VISION ZERO SF

Through Vision Zero SF we commit to working together to prioritize street safety and eliminate traffic deaths in San Francisco.

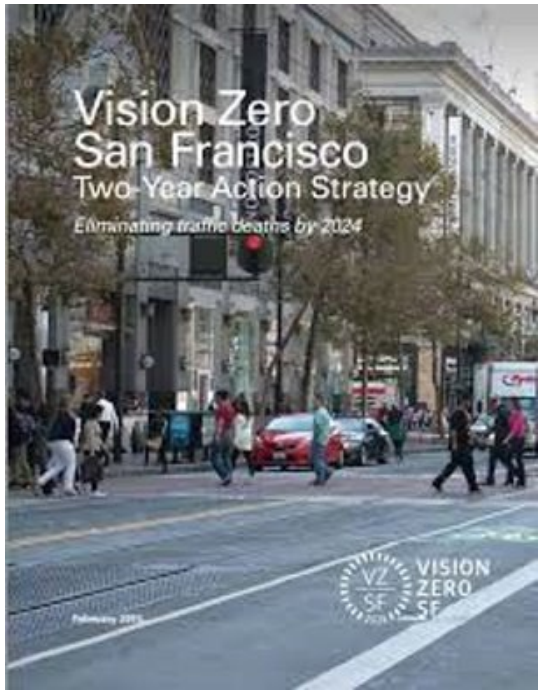
VISION ZERO PROGRAM UPDATE – DATA AND TRENDS

November 15, 2022

SFMTA Board

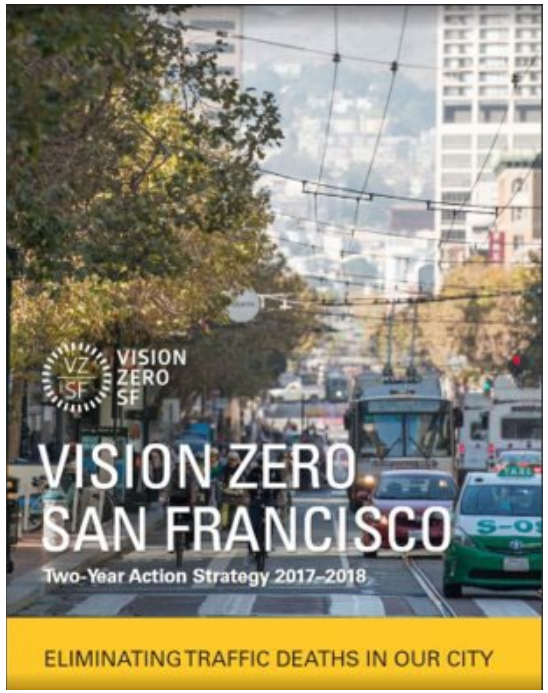
Uyen Ngo and Thalia Leng

VISION ZERO STRATEGY UPDATE



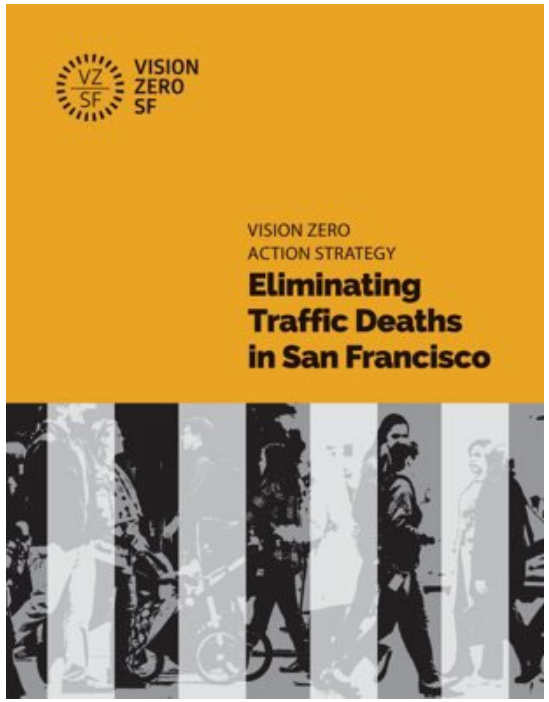
2015

What is Vision Zero?



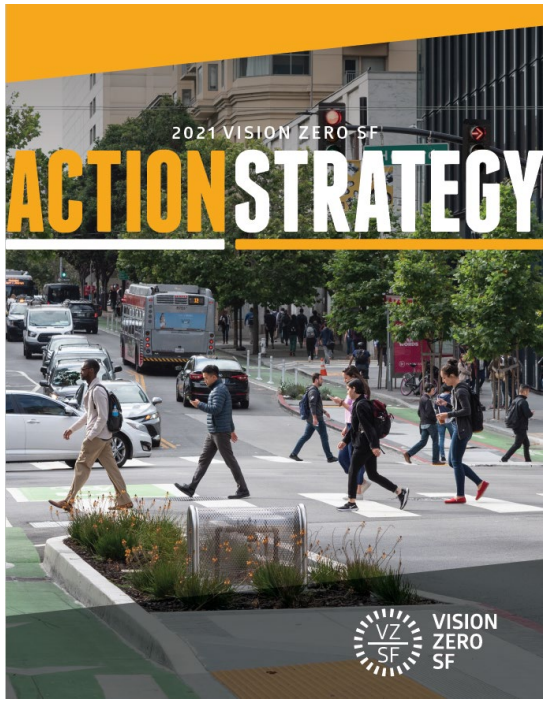
2017

Defining a Safe System Approach



2019

Advancing Transformative Policies



2021

Vision Zero Action Strategy Update

THE QUICK-BUILD TOOLKIT ON THE HIN

Vision Zero Action Strategy

Safe Streets Action

QUICK-BUILD PROJECTS TO DATE

>70 mi of HIN

UPCOMING QUICK-BUILD PROJECTS

Battery/Sansome

- Approved in September
- Construction will begin this month
- **New protected bikeways, improved intersection visibility, signal timing changes, and more**

Lake Merced Blvd

- Upcoming legislation
- Anticipated construction in Spring 2023
- **Improve comfort and safety for walking and biking, reduce speeding, enhance access to open space**

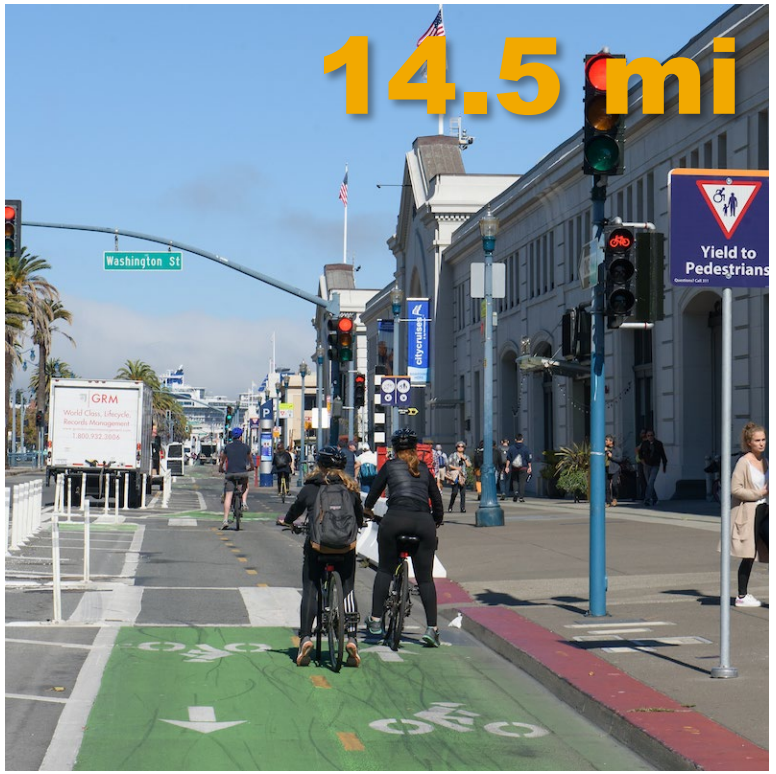
Valencia St

- Recent virtual open house
- Anticipated construction in Spring 2023
- **Pilots a custom curb management plan, upgrades existing bike lane using new innovative design**

QUICK-BUILD IMPROVEMENTS

Transit Boarding Islands

New or Upgraded Painted Safety Zones



New or Upgraded Bikeways

QUICK-BUILD TOOLKIT ASSESSMENT

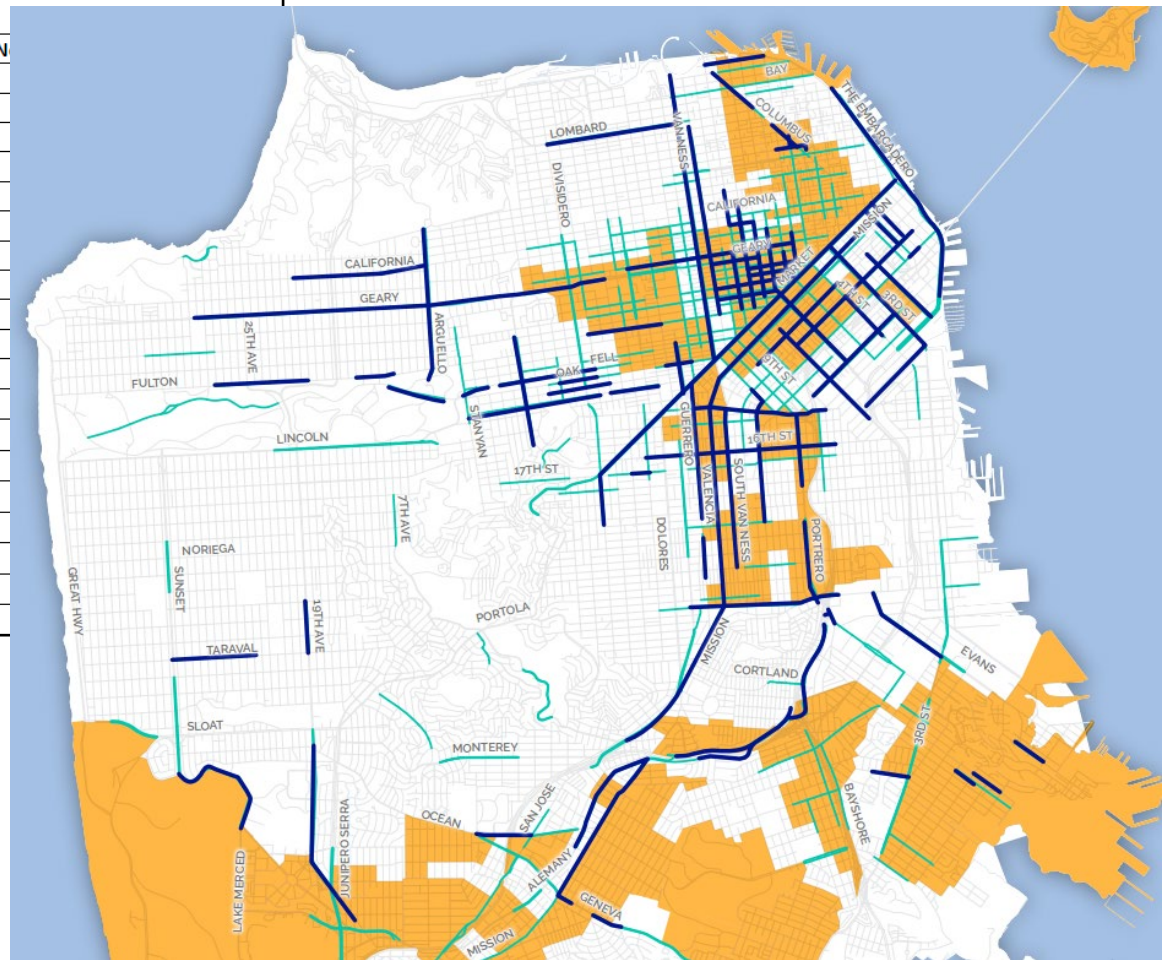
CORRIDOR
FROM
TO

Category	Purpose*	Features	Fully Implemented	Partially Implemented	N
Core toolkit improvements to slow vehicle speeds, improve visibility, and reduce conflicts	C	12" signal head			
	B	Advance limit line			
	B	Stop bar			
	B	Continental crosswalks			
	B	Daylighting			
	C	Leading pedestrian internals (LPI)			
	C	Walk speed 3.0 ft/sec			
	C	Accessible pedestrian signals (APS)			
	C	Pedestrian countdown signals (PCS)			
	C	Curb management			
Pedestrian Safety Improvements	B	Yield teeth			
	B	Painted safety zone (PSZ)			
	B	Bulbout			
	C	Turn restriction			
	C	Protected left turn			
	C	Stop sign			
	C	Pedestrian scramble			
	C	Signal retiming			

Completed, In Planning, or Construction

Remaining Quick-Build Locations

Equity Priority Communities



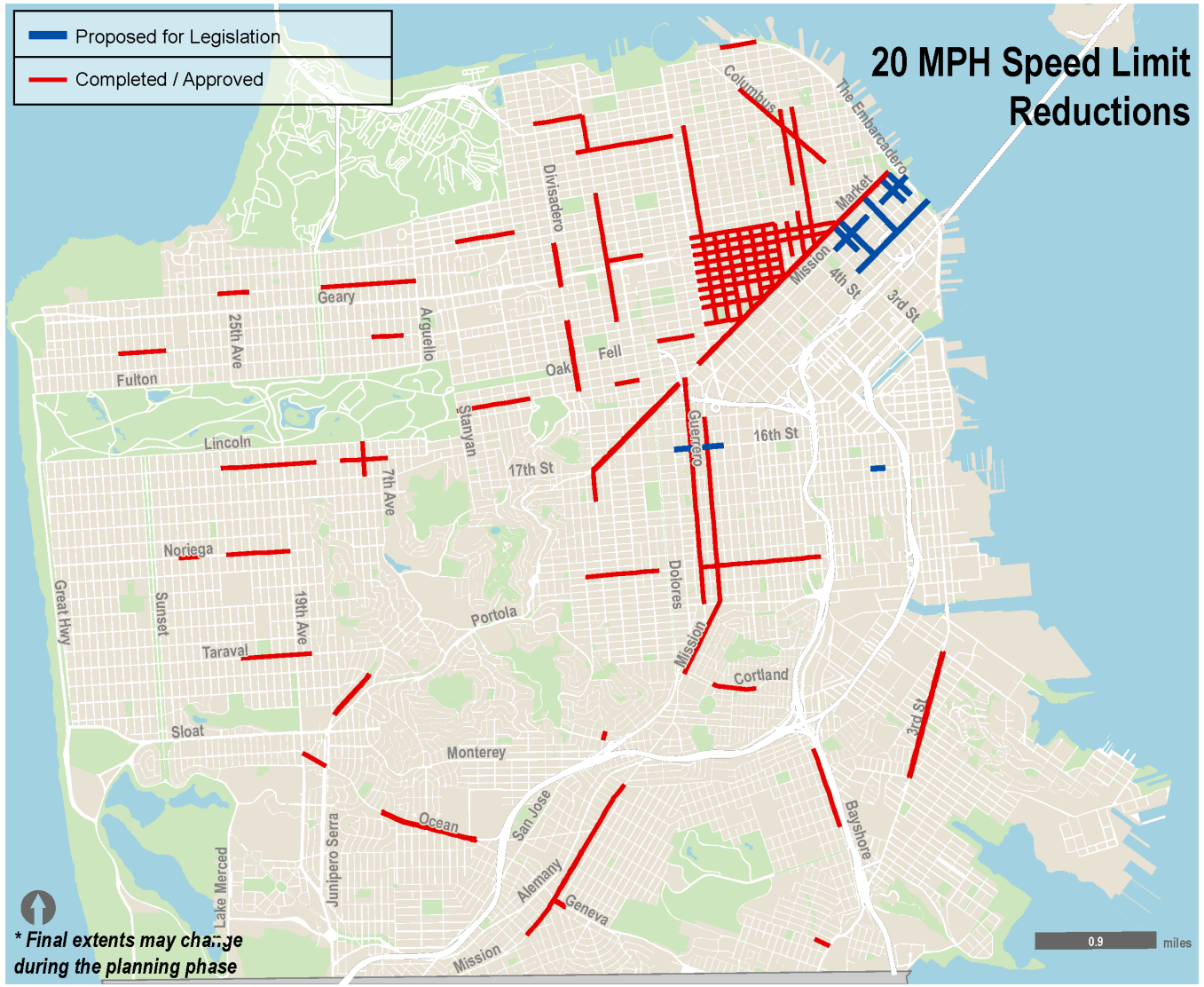
REDUCING SPEEDS

Vision Zero Action Strategy

Safe Streets Action

SPEED MANAGEMENT PROGRAM

SPEED LIMIT REDUCTION PLANS



20 MPH CORRIDORS UNDER NEW STATE AUTHORITY AB43

21
Corridors Completed

21
Corridors in Construction

10
Proposed for Legislation

50+
Under Review for Eligibility

As of November 7, 2022

SPEED MANAGEMENT – EDUCATION AND OUTREACH

2022 SAFE STREETS EVALUATION REPORT

EVALUTATED PROJECTS: THE INVENTORY

18 projects including:

7th Street
8th Street
Folsom Streetscape
Golden Gate Avenue
Leavenworth Street
Turk Street Safety
Central Embarcadero
Valencia Bikeway
6th Street Pedestrian Safety
Safer Taylor Street
Indiana Street Bikeway
California Street Safety
Page Street
Fell Street
Polk Streetscape
Second Street Improvement Project
Masonic Streetscape Project
Left-Turn Safety

Performance Metrics:

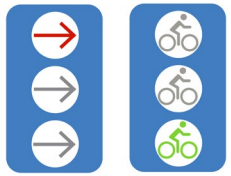
Vehicle, Bicycle, and Pedestrian Collisions
Vehicle Speeds
Bicycle Volumes
Bicycle Signal Compliance/Yielding
Blockage of Bikeways
Vehicle-Pedestrian Interactions
Vehicle Travel Time
Vehicle Turning Speeds

EVALUTATED PROJECTS: THE INVENTORY

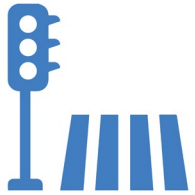
18 projects over 5 years, including:

7.3 miles in road lane reductions

7 miles of created or upgrading existing bikeways to separated bikeways



10 intersections with new separated bike signals



Various pedestrian safety improvements at intersections in all projects

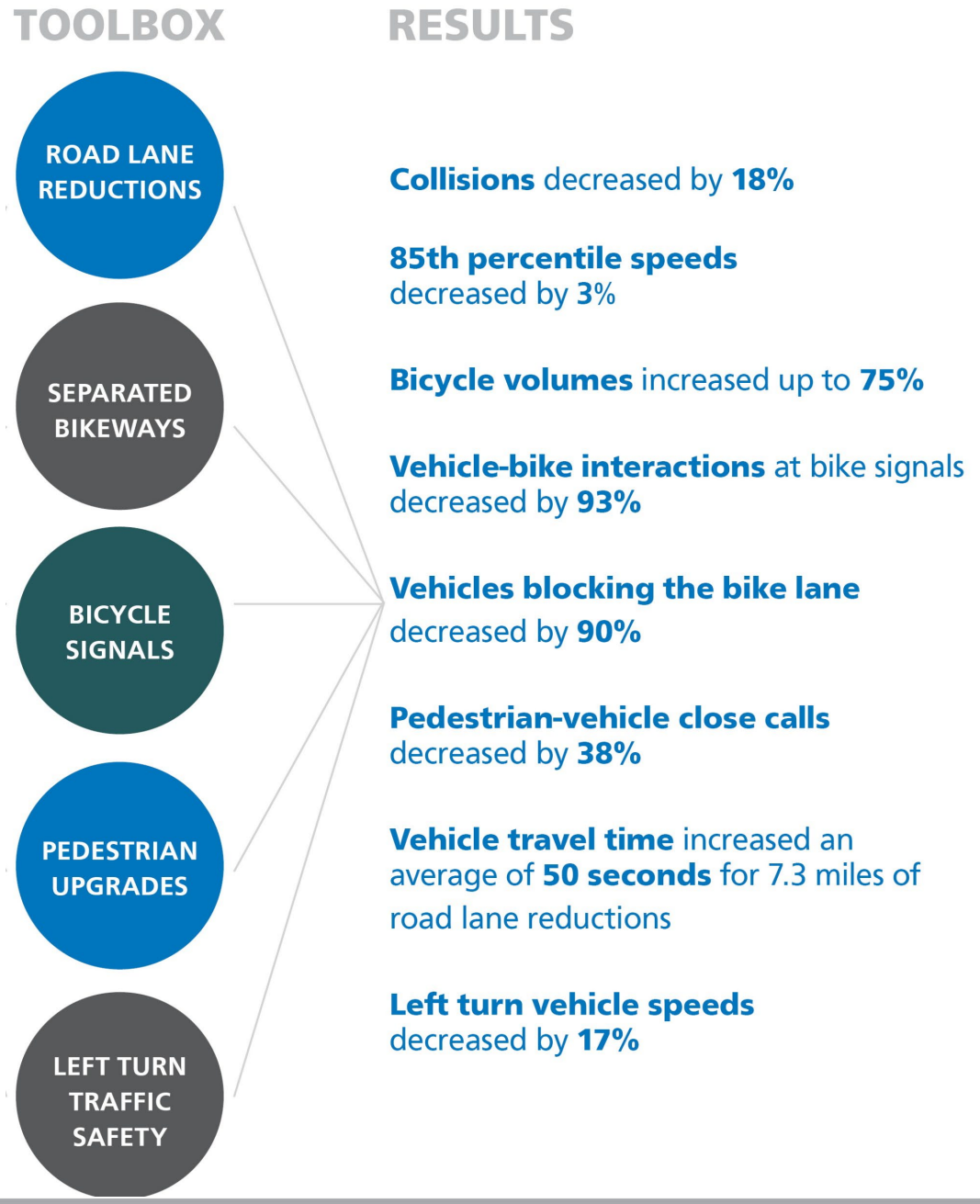
THE RESULTS

Collision rates down, especially bicycle-related and pedestrian-related collision rates

Bicycle volumes increased significantly

Thanks to protected bikeways, the rate of incidents of vehicles blocking the bike lane decreased significantly

Close calls decreased across evaluated projects



QUICK BUILDS VS. CAPITAL PROJECTS

Fell Street

2nd Street

QUICK BUILDS VS. CAPITAL PROJECTS

Measure	Metric	Overall Findings	Capital Findings	Quick-Build Findings
Collisions	Δ Annual Collision Rate	-18%	-19%	-17%
	Δ Annual Bike Related Collision Rate	-33%	-5%	-42%
	Δ Annual Pedestrian Related Collision Rate	-32%	-50%	-26%
Vehicle Speed	Δ 85th Percentile Speed	-3%	-5%	-3%
	Max Speed Change Observed	-20%	N/A	N/A
Vehicle Travel Time	Δ Vehicle Travel Time Seconds	50.00	221.00	21.50
Bike Volume	Δ AM Bike Volume	75%	187%	41%
	Δ PM Bike Volume	72%	107%	62%
Bike Signal Interactions and Close Calls	Δ Bike-Vehicle Interactions	-93%	N/A	-93%
	Δ Close Calls (near misses)	-62%	N/A	-62%
	Avg Daily Interactions Post-Implementation	2.2	0.3	3.1
	Bike Compliance w/ Bike Signal	87%	86%	88%
	Vehicle Compliance w/ No Turn On Red	90%	86%	92%
Blocking the Bikeway	Δ Rate of Incidents	-90%	-19%	-90%
Vehicle-Pedestrian Close Calls	Δ Close Calls (near misses)	-38%	0%	-34%

SPOTLIGHT: REACHING UNDERSERVED NEIGHBORHOODS

Bayview Quick-Build

Leavenworth St Quick-Build

Golden Gate Ave Quick-Build

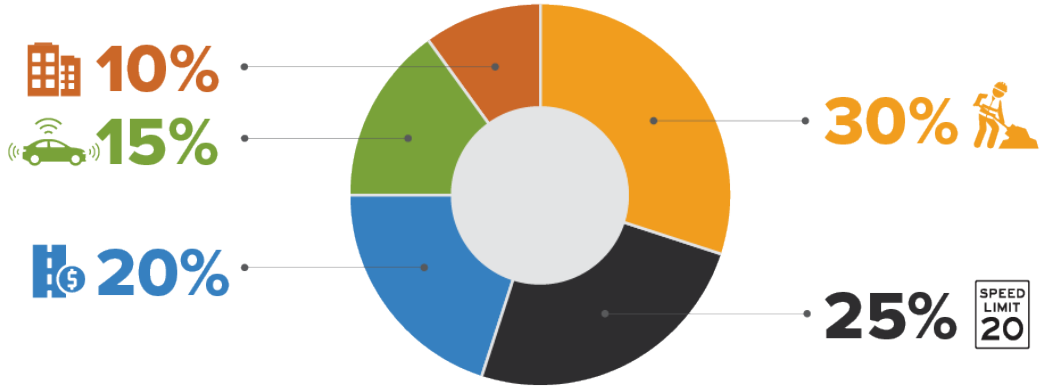
Tenderloin No Right On Red

VISION ZERO ACTION STRATEGY

Our findings show that **street design changes are decreasing bike and pedestrian-related collision rates by 33 and 32%,** respectively

Measure	Metric	Overall Findings
Collisions	Δ Total Collisions	-18%
	Δ Bike Related Collisions	-33%
	Δ Pedestrian Related Collisions	-32%

These findings are in line with the collision decrease estimate from the Vision Zero Action Strategy



NEXT STEPS

Continue evaluating street safety projects and programs to track trends and performance and apply lessons learned

Develop and launch a database for the program

For more info, please visit:
SFMTA.com/SafeStreetsReport2022

2022 High Injury Network Update

November 2022

VISION ZERO SF

POPULATION HEALTH DIVISION
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH

High Injury Network: 2011-Present

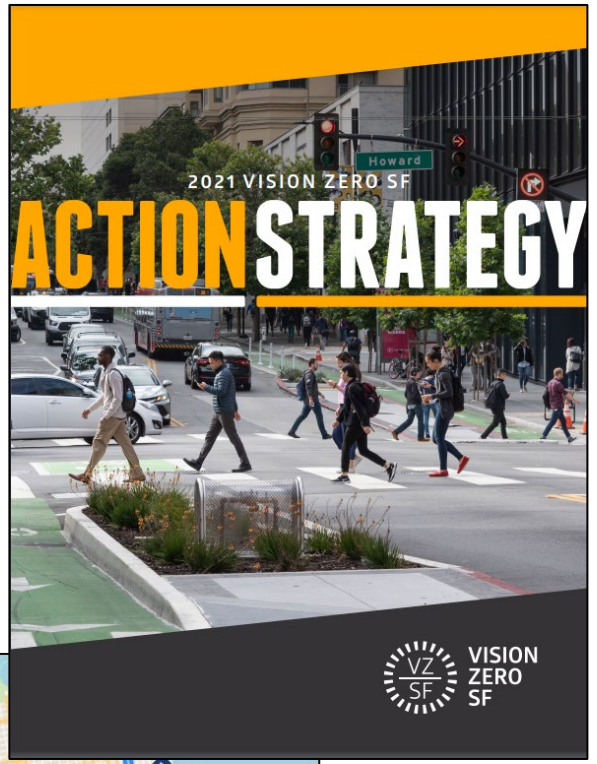
- **2011:** Original ***Pedestrian High Injury Corridors*** using Statewide Integrated Traffic Records System (SWITRS), 2005-2012

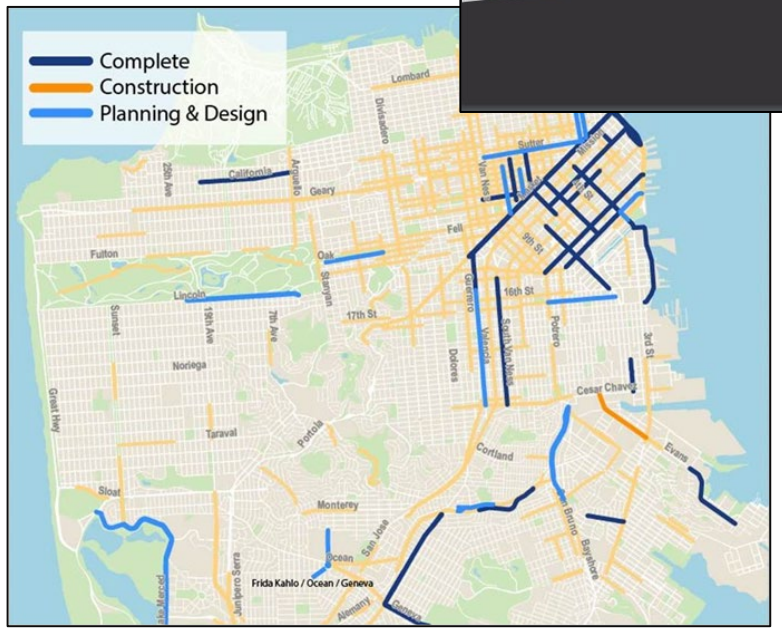
- **2015:** ***Pedestrian, Cyclist and Vehicle High Injury Corridors*** combined to create the ***Vision Zero High Injury Network***

- **2017 - present:** ***Vision Zero High Injury Network*** updated using DPH's Transportation Injury Surveillance System (TISS) using 2013-2015 severe and fatal crashes

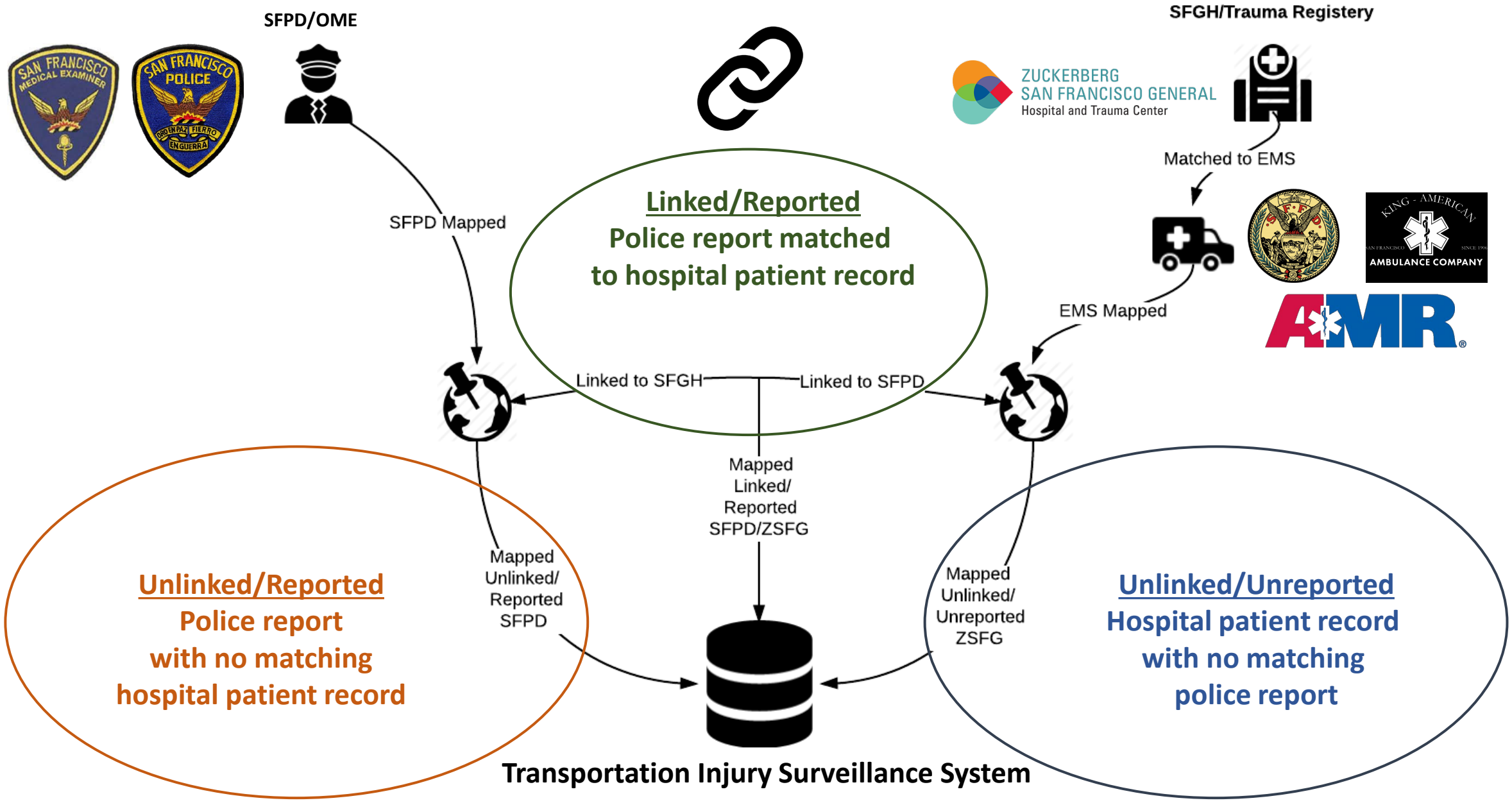
- **Planned update for 2020 using 2016-2019 severe and fatal crashes from TISS was delayed due to COVID-19 pandemic**

High Injury Network: Uses to Date





Linking Zuckerberg SF General Hospital and Police Data



What is Counted Counts: Findings from 2013-2015 TISS Linkage

"Transportation-injured ZSFG-treated patients lacking police reports were **more often cyclists, male, Hispanic or Black,** and **less often occupants of motor vehicles** compared to those with injuries captured only in police reports."

"Police reports were **significantly less likely to record individuals as Hispanic** (16%, $p<0.0001$) compared to medical records (20%)."

"Police officers were **significantly more likely to classify injuries as severe** or fatal than hospital staff ($p=0.0005$)."

"However, **more than three in 10 non-fatal injuries with a critical ISS were missed** (i.e. reported as non-severe) in police crash reports."

"**Disproportionate concentration of severe and fatal injuries in Communities of Concern** (47%); just 31% of San Francisco streets are located in these areas where more vulnerable populations are concentrated."

Shamsi Soltani, Leilani Schwarcz, Devan Morris, Rebecca Plevin, Rochelle Dicker, Catherine Juillard, Adaobi Nwabuo, Megan Wier

What is counted counts: An innovative linkage of police, hospital, and spatial data for transportation injury prevention,
Journal of Safety Research, 2022, ISSN 0022-4375, https://doi.org/10.1016/j.jsr.2022.08.002

Reclassifying Injury Severity for Injuries with Linked SFPD-ZSFG Data
2017-2021 TISS Update

Linked/Reported Severe Injuries

65%
Remain Severe
(also hospital severe)

35%
Reclassified
(not severe per hospital)

Linked/Reported Visible Injuries

21%
Reclassified to Severe per hospital

79%
Remain Visible Injury
(not severe per hospital)

Linked/Reported Complaint of Pain

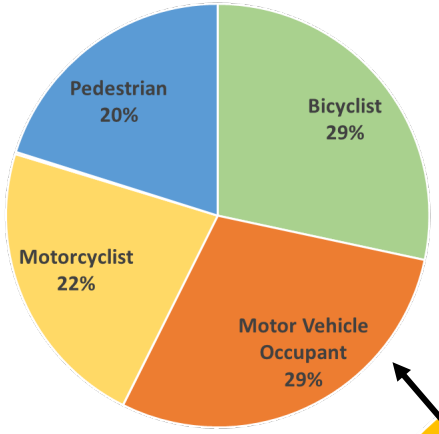
12%
Reclassified to Severe per hospital

88%
Remain Complaint of Pain
(not severe per hospital)

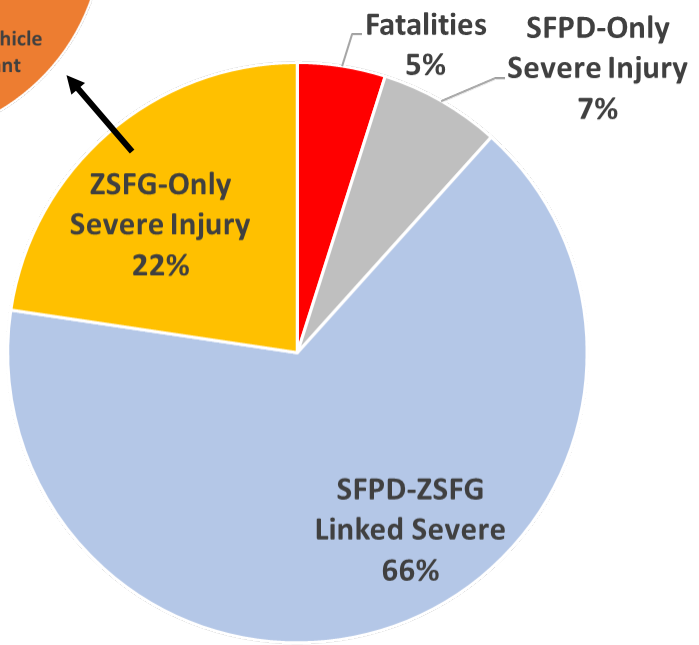
Net increase in severe injuries in SFPD records based on hospital data.

TISS Breakdown of Severe and Fatal Injuries by Data Source (2017-2021) N= 2,631*

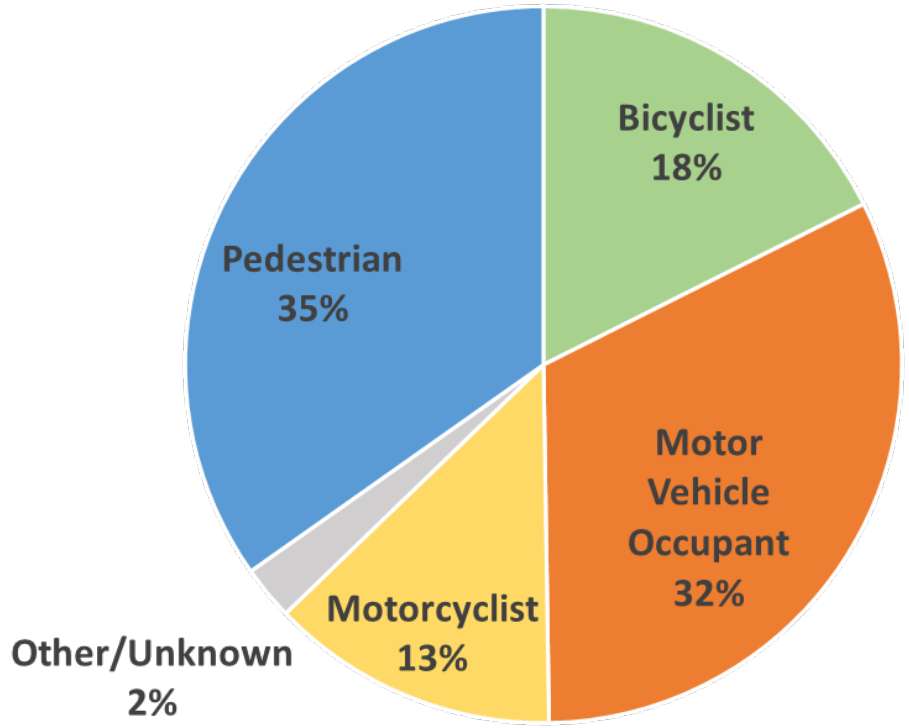
ZSFG/EMS-Only by Transportation Mode



TISS Severe/Fatal Injuries by Data Source



TISS Severe/Fatal Injuries by Transportation Mode



*Excludes the Presidio, intentional assaults, homicides, and suicides.

One Vision Zero High Injury Network Focused on Severe and Fatal Injuries

NETWORK GOALS

- **Focus on severe injury and death**: targeting corridors with the highest concentrations of severe and fatal injuries, regardless of mode, is more strongly aligned with Vision Zero goals.
  - *Vulnerable road users (pedestrians, cyclists, e-mobility devices) make up over half of inputs into the network.*

- **Only one network and map**: each mode can still be analyzed and prioritized with underlying data to inform specific programs and projects to best match that mode's problems.

- **Establishes a clear, absolute threshold for future network updates**: X severe/fatal injuries per mile to qualify.

3 Alternatives based on 2017-2021 TISS (ZSFG/SFPD) data:

“Pre-Pandemic” Network (identical methodology to 2017 update)

2017-2019 (3 years of data) with 7 killed or severely injured per mile

“Mostly Pandemic” Network (identical methodology to 2017 update)

2019-2021 (3 years of data) with 7 killed or severely injured per mile

“5 Year” Network (modified methodology to account for 5 years of data)

2017-2021 (5 years of data) with 10 killed or severely injured per mile

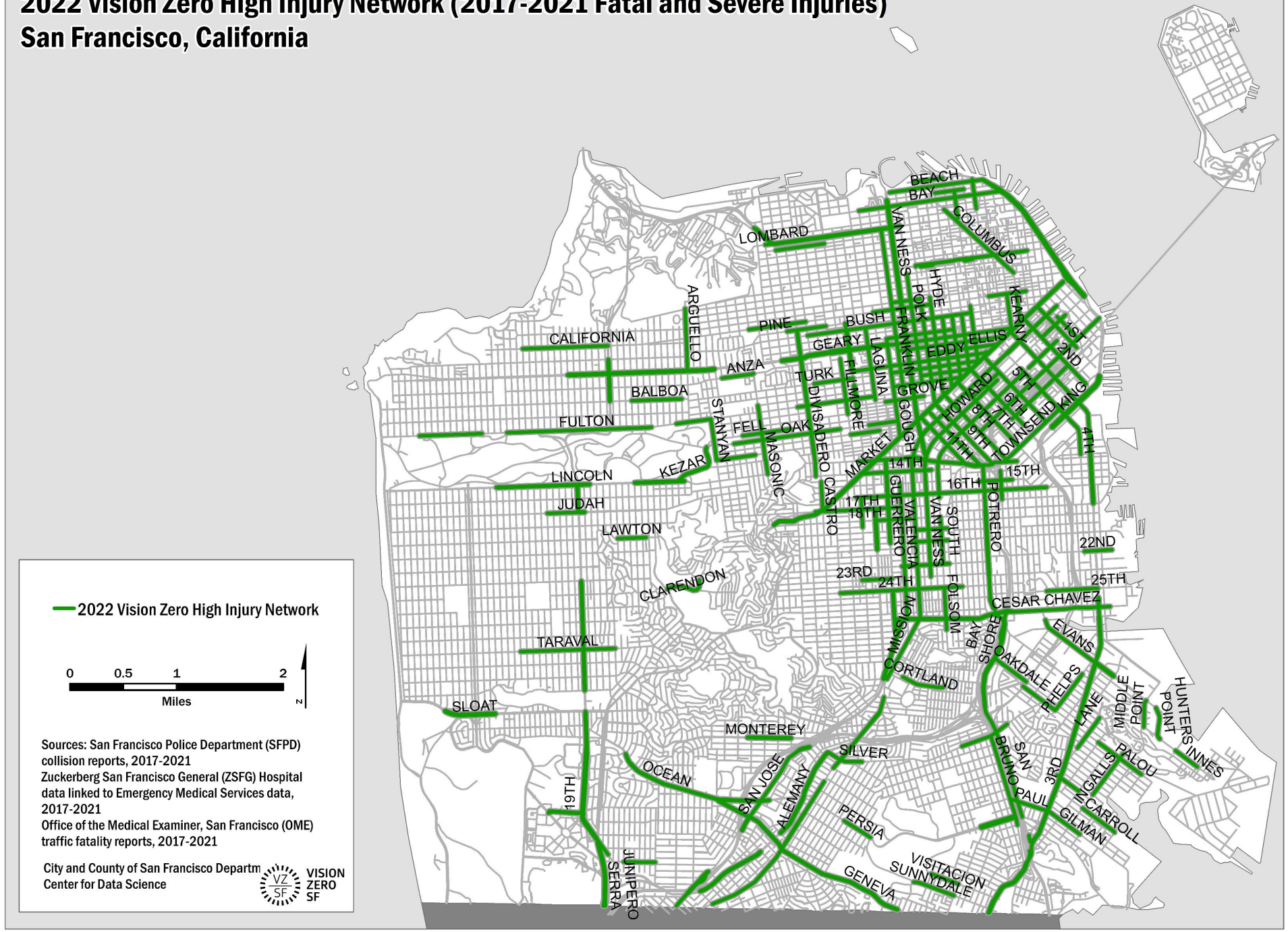
A minimum of least 3 people killed or severely injured within approximately 3 city blocks of one another along the same street from 2017-2021.

Vision Zero High Injury Network Limitations

- Current network **represents snapshot in time** and **may not reflect current conditions**
- Although prior incidents are often indicative of future incidents the Vision Zero High Injury Network is **not a prediction (probability) of future risk**
- The network is built on **only the worst injury outcomes** (fatalities and severe injuries) and may not cover locations with high numbers of less severe injury collisions
- **Small changes** in the number of severe and/or fatal injuries can qualify streets
- **Limited amount of information available** about collision factors from only ZSFG/EMS records
- Limitations on what can be shared from **ZSFG/EMS-only crashes due to HIPAA**

Methodology: https://www.visionzerosf.org/wp-content/uploads/2022/11/2022_Vision_Zero_Network_Update_Methodology.pdf
Web Map: https://sfgov.maps.arcgis.com/apps/webappviewer/index.html?id=b2743a3fc0b14dd9814cf6668fc34773

2022 Vision Zero High Injury Network (2017-2021 Fatal and Severe Injuries)
San Francisco, California



2022 Vision Zero High Injury Network

0 0.5 1 2
Miles

N

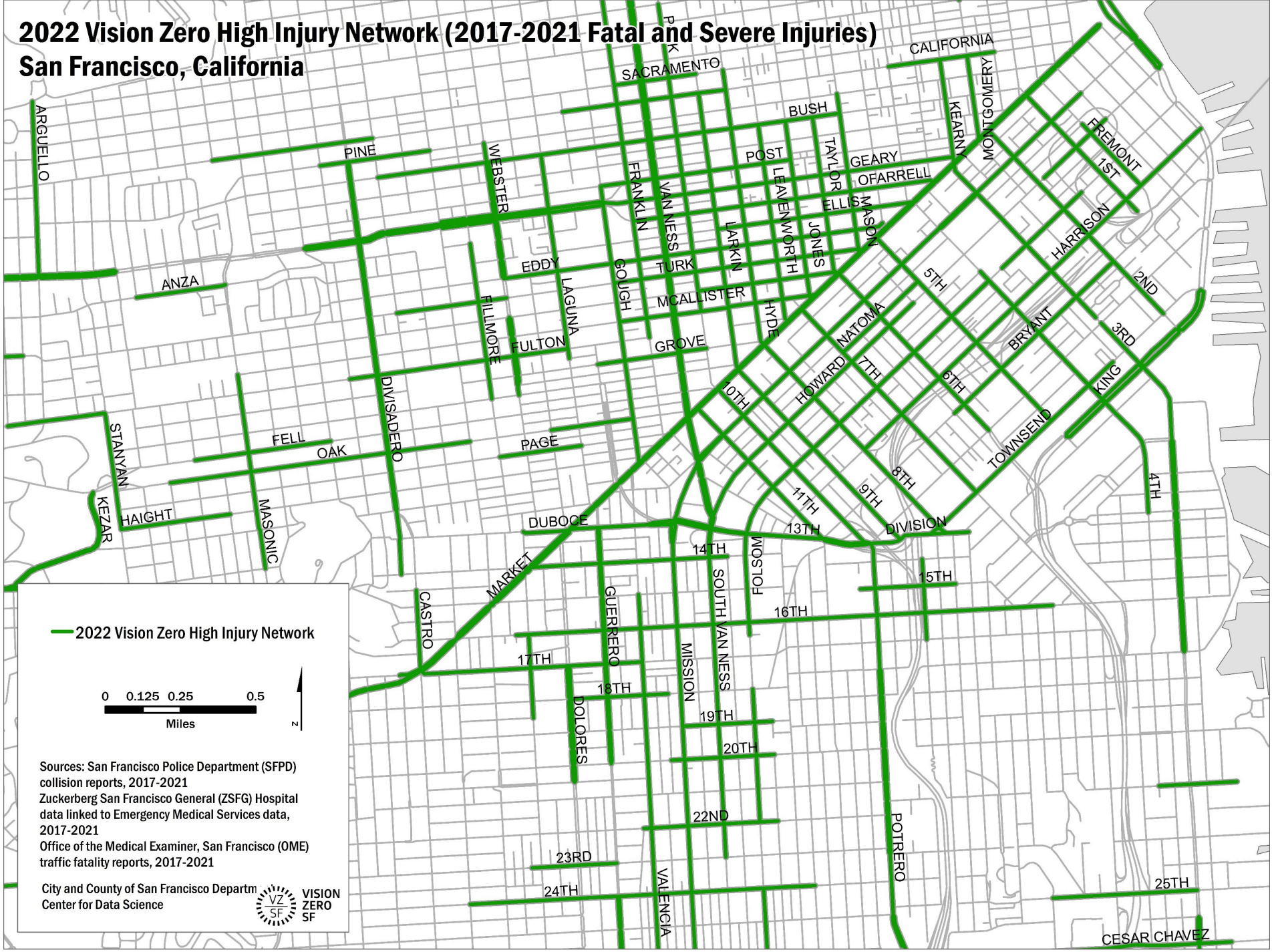
Sources: San Francisco Police Department (SFPD) collision reports, 2017-2021
Zuckerberg San Francisco General (ZSFG) Hospital data linked to Emergency Medical Services data, 2017-2021
Office of the Medical Examiner, San Francisco (OME) traffic fatality reports, 2017-2021

City and County of San Francisco Departm
Center for Data Science

VISION ZERO SF

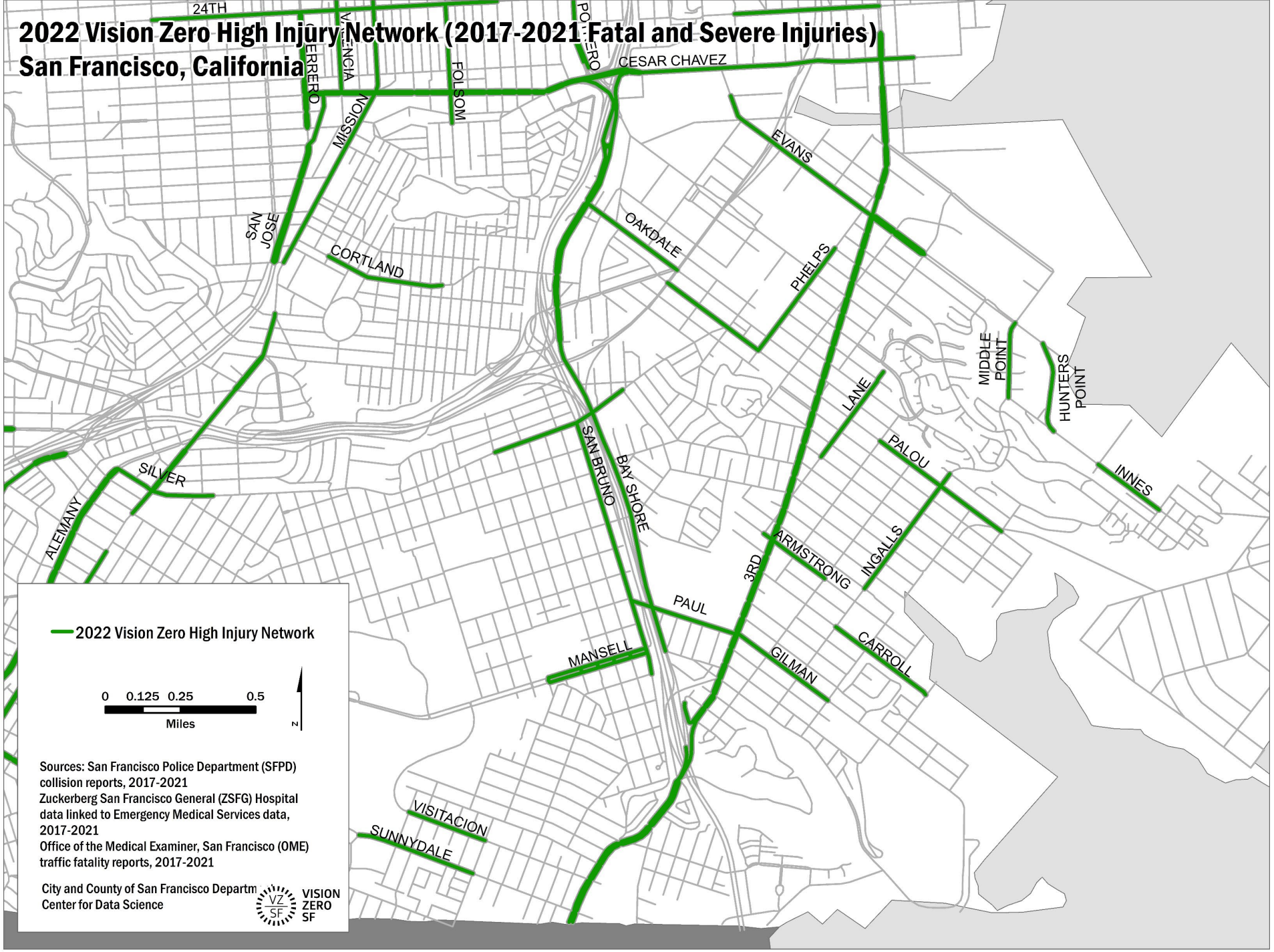
10/25/2022

2022 Vision Zero High Injury Network (2017-2021 Fatal and Severe Injuries)
San Francisco, California



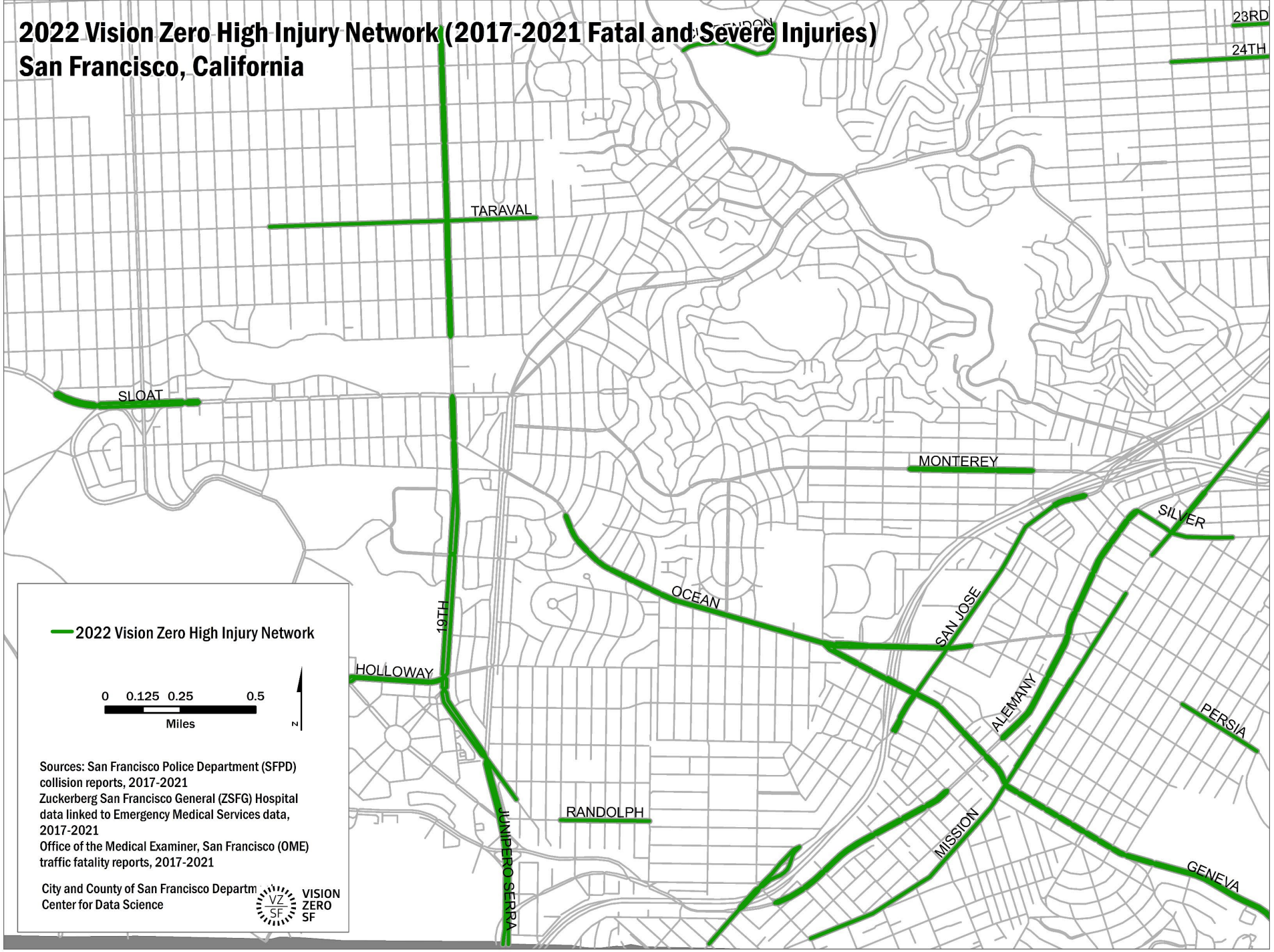
11/1/2022

2022 Vision Zero High Injury Network (2017-2021 Fatal and Severe Injuries)
San Francisco, California



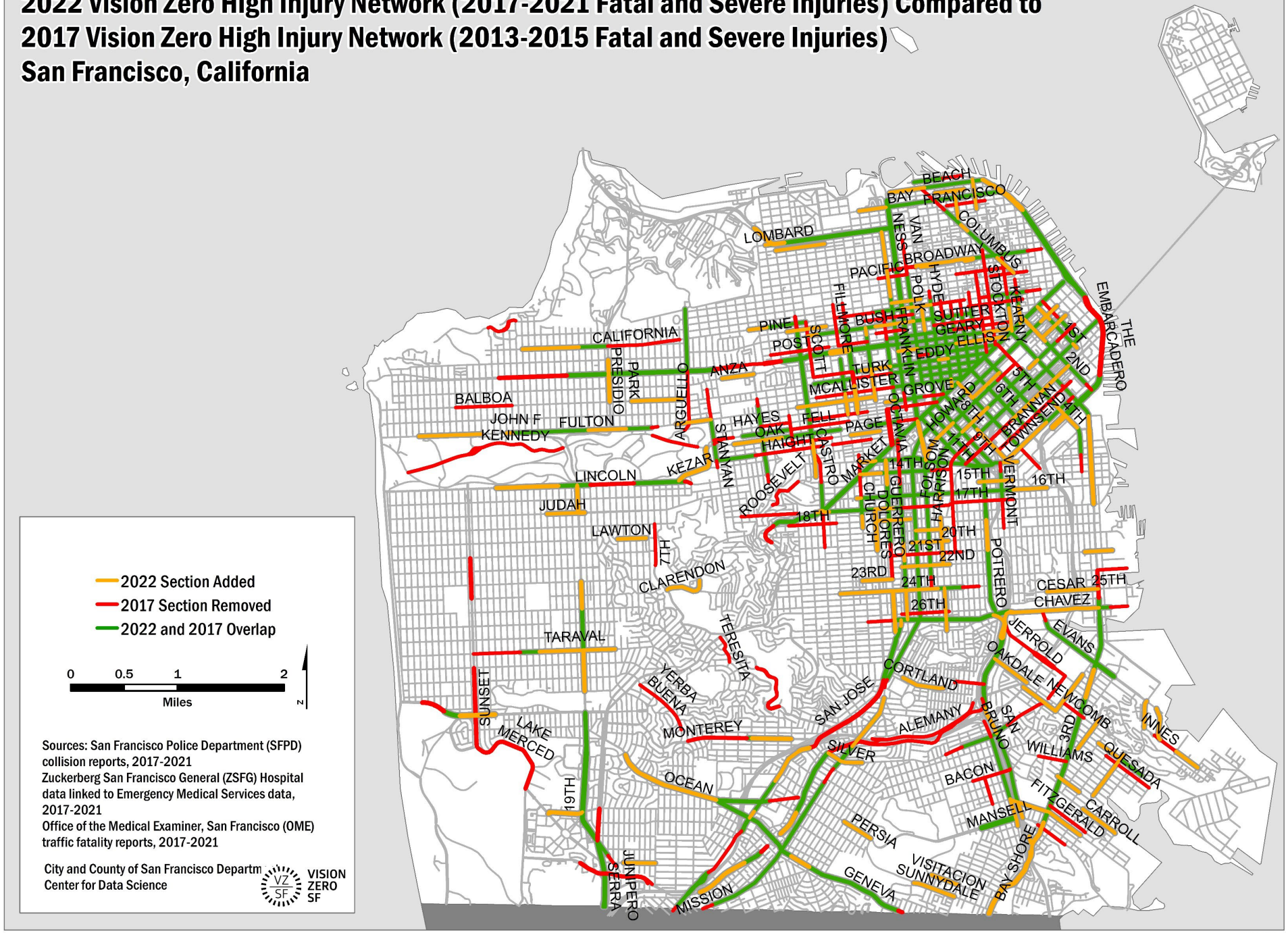
11/1/2022

2022 Vision Zero High Injury Network (2017-2021 Fatal and Severe Injuries)
San Francisco, California



11/1/2022

2022 Vision Zero High Injury Network (2017-2021 Fatal and Severe Injuries) Compared to 2017 Vision Zero High Injury Network (2013-2015 Fatal and Severe Injuries)
San Francisco, California



11/1/2022

Why Might a Corridor Have Been Removed or Added?

METHODOLOGY

- Focus of network is on smaller sample of crashes with worst injury outcomes
  - Streets near threshold for inclusion in 2017 map can drop due to small change in number of severe fatal crashes
  - Streets with any fatality in last 4 years no longer automatically included in network
- 5 years of TISS severe injury/fatality data used with different threshold for inclusion.

CITYWIDE FACTORS

- Vision Zero prevention initiatives:
  - engineering
  - enforcement
  - education
- Changing population growth and transportation patterns
  - COVID-19 pandemic/work from home

Overlap with TISS Killed/Severely Injured and all SFPD Crash Victims

62% of updated 2022 network overlaps 2017 network

2022 network is **12% of city street** miles and captures **68% of severe and fatal injuries** (TISS, 2017-2021)

2022 network captures **61% of all traffic crashes** resulting in an injury (SFPD, 2017-2021) of any severity

2022 network has **captured 74% of fatalities this year** (end of September 2022)

Overlap with Equity Priority Communities

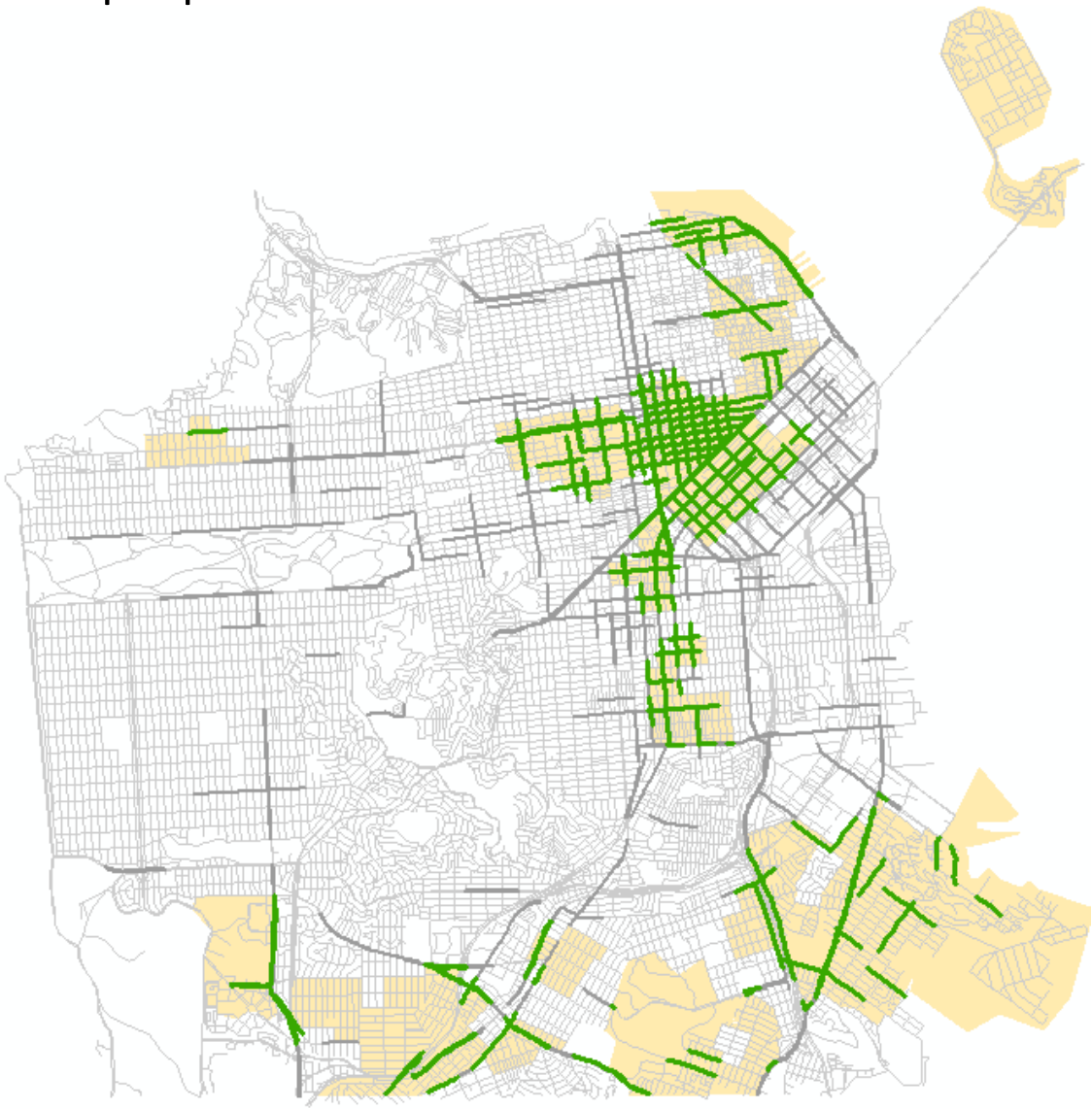
Equity Priority Communities are census tracts that have a significant concentration of underserved populations, such as households with low incomes and people of color.

29% of city street miles

38% of ZSFG/SFPD (2017-2021) severe injuries and fatalities

44% of 2022 Vision Zero High Injury Network miles

- Compared to 40% of 2017 VZ HIN



Thank You TAC Members

DPH
Devan Morris
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Ricardo Olea
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Mike Sallaberry
Alvin Lam
Jennifer Wong
Michael Jacobson
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Chris Kidd

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Paul Barradas
Fernando Cisneros
Michelle Woo
Edmund Lee
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