

## MEMORANDUM

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Date: February 17, 2020

Project #: 195950.027

To: Jennifer Molina, SFMTA

From: Amy Lopez, Claire Casey

Project: Tenderloin High Injury Network Gap Analysis

Subject: Summary of Process, Findings, and Recommendations – FINAL

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### STUDY PURPOSE AND BACKGROUND

The Livable Streets Division of the MTA coordinates with various stakeholder groups throughout the city during pre-planning, planning, design, and construction stages of transportation projects to deliver improvements that closely address the needs of the community. Livable Streets staff have been coordinating with the Tenderloin Traffic Safety Task Force (task force) for over a year. The task force has provided substantial insight around transportation safety challenges in the Tenderloin, particularly for people who walk and bike in the area. Their insight has augmented MTA's knowledge of issues identified through development of the 2017 Vision Zero High Injury Network.

Golden Gate Ave, Larkin St, Hyde St, and Leavenworth St in the Tenderloin neighborhood are part of the 2017 Vision Zero High Injury Network. They are within a Census tract with a high density of seniors and people with disabilities. In the last 5 years<sup>1</sup>, collisions involving seniors and/or people with disabilities have been reported on Golden Gate Ave, Hyde St, and Leavenworth St, per the Vision Zero collision data set.

Kittelsson & Associates, Inc. (Kittelsson) worked with Livable Streets staff to develop a data collection plan, analysis methodology, and approach for identifying low-, medium-, and high-effort improvements to reduce the risk of collisions, particularly collisions involving vulnerable roadway users—the Tenderloin High Injury Network Gap Analysis (study). This memo documents the work Kittelsson and Livable Streets staff performed, and it provides planning-level recommended improvements for each of the corridors.

Given the safety concerns and the competing multimodal transportation needs in the Tenderloin, key questions explored through the study are:

- 1) How are people using the street today?
- 2) How can conflicts between modes be best managed to reduce risk for all users?
- 3) How can the MTA work within the context of the existing cross-section to improve conditions for all roadway users?

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<sup>1</sup> Refers to collisions reported July 2014 – June 2019

The study involved an evaluation of transportation infrastructure, MTA collision data, multimodal activity, and parking and loading activity along the corridors.

Multimodal characteristics of the corridors include:

- All corridors have substantial amount of pedestrian activity.
- Golden Gate Ave has a buffered bike lane within the area.
- Muni bus lines 7x, 19, and 27 serve the neighborhood.

The street segments included in this study, and illustrated in **Figure 1**, are:

- Golden Gate Ave between Van Ness Ave and Taylor St  
(6 blocks or 0.5 mile)
- Larkin St, Hyde St, and Leavenworth St between McAllister St and O'Farrell St  
(5 blocks or 0.33 mile, each)

**Figure 1: Study Corridors**



Source: Google Maps, 2020

This memo is organized into the following sections:

- Study Process (Page 3)
- Current Conditions along the Corridors (Page 7)
- Recommendations (Page 27)
- Process Takeaways and Next Steps (Page 28)

## STUDY PROCESS

Kittelson and Livable Streets staff took the following steps for this study:

1. Gather MTA data and collect additional data
2. Analyze reported collisions
3. Evaluate existing infrastructure
4. Evaluate current parking and loading activity
5. Develop matrix of recommended low-, medium-, and high-effort improvements
6. Present high-level findings for task force for comments (Livable Streets task)
7. Present study process and recommended improvements to MTA staff members (Kittelson and Livable Streets task)

## Data provided and collected

Livable Streets provided certain data for the study. Kittelson collected additional data to inform the evaluation of current conditions along the study corridors.

### *MTA data*

The following summarizes data provided by MTA from the TransBase tool:

- All reported collisions for July 1, 2014 – June 30, 2019
- Data files listing all pedestrian safety zones in the Tenderloin
- Current signal timing and imminent changes to pedestrian clearance speeds, leading pedestrian intervals (LPIs), pedestrian scrambles, and vehicle protected turns
- Existing striping and metered drawings for the corridors

Livable Streets provided collision data from TransBase. Data were queried using the polygon tool in TransBase to capture collisions along segments of the study corridors, at intersections within the corridors, and cross streets within 100 feet of a study street (i.e., intersection collisions attributed to a cross street).

The data set does not include collisions that occurred and were not reported, which leads to an underestimation of collisions. Notes recorded in the field by officers responding to the scene can overlook details that are meaningful from a traffic engineering perspective. Where a pedestrian was located at the time of the collision may not be documented. The signal phase at the time of the collision may go overlooked. Or fault may be assigned to a party based on a legal finding, since someone must be found at fault; however, it may not reveal inappropriate or risk-taking behavior on the part of all parties. Police reports were not reviewed as part of this study. MTA staff should review police reports to better understand collision details.

### *Field review of existing infrastructure*

Kittelson conducted fieldwork on August 12, 2019 to document existing infrastructure. The Kittelson team walked the four corridors and took notes on the quality and presence of or lack of infrastructure elements associated with multimodal safety. This included documenting lighting at crosswalks, overhead wires, whether curb ramps are ADA-compliant, roadway striping and other markings, visibility of signals and signs, and signal timing.

### Multimodal activity and parking data collected

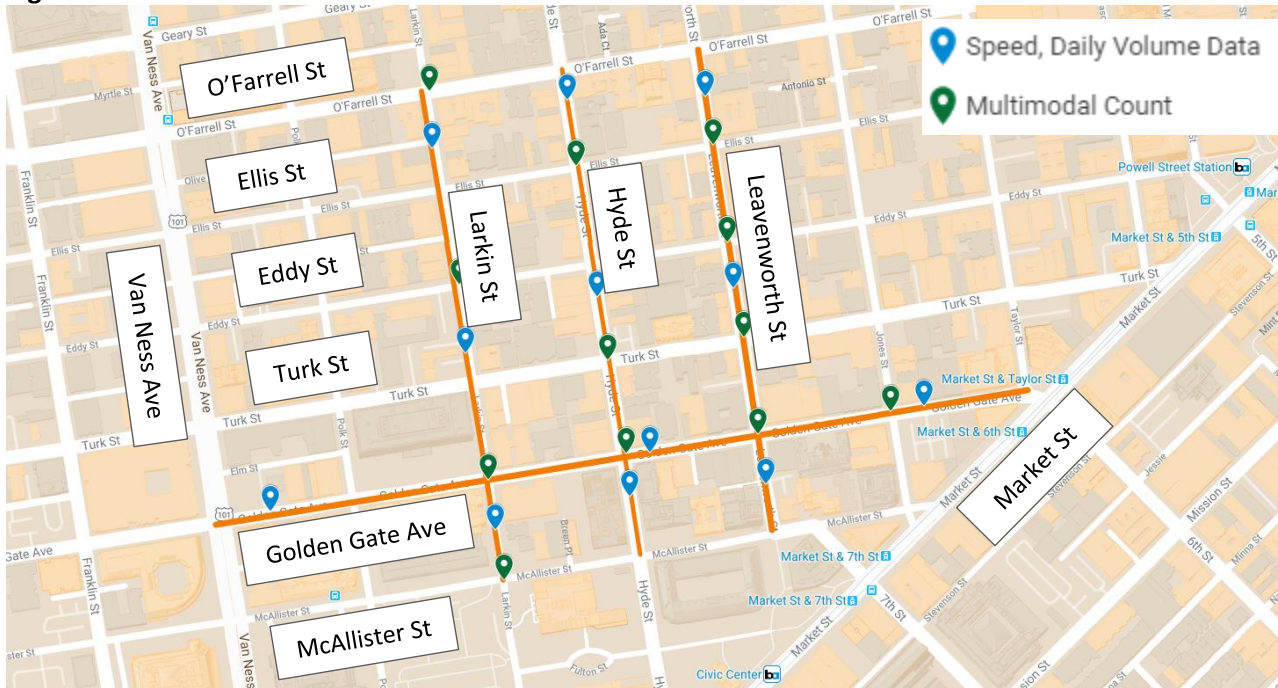
Kittelson collected multimodal volume data and 72-hour speed data locations presented in **Figure 2**. They collected parking occupancy, parking violations, and loading activity data along both sides of the street for each study corridor.

The following summarizes the data collected:

- Multimodal intersection volume  
7:00 – 9:00 a.m. and 4:00 – 6:00 p.m.  
12 intersections  
Thursday, 8/22/2019
- Directional pneumatic tubes  
Daily volume, speed, and vehicle class  
Three locations along each corridor  
Tues., 8/20/2019 – Thurs., 8/22/2019 or Tues., 8/27/2019 – Thurs., 8/29/2019
- Parking occupancy, parking violations, and loading activity (parked at a meter, parked in a red zone, and double-parked)  
Technicians drove with GoPro cameras on their dash.  
Drivers passed through the corridors in 15-minute intervals.  
6 hours observations (7:00 – 9:00 a.m., 12:00 – 2:00 p.m., and 4:00 – 6:00 p.m.)  
Tuesday, 8/20/2019 – Thursday, 8/22/2019  
Vehicle classifications: passenger or commercial

Kittelson compiled the raw data collected through this study and provided them to Livable Streets for future use.

**Figure 2: Multimodal Data Collection Locations**



Source: Google Maps, 2020

## Reported collisions evaluation

Kittelsohn conducted a collision analysis using five years of data on reported collisions along the study corridors (July 2014 – June 2019). Livable Streets provided these data from MTA’s TransBase tool.

The analysis identified trends at the intersection and corridor level and considered:

- Primary collision factor
- Location of collision (intersection or mid-block)
- Lighting conditions
- Type
- Severity
- Party types involved
- Vehicle movements

## Existing infrastructure evaluation

Kittelsohn developed a matrix of existing infrastructure information gathered through field observations. They incorporated signal timing and pedestrian safety zone data provided by Livable Streets. This existing infrastructure matrix is included as **Attachment A**.

Kittelsohn categorized infrastructure as “missing” and “positive” characteristics.

- **Missing characteristics** are required or highly recommended infrastructure elements that are not present at the intersection today.  
Example: lack of ADA directional ramps
- **Positive characteristics** are not required but improve safety at the intersection.  
Example: provision of pedestrian safety zone and leading pedestrian interval

## Parking and loading activity evaluation

Kittelsohn analyzed curbside parking occupancy, parking violations, and loading activity along each corridor. They summarized the data for red zone and double-parking violations block-by-block as well as by corridor, and they further summarize those driver actions by passenger and commercial vehicles. This helped identify corridor trends in loading and parking issues, as well as identifying block-specific issues.

A large aerial figure presents the parking and loading trends on for both sides of the street of each block of the study corridors (**Attachment B**). The aerial also provides details about reported collisions involving pedestrians and bicyclists, 85<sup>th</sup> percentile speeds, average daily traffic volumes, and pedestrian crossing volumes. This aerial is considered alongside the existing infrastructure matrix (**Attachment A**) to tell the story of current conditions along the study corridors.

## Presentation to the task force

In October 2018, the SFMTA committed to co-leading a task force group to advance traffic safety in the Tenderloin neighborhood. Livable Street staff attend every other month to provide the group with project updates, as well as to listen to and collect feedback on traffic safety concerns. Members that regularly attend include neighborhood residents and representatives of various community-based organizations based in the Tenderloin.



Livable Streets staff presented high-level findings from the study and preliminary recommended treatments to the task force on November 21, 2019. Members of the task force were receptive of the recommended treatments and urged Livable Streets staff to expedite project development for all four corridors. On January 23, 2020, staff provided an update to the task force on steps that are underway for 2020, including funding more capital improvement work neighborhood-wide (e.g. signal upgrades) and launching two quick build projects, Leavenworth St and Golden Gate Ave.

## Presentations to Livable Streets staff

Kittelson met with two sets of MTA staff to present the existing infrastructure matrix, analysis summary aerial, and a matrix of recommended low-, medium-, and high-effort improvements. These meetings occurred on October 29, 2019 and December 6, 2019.

Staff discussed viable opportunities to begin incorporating the recommended improvements into in-progress projects on certain study corridors. Staff also identified opportunities to partner with other Divisions and Public Works departments to bring additional improvements into planned projects, or to bolster line-items in the next update to the Capital Improvement Program (CIP) funding.

## CURRENT CONDITIONS ALONG THE CORRIDORS

This section summarizes key characteristics and observations along each study corridor. The following attachments provide additional detail about the data collected and the findings of the analysis

- **Attachment A:** Matrix of existing infrastructure with intersection-level data
- **Attachment B:** Aerial figure presenting curb restrictions; red zone and double-parking violations by passenger and commercial vehicles; reported collisions involving pedestrians and bicyclists; bike facilities; and bus/taxi-only lanes

## Leavenworth Street

### *What is out there today?*

**Table 1: Multimodal Infrastructure and Activity, Leavenworth St.**

Characteristic	Observation
<i>Vehicular</i>	
Travel Lanes and Planning-Level Capacity of Street	3 northbound lanes 30,000 vehicles per day <sup>2</sup>
ADT (Average Daily Traffic Volume)	9,175 <sup>3</sup>
85 <sup>th</sup> Percentile Speeds	McAllister St to Golden Gate Ave: 21 mph <sup>3</sup> Turk St to Eddy St: 26 mph Ellis St to O'Farrell St: 25 mph

<sup>2</sup> 10,000 vehicles per lane per day

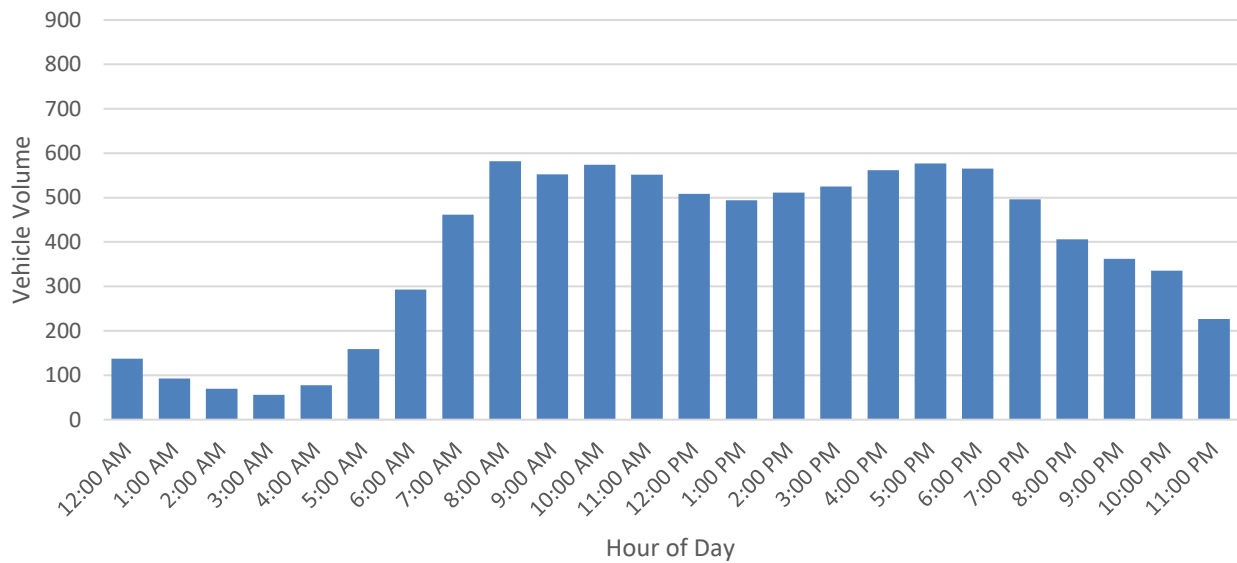
<sup>3</sup> ADT and speed data collected Tuesday, 8/20/2019 – Thursday, 8/22/2019 and Tuesday, 8/27/2019 – Thursday, 8/29/2019

Characteristic	Observation
Stop Bars	Mostly present. Lacking for one approach on McAllister St.
Protected Turn Movements	Existing or already planned at Turk St, Golden Gate Ave, McAllister St.
Mast Arms for Signal Heads	Lacking at all intersections.
Overhead Wires	Present across most cross streets: Eddy St, Turk St, Golden Gate Ave, and McAllister St.
<b>Pedestrian</b>	
Sidewalk Width	12 feet
Volume: People crossing at intersections during peak hours	Morning: 600-1,150 people Afternoon: 800-1,250 people
Lighting at Crosswalks	Luminaires are present on only one side of each crosswalk.
ADA Directional Curb Ramps	Mostly present. Partially lacking at Ellis St and at O'Farrell St.
Curb Extensions	None present.
PSZs (Pedestrian Safety Zones)	Present at Eddy St, Turk St, and Golden Gate Ave. Partial PSZ present at O'Farrell St.
Pedestrian Signal Heads	Mostly present. Lacking at O'Farrell St.
Pedestrian Clearance Speed	Mostly 3.0 ft./sec. 3.5 ft/sec. at Turk St and McAllister St.
LPI (Leading Pedestrian Interval)	Present at O'Farrell St, Ellis St, Eddy St, and Turk St. Lacking at Golden Gate Ave and McAllister St.
Pedestrian Scramble	Present at Turk St, Golden Gate Ave, and McAllister St.
<b>Bicyclist</b>	
Bike Facility	None
Volume: People per hour biking during peak hours	Morning: 5-20 people Afternoon: 15-30 people

Source: Kittelson, 2020

Figure 3 shows the average hourly vehicle volume along the corridor.

Figure 3: Average Hourly Vehicle Volume, Leavenworth St



Source: Kittelson, 2020

*Where are people parking, and what are they doing there?*

Table 2 presents key statistics from the parking and loading activity observed along the corridor. The aerial figure included as Attachment B provides block-level detail about parking and loading activity. As shown in that figure, substantially more parking and loading violations along the corridor involve passenger vehicles than commercial vehicles. During the 6-hours of observations, no parking or loading violations were observed on the block between Turk St and Eddy St.

Table 2: Parking and Loading Activity, Leavenworth St

Issue	Statistic
Number of Metered Spaces	83 spaces
Number of Commercial Loading Spaces	12 spaces
Number of Passenger Loading Spaces	9 spaces
Metered Parking Utilization	100%
Red Zone Violations	41 red zone violations 7 (17%) commercial vehicles 34 (83%) passenger vehicles
Double Parking Instances	17 double parking violations 9 (53%) commercial vehicles 8 (47%) passenger vehicles



Commercial Parking Violation Rate <sup>4</sup>	1.3 violations per commercial loading space
Passenger Parking Violation Rate <sup>4</sup>	4.5 violations per passenger loading space

Source: Kittelson, 2020

Note: Number of commercial and passenger loading spaces based on 20 ft. of loading zone per space.

### *What do we know about collisions that occurred over the last five years?*

Between July 1, 2014 and June 30, 2019, 62 collisions occurred along Leavenworth St. Of these, 6 collisions resulted in one or more severe injuries, and 1 resulted in a fatality. 37% of pedestrian collisions occurred while a person was walking in a crosswalk. 17% of pedestrians in collisions were 60+ years old. 47% of pedestrians in collisions were Black and 11% were Hispanic.

#### *Collision Data on People Walking*

- 35 collisions involved a pedestrian.
- The most frequently occurring primary collision factors (PCFs) were:
  - Driver or bicyclist to yield right-of-way at crosswalk—driver at fault  
13 (37%) of total pedestrian-involved collisions
  - Crossing between controlled intersections—pedestrian at fault  
5 (14%) of total pedestrian-involved collisions
  - Pedestrians suddenly entering vehicle path—pedestrian at fault  
4 (11%) of total pedestrian-involved collisions
- 1 collision resulted in a fatality and 4 resulted in severe injuries. PCFs for these collisions were crossing between controlled intersections, driving under influence, pedestrians yielding right-of-way, and red signal pedestrian responsibilities.

#### *Collision Data on People Biking*

- 10 collisions involved a bicyclist.
- No trends emerged regarding PCFs. All PCFs noted in the collision data were attributed to only 1 collision. The exception is the PCF category “Unknown,” which was assigned to 3 collisions.
- 2 collisions resulted in severe injuries. PCFs for these collisions were wrong way driving and unknown.

#### *Collision Data on People Driving*

- 17 collisions involved only vehicles.
- The most frequently occurring PCFs were:
  - Red signal—driver at fault  
3 (18%) of total vehicle-only collisions
  - Unsafe speed for prevailing conditions—driver at fault  
2 (12%) of total vehicle-only collisions
  - Going against one-way traffic patterns—driver at fault  
2 (12%) of total vehicle-only collisions

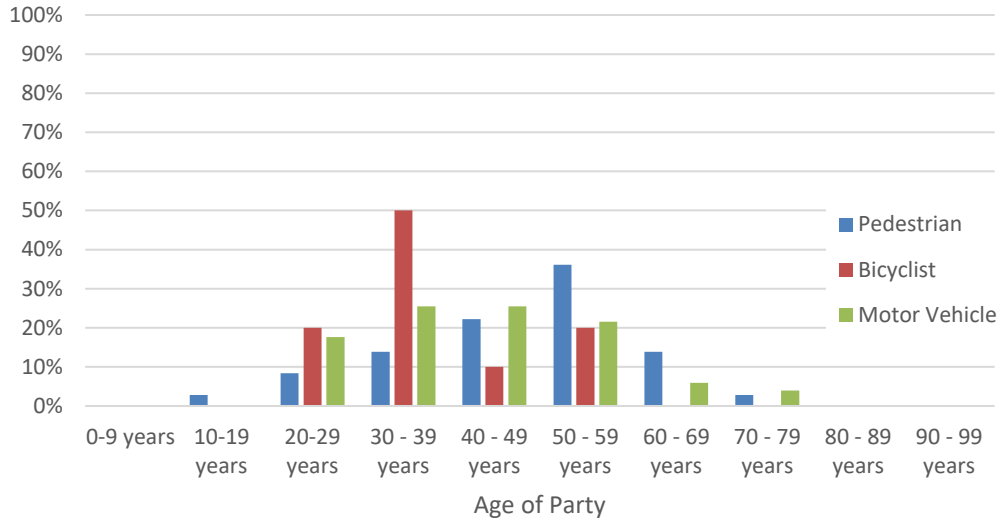
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<sup>4</sup> Values calculated by dividing total commercial or passenger violations observed across the 6 hours by the approximate number of commercial or passenger loading spaces.

Demographic Data

Figure 4 through Figure 6 show the age, race, and gender of all parties involved by mode.

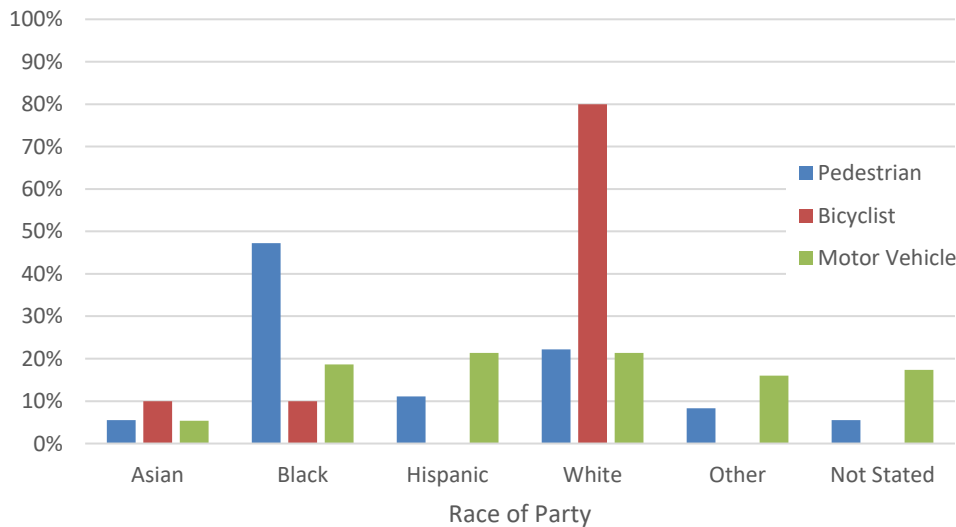
Figure 4: Age of All Parties Involved by Mode, Leavenworth St



Source: Kittelson, 2020

- 36% of pedestrians in collisions were 50-59 years old.
- 17% of pedestrians in collisions were 60+ years old.
- 70% of bicyclists in collisions were 20-39 years old.

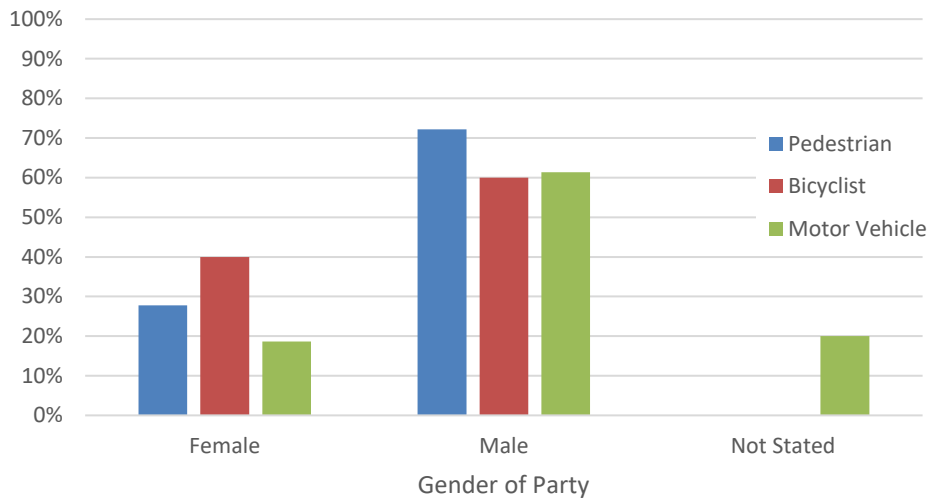
Figure 5: Race of All Parties Involved by Mode, Leavenworth St



Source: Kittelson, 2020

- 47% of pedestrians in collisions were Black, 22% were white and 11% were Hispanic.
- 80% of bicyclists in collisions were white, 10% were Asian and 10% were Black.

**Figure 6: Gender of All Parties Involved by Mode, Leavenworth St**



Source: Kittelson, 2020

- Males were party to 60% or more collisions across all modes.

## Golden Gate Avenue

### What is out there today?

**Table 3: Multimodal Infrastructure and Activity, Golden Gate Ave**

Characteristic	Observation
<i>Vehicular</i>	
Travel Lanes and Planning-Level Capacity of Street	2 eastbound through lanes 1 eastbound buffered bike lane 30,000 vehicles per day <sup>5</sup>
ADT (Average Daily Traffic Volume)	9,101 <sup>6</sup>
85 <sup>th</sup> Percentile Speeds	Van Ness Ave to Polk St: 26 mph <sup>6</sup> Hyde St to Leavenworth St: 24 mph Jones St to Taylor St: 22 mph
Stop Bars	Mostly present. Lacking for two intersections (Taylor St. and Van Ness Ave.)
Protected Turn Movements	Existing or already planned at Hyde St., Leavenworth St., Jones St., and Polk St.
Mast Arms for Signal Heads	Lacking at all intersections except at Taylor St.
Overhead Wires	Present on Golden Gate Ave. from Larkin St. to Jones St.
<i>Pedestrian</i>	
Sidewalk Width	12 feet
Volume: People crossing at intersections during peak hours	Morning: 750-1,350 people Afternoon: 900-1,250 people
Lighting at Crosswalks	Luminaires are present on only one side of each crosswalk.
ADA Directional Curb Ramps	Present at Leavenworth St. and Polk St.; partially lacking or fully lacking at all other intersections.
Curb Extensions	One present at Jones St.
PSZs (Pedestrian Safety Zones)	Present at Larkin St., Hyde St., Leavenworth St., and Jones St.
Pedestrian Signal Heads	All present.

<sup>5</sup> 10,000 vehicles per lane per day

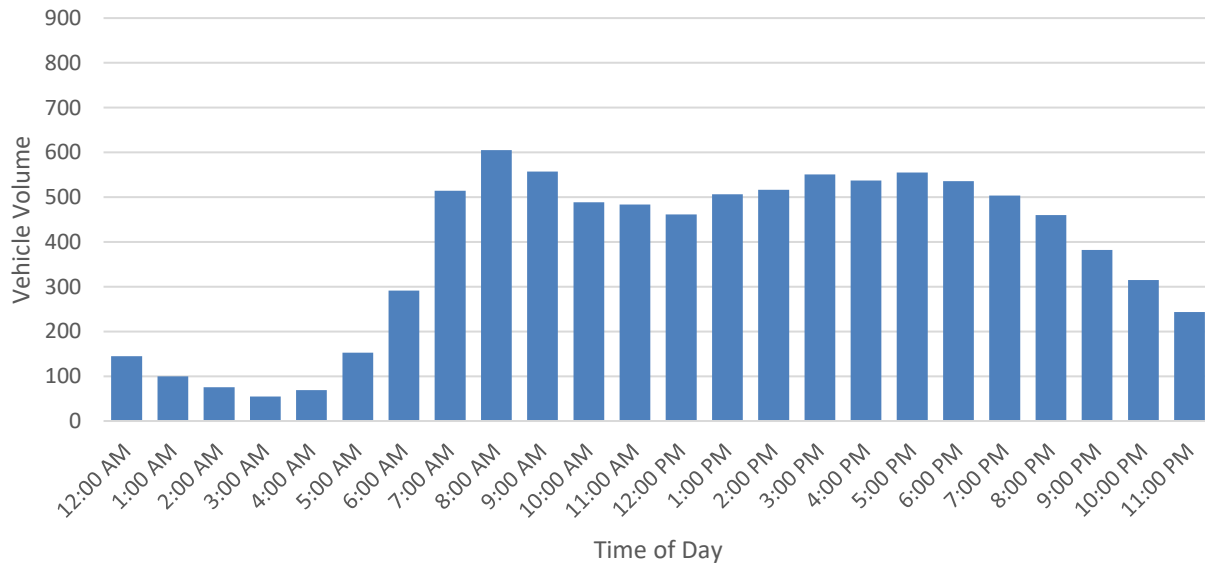
<sup>6</sup> ADT and speed data collected Tuesday, 8/20/2019 – Thursday, 8/22/2019

Characteristic	Observation
Pedestrian Clearance Speed	Mostly 3.0 ft./sec. 3.5 ft/sec. at Taylor St., Jones St., and Van Ness Ave.
LPI (Leading Pedestrian Interval)	Present at Hyde St. and Polk St. Proposed at Larkin St.
Pedestrian Scramble	Present at Hyde St. and Leavenworth St.
<b><i>Bicyclist</i></b>	
Bike Facility	1 buffered bike lane
Volume: People per hour biking during peak hours	Morning: 50-80 people Afternoon: 20-40 people

Source: Kittelson & Associates, 2020

Figure 7 shows the average hourly vehicle volume along the corridor.

**Figure 7: Average Hourly Vehicle Volume, Golden Gate Ave**



Source: Kittelson, 2020

***Where are people parking, and what are they doing there?***

Table 4 presents key statistics from the parking and loading activity observed along the corridor. The aerial figure included as Attachment B provides block-level detail about parking and loading activity. As shown in that figure, more parking and loading violations along the corridor involve passenger vehicles than commercial vehicles.

**Table 4: Parking and Loading Activity, Golden Gate Ave**

Issue	Statistic
Number of Metered Spaces	120 spaces
Number of Commercial Loading Spaces	23 spaces
Number of Passenger Loading Spaces	21 spaces
Metered Parking Utilization	90%
Red Zone Violations	90 red zone violations 11 (12%) commercial vehicles 79 (79%) passenger vehicles
Double Parking Instances	72 double parking violations 47 (65%) commercial vehicles 25 (35%) passenger vehicles
Commercial Parking Violation Rate <sup>7</sup>	2.5 violations per commercial loading space
Passenger Parking Violation Rate <sup>7</sup>	5.0 violations per passenger loading space

Source: Kittelson, 2020

Note: Number of commercial and passenger loading spaces based on 20 ft. of loading zone per space.

### *What do we know about collisions that occurred over the last five years?*

Between July 1, 2014 and June 30, 2019, 107 collisions occurred along Golden Gate Ave. Of these, 5 collisions resulted in one or more severe injuries, and 3 resulted in a fatality. 27% of pedestrian collisions occurred while a person was walking in a crosswalk. 26% of pedestrians in collisions were 60+ years old. 43% of pedestrians in collisions were black and 14% were Hispanic.

### *Collision Data on People Walking*

- 48 collisions involved a pedestrian.
- The most frequently occurring primary collision factors (PCFs) were:
  - Driver or bicyclist to yield right-of-way at crosswalk—driver at fault  
13 (27%) of total pedestrian-involved collisions
  - Crossing between controlled intersections—pedestrian at fault  
5 (10%) of total pedestrian-involved collisions
  - Pedestrians must yield right-of-way outside of crosswalks—pedestrian at fault  
4 (8%) of total pedestrian-involved collisions
- 3 collisions resulted in fatalities and 3 resulted in severe injuries. PCFs for these collisions include failure of driver to yield right-of-way, failure of driver to exercise due care for safety of pedestrian on roadway, green signal with driver responsibilities, and unsafe speed.

<sup>7</sup> Values calculated by dividing total commercial or passenger violations observed across the 6 hours by the approximate number of commercial or passenger loading spaces.



### Collision Data on People Biking

- 19 collisions involved a bicyclist.
- The most frequently occurring primary collision factors (PCFs) were:
  - Red signal —bicyclist at fault  
3 (16%) of total bicycle-involved collisions
  - Unsafe turn or turn change prohibited – driver at fault  
2 (11%) of total bicycle-involved collisions
  - Unsafe speed for prevailing conditions – bicyclist at fault  
2 (11%) of total bicycle-involved collisions
- 1 collision resulted in a severe injury. The PCF for this collision was unsafe passing on the right shoulder.

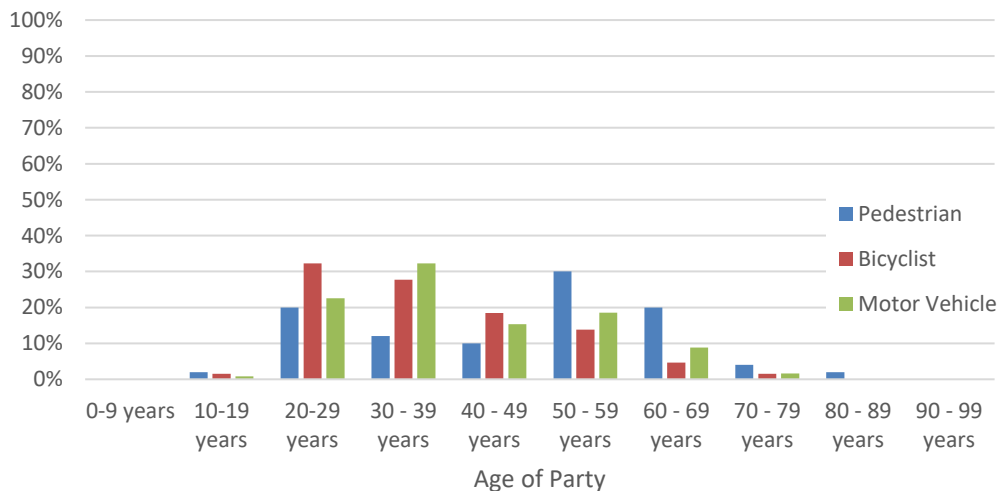
### Collision Data on People Driving

- 41 collisions involved only vehicles.
- The most frequently occurring PCFs were:
  - Unsafe speed for prevailing conditions—driver at fault  
11 (27%) of total vehicle-only collisions
  - Red signal - driver or bicyclist responsibilities—driver at fault  
5 (12%) of total vehicle-only collisions
  - Following too closely prohibited—driver at fault  
4 (10%) of total vehicle-only collisions
  - Lane straddling or failure to use specified lanes—driver at fault  
4 (10%) of total vehicle-only collisions
  - Unsafe turn or lane change prohibited—driver at fault  
4 (10%) of total vehicle-only collisions
- 1 collision resulted in a severe injury. The PCF for this collision was wrong way driving.

### Demographic Data

Figure 8 through Figure 10 show the age, race, and gender of all parties involved by mode.

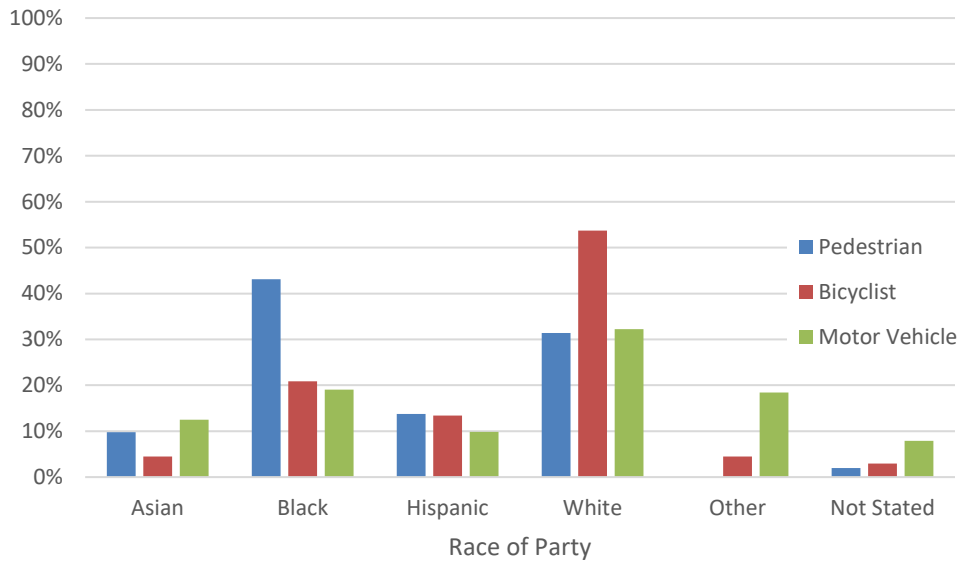
**Figure 8: Age of All Parties Involved by Mode, Golden Gate Ave**



Source: Kittelson, 2020

- 30% of pedestrians in collisions were 50-59 years old.
- 26% of pedestrians in collisions were 60+ years old.
- 60% of bicyclists in collisions were 20-39 years old.

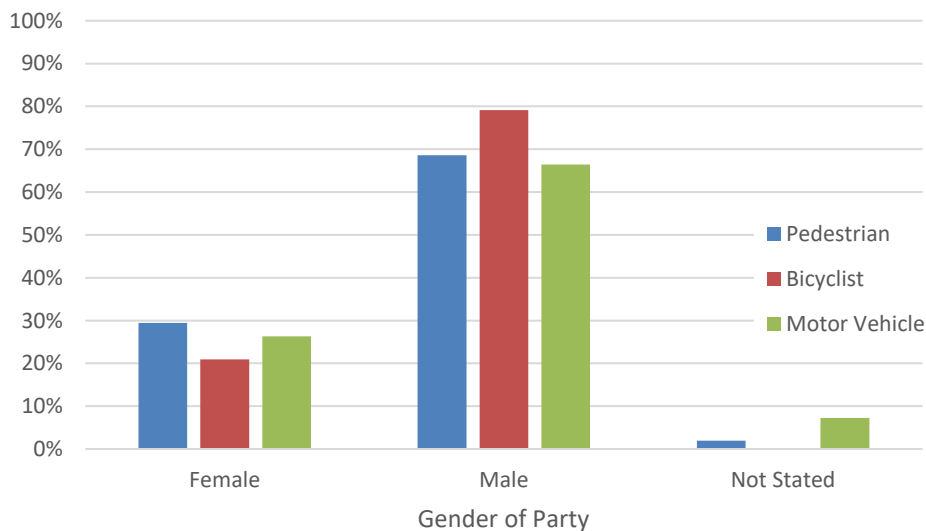
**Figure 9: Race of All Parties Involved by Mode, Golden Gate Ave**



Source: Kittelson, 2020

- 43% of pedestrians in collisions were Black, 31% were white, and 14% were Hispanic.
- 54% of bicyclists in collisions were white, 21% were Black and 13% were Hispanic.

**Figure 10: Gender of All Parties Involved by Mode, Golden Gate Ave**



Source: Kittelson, 2020

- Males were party to 65% or more collisions across all modes.

## Hyde Street

### What is out there today?

**Table 5: Multimodal Infrastructure and Activity, Hyde St**

Characteristic	Observation
<i>Vehicular</i>	
Travel Lanes and Planning-Level Capacity of Street	3 southbound through lanes 30,000 vehicles per day <sup>8</sup>
ADT (Average Daily Traffic Volume)	13,022 <sup>9</sup>
85 <sup>th</sup> Percentile Speeds	O'Farrell St to Ellis St: 25 mph <sup>9</sup> Eddy St to Turk St: 24 mph Golden Gate Ave to McAllister St: 22 mph
Stop Bars	Mostly present. Partially lacking for two intersections (O'Farrell St. and McAllister St.)
Protected Turn Movements	Existing or already planned at Turk St., Golden Gate Ave., and McAllister St.
Mast Arms for Signal Heads	Lacking at all intersections
Overhead Wires	Present across most cross streets: Eddy St, Turk St, Golden Gate Ave, and McAllister St.
<i>Pedestrian</i>	
Sidewalk Width	12 feet
Volume: People crossing at intersections during peak hours	Morning: 650-1,000 people Afternoon: 950-1,100 people
Lighting at Crosswalks	Luminaires are present on only one side of each crosswalk.
ADA Directional Curb Ramps	Present at Ellis St. and Turk St.; partially lacking or fully lacking at all other intersections.
Curb Extensions	Present at Turk St., Eddy St., and McAllister Ave.
PSZs (Pedestrian Safety Zones)	Present at O'Farrell St. and Golden Gate Ave.
Pedestrian Signal Heads	All present.
Pedestrian Clearance Speed	Mostly 3.0 ft./sec. 3.5 ft/sec. at Turk St. and McAllister St.

<sup>8</sup> 10,000 vehicles per lane per day

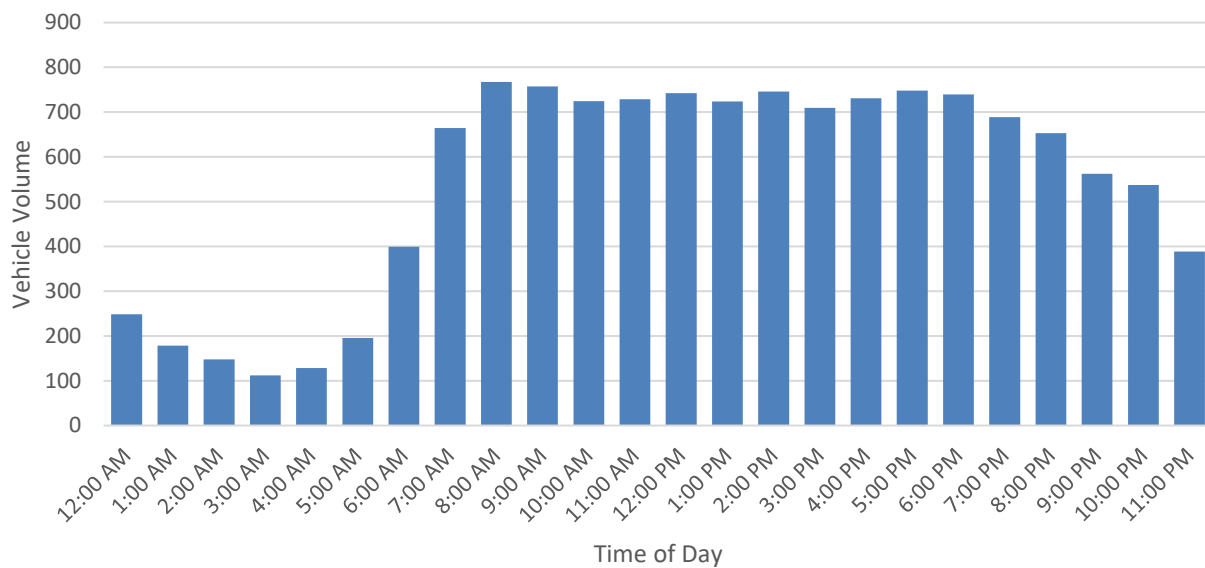
<sup>9</sup> ADT and speed data collected Tuesday, 8/20/2019 – Thursday, 8/22/2019 and Tuesday, 8/27/2019 – Thursday, 8/29/2019

Characteristic	Observation
LPI (Leading Pedestrian Interval)	Present at Turk St. and Golden Gate Ave. Proposed at O'Farrell St., Ellis St., and Eddy St.
Pedestrian Scramble	Present at Golden Gate Ave. Proposed at Turk St. and McAllister St.
<b>Bicyclist</b>	
Bike Facility	None
Volume: People per hour biking during peak hours	Morning: 30-35 people Afternoon: 25-50 people

Source: Kittelson, 2020

Figure 11 shows the average hourly vehicle volume along the corridor.

Figure 11: Average Hourly Vehicle Volume, Hyde St



Source: Kittelson, 2020

**Where are people parking, and what are they doing there?**

Table 6 presents key statistics from the parking and loading activity observed along the corridor. The aerial figure included as Attachment B provides block-level detail about parking and loading activity. As shown in that figure, about the same number of passenger vehicles and commercial vehicles cause parking and loading violations along the corridor.

**Table 6: Parking and Loading Activity, Hyde St**

Issue	Statistic
Number of Metered Spaces	74 spaces
Number of Commercial Loading Spaces	12 spaces
Number of Passenger Loading Spaces	43 spaces
Metered Parking Utilization	91%
Red Zone Violations	79 red zone violations 35 (44%) commercial vehicles 44 (56%) passenger vehicles
Double Parking Instances	52 double parking violations 36 (69%) commercial vehicles 16 (31%) passenger vehicles
Commercial Parking Violation Rate <sup>10</sup>	6.1 violations per commercial loading space
Passenger Parking Violation Rate <sup>10</sup>	1.4 violations per passenger loading space

Source: Kittelson, 2020

Note: Number of commercial and passenger loading spaces based on 20 ft. of loading zone per space.

***What do we know about collisions that occurred over the last five years?***

Between July 1, 2014 and June 30, 2019, 76 collisions occurred along Hyde St. Of these, 5 collisions resulted in one or more severe injuries, and none resulted in a fatality. 41% of pedestrian collisions occurred while a person was walking in a crosswalk. 26% of pedestrians in collisions were 60+ years old. 29% of pedestrians in collisions were black and 11% were Asian.

***Collision Data on People Walking***

37 collisions involved a pedestrian.

- The most frequently occurring primary collision factors (PCFs) were:
  - Driver or bicyclist to yield right-of-way at crosswalk—driver at fault  
15 (41%) of total pedestrian-involved collisions
  - Crossing between controlled intersections—pedestrian at fault  
7 (19%) of total pedestrian-involved collisions
- 4 collisions resulted in severe injuries. PCFs for these collisions were failure of driver to yield right-of-way, pedestrian crossing between controlled intersections, pedestrian signal violation, and driver red signal violation.

***Collision Data on People Biking***

- 14 collisions involved a bicyclist.
- The most frequently occurring primary collision factors (PCFs) were:
  - Red signal —bicyclist at fault  
2 (14%) of total bicycle-involved collisions

<sup>10</sup> Values calculated by dividing total commercial or passenger violations observed across the 6 hours by the approximate number of commercial or passenger loading spaces.

- Turn at intersection from wrong position – 1 driver at fault, 1 pedestrian at fault  
2 (14%) of total bicycle-involved collisions
- Violation of right-of-way (left turn) – driver at fault  
2 (14%) of total bicycle-involved collisions
- 1 collision resulted in a severe injury. The PCF for this collision was a bicyclist red signal violation.

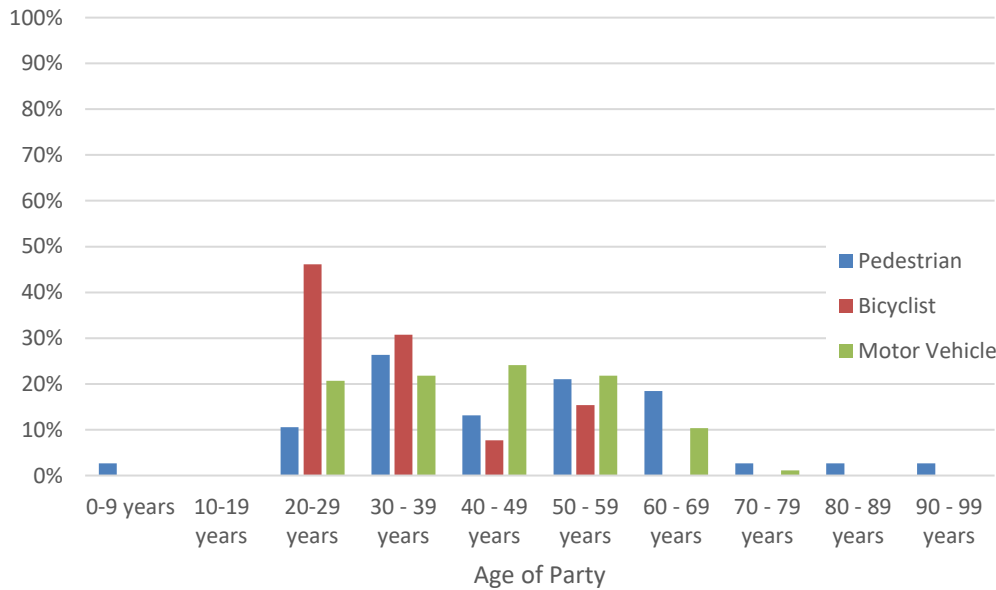
### Collision Data on People Driving

- 26 collisions involved only vehicles.
- The most frequently occurring PCFs were:
  - Unsafe speed for prevailing conditions—driver at fault  
5 (19%) of total vehicle-only collisions
  - Red signal—driver at fault  
4 (15%) of total vehicle-only collisions

### Demographic Data

Figure 12 through Figure 14 show the age, race, and gender of all parties involved by mode.

**Figure 12: Age of All Parties Involved by Mode, Hyde St**

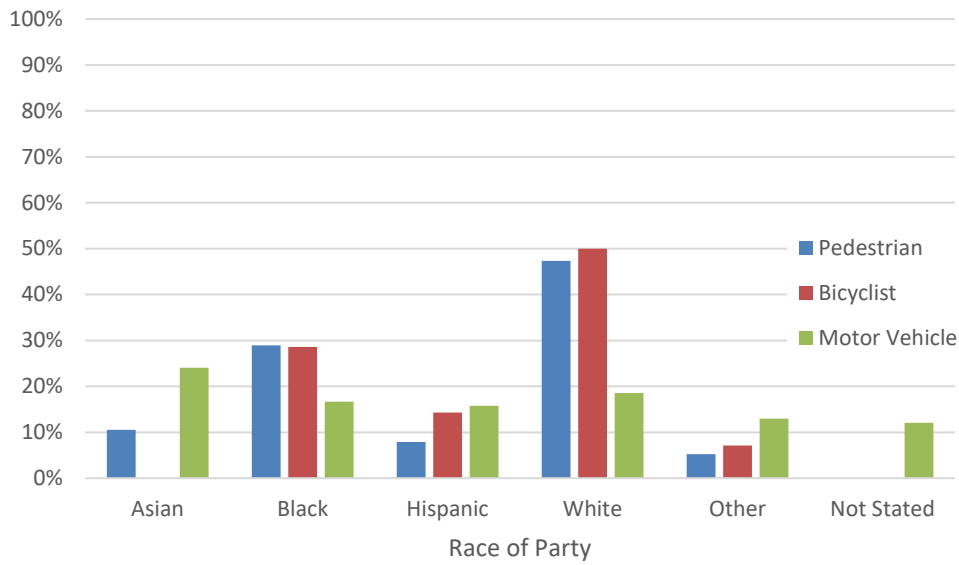


Source: Kittelson, 2020

- 26% of pedestrians in collisions were 30-39 years old.
- 26% of pedestrians in collisions were 60+ years old.
- 3% of pedestrians in collisions were less than 10 years old.
- 77% of bicyclists in collisions were 20-39 years old.



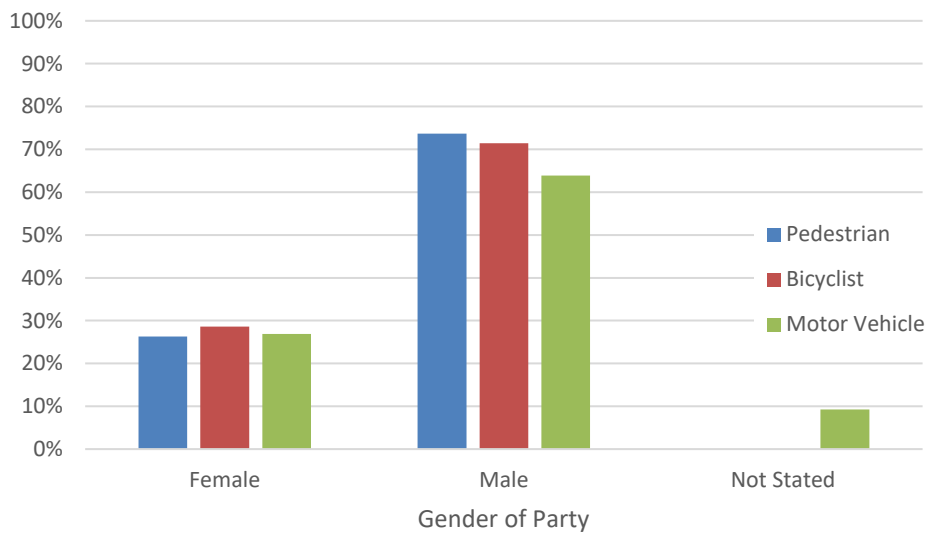
**Figure 13: Race of All Parties Involved by Mode, Hyde St**



Source: Kittelson, 2020

- 47% of pedestrians in collisions were white, 29% were Black, and 11% were Asian.
- 50% of bicyclists in collisions were white, 29% were Black, and 14% were Hispanic.

**Figure 14: Gender of All Parties Involved by Mode, Hyde St**



Source: Kittelson, 2020

- Males were party to 60% or more collisions across all modes.

## Larkin Street

### What is out there today?

**Table 7: Multimodal Infrastructure and Activity, Larkin St**

Characteristic	Observation
<i>Vehicular</i>	
Travel Lanes and Planning-Level Capacity of Street	3 northbound through lanes 30,000 vehicles per day <sup>11</sup>
ADT (Average Daily Traffic Volume)	12,345 <sup>12</sup>
85 <sup>th</sup> Percentile Speeds	McAllister St to Golden Gate Ave: 25 mph <sup>12</sup> Turk St to Eddy St: 25 mph Ellis St to O'Farrell St: 22 mph
Stop Bars	Mostly present. Partially lacking for two intersections (Golden Gate Ave. and McAllister St.)
Protected Turn Movements	None existing or proposed.
Mast Arms for Signal Heads	Lacking at all intersections
Overhead Wires	Present across most cross streets: Eddy St, Turk St, Golden Gate Ave, and McAllister St.
<i>Pedestrian</i>	
Sidewalk Width	11 feet
Volume: People crossing at intersections during peak hours	Morning: 700-1,800 people Afternoon: 850-1,900 people
Lighting at Crosswalks	Luminaires are present on only one side of each crosswalk.
ADA Directional Curb Ramps	Present at Ellis St., Eddy St., and Turk St. Partially or fully lacking at all other intersections.
Curb Extensions	Present at Turk St.
PSZs (Pedestrian Safety Zones)	Present at Golden Gate Ave. and O'Farrell St.
Pedestrian Signal Heads	All present.
Pedestrian Clearance Speed	3.0 ft./sec.

<sup>11</sup> 10,000 vehicles per lane per day

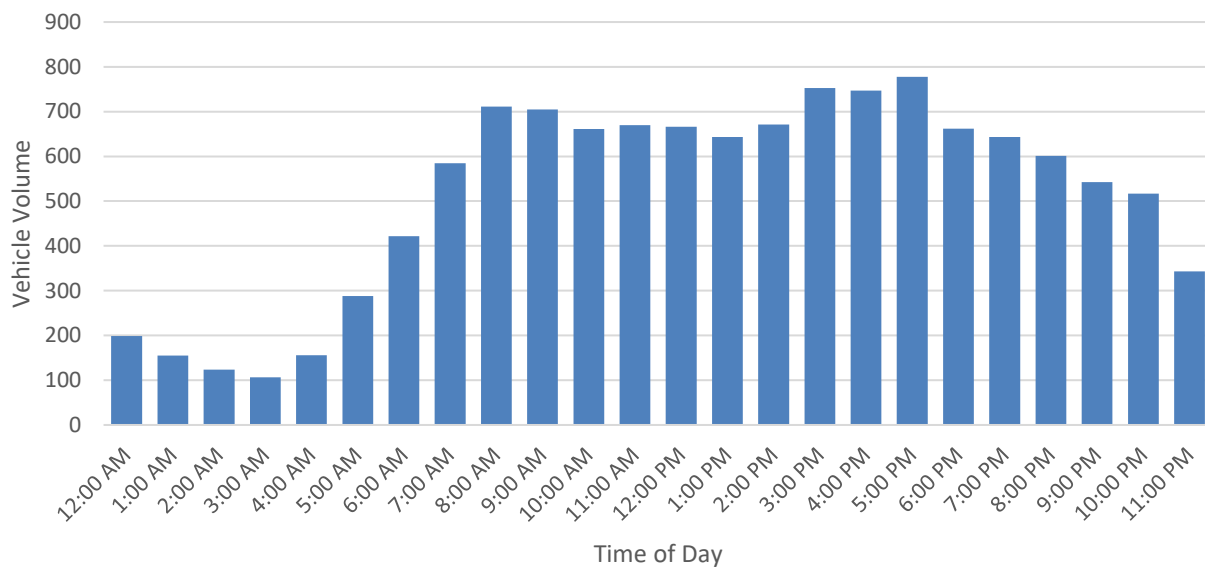
<sup>12</sup> ADT and speed data collected Tuesday, 8/20/2019 – Thursday, 8/22/2019 and Tuesday, 8/27/2019 – Thursday, 8/29/2019

Characteristic	Observation
LPI (Leading Pedestrian Interval)	Present at McAllister St. Proposed at all intersections.
Pedestrian Scramble	None existing or proposed.
<i>Bicyclist</i>	
Bike Facility	None
Volume: People per hour biking during peak hours	Morning: 10-30 people Afternoon: 20-30 people

Source: Kittelson, 2020

Figure 15 shows the average hourly vehicle volume along the corridor.

Figure 15: Average Hourly Vehicle Volume, Larkin St



Source: Kittelson, 2020

**Where are people parking, and what are they doing there?**

Table 8 presents key statistics from the parking and loading activity observed along the corridor. The aerial figure included as Attachment B provides block-level detail about parking and loading activity. As shown in that figure, substantially more parking and loading violations along the corridor involve passenger vehicles than commercial vehicles, most of which are red zone violations.

**Table 8: Parking and Loading Activity, Larkin St**

Issue	Statistic
Number of Metered Spaces	54 spaces
Number of Commercial Loading Spaces	13 spaces
Number of Passenger Loading Spaces	11 spaces
Metered Parking Utilization	94%
Red Zone Violations	74 red zone violations 7 (9%) commercial vehicles 67 (91%) passenger vehicles
Double Parking Instances	16 double parking violations 13 (81%) commercial vehicles 3 (19%) passenger vehicles
Commercial Parking Violation Rate <sup>13</sup>	1.5 violations per commercial loading space
Passenger Parking Violation Rate <sup>13</sup>	6.2 violations per passenger loading space

Source: Kittelson, 2020

Note: Number of commercial and passenger loading spaces based on 20 ft. of loading zone per space.

***What do we know about collisions that occurred over the last five years?***

Between July 1, 2014 and June 30, 2019, 55 collisions occurred along Larkin St. Of these, 3 collisions resulted in one or more severe injuries, and 1 resulted in a fatality. 69% of pedestrian collisions occurred while a person was walking in a crosswalk. 23% of pedestrians in collisions were 60+ years old. 31% of pedestrians in collisions were black and 15% were Asian.

***Collision Data on People Walking***

- 26 collisions involved a pedestrian.
- The most frequently occurring primary collision factors (PCFs) were:
  - Driver or bicyclist to yield right-of-way at crosswalk—driver at fault  
18 (69%) of total pedestrian-involved collisions
  - Pedestrian violation of walk or wait signals—pedestrian at fault  
2 (8%) of total pedestrian-involved collisions
  - Red signal—pedestrian at fault  
2 (8%) of total pedestrian-involved collisions
- 1 collision resulted in a fatality and 1 resulted in a severe injury. PCFs for these collisions were failure of driver to yield right-of-way at crosswalk and failure of pedestrian to yield right-of-way outside of crosswalks.

<sup>13</sup> Values calculated by dividing total commercial or passenger violations observed across the 6 hours by the approximate number of commercial or passenger loading spaces.

### Collision Data on People Biking

- 6 collisions involved a bicyclist.
- The most frequently occurring primary collision factor (PCF) was:
  - Red signal —bicyclist at fault  
2 (33%) of total bicycle-involved collisions
  - No other trends emerged regarding PCFs. All other PCFs noted in the collision data were attributed to only 1 collision.
- 1 collision resulted in a severe injury. The PCF for this collision was a red signal violation with the bicyclist at fault.

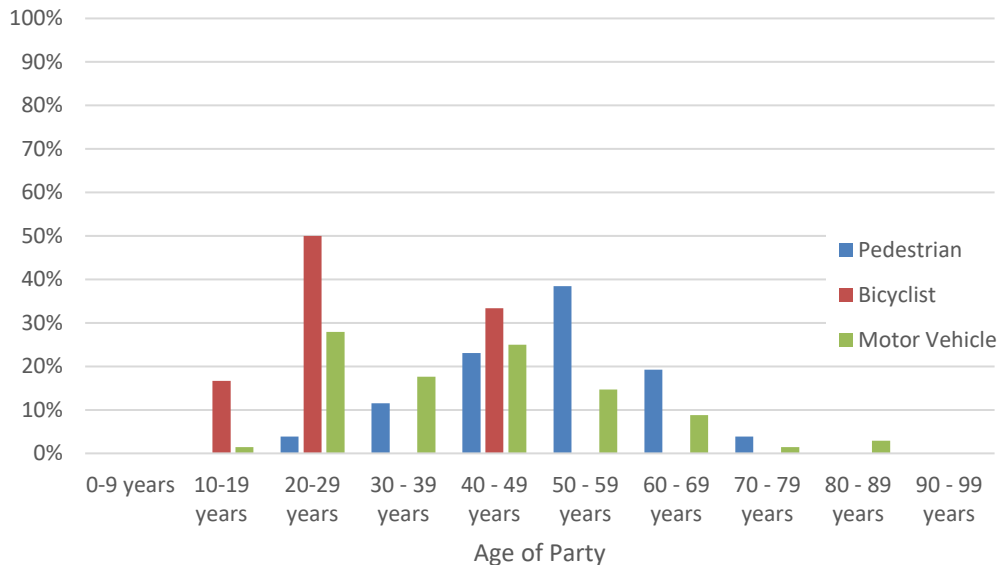
### Collision Data on People Driving

- 23 collisions involved only vehicles.
- The most frequently occurring PCFs were:
  - Red signal—driver at fault  
9 (39%) of total vehicle-only collisions
  - Unsafe speed for prevailing conditions—driver at fault  
3 (13%) of total vehicle-only collisions
- 1 collision resulted in a severe injury. The PCF for this collision was unknown, and the collision was a rear-end.

### Demographic Data

Figure 16 through Figure 18 show the age, race, and gender of all parties involved by mode.

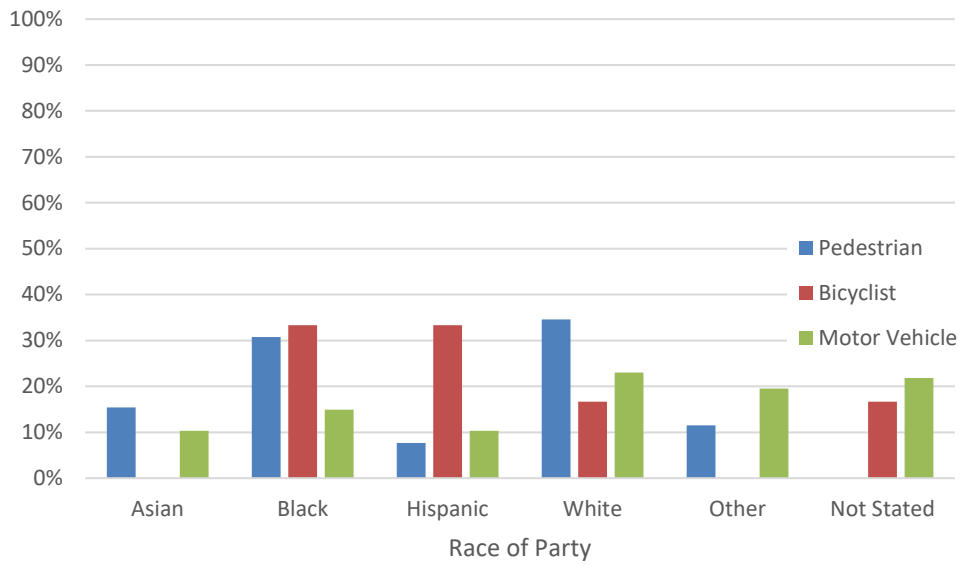
**Figure 16: Age of All Parties Involved by Mode, Larkin St**



Source: Kittelson, 2020

- 38% of pedestrians in collisions were 50-59 years old.
- 23% of pedestrians in collisions were 60+ years old.
- 67% of bicyclists in collisions were 10-29 years old.

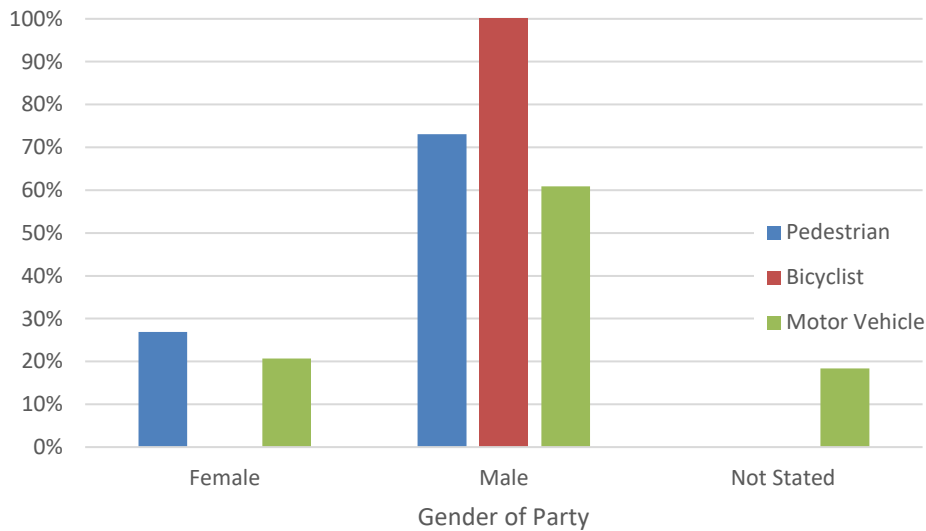
**Figure 17: Race of All Parties Involved by Mode, Larkin St**



Source: Kittelson, 2020

- 35% of pedestrians in collisions were white, 31% were Black, and 15% were Asian.
- 33% of bicyclists in collisions were Black and 33% were Hispanic.

**Figure 18: Gender of All Parties Involved by Mode, Larkin St**



Source: Kittelson, 2020

- Males were party to 60% or more collisions across all modes.



## RECOMMENDATIONS

The analyses performed in this study yielded trends that exist on all the study corridors and at many of the study intersections. Kittelson identified several neighborhood-wide improvements the MTA could install on all the corridors to reduce risk to vulnerable populations. These are the improvements Kittelson presented to Livable Streets staff at the October 29 and December 6, 2019 meetings.

All Kittelson's recommendations are preliminary. Livable Streets staff should consider these recommendations in conjunction with factors such as:

- CIP funding cycles
- Current and upcoming Quick Build projects
- Engineering constraints (e.g., building basements beneath the sidewalk and stormwater drains)
- The need to coordinate with other agencies (e.g., PG&E for installing additional lighting)

Nevertheless, the Tenderloin neighborhood is full of opportunity to reduce risk to vulnerable populations increase safety for all roadway uses. The following low-, medium-, and high-effort improvements could be implemented throughout the study area:

### *Low Effort*

- Convert some metered parking to TANPAT (Tow-away No Parking Anytime) to meet both commercial and passenger loading demand.
- Install stop bars on intersection approaches where they are missing.

### *Medium Effort*

- Install larger signal heads at all intersections.

### *High Effort*

- Install mast arms for traffic signals.
- Construct ADA curb ramps where they are missing.
- Install additional lighting at crosswalks so that the full width of the crossing is illuminated.

In addition to these neighborhood-wide improvements, the improvements listed below would be appropriate for specific corridors.

### *Leavenworth Street*

- **Low Effort:** Repurpose a travel lane as a pedestrian safety zone for the full length of each block to take back space for pedestrian activity and mobile services.
- **High Effort:** Repurpose a travel lane and widen sidewalks on both sides of street

### Golden Gate Avenue

- **High Effort:** Convert existing buffered bike lane to a parking-protected bike lane

### Hyde Street

- **Low Effort:** Repurpose a travel lane as a pedestrian safety zone for the full length of each block to take back space for pedestrian activity and mobile services.
- **High Effort:** Repurpose a travel lane and widen sidewalks on both sides of street

### Larkin Street

- **Low Effort:** Repurpose a travel lane as a transit-only lane.

Kittelson also developed a matrix of low-, medium-, and high-effort recommended improvements for each intersection in the study area. The recommendations matrix is included as **Attachment C**.

## PROCESS TAKEAWAYS AND NEXT STEPS

The pre-planning effort performed through this study reaffirmed the major capital investment needed in the Tenderloin – from signal upgrades to more lighting at every crosswalk. Through this pre-planning effort, the task force had a forum to raise valid concerns and demand increased investment and broader solutions for traffic safety in the Tenderloin neighborhood. Also, the anecdotal understanding held by Livable Streets staff who frequently work on transportation safety issues in the Tenderloin were validated by the findings of the analysis.

### Next steps for Livable Streets staff include:

1. Share this study and the underlying data with other teams, such as the Curb Management Team, to increase MTA staff awareness of the issues, findings, and recommended traffic safety improvements for this neighborhood.
2. Incorporate findings and recommendations from this study into the upcoming Leavenworth St and Golden Gate Ave quick build projects.
3. Develop projects for Hyde St and Larkin St to implement recommendations identified through this study.
4. Continue to coordinate regularly with the task force to develop projects for other corridors in the neighborhood and be responsive to location-specific needs.

### Next steps for the MTA include:

1. Securing Capital Improvement Program (CIP) funding for neighborhood-wide traffic safety improvements
2. Initiate the conversation with SF Public Utilities Commission for the eventual upgrade of lighting at all crosswalks in the neighborhood.
3. Develop a neighborhood transportation strategy that builds off this pre-planning effort
4. Support Tenderloin-focused education programs to complement engineering improvements with education for all users, and especially to drivers.
5. Continue partnership with SF Police Department and SF Department of Public Health through the City's Vision Zero efforts.

## ATTACHMENT A

### Existing Infrastructure Matrix

Intersection	Type	Missing Characteristic												
		1/2 Street Lighting for approach	Lighting Notes	Missing Mast Arm	ADA Directional Ramps Missing	ADA Ramp Notes	Other	Other Notes	Existing LPI	LPI Field Notes	Future LPI	Stop Bars	Stop Bars Notes	Protected Turns
Larkin St. & McAllister St.		x	All 1/2 except no lighting on SE corner crossing McAllister	x	x	none on SE/NW/ missing 1 on SW corner to cross to McAllister	x	SE curb curved in	x	All	All	x	W bound Mcallister and N bound Larkin, May 2019	
Larkin St. & Golden Gate Ave.		x	All	x	x	none on NE/NW	x	fair amount of bike lane blocking on GG			All	x	GM - E bound on GG, 5/17/2019	
Larkin St. & Turk St.		x	All	x							All	x	All, May 2019	
Larkin St. & Eddy St.		x	All	x							All	x	All, May 2019	
Larkin St. & Willow St.	T-int.		enough lighting for small int.	n/a	x	missing on NW corner	x	non-compliant red curb SW side						
Larkin St. & Ellis St.		x	All	x							All	x	All, May 2019	
Larkin St. & Olive St.	T-int.		enough lighting for small int.	n/a			x	non-compliant red curb SW side						
Larkin St. & O'Farrell St.		x	All	x	x	missing SW to cross O'Farrell	x	ped signal ended before green lighted ended, but no push button; 800 Larkin Cocktail Sign on NE corner obstructs signal view			All	x	All, May 2019	
Hyde St. & O'Farrell St.		x	All	x	x	missing on all corners	x	Street light in tree in NE corner			All	x	on Hyde heading S.	
Hyde St. & Ellis St.		x	All	x							All	x	All, 11/17/2018	
Hyde & Eddy St.		x	All	x	x	missing on NE/NW/SW corners					All	x	All, 11/17/2018	
Hyde St. & Turk St.		x	All	x					x	only on Turk St. - short LPI, check timing	No	x	All, 11/17/2018	x
Hyde St. & Golden Gate Ave.		x	All	x	x	missing NE/NW/SE corners			x	All	No	x	All, 11/17/2018	x
Hyde St. & McAllister		x	All	x	x	SW lacks 1 ramp traveling across McAllister	x	crosswalk needs updated paint			No	x	missing stop bar on McAllister east bound, others completed 11/17/2018	x
Leavenworth St. & McAllister		x	All except no lighting on east crosswalk on McAllister	x			x	no left eastbound on McAllister to Leavenworth, but only one sign on NE corner saying that.				x	missing stop bar on McAllister traveling east	x
Leavenworth St. & Golden Gate Ave.		x	GM verified only	x							No	x	GM - E bound on GG	x
Leavenworth St. & Turk St.		x	All	x					x	All	No	x	GM - All	x
Leavenworth St. & Eddy St.		x	All except west int. has 2 light posts, others only have 1	x							All	x	GM - All	
Leavenworth St. & Ellis St.		x	All	x	x	SE corner missing					All	x	GM - on Ellis both directions	
Leavenworth St. & O'Farrell St.		x	All	x	x	missing on SE/SW/NE	x	no Ped heads on any corners			All	x	GM - All	
Golden Gate Ave. & Taylor St.		x	only partially lit, GM verified only		x	Missing all, only GM verified	x	left turn yield on green on GG to Taylor -- do we want to control this left turn?; GG to 6th, look at signal issues/ crashes -- not supposed to turn right on Market but are people?; Market South crosswalk far from intersection					GM - None	
Golden Gate Ave. & Jones St.		x		x	x	Missing one on SE corner, only GM verified						x	GM - All, 5/17/2019	x
Golden Gate Ave. & Polk St.		x	All except N side of Polk has smaller light post	x					x	All	All	x	GM - All	x
Golden Gate Ave. & Van Ness Ave.		x	Half on GG, on Van Ness they have two smaller light posts - only GM verified	x	x	under construction							GM - None	

Positive Characteristic						General Characteristics								
Protected Turns Notes	Curb Extension	Curb Extension Notes	PSZ	PSZ notes	Ped Push Buttons	Ped Scramble	Ped Scramble Notes	Other	Other Notes	2-way Street Crossing	Ped Clr. Speed	Overhead Wires	OVHD Wires Streets (see map for details)	Order Walking
No					x	No				x	3.0 fps	x	On Larkin (both) and McAllister (both)	17
No			x	PSZ on NW/SE corners		No					3.0 fps	x	On Larkin (south direction) & GG (east direction)	3
No	x	extension on SW corner		could do PSZ on NE corner		No					3.0 fps	x	On Larkin (north direction) & Turk (east direction)	18
No						No				x	3.0 fps	x	On Larkin (south direction) & Eddy (both)	19
n/a						n/a							None	20
No				could do PSZ on NE/SE		No				x	3.0 fps		None	21
n/a						n/a							None	22
No			x	painted in PSZ on NW corner, but posts are gone (also issue with it being sunken in for drainage)		No					3.0 fps		None	23
No			x	partial PSZ on NE corner and SW corner		No					3.0 fps		None	12
No						No				x	3.0 fps		None	13
No	x	extension on SE corner		could do PSZ		No				x	3.0 fps	x	On Eddy (both)	14
Future. WBLT, SBRT.	x	extension on NE/SE corners				Yes	Future				3.5 fps	x	On Turk (both)	15
Existing. EBRT, SBLT.			x	PSZ on NE corner, but not extended around curb		Yes	Existing & Future				3.0 fps	x	On GG (both)	4
Future. EBRT, SBRT.	x	extension on NE corner			x	Yes	Future			x	3.5 fps	x	On Mcallister (both) & Hyde (south direction)	16
Existing. WBRT						Yes	Existing & Future			x	3.5 fps	x	On Mcallister (both)	24
Existing. WBLT, NBRT			x	PSZ on NW and SE corners		Yes	Existing & Future -- extra time given to pedestrians for crossing	x			3.0 fps	x	On GG (both)	5
Future. WBRT, NBLT.			x	partial on SW corner -- not from field notes, only from SFMTA website		Yes	Future				3.5 fps	x	On Turk (both)	8
No			x	PSZ on SW corner unfinished		No				x	3.0 fps	x	On Eddy (both)	9
No						No		x	decorative crosswalk	x	3.0 fps		None	10
No			x	partial on NW corner -- not from field notes, only from SFMTA website. Missing posts.		No					3.0 fps		None	11
						No	extra time given to pedestrians for crossing (24-30s overlap)	x	decorative crosswalks		3.5 fps		None	7
Existing. EBRT, SBLT. Unclear if designated left turn lane will stay because construction going on.	x	NE corner	x	PSZ on SW corner		No	extra time given to pedestrians for crossing (17s overlap)				3.5 fps	x	On GG (west direction) & Jones (south direction)	6
Future. SBLT perm+prot					x	No				x	3.0 fps		None	2
						No		x	BRT - refuges up both sides of Van Ness	x	3.5 fps		None	1

ATTACHMENT B

**Aerial Figure**



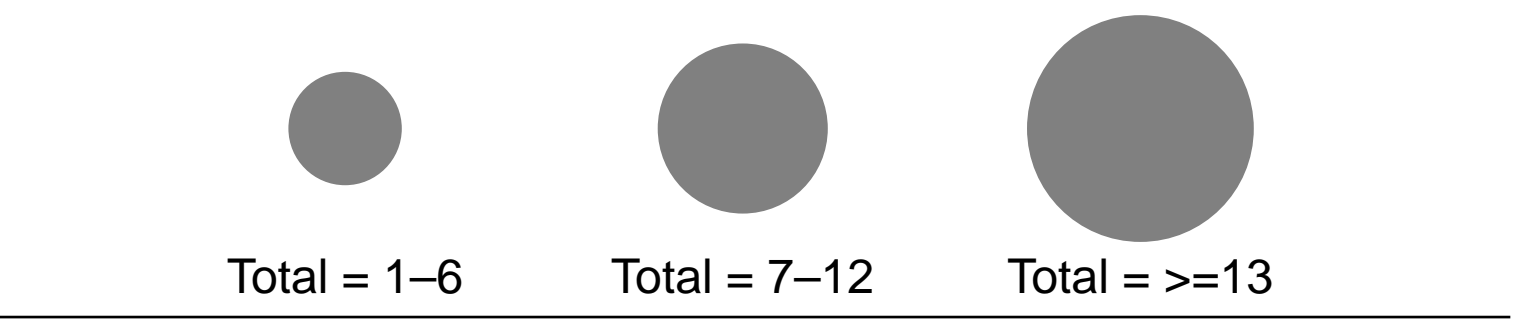


- CURB USAGE**
- Bike Parking
  - ADA
  - Bus Zone
  - Driveway
  - Metered
  - No Parking
  - Passenger
  - Commercial Meter

- STREET MARKING DESIGNATIONS**
- Buffered Bike Lane
  - Protected Bike Lane
  - Personal Vehicles Restricted
  - Bus and Taxi Only

- CRASHES**
- Bike Crash
  - Ped Crash
- ADT = Average Daily Traffic
- ADT values are an average of volumes collected from Tuesday, 8/20/19 - Thursday, 8/22/19 and Tuesday, 8/27/19 - Thursday, 8/29/19

- PARKING VIOLATIONS**
- Red Zone Parking
- Commercial
  - Passenger
- Double-Parking
- Commercial
  - Passenger



Total values based on observed violations in 15-minute periods, for 6 total hours. The Observation periods were from Tuesday, 8/20/2019 - Thursday, 8/22/2019 at 7-9am, 12-2pm, and 4-6pm). Total of 1-6 corresponds to 1 or fewer violations on average per hour. Total of 7-12 corresponds to between 1 and 2 violations on average per hour. Total of greater than or equal to 13 corresponds to greater than 2 violations on average per hour.

Mobility in the Tenderloin  
 Tenderloin HIN Gap Analysis  
 October 29, 2019





## ATTACHMENT C

### **Recommendations Matrix**



Recommended Treatments  
 Recommendations based on: field review, crash data, speed data, signal timing changes

Intersection	Low Effort Treatments								Medium Effort Treatments		High Effort Treatments					Signal Timing (Already Existing (in blue)/ Already Proposed By SFMTA (green))							
	Stop Bars	Lower Ped. Clearance Speed	PSZ Ex-Extend <sup>1</sup> , New <sup>2</sup> , P-Vertical Posts <sup>3</sup>	Crosswalk Striping N-New Striping, R-Repaint Existing Striping	Ped/Bike Signal Heads	Bike Box	Repurpose a Through Lane	Curb Usage	Protected Turn Phases	Larger Signal Heads, Street-Side of Pole	Mast Arm	ADA Ramps	Illuminate Crosswalks <sup>4</sup>	Bike Lane	Repurpose a Through Lane	Ped. Clearance Speed (fps)	LPI	Protected Turns	Scramble				
Leavenworth St. & O'Farrell St.			NW (P)		Ped Signal Heads		Convert through lane to Pedestrian Safety Zone that extends through the corridor			All	NE, SE, SW	All		Remove a through lane, widen sidewalks on both sides of street, and restripe to two general purpose lanes	3	All	No	No					
Leavenworth St. & Ellis St.	Leavenworth NB										All	SE			All				3	All	No	No	
Leavenworth St. & Eddy St.			SW (P)									Eddy			Leavenworth		All except West Side			3	All	No	No
Leavenworth St. & Turk St.		Lower to 3.0 fps	SW (P)									Turk			Leavenworth		All			3.5	No	WBRT, NBLT	Yes
Leavenworth St. & McAllister	McAllister EB	Lower to 3.0 fps			Bike Signal Heads w/ LBI	Benham NBLT; McAllister WB						All					All			3.5	No	WBRT	Yes
Golden Gate Ave. & Van Ness Ave.	All	Lower to 3.0 fps					Convert some metered parking to TANPAT (Tow-away no Parking Anytime)			All	NE	All	Convert existing buffered bike lane to a parking-protected bike lane		3.5	No	No	No					
Golden Gate Ave. & Polk St.											Polk				All				3	All	SBLT perm + prot	No	
Golden Gate Ave. & Larkin St.												Golden Gate			Larkin	NE, NW	All			3	All	No	No
Golden Gate Ave. & Hyde St.												Golden Gate			Hyde	NE, NW, SE	All			3	No	EBRT, SBLT	Yes
Golden Gate Ave. & Leavenworth St.	Leavenworth NB		NW (P), SE (P)									Golden Gate			Leavenworth		All			3	No	EBLT, NBRT	Yes
Golden Gate Ave. & Jones St.		Lower to 3.0 fps	SW (P)									All				SE	All			3.5	No	EBRT, SBLT	No
Golden Gate Ave. & Taylor St.	Golden Gate EB	Lower to 3.0 fps									EBLT				Golden Gate EB	All	All			3.5	No	No	No
Larkin St. & O'Farrell St.			NW (P)				Convert through lane to a transit-only lane			All	SW (to cross McAllister)	All			3	All	No	No					
Larkin St. & Olive St.				N															n/a	n/a	n/a	n/a	
Larkin St. & Ellis St.			NE (New), SE (New)												All		All			3	All	No	No
Larkin St. & Willow St.				N												NW				n/a	n/a	n/a	n/a
Larkin St. & Eddy St.			NE (New)									All					All			3	All	No	No
Larkin St. & Turk St.			NE (New)								NBLT	Larkin			Turk		All			3	All	No	No
Larkin St. & McAllister St.	McAllister EB											All				SW, SE	All			3	All	No	No
Hyde St. & O'Farrell St.	O'Farrell EB		NE (P, Ex), SW (P)				Convert through lane to Pedestrian Safety Zone that extends through the corridor			All	All	All		Remove a through lane, widen sidewalks on both sides of street, and restripe to two general purpose lanes	3	All	No	No					
Hyde St. & Ellis St.			NW (New)												All		All			3	All	No	No
Hyde & Eddy St.			NW (New), SW (New)									Eddy			Hyde	NE, NW, SW	All			3	All	No	No
Hyde St. & Turk St.		Lower to 3.0 fps										Turk			Hyde		All			3.5	No	WBLT, SBRT	Yes
Hyde St. & McAllister	McAllister EB	Lower to 3.0 fps		R								All				SW	All			3.5	No	EBRT, SBRT	Yes

1. Extend PSZ to fully wrap around corner to other side.
2. Install a new PSZ that fully wraps around corner.
3. Install new vertical posts at existing painted PSZ.
4. Install additional luminaire to fully illuminate crosswalk.