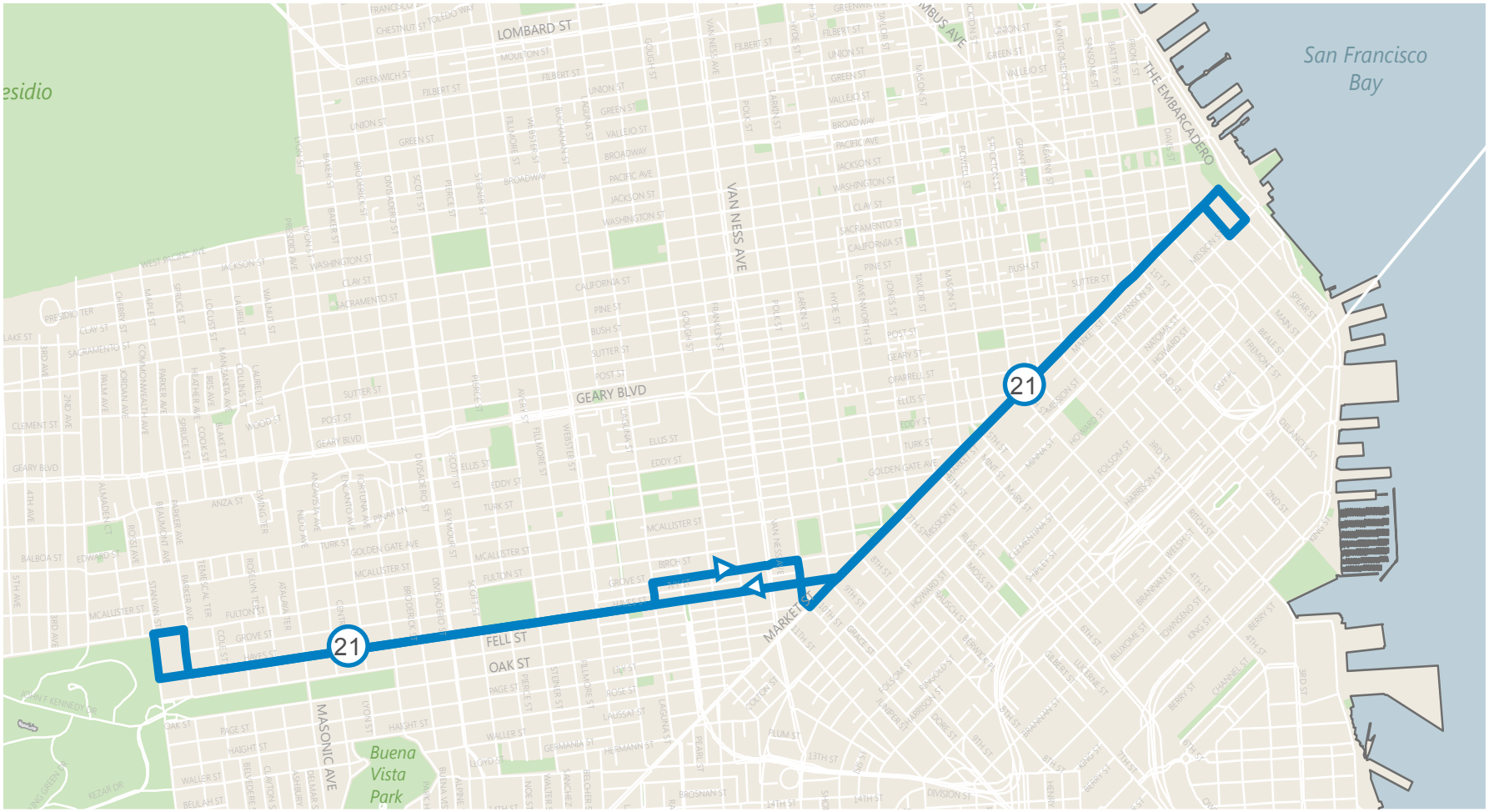
Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Proposed	Frequency
AM	15	15	=
PM	15	15	=

* Proposal On Hold Pending Additional Community Outreach

21 Hayes



Grid

Recommended Route

Feature Summary

HC

21 Hayes

Overview

- No route changes proposed.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	9	8	+
PM	10	9	+

22 Fillmore

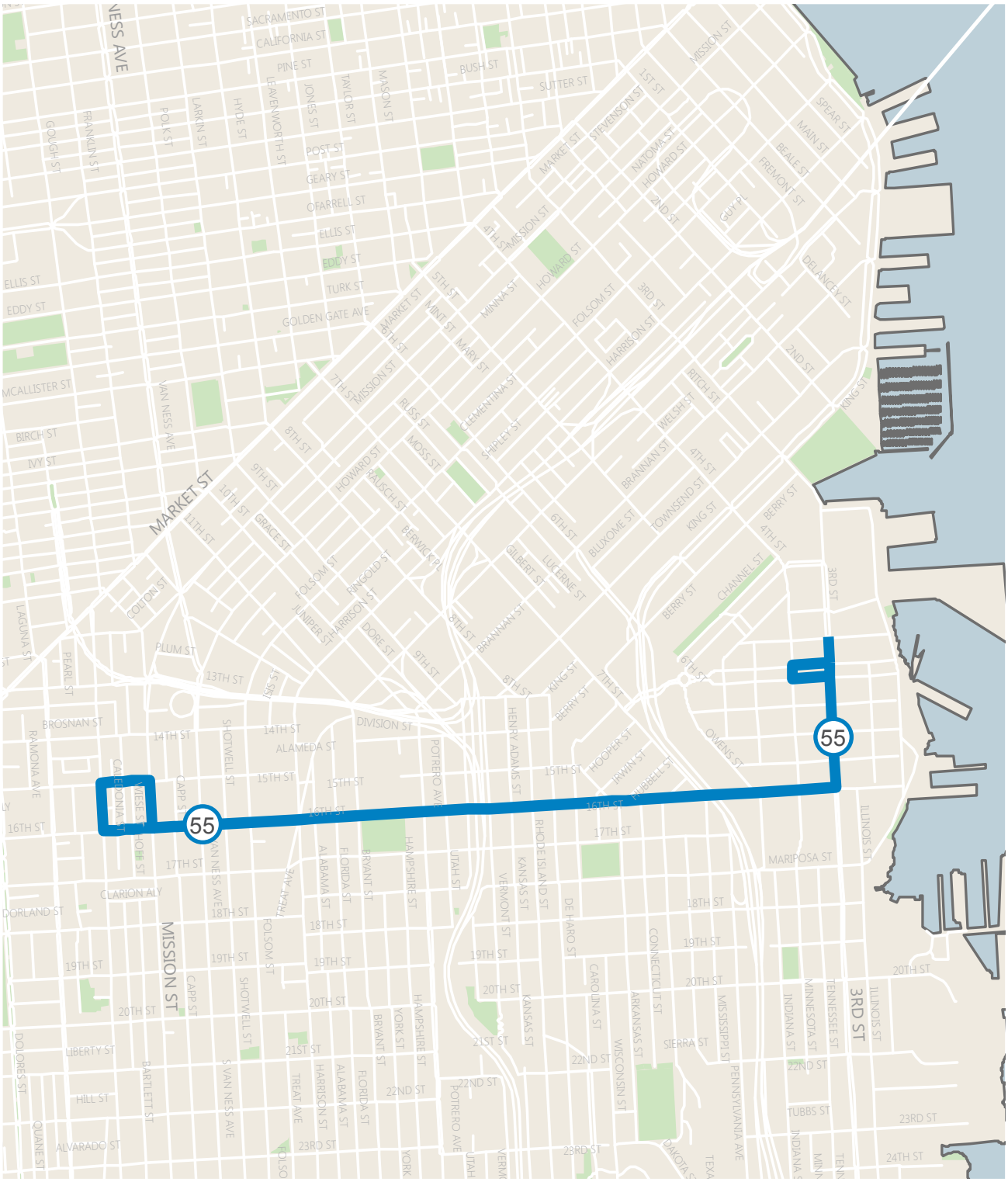
Frequent Local

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN

55 Mission Bay Shuttle



Grid

Recommended Route

Feature Summary

NR

22 Fillmore

Overview

Muni's 22 Fillmore bus route carries over 18,000 daily customers on an average weekday. The route's study corridor is 2.2 miles long and includes 16th Street between 3rd and Church streets. Within the study corridor, the 22 Fillmore serves over 8,000 customers on an average weekday. Within the study area, the 22 Fillmore operates at an average speed of 7 miles per hour during peak periods. Sources of delay include closely spaced bus stops and traffic congestion.

- Line will be rerouted to continue along 16th Street to Third Street, creating new connections to Mission Bay from the Mission District.
- The proposed route change will add transit to 16th Street between Kansas and Third streets, Third Street between Mission Bay Boulevard North and 16th Street, Mission Bay Boulevard North and South between Fourth and Third streets, Fourth Street between Mission Bay Boulevard North and South.
- Service will be discontinued on 17th Street between Kansas and Connecticut Streets, Connecticut Street between 17th and 18th Streets, 18th Street between Connecticut and Third Streets, Tennessee and Third Streets between 18th and 20th Streets, and 20th Street between Third and Tennessee Streets.
- A Transit Priority Projects are proposed for this corridor to reduce transit travel time.
- Midday Frequency Change from 10 to 7.5 minutes.
- New terminal loop will run from Third Street, Mission Bay Boulevard North, Fourth Street, Mission Bay Boulevard South, and Third Street, as presented in the Mission Bay EIR.
- In January 2015 a new motor coach service will begin operation between Mission Bay and the 16th Street BART Station prior to new overhead wire construction.
- 22 Fillmore Service will include new motor coach service to the Mission Bay terminus from the 16th Street BART Station and a reroute of the 33 Stanyan along the current 22 Fillmore route. The Mission Bay motor coach service will include a western terminal loop that will make a right on Mission Street, left on 15th Street, left on Valencia Street and back onto 16th Street to Mission Street. The eastern terminus will utilize the proposed 22 Fillmore terminal loop in Mission Bay. The 22 Fillmore trolley coach service will conduct a terminal loop by turning right on Kansas Street, right on 17th Street, right on Vermont Street and left on 16th Street. There is existing overhead wiring at this location.

22 Fillmore - 16th Street Transit Priority Project

In order to reduce transit travel times and improve reliability, the SFMTA proposes a variety of improvements within the study area. The proposals include:

- Moving the route off of 17th and 18th streets and onto 16th Street between Kansas Street and 3rd Street. To connect to the growing Mission Bay neighborhood and to provide continuous transit service along 16th Street, the 22 Fillmore will be rerouted onto 16th Street from Kansas to 3rd streets. A revised 33 Stanyan will replace the 22 Fillmore on Connecticut and 18th streets.
- Create center running transit-only lanes through lane conversion (3rd Street to Bryant Street). Currently, the 22 Fillmore travels in general traffic lanes and is subject to delays due to traffic congestion. With the expected growth in the Mission Bay neighborhood, traffic congestion

along 16th Street is anticipated to worsen, causing further delays to the bus route. To address these delays, center running transit-only lanes are proposed between 3rd and Bryant streets. A transit-only left-turn signal at 3rd Street is proposed as part of the transit-only lanes. Transit-only lanes can save significant travel time for the 22 Fillmore by giving the bus its own exclusive lane. To make room for the transit-only lanes, the existing bike lane on 16th Street would be moved to 17th Street between Kansas and Mississippi streets.

- Reconfigure 16th Street from Bryant Street to Church Street (Design Options 1-2):
  - Design Option 1: Create peak-period curbside transit-only lanes through lane conversion and parking removal. West of Bryant Street, 16th Street is 10 feet narrower than in the eastern portion of the corridor with travel lanes too narrow for buses to travel in without straddling both lanes. Peak-period curbside transit-only lanes can be created by removing parking on both sides of the street during the morning and afternoon weekday peak periods and converting the wider curbside lane into a transit-only lane. The transit-only lanes can save significant travel time for the 22 Fillmore by giving the bus its own exclusive lane during the peak travel periods.
  - Design Option 2: Create right lane transit-only lane in the westbound direction through lane conversion. A full-time westbound right lane transit-only lane can be created and parking preserved by reconfiguring 16th Street to one eastbound lane, one westbound lane, and one westbound transit-only lane. The transit-only lane can save significant travel time for the 22 Fillmore by giving the bus its own exclusive lane.
- Increasing bus stop spacing from an average of one to two blocks to an average of two to four blocks. Currently, the 22 Fillmore stops at every major block in the Mission area and at about every two blocks east of Potrero Avenue. This proposal moves towards a two block spacing west of Bryant Street and a four block spacing to the east where the blocks are smaller. By stopping fewer times, the bus would take less time to move through the corridor.
- Adding median transit boarding islands at six stops in each direction. Between 3rd Street and Bryant Street, median transit boarding islands are proposed to complement the center running transit-only lanes. Under this proposal, the bus would run in center running transit-only lanes and would pick up and drop off passengers at the proposed boarding island. In conjunction with the transit-only lanes, the islands, which would be 8.5 feet wide and 100 feet long, would reduce delays associated with the bus pulling into and out of traffic.
- Restricting left turns at most locations (7th Street to Dolores Street). Left turns from 16th Street would be restricted at all times at all intersections from 7th Street to Dolores Street with the exception of both directions at 7th Street, eastbound at Vermont Street, and eastbound at Potrero Avenue. Restricting left turns would improve travel times for both transit and through traffic by eliminating delays associated left turning vehicles waiting for gaps in oncoming traffic.
- Adding new traffic signals at four locations. Due to the anticipated growth in traffic along 16th Street from the Mission Bay developments, traffic signals at Missouri, Connecticut, Wisconsin, and San Bruno streets are proposed.
- Improving the pedestrian environment. Corner sidewalk bulbs are proposed throughout the corridor to reduce the street crossing distance. In addition, as a potential second phase of the project, the sidewalk on both sides of 16th Street between 7th Street and Potrero is proposed to be widened from 10 feet to 18 feet. This would require removing parking on both sides of the street. Some parking and loading areas would be maintained through cut-ins in the sidewalk.

22 Fillmore - Fillmore St Transit Priority Project

For this proposal, the Transit Priority Capital features would be applied along a segment of the 22 Fillmore route. The Transit Priority Capital features would be implemented along the following streets: Church, Hermann, Fillmore, Broadway, Steiner, and Union streets. This part of the 22 Fillmore corridor extends from the intersection of 16th and Church streets to the intersection of Bay and Fillmore streets. This is a major north-south route in the Rapid Network, and provides crosstown transit connections between the following neighborhoods: Duboce Triangle, the Lower Haight and Western Addition, the Fillmore, Japantown, Pacific Heights, Cow Hollow and the Marina neighborhoods.

22 Fillmore Extension to Mission Bay

Overhead wire expansion would support rerouting of bus routes serviced by electric trolley coaches, and would facilitate shared terminal facilities among terminals that service multiple trolley coach routes. Construction of new overhead wires often requires the installation of new pole foundations and/or underground duct work. Poles to support overhead wires would vary in height from 26 to 30 feet and would be approximately eight to 13 inches in diameter at the base, and four to nine inches in diameter at the top of the poles. The pole foundations are typically three feet in diameter and 12 feet deep. These poles are typically installed every 90 to 100 feet along a street segment. Another part of the infrastructure for overhead wire service is the electrical distribution system that provides power to the trolleys. Electrical wires in conduits are placed in groups, called duct banks, underground within the center and along the sides of streets in order to transport electricity from the source (electrical transformer) to the wires in the poles which then power the overhead trolley wires. At some locations, the construction of new curb ramps, transit bulbs and pedestrian refuge islands may also be required. It is anticipated that no parking would be removed as a result of these overhead wire projects.

The 22 Fillmore Extension to Mission Bay would involve the construction of new overhead wires on 16th and Third streets and parts of the University of California, San Francisco Mission Bay (UCSF) campus to allow the 22 Fillmore to continue east along 16th Street to Third Street, and north on Third Street to a new terminal in Mission Bay. The new overhead wire project would provide a direct transit connection between development at Mission Bay and the 16th Street BART Station, the Mission District, and Fillmore Street. This overhead wire extension project was evaluated in the Final Mission Bay Subsequent Environmental Impact Report (SEIR) in 1998 and is provided here for informational and cumulative context. The SEIR addressed changes proposed for 16th Street between its intersection with Terry A. Francois Boulevard and the intersection with Mississippi and Seventh streets. This project would facilitate an important east-west transit connection for the rapidly developing Mission Bay neighborhood.

The portion of the project on 16th Street between Kansas and Connecticut streets would be constructed as part of an overhead wire replacement project (including the block of Connecticut Street between 16th and 17th streets that will be used by the 33 Stanyan to provide service on the portion of Potrero Hill that will no longer be served by the 22 Fillmore). Infrastructure, including the poles and underground conduits for the electrical wiring, within the Mission Bay terminal loop has been constructed by developers of adjacent parcels along the route. The overhead and underground electrical wiring would be installed by the SFMTA and has already received separate environmental clearance as part of the Mission Bay project SEIR described above.

The proposed project would involve the installation of about 4,300 linear feet of overhead wiring and the construction of about 85 support poles on 16th Street between Arkansas and Third streets, and a total of 26 curb ramps along 16th Street at the following intersections:

- Rhode Island/16th streets (northern and southern corners) – four curb ramps
- Carolina /16th streets (northern and southern corners) – four curb ramps
- Wisconsin/16th streets (northern and southern corners) – four curb ramps
- Arkansas/16th streets (southeast and southwest corners) – two curb ramps
- Hubbell/16th streets (northeast and northwest corners) – two curb ramps
- Daggett/16th streets – two curb ramps
- Missouri/16th streets (southeast and southwest corners) – two ramps
- Owens/16th streets (northern and southern corners) – four curb ramps
- Fourth/16th streets (northeast and northwest corners) – two curb ramps

Summary

Together, the proposed changes are anticipated to reduce the travel time of the 22 Fillmore by about 5 minutes in each direction (10 minutes total) within the study area (25 percent reduction). Transit signal priority improvements are anticipated to save an additional minute total. Other changes such as operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.

22 Fillmore

Frequency

Service during peak periods (headway between vehicles, in minutes)

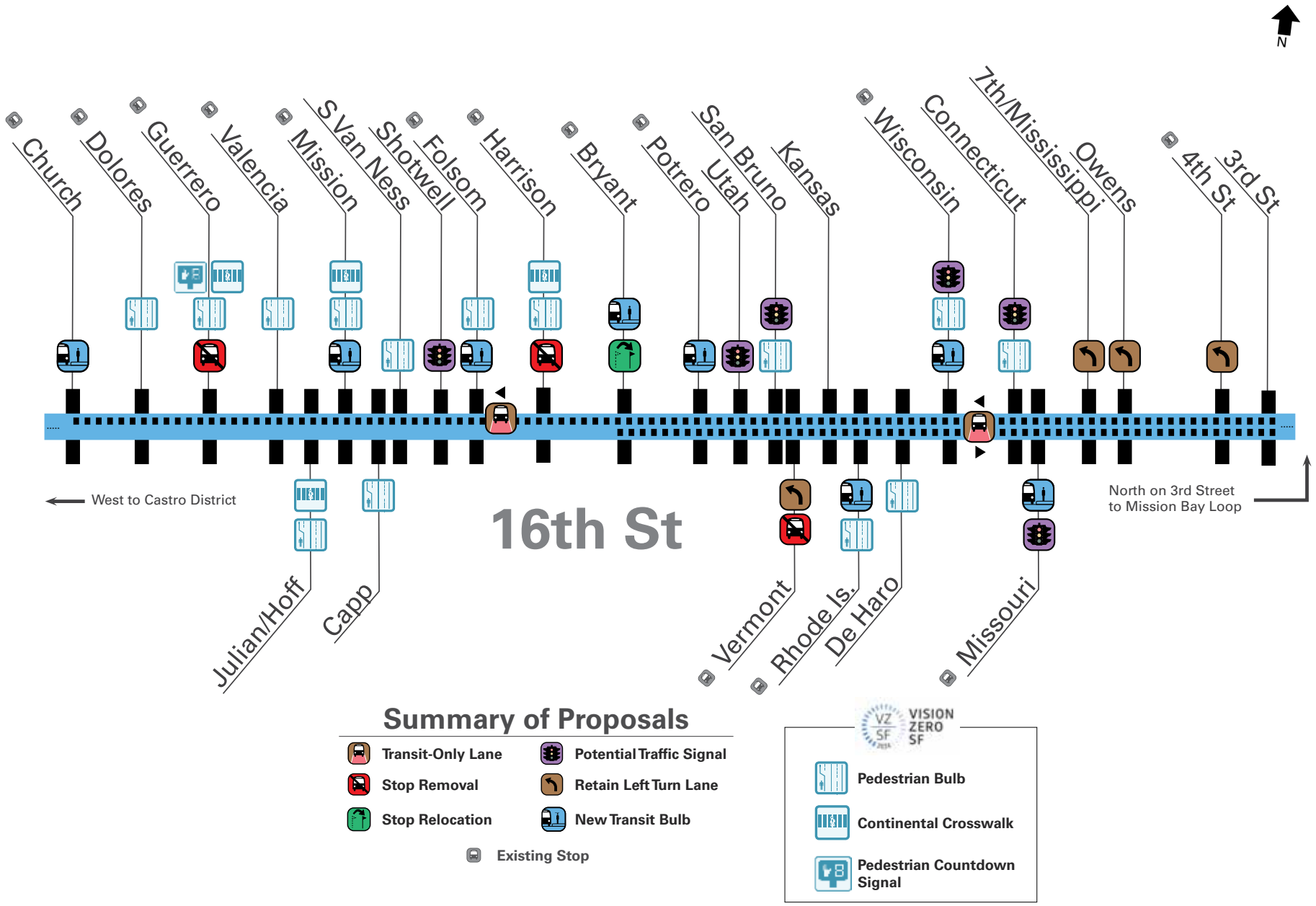
	Current	Approved	Frequency
AM	9	6	+
PM	8	8	=

Budget

Project Phase	Total
16th St - Design & Construction	$67.000,000
Fillmore St - Design & Construction	$6,620,000
Total	$73,620,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning and conceptual engineering.

22 Fillmore - 16th St Transit Priority Project



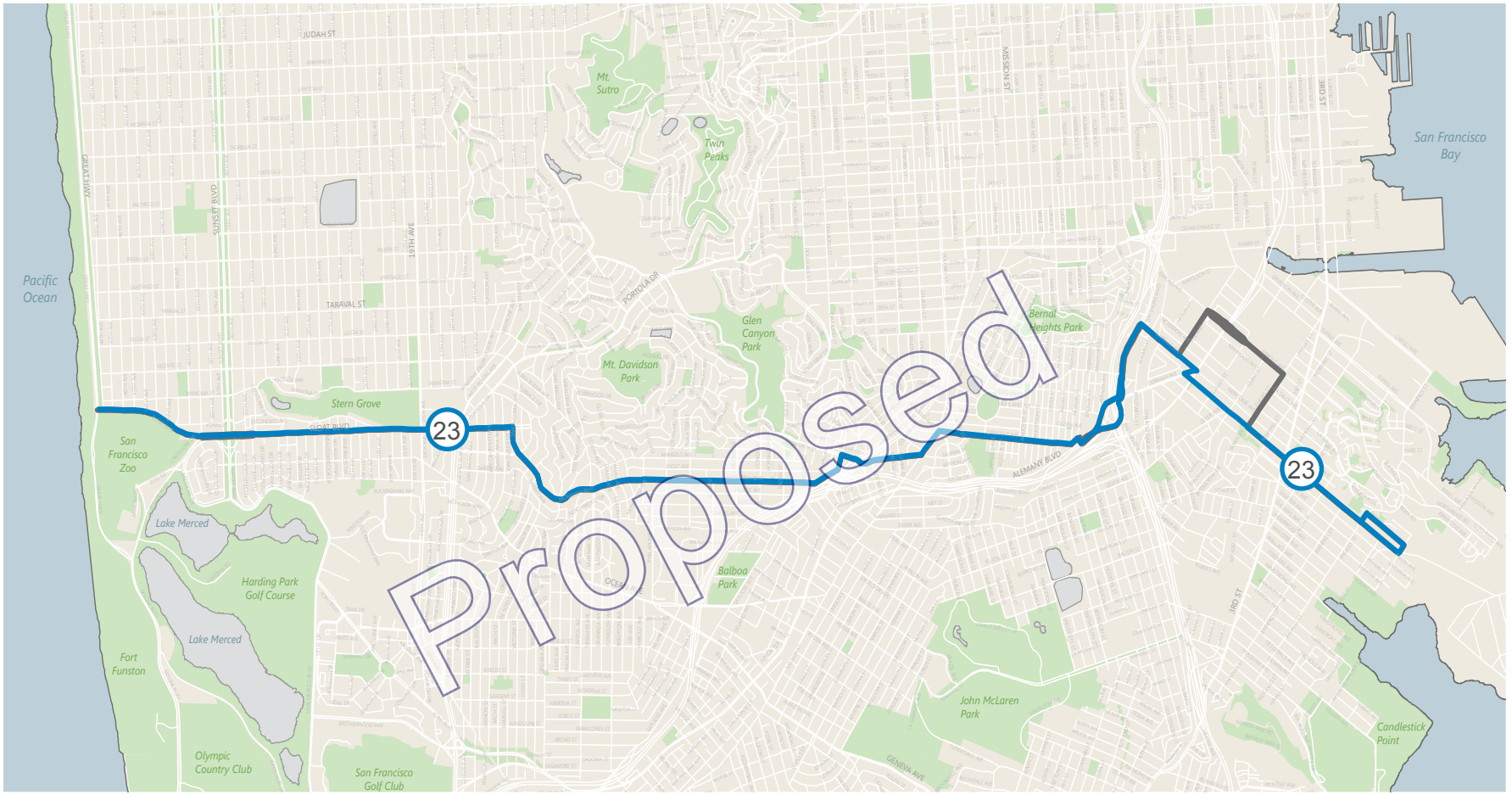
Summary of Proposals

- Transit-Only Lane
- Stop Removal
- Stop Relocation
- Potential Traffic Signal
- Retain Left Turn Lane
- New Transit Bulb
- Existing Stop

VISION ZERO SF

- Pedestrian Bulb
- Continental Crosswalk
- Pedestrian Countdown Signal

23 Monterey - Proposed



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA

23 Monterey - Proposed

Overview

- Segment on Toland Street, Jerrold Avenue and Phelps Street proposed to be eliminated to provide a more direct path of travel. Route would operate on Oakdale Avenue, Industrial Way and Palou Avenue. Transit would be added to Palou Avenue between Barneveld Avenue and Industrial Way, and Barneveld Street between Oakdale and Palou avenues.

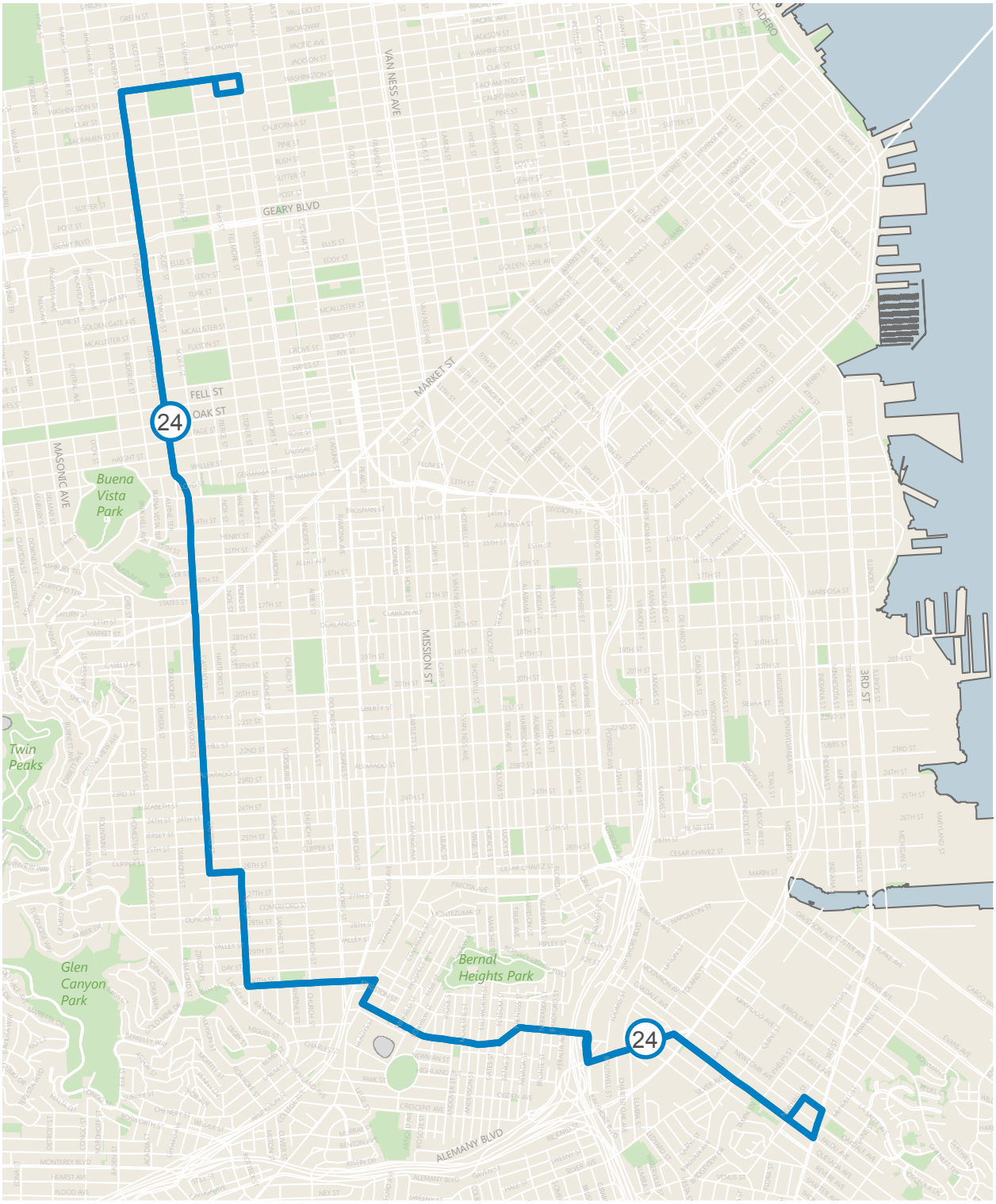
Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Proposed	Frequency
AM	20	20	=
PM	20	20	=

* Proposal On Hold Pending Additional Community Outreach

24 Divisadero



Grid

Recommended Route

Feature Summary

HC

24 Divisadero

Overview

- No route changes proposed.

Frequency

Service during peak periods (headway between vehicles, in minutes)

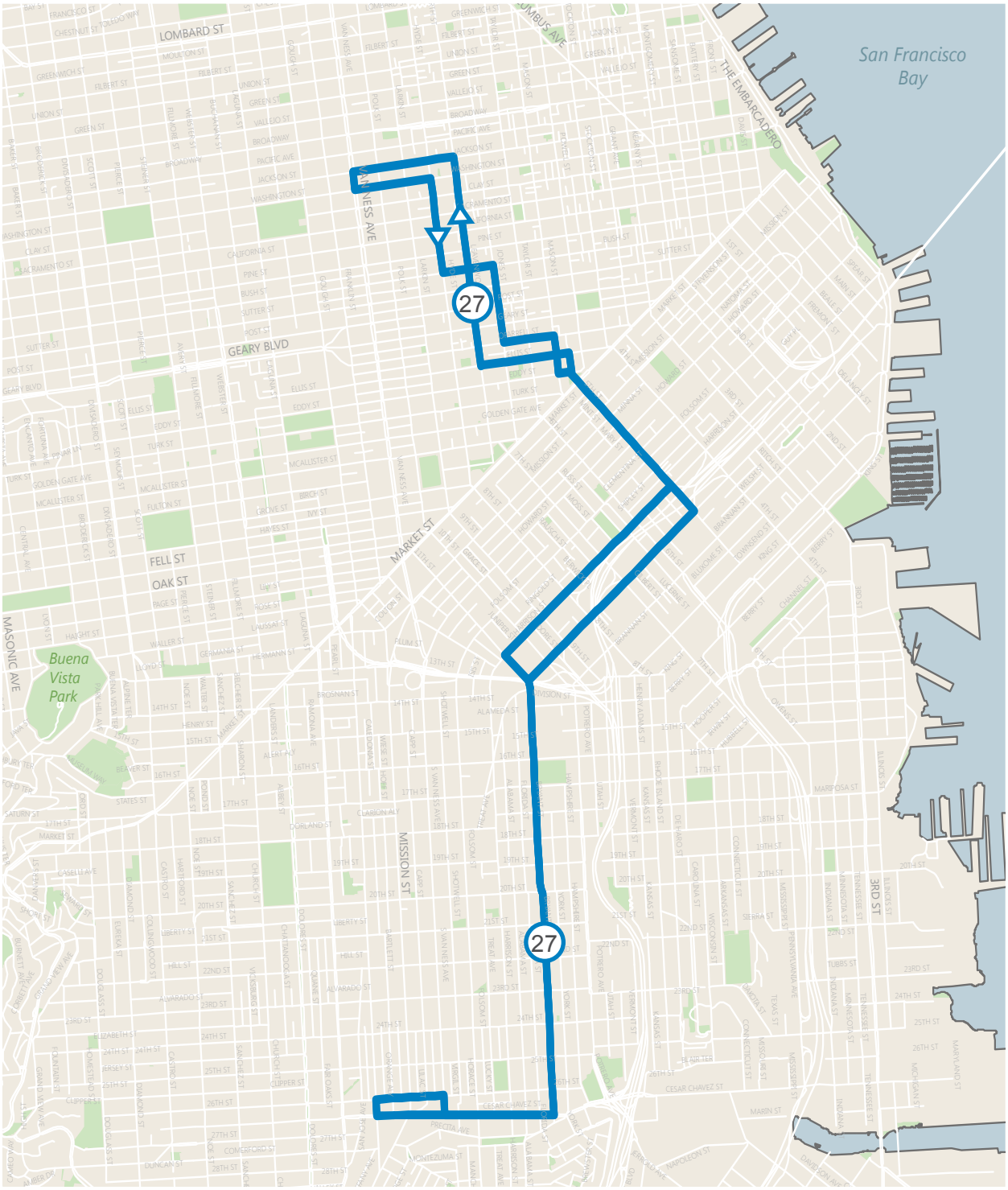
	Current	Approved	Frequency
AM	10	9	+
PM	10	9	+

25 Treasure Island

Connector

Recommended Route

27 Bryant



Grid

Recommended Route

27 Bryant

Overview

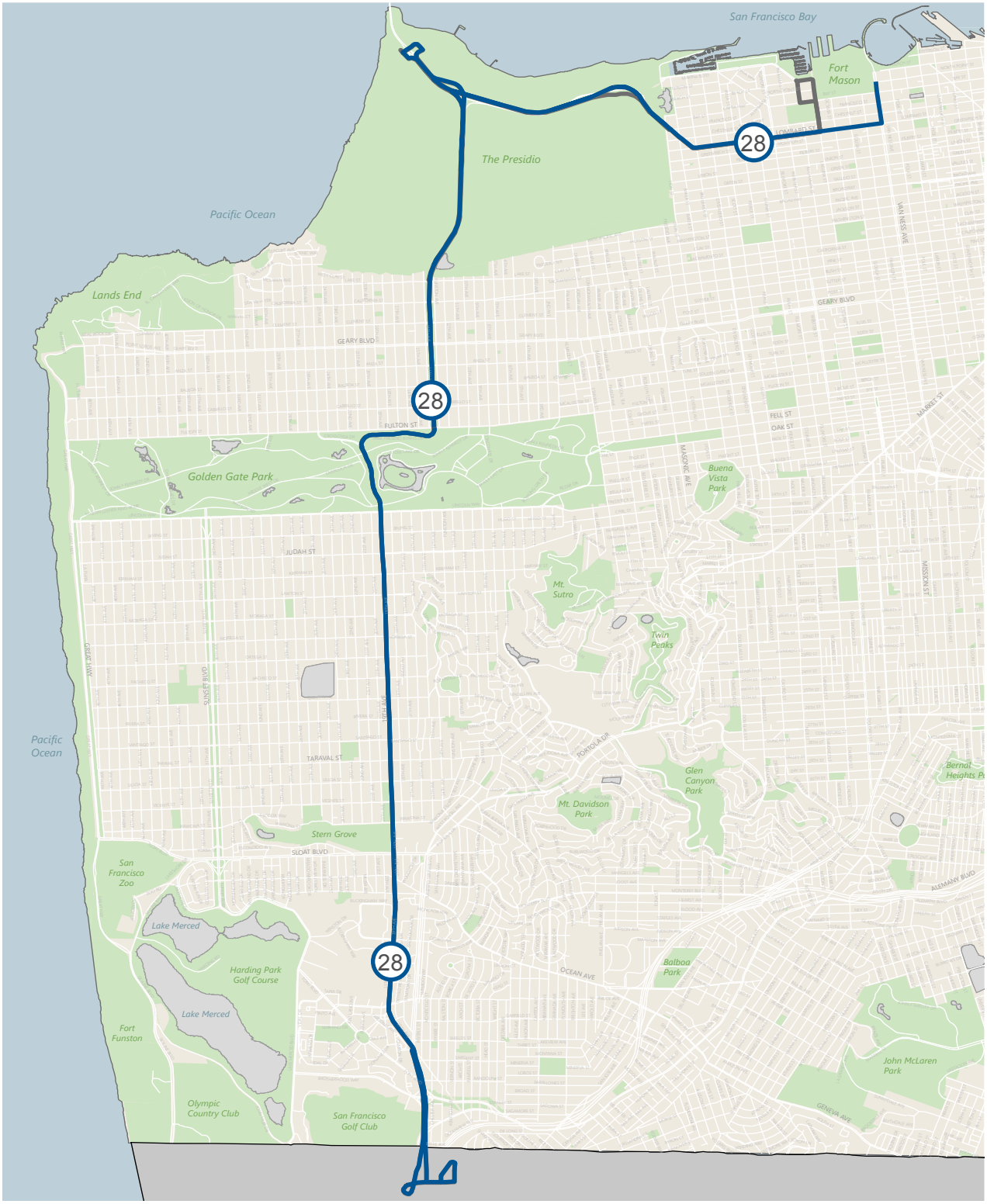
- No changes are planned for the 27 Bryant service; it will retains its current alignment and service.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	15	15	=
PM	15	15	=

28 19th Avenue



Frequent Local

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

BUS STOPS · SIG-NALS · ROAD-WAYS · CURB SPACE · PEDES-TRIAN

28 19th Avenue

Overview

- 28 19th Avenue service to the Marina District via the Golden Gate Bridge will be retained.
- The 28 19th Avenue will continue eastward on Lombard Street and serve a new northern terminal at Van Ness Avenue and North Point Street. Service to Fort Mason will be provided by Route 43 Masonic.
- Midday frequency change from 12 to 9 minutes.
- Transit Priority Project is proposed to reduce transit travel time on this corridor.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	9	+
PM	10	9	+

Budget

Project Phase	Total
South of Golden Gate Park - Design & Construction	$22,965,000
Lombard St - Design & Construction	$5,200,000
Total	$28,165,000

* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning and conceptual engineering.

28R 19th Avenue Rapid

Rapid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA EH HC

BUS STOPS SIG-NALS ROAD-WAYS

28R 19th Avenue Rapid

Overview

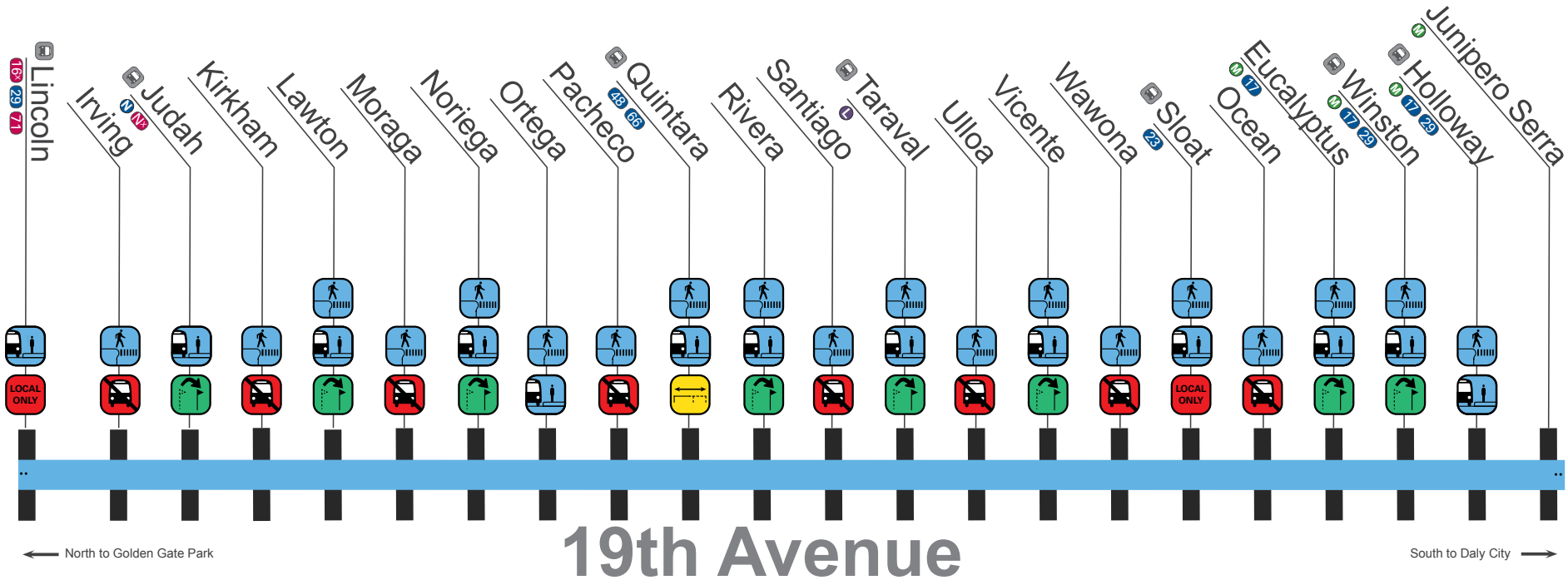
- The 28R 19th Avenue Rapid will serve a new northern terminal near California Street and Park Presidio, and will no longer serve the Marina District. A new terminal location is tentatively planned for Funston Street between California and Lake streets.
- New streets are on sections of Alemany Boulevard, between Sagamore Street and San Jose Avenue; I-280 between Ocean and Sickles avenues exit, Brotherhood Way, between Junipero Serra Boulevard and Sagamore Street, on Niagara Avenue between Alemany Boulevard between Niagara and Geneva avenues (to accommodate the terminal loop).
- Midday service will operate every 9 minutes.
- Limited-stop service would operate seven days a week from 6 a.m. to 8 p.m. with wider stop spacing than current 28L 19th Avenue Limited (currently limited-stop service operates weekdays only approximately 7 - 9 a.m. and 2 - 4 p.m.).
- A Transit Priority Project is proposed to reduce transit travel time on this corridor.
- The southern terminal will be located on Geneva Avenue midblock between Mission Street and Alemany Boulevard. The terminal loop will be right onto Mission Street, right onto Niagara Avenue, and right onto Alemany Boulevard. This will require a reduction of up to five parking spaces. Accommodating the 28R 19th Avenue Rapid at this location will require the removal of up to 10 parking spaces.
- In October 2011, the 28L 19th Avenue Limited was extended to Fort Mason, with express service from Park Presidio Boulevard and California Street to Lombard Street. Currently there is a temporary reroute due to the major Doyle Drive reconstruction underway which requires the utilization of California Street to access the Marina District.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	9	+
PM	N/A	9	+

28 19th Avenue - South of Golden Gate Park Transit Priority Project



Summary of Proposals

- Stop Relocation
- Local-Only Stop
- Stop Removal
- New Transit Bulbs
- New Pedestrian Bulbs
- Bus Zone Extension

Current 28L Stop
29 Muni Connections

28 19th Avenue Corridor Overview

Muni's 28 19th Avenue and 28R 19th Avenue Rapid bus routes together carry about 17,500 daily customers on an average weekday. The route's study corridor is 3.4 miles of 19th Avenue between Lincoln Way and Junipero Serra Boulevard. The M Ocean View Line also travels through a portion of the study area.

Within the study corridor, 28 19th Avenue and 28R 19th Avenue Rapid together serve over 8,500 customers on an average weekday and the M Ocean View Line serves an additional 5,400 customers at the stops located along 19th Avenue at Holloway Avenue and Winston Drive.

Within the study area during the p.m. peak period, the 28 19th Avenue local service operates at an average speed of 9.2 miles per hour and the 28 19th Avenue Rapid operates at an average speed of 11.5 miles per hour. The main sources of delay are closely spaced bus stops and traffic congestion.

28 19th Avenue - South of Golden Gate Park Transit Priority Project Overview

In order to reduce transit travel times and improve reliability, the SFMTA proposes a variety of improvements within the study area. The proposals include:

- Increasing bus stop spacing from one block to two blocks. Currently, the 28 19th Avenue local service stops at every block between Lincoln Way and Eucalyptus Drive. This proposal moves toward a two-block spacing for most stops. By stopping fewer times, the bus would take less time to move through the corridor.
- Reducing number of limited service stops. Currently, the 28R 19th Avenue Rapid has seven stops in each direction within the study area. This proposal would provide stops at major transfer points and destinations, including Judah Street, Taraval Street, Winston Drive and Holloway Avenue.
- Optimizing bus stop locations at five intersections. Relocating bus stops from the near-side to the far-side of intersections allows buses to take advantage of planned transit signal priority improvements that will allow traffic signals to be programmed to hold green lights for approaching buses.
- Adding transit bulbs at 14 intersections. Transit bulbs are sidewalk extensions alongside bus stops that allow buses to pick-up and drop-off customers without having to pull out of the travel lane into a bus stop and then wait for a gap to merge back into traffic. Transit bulbs enhance the ability of buses to take advantage of planned all-door boarding. Transit bulbs provide space for transit shelters and other customer amenities. Transit bulbs also improve pedestrian safety by reducing the roadway crossing distance, making pedestrians waiting to cross the street more visible to approaching motorists, and reducing the speed of motorists turning from cross streets.
- Adding pedestrian bulbs at 11 intersections. Pedestrian bulbs are sidewalk extensions at intersection corners that improve pedestrian safety by reducing the roadway crossing distance,

making pedestrians waiting to cross the street more visible to approaching motorists, and reducing the speed of motorists turning from cross streets. Reducing pedestrian crossing distances can provide flexibility in traffic signal timing that can reduce Muni delays.

- Shortening one left-turn lane on northbound 19th Avenue at Winston Drive. Shortening the left-turn lane that is currently shared with inbound M Ocean View trains would reduce delays for trains which currently must wait for the left turn queue to dissipate before proceeding through the intersection. By shortening the left-turn lane that is shared with the M Ocean View, the space for non-transit vehicles to queue in front of trains would be reduced, thereby allowing both the non-transit vehicles and trains to clear the intersection in one left-turn signal phase.

Summary

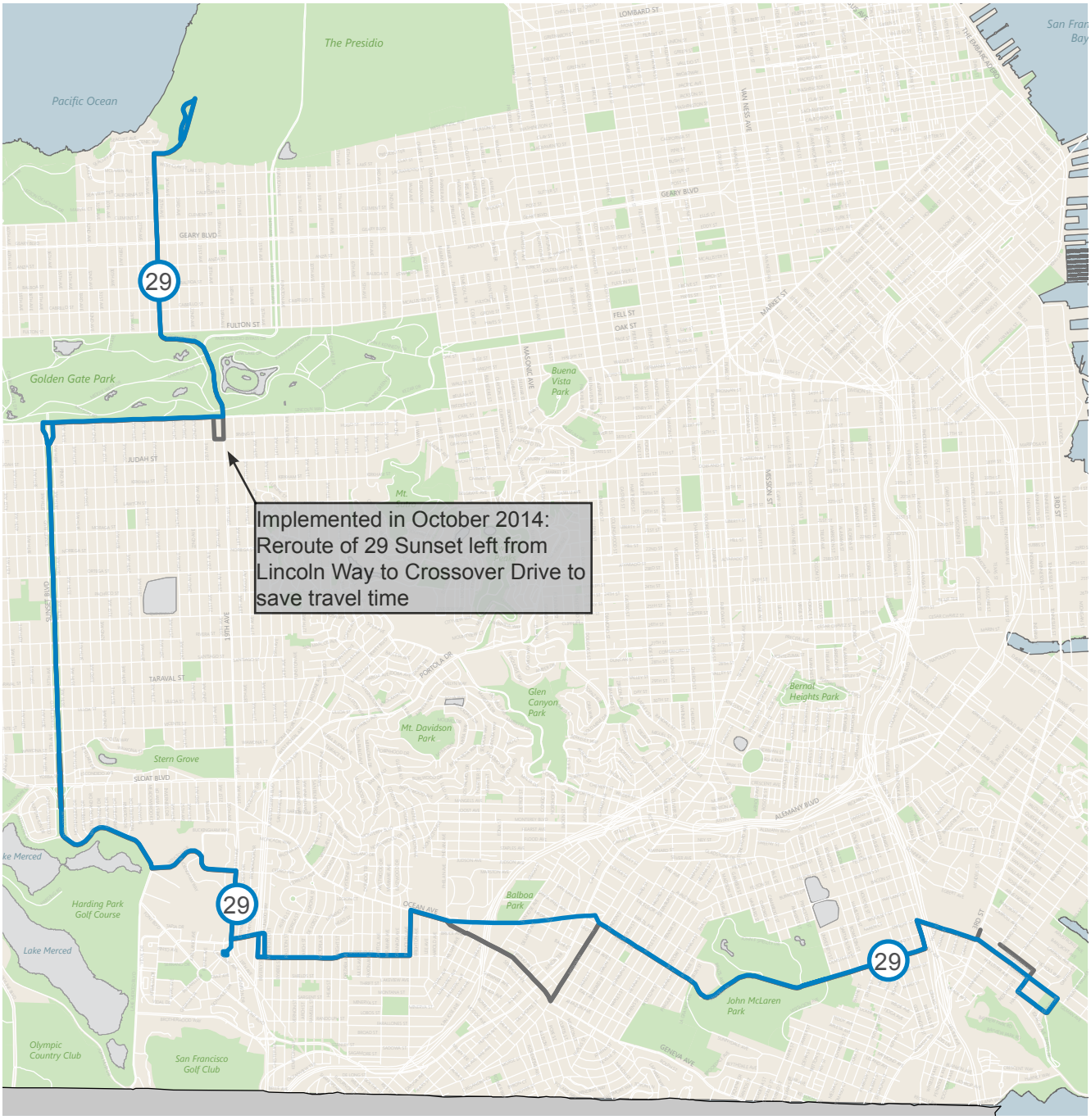
Together, the proposed changes are anticipated to reduce the travel time of the 28 19th Avenue local service by more than 5 minutes in each direction (11 minutes total) within the study area (25 percent reduction), improving the average operating speed to 12.2 miles per hour and improving service reliability. The proposed changes are anticipated to reduce the travel time of the 28R 19th Avenue Rapid by 1.5 minutes in each direction (3 minutes total) within the study area (nine percent reduction), improving the average operating speed to 12.7 miles per hour. Transit signal priority improvements are anticipated to save an additional 40 seconds in each direction for the 28 19th Avenue local service and 1.5 minutes each direction for the 28R 19th Avenue Rapid. Other changes such as operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.

San Francisco's Pedestrian Safety Task Force, created through Executive Directive 10-03: Pedestrian Safety In San Francisco, identified several high injury density corridors that encompass less than seven percent of City streets but account for over half of serious and fatal pedestrian injuries, including 19th Avenue. The transit bulbs and pedestrian bulbs recommended as part of this travel time reduction proposal can improve pedestrian safety and could be further enhanced with additional pedestrian safety treatments.

28 19th Avenue - Lombard Transit Priority Project

For this proposal, the Transit Priority Features would be applied along a segment of the 28R 19th Avenue Rapid route (portion of U.S. 101). The Transit Priority Features would be implemented along the following streets: Van Ness Avenue, Lombard Street and Richardson Avenue. This part of the 28 19th Avenue Rapid corridor extends from the intersection of Beach Street and Van Ness Avenue to the intersection of Lyon Street and Richardson Avenue (US 101 N). This would improve an east-west portion of the Rapid Network connecting the future Van Ness BRT with the 28R 19th Avenue Rapid, which provides transit connections through the Marina and the Presidio to the Richmond and Sunset Districts.

29 Sunset



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

29 Sunset

Overview

- Will provide a more direct route on Ocean Avenue to Balboa Park Station (instead of current route on Mission Street and Geneva Avenue).
- Route will extend from Persia Avenue to Ocean Avenue to Plymouth Avenue. New street segment on Persia Avenue between Mission Street and Ocean Avenue in association with Persia Triangle Improvements.
- Service will be eliminated on Mission Street between Persia and Geneva Avenues and on Geneva Avenue between Mission Street and Ocean Avenue.
- Two-way service on Gilman Avenue will simplify route to/from Candlestick Park; service on Fitzgerald Street will be discontinued.

Persia Triangle Improvements

The Persia Triangle Improvements would change the pedestrian and transit circulation along the intersections of Mission Street and Ocean Avenue, Mission Street and Persia Avenue, and Ocean and Persia avenues, which form the “Persia Triangle.” The proposed project would include improvements to complement the realignment of the 29 Sunset route to travel along Ocean Avenue between Mission Street and the Balboa Park Station. Currently, the inbound 29 Sunset route turns left onto southbound Mission Street from Persia Avenue, turns right onto westbound Geneva Avenue from Mission Street, and proceeds along Geneva Avenue to the Balboa Park Station. The revised inbound (northbound) route would continue on Persia Avenue across Mission Street and turn left onto Ocean Avenue to proceed to the Balboa Park Station. The new segment of the 29 Sunset route would operate in both the inbound and outbound directions. The existing 29 Sunset route along Persia Avenue (east of Mission) would remain unchanged.

A new transit stop would be added on the east side of Persia Avenue between Mission Street and Ocean Avenue. There are two possible locations under consideration for this new stop on Persia Avenue; one would be nearside at the intersection with Ocean Avenue, and the other would be farside at the intersection with Mission Street. This transit stop would include the construction of a transit bulb. As part of the project, curb radii modifications at the T-intersection of Persia and Ocean avenues would also be completed by installing a pedestrian bulb at the southwest corner of the intersection to improve the turning radius for outbound buses traveling from Ocean Avenue to Persia Avenue. The new transit stops with transit bulbs would be approximately 60 feet in length by six feet in width and the pedestrian bulb approximately 20 feet in length by six feet in width.

In addition, two new transit zones with transit bulbs (approximately 60 feet in length by six feet in width) would be constructed along Ocean Avenue at the intersection with Persia Avenue for the 49R Van Ness-Mission Rapid route. One would be located on the north side of Ocean Avenue midblock between Persia Avenue and Mission Street. The other stop would be located on the nearside of the intersection of Ocean Avenue with Persia Avenue for the inbound 49R Van Ness-Mission Rapid route. A pedestrian bulb approximately 20 feet in length by six feet in width would be added on the northwest corner of the intersection of Ocean Avenue and Mission Street and a

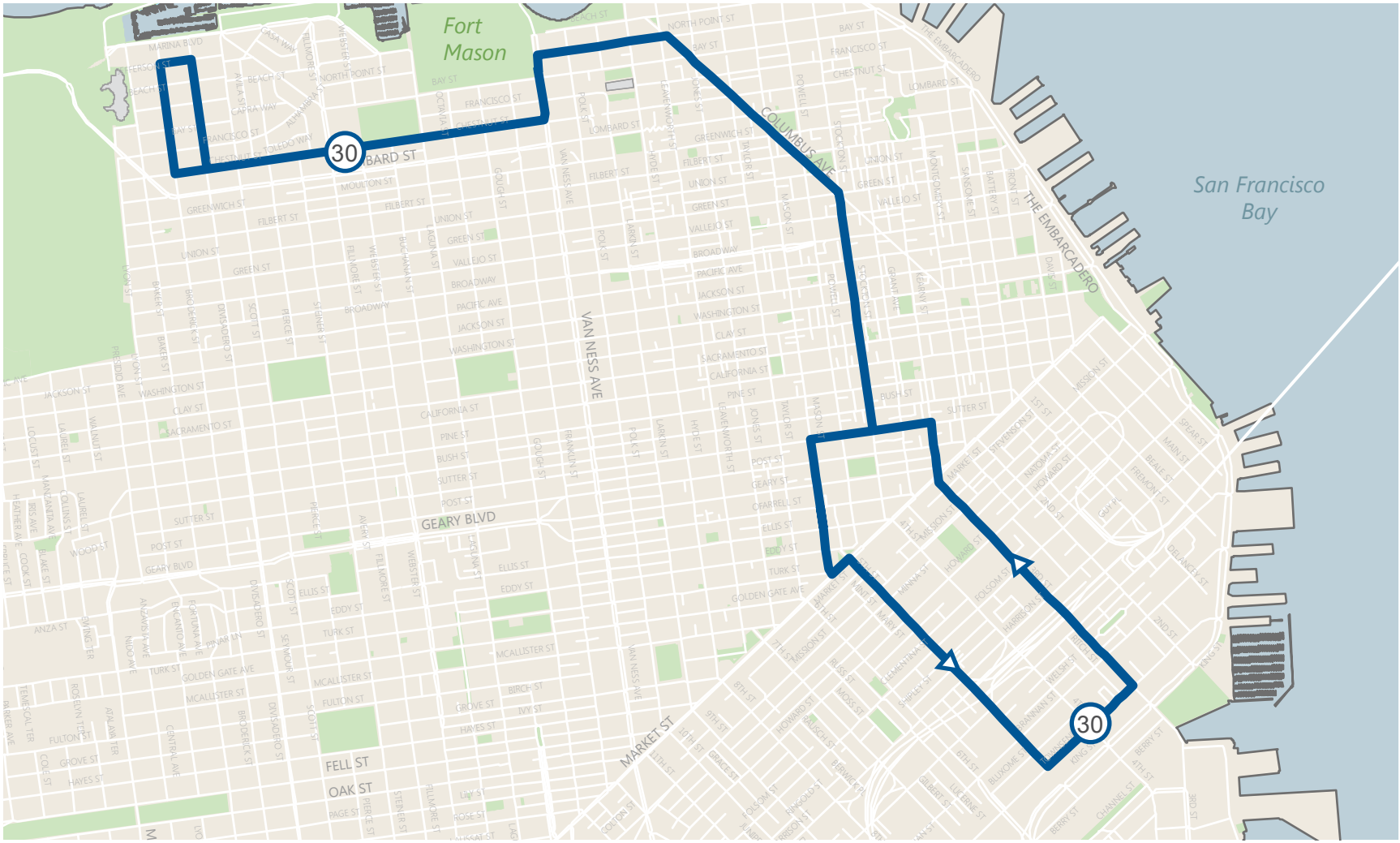
new transit stop with a transit bulb would be added on the southwest corner of this intersection to serve the 14 Mission and 14R Mission Rapid routes. Up to five existing parking spaces would need to be removed to construct the improvements for the Persia Triangle Improvements project.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	9	8	+
PM	10	10	=

30 Stockton



Frequent Local

- Recommended Route
- Segment Proposed for Elimination

Features

HC VC BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN

30 Stockton

Overview

- No route changes proposed.
- Subject to equipment availability, all service on Stockton Street will be provided by 60-foot articulated buses to reduce crowding and improve reliability.
- Currently, there is a temporary reroute in the southbound direction along Mason and Fifth streets to accommodate the Central Subway Project construction. The reroute is expected to be in place for several years.
- A Transit Priority Project is proposed to reduce transit travel time along this corridor.

30 Stockton Corridor Overview

Muni's 30 Stockton bus route carries about 28,000 daily customers on an average weekday. The route's study corridor is 2.2 miles long and includes Van Ness Avenue, North Point Street, Columbus Avenue, Stockton Street, Sutter Street, and Kearny Street. Portions of the 45 Union-Stockton and 8X/AX/BX Bayshore Expresses also travel through the study area and would benefit from the proposed improvements.

Within the study corridor, the 30 Stockton serves over 17,600 customers. Combined with the 45 Union-Stockton and the 8X/AX/BX Bayshore Expresses, within the study corridor the routes serve over 27,500 customers during an average weekday.

Within the study area, the 30 Stockton operates at an average speed of 5.6 miles per hour during peak periods. The main sources of delay are closely spaced bus stops, narrow traffic lanes in Chinatown, and traffic congestion.

30 Stockton - East of Van Ness Ave Transit Priority Project

In order to reduce transit travel times and improve reliability, the SFMTA proposes a variety of improvements within the study area. The proposals include:

- Increasing bus stop spacing from one block to two blocks. Currently, the 30 Stockton stops at almost every block on Columbus Avenue and on North Point Street. This proposal moves towards at least a two-block spacing throughout the route. By stopping fewer times, the bus would take less time to move through the corridor.
- Optimizing bus stop locations at four locations. Relocating bus stops from the near-side to the far-side of intersections would allow buses to take advantage of planned transit signal priority improvements.
- Adding transit bulbs at 12 locations. Transit bulbs are sidewalk extensions alongside bus stops that allow buses to pick-up and drop-off customers without having to pull out of the travel lane into a bus stop and then wait for a gap to merge back into traffic. Transit bulbs enhance the ability of buses to take advantage of planned all-door boarding and provide space for transit shelters and other customer amenities.
- Extending existing transit bulbs at four locations. Transit bulbs in the southbound direction on Stockton Street are currently sized for one articulated 60' bus. Often times due to the high

frequency of transit service in this direction, two or more buses will arrive at a stop at the same time, delaying the second vehicle as it waits to service the stop. With a longer transit bulb, up to two articulated 60' buses would be able to serve the stop at the same time, reducing delays.

- Adding transit-only lanes at three locations. In areas of high traffic congestion, transit-only lanes can save significant travel time for the 30 Stockton by giving the bus its own exclusive lane.
- Widening travel lanes on Stockton Street between Broadway and Columbus Avenue. Within this two block segment of Chinatown, the travel lanes on Stockton Street are too narrow to allow large vehicles such as buses or delivery trucks to pass one another in opposite directions without one of the vehicles coming to a complete stop. For example, when a 30 Stockton bus is headed northbound within this segment, it generally has to drive over the double yellow line due to the narrow lane widths. If a large vehicle such as a bus or delivery truck is headed in the opposite direction, one vehicle must stop to let the other pass by. This condition has made Stockton Street between Broadway and Columbus Avenue the slowest segment of the route. By widening the travel lanes through parking removal on the east side of the street, delays to transit would potentially be reduced.

Summary

Together, the proposed changes are anticipated to reduce the travel time of the 30 Stockton by about 3.5 minutes in each direction (seven minutes total) within the study area (15 percent reduction), improving the average operating speed to 6.6 miles per hour and improving service reliability. Transit signal priority improvements are anticipated to save an additional two minutes in each direction. Other changes such as operational improvements and network enhancements would further improve travel times along the corridor and add valuable customer amenities such as NextBus displays. The travel time savings would also reduce operating costs on the line and allow for service to be cost effectively increased.

30 Stockton - Chestnut St Transit Priority Project

For this proposal, the Transit Priority Features would be applied along a segment of the 30 Stockton route. The Transit Priority Features would be implemented along Chestnut, Broderick, Divisadero and Jefferson streets, from the intersection of Van Ness Avenue and Chestnut Street to the intersection of Jefferson and Broderick streets. This would improve an east-west portion of the Rapid Network connecting the future Van Ness BRT with the 30 Stockton to provide transit connections between the Marina, Russian Hill, Civic Center, the North Waterfront, North Beach, Chinatown, Union Square, the Financial District, SoMa and the Caltrain Station.

30 Stockton

Frequency

Service during peak periods (headway between vehicles, in minutes)

East of Van Ness Ave.

	Current	Approved	Frequency
AM	4	3.5	+
PM	4	4	=

West of Van Ness Ave.

	Current	Approved	Frequency
AM	8	7	+
PM	12	12	=

Budget

Project Phase	Total
East of Van Ness Ave - Design & Construction	$5,039,000
Stockton Street - Design & Construction	$3,350,000
Chestnut St - Design & Construction	$9,578,000
Marina Terminal - Design & Construction	$4,307,000
Total	$22,274,000

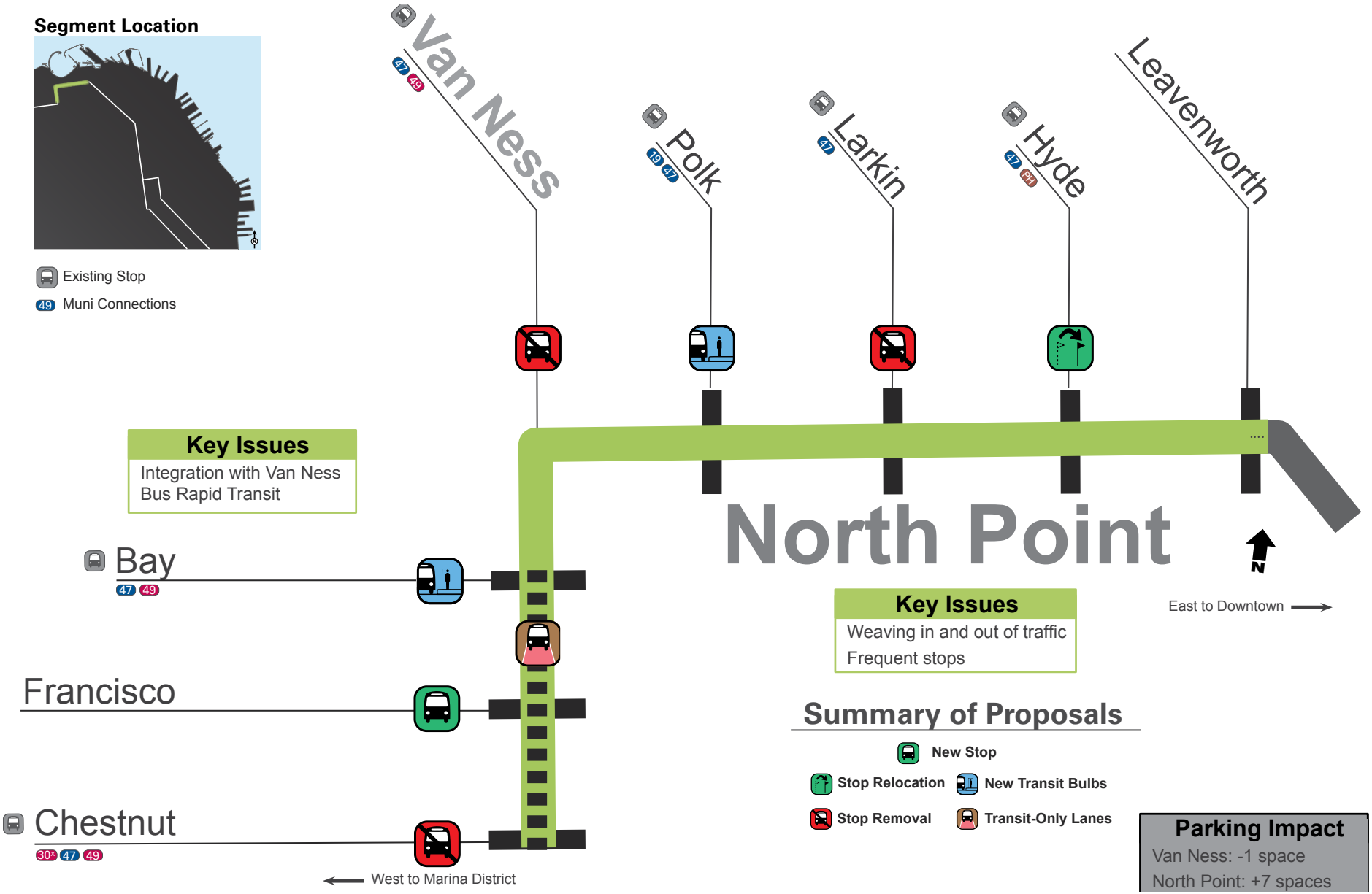
* The budget displayed above will be supplemented by Proposition K local funds, which will be used for project planning, conceptual engineering, and design.

30 Stockton - East of Van Ness Ave Transit Priority Project

Segment Location

Existing Stop

49 Muni Connections



Key Issues

Integration with Van Ness Bus Rapid Transit

Key Issues

Weaving in and out of traffic

Frequent stops

Summary of Proposals

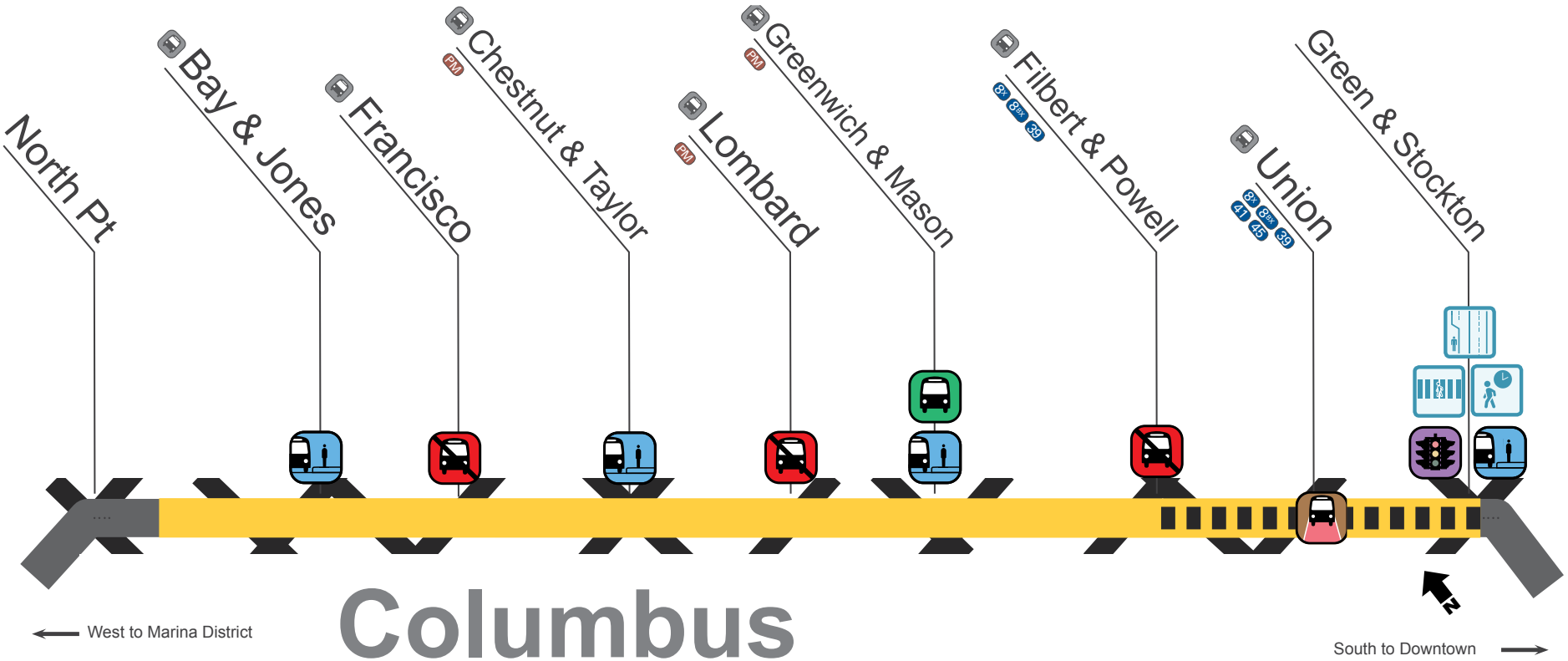
- New Stop
- Stop Relocation
- New Transit Bulbs
- Stop Removal
- Transit-Only Lanes

Parking Impact

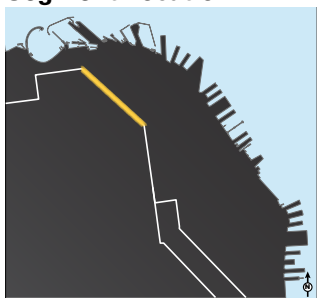
Van Ness: -1 space

North Point: +7 spaces

30 Stockton - East of Van Ness Ave Transit Priority Project



Segment Location



Existing Stop

49 Muni Connections

Summary of Proposals

Muni Forward

- New Transit Bulbs
- New Stop
- Traffic Signal Changes
- Stop Removal
- Transit-Only Lanes

Walk First

- Leading Pedestrian Intervals
- Pedestrian Bulb-Outs
- Continental Crosswalks

Key Issues

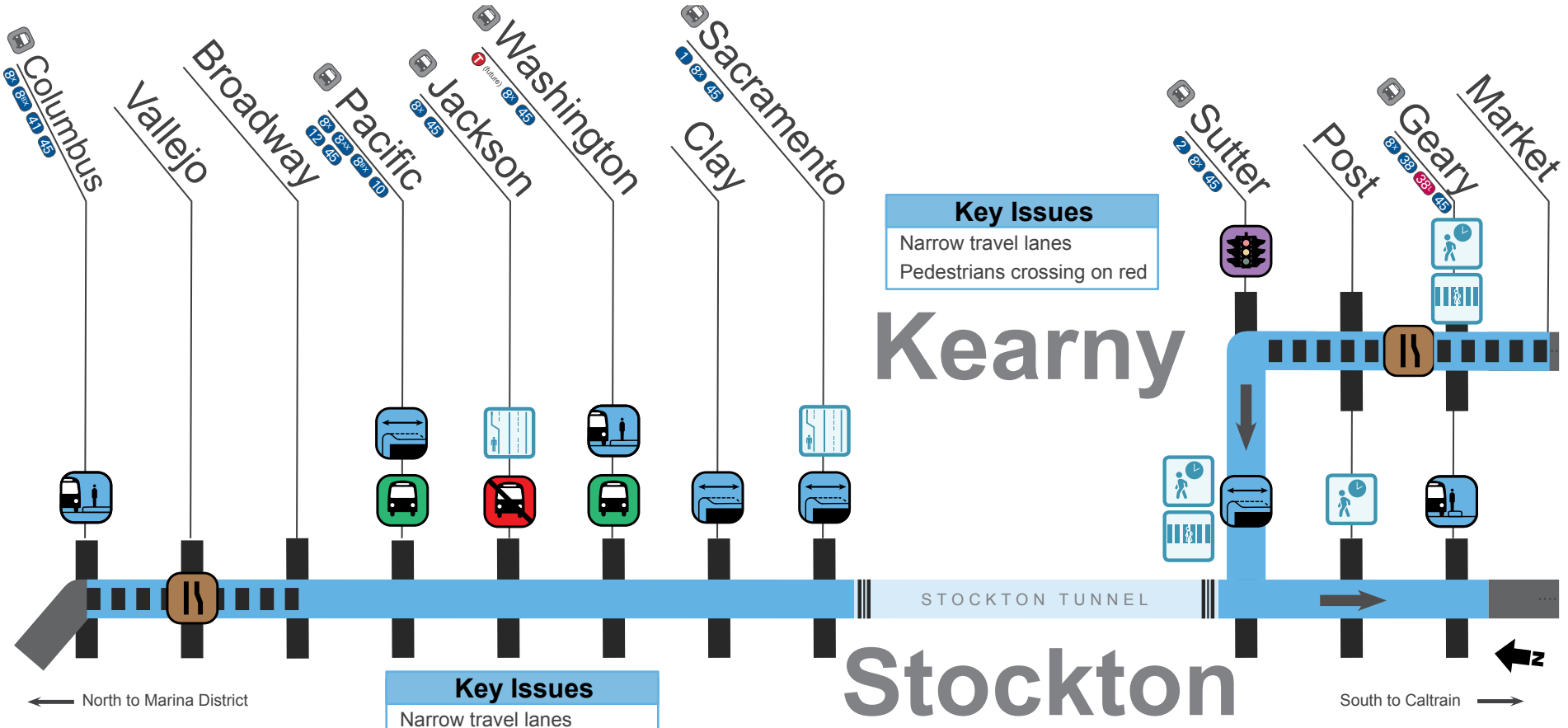
Weaving in and out of traffic
Frequent stops
Congestion
Pedestrians crossing on red

Parking Impact

+5 spaces

PROPOSALS BY ROUTE

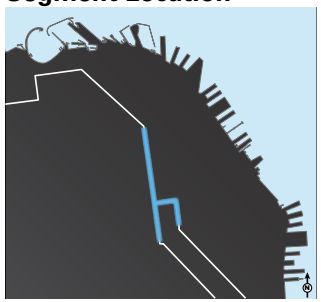
30 Stockton - East of Van Ness Ave Transit Priority Project



Key Issues
- Narrow travel lanes
- Pedestrians crossing on red

Key Issues
- Narrow travel lanes
- Frequent stops
- Overflowing sidewalks
- Central Subway transfer

Segment Location



Existing Stop
Muni Connections

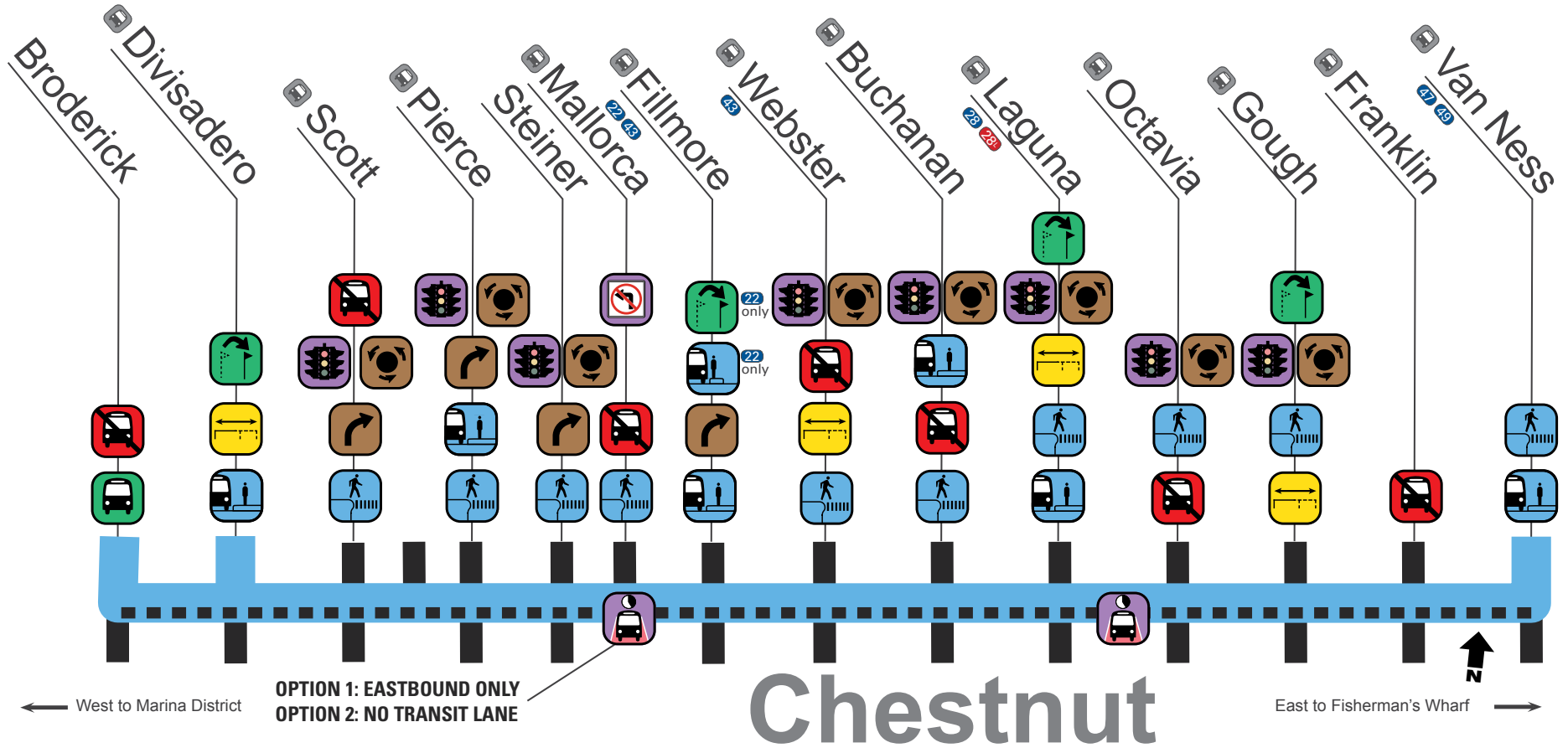
Summary of Proposals

Muni Forward
- Stop Relocation
- Extend Transit Bulbs
- Lane Widening
- New Stop
- New Transit Bulbs
- New Transit Island
- Traffic Signal Changes

Walk First
- Leading Pedestrian Intervals
- Pedestrian Bulb-Outs
- Continental Crosswalks

Parking Impact
Alternative 1: -50 spaces
Alternative 2: -43 spaces

30 Stockton - Chestnut Street Transit Priority Project



Summary of Proposals

- Stop Relocation
- Stop Removal
- New Turn Pockets
- Turn Restrictions (on side street)
- Peak Hr Transit Lane
- New Stop
- Bus Zone Extensions
- New Traffic Signals OR Traffic Calming

Existing Stop

49 Muni Connections

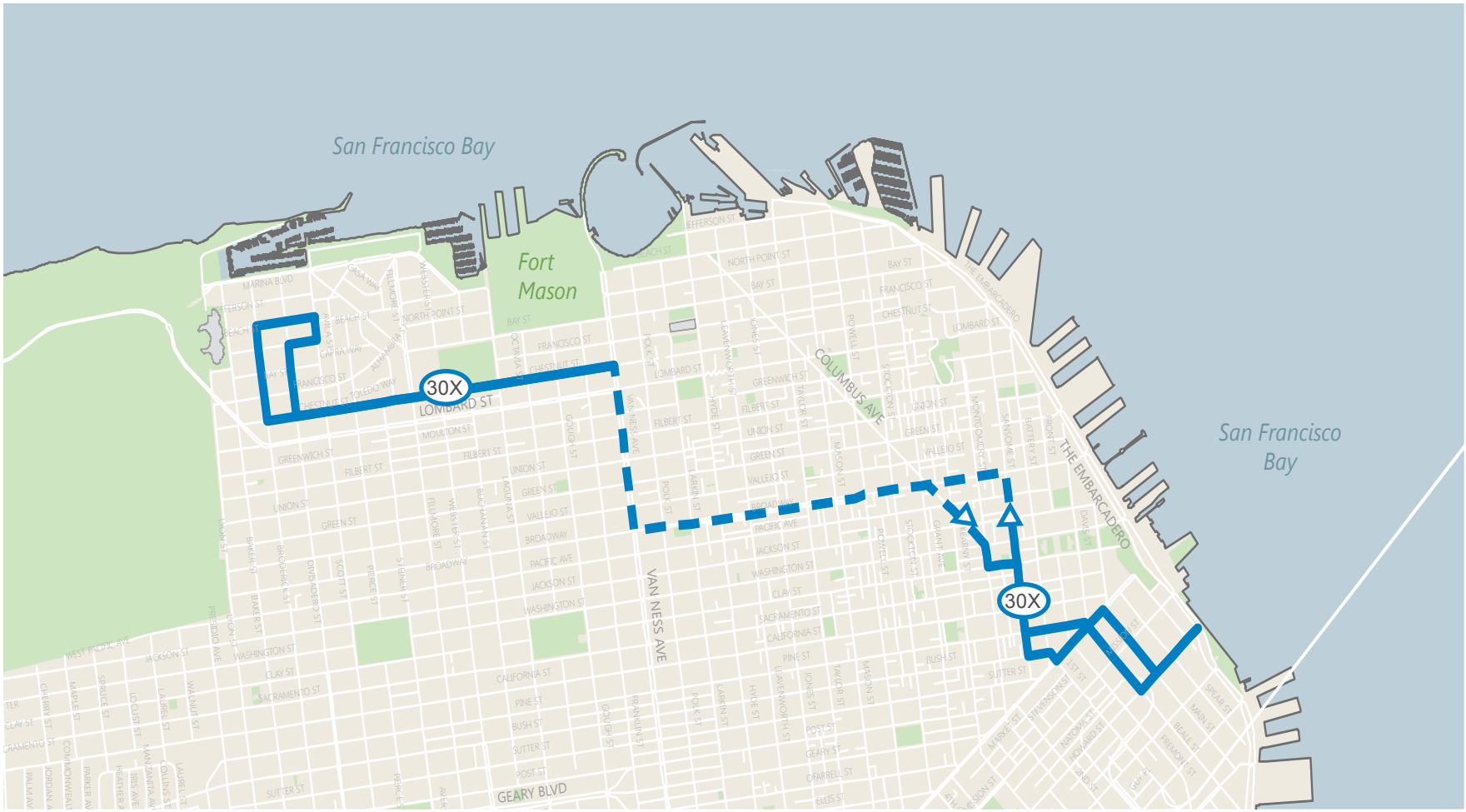
Bulbs

- New Pedestrian Bulbs*
- New Transit Bulbs*

OPTION 1: Bulbs will only be placed on north side of Chestnut to stay clear of transit lane.

OPTION 2: Bulbs will be on both sides of Chestnut.

30X Marina Express



Express

- Recommended Route
- Express Segment (no stops)

Feature Summary

HC

30X Marina Express

Overview

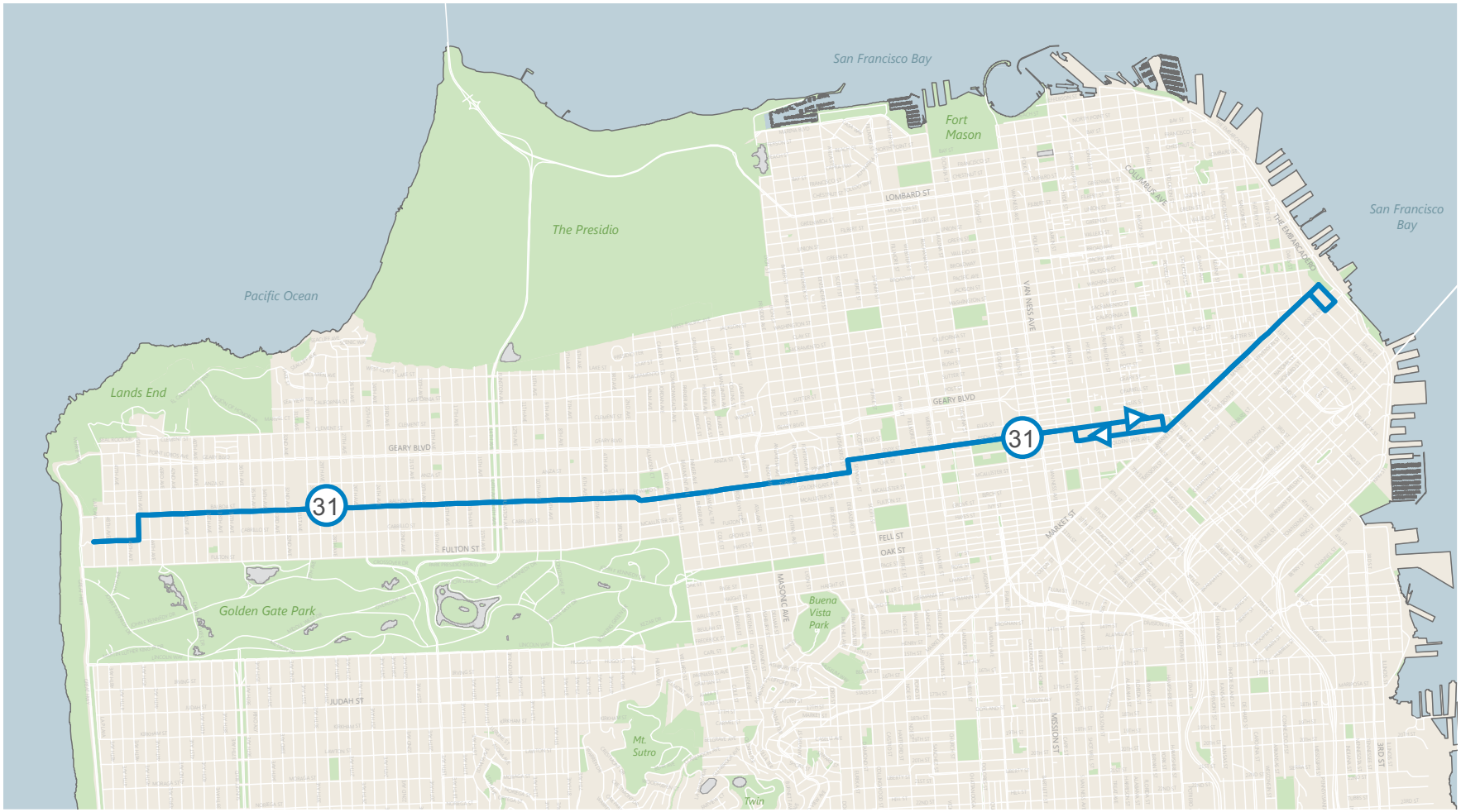
- No route changes proposed.
- In the a.m. peak period, the 30X Marina Express will use 60-foot articulated motor coaches instead of standard 40-foot motor coaches.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	4.5	4	+
PM	7.5	7	+

31 Balboa



Grid

Recommended Route

Feature Summary

HC

31 Balboa

Overview

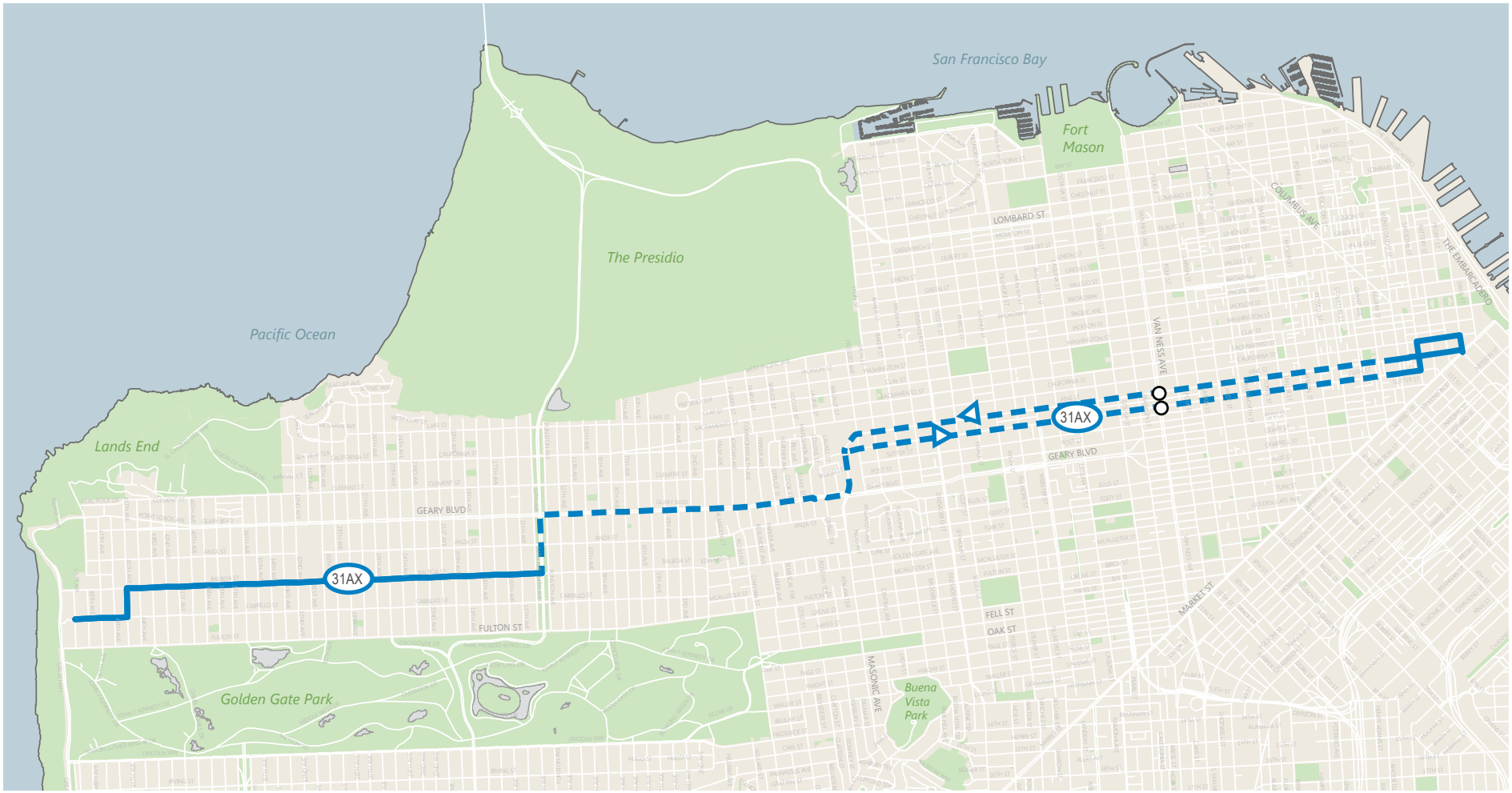
- No route changes proposed.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	12	12	=
PM	14	12	+

31AX Balboa Express



Express

- Recommended Route
- Express Segment (no stops)

31AX Balboa Express

Overview

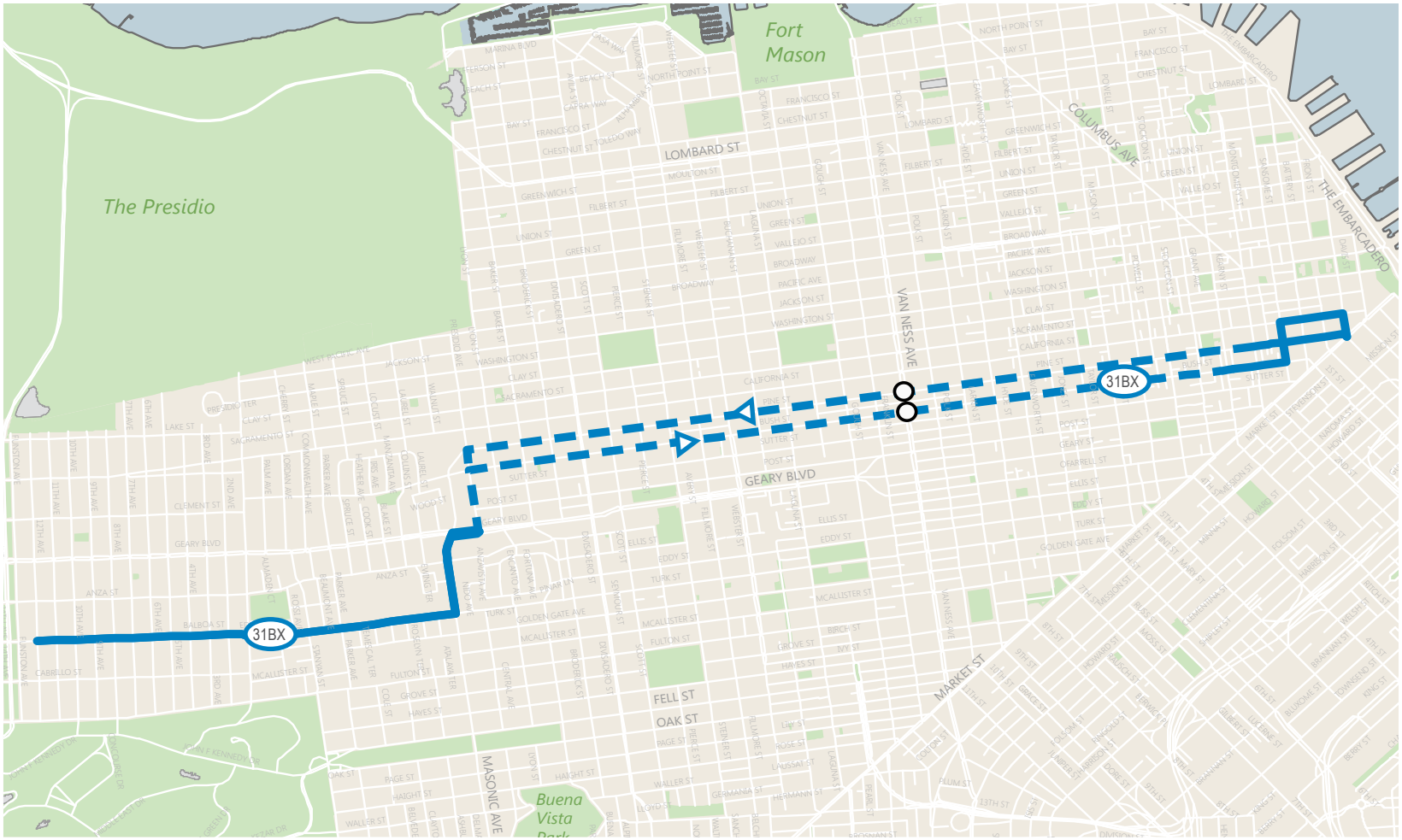
- No route or service changes proposed.
- New Stop at Van Ness Avenue.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	10	=
PM	10	10	=

31BX Balboa Express



Express

- Recommended Route
- Express Segment (no stops)

Features

New stop at Van Ness

31BX Balboa Express

Overview

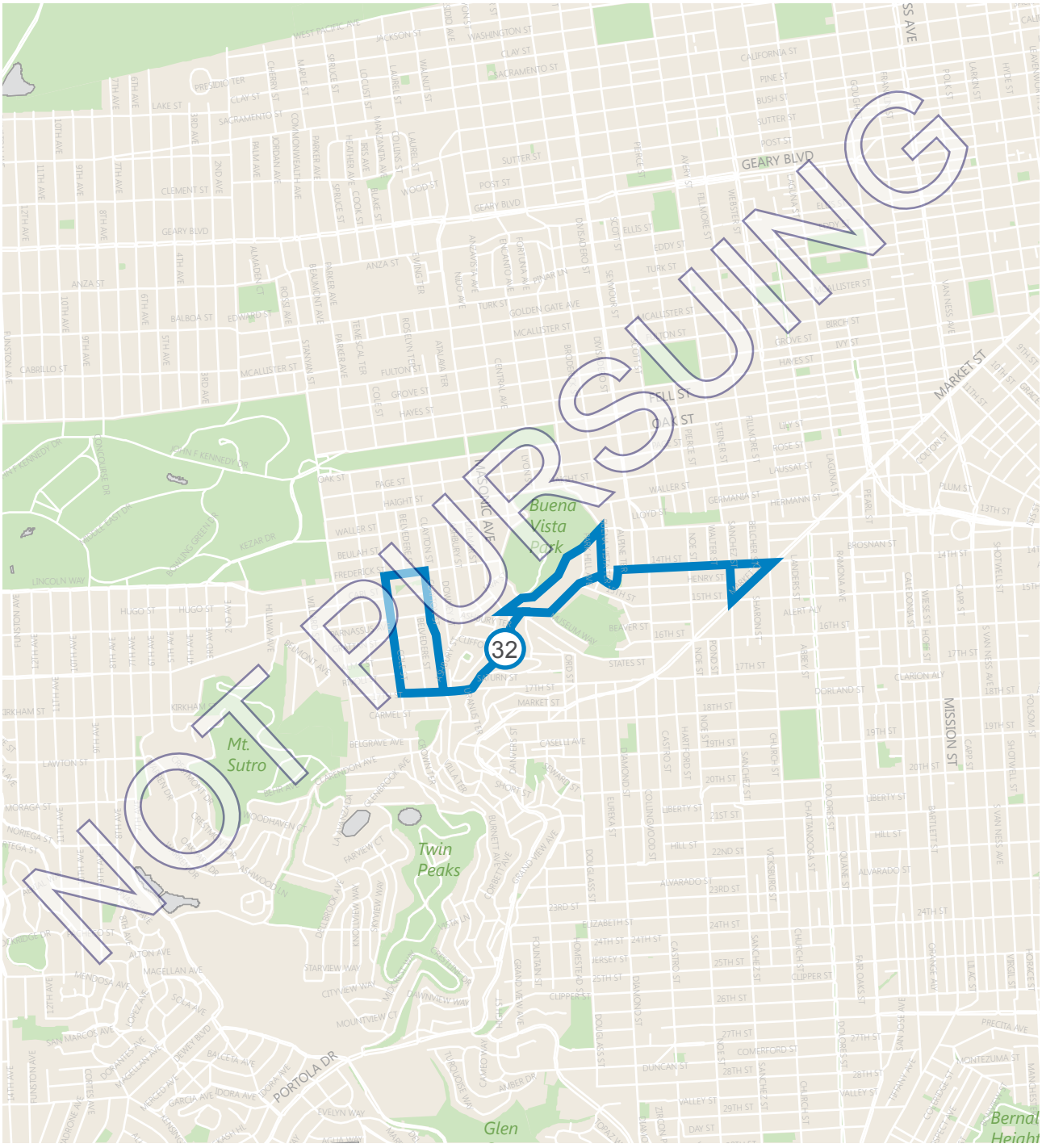
- No route or service changes proposed.
- New Stop at Van Ness Avenue.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	10	=
PM	12	12	=

32 Roosevelt - NOT PURSUING



Connector

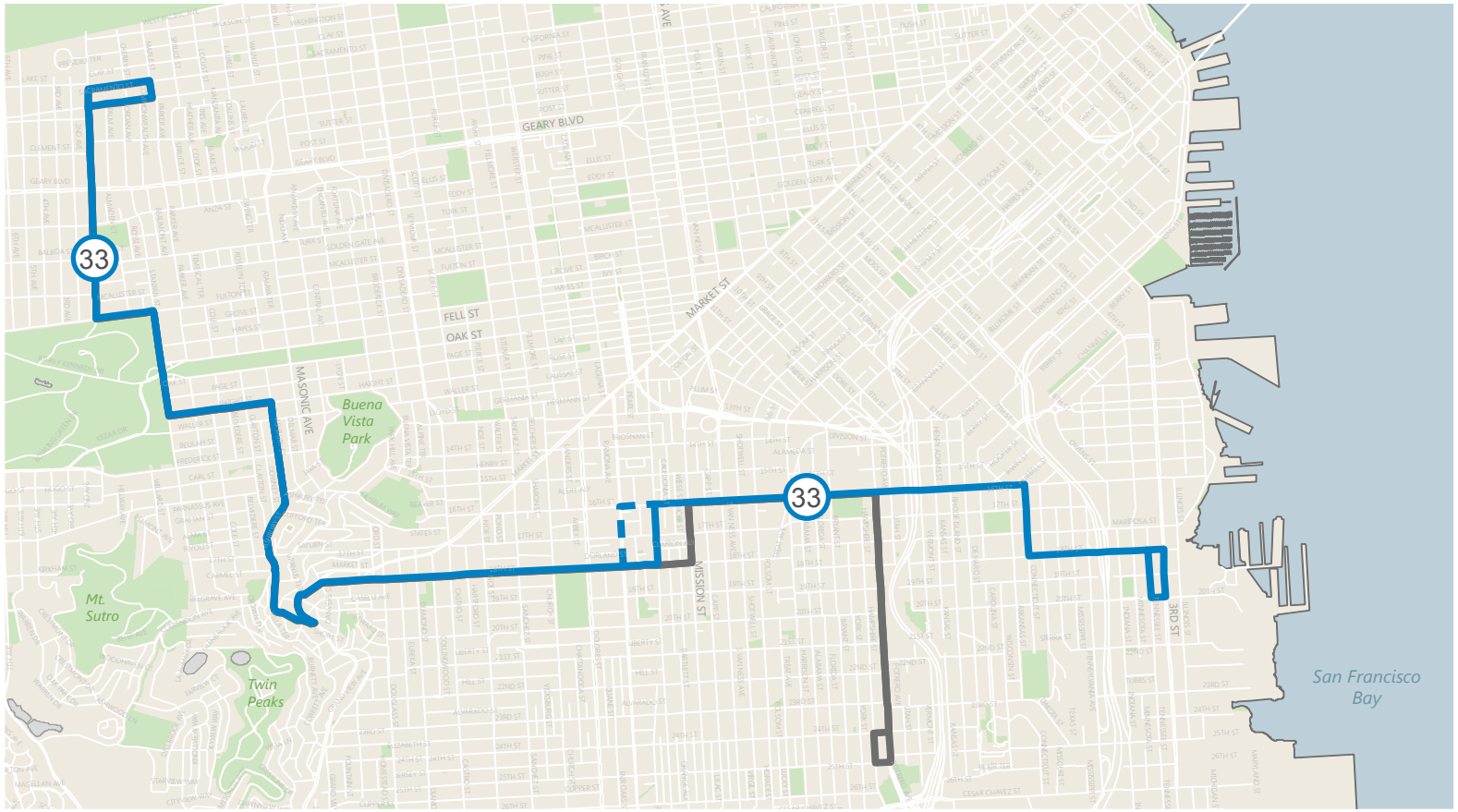
Recommended Route

32 Roosevelt - NOT PURSUING

Overview

- Not pursuing this proposal

33 Ashbury-18th St



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

33 Ashbury-18th St

Overview

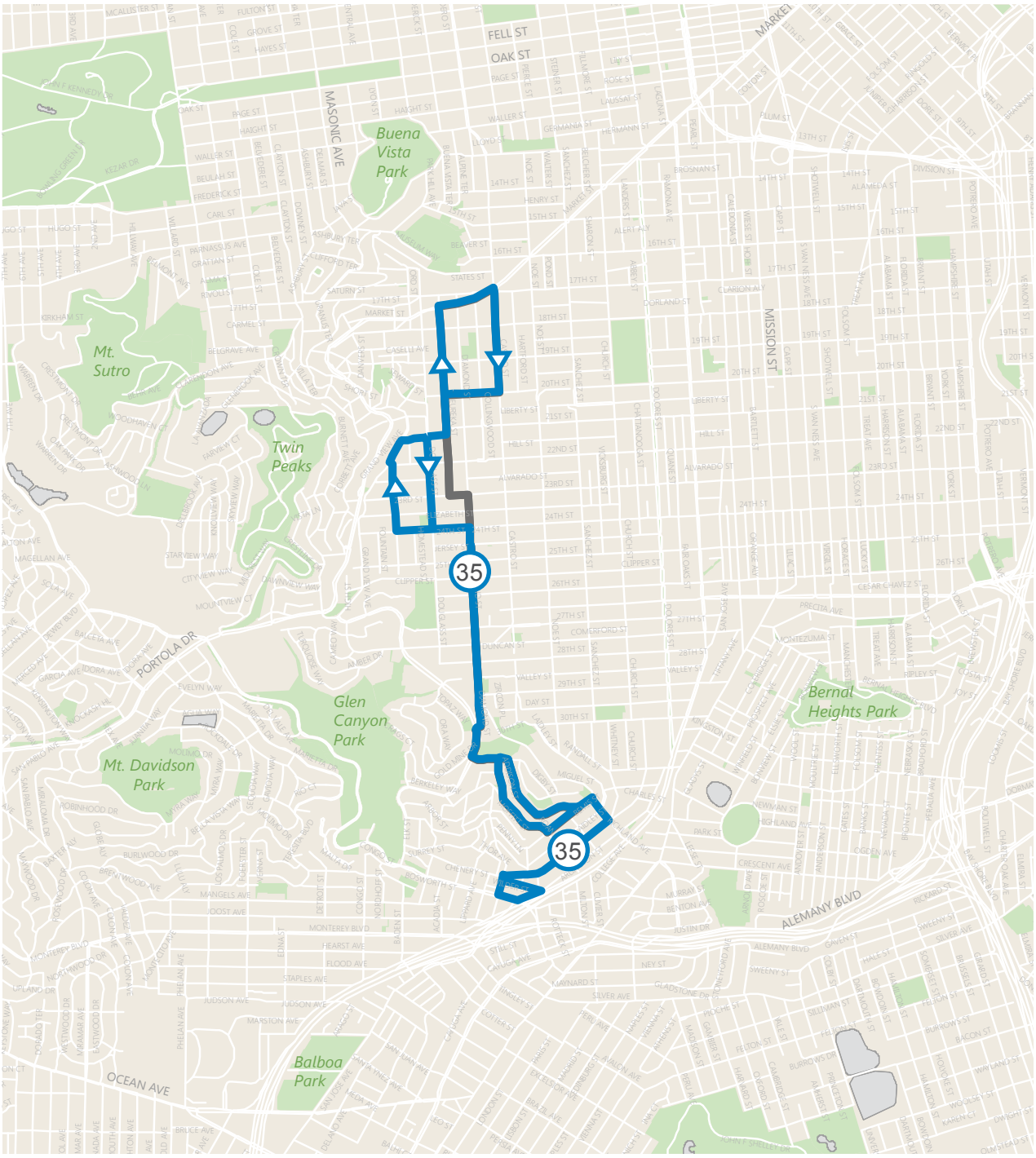
- Service will be routed to Dogpatch in order to provide service coverage to area eliminated on 22 Fillmore under the Mission Bay reroute proposal.
- Service will be extended on 16th Street between Potrero Avenue and Connecticut Street, Connecticut Street between 17th and 18th Streets, 18th Street between Connecticut and Third Streets, Tennessee and Third Streets between 18th and 20th Streets, and 20th Street between Third and Tennessee Streets.
- Service will be rerouted onto either Valencia Street between 16th and 18th streets (new street segment) or Guerrero Street between 16th and 18th streets (new street segment) to alleviate transit congestion on Mission Street and provide better connections with the 22 Fillmore. Further outreach will determine final alignment.
- Service will be discontinued on 18th Street between Valencia and Mission Streets, Mission Street between 16th and 18th Streets, Potrero Avenue between 16th Street and Cesar Chavez Street, 24th and Cesar Chavez Streets between Hampshire Street and Potrero Avenue, and Hampshire Street between 24th and Cesar Chavez Streets. Potrero Avenue customers will use Route 9 San Bruno/9R San Bruno Rapid.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	15	12	+
PM	15	12	+

35 Eureka



Connector

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

HC VC

35 Eureka

Overview

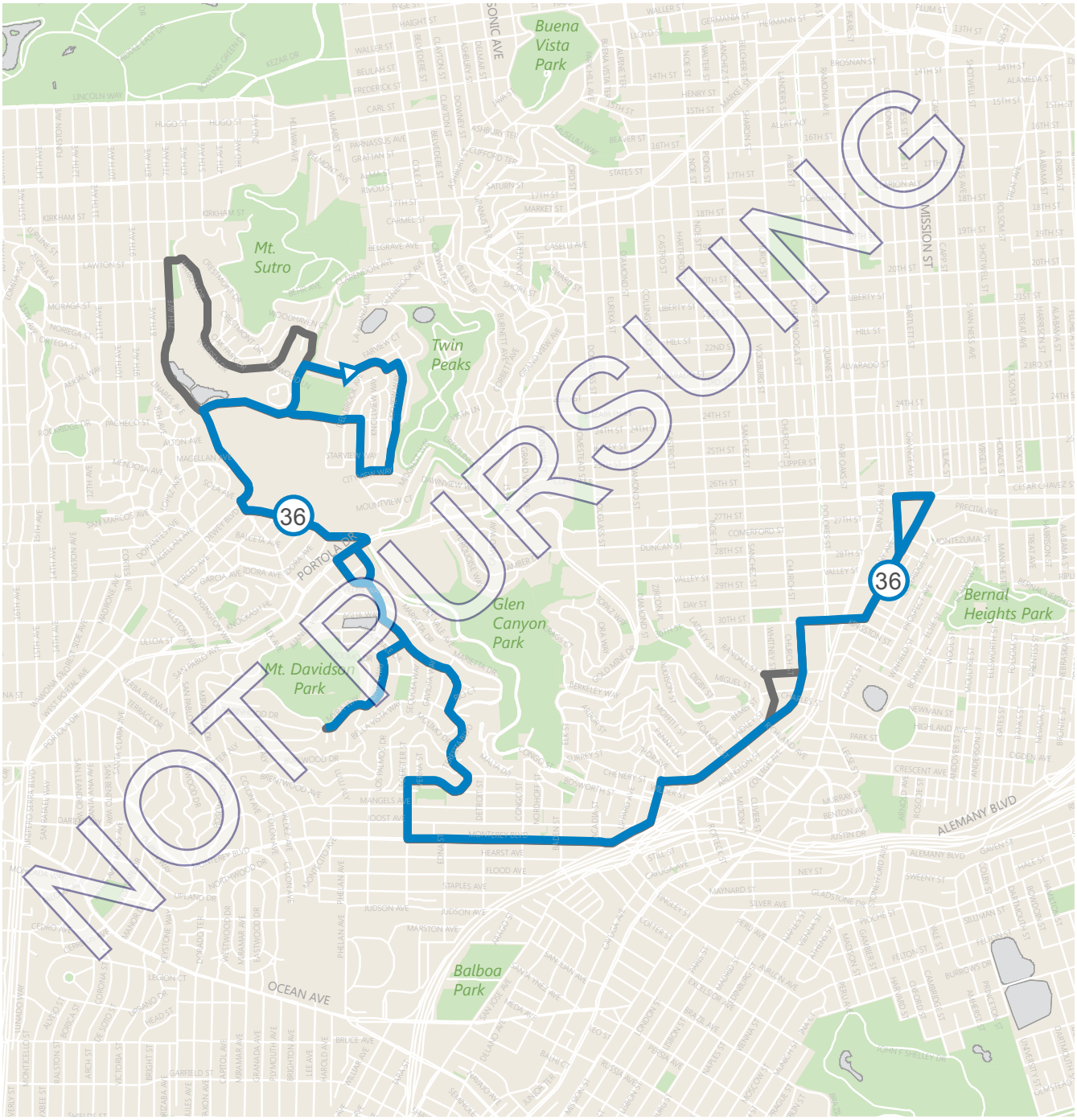
- The 35 Eureka will be extended to Glen Park BART and into a portion of Noe Valley. Service will be added on 21st Street between Eureka Street and Grandview Avenue, Hoffman Avenue between Grandview Avenue and 24th Street, Douglass Street between 21st and 24th Streets, 24th Street between Hoffman Avenue and Diamond Street, Miguel Street between Bemis and Chenery Streets, Chenery Street between Miguel and Diamond Streets, Diamond Street between Chenery and Bosworth Streets, Bosworth Street between Diamond and Arlington Streets, Arlington Street between Bosworth and Wilder Streets, and Wilder Street between Arlington and Diamond Streets.
- Service will be discontinued on Eureka Street between 21st Street and 23rd Street, 23rd Street between Eureka and Diamond Streets, and Diamond Street between 23rd and 24th Streets.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	30	20	+
PM	20	20	=

36 Teresita - NOT PURSUING



Connector

- Recommended Route
- Segment Proposed for Elimination

36 Teresita - NOT PURSUING

Overview

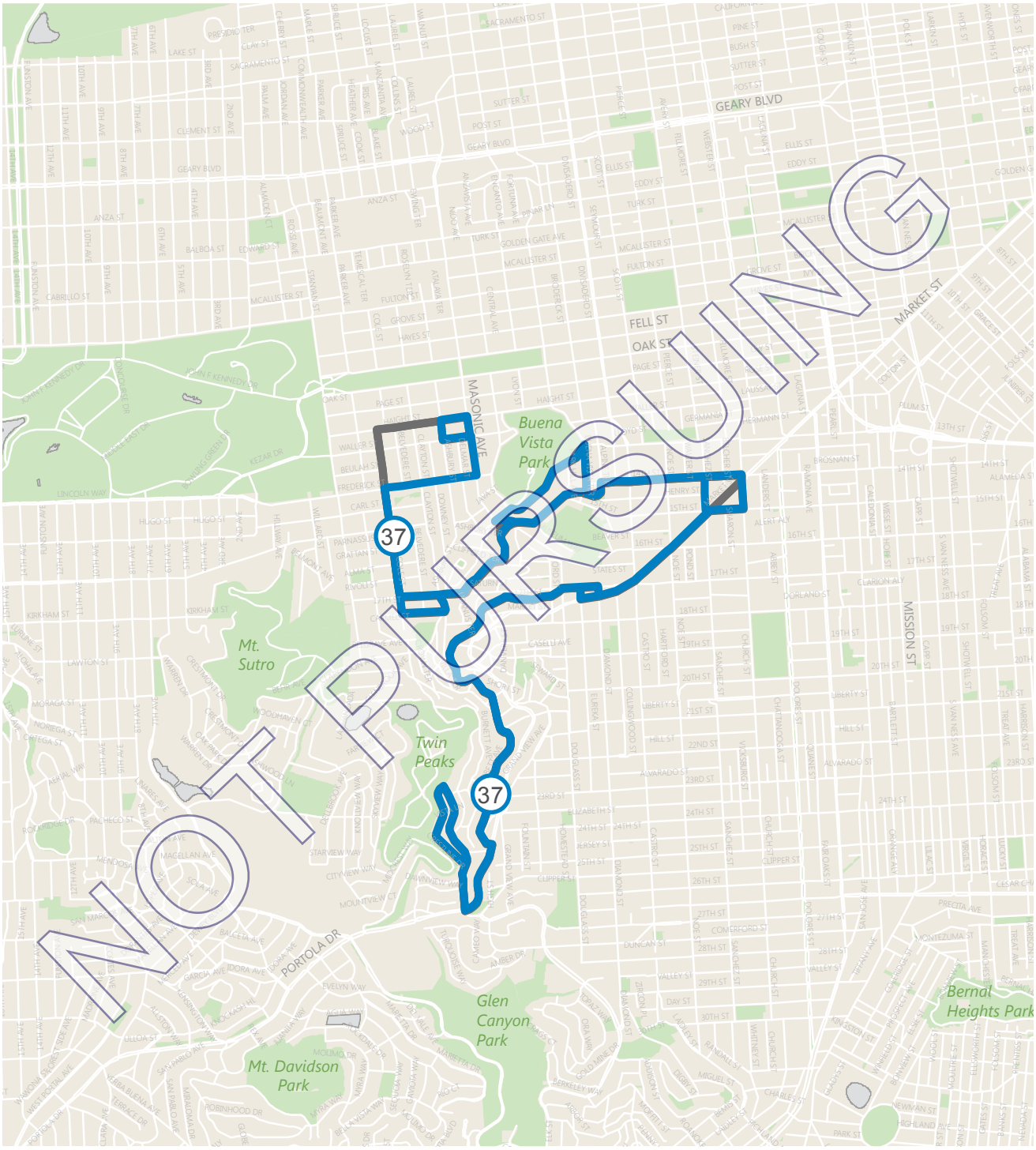
- No changes from current route or frequency.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Proposed	Frequency
AM	30	30	=
PM	30	30	=

37 Corbett



Connector

- Recommended Route
- Segment Proposed for Elimination

37 Corbett

Overview

- No changes to current route alignment.
- PM peak frequency will increase to every 15 minutes.

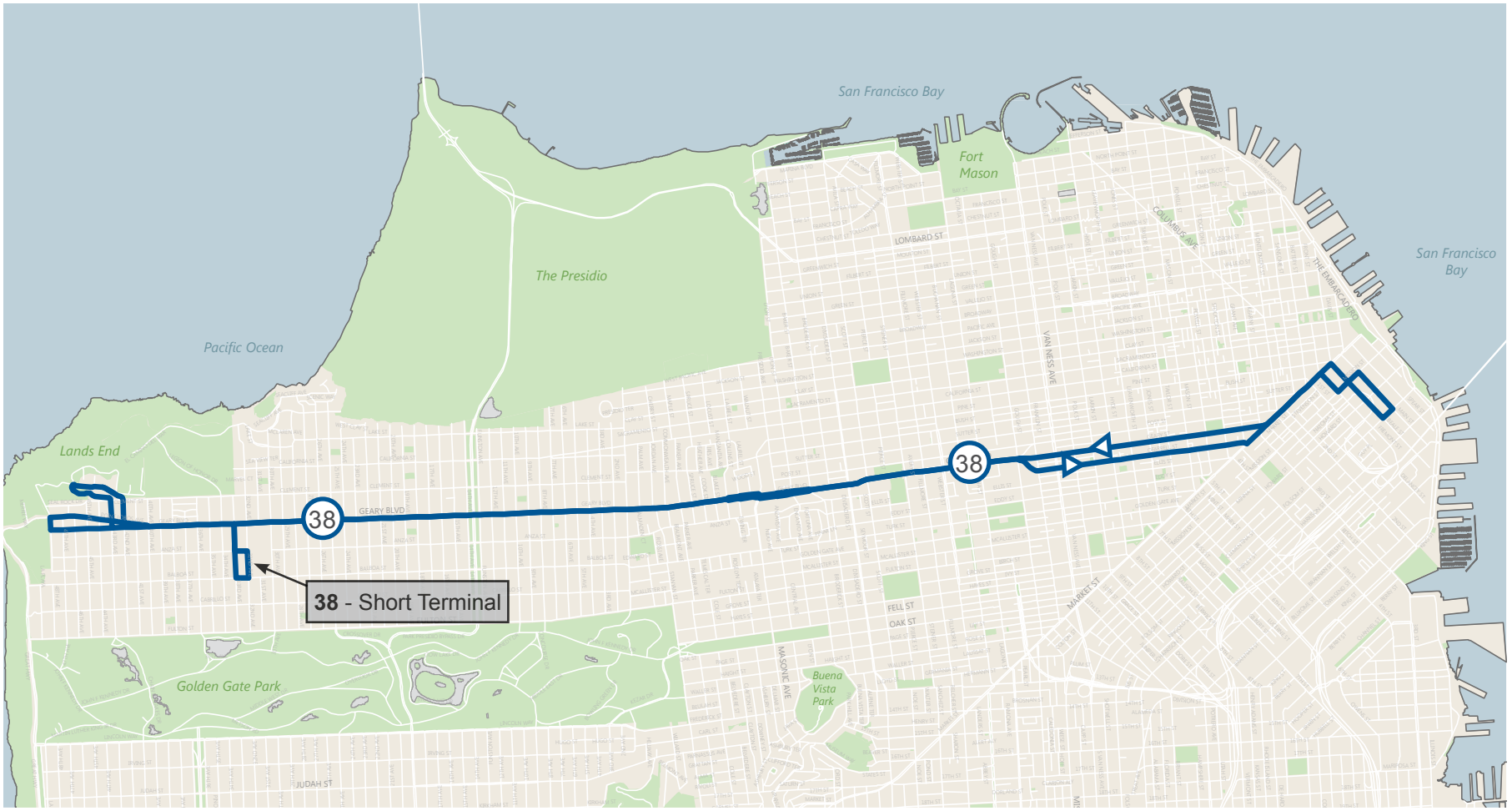
Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	15	15	=
PM	20	15	+

** Route changes will not be pursued however frequency increase during PM peak period is planned

38 Geary



Frequent Local

Recommended Route

Feature Summary

HC

38 Geary

Overview

- No route changes proposed.
- Midday frequency will change from 16 to 15 minutes west of 33rd Avenue.
- Will coordinate with Geary BRT study currently underway.

Frequency

Service during peak periods (headway between vehicles, in minutes)

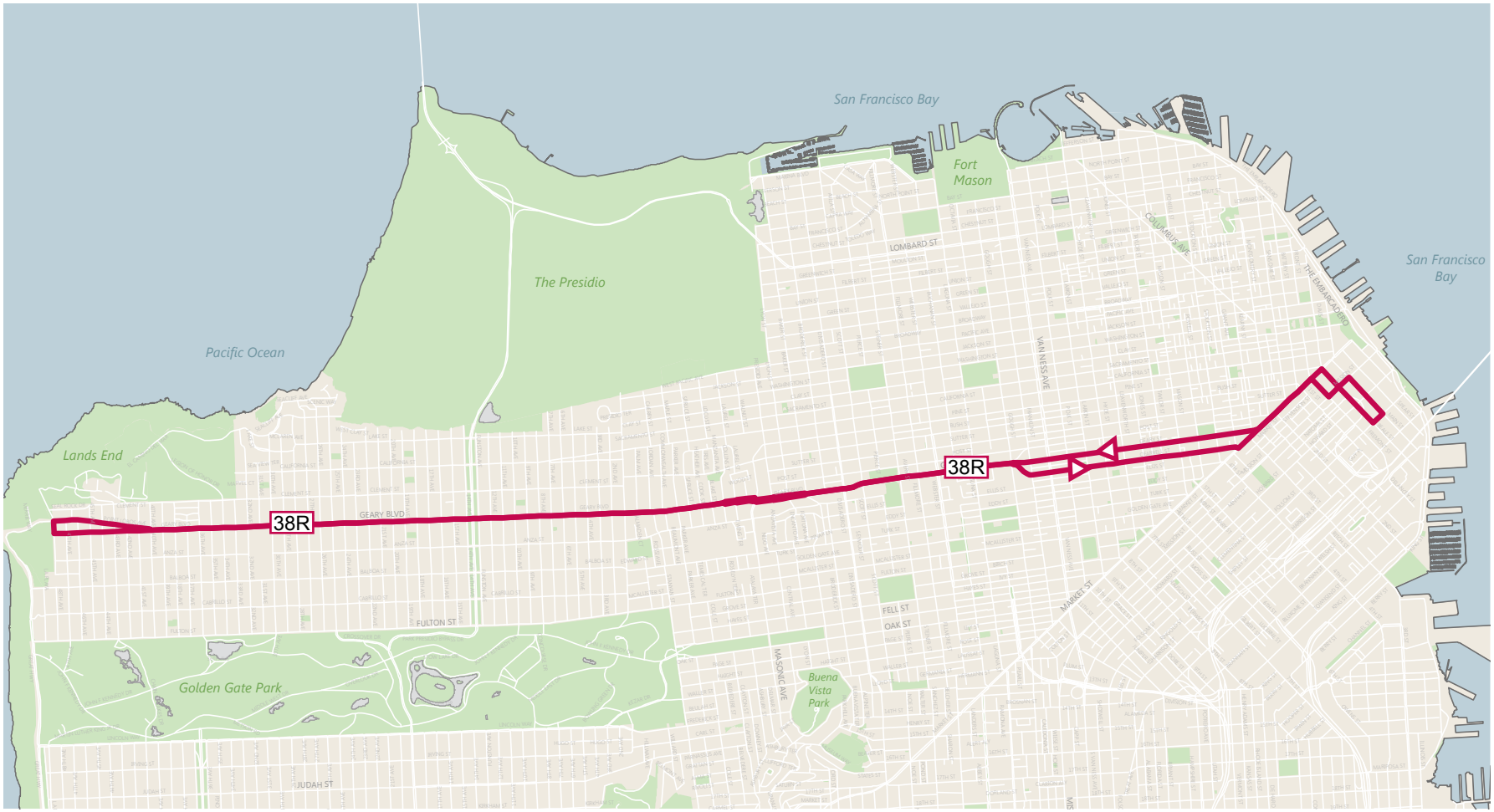
West of 33rd Avenue

	Current	Approved	Frequency
AM	12	12	=
PM	13	12	+

East of 33rd Avenue

	Current	Approved	Frequency
AM	6.5	6	+
PM	6.5	6	+

38R Geary Rapid



Rapid

Recommended Route

Feature Summary

HC EH

38R Geary Rapid

Overview

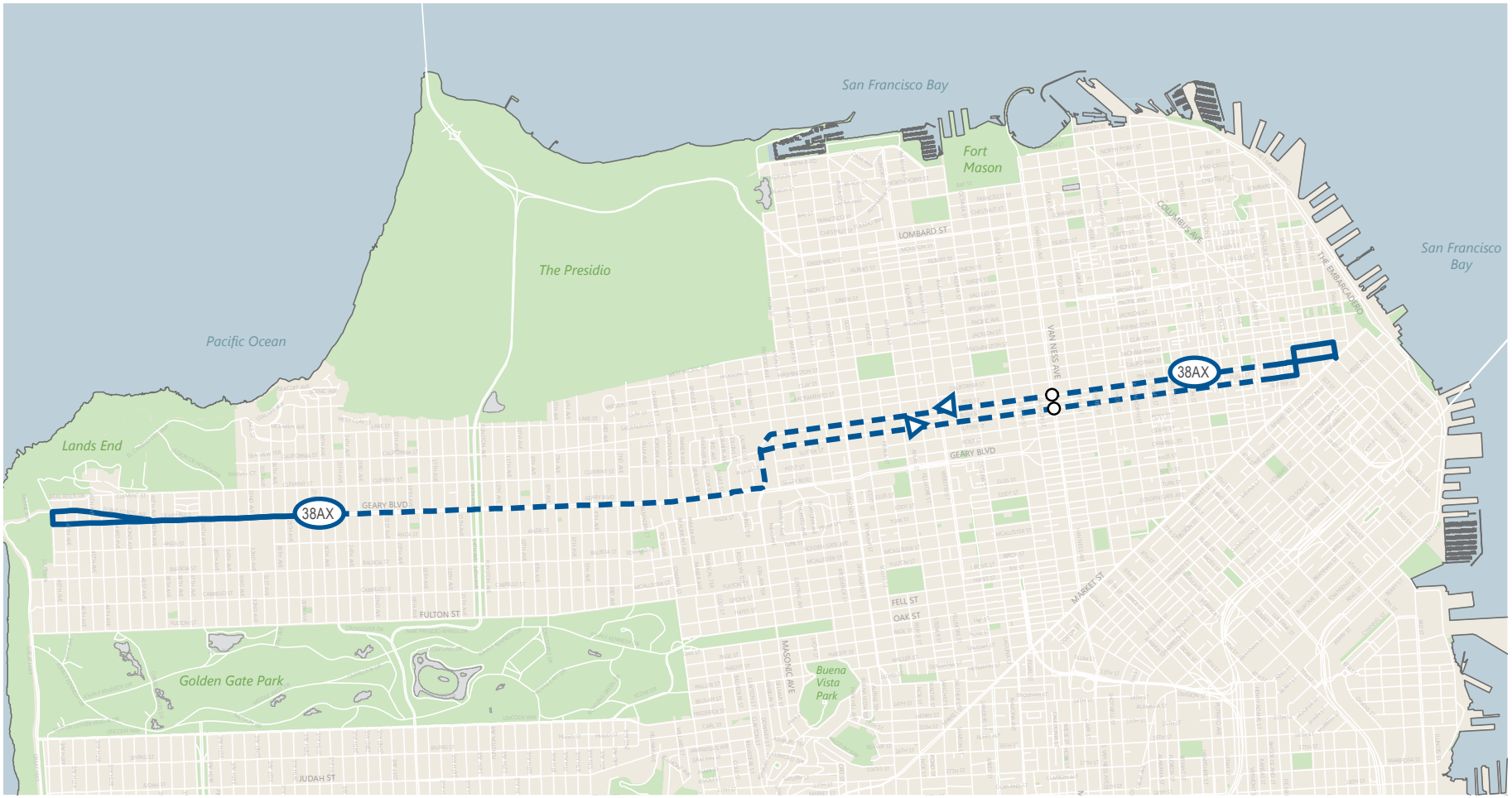
- No route changes proposed (Proposed Geary BRT is subject to its own environmental review).
- Midday frequency change from 6 to 5 minutes.
- Limited-stop service will be expanded to include Sundays.
- Will coordinate with Geary BRT Study currently underway.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	5.5	5	+
PM	5.5	5	+

38AX Geary Express



Express

- Recommended Route
- Express Segment (no stops)

38AX Geary Express

Overview

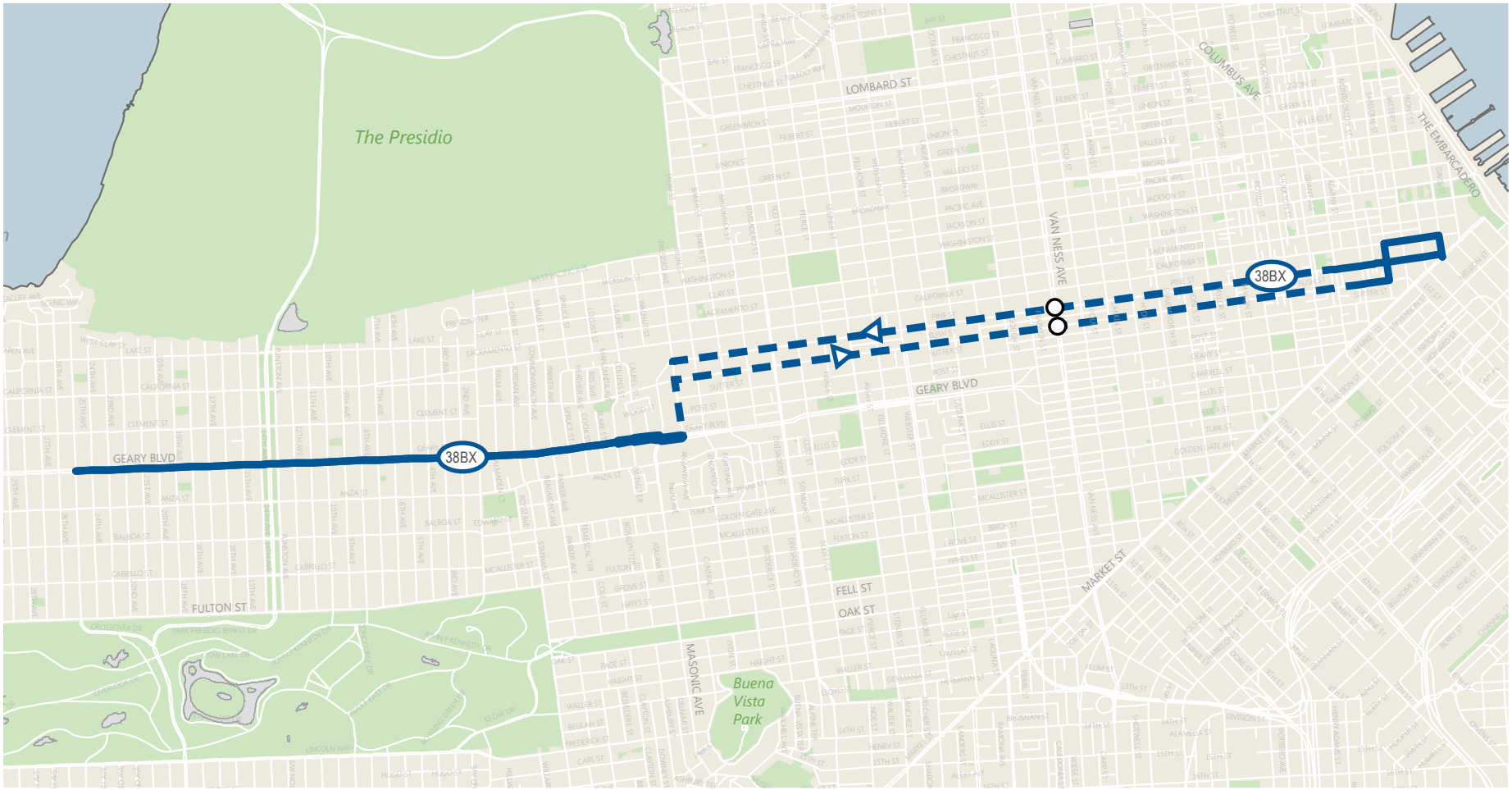
- No changes from current route or frequency.
- Stop pair added to improve transfer connection at Van Ness Ave.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	10	=
PM	12	10	=

38BX Geary Express



Express

- Recommended Route
- Express Segment (no stops)

Features

HC

38BX Geary Express

Overview

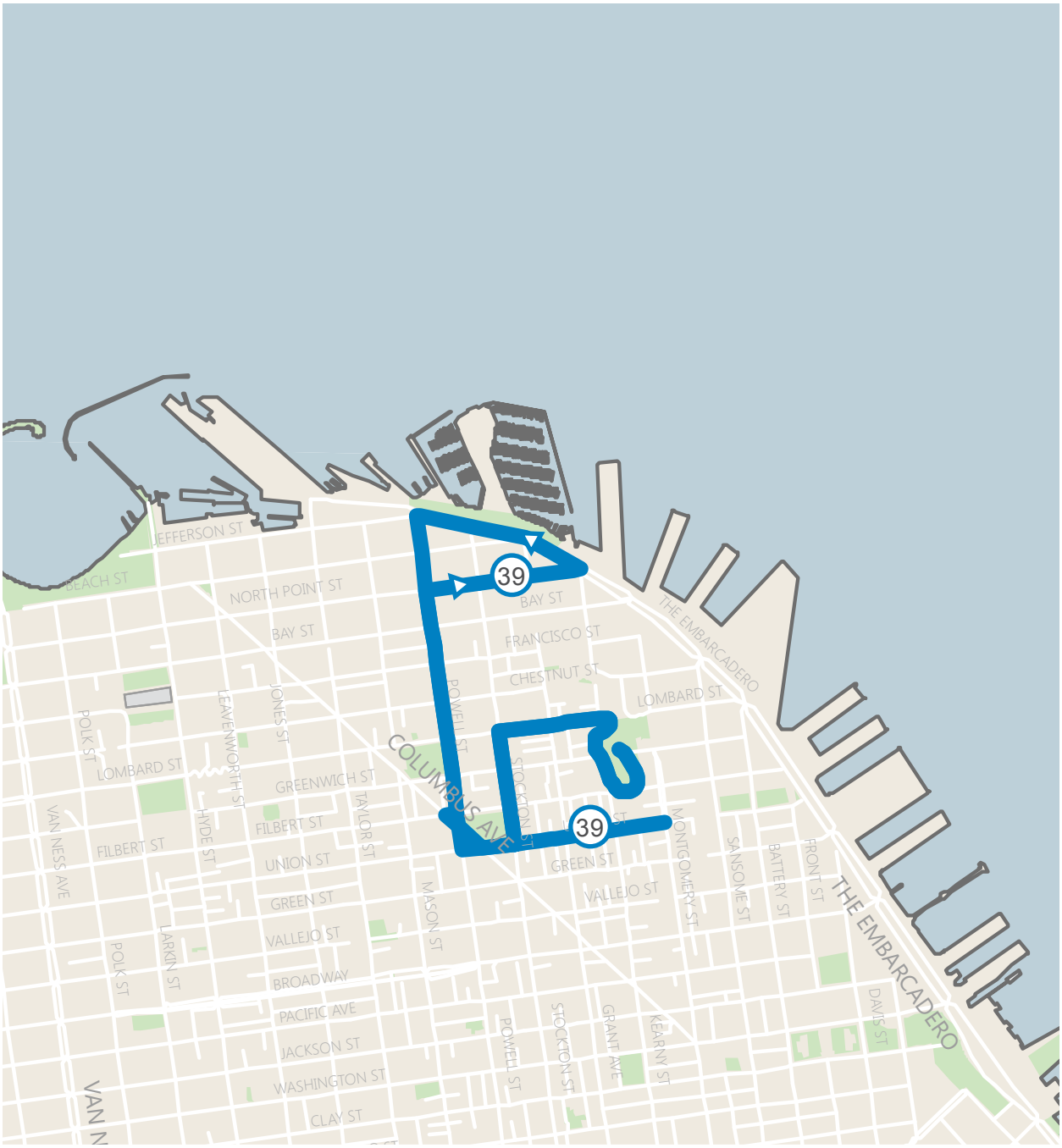
- No changes from current route or frequency.
- Stop pair added to improve transfer connection at Van Ness Ave.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	12	12	=
PM	12	10	=

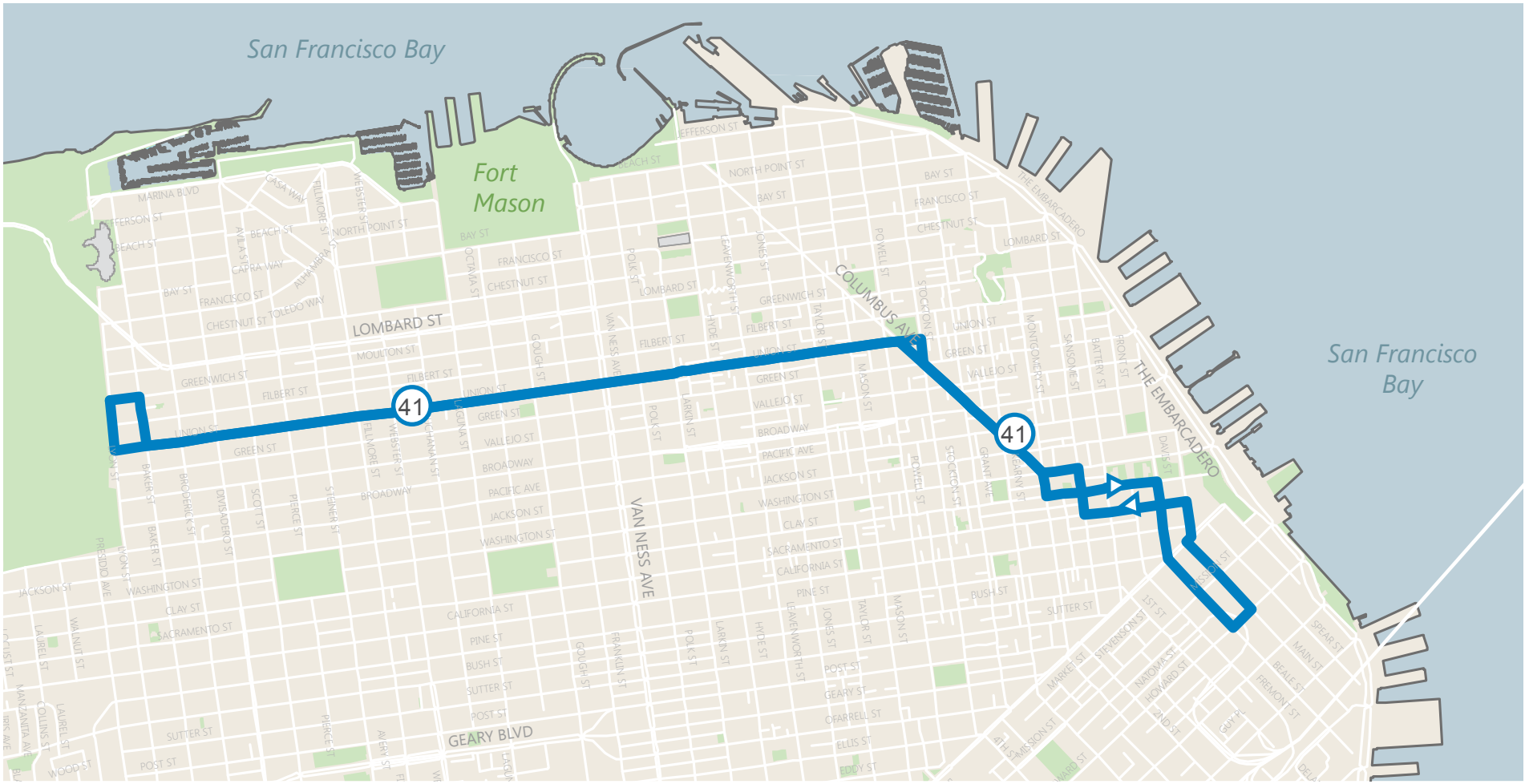
39 Coit



Connector

Recommended Route

41 Union



Grid

Recommended Route

Feature Summary

HC

41 Union Bypass Wires at Terminal Location

This project would install bypass wires to improve terminal operations where multiple trolley coach routes share a terminal. This project would provide trolley coach access to and egress from terminals and would improve route reliability by preventing trolley coaches from one route from getting stuck behind trolley coaches from another route. Currently, at terminals shared by multiple trolley coach routes, operators must exit their vehicle and pull trolley poles in order to pass a coach already in the terminal. Including an additional terminal location for the 41 Union/ 45 Union Stockton, a combined total of about 1,200 linear feet of overhead bypass wires and the installation of about 50 poles is proposed also at the 1 California terminal location at Presidio Avenue and Sacramento Street (Terminal for Routes 1 California and 2 Clement short-line).

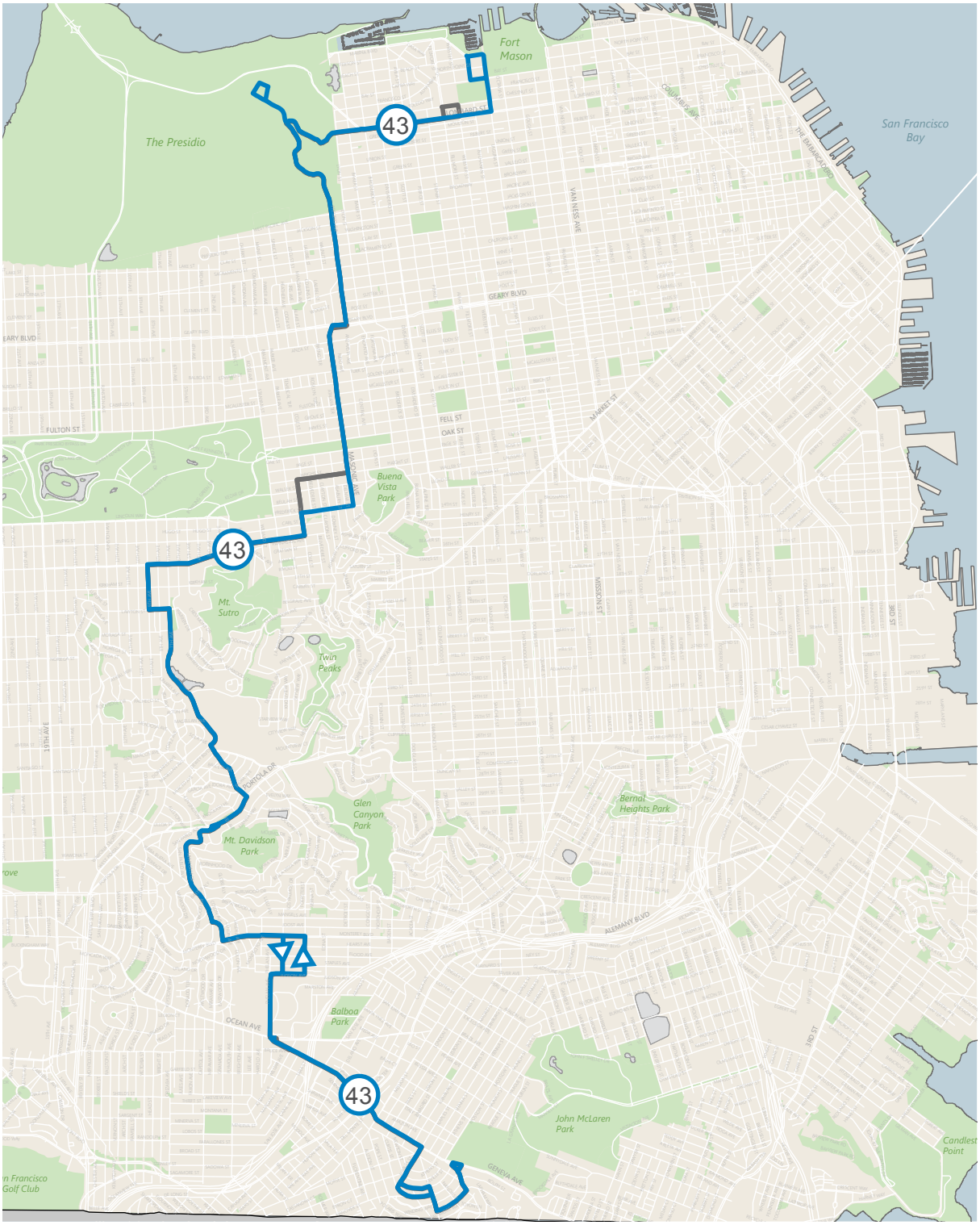
Lyon and Union streets (Terminal for Routes 41 Union and 45 Union-Stockton). Installation of overhead bypass wires would involve the installation of additional pole foundations within sidewalks along the north and south sides of Greenwich Street between Lyon and Baker streets, and along the west and east side of a portion of Lyon Street between Greenwich and Filbert streets.
No underground electrical wiring, or duct work, would be required. Construction of three new curb ramps to provide disabled access would be required at the intersection of Lyon and Greenwich streets. As curb ramps are typically installed at the same location as an existing sidewalk, it is not anticipated that any utilities, such as catch basins, would need to be relocated. An existing operator restroom facility is located at the northwest corner of Lyon and Greenwich streets which would remain.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	8	7	+
PM	8	7	+

43 Masonic



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

43 Masonic

Overview

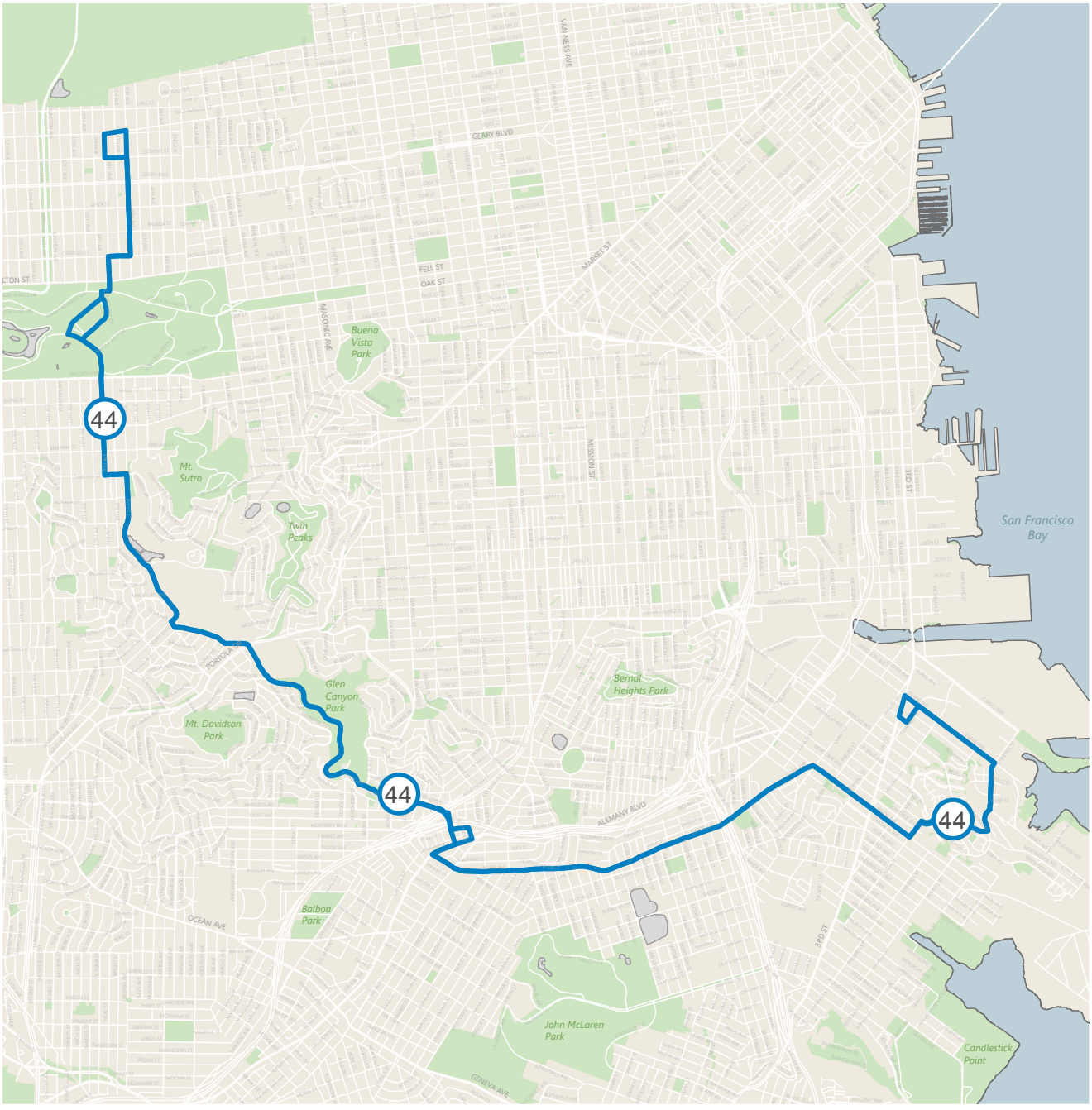
- Proposed alignment will extend from Chestnut/Fillmore streets to Fort Mason (Marina
- Boulevard/Laguna Street), replacing the existing Route 28 19th Avenue/28R 19th Avenue Rapid terminal with new service on Lombard Street between Webster and Laguna Streets, Laguna Street between Lombard and Beach Streets, Beach and Bay Streets between Laguna and Buchanan Streets, and Buchanan Street between Bay and Beach Streets.
- Service in the Presidio will be modified to serve the Presidio Transit Center via Lincoln Boulevard between Letterman Drive and Graham Street, Graham Street between Lincoln Boulevard and French Court, French Court between Graham and Hallack Streets, and Hallack Street between French Court and Lincoln Boulevard.
- Service will be discontinued on Webster and Fillmore Streets between Chestnut and Lombard Streets and on Chestnut Street between Webster and Fillmore Streets.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	8	+
PM	12	10	+

44 O'Shaughnessy



Grid

Recommended Route

Feature Summary

HC

44 O’Shaughnessy

Overview

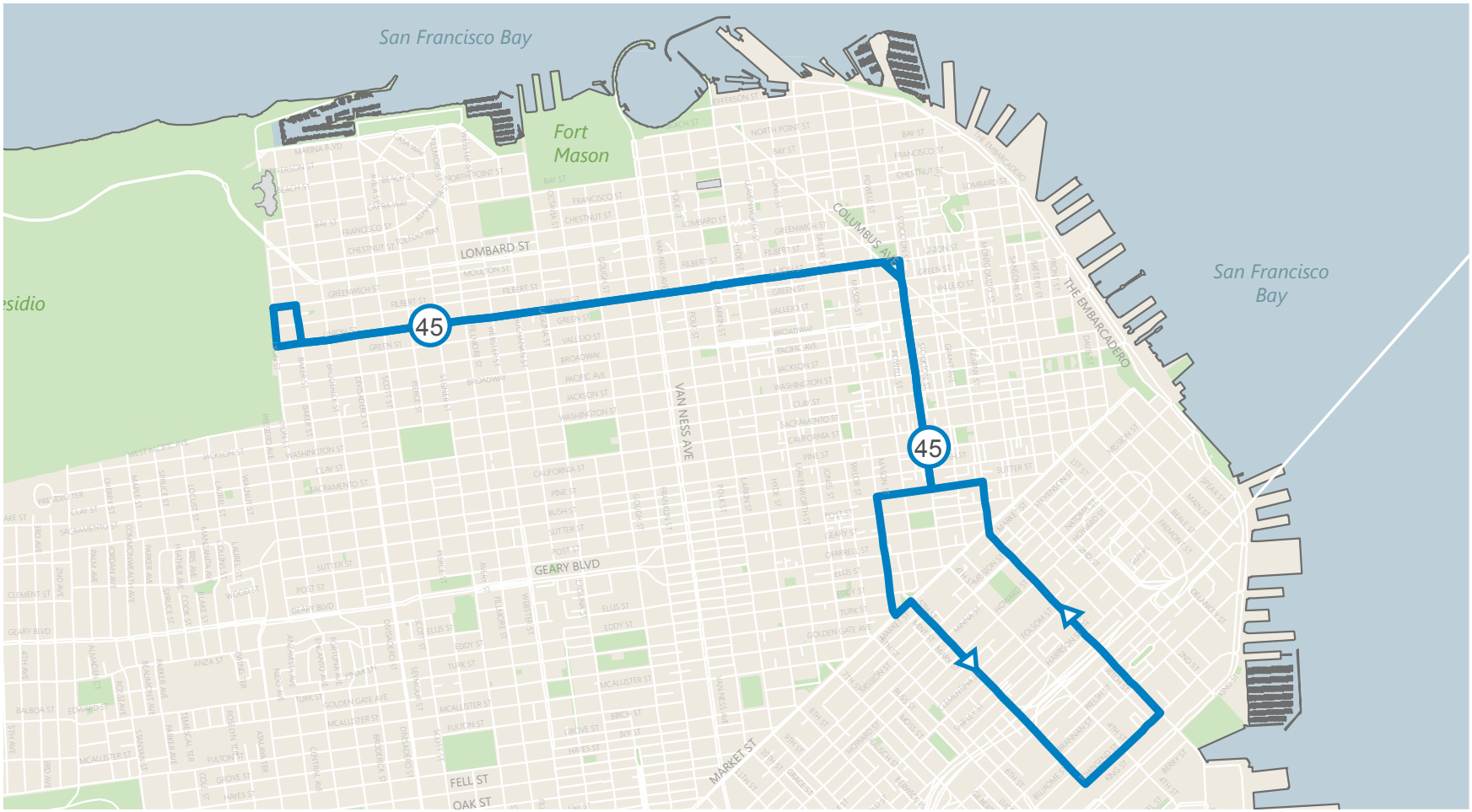
- No route changes proposed.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	7.5	+
PM	9	8	+

45 Union-Stockton



Grid

Recommended Route

45 Union-Stockton

Overview

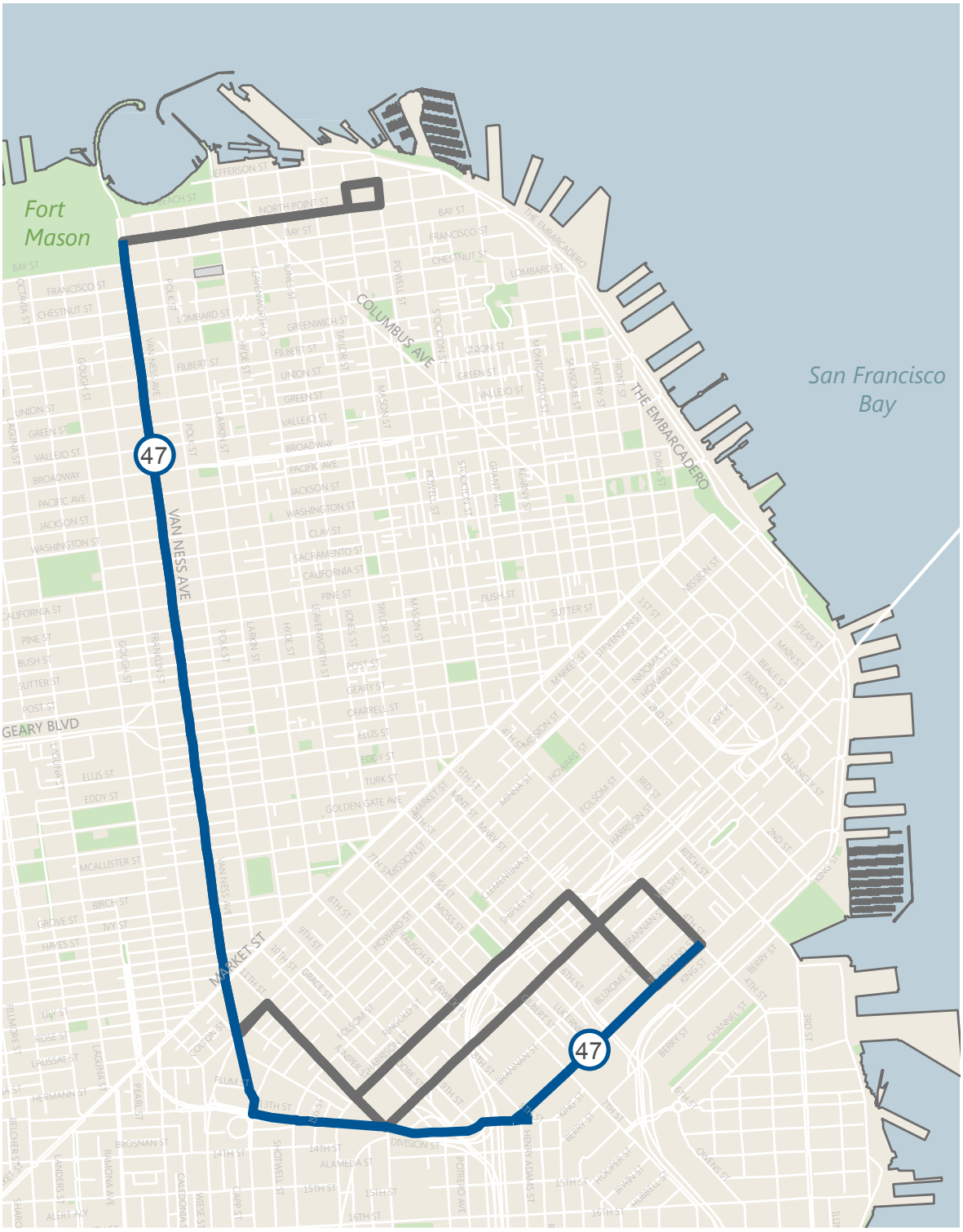
- No route changes proposed.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	12	12	=
PM	10	10	=

47 Van Ness



Frequent Local

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

47 Van Ness

Overview

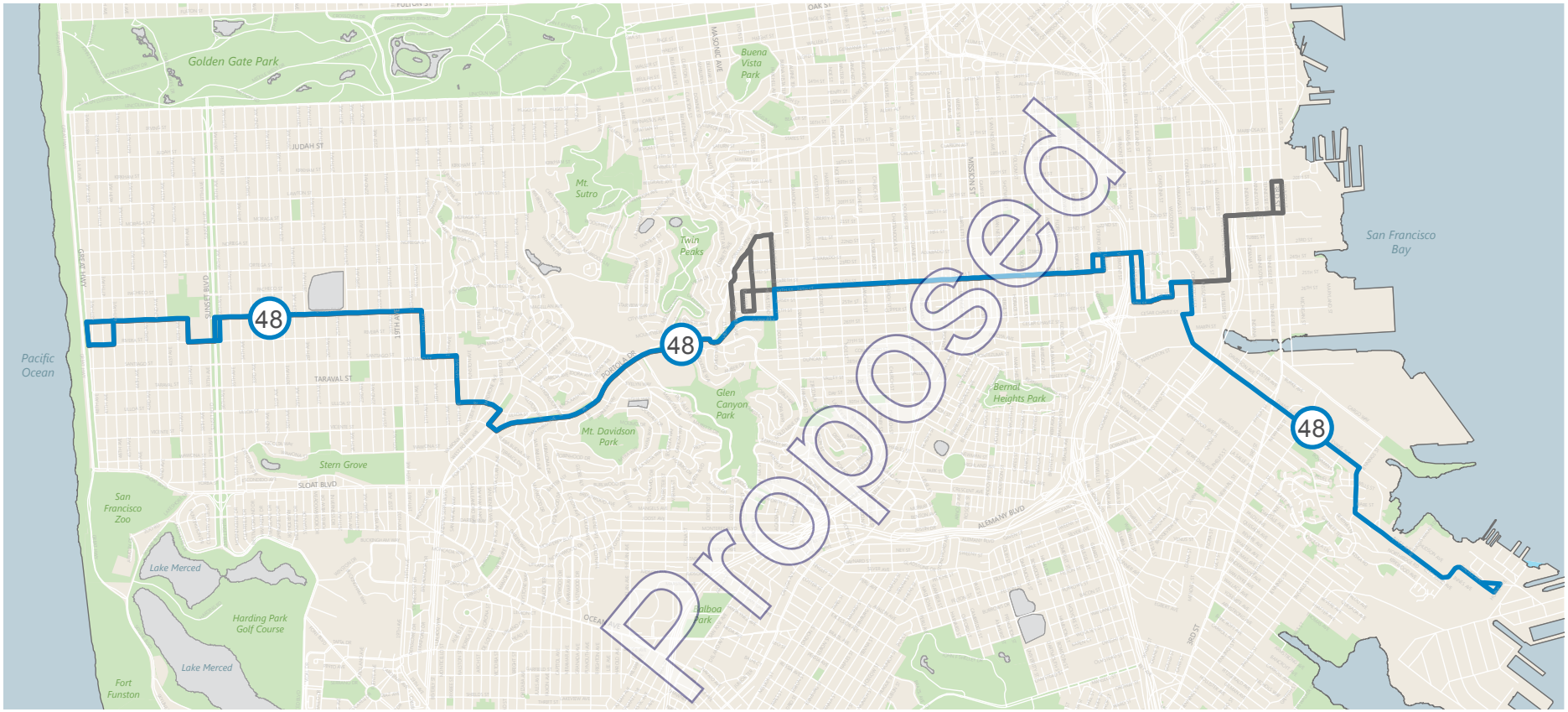
- Route will terminate at Van Ness Avenue and North Point Street and will share a terminal with the 49R Van Ness-Mission Rapid. A common terminal for both routes serving Van Ness Avenue will improve reliability by allowing line management from a single point; North Point segment will be covered by new Route 11 Downtown Connector.
- Northern street segments that will be eliminated include North Point Street between Van Ness Avenue and Powell Street, Beach Street between Mason and Powell Streets, and Mason and Powell Streets between Beach and North Point Streets.
- Southeast of 11th Street, route will operate along Division and Townsend streets, instead of Bryant and Harrison streets, to provide faster connection to Caltrain and better connections to the commercial and residential centers along Division Street. Service will be added to Division Street between 11th Street and Townsend Street and on Townsend Street between Division and 5th Streets.
- Service will be eliminated on the southern portion of the route on Harrison Street between 5th and 11th Streets, Bryant Street between 4th and 11th Streets, 5th Street between Harrison and Townsend Streets, and 4th Street between Bryant and Townsend Streets.
- Proposed route change will coordinate with proposed Van Ness BRT project.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	10	7.5	+
PM	10	7.5	+

48 Quintara-24th Street - Proposed



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

48 Quintara-24th Street

Overview

- Service will be rerouted to provide more direct routing from Portola Drive to 24th Street via Clipper and Douglass streets. New service will be added to Clipper Street between Portola Drive and Douglass Street and Douglass Street between Clipper and 24th Streets.
- Service will be eliminated on Grandview Avenue, 21st Street, Hoffman Avenue, Fountain Street, 24th Street between Fountain Street and Douglass Street, Douglass Street between 21st and 24th Streets, and 25th Street between Hoffman Avenue and Fountain Street. Service on Grandview Avenue and Douglass Street will be picked up by a future 58 line.
- The part-time terminal on the Lower Great Highway nearside at Rivera Street will become an all-day terminal and service will be extended to the beach all day.
- ON HOLD: At 25th and Connecticut streets, this route would no longer follow the existing Route 48 Quintara alignment and would change to follow the existing 19 Polk route to Hunters Point via Evans and Innes avenues.
- ON HOLD: New connection from the Mission District, Noe Valley and the Sunset to Third Street and Hunters Point would be provided, covering a portion of existing Route 19 Polk on Evans and Innes avenues and Galvez Streets.

Frequency

Service during peak periods (headway between vehicles, in minutes)

WEST OF DIAMOND STREET AND EAST OF CONNECTICUT STREET:

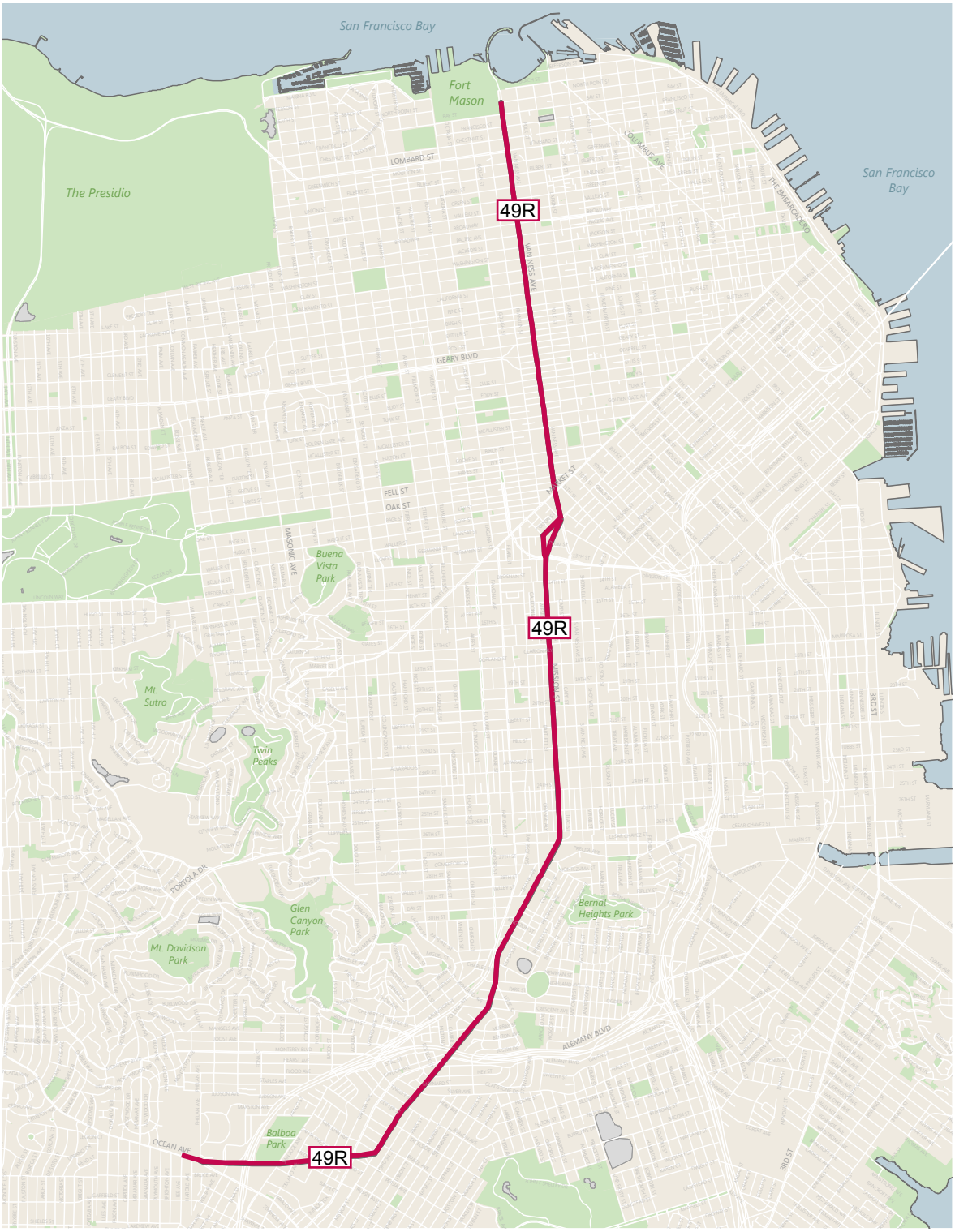
	Current	Proposed	Frequency
AM	11	15	−
PM	12	15	−

ON 24TH STREET BETWEEN CONNECTICUT AND DIAMOND STREETS:
(Combined Frequency with New 58 24th Street Line)

	Current	Proposed	Frequency
AM	12	7.5	+
PM	12	7.5	+

*Proposal to reroute east of Connecticut Street is on hold pending additional community outreach.

49R Van Ness-Mission Rapid



Rapid

Recommended Route

Feature Summary

VC BUS STOPS SIG-NALS ROAD-WAYS CURB SPACE PEDES-TRIAN

49R Van Ness-Mission Rapid

Overview

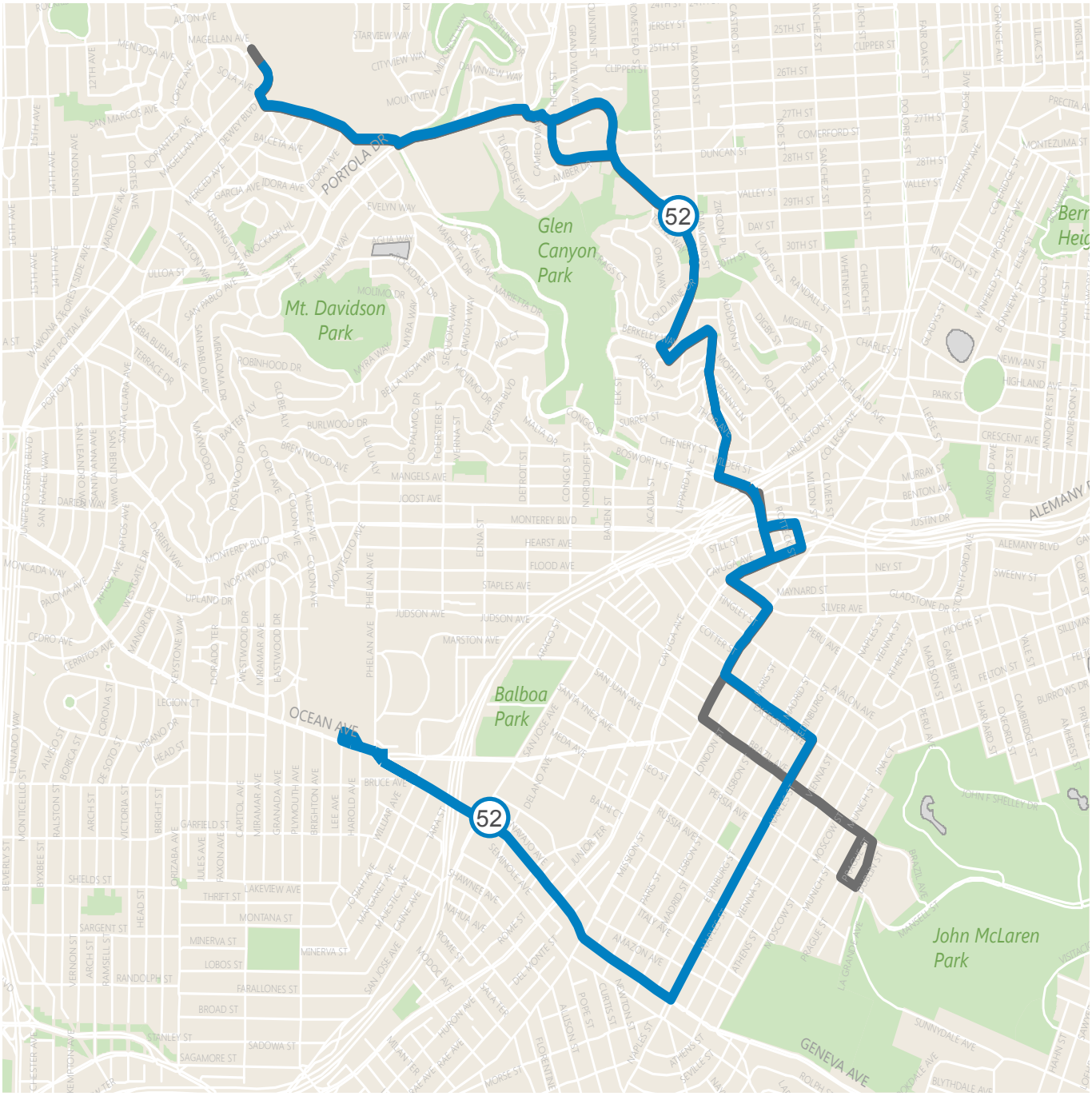
- No route changes proposed.
- To provide shorter travel times, service will make local stops (as proposed in the Van Ness BRT project) on Van Ness Avenue and on Ocean Avenue and make limited stops on Mission Street.
- The 49R Van Ness-Mission Rapid will follow the current 49 Van Ness-Mission route.
- The Persia Triangle Improvements, will construct two new transit zones with transit bulbs along Ocean Avenue for the 49R Van Ness-Mission Rapid.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	N/A	7.5	N/A
PM	N/A	7.5	N/A

52 Excelsior



Connector

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

52 Excelsior

Overview

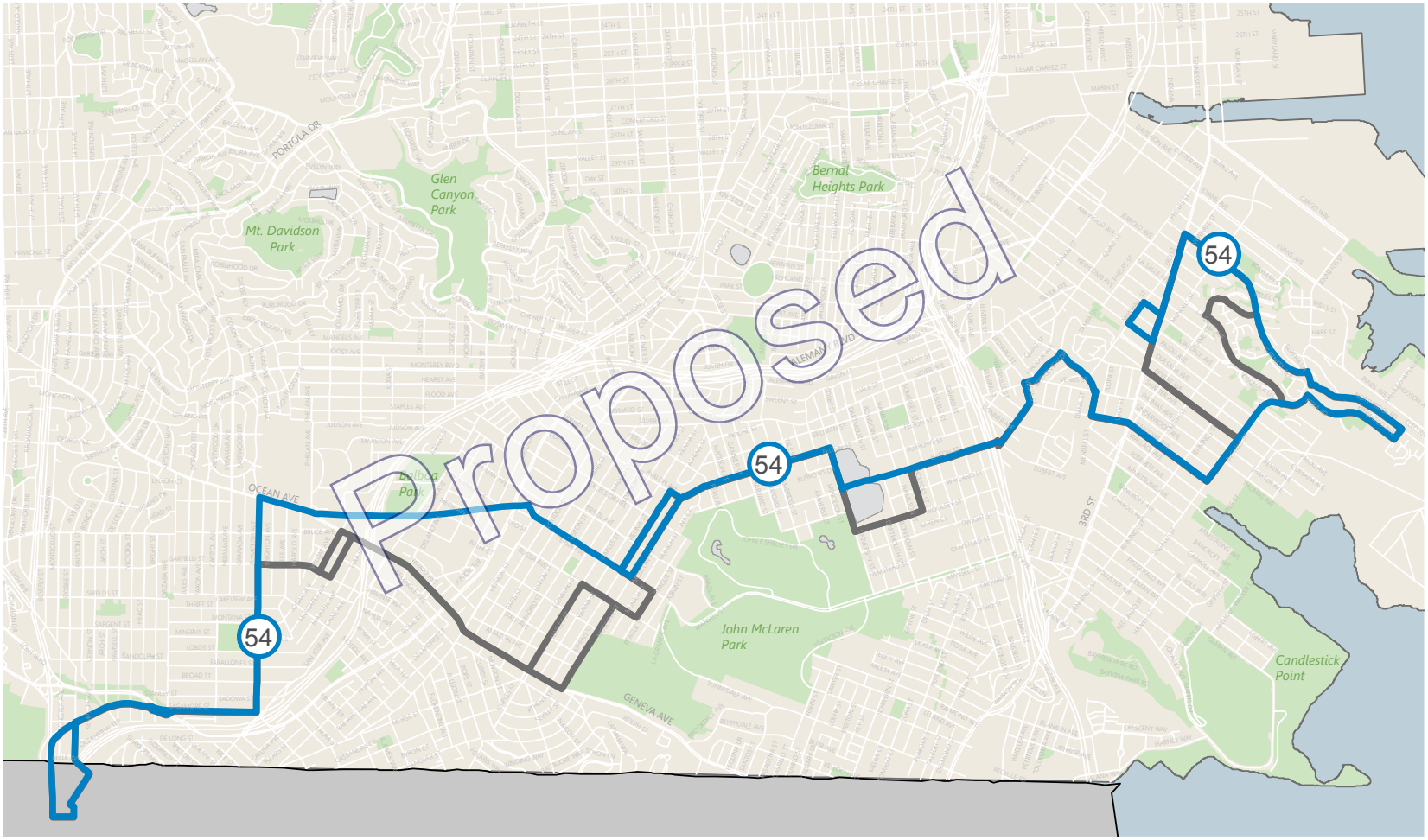
- Route will be extended from the Excelsior District to Balboa Park Station and CCSF via Naples Street and Geneva Avenue and provide two connections to BART.
- New service will be added on Naples Street between Brazil and Geneva Avenues and Geneva Avenue between Naples Street and the Phelan Loop transit center.
- Service will be eliminated on Brazil Avenue between Mission Street and La Grande Avenue, Mission Street between Excelsior and Brazil Avenues, Prague and Dublin Streets between Persia and Brazil Avenues, and Persia Avenue between Prague and Dublin Streets.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	20	20	=
PM	20	20	=

54 Felton - Proposed



Connector

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

54 Felton - Proposed

Overview

- Route would be modified in several segments to make service quicker, more direct and less circuitous for passengers.
- Two-way service on Hunters Point hilltop would begin at Third Street and Palou Avenue, run two-way on Hudson Avenue, North Ridge Road, Jerrold Avenue, Kirkwood Street, Kiska Road, Ingalls Street, Van Dyke Avenue, and then continue through Silver Terrace.
- More direct routing on Bacon Street through the reservoir would eliminate the segment on Holyoke and Woolsey streets, and University Street between Bacon and Woolsey streets.
- Routing via Persia, Ocean, and Plymouth avenues would streamline service and improve access to/from CCSF and Balboa Park Station; some eliminated segments between Geneva Avenue and the Balboa Park Station would be picked up by the revised 52 Excelsior.
- The inbound route would travel from BART access road (Daly City BART Station), right on John Daly Boulevard, right on Junipero Serra Boulevard, right on Alemany Boulevard, right on Sagamore Street, left on Plymouth Avenue, right on Ocean Avenue (Balboa Park Station), right on Persia Avenue, left on Athens Street, right on Avalon Avenue, left on Felton Street, right on University Street, left on Bacon Street, left on Phelps Street, left on Vesta Street, right on Thornton Avenue, right on Bridgeview Drive, right on Topeka Avenue, right on Thornton Avenue, left on Reddy Street, straight on Williams Avenue, straight onto Van Dyke Avenue, left on Ingalls Street, right on Kiska Road, straight on Kirkwood Avenue, left on Earl Street, left on Jerrold Avenue, and straight onto Northridge Road, Hudson Avenue, Third Street and Palou Avenue.
- The outbound route would travel from Third Street and Palou Avenue via Palou Avenue, Newhall Street, Third Street, Hudson Avenue, Northridge Road, Jerrold Avenue, Earl Street, Kirkwood Avenue, Kiska Road, Ingalls Street, Van Dyke Avenue, Williams Avenue, Reddy Street, Thornton Avenue,
- Topeka Avenue, Bridgeview Drive, Thornton Avenue, Vesta Street, Phelps Street, Bacon Street, University Street, Felton Street, Moscow Street, Persia and Ocean avenues (Balboa Park Station), Plymouth Avenue, Sagamore Street, Alemany Boulevard, St. Charles Avenue, and BART Access Road (Daly City BART).
- The bus would share the existing 24 Divisadero terminal on Third Street between Palou Avenue and Oakdale Street.

54 Felton - Proposed

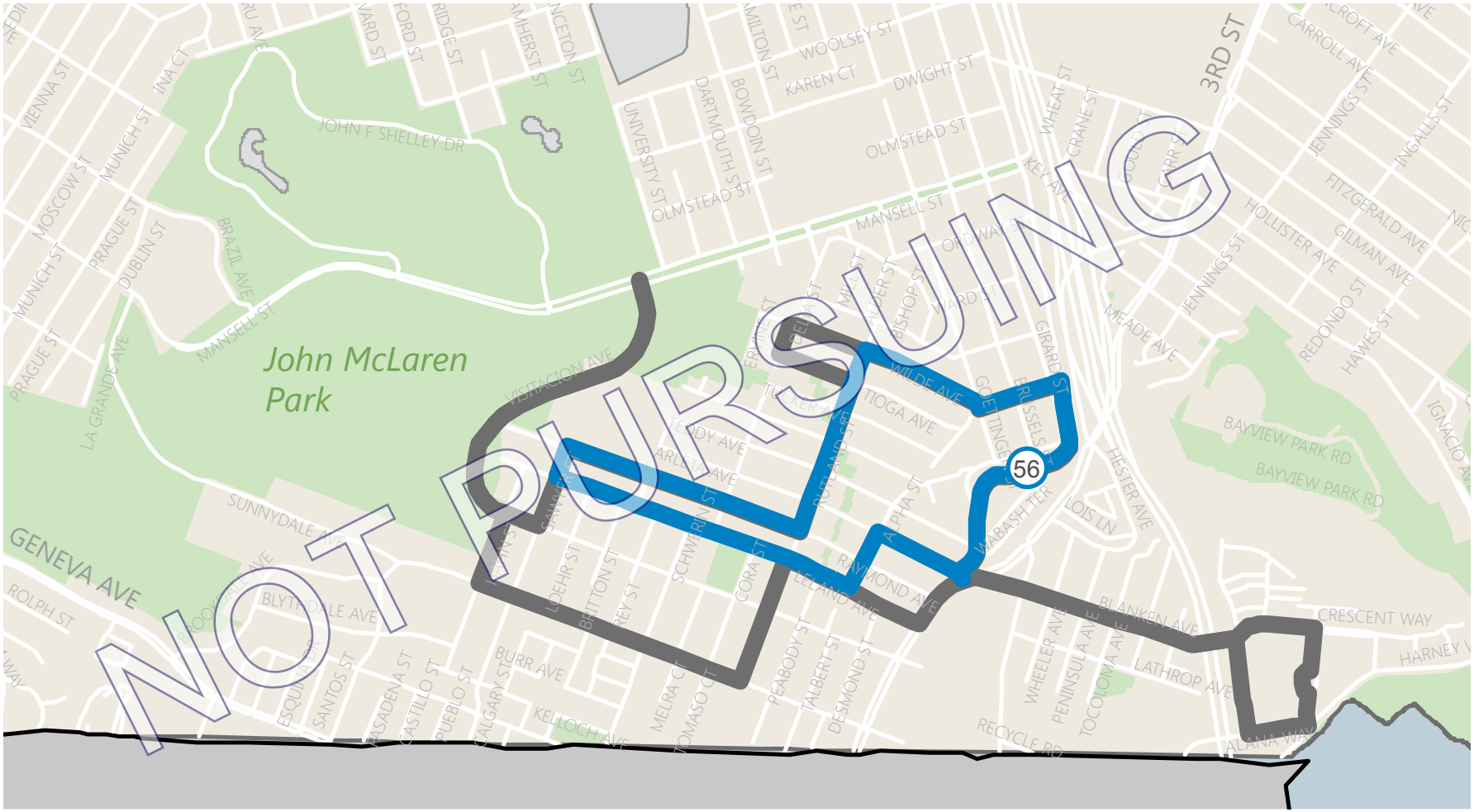
Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Proposed	Frequency
AM	20	15	+
PM	20	15	+

*Route change proposal on hold pending additional community outreach. Frequency increased is planned.

56 Rutland - NOT PURSUING



Connector

- Recommended Route
- Segment Proposed for Elimination

56 Rutland - NOT PURSUING

Overview

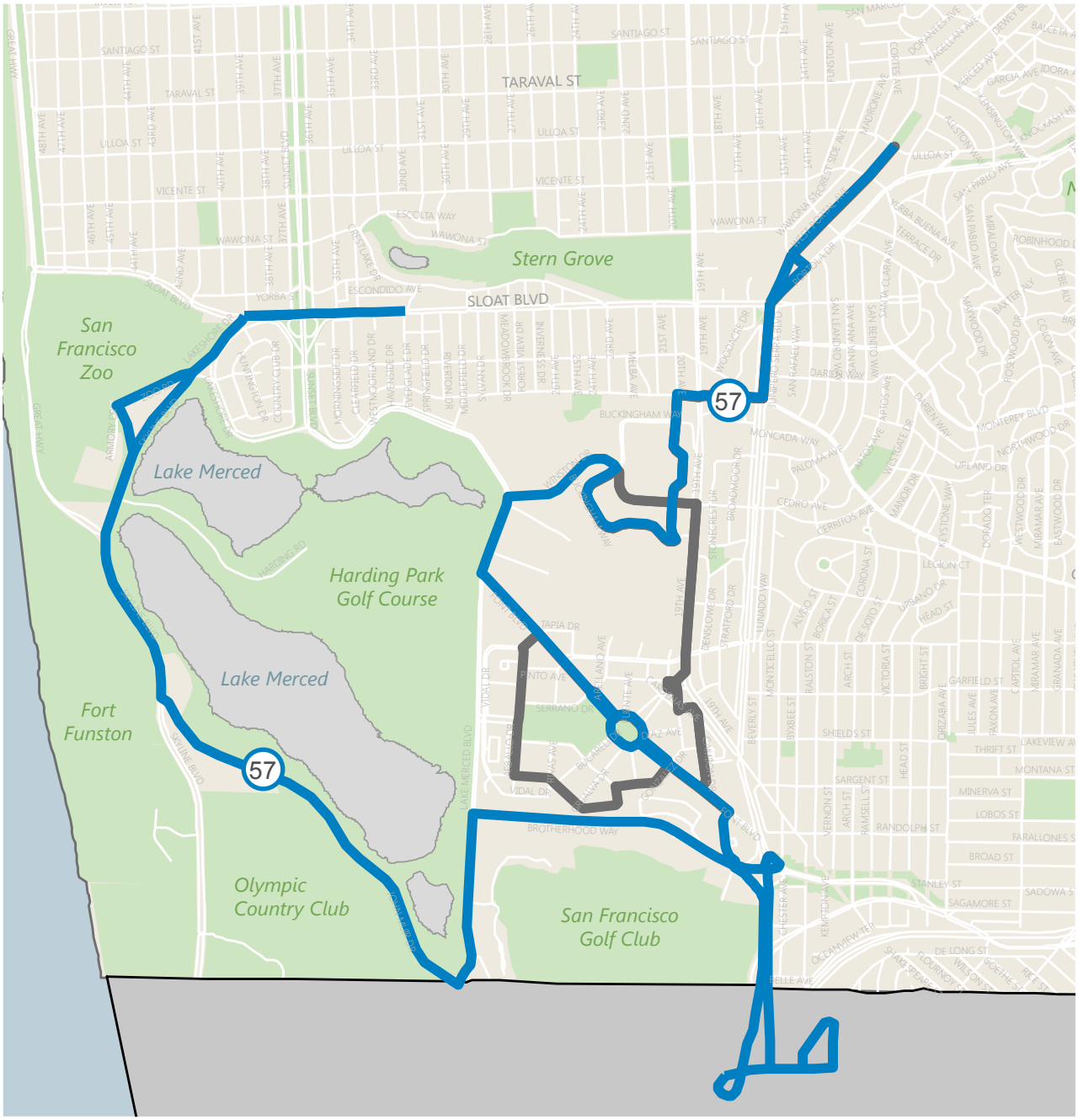
- No change to the current alignment.
- Service frequency would remain as it is today.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Proposed	Frequency
AM	30	30	=
PM	30	30	=

57 Park Merced



Connector

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA HC

57 Park Merced

Overview

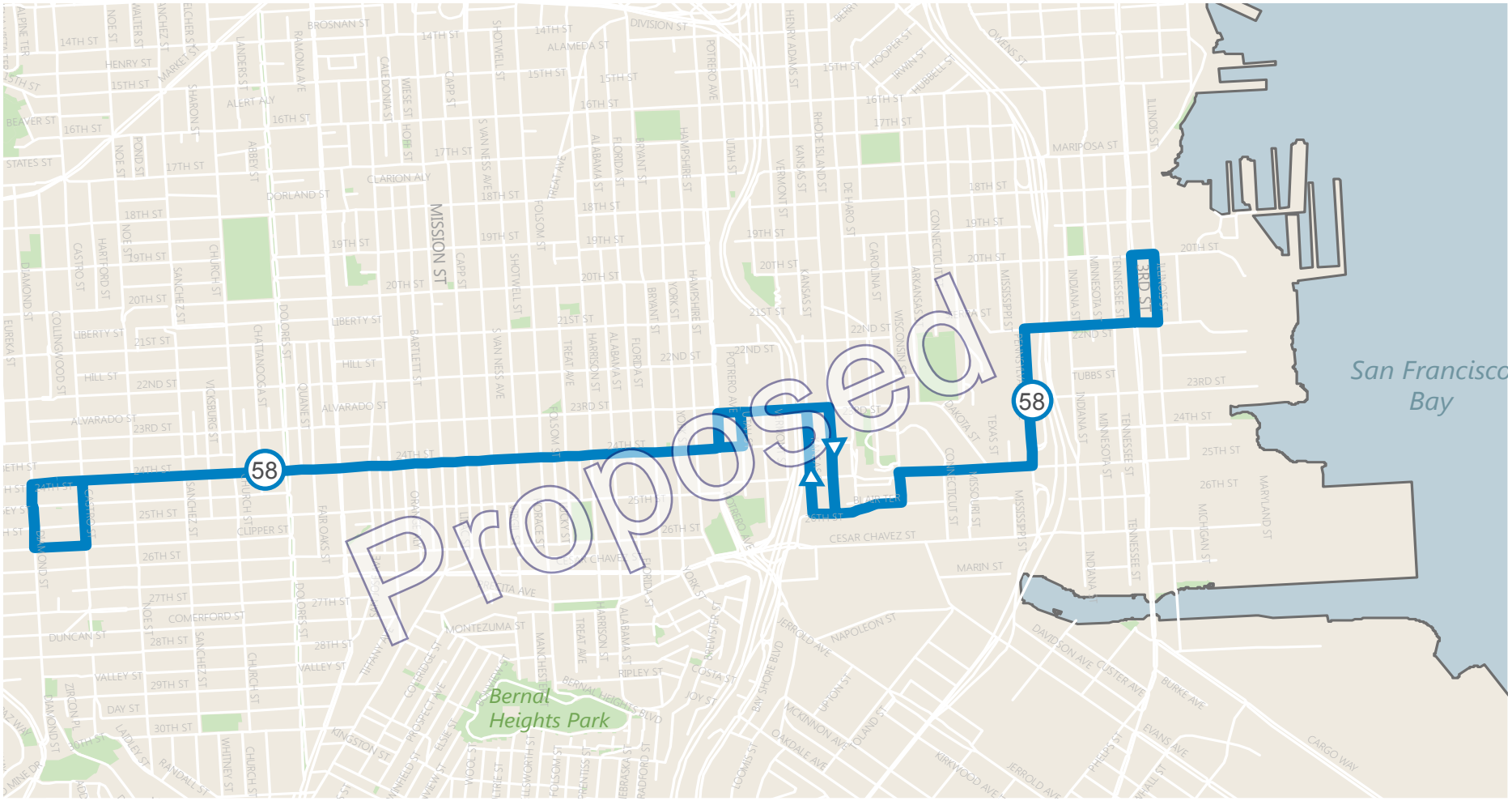
- Route will replace existing Route 18 46th Avenue segment around Lake Merced via John Muir Drive and Skyline Boulevard, and a portion of Lake Merced Boulevard. The bus will terminate near Lakeshore Plaza on the south side of Sloat Boulevard at Everglade Drive.
- The service will operate on new segments on Sloat Boulevard between Everglade Drive and Skyline Boulevard, Skyline Boulevard between Sloat Boulevard and John Muir Drive, Herbst Road, John Muir Drive between Skyline Boulevard and Lake Merced Boulevard, Lake Merced Boulevard between John Muir Drive and Brotherhood Way and between Font Boulevard and Winston Drive, Junipero Serra Boulevard between Brotherhood Way and Daly City BART, Chumasero Drive between Brotherhood Way and Font Boulevard, Font Boulevard between Chumasero Drive and Lake Merced Boulevard, and Winston Drive between Lake Merced Boulevard and Buckingham Way.
- Service will be discontinued on the 17 Park Merced on Arballo Drive between Font Boulevard and Garces Drive, Garces Drive between Arballo Drive and Gonzalez Drive, Gonzalez Drive between Garces Drive and Crespi Drive, Cambon Avenue between Font Boulevard and Cardenas Avenue, Cardenas Avenue between Gonzalez Drive and Cambon Avenue, 19th Avenue between Crespi Drive and Winston Drive, and Winston Drive between 19th Avenue and Buckingham Drive.

Frequency

Service during peak periods (headway between vehicles, in minutes)

	Current	Approved	Frequency
AM	30	20	+
PM	30	15	+

58 24th Street - Proposed



Grid

- Recommended Route
- Segment Proposed for Elimination

Feature Summary

RA

58 24th Street - Proposed

Overview

- Route would operate between Grandview Avenue and Third Street to increase service frequency on 24th Street and to provide connection between the 24th Street BART Station and 22nd Street Caltrain Station (previously provided by Route 48 Quintara).
- Eastern portion of new route would replace existing Route 48 Quintara service in Potrero Hill.
- Buses would serve Douglass and Clipper streets, Grandview Avenue, and 21st Street.
- Terminal location to be determined. However, Douglass at 24th Street is under consideration.

Frequency

Service during peak periods (headway between vehicles, in minutes)

EAST OF CONNECTICUT STREET:

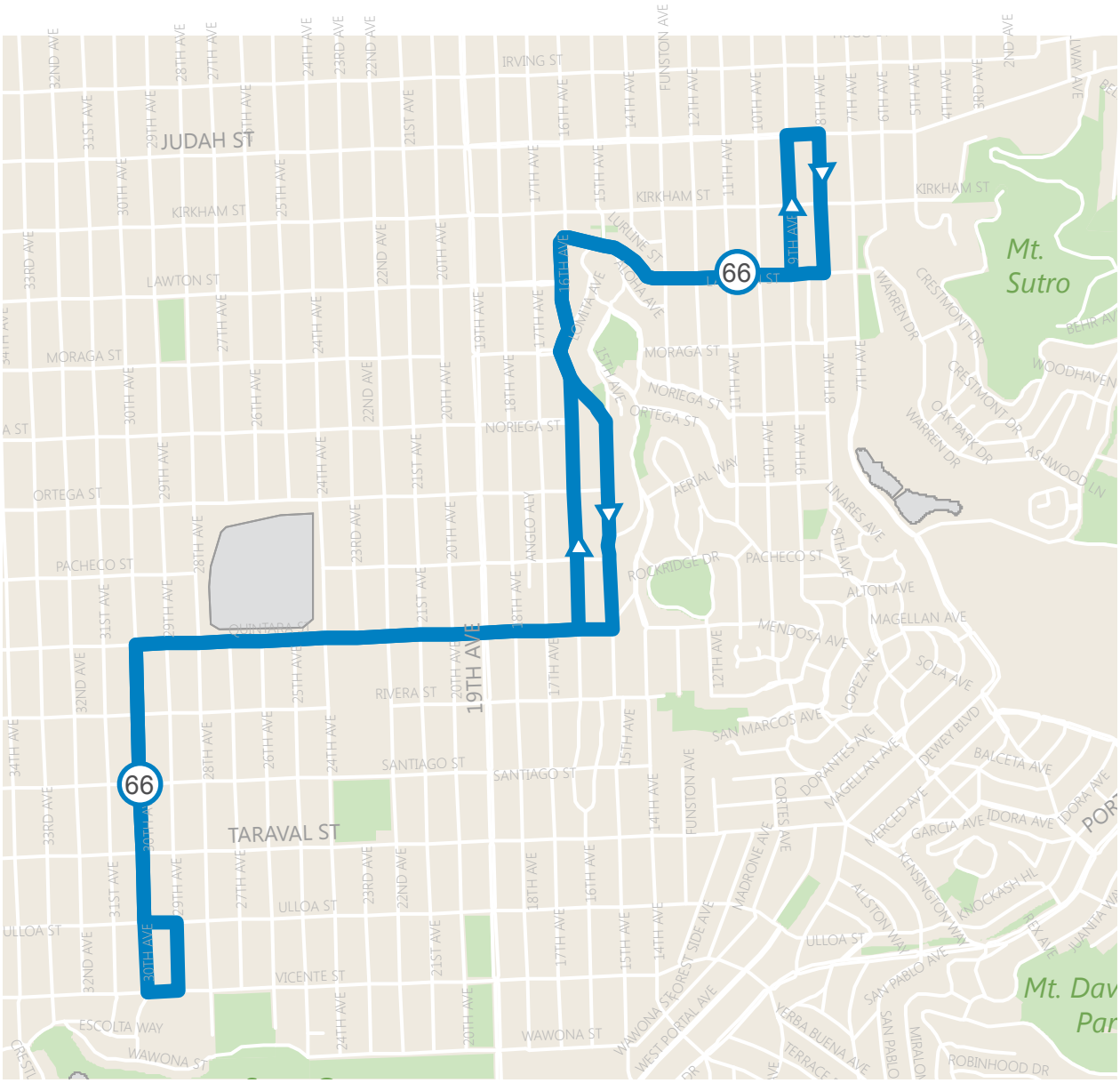
	Current	Proposed	Frequency
AM	11	15	−
PM	12	15	−

ON 24TH STREET BETWEEN CONNECTICUT AND DIAMOND STREETS:
(Combined Frequency with 48 Quintara-24th Street Line)

	Current	Proposed	Frequency
AM	12	7.5	+
PM	12	7.5	+

*Proposal to reroute east on Connecticut Street is on hold pending additional community outreach.

66 Quintara



Connector

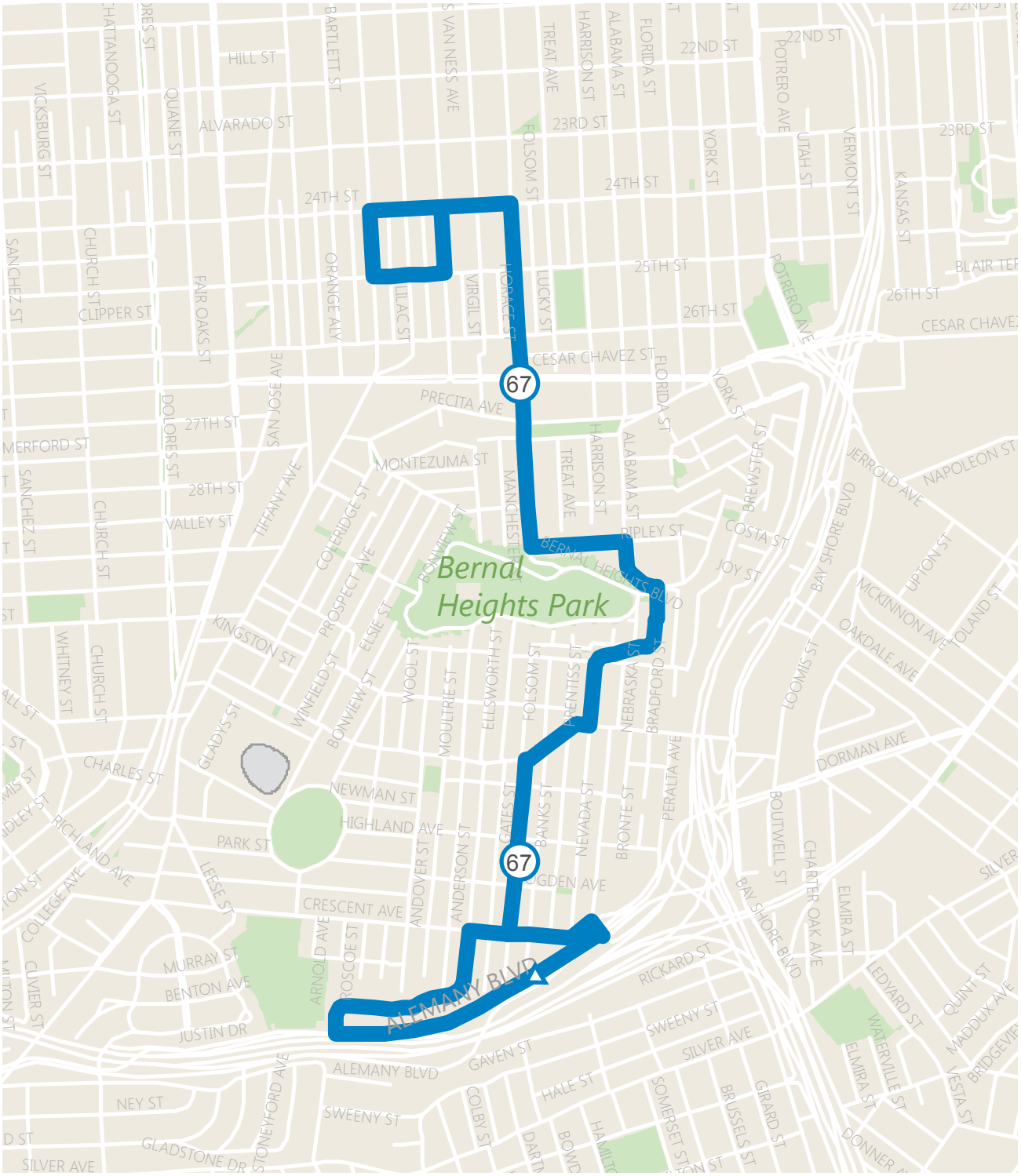
Recommended Route

66 Quintara

Overview

- No changes proposed.

67 Bernal Heights



Connector

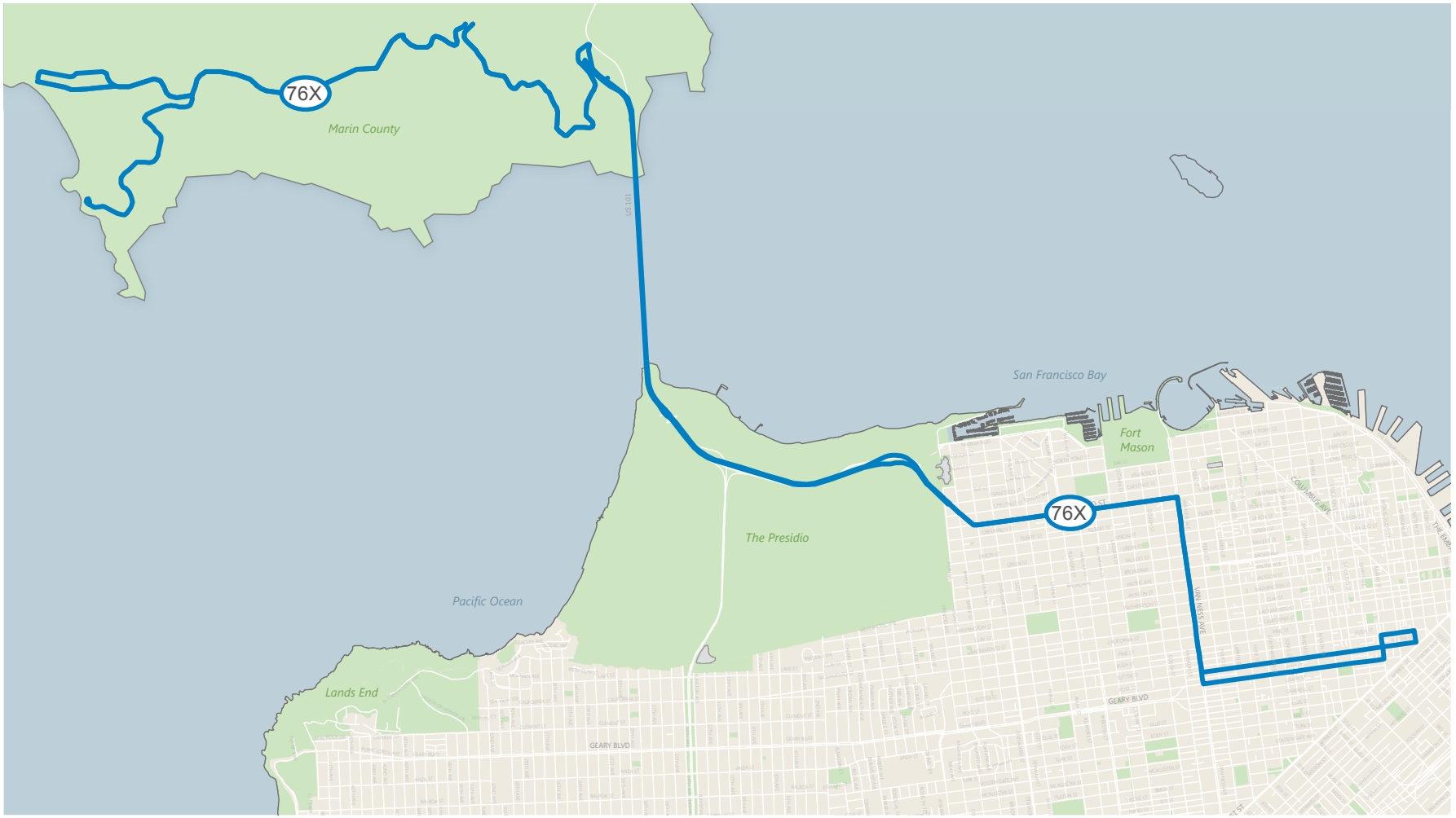
Recommended Route

67 Bernal Heights

Overview

- No changes proposed.

76X Marin Headlands Express



Grid

Recommended Route

Feature Summary

RA

76X Marin Headlands Express

Overview

- Route segment south of Market Street to Caltrain Station is permanently discontinued (currently operating in this alignment as a pilot project).
- Northern segment of the outbound route is permanently extended to serve the Point Bonita lighthouse via Field Road and Battery Alexander.
- The terminal loop remains at the existing terminal location at Fort Cronkhite.
- Route runs on Saturdays, Sundays and holidays (currently Sundays and holidays only)

Frequency

	Current	Approved	Frequency
AM	Sunday and Holidays only	Saturday, Sunday and Holidays	N/A
PM	Sunday and Holidays only	Saturday, Sunday and Holidays	N/A

Update

- Proposal Implemented as a Pilot Program in November 2012.

81X Caltrain Express

Express

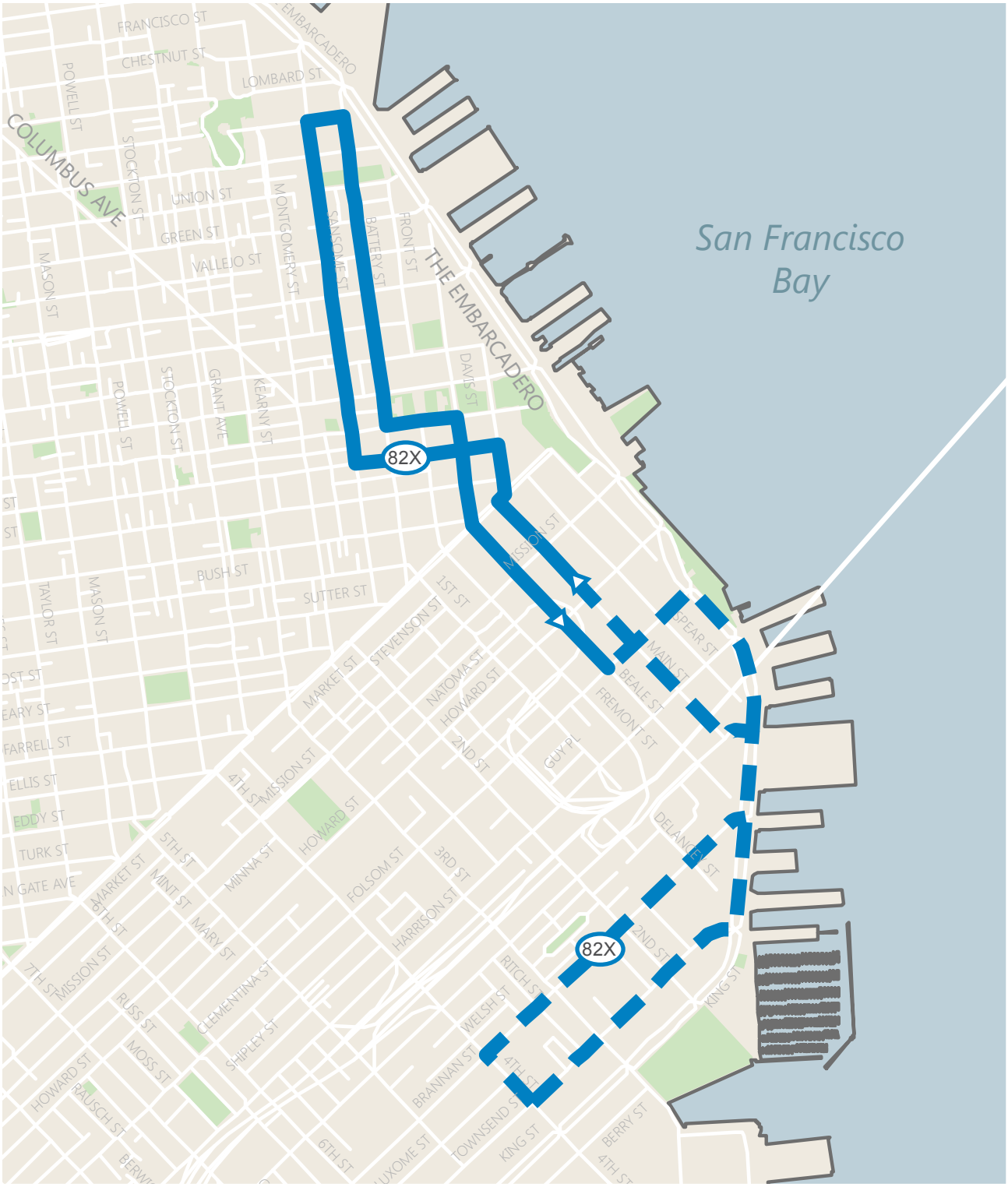
- Recommended Route
- Express Segment (no stops)

81X Caltrain Express

Overview

- No changes proposed

82X Levi Express



Express

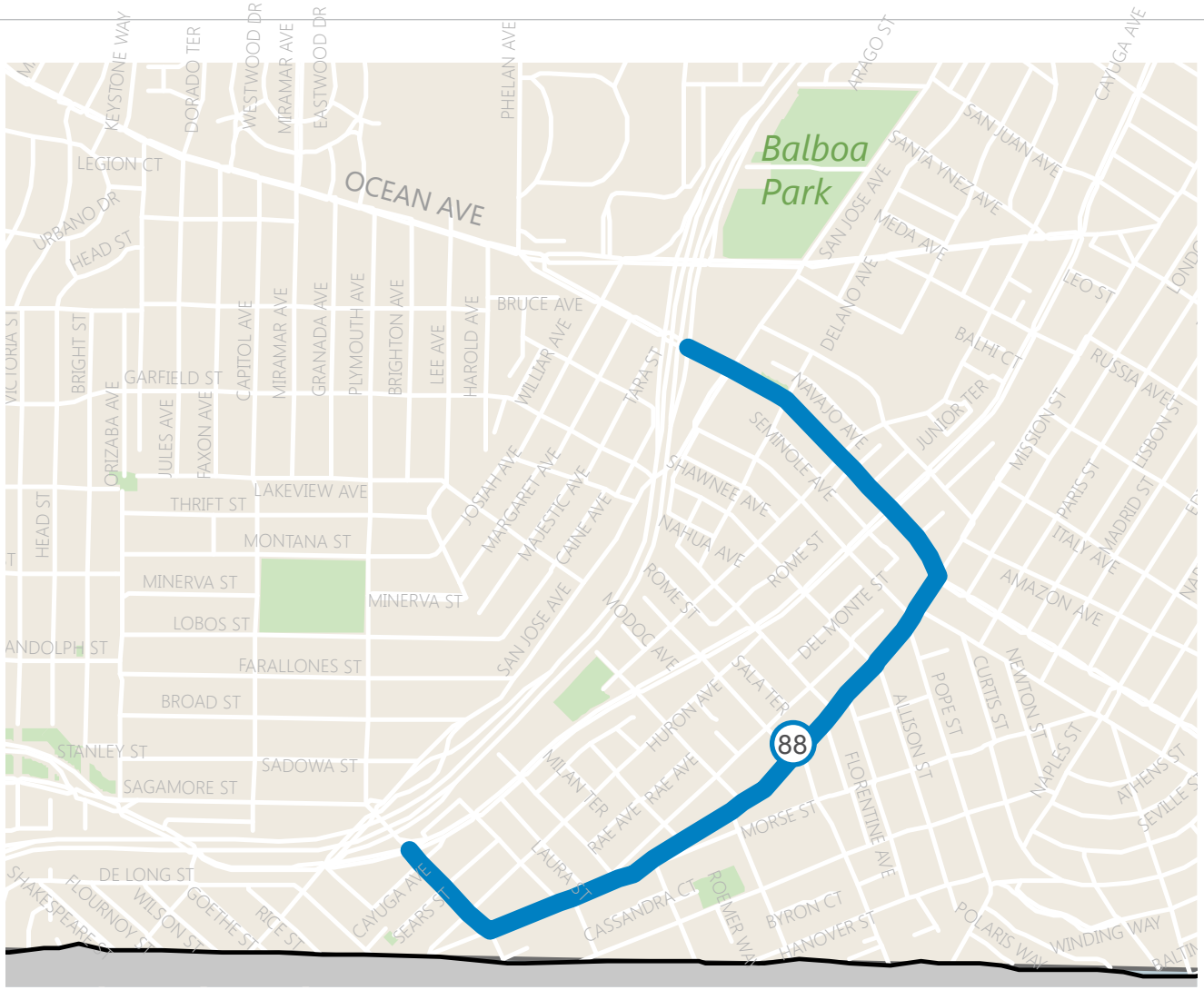
- Recommended Route
- Express Segment (no stops)

82X Levi Express

Overview

- No changes proposed

88 BART Shuttle



Connector

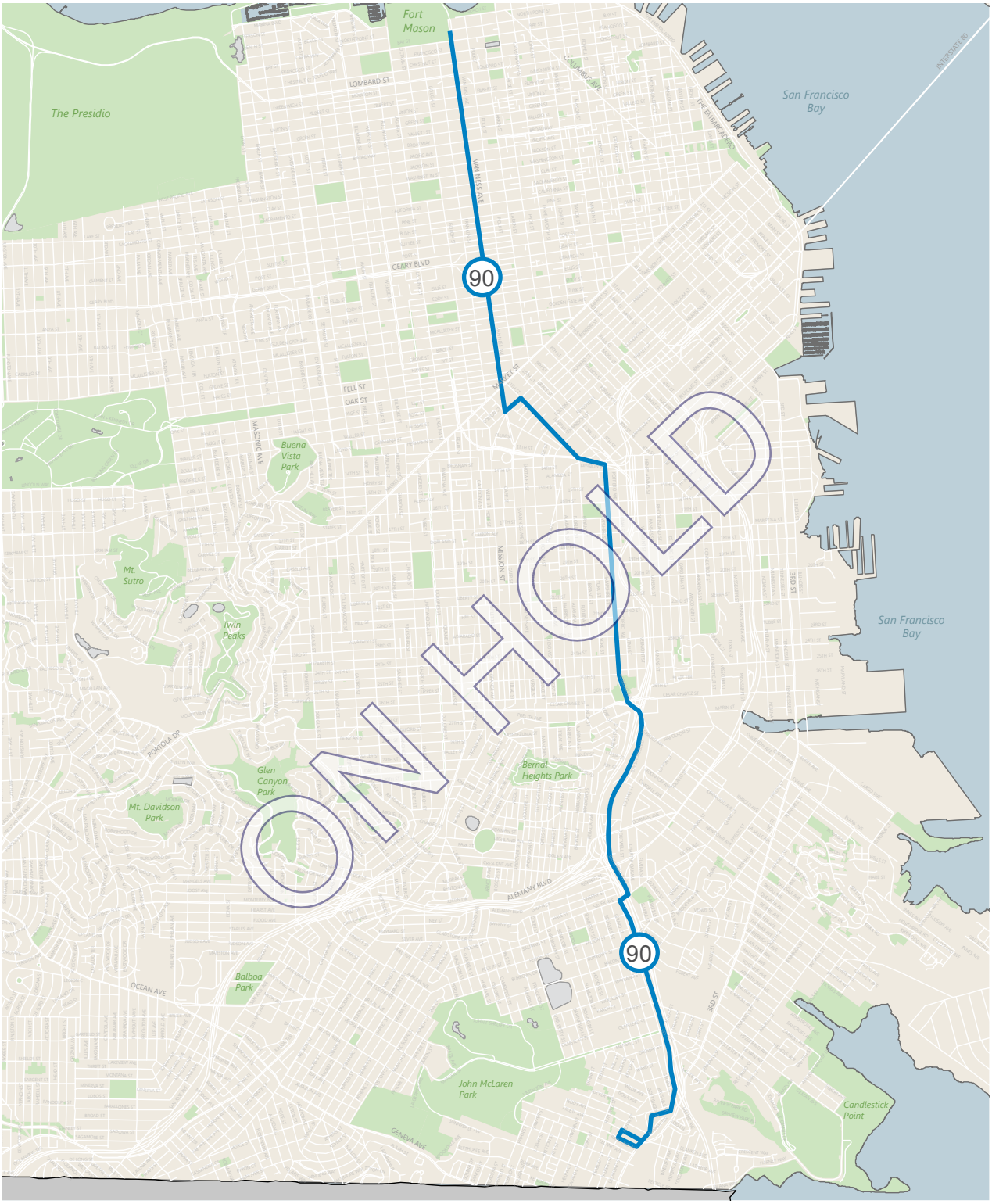
Recommended Route

88 BART Shuttle

Overview

- No changes proposed

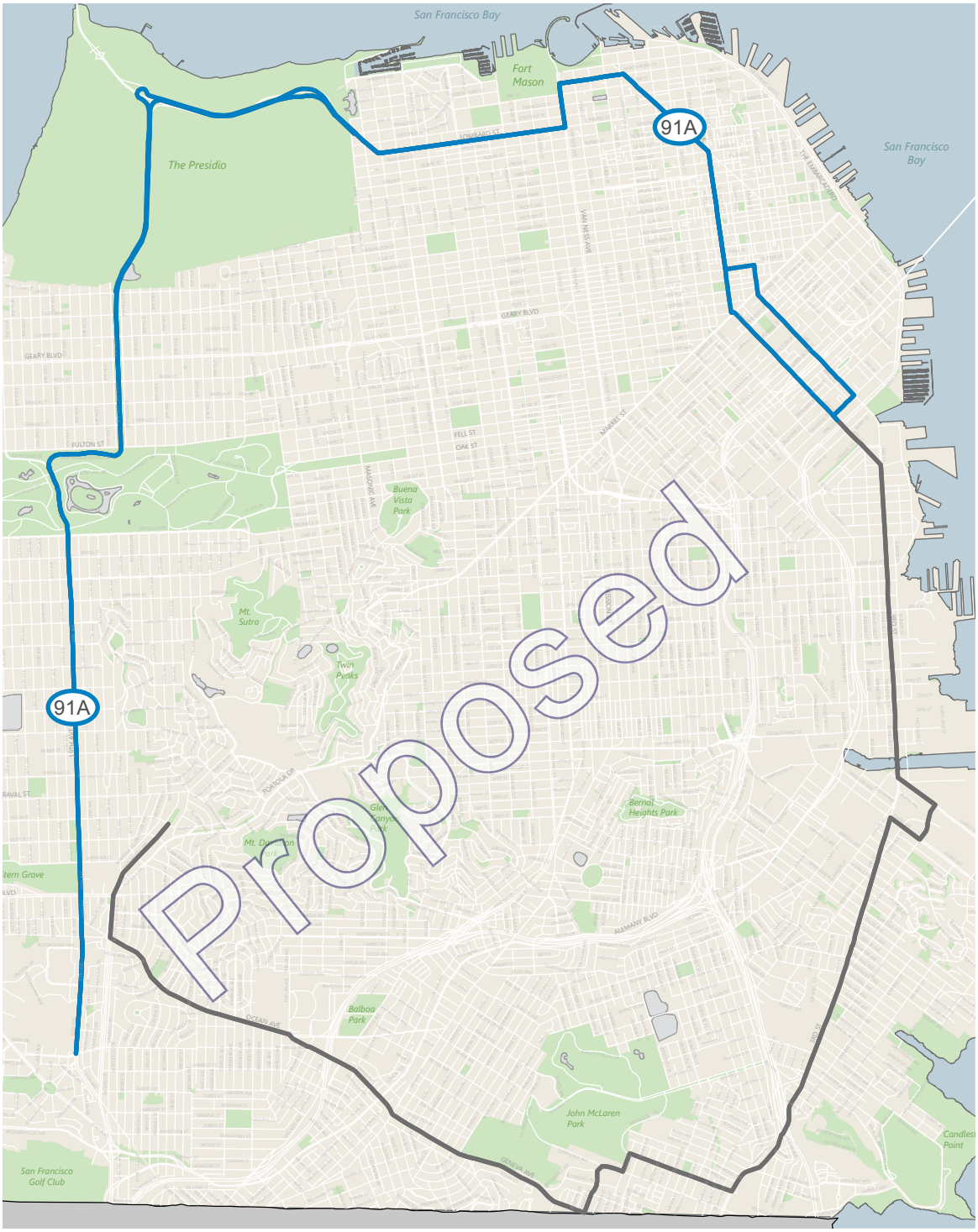
90 Owl - ON HOLD



Express

Recommended Route

91A Owl - Proposed



Express

- Recommended Route
- Express Segment (no stops)
- Segment Proposed for Elimination

Feature Summary

RA

91A Owl - Proposed

Overview

- In conjunction with 91B Owl, would replace the existing 91 Owl. This bus would operate between 1 and 5 a.m. weekdays, and between 1 and 6 a.m. on Saturday and Sunday.
- Existing 91 Owl loop line would be split in two to improve reliability.
- Would operate from Mission Street/San Jose Avenue in Daly City to the Caltrain Station at Fourth and King streets via 19th Avenue, Lombard Street, Columbus Avenue, and Stockton and Fourth streets.
- Would connect with the 14 Owl, and also connect with SamTrans at the Daly City BART Station.
- Frequency of service would be the same as the existing 91 Owl – every 30 minutes.
- The Daly City terminal loop would follow John Daly Boulevard, Mission Street, Flournoy Street, San Jose Avenue, to John Daly Boulevard.
- The Caltrain Station terminal loop would follow Fourth, Townsend, and Third streets.

*Proposal on Hold Pending Additional Community Outreach

91B/N Owl - Proposed

Express

- Recommended Route
- Express Segment (no stops)
- Segment Proposed for Elimination

Feature Summary

RA

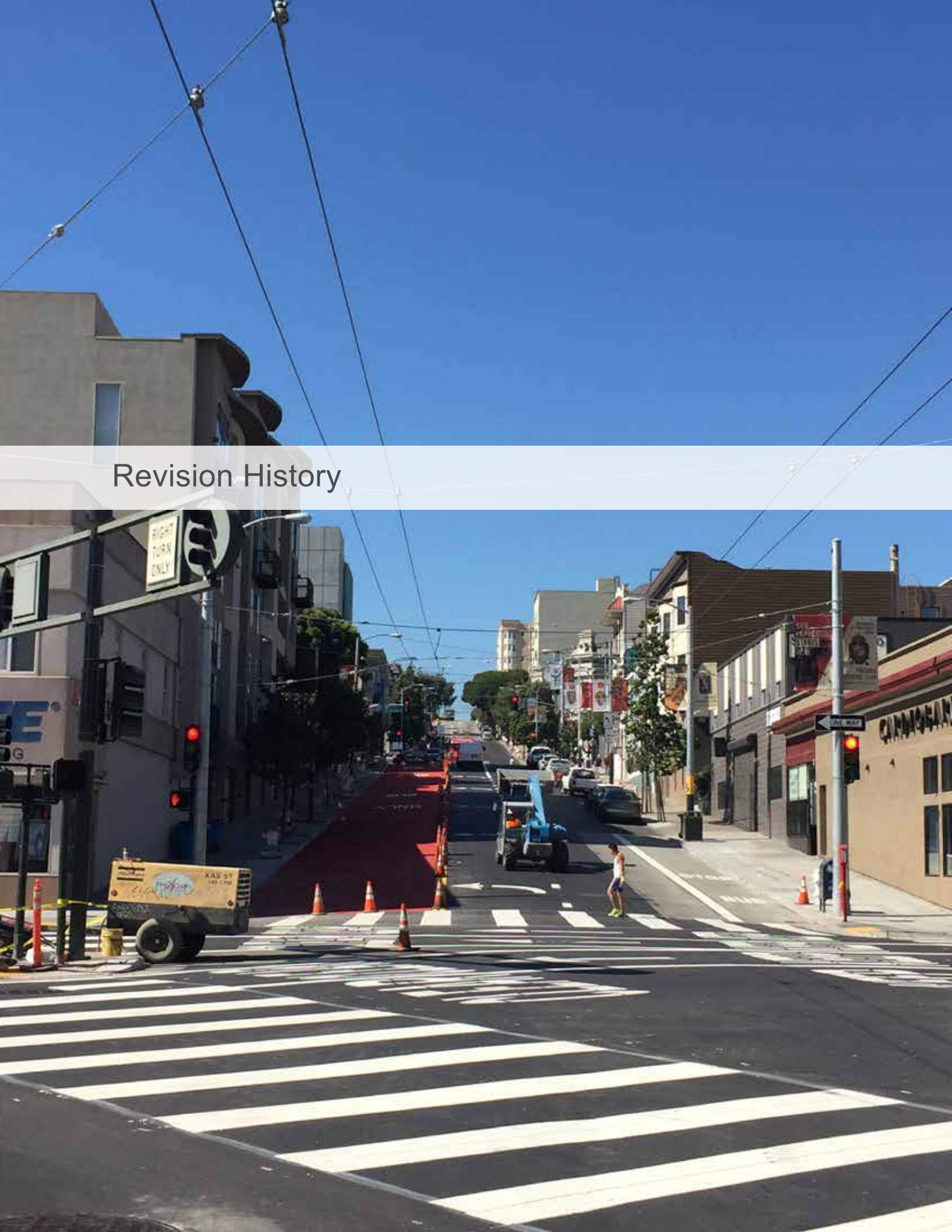
91B/N Owl - Proposed

Overview

- In conjunction with 91A Owl, would replace the 91 Owl.
- Existing 91 Owl loop line would be split in two to improve reliability.
- 91B would be through-routed with the N Owl (Fourth and Townsend streets to West Portal Station via Third Street, Geneva and Ocean avenues).
- Frequency of service would be the same as the existing 91 Owl - every 30 minutes.
- Cargo Way segment would be eliminated.

*Proposal on Hold Pending Additional Community Outreach

Revision History



Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
Apr 2014	11 Downtown Connector	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_011_BW.pdf More Details available here: http://www.sfmta.com/sites/default/files/projects/27%20Bryant_0.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	11 Downtown Connector	Route Alignment	New 11 Downtown Connector would provide SoMa with two connections to Market Street, at the Van Ness and Montgomery Stations, and would provide North Beach with a direct connection to the Financial District and Montgomery Station.	New 11 Downtown Connector would provide SoMa with connections to Market Street, at the Montgomery Station, and would provide North Beach with a direct connection to the Financial District, Montgomery Station, and the Mission District.
Apr 2014	11 Downtown Connector	Route Alignment	Southbound, the new route would run on Van Ness Avenue, Bay, Polk, North Point, and Powell streets, on Columbus Avenue, on Montgomery, Clay, Sansome, Market, Second, Harrison, 11th, and Mission streets, to a southern terminal on South Van Ness Avenue	Southbound, the new route would run on Van Ness Avenue, Bay, Polk, North Point, and Powell streets, on Columbus Avenue, on Montgomery, Clay, Sansome, Market, Second, Harrison, 11th, Folsom, Cesar Chavez, Valencia, and 24th streets, South Van Ness Avenue, and Mission Street, to a southern terminal on 24th Street.
Apr 2014	11 Downtown Connector	Route Alignment	Northbound (IB), the new route would run on 24th, Valencia, Cesar Chavez, Folsom, Second, Market, Sutter, Sansome, and Washington streets, on Columbus Avenue, Powell and North Point and Bay streets to the northern terminal on Van Ness Avenue	Northbound (IB), the new route would run on South Van Ness Avenue, Market, 11th, Folsom, Second, Market, Sutter, Sansome, and Washington streets, on Columbus Avenue, Powell and North Point and Bay streets to the northern terminal on Van Ness Avenue.
Apr 2014	11 Downtown Connector	Route Alignment	The southern terminal would be located at the southeast corner of South Van Ness Avenue and Market Street. The 140-foot transit zone would require a reduction of up to eight parking spaces.	The southern terminal would be located at the current 12 terminal on 24th Street.
12/31/2014	12 Folsom	Entire Proposal		Proposal on Hold
Apr 2014	17 Park Merced	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_017_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201

Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
Apr 2014	17 Park Merced	Route Alignment	New street segments would be from Font Boulevard and Arballo Drive via Font Boulevard, Chumasero Drive, Junipero Serra Boulevard, John Daly Boulevard, Daly City BART, John Daly Boulevard, Lake Merced Boulevard, John Muir Drive, and Skyline Boulevard, Herbst Road (toward West Portal only), and Skyline and Sloat boulevards to Everglade Drive.	New street segments would be from Font Boulevard and Arballo Drive via Font Boulevard, Chumasero Drive, Junipero Serra Boulevard, Daly City BART, Brotherhood Way, Lake Merced Boulevard, John Muir Drive, and Skyline Boulevard, Herbst Road (toward West Portal only), and Skyline and Sloat boulevards to Everglade Drive.
Apr 2014	17 Park Merced	Route Alignment	The Daly City portion of the route would make limited stops at key destinations	Original proposal listed at right eliminated
Apr 2014	19 Polk	Entire Proposal		Proposal on hold
Apr 2014	23 Monterey	Entire Proposal		Proposal on hold
Apr 2014	27 Bryant	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_027_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	27 Bryant	Service Frequency	Would be renamed the 27 Folsom since the route would no longer operate on Bryant Street. Service would be extended north on Leavenworth Street and west on Vallejo Street to Van Ness Avenue, and would be moved from Bryant Street to Folsom Street to replace 12 Folsom service on Folsom Street from Fifth to Cesar Chavez streets, including the terminal loop to the 24th Street BART Station. Existing passengers on Bryant Street could use 9 San Bruno/9L San Bruno Limited rapid service on Potrero Avenue or local service on Folsom Street. The 27 Bryant Service Variant 1 would evaluate two-way service on Leavenworth and Ellis streets, and two-way service on Folsom Street, as proposed in the Tenderloin Community Plan and the Western SoMa Community Plan, respectively. 27 Folsom Service Variant 2 would evaluate transit service on Harrison Street in the Inner Mission from 11th to Cesar Chavez streets. New terminal loop would follow Vallejo Street, Van Ness Avenue, Green and Polk streets. The terminal would be located on Vallejo Street at Van Ness Avenue and would be 100 feet long, requiring a reduction of up to five parking spaces.	27 Bryant service will be retained in current alignment. No changes.
Apr 2014	28 19th Avenue	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_028_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201

Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
Apr 2014	28 19th Avenue	Route Alignment	Proposed alignment would terminate at Golden Gate Bridge (Toll Plaza Area) during daytime ours. Service to Van Ness Avenue and North Point Street via the Marina District would be provided by the 28R 19th Avenue Rapid and service to Fort Mason would be provided by Route 43 Masonic.	28 19th Avenue service to the Marina District via the Golden Gate Bridge would be retained.
Apr 2014	28 19th Avenue	Route Alignment	When 28R 19th Avenue Rapid is not in service, the 28 19th Avenue would provide evening service to Van Ness Avenue/ North Point Street via Lombard Street. To accommodate a new terminal at the northern segment of the route, the existing red curb in the eastern parking lot of the Toll plaza, adjacent to the new Pavilion building, would be designated as a bus terminal (the precise location would be selected in consultation with Golden Gate Bridge, Highway and Transportation District and Golden Gate National Recreation Area)	The 28 19th Avenue would continue eastward on Lombard Street and serve a new northern terminal at Van Ness Avenue and North Point Street. Service to Fort Mason would be provided by Route 43 Masonic.
Apr 2014	28R 19th Avenue Limited	Route Alignment	Northern terminal will require a 160 foot extension of the current 30 Stockton short line service terminal located on North Point Street between Van Ness Avenue and Polk Street.	Original proposal listed at right eliminated
Apr 2014	28R 19th Avenue Rapid	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_028L_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	28R 19th Avenue Rapid	Route Alignment	Proposed alignment would provide all-day rapid, very limited-stop cross-town service, increasing access to San Francisco State University and CCSF from Van Ness Avenue/North Point streets and would provide better connections between the Marina, Richmond, Sunset, and Excelsior neighborhoods. Route would be extended to Van Ness Avenue/North Point Street from Lombard Street and to Mission Street/Geneva Avenue via I-280.	Proposed alignment would provide all-day rapid, very limited-stop cross-town service, increasing access to San Francisco State University and CCSF from Park Presidio/California Street and would provide better connections between the Richmond, Sunset, and Excelsior neighborhoods. Route would be extended to Mission Street/Geneva Avenue via I-280.

Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
Apr 2014	28R 19th Avenue Rapid	Route Alignment	n/a	The 28R 19th Avenue Rapid would serve a new northern terminal near California Street and Park Presidio, and would no longer serve the Marina District. A new terminal location is tentatively planned for Funston Street between California and Lake streets.
Apr 2014	28R 19th Avenue Rapid	Route Alignment	New streets on northern segment are Lombard Street, between Laguna Street and Van Ness Avenue, and on sections of Alemany Boulevard, between Sagamore Street and San Jose Avenue; I-280 between Ocean and Sickles avenues exit, Brotherhood Way, between Junipero Serra Boulevard and Sagamore Street, on Niagara Avenue between Alemany Boulevard between Niagara and Geneva avenues (to accommodate the terminal loop).	New streets are on sections of Alemany Boulevard, between Sagamore Street and San Jose Avenue; I-280 between Ocean and Sickles avenues exit, Brotherhood Way, between Junipero Serra Boulevard and Sagamore Street, on Niagara Avenue between Alemany Boulevard between Niagara and Geneva avenues (to accommodate the terminal loop).
Apr 2014	3 Jackson	Service Frequency	Route would be discontinued	Route would be retained and its frequency would be reduced.
Apr 2014	3 Jackson	Service Frequency	Other Muni routes would provide service on streets currently served by this route, except for Jackson Street between Divisadero Street and Presidio Avenue which would be eliminated due to low ridership.	Transit headways on Sutter Street would be increased by adding supplemental trolley coach service on the 2 Clement between Downtown and Presidio Avenue
Apr 2014	3 Jackson	Service Frequency	Route would be discontinued	Midday service frequency may be reduced from 20 minutes to 30 minutes.
Apr 2014	3 Jackson	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/3%20Jackson_0.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	32 Roosevelt	Entire Proposal		Proposal not being pursued at this time
Apr 2014	35 Eureka	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_035_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201

Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
Apr 2014	35 Eureka	Route Alignment	The 35 Eureka will extend along a more direct path to Glen Park BART Station via Diamond, Wilder, Arlington, and Bosworth Streets. Route will serve a new southern terminal location in the vicinity of Glen Park BART Station. Eliminated street segments include Addison, Moffitt, Bemis, and Digby Streets.	The 35 Eureka will maintain service on Addison, Moffitt, Bemis, and Digby Streets, and will connect to Glen Park BART Station by extending east on Bemis Street, south on Miguel Street, and west on Chenery Street to Diamond Street.
Apr 2014	36 Teresita	Entire Proposal		Proposal not being pursued at this time
Apr 2014	37 Corbett	Entire Proposal		Proposal not being pursued at this time
Apr 2014	43 Masonic	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_043_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	43 Masonic	Route Alignment	Service in the Presidio would be modified to connect to the Presidio Transit Center; then exit the Presidio in the Marina District at Richardson Avenue instead of Lombard Street. Modified route would use Presidio Avenue, Lincoln Boulevard, Graham Street (Presidio Transit Center), Halleck Street, Gorgas and Richardson avenues, to Lombard Street.	Service in the Presidio would be extended to the Presidio Transit Central via Lincoln Boulevard, Graham Street, Halleck Street, and service would be retained to Lombard and Lyon streets.
Apr 2014	47 Van Ness	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_047_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	47 Van Ness	Route Alignment	New transit streets on the southern segment are South Van Ness Avenue between Mission and 13th streets; 13th Street between South Van Ness Avenue and Bryant Street; and Division Street between Brannan and Townsend streets.	New transit service along Division Street between 11th and Townsend Streets.
Apr 2014	48 Quintara-24th Street	Route Alignment	At 25th and Connecticut streets, this route would no longer follow the existing Route 48 Quintara alignment and would change to follow the existing 19 Polk route to Hunters Point via Evans and Innes avenues. New connection from the Mission District, Noe Valley and the Sunset to Third Street and Hunters Point would be provided, covering a portion of existing Route 19 Polk on Evans and Innes avenues and Galvez Street. The southeastern end of the route would use the existing 19 Polk terminal at the former Navy Yard Gate.	Proposal at right on hold
Jun 2014	5 Fulton (E of 6th)	TTP Details	Build concrete pedestrian refuge islands at existing locations with painted islands	Removed the proposal to build up the painted island at Fulton/Cole and Fulton/Clayton due to potential cost issues due to existing utilities

Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
Jun 2014	5 Fulton (E of 6th)	TTP Details	Relocate IB stop from nearside bus zone to farside bus bulb	Proposal on hold at Fulton and Masonic
Jun 2014	5 Fulton (E of 6th)	TTP Details	Moving IB/OB stops from nearside to farside with new bus bulbs and nearside right-turn pockets	New proposal for nearside bus bulbs at existing bus zone locations and new yellow loading zones
Dec 2014	5 Fulton (E of 6th)	TTP Details	5L Pilot included local-only stops IB/OB at Hyde, with 5L stops at Jones (OB) and Leavenworth (IB)	Ongoing discussion about moving 5L stops from Jones (OB)/Leavenworth (IB) to Hyde
Apr 2014	54 Felton	Entire Proposal		Proposal on hold
Apr 2014	56 Rutland	Entire Proposal		Proposal not being pursued at this time
Apr 2014	58 24th Street	Entire Proposal	Buses would turn around on the northern portion of the route using 24th, Diamond, Clipper, and Castro streets to 24th Street; Clipper Street between Castro and Diamond streets is not currently used for buses. Terminal would be located on Castro Street nearside of the intersection with 25th Street; the existing transit zone would be extended, which would require a reduction of up to five parking spaces.	Revised proposal on hold: Buses would serve Douglass and Clipper streets, Grandview Avenue, and 21st Street. Terminal location to be determined. However, Douglass at 24th Street is under consideration.
Apr 2014	6 Parnassus	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_006_BW.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	6 Parnassus	Route Alignment	New alignment would follow Stanyan Street, instead of Masonic Avenue, between Haight Street and Parnassus Avenue to provide increased service on the busiest portion of Haight Street. Low ridership route segment in Ashbury Heights would be discontinued. Combined with service provided by the 71L Haight-Noriega Limited, the 6 Parnassus would provide local and limited-stop service along the full length of Haight Street. Streets eliminated from the 6 Parnassus route would include Masonic Avenue, Frederick and Clayton streets, and Parnassus Avenue between Clayton and Stanyan streets. The 32 Roosevelt and 33 Stanyan routes would continue to offer service along these segments. Reroute on Haight Street between Masonic Avenue and Stanyan Street would require new overhead wire on Stanyan Street between Haight Street and Parnassus Avenue.	6 Parnassus will remain in current alignment but at a lower frequency.

Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
Apr 2014	8X Bayshore	Map Update	Original Route Map: http://www.sfmta.com/sites/default/files/projects/rte_008X_BW.pdf More Details available here: http://www.sfmta.com/sites/default/files/projects/8X%20Bayshore%20Express_0.pdf	Current Route Map: http://www.sfmta.com/node/128201
Apr 2014	8X Bayshore	Route Alignment	Segment north of Broadway would be eliminated (replaced by the 11 Downtown Connector). Proposed eliminated segments north of Pacific Avenue would be Bay and North Point streets between Powell and Kearny streets, Kearny Street between Bay and North Point streets, Powell Street between Columbus Avenue and North Point Street, Columbus Avenue between Powell Street and Pacific Avenue, and Stockton Street between Green Street and Broadway.	Segment north of Broadway would be served by every other trip, as well as by the new 11 Downtown Connector. Route 11 Downtown Connector would provide supplemental service on Powell Street and Columbus Avenue. E and F Line service would also be available nearby on Jefferson and Beach streets.
Apr 2014	8X Bayshore	Route Alignment	During non-peak periods, the 8X would layover on Kearny Street between Pacific Avenue and Broadway.	During non-peak periods, half of the 8X trips would layover on Kearny Street between Pacific Avenue and Broadway and the other half would terminate at the current terminal on Kearny Street.
Apr 2014	8X Bayshore	Route Alignment	The 8AX would stop on Kearny Street, nearside of the intersection with Columbus Avenue, and the 8BX would use the 8X midday terminal on Kearny Street between Pacific Avenue and Broadway. The 8AX would not layover Downtown in the a.m. peak (similar to existing conditions).	Original proposal listed at right eliminated
5/1/2014	9 San Bruno	TTP Details	Build 90 ft bus bulb at OB direction at 11th and Market	Removed proposal to build OB bulb at 11th and Market due to conflicts with track. Proposal revised to build IB bulb.
6/1/2014	9 San Bruno	TTP Details	Build 90 ft bus bulb at existing stop at IB Bayshore and Oakdale	Build transit island at nearside Bayshore and Flower. Curb cuts at existing IB stop at Oakdale inhibit a bus bulb.
6/1/2014	9 San Bruno	TTP Details	Build 110 ft bus bulb at existing stop at OB 11th and Harrison	Build transit island at existing OB stop at 11th and Harrison. MTA is moving towards building islands instead of bulbs where bike lanes are located.

Revision History

Revision Date	Muni Route	Revision Type	Original Proposal	Revision
6/1/2014	9 San Bruno	TTP Details	Build 110 ft bus bulb at existing stop at IB 11th and Harrison	Lengthened proposed bus bulb at existing IB stop at 11th and Harrison. Bulb face will now be 143 feet and end at the driveway for 369 11th Street. Bulb lengthened to incorporate parklet elements at the DNA Lounge.
Apr 2014	90 Owl	Entire Proposal		Proposal on hold
Apr 2014	91A Owl	Entire Proposal		Proposal on hold
Apr 2014	91B/N Owl	Entire Proposal		Proposal on hold

Appendix

Acronyms & Abbreviations

Acronym/Abbreviation	Definition
ADRP	Archeological data recovery plan
AMP	Archeological monitoring program
AQTR	Air Quality Technical Report
ARB	California Air Resources Board
B20	20 percent biodiesel blend
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BCDC	Bay Conservation and Development Commission
bgs	Below ground surface
BMPs	Best Management Practices
BRT	Bus Rapid Transit
Caltrans	California Department of Transportation
CAS	Climate Action Strategies
CFG Code	California Fish and Game Code
CEQA	California Environmental Quality Act
CH4	methane
CCSF	City College of San Francisco
CO2	carbon dioxide
CO2E	carbon dioxide-equivalent measures
CRHR	California Register of Historical Resources
CSO	combined sewer overflow
CTCDC	California Traffic Control Devices Committee
CUPA	Certified Unified Program Agency
DPH	San Francisco Department of Public Health
DPW	San Francisco Department of Public Works
DTSC	California Department of Toxic Substances Control
ERO	Environmental Review Officer
FARR	Final Archeological Resources Report

Acronyms & Abbreviations

FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
FY	fiscal year
GHGs	greenhouse gases
HRER	Historic Resource Evaluation Response
LID	low-impact design
LRV	light rail vehicle
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MMTCO2E	million metric tons of CO2E
MSDS	Materials Safety Data Sheet
Muni	San Francisco Municipal Railway
N2O	nitrous oxide
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NOP	Notice of Preparation of an Environmental Impact Report and Notice of Public Scoping
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	California Archaeological Site Survey Northwest Information Center
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
OWE	Overhead Wire Expansion
PAR	Preliminary Archaeological Review Checklist
PDF	Portable Document Format
PDR	paleontological discovery report
POP	Proof of Payment Group in the Security Operations Unit of SFMTA

Acronyms & Abbreviations

PRMMP	Paleontological Resources Monitoring and Mitigation Program
RPD	San Francisco Recreation and Park Department
RTPs	regional transportation plans
SCI	Systemwide Capital Infrastructure
SEIR	Subsequent Environmental Impact Report
SFFD	San Francisco Fire Department
SFHA	Special Flood Hazard Area
SFMTA	San Francisco Municipal Transportation Agency
SFPD	San Francisco Police Department
SFPUC	San Francisco Public Utilities Commission
SFUSD	San Francisco Unified School District
SoMa	South of Market Area
TDM	Travel Demand Management
TEP	Transit Effectiveness Project
TIS	Transportation Impact Study
TPS	Transit Preferential Streets
TSP	Transit Signal Priority
TPP	Transit Priority Capital
UCSF	University of California, San Francisco
UST	Underground storage tank

Glossary

Term	Definition
Alignment	The ground plan of a roadway, rail line, transit route, or other facility, showing the alignment or direction as distinguished from a profile, which shows the vertical element.
All Way Stop	An intersection for which every approach is controlled by stop signs.
All-door boarding	When passenger boarding is permitted at multiple doors and not just the front door of the transit vehicle.
a.m. peak	The morning commute period in which the greatest movement of passengers occurs, generally from home to work or school; the portion of the morning service period where the greatest level of ridership is experienced and service provided, generally between 7 a.m. and 9 a.m.
Biodiesel fuel	Biodiesel refers to a vegetable oil- or animal fat- based diesel fuel. Biodiesel is typically made by chemically reacting lipids (e.g., vegetable oil, animal fat (tallow) with an alcohol producing fatty acid esters. Biodiesel is meant to be used in standard diesel engines and is thus distinct from the vegetable and waste oils used to fuel *converted* diesel engines. Biodiesel can be used alone, or blended with petrodiesel.
Boarding and alighting	To get on and off a transit vehicle.
Bypass lane	A lane that allows transit vehicles to bypass general traffic congestion approaching an intersection. Applications at signalized intersections may include an exclusive traffic signal phase to allow transit vehicles to move through the intersection ahead of general traffic. See also “queue jump.”
Bypass wires	Overhead wires used by a trolley coach to bypass a second trolley coach.

Glossary

California Traffic Control Devices Committee (CTCDC)	This committee advises the California Department of Transportation (Caltrans) about standards and polices for official traffic control devices in California. Through this committee, Caltrans fulfills its obligation to consult with local agencies and the public, before adopting rules and regulations prescribing uniform standards and specifications for all official traffic control devices used in California.
Capital improvement project	A project that requires changes to physical infrastructure.
Capital infrastructure	Physical structures or devices that provide long-term support to the operation of transit service.
Capital investment	One-time change to physical infrastructure for improvement, either to replace worn out infrastructure or to add new infrastructure. Contrasts with operating investments and expenses, which are on-going.
Center lane	A travel lane located in the middle of the roadway, beyond the curb lane and, in roadways with two or more travel lanes in each direction, the innermost lane.
Community Connector Van Service	Community Connector service provided by smaller vehicles such as vans or shuttle buses.
Community Connectors	Low-ridership bus routes that circulate through San Francisco's hillside residential neighborhoods and fill in gaps in coverage to connect customers to the core network.
Contraflow lane	A lane in which restricted traffic flows in the opposite direction of the adjacent lanes, limited to certain vehicle types such as transit or carpool vehicles.
Corridor	A broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of parallel streets and highways and many transit lines and routes.
Couplet	A pair of parallel streets that operate one-way in opposite directions.

Glossary

Crosswalk	Legally designated location for pedestrians to cross from one side of a roadway to the other. Present at all intersections that intersect at approximately right angles; may be marked or unmarked.
Curb cut	Location where the sidewalk curb is depressed to the level of the roadway for a curb ramp, driveway, or other feature.
Curb lane	The lane of traffic closest to the curb, which may or may not have parking adjacent to it. (Opposite of center lane).
Curb ramp	Location where the curb is depressed to the level of the roadway to provide a flush transition from the sidewalk to the roadway to enable accessible street crossing or movement.
Curbside	The side nearest to the curb; in a divided 4-lane road, the curbside lane is the right lane.
Customer	A person who rides a transportation vehicle, excluding the driver.
Dedicated turn lane	A lane from which a vehicle is required to turn left or right.
Diesel hybrid-electric motor coaches	Diesel hybrid-electric buses or motor coaches are electric buses that get their electricity from a small diesel engine. The diesel engine powers a generator that, together with traction batteries that store the energy, supplies the necessary electrical energy to move the bus through the streets of San Francisco. A diesel hybrid-electric bus can also recover and store braking energy. This increases the vehicle's fuel economy and brake life.
Duct bank	A conduit, typically installed underground, used to run power supply and other wired infrastructure from one point to another.
Dwell time	The time when a bus is stopped to load and unload customers at a transit zone.

Glossary

Expanded alternative	The Expanded Alternative for the Transit Priority Capital corridors employs Transit Priority Features that may have a greater potential to trigger additional physical environmental effects, such as substantial changes to traffic, bicycle, or pedestrian circulation or similar impacts, whereas the Moderate Alternative is expected to have fewer physical environmental effects due to the nature of the Transit Priority Features chosen for each Transit Priority Capital corridor.
Express service	Service operated non-stop over a portion of an arterial in conjunction with other local services. The need for such service arises where customer demand between points on a corridor is high enough to separate demand and support dedicated express trips.
Farside of intersection	The second or furthest side of the intersection encountered when passing through. Contrasts with nearside of intersection.
Flag stop	A transit stop where the bus or LRV stops within a traffic lane without a designated curbside transit zone, often adjacent to parked vehicles. Often marked with a sign or painted marking noting the transit route.
Frequency of service	The amount of time scheduled between consecutive buses or trains on a given route segment; in other words, how often the bus or train comes (also known as Headway)
Headway	The scheduled time interval between any two revenue transit vehicles operating in the same direction on a route.
Implementation schedule	The planned dates and durations of time during which the proposed project would be carried out.
Inbound direction	Unless otherwise defined, inbound means headed toward Embarcadero Station or Downtown. It is the opposite of outbound direction. Routes that do not go to the Embarcadero Station or Downtown or serve Embarcadero / Downtown mid-route have explicit definitions for inbound and outbound (e.g. 22 Fillmore is defined as heading inbound to the Marina and outbound to Potrero Hill; the F Market & Wharves is defined as heading inbound to Fisherman's wharf and outbound to Castro).

Glossary

Key Stop	Light Rail Transit Service stops that include high floor boarding platforms for accessibility.
Lane modifications	Lane modification proposals would change the configuration of travel and parking lanes within the existing right-of-way, typically with striping and signage. Proposed lane modifications include creating transit- only lanes, creating transit queue jump/bypass lanes, creating dedicated turn lanes, and widening mixed-flow lanes by reducing the number of mixed-flow lanes. *[see IS, pp. 41-46.]*
Layover	A layover is a period of time included in the schedule at the end of a trip that typically takes place at a transit terminus. It serves two major functions: recovery time for the schedule to ensure on-time departure for the next trip and, in some systems, operator rest or break time between trips. Layover time is often determined by labor agreement, requiring “off-duty” time after a certain amount of driving time.
Light rail vehicle (LRV)	Light rail vehicles are a form of urban rail public transportation that generally has a lower capacity and lower speed than heavy rail and metro systems, but higher capacity and higher speed than traditional street- running tram systems. The SFMTA’s fleet of 151 Breda light rail vehicles (LRV), are used in the operation of the six Muni Metro Lines (J, K, L, M, N and T). The vehicles operate in conditions which range from level boarding and exclusive right-of-way in the Muni Metro Subway segments, to high-floor semi-dedicated right-of-way segments on some surface segments, to low-floor, mixed-flow operation on a variety of streets and street types. LRVs provide an efficient, high capacity means of transporting large numbers of passengers.
Limited Service or Rapid Stop Service	Faster train or bus service where designated vehicles stop only at transfer points or major activity centers, usually about every 1/3 to 1/2 mile. Rapid stop service is usually provided on major trunk lines operating during a certain part of the day or in a specified area in addition to local service that makes all stops. As opposed to express service, there is not usually a significant stretch of non-stop operation.

Glossary

Local Network	Bus routes that complement and connect to the Rapid Network to create the core network, allowing customers to get to most destinations in San Francisco with no more than one transfer.
Local service	A type of operation that involves frequent stops and consequent longer travel times, the purpose of which is to deliver and pick up transit customers as close to their destinations or origins as possible.
Midblock Stop	A transit stop where customers may alight or board that is not at an intersection of two streets.
Moderate alternative	The Transit Priority Capital proposals with the more limited Transit Priority Features that are expected to have fewer physical environmental effects than those of the Expanded alternative Transit Priority Capital corridor proposals due to the nature of the Transit Priority Features chosen.
Motor coach	A bus powered by a diesel engine that can typically utilize biodiesel fuel as an energy source.
Nearside of Intersection	The first or nearest side of intersection encountered when passing through. Contrasts with farside of intersection.
Network	The configuration of streets or transit routes and stops that constitutes the total transportation system.
Network enhancements	Changes to the transit network which will improve reliability and efficiency. For example, providing transit signal priority.
Network restructuring	Changes made to the network after evaluation to improve reliability and efficiency, including creation of new routes, changes to route alignment, elimination of underutilized existing routes or route segments, changes to the frequency and hours of transit service, changes to transit vehicle type on specific routes, changes to mix of local/limited/express services on specific routes.
Operational improvements	Changes made to procedures and transit operations that do not result in changes to infrastructure.
Optimizing transit stop	Locating the transit stop on one side or the other of an intersection for greater efficiency. *[See IS, p. 31.]*

Glossary

Outbound direction	Unless otherwise defined, outbound means headed away from Downtown or Embarcadero Station. This is the opposite of inbound direction. Routes that do not go to Downtown or Embarcadero Station have explicit definitions for inbound and outbound (e.g. 22 Fillmore is defined as heading inbound to the Marina and outbound to Potrero Hill)
Overhead wires	Wires suspended over streets and rail tracks to provide electric power to trolley coaches and LRVs.
Owl Service	Service that operates during the late night/early morning hours or all night service, usually between 1:00 a.m. and 6:00 a.m.
Paratransit	Transportation service for individuals with disabilities who are unable to use fixed-route transit service. The service must be comparable to the fixed-route service and is required by the Federal Americans with Disabilities Act.
Parking restriction	Where the ability to park is limited in duration, type of vehicle, type of use, type of driver, or is forbidden.
Peak period	The hours in the morning or evening when most commuters are commuting and the travel system carries the largest number of passengers (transit) or vehicles (traffic). The morning peak period is generally between 7 a.m. and 9 a.m. and the evening peak period is generally between 4 p.m. and 6 p.m., although these hours may change over time. If not specified, evening commute hours are usually meant.
Pedestrian bulb	A sidewalk extension at a non-transit stop that improves pedestrian visibility and minimizes pedestrian exposure to vehicular traffic.
Pedestrian refuge island	Raised median installed in the center of a roadway that provides a safe place for pedestrians to stop while crossing a street.
Platform	Area of pavement raised above a road or railbed where passengers can board or alight from transit vehicles.
Platform Display System	LED (light-emitting diode) electronic display panels on platforms in Metro stations.

Glossary

p.m. peak	The afternoon commute period in which the greatest movement of transit passengers occurs, generally from work or school to home; the portion of the afternoon service period where the greatest level of ridership is experienced and service provided, generally between 4 p.m. and 6 p.m.
Protected turn	At signalized intersections, where traffic from a dedicated turn lane is shown green arrow to indicate when vehicles may safely complete that turn while being protected from conflicting vehicles and pedestrians.
Queue jump	A type of roadway geometry and striping that allows transit vehicles to move around vehicles stopped at an intersection, could be combined with a special signal phase to allow transit vehicles to proceed through the intersection in advance of general traffic. See also “bypass lane.”
Rapid Network	Frequent, heavily used bus routes and rail lines that make up the backbone of the Muni system.
Real-Time arrival Signage	LED panels in transit shelters that provide next arrival and emergency messaging; however, these units are also sparingly used to advise customers of service and event-related information and other topics of importance, such as major issues and public input opportunities.
Right-of-way	A right-of-way is a strip of land that is granted, through an easement or other mechanism, for transportation purposes, such as for a pedestrian path, sidewalk, driveway, rail line or highway.

Glossary

Route	A specified path taken by a transit vehicle usually designated by a number or a name, along which customers are picked up or discharged.
Service Improvements	Network restructuring that includes the creation of new routes, changes to route alignment, elimination of underutilized existing routes or route segments, changes to the frequency and hours of transit service, changes to transit vehicle type on specific routes, changes to mix of local/limited/express services on specific routes.
Service management	Improving service delivery on Muni by vehicle and infrastructure maintenance, operator availability, supervision, and traffic management. *[See IS, p. 1, and described in April 2011 Draft Implementation Strategy, pp. 1-4].*
Service Policy Framework	An outline of policies and action items for implementing future transit service changes, including changes proposed as part of the TEP.
Service reliability	How often transit vehicles meet planned schedules of stops.
Sidewalk widening	Where the width of the pedestrian right-of-way is increased at the expense of a street or other transportation right-of-way.
Span of Service	The span of hours over which service is operated (e.g., 6 a.m. to 10 p.m). Service span often varies by weekday, Saturday, or Sunday.
State of Good Repair	Federal Transportation Agency (FTA) defined program that seeks to improve the condition of transit capital assets in order to improve transit performance and reliability.

Glossary

State of Good Repair Investment	An SFMTA project that replaces or rehabilitates transportation capital assets in order to improve the condition of capital assets and improve system performance and reliability.
Stop spacing	The distance between consecutive transit stops. If a bus stop occurs on every block, the stop spacing is every block.
Supplemental service	Service provided that is not daily or weekly. Examples of supplemental service include bus service for professional sports games, or school-day only services for middle schools and high schools. [See http://www.sfmta.com/cms/ mroutes/SupplementalService.htm]
Switches	A switch is a mechanical installation enabling LRVs or Trolley Coaches to be guided from one track or set of overhead wires to another, such as at a railway junction or where a spur or siding branches off.
Terminal	The point where a transit route starts or ends, where vehicles stop, turn or reverse, and wait before departing on their return journeys.
Tow-away Zone	A lane in which private vehicles, if stopped or parked, can be removed and the owners fined.
Traffic calming measure	Roadway devices or practices that encourage drivers to proceed slowly through the use of visual or actual roadway narrowings, horizontal or vertical shifts in the roadway, or other features.
Traffic circle	Generally circular raised areas in the center of an intersection that force vehicles to go slowly around them, provide space for landscaping, and slow traffic by visually narrow the roadway.
Traffic Control Device	These include markings, signs, and signal devices used to inform, guide and control the orderly, uniform and efficient movement of all roadway users.
Transfer	A point or location where two or more transit routes come together at the same time to allow passengers to efficiently connect between intersecting transit routes. A short layover may be provided at timed transfer points to enhance the connection.

Glossary

Transit boarding island	Raised area with a transit stop within the roadway that provides a safe place for customers to board and alight, allowing transit vehicles to use center lanes without having to pull over to the side of the roadway for customers to board
Transit bulb	Curb extension at a transit stop designated for passengers to wait for, board to and alight from transit vehicles. A transit bulb allows transit vehicles to board and alight passengers without pulling in and out of traffic.
Transit service efficiency	A measure of how quickly transit trips are completed, how many transit rides are offered, and the cost to provide transit rides.
Transit signal priority	A name for various techniques to speed up transit at intersections with traffic signals. Transit vehicles signal their impending arrival via radio systems and, on their arrival at the intersection, receive green lights.
Transit stop	Where transit vehicles cease movement to permit customers to alight and board.
Transit stop changes	Transit stop changes adjust the size, location, or type of a transit stop. Transit stop changes reduce travel time by changing the distance between stops, making boarding and alighting easier for customers, reducing transit dwell time, and/or reducing the time it takes for a transit vehicle to move in and out of traffic. *[See IS,* pp. 30-40.]
Transit travel time	A measure of the amount of time for transit vehicles to move between two points along a transit route.
Transit Priority Capital (TPP)	The transit corridors along which Transit Priority Features are proposed to be applied are 17 of the Rapid Network Corridors.
Transit vehicle	A vehicle used for public mass transit, including Cable Cars, LRVs, Motor Coaches, Hybrid electric/diesel motor coaches, Streetcars, and Trolley Coaches.

Glossary

Transit zone	A zone along a curb where no vehicles aside from transit vehicles may stop or park, and where the transit vehicle allows passengers to board and alight. A transit zone allows room for a transit vehicle to approach a curb for customer boarding and alighting.
Transit-only lane	A travel lane that is dedicated for the exclusive use of transit vehicles.
Travel lane	The right of way in which a vehicle may travel.
Trolley coach	Trolley buses (also known as “trolley coaches” or “trackless trolleys”) are rubber-tired vehicles with motors powered by electricity from overhead wires. “Trolley” refers to the trolley poles on the roof of the bus that are used to transmit the electricity from the overhead wires. Thus, “Electric trolley bus” is a redundant term, but must be used occasionally to differentiate real trolley buses from the faux trolley cars and cable cars that are actually small buses.
Turn lane	A secondary lane from which a turn may be made. Contrast with a no-turn lane.
Turn pocket	A short zone carved out of a lane or curb parking, permitting vehicles to make a turn at a given intersection. Most often used to prevent turning vehicles from blocking non-turning vehicles.
Turn Restrictions	Signs limiting vehicles from turning, which reduces the blockage of transit vehicles and other traffic. Turn restrictions can be part-time or full-time. *[IS, p. 46.]*
Wayfinding signage	Directional signage located on the sidewalk, used to help pedestrians orient themselves and locate nearby destinations

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