Vision Zero Quick-Build Pre-Planning Study

Prepared for: SFMTA

06/28/2023

SF22-1231.11

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Fehr / Peers

Executive Summary

San Francisco adopted Vision Zero in 2014, a citywide and interdepartmental commitment to prioritize street safety and eliminate traffic deaths in San Francisco. Data-driven analysis is at the core of San Francisco's Vision Zero program, allowing the City to cost-effectively prioritize limited resources. This report describes the analysis of approximately 200 High-Injury Network (HIN) segments, or approximately 50 miles of the HIN. The memorandum recommends quick-build and corridor-wide improvements for intersections and corridors on the HIN. The memo describes the analysis process and methodology, provides recommendations, and compares the analysis to the City's Vision Zero Action Strategy. **Figure ES 1** shows the locations of the HIN, while **Table ES 1** and **Table ES 2** show high-level statistics of the collisions and remaining improvements on the remaining 50 miles of the HIN.



Figure ES 1: Citywide High-Injury Network



Collision Severity	All Collisions	Vehicle-Only	Pedestrian Collisions	Bicycle Collisions	Other
Fatal	39	8	26	4	1
Severe Injury	385	136	202	42	5
Other	3,788	2,195	1,129	435	29
Total	4,212	2,339	1,357	481	35

Table ES 1: Summary of Collisions On Remaining High-Injury Network

Source: TransBase (January 1st, 2017-June 30th, 2022).

Table ES 2: Summary of Recommended Improvements

Improvement by HIN Segments (n=192)	Recommended Segments - Partial ¹	Percent Remaining	Recommended Segments - None ²	Percent Remaining
Quick-Build Core Toolkit				
Install Daylighting	92	48%	9	5%
Install Continental Crosswalk	115	60%	10	5%
Change Walk Speed to 3.0 feet/second ³	27	18%	15	10%
Install Leading Pedestrian Interval (LPI)	74	50%	45	30%
Install Advanced Limit Line	57	38%	38	26%
Other Improvements				
Upgrade to 12" Signal Heads	93	62%	14	9%
Upgrade to Accessible Pedestrian Signals (APS)	48	32%	68	46%
Upgrade to Pedestrian Countdown Signal (PCS)	8	5%	8	5%

Source: Fehr & Peers (2023); SFMTA (2023).

Notes:

1. Locations where a least one treatment is present on the segment.

2. Locations where no treatments are present on the segment.

3. Data was not updated with fieldwork.

1. Introduction

This memorandum documents the Vision Zero Quick-Build Pre-Planning Study (Study) prepared for the San Francisco Municipal Transportation Agency (SFMTA). The memo describes the existing conditions inventory and collision trends by corridor, the process for identifying quick-build and corridor improvements, and recommendations and cost estimates by feature and by corridor. In addition, it identifies recommended investments for every street of the High-Injury Network (HIN).

This Study's analysis and recommendations for quick build and corridor improvements focus on slowing vehicle speeds, improving roadway user visibility at intersections and reducing conflicts for vulnerable road users, ensuring compliance with traffic laws, ensuring City accountability, and encouraging data stewardship.

Attachment A provides cut sheets of recommended improvements analyzed per segment. Each cut sheet is a profile of a HIN segment, containing existing corridor characteristics and, briefly, recommended improvements. The recommendations reflected in the corridor cut sheets are not comprehensive. They reflect a range of potential quick-build treatments drawn from SFMTA's toolbox. Additional treatments to enhance safety for all road users may be identified by SFMTA through implementation activities and/or future corridor studies. For example, treatments that enhance safety for people biking and walking while crossing mid-block and/or at intersections could include changes not reflected in SFMTA's toolbox (e.g., elements of a protected intersection, bicycle signals and/or bicycle phasing, protected phasing to separate vulnerable road users' crossings from vehicles, new or enhanced uncontrolled crossings, or changes in traffic control at an intersection).

2. Background

Since 2014, Vision Zero SF has published an <u>Action Strategy</u> that lays out the strategic actions for City departments and agencies to reach the City's Vision Zero goal of prioritizing street safety and eliminating traffic deaths in San Francisco. Data-driven analysis is at the core of San Francisco's Vision Zero program, allowing the City to cost-effectively prioritize limited resources. The latest Action Strategy was published in 2021 and provides the basis for the HIN analysis completed in this Study.

Through the 2021 Action Strategy, San Francisco significantly increased its commitment to quickbuild projects. The study recommends strategic improvements in line with the Vision Zero Action Strategy commitments. These include quick-build improvements such as:

- Ensuring all HIN intersections have high-visibility crosswalks by 2024 and daylighting by 2023
- Modifying all eligible signals on the HIN for slower walking speeds and leading pedestrian intervals by 2024
- Upgrading 40% of signals on the HIN with accessible pedestrian signals (APS) and 95% of signals on the HIN with pedestrian countdown signals (PCS) by 2024

Since 2014, approximately 85 miles of corridor-level improvements have been completed or are in planning or construction. The remaining 50 miles on the updated 2022 HIN still need safety improvements. The analysis completed through this study provides quick-build and corridor-level improvement recommendations for the remaining 50 miles of the HIN, seen in **Figure 1**. These remaining 50 miles were divided into approximately 200 quarter-mile segments for analysis. On each segment, study consultant, Fehr & Peers examined existing street characteristics and crash trends to establish existing conditions and then developed high-level recommendations using the SFMTA-developed quick-build improvements, potential corridor improvements for future consideration, and cost estimates for each recommendation type.



Figure 1: Citywide HIN Map, Highlighting the 50 Miles of Remaining HIN



3. Study Process and Overview

The SFMTA provided data ranging from existing signal timing cards to bicycle network and transit data in GIS which formed the basis of the existing conditions database. The existing conditions database contains information on street infrastructure related to walking, biking, driving, and transit conditions as well as collisions, proximate key land uses, and transit service along each HIN corridor. Fehr & Peers supplemented this data with fieldwork completed both via Google Street View/aerials and visual observations while walking or sometimes driving the corridors.

The SFMTA also provided guidance on the quick-build improvements, a fixed set of routine safety countermeasures that SFMTA can readily implement at intersections, and screening criteria for future corridor safety projects that require additional resources and process to identify preferred improvements. Based on the existing conditions database, field reviews, manual aerial reviews, and input from the SFMTA, Fehr & Peers identified locations that did not have existing characteristics identified in the quick-build improvements and potential corridor projects. Intersections and corridors without the identified characteristics were then recommended to include safety treatments at the intersection or corridor-level for the studied HIN segments.

Quick-build core toolkit improvements include projects that can primarily be installed via SFMTA Shops with potentially few design, outreach, or legislative constraints. The core toolkit includes improvements include:

- High-visibility crosswalks,
- Daylighting,
- Advance limit lines,
- Leading pedestrian interval (LPI), or
- Upgrading pedestrian signals to slower walking speeds

Other improvements include signal upgrades such as:

- 8" to 12" signal head upgrades,
- Accessible Pedestrian Signals (APS), or
- Pedestrian Countdown Signals (PCS)

The quick-build core toolkit and other improvements are recommended in the analysis at the segment level to support rapid implementation.

Future corridor considerations are also made at the segment level. Corridor recommendations include projects such as:

• Enhanced pedestrian safety treatments,

- Road diets,
- Curb management strategies,
- Sidewalk extensions,
- Lowering speed limits,
- Implementing Slow Streets or Neighborways,
- Implementing transit-only lane or transit stop upgrades, or
- Protected bike lane upgrades and bicycle toolkit implementation.

Corridor recommendations include projects that require additional resources, such as a planning process, design, outreach, and legislative constraints. In the future, the SFMTA can engage in a planning and design process to develop potential alternatives, analyze trade-offs, and select a preferred alternative to advance for implementation.

4. Existing Conditions Inventory Development

The following section describes the methodology approach to record the existing conditions inventory of the portion of HIN segments reviewed in this Study.

4.1 HIN GIS Network Preparation

The HIN GIS data was provided to Fehr & Peers as lines at the block level. For the purpose of this Study, HIN blocks were aggregated into contiguous HIN segments. Segments over a half mile long underwent additional analysis in which center medians, number of lanes, travel direction, and whether the segment was separated by a freeway were reviewed. If those four variables were the same throughout the entire segment, they were kept as one HIN segment. If any of these four variables differed throughout the segment, they were then divided into individual segments. For segments less than a half mile long, even if the median, lane, direction, and freeway separation characteristics changed, the segment was maintained as a single unit, assuming that corridor projects would not be implemented at least at a half a mile scale.

4.2 Assembling Data Inputs

All existing conditions inventory information and the core toolkit, quick-build improvments and corridor recommendations are summarized in a single database (the database) and was transmitted electronically along with this study in both GIS and Excel formats. The database includes the existing conditions data, quick-build improvements, corridor recommendations, and high-level cost estimates. In addition, the Excel version includes summary statistics and metadata information. A complete summary table of metadata documenting the initial data source (SFMTA or Fehr & Peers collected), the year created or last modified, and GIS variable names was provided. The following table is a sample of the complete metadata provided.

Column Name ¹	Description ²	Data Source ³	Feature Class (If Applicable) ⁴	Last Modified ⁵
Number of Lanes	Maximum number of lanes in the segment	Post-processed	MTA.CTA_trafficlanes	09/2016
12" Signal Head	Presence of signal heads at signalized intersections (Y/N/Partial/NA)	Updated through fieldwork ⁶	_8_12_heads shapefile transmitted via email on 12/12/2022	12/2022
Leading Pedestrian Intervals (LPI)	Presence of LPI (Y/N/Partial)	Updated through fieldwork	<i>lpi_locations</i> shapefile transmitted via email on 12/08/2022	12/2022
Walk Speed 3.0	Presence of walk speed 3.0 at signalized intersections (Y/N/Partial/NA)	Post-processed	<i>ws3.0_2022-11-28</i> transmitted via email on 12/08/2022	12/2022
Accessible Pedestrian Signals (APS)	Presence of APS at signalized intersections (Y/N/Partial/NA)	Updated through fieldwork ⁶	NA	03/2023
Pedestrian Countdown Signals (PCS)	Presence of PCS at signalized intersections (Y/N/Partial/NA)	Updated through fieldwork ⁶	NA	03/2023
Continental Crosswalks	Continental crosswalks present at intersections (Y/N/Partial)	Street View/aerial ⁶	NA	03/2023
Advance Limit Lines	Presence of advanced limit lines at signalized intersections (Y/N/Partial)	Street View/aerial ⁶	NA	03/2023
Daylighting	Daylighting at intersections (Y/N/Partial)	Updated through fieldwork ⁶	NA	03/2023
Transit-only Lane	Presence of TOL (Y/N/Partial)	Post-processed	MTA.transitonlylanes	03/2021

Table 1: Sample of the Metadata Summary Table

Source: SFMTA, Fehr & Peers (2023).

Notes:

1. The column name refers to Column C of the database's metadata tab which is the element analyzed throughout the row.

- 2. The description column refers to the description of the row being analyzed in Column D of the database's metadata tab.
- 3. The data source column refers to the Column F of the metadata tab. For the data source column, sources mentioned include "NA," "Street View/aerial," "Post-processed," and "Updated through fieldwork." "NA" means that there is no specific source file for this data and/or it was created for the purpose of the element's analysis. "Street View/aerial" means that data was reviewed manually through aerial Google Street View. "Post-processed" means data provided by SFMTA was post-processed by Fehr & Peers. Lastly, "Updated through fieldwork" means the data was collected and/or verified through in-person field observations.
- 4. Anything listed under Feature Class column (Column E in the metadata tab) means the original source was directly from SFMTA and Fehr & Peers used an automation process to summarize it at the segment level or intersection level.
- 5. The last modified column refers to Column H of the metadata tab. This column either has a year provided or "NA". NA means no date was identified for the SFMTA-provided data.
- 6. Only PCS and continental crosswalks were updated at the intersection level

Fehr & Peers compiled the SFMTA datasets, and using both manual and automated processes, completed the remaining data collection. Data was collected at either the segment or intersection level. All quick-build elements were collected at the segment level, but continental crosswalks and pedestrian countdown signals (PCS) were collected at the intersection level via fieldwork. The rest of the elements were updated at the segment level through a post-processing effort of SFMTA's existing GIS files or through fieldwork and/or Google Street View. This review provided a high-level screening of needs across the 50 miles of unaddressed HIN. The full database is available in Excel and GIS formats. Data collection methods for improvements are described in **Table 2**.

Table 2: Collection Method for Improvements

Element	Collection Method
Quick-Build Core Toolkit	
Continental crosswalks (high-visibility crosswalks)	Street View/aerial at the intersection level
Advanced limit lines	At signalized intersections through a Street View/aerial at the segment level
Daylighting	Updated through fieldwork at the segment level
Walk speed	Post-processed MTA data at the segment level
Leading Pedestrian Interval (LPI)	Updated through fieldwork at the segment level
Other Improvements	
Accessible Pedestrian Signals (APS)	Updated through fieldwork at the segment level
Pedestrian Countdown Signals (PCS)	Updated through fieldwork at the intersection level
12" signal heads	At signalized intersections updated through fieldwork at the segment level

Source: Fehr & Peers (2023).

To determine corridor improvements, data was collected at the segment level through fieldwork or additional analysis. Elements analyzed include:

- Segment length by miles
- Segment location in an Equity Priority Community (EPC)
- Maximum number of lanes
- Street width and block length
- Center median or hardened center median
- Maximum speed limit
- Number of intersections per segment
- Number of signalized, stop-controlled, all-way stop-controlled, side street stopcontrolled, or uncontrolled intersections per segment
- 12" signal head
- Advanced limit line
- Stop bar
- Continent crosswalks
- Daylighting
- LPI, APS, and PCS
- Walk speed 3.0 (three feet per second)
- Overhead catenary systems (OCS)
- Number and proximity of schools, libraries, and parks
- Color curbs and/or parking regulations

- Adjacent land use type (commercial or residential)
- Bicycle facilities (paths, routes, lanes, separated bikeways, none, etc.)
- High frequency and standard transit routes
- Bus bulbs, zones, stops, curbs, bars, or islands
- Bus stop locations (e.g., far-side, near-side, mid-block, etc.)
- Transit-only lanes or queue jumps
- Killed or Severely Injured (KSI) collisions by mode
- Yield teeth at midblock or unmarked crosswalks
- Bulb outs
- Turn restrictions
- Protected left turns
- Pedestrian scrambles
- ADA curb ramps
- Slow Streets or car-free streets
- Left- or right-turn guide bumps
- No turn on red restrictions
- Active flex zones
- High-pedestrian activity

5. Recommendations

All recommendations are summarized in the database and in the **Attachment A** corridor summary cut sheets. The corridor cut sheets present the corridor location and summarize roadway characteristics, existing conditions by mode, adjacent land uses, 2017-2022 fatal and severe injury collision crash history, quick-build recommendations, and future corridor considerations. Each icon is color-coded. The lightest color indicating the countermeasure is not present or not recommended. Medium saturation indicating it is present or recommended on part of the corridor. The darkest saturation indicating it is present on the whole corridor or recommended for the whole corridor. Existing conditions are shown in blue, and recommendations are shown in orange. An example cut sheet is provided in **Figure 2**.



Figure 2: Example Corridor Cut Sheet

5.1 Quick-Build Recommendations

Quick-build recommendations are provided at the segment level for the HIN segments reviewed. The quick-build recommendations are summarized in **Table 3** and presented by corridor in **Attachment A**. Most locations along the HIN network already have quick-build improvements implemented, with advanced limit lines and walk speed of 3.0 feet per second the most common. However, of the 192 segments analyzed, approximately half of the segments require evaluation for daylighting and approximately two thirds of segments require evaluation for continental crosswalks.

Improvement by HIN Segments (n=192)	Recommended Segments - Partial ¹	Percent Remaining	Recommended Segments - None ²	Percent Remaining
Quick-Build Core Toolkit				
Install Daylighting	92	48%	9	5%
Install Continental Crosswalk	115	60%	10	5%
Change Walk Speed to 3.0 feet/second ³	27	18%	15	10%
Install Leading Pedestrian Interval (LPI)	74	50%	45	30%
Install Advanced Limit Line	57	38%	38	26%
Other Improvements				
Upgrade to 12" Signal Heads	93	62%	14	9%
Upgrade to Accessible Pedestrian Signals (APS)	48	32%	68	46%
Upgrade to Pedestrian Countdown Signal (PCS)	8	5%	8	5%

Table 3: Summary of Recommended Improvements

Source: Fehr & Peers (2023); SFMTA (2023).

Notes:

4. Locations where a least one treatment is present on the segment.

5. Locations where no treatments are present on the segment.

6. Data was not updated with fieldwork.

5.1.1 Cost Estimates

SFMTA developed cost estimate ranges for implementation of each quick-build element by intersection and/or approach. **Table 4** shows the cost assumptions used to develop the cost estimates and presents the total network cost for the unaddressed 50 miles of HIN by improvement type. The total cost to implement the core toolkit quick-build improvements is estimated to be \$4,038,000-\$5,760,000. The total cost of all improvements is \$14,222,000-\$330,929,000. Detailed cost estimates can be found in the database.

Fehr / Peers

Table 4: Cost Estimates of Improvements

Cost Range (Labor and Materials)	Note	Unit Cost (Low)	Unit Cost (High)	Total Cost (Low)	Total Cost (High)
Quick-Build Core Toolkit Improvements					
Daylighting (intersection)	Estimates range from STOP sign daylighting (low) to signalized daylighting and removing parking meters (high)	\$1,072.40	\$2,604.80	\$365,688	\$888,237
Advance Limit Line or Stop Bar	Estimates assume different street widths and need for signal timing changes	\$1,694.08	\$2,836.80	\$924,968	\$1,548,893
Continental Crosswalk	Estimates assume different street widths/intersection complexity	\$4,000.00	\$6,000.00	\$1,152,000	\$1,728,000
Walk Speed of 3.0 ft/sec ¹		\$5,000.00	\$5,000.00	\$260,000	\$260,000
LPI ¹		\$5,000.00	\$5,000.00	\$1,250,000	\$1,250,000
Walk Speed of 3.0 ft/sec + LPI Simultaneous Upgrade ¹	No additional cost when adding WS3.0 and LPI concurrently	\$5,000.00	\$5,000.00	\$85,000	\$85,000
Subtotal Cost of Quick-Build Core Toolkit Improvements					\$5,760,130
Other Improvements					
Automated Pedestrian Signa (APS) I^2	Low est. per signal; High est. per intersection if signal hardware is deficient	\$25,000.00	\$1,000,000.00	\$7,100,000	\$284,000,000
Pedestrian Countdown Signal $(PCS)^2$	Low est. per signal; High est. per intersection if signal hardware is deficient	\$25,000.00	\$1,000,000.00	\$725,000	\$29,000,000
APS + PCS Simultaneous Upgrade ²	Low est. per signal; High est. per intersection if signal hardware is deficient; No additional cost when adding APS/PCS concurrently	\$25,000.00	\$1,000,000.00	\$150,000	\$6,000,000
8" to 12" Signal Lens Upgrade	Estimates assume different number of signal heads that need upgrade	\$10,040.35	\$28,040.35	\$2,208,877	\$6,168,877
Subtotal Cost of Other Im	provements			\$10,183,877	\$325,168,877
Total Cost of Improvements				\$14,221,533	\$330,929,007

Source: SFMTA (2023).

Notes:

- 1. Intersections where both walk speed 3.0 ft/sec and LPI can be upgraded simultaneously are only included in the bundled cost estimate.
- 2. Intersections where both APS and PCS can be upgraded simultaneously are only included in the bundled cost estimate.

5.2 Potential Corridor Recommendations

Corridor improvements are recommended at the segment level. Potentially, these recommendations can be bundled or combined with other mutually exclusive projects. Each corridor may be more or less complex depending on the number of potential improvements for consideration. Corridor improvement recommendations are described in **Table 5** while project complexity corresponding with the potential low-medium-high cost estimates are described in **Table 6**.

Corridor Improvement Recommendation	Description	Decision Factors
Enhanced pedestrian safety treatments	Enhanced pedestrian safety treatment toolkit includes features such as yield teeth, painted safety zones, bulb outs, turn restrictions, protected left turns, stop signs, pedestrian scrambles, signal retiming, social distancing lanes, or car-free streets.	Segments with high pedestrian activity: within 1,000 ft of schools, parks of libraries
Road diet	Reducing roadway width or the number of roadway lanes.	 Segments with: 3 or more lanes & no median & no transit, OR •non-hardened median & no transit.
Curb management	Includes color curb changes, loading zones, metered parking and parking prohibition	Segments with: •commercial corridors, OR •protected bike lanes.
Improved walking width	Closing off a parking lane for pedestrian usage.	 Segments with: high pedestrian activity (within 1,000 ft of schools, parks of libraries) & inadequate sidewalk width¹
Lower speed limit	Lowering speed limits	Segments on commercial corridors where AB43 criteria is met & speed > 20 mph
Slow street/ Neighborway	Restricting thru-traffic of private vehicles (Slow Street) Low stress bikeway (Neighborway)	Segments with: •no transit, AND •two-lane streets on residential corridors, OR •existing bike routes and on residential corridors.
Transit-Only lane or stop upgrades	Transit toolkit improvements include features such as transit-only lanes, transit queue jumps, stop relocations, stop consolidations, or loading islands.	Segments with frequent transit service.
Bike safety improvements	Bike safety toolkit includes features such as a bike box, two-stage turn box, jughandle, protected intersections, no turn on red restrictions, bike signals, protected bikeways, bike lanes, Neighborways, or active flex zones.	 Segments with: existing bike lanes/ bike routes on a four- lane roadway, OR two travel lanes & parking lanes & street width > 40', OR bike KSI collisions >0

Source: Fehr & Peers (2023); SFMTA (2023). Notes:

1. Inadequate sidewalk width is based on the Better Streets Plan (SFMTA, 2010)

Table 6: Corridor Recommendations

Corridor Recommendations	Full Corridor	Percent of All Corridors	Partial Corridor	Percent of All Corridors
Transit Only Lane Quick-Build or Transit Stop Upgrade Toolkit ¹	49	26%	15	8%
Bicycle Safety Quick-Build & Bicycle Toolkit ¹	99	52%	13	7%
Slow Street/Neighborway ¹	9	5%	11	6%
Road Diet ¹	56	29%	3	2%
Improved Walking Width	35	18%	37	19%
Pedestrian Toolkit	111	58%	10	5%
Lower Speed Limit	7	4%	9	5%
Curb Management	60	31%	10	5%

Source: Fehr & Peers (2023); SFMTA (2023).

Notes:

1. These corridor recommendations are considered when estimating the corridor complexity index.

5.2.1 Cost Estimates

These very high-level cost ranges have a low-medium-high scale with additional contingency varying on project complexity, as shown in **Table 7**. Corridor costs are based on a complexity index of 1-4. The complexity index is assigned based on the following potential corridor improvements that are recommended for the corridor:

- Transit Only Lane Quick-Build or Transit Stop Upgrade
- Bicycle Safety Quick-Build & Bicycle Toolkit
- Slow Streets/Neighborway
- Road Diet

Corridors with only one of the above recommended improvements receive a score of 1, while corridors where all the above improvements are recommended received a score of four. The higher the complexity of the corridor, the higher the total cost per mile of implementing corridor improvements. Corridors with "low" cost estimates score 1 in the complexity index and can include improvements such as road diets, neighborways, or protected bike lanes. Corridors with "medium" cost estimates score 2 in the complexity index and can include improvements such as road diets and protected bike lanes, or separated bike lanes and Slow Streets. Corridors with "high" cost estimates could score 3 or more in the complexity index and include three or more corridor recommendations to be considered simultaneously.

Cost estimates by mile are presented in the database. The cost for the corridor projects is estimated to be \$46,613,000.

Table 7: Corridor Cost Estimates

Relative Cost	Complexity Index	Planning Cost Per Mile	Construction Cost Per Mile	EPC Planning Mark-Up (+15%)	Contingency	Total Cost Per Mile (EPC)	Total Cost Per Mile (non-EPC)
Low Range (<\$500K)	1	\$110,000	\$290,000	\$16,500	10%	\$416,500	\$400,000
Medium Range (\$500K - \$1M)	2	\$330,000	\$330,000	\$49,500	15%	\$709,500	\$709,500
High Range (>\$1M)	3+	\$385,500	\$1,264,500	\$57,825	20%	\$1,707,825	\$1,707,825

Source: SFMTA (2023).



Figure 3: Citywide High-Injury Corridor Complexity Scoring

FEHR / PEERS

Attachment A: Cut Sheets

10TH ST Stevenson St to Brannan St





11TH ST Minna St to Burns Pl





14TH ST Landers St to Natoma St





15TH ST Utah St to Rhode Island St





16TH ST De Haro St to Missouri St





17TH ST Hartford St to Albion St





18TH ST Dolores St to San Carlos St





19TH AVE Ulloa St to Wawona St





19TH AVE Ortega St to Pacheco St





19TH AVE Irving St to Judah St





19TH ST Mission St to Treat Ave




1ST ST Stevenson St to Lansing St





20TH ST San Carlos St to Treat Ave





22ND ST Shotwell St to Treat Ave





22ND ST Minnesota St to 22nd St Split





23RD ST Nellie St to Guerrero St





24TH ST Noe St to Poplar St





24TH ST Orange Aly to Alabama St





25TH ST Connecticut St to 3rd St





3RD ST Lane St to Bayshore Blvd/Meade Ave





3RD ST Underwood Ave to Fairfax Ave





3RD ST Davidson Ave to 26th St





3RD ST Mariposa St to Channel St





4TH ST Mission Bay Blvd N to King St





4TH ST Shipley St to Clara St





8TH ST Bryant St to Harrison St





9TH ST Market St to Division St/San Bruno Ave





ALEMANY BLVD Mt Vernon St to Sickles Ave





ALEMANY BLVD Seneca Ave to Oneida Ave





ANZA ST Masonic Ave to Spruce St





ARMSTRONG AVE Lane St to Jennings St





BALBOA ST 2nd Ave to 10th Ave





BAY ST Octavia St to Leavenworth St





BAY ST Jones St to Kearny St





BAY SHORE BLVD Thornton Ave to Salinas Ave





BEACH ST Polk St to Grant Ave





BROADWAY Larkin St to Mason St





BROADWAY Romolo Pl to Osgood Pl





BRYANT ST Morris St to Oak Grove St





BRYANT ST Ritch St to Zoe St





BUSH ST Scott St to Franklin St





BUSH ST Taylor St to Mason St





CALIFORNIA ST 19th Ave to 27th Ave





CALIFORNIA ST Scott St to Walnut St





CALIFORNIA ST Octavia St to Larkin St





CALIFORNIA ST Stockton St to Leidesdorff St





CARROLL AVE Ingalls St to Arelious Walker Dr




CASTRO ST Henry St to States St





CESAR CHAVEZ ST Connecticut St to Michigan St





CHURCH ST Dorland St to Hancock St





CLARENDON AVE Laguna Honda Blvd to Ashwood Ln





COLUMBUS AVE Pacific Ave to Washington St





CORTLAND AVE Prospect Ave to Gates St





DIVISADERO ST Waller St to 14th St



SFMTA Vision Zero **Quick-Build Pre-Planning**



Treatments apply to signals. No signals along this corridor.

DIVISADERO ST Ofarrell St to Hayes St





DIVISADERO ST Pine St to Garden St





DIVISION ST Henry Adams St to De Haro St





DOLORES ST 17th St to Liberty St





DUBOCE AVE Guerrero St to Elgin Pk





EDDY ST Webster St to Franklin St





EVANS AVE Newhall St to Mendell St





FILLMORE ST Ofarrell St to Hayes St





FOLSOM ST 24th St to Precita Ave





FOLSOM ST 18th St to 22nd St





FOLSOM ST Erie St to 15th St





FOLSOM ST Rodgers St to Langton St





FRANKLIN ST Myrtle St to Fulton St





FRANKLIN ST Pacific Ave to Post St





FULTON ST 34th Ave to 44th Ave





FULTON ST 12th Ave to 16th Ave





FULTON ST 2nd Ave to 3rd Ave





FULTON ST Willard St to Stanyan St





FULTON ST Laguna St to Broderick St





GEARY BLVD (FRONTAGE ROAD) Boswell St to Fillmore St





GEARY ST Stockton St to Kearny St





GENEVA AVE Brookdale Ave to Prague St (almost)





GENEVA AVE Howth St to Gloria Ct





GILMAN AVE Hawes St to 3rd St





GOUGH ST Lily St to Haight St





GOUGH ST Ellis St to Hickory St





GREENWICH ST Broderick St to Fillmore St





GROVE ST Octavia St to Franklin St





GUERRERO ST 24th St to Duncan St




GUERRERO ST Camp St to 20th St





GUERRERO ST Duboce Ave to 15th St





HARRISON ST 7th St to 8th St





HARRISON ST Sherman St to Harriet St





HARRISON ST Hawthorne St to Vassar Pl





HARRISON ST Beale St to Spear St





HOLLOWAY AVE Font Blvd to Varela Ave





HOWARD ST US-101 to Washburn St





INGALLS ST Yosemite Ave to Revere Ave





JUDAH ST 24th Ave to 18th Ave





JUNIPERO SERRA BLVD Font Blvd to Alemany Blvd





KEARNY ST Vermehr Pl to Geary St





KEARNY ST California St to Hardie Pl





KEZAR DR Martin Luther King Jr Dr to John F Kennedy Dr





KING ST 4th St to 5th St





LAGUNA ST Bush St to Birch St





LANE ST Shafter Ave to McKinnon Ave





LARKIN ST Olive St to Market St





LARKIN ST Hemlock St to Cedar St





LARKIN ST California St to Fern St





LAWTON ST Auto Dr to Funston Ave





LINCOLN WAY 23rd Ave to 32nd Ave





LOMBARD ST Baker St to Broderick St





MANSELL ST Hamilton St to San Bruno Ave





MARKET ST Collingwood St to Danvers St





MASON ST Pine St to Derby St





MASON ST North Point St to Lombard St





MASONIC AVE Fell St to Frederick St





MCALLISTER ST Gough St to Franklin St





MCALLISTER ST Larkin St to Beren Pl





MCALLISTER ST 7th St to Jones St





MIDDLE POINT RD Acacia Ave to Innes Ave





MISSION ST Sickles Ave to Rolph St





MISSION ST Murray St to Highland Ave





MISSION ST Ecker St to 1st St





MONTEREY BLVD Edna St to Baden St




MONTGOMERY ST Bush St to California St





NORTH POINT ST Jones St to Powell St





OAK ST Pierce St to Steiner St





OAKDALE AVE Patterson St to Selby St





OCEAN AVE Howth St to Delano Ave





OCEAN AVE San Benito Way to Lee Ave





OFARRELL ST Elwood St to Security Pacific Pl





PAGE ST Fillmore St to Laguna St



SFMTA Vision Zero **Quick-Build Pre-Planning**



Treatments apply to signals. No signals along this corridor.

PALOU AVE Keith St to Jennings St





PALOU AVE Selby St to Phelps St





PARK PRESIDIO BLVD Anza St to Balboa St





PAUL AVE San Bruno Ave to 3rd St





PERSIA AVE Vienna St to Sunnydale Ave





PHELPS ST Palou Ave to Hudson Ave





PINE ST Broderick St to Steiner St





POST ST Gough St to Hyde St





POTRERO AVE 19th St to 20th St





RANDOLPH ST Vernon St to Orizaba Ave





RICHARDSON AVE Gorgas Ave to Lombard St





SAN BRUNO AVE Paul Ave to Ordway St





SAN JOSE AVE Goethe St to Broad St





SAN JOSE AVE Shawnee Ave to Theresa St





SAN JOSE AVE 27th St to Brook St





SILVER AVE Lisbon St to Madrid St





SILVER AVE Holyoke St to Ledyard St





SLOAT BLVD On-ramp to Sunset Blvd to Lakeshore Plaza driveway





SOUTH VAN NESS AVE 12th St to 13th St/Freeway ramp





STANYAN ST Oak St to Page St





STANYAN ST Fulton St to Hayes St





STOCKTON ST The Embarcadero to Chestnut St





SUNNYDALE AVE Santos St to Schwerin St





TARAVAL ST 25th Ave to 14th Ave





THE EMBARCADERO Chestnut St to Green St





TURK ST Scott St to Franklin St





VERMONT ST Alameda St to 15th St





VISITACION AVE Hahn St to Schwerin St




WEBSTER ST Bush St to Hayes St





WEBSTER ST Pine St to Bush St





GENEVA AVE Brookdale Ave to Carrizal St





3RD ST Hester Ave/Bayshore Blvd to Sunnydale Ave





ELLIS ST Cyril Magnin St to Market St





ELLIS ST Larkin St to Leavenworth St





FREMONT ST Folsom St to Harrison St





LOMBARD ST Franklin St to Polk St





SACRAMENTO ST Franklin St to Larkin St



