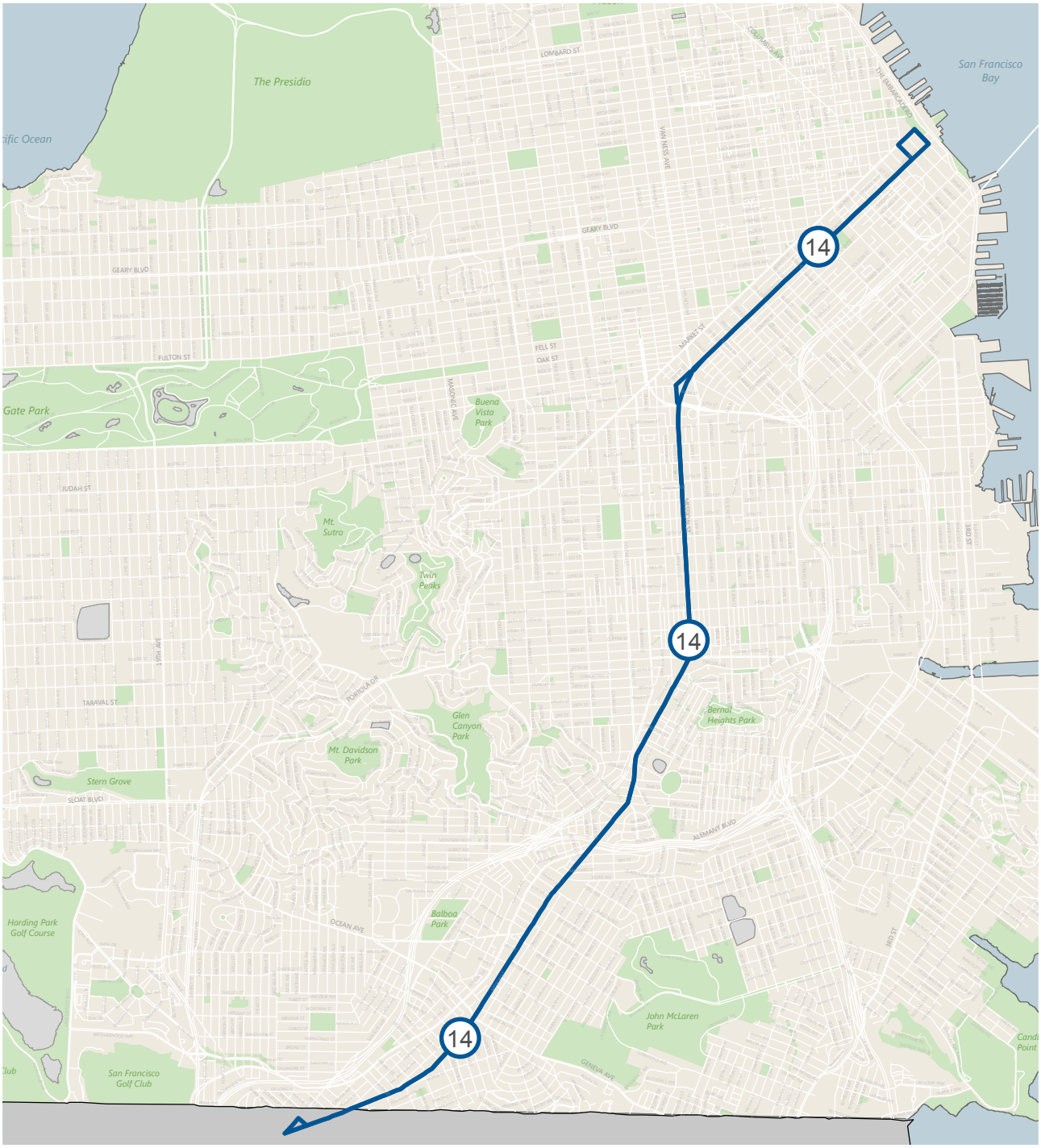
14 Mission



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

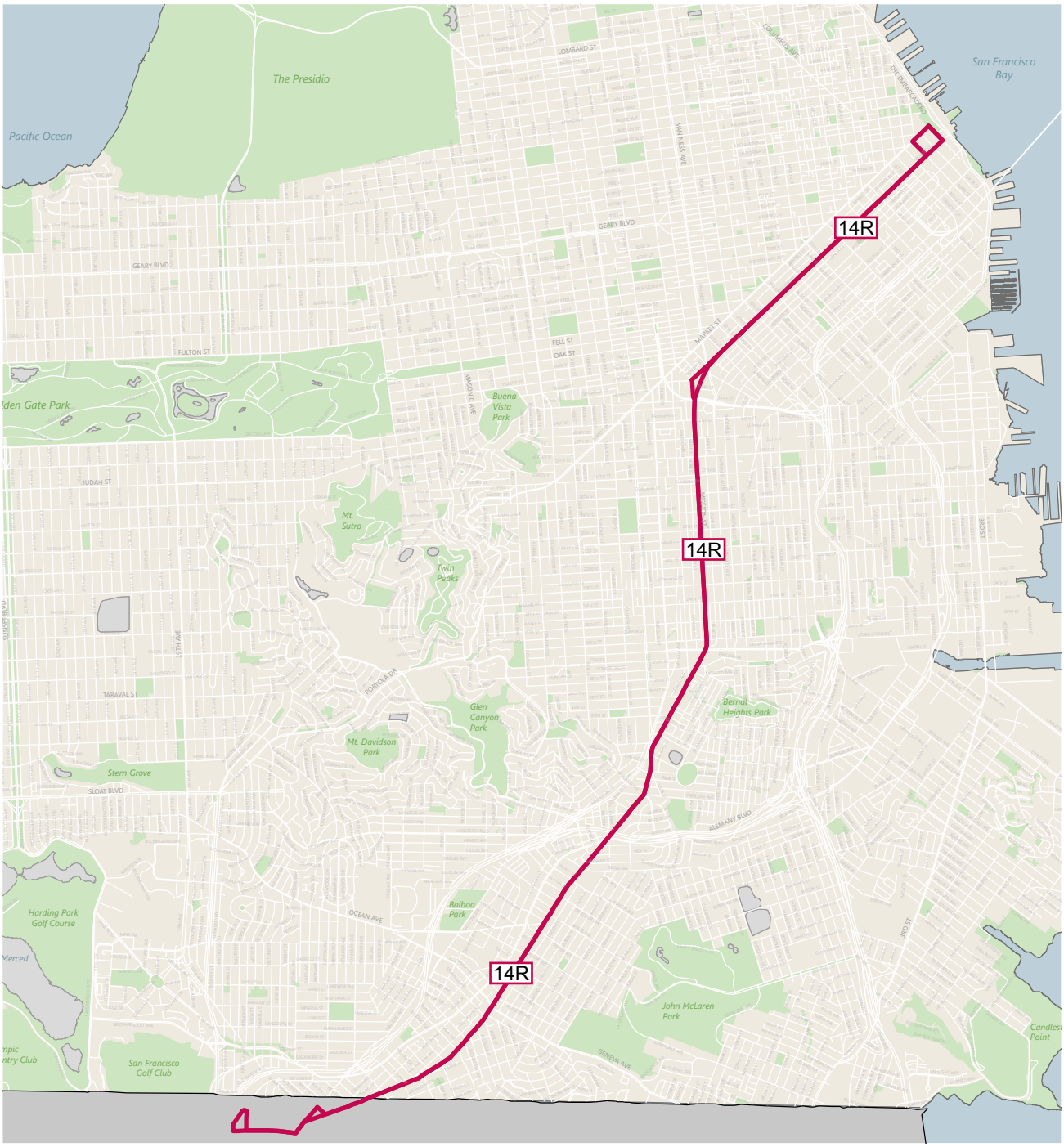
	Current	Approved	Frequency
AM	15	15	=
PM	15	15	=

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

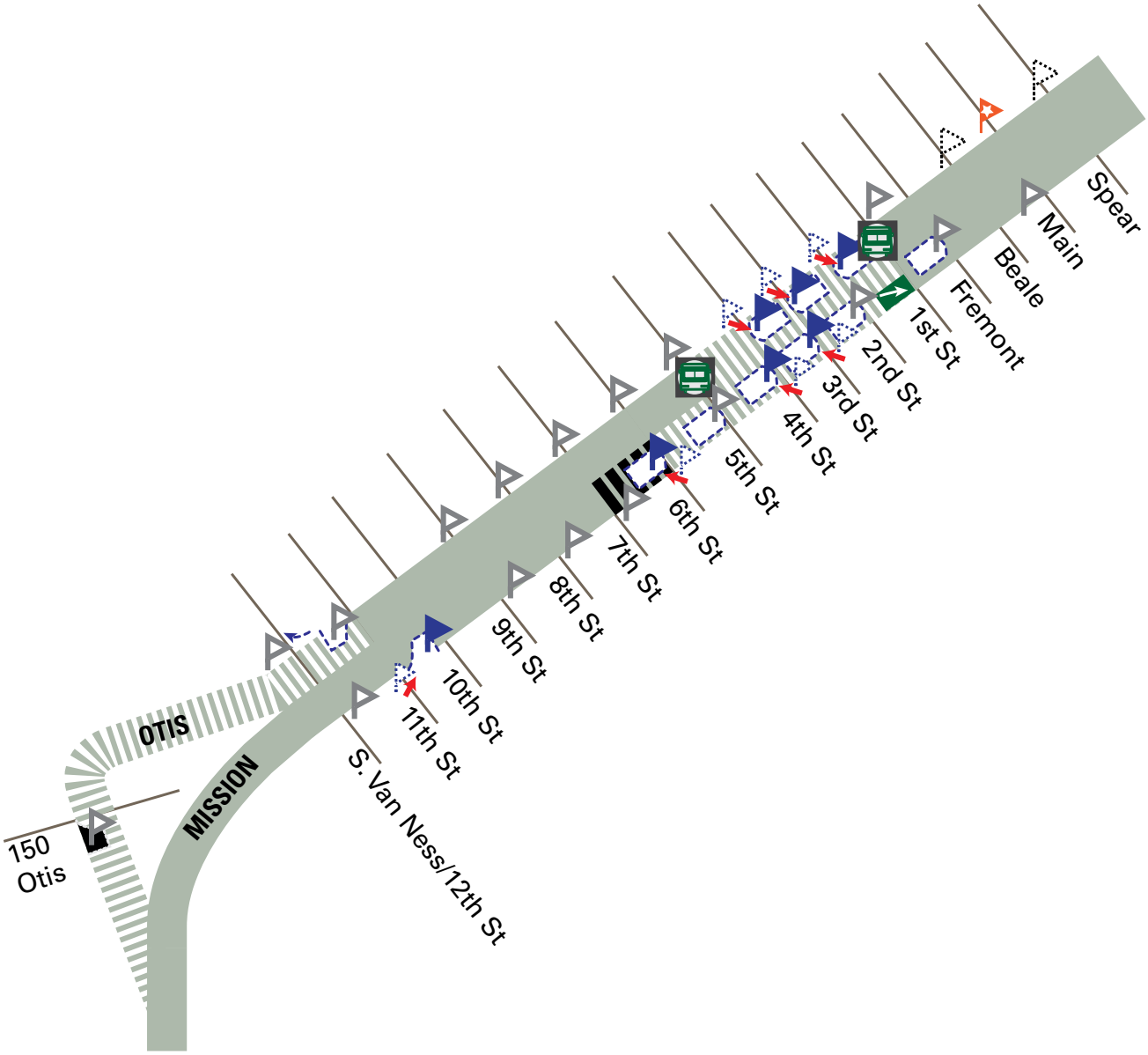
- No route changes proposed.
- Route would operate as a trolley coach service, replacing current motor coach service, along with the 49R Van Ness-Mission Rapid. The 14 Mission Local would be converted to motor coach to allow limited-stop services to pass local services.
- Service will be extended all 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

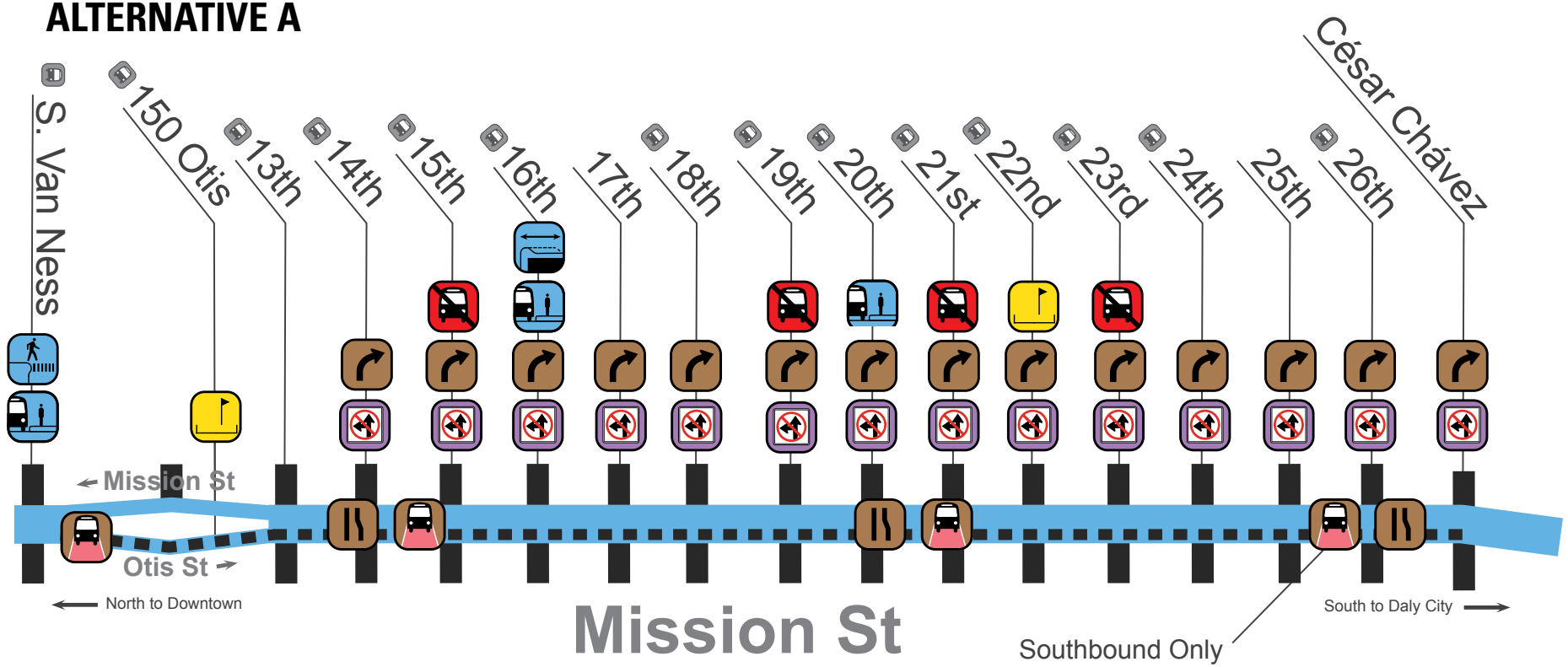


Features

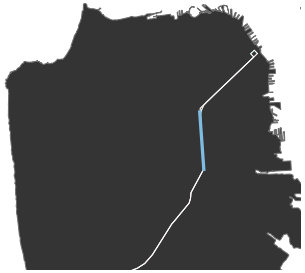
- New Traffic Signal
- Muni Queue Jump Signal
- Remove Stop Signs on Visitacion Street and Replace with Traffic Calming or Traffic Signal
- New Stop
- New Transit Bulb
- Stop Relocation
- Removal of Stop
- Extend Bus Zone
- Convert Stop (from flag to bus zone)
- Turn Pockets
- Parking Restriction
- Transit-Only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

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

ALTERNATIVE A



Segment Location



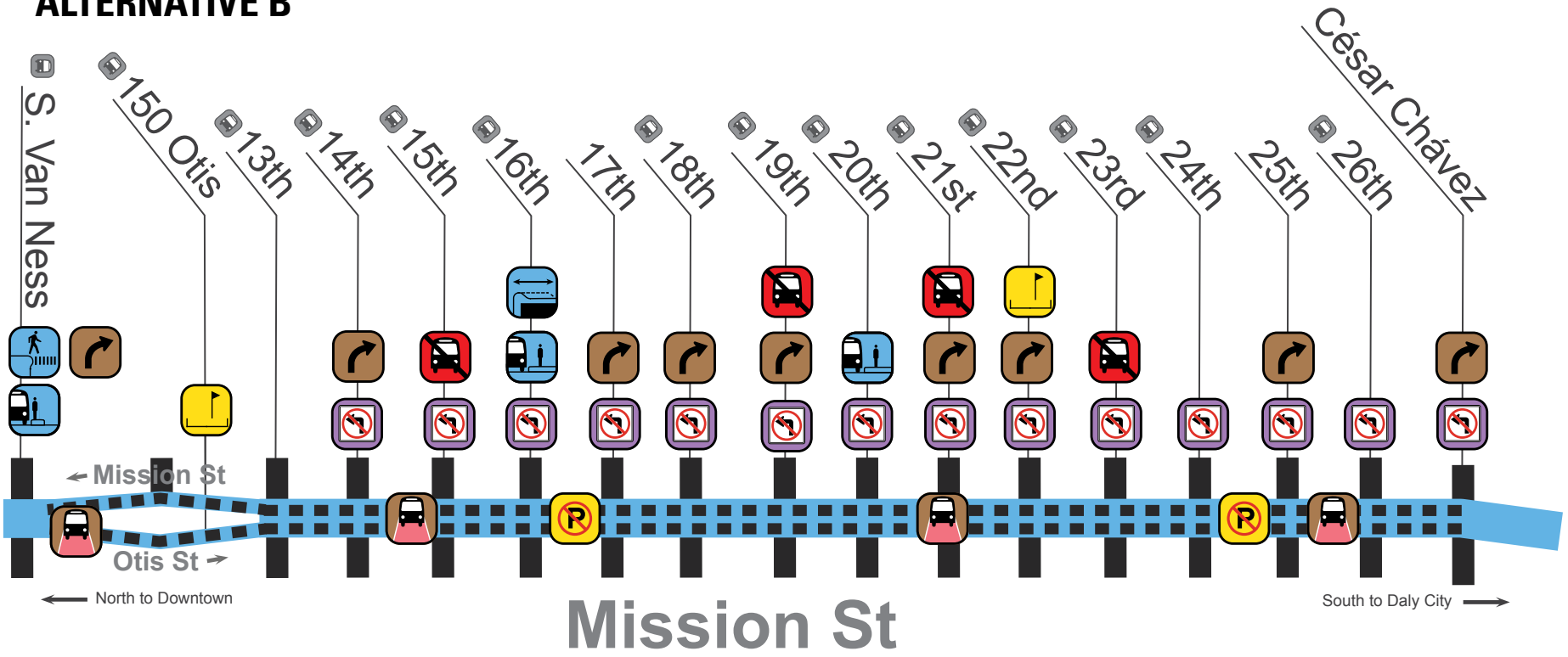
Existing Stop

Summary of Proposals

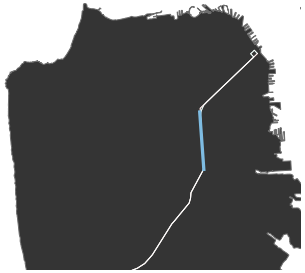
- New Pedestrian Bulbs
- New Transit Bulbs
- Stop Removal
- Lane Reduction (from 4 lanes to 3 lanes)
- Transit-Only Lane (southbound only)
- New Turn Pockets
- Right Turn Only (northbound) & No Left Turn (southbound)
- Extend Transit Bulbs
- Convert Bulb to Bus Zone

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

ALTERNATIVE B



Segment Location

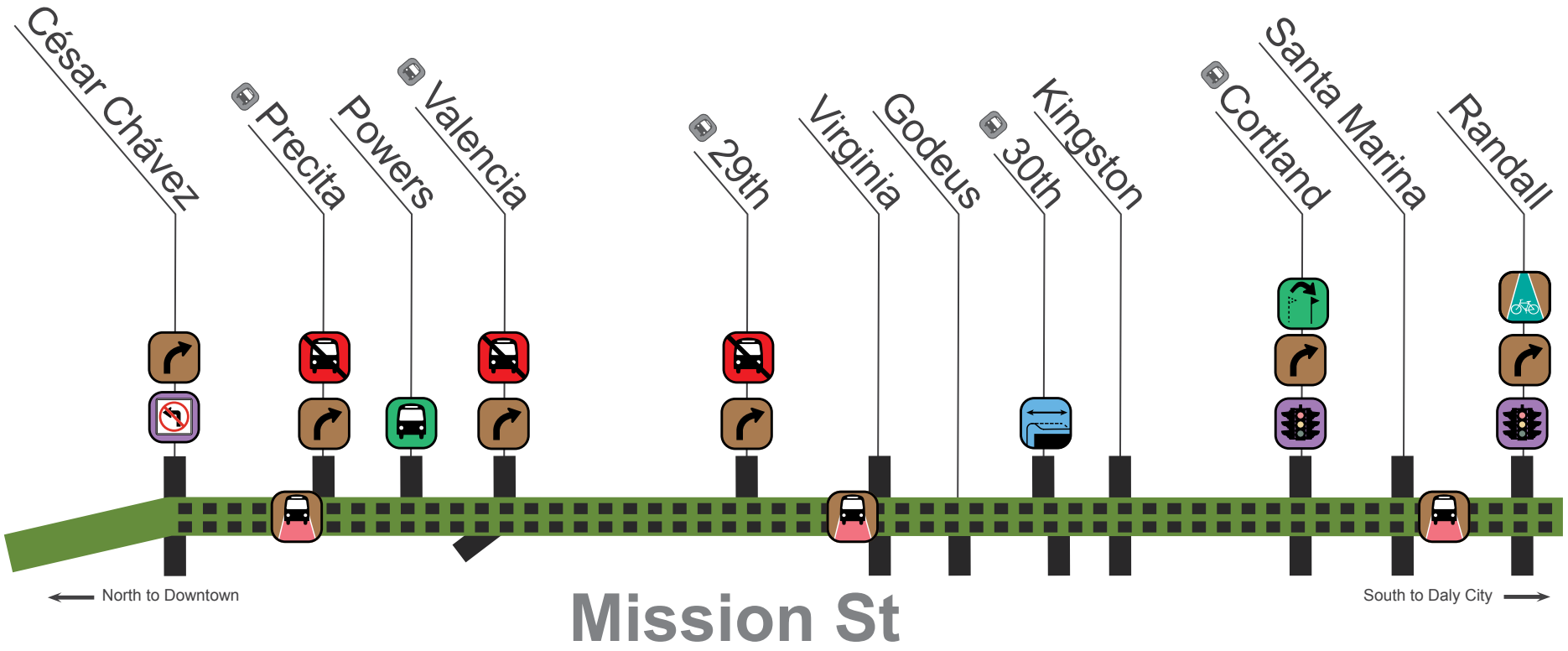


Existing Stop

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



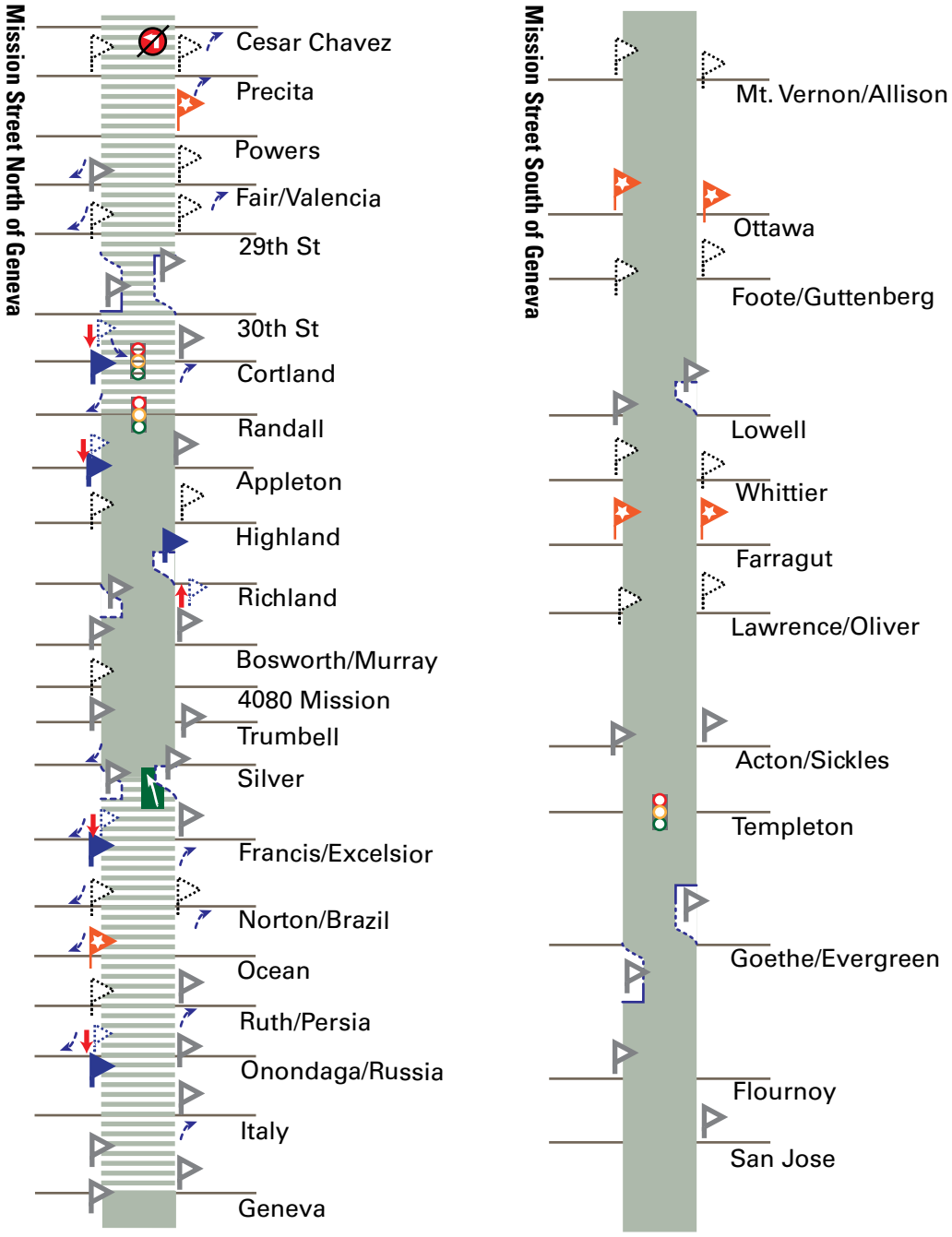
Segment Location

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

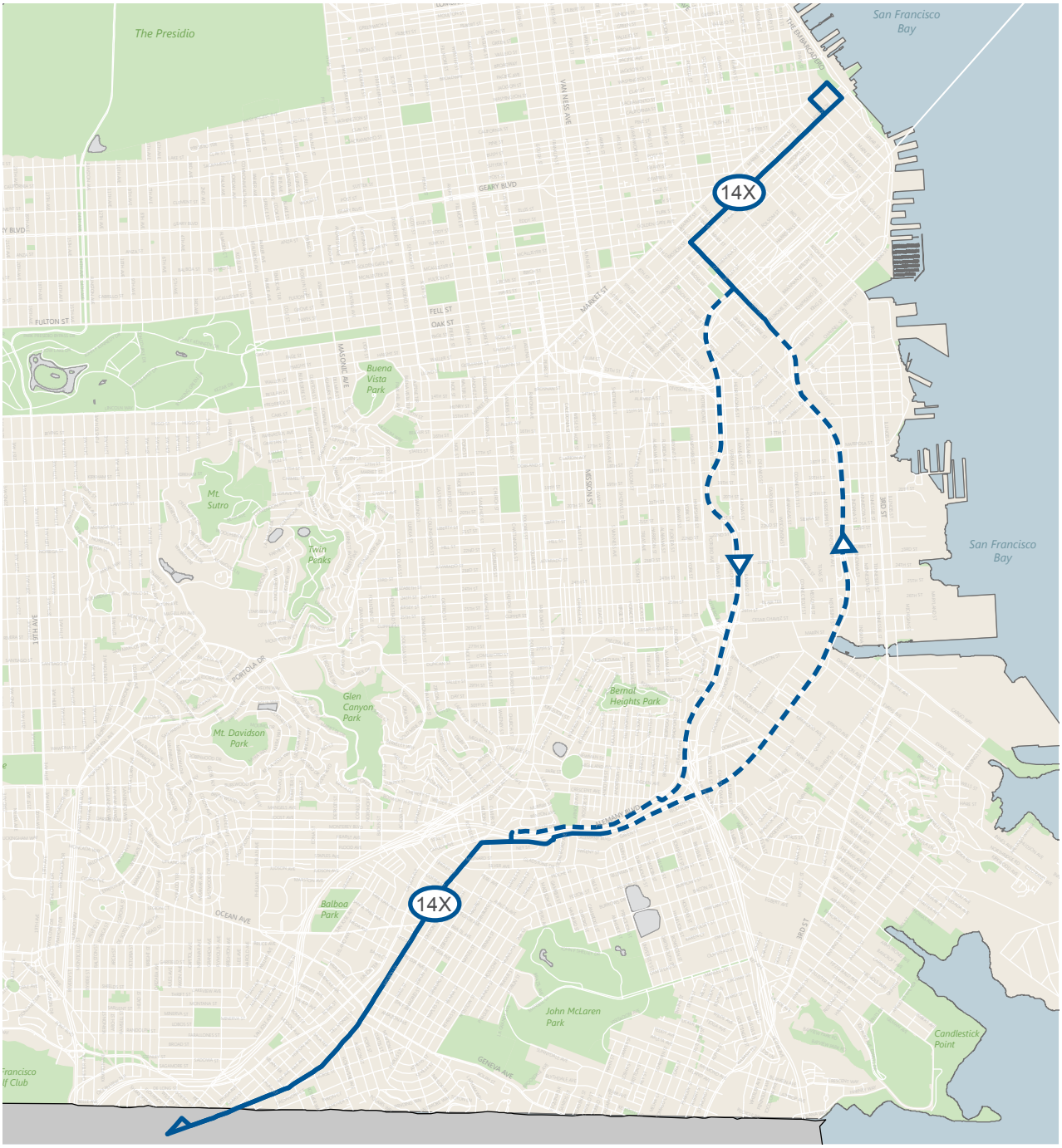
14 / 14R Mission Transit Priority Project - Outer Mission



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

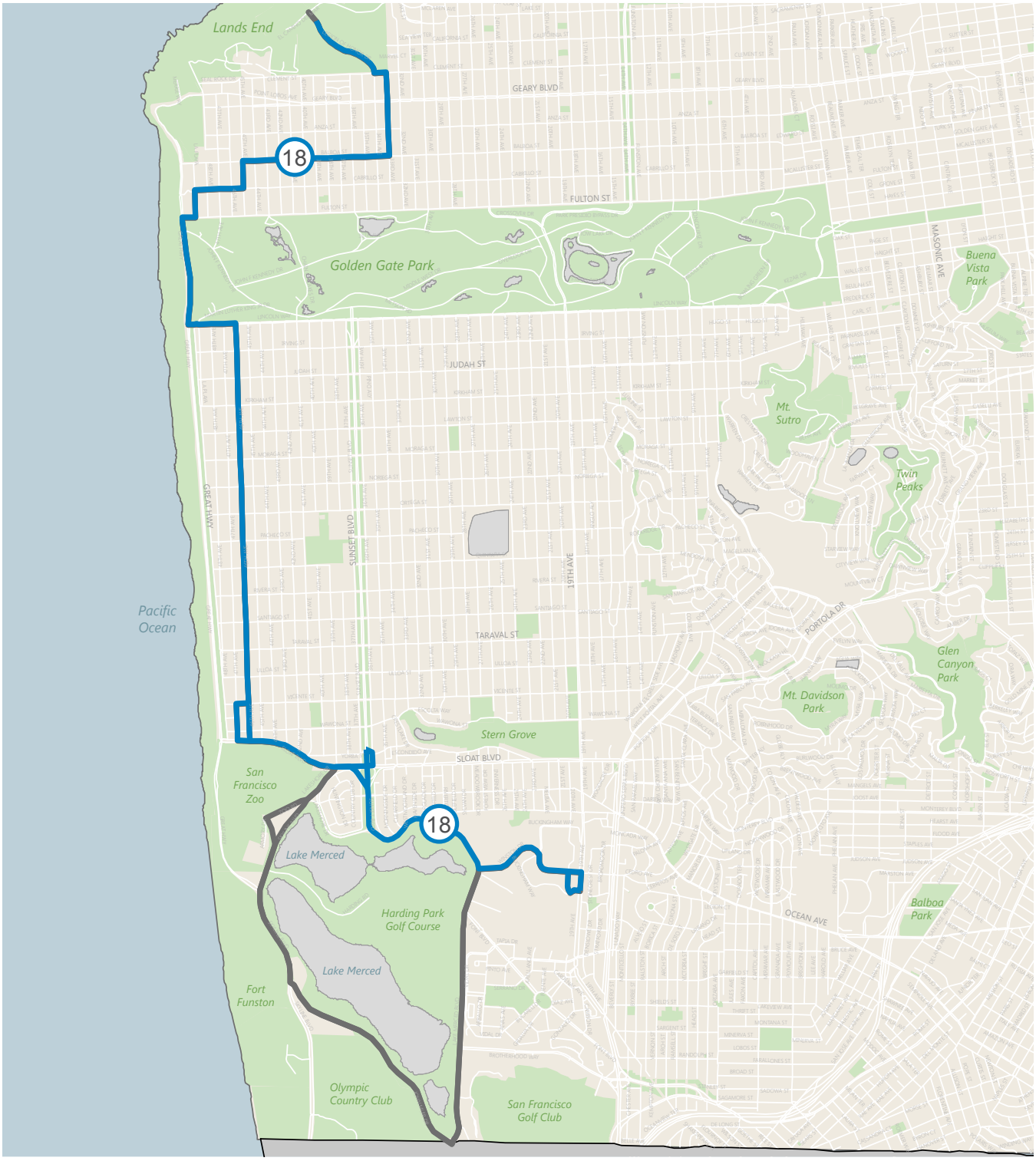
- No route changes proposed.
- A Transit Priority Project is proposed for this corridor to reduce transit travel time

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

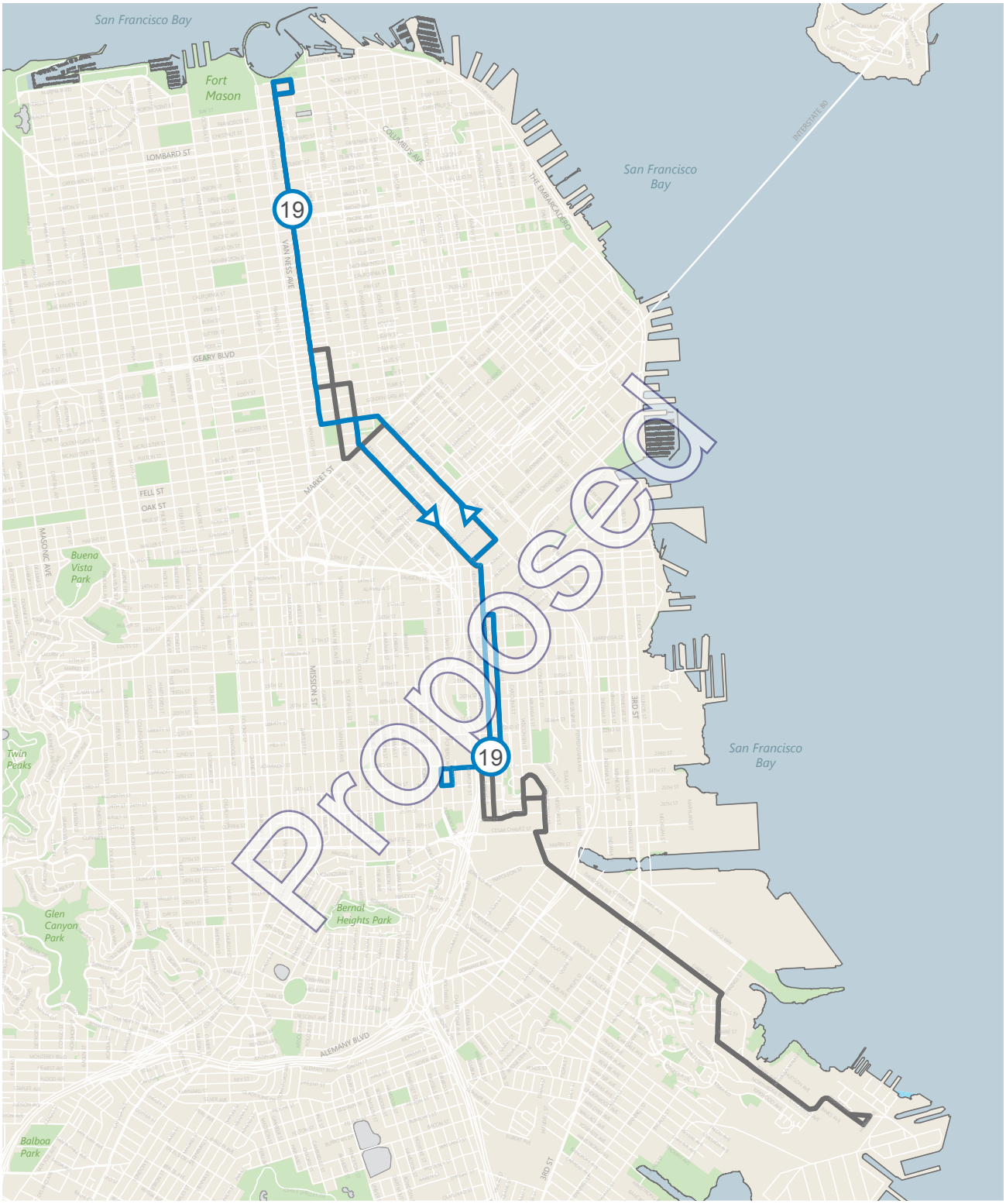
- Proposed alignment will operate on a more direct route between the San Francisco Zoo and Stonestown Galleria shopping center. Service will be added along Sloat Boulevard between Skyline and Sunset Boulevards, Sunset Boulevard between Sloat and Lake Merced Boulevards, and Lake Merced Boulevard between 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.

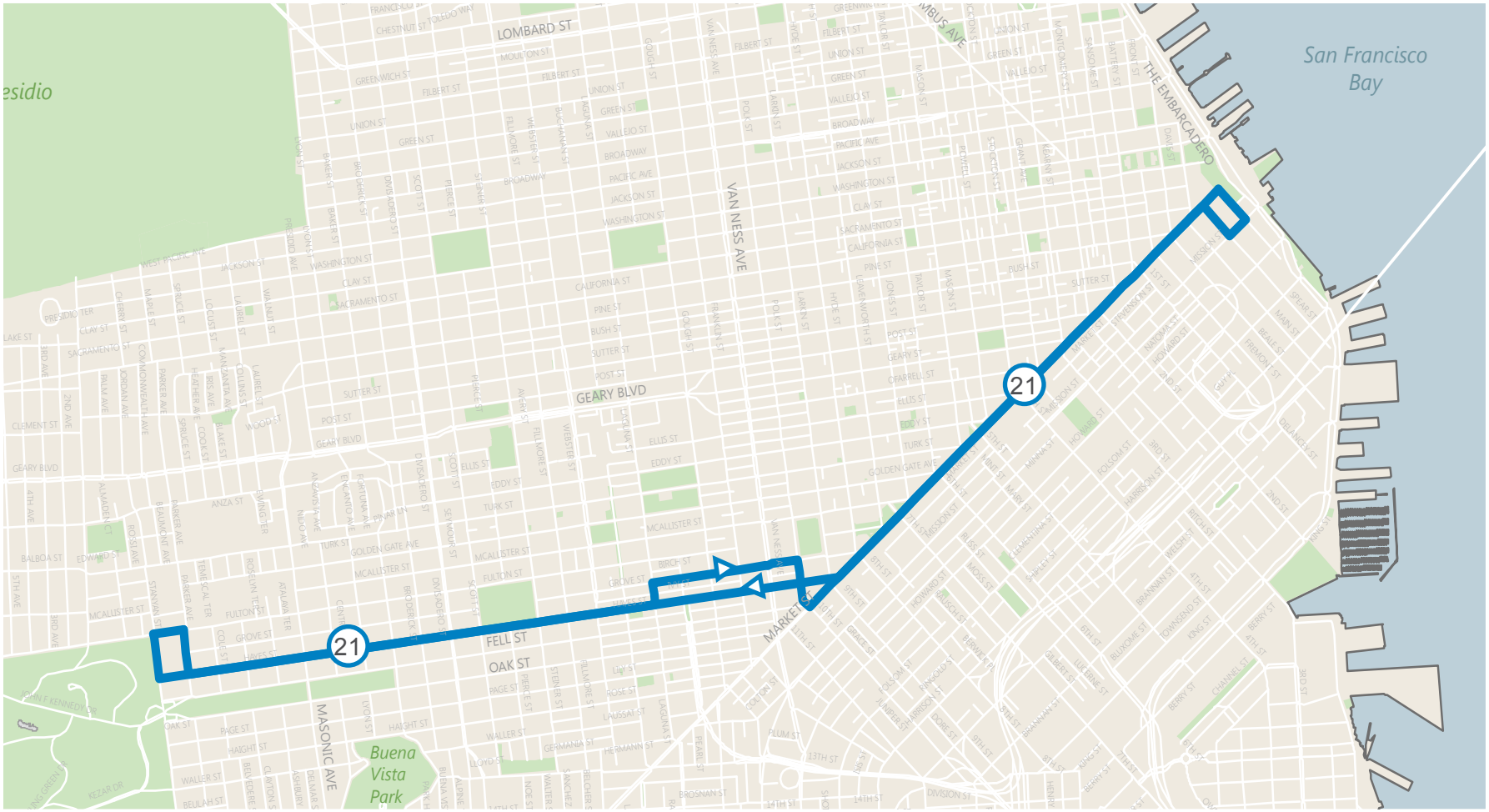
Frequency

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

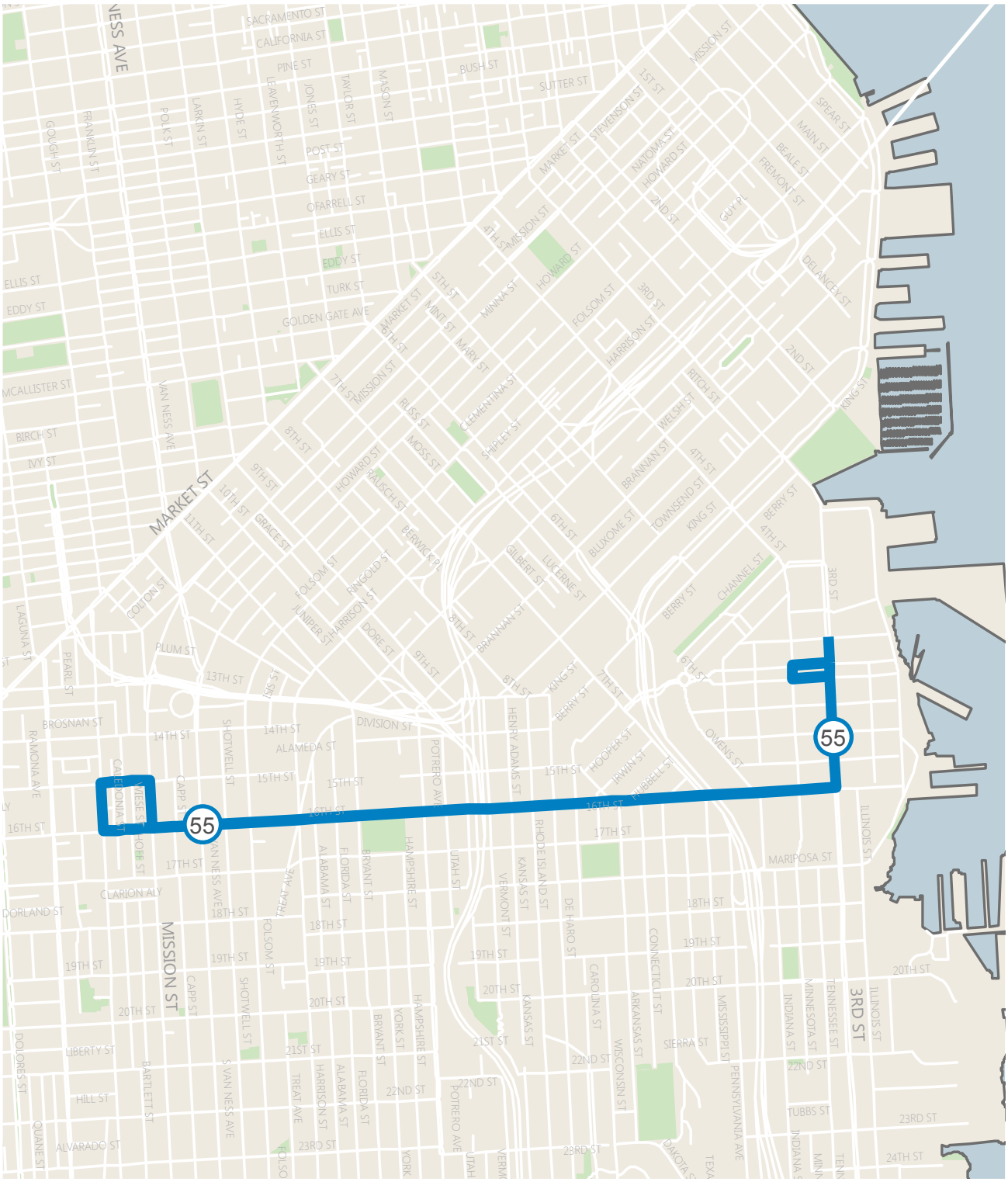
Frequent Local

- 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)

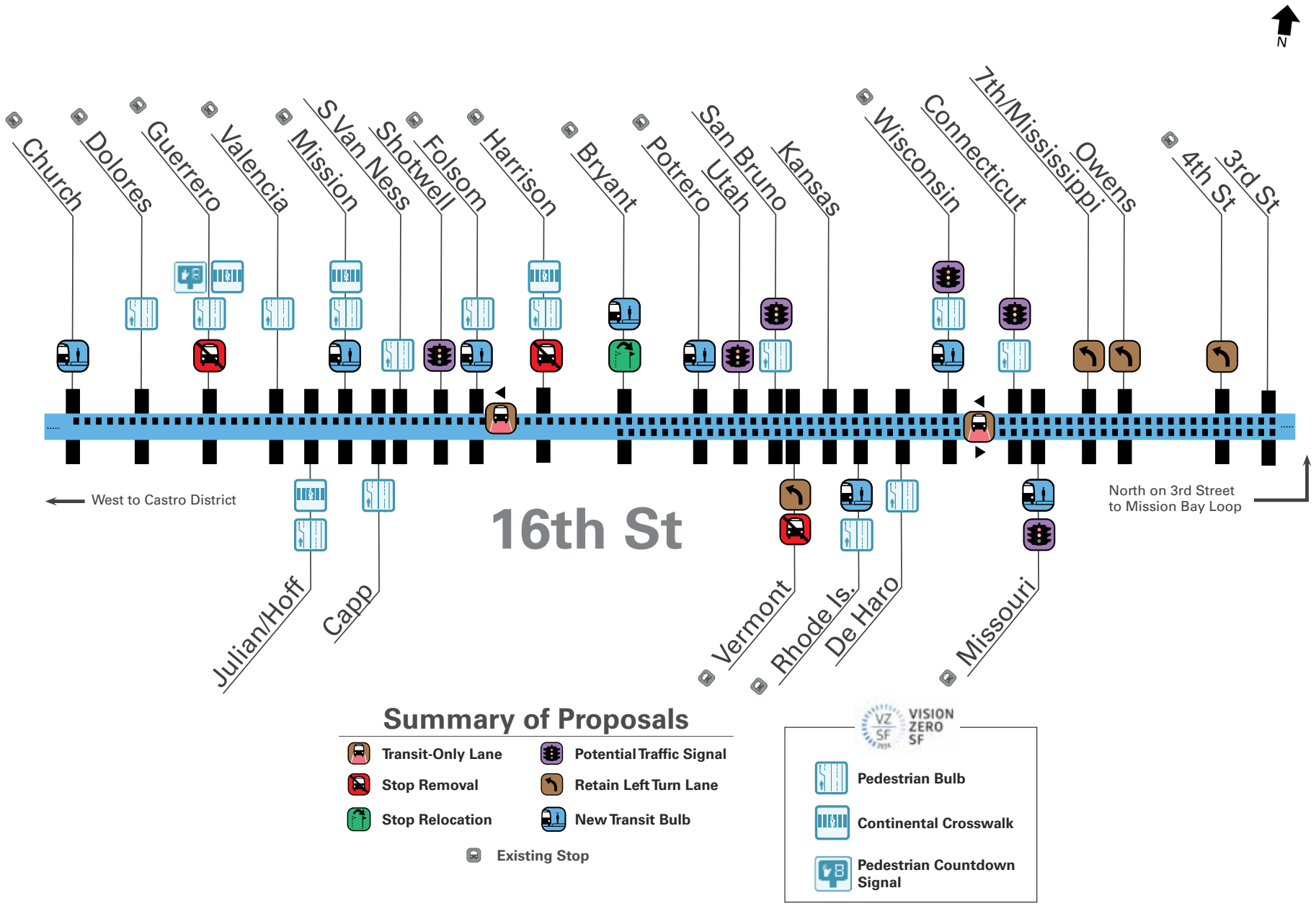
	Current	Approved	Frequency
AM	9	6	+
PM	8	8	=

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



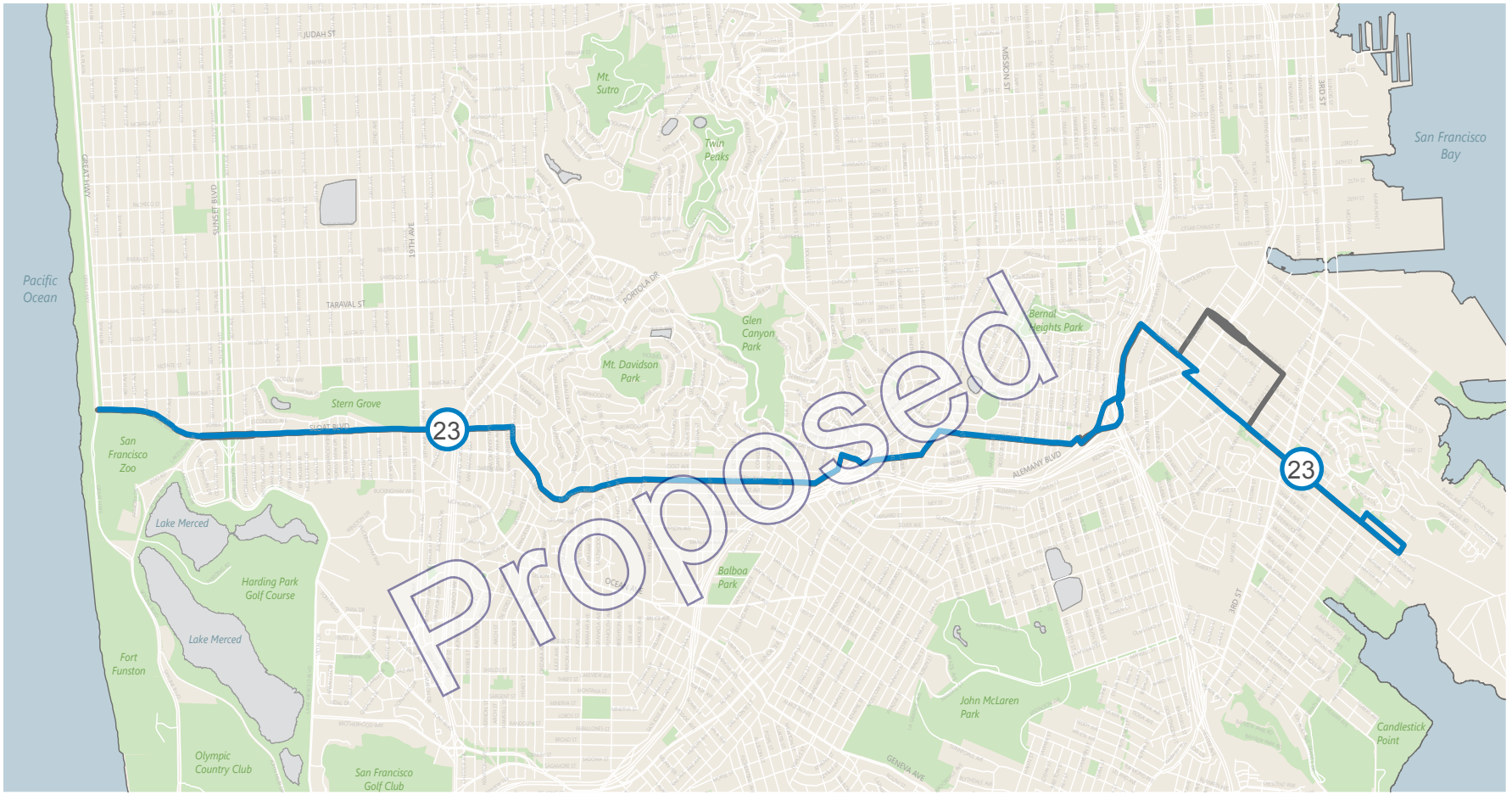
Summary of Proposals

- 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.

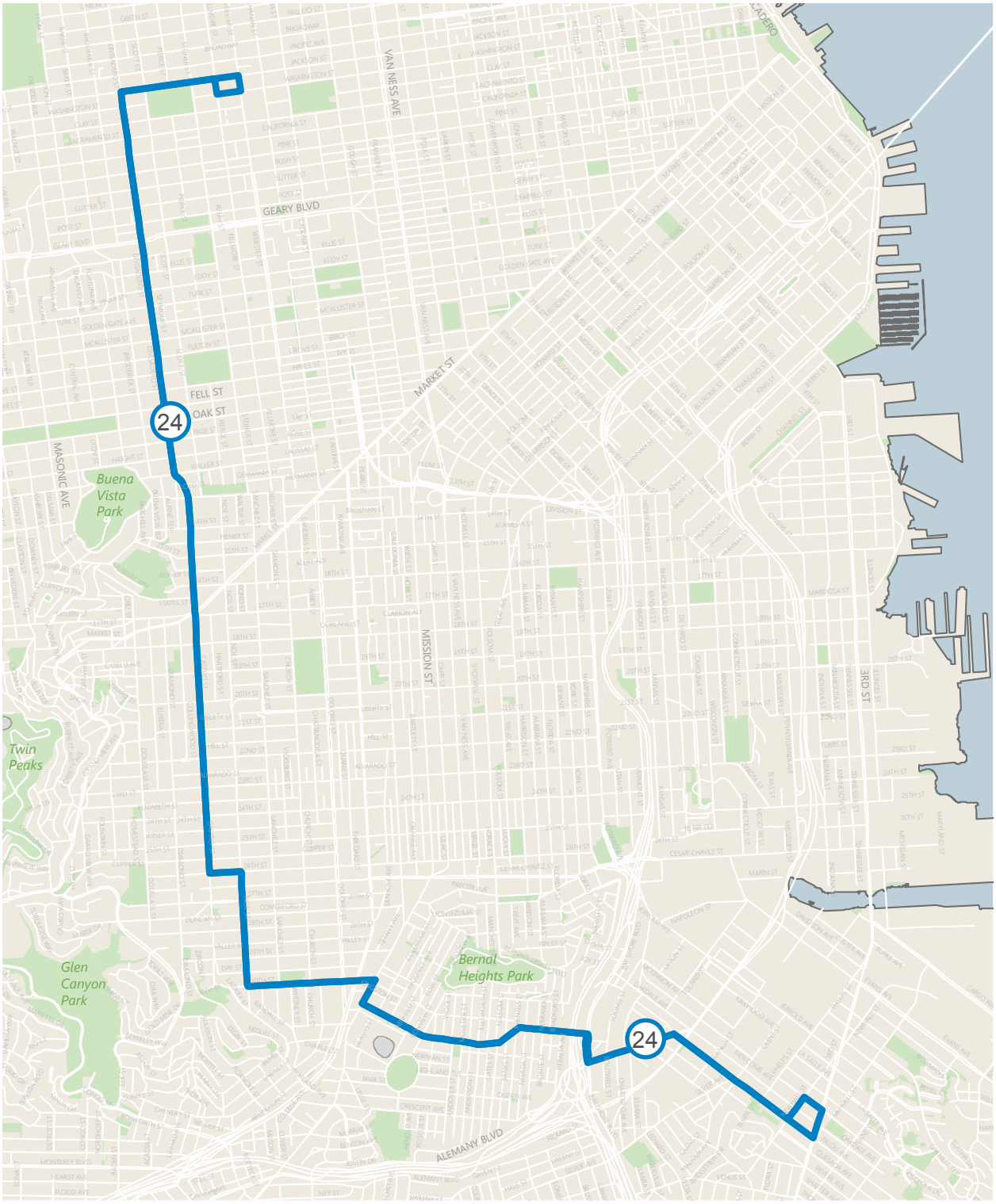
Frequency

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	+