



Vision Zero Traffic Fatalities: 2020 End of Year Report

March 2021



Produced by the San Francisco Department of Public Health,
in collaboration with the San Francisco Municipal Transportation Agency
and the San Francisco Police Department





Vision Zero Traffic Fatalities: 2020 End of Year Report

Introduction and National Context.....	4
Key Findings	6
High Injury Network and Communities of Concern	6
Travel Mode	6
Demographics: Homelessness, Sex, Age and Race/Ethnicity	6
Primary Collision Factors	6
Driver Characteristics (for Drivers Determined to be at Fault).....	7
Hit and Run Collisions.....	7
Large Vehicle Involvement	7
The Vision Zero High Injury Network and Communities of Concern.....	8
Travel Mode.....	9
Race and Ethnicity.....	9
Age.....	10
Sex.....	11
Homelessness.....	11
Primary Collision Factors.....	11
Time of Day.....	12
Turn Movement Preceding Collision	12
Driver Age (for Drivers Determined to be at Fault)	12
Hit and Run Collisions	12
Sharing Technology involvement	12
Large Vehicle Involvement	12
Ride-Hail Involvement.....	12
Safety Equipment.....	13
APPENDIX A – TABLE OF 2020 VISION ZERO TRAFFIC FATALITIES.....	14
APPENDIX B – TRACKING SEPARATE FROM VISION ZERO TOTALS: FATALITIES ON FREEWAYS, AT SAN FRANCISCO INTERNATIONAL AIRPORT, AND IN THE PRESIDIO	17
APPENDIX C – PRIMARY COLLISION FACTORS BY YEAR.....	19
APPENDIX D – EXCLUSIONS: APPLYING THE VISION ZERO TRAFFIC FATALITY PROTOCOL.....	21



Suggested APA Format Citation:

San Francisco Department of Public Health. (2021, March). *Vision Zero Traffic Fatalities: 2020 End of Year Report*. San Francisco: Program on Health, Equity and Sustainability.

Acknowledgements

We wish to sincerely thank Kalima Collymore of the San Francisco Office of the Medical Examiner. She was instrumental in providing crucial mortality data and other valuable supplementary information needed to implement this process.



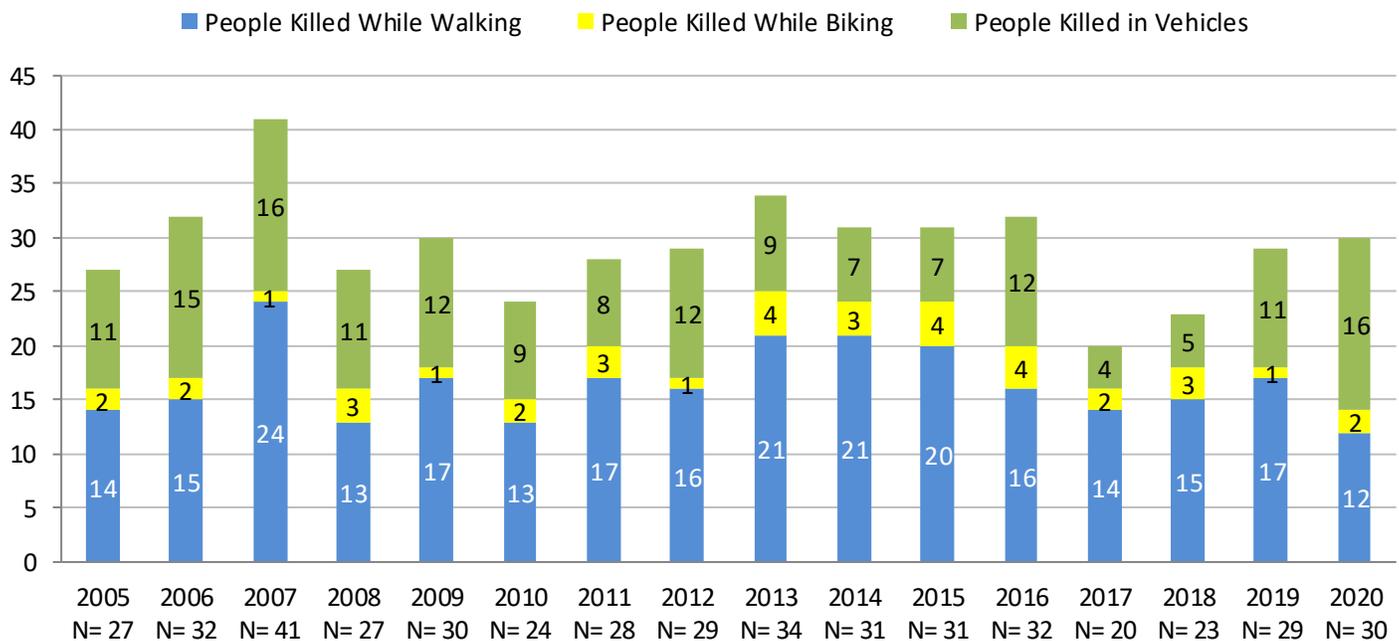
INTRODUCTION AND NATIONAL CONTEXT

San Francisco saw 30 traffic-related deaths in 2020. Thirty lives lost is unacceptable. Every death in this report represents indescribable loss suffered by an individual and the community.

The 30 deaths in 2020 are a 3% increase since 2019, and 11% above the annual average since Vision Zero was implemented in 2014. These 30 deaths resulted from 28 traffic collisions, the same number of fatal collisions seen in 2019. San Francisco remains committed to achieving our Vision Zero goal of zero traffic deaths. This report summarizes traffic death patterns in 2020 to inform Vision Zero initiatives to save lives. While the overall number of 2020 fatalities falls within the range observed in recent history, patterns within 2020's toll diverge from former years.

The following chart compares annual fatality data 2005 through 2020. After relatively stable numbers of traffic deaths in 2014-2016 following the adoption of Vision Zero, the number of traffic deaths in San Francisco fell notably in 2017 to 20 deaths, then rose from 2018-2020.

San Francisco Traffic Deaths, 2005-2020



NOTE: 2005-2012 deaths sourced from California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) data, restricting to San Francisco City Streets jurisdiction, including streets that intersect with freeways (i.e., fatalities occurring at freeway ramps in the City jurisdiction). 2013 traffic deaths from SFPD. 2014-2020 traffic deaths reported using the Vision Zero Traffic Fatality Protocol based on data from the Office of the Medical Examiner and SFPD; includes deaths involving above-ground light rail vehicles not routinely reported in SWITRS. Also note that "People Killed in Vehicles" includes external passengers, as well as riders of micromobility devices and skateboards not propelled by a second vehicle.

Staff from the SF Department of Public Health (SFPDH) work with colleagues from SF Police Department (SFPD) and the SF Municipal Transportation Agency (SFMTA) to report and map official fatality statistics monthly on the following webpage, utilizing the Vision Zero Traffic Fatality Protocol¹: <http://visionzerosf.org/maps-data/>.

¹ In 2015, with periodic updates since, the City finalized and standardized the [San Francisco Vision Zero Traffic Fatality Protocol](#), to ensure consistency of fatality tracking and reporting across city agencies. The protocol utilizes the traffic fatality definition in the collision investigation manual of the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS). However, it expands the definition to include above ground light rail vehicle (LRV)-involved fatalities that involve collisions with pedestrians and cyclists. Traffic fatalities are any person(s) killed in or outside of a vehicle (bus, truck, car, motorcycle, bike, moped, light rail vehicle, etc.) involved in a crash, or killed within the public roadway due to impact with a



This report summarizes characteristics of traffic deaths in San Francisco from 2014-2020, in order to identify patterns and trends to inform Vision Zero SF's data-driven actions and policies. Note that traffic fatality totals are susceptible to random variation. Year-to-year changes as well as annual patterns in the data where there are small sample sizes may thus be due to chance. Analyzing longer-term trends helps address this issue. Past years' data continue to inform Vision Zero activities as we monitor how 2020 data affect trends. SFPD also monitors and reports on severe injuries to understand trends and characteristics of the most serious traffic-related injuries, which serves as an additional metric by which to evaluate the progress of Vision Zero efforts.²

San Francisco was the second city in the country to adopt Vision Zero and the goal of zero traffic deaths, now implemented by over 40 cities across the United States. While data are not equally available for all jurisdictions, 2020 traffic deaths exceeded or matched five-year highs across the country, including in New York City, Philadelphia, Chicago, Austin, Seattle, and Portland.³⁻⁸

2020 was an anomalous year around the globe. National estimates reflect fewer vehicle miles traveled in conjunction with the COVID-19 pandemic, and also 4.6% more motor vehicle fatalities in the first three quarters of 2020 relative to the same span in 2019.⁹ It is too early to conclusively explain why traffic deaths have trended upwards nationally despite less driving overall, and full 2020 data by mode have not yet been released at the national level. However, preliminary analyses indicate evidence of decreased seatbelt use, increased alcohol and cannabis retail, increased drug and/or alcohol use among operators of motor vehicles involved in crashes, as well as higher traffic speeds.¹⁰ One federally-cited study estimates median traffic speeds in urban areas rose 22% during April-October 2020.¹¹ The same source identifies San Francisco's interstate and highway speeds as an outlier among 25 major metropolitan areas, with speeds increasing over 60% between April and July 2020.

San Francisco's fatality trends exist in the larger context of several important factors, while some of these impacts have potentially slowed during the pandemic. Our region supports a growing residential population, increased traffic on city streets including from transportation network companies Uber and Lyft, as well as crises on city streets related to substance use and people without housing. **2020 saw the lowest number of pedestrian deaths on San Francisco streets in Vision Zero history. In recent years San Francisco fatalities of people walking or biking have decreased or held steady in contrast with national trends of increases in fatalities of people walking and biking** – with 2018 analyses by the U.S. Department of Transportation's National Highway Traffic Safety Administration finding the **highest numbers of deaths to people walking and biking nationally since 1990.**¹² The proportion of U.S. traffic deaths affecting pedestrians and cyclists— among the most vulnerable road users— increased from 15% in 2010 to 20% in 2019.¹³

vehicle or road structure, or anyone who dies within 30 days of the public roadway incident as a result of the injuries sustained within the City and County of San Francisco.

² Severe Injury Trends Report available at: www.visionzerosf.org/wp-content/uploads/2019/09/Severe-Injury-Trends-2011-2018-final-report.pdf
New data will be added to these trends in a report due out later this year.

³ <https://www.nytimes.com/2021/01/01/nyregion/nyc-traffic-deaths.html>

⁴ <https://whyy.org/articles/is-phillys-deadly-car-crash-surge-a-public-health-crisis/>

⁵ <https://chi.streetsblog.org/2021/02/09/chicago-traffic-deaths-were-up-45-last-year-as-speeding-increased-during-covid/>

⁶ <https://www.kut.org/austin/2021-01-08/despite-fewer-drivers-more-people-died-on-austin-roads-in-2020-than-in-the-past-five-years>

⁷ <https://www.seattletimes.com/seattle-news/transportation/seattle-traffic-fatalities-remained-high-in-2020-despite-pandemic/>

⁸ <https://www.wweek.com/news/city/2020/12/16/portlands-annual-traffic-deaths-reach-a-24-year-high/>

⁹ National Center for Statistics and Analysis. (2020, December). Early estimate of motor vehicle traffic fatalities for the first 9 months (Jan–Sep) of 2020 (Crash•Stats Brief Statistical Summary. Report No. DOT HS 813 053). National Highway Traffic Safety Administration.

¹⁰ Office of Behavioral Safety Research. (2021, January). Update to special reports on traffic safety During the COVID-19 public health emergency: Third quarter data. (Report No. DOT HS 813 069). National Highway Traffic Safety Administration

¹¹ Pishue, B. (2020, December). COVID-19 effect on collisions on interstates and highways in the US. INRIX Research.

¹² National Center for Statistics and Analysis. (2019, October). 2018 fatal motor vehicle crashes: Overview. (Traffic Safety Facts Research Note. Report No. DOT HS 812 826). Washington, DC: National Highway Traffic Safety Administration.

¹³ National Center for Statistics and Analysis. (2020, December). Overview of motor vehicle crashes in 2019. (Traffic Safety Facts Research Note. Report No. DOT HS 813 060). National Highway Traffic Safety Administration.



KEY FINDINGS

28 collisions resulted in 30 traffic deaths on San Francisco streets in 2020.

High Injury Network and Communities of Concern

- Of the 30 traffic deaths in 2020, the majority (63%, n=19) occurred on the Vision Zero High Injury Network.
- Just under half (47%, n=14) of fatalities occurred in a Community of Concern in 2020, and of those most (71%, n=10) were also on the High Injury Network.

Travel Mode

- Twelve people (inclusive of one skateboarder) were killed while walking in San Francisco, comprising the largest road user group impacted by traffic fatalities (40%).
 - Compared to 2019's seventeen fatalities, five fewer people were killed while walking in 2020.
- Two riders of standing powered scooters died on San Francisco streets in 2020, representing the first traffic deaths associated with this mode in the City (7%).
- Seven people were killed while riding a motorcycle, comprising 23% of all traffic fatalities.
 - Compared to 2019's single motorcyclist death, six more people were killed while riding a motorcycle.
- Two people were killed while biking, comprising 7% of all traffic fatalities.
 - Compared to 2019's single fatality, one more cyclist died.
- Seven people were killed while travelling in or outside a motor vehicle (23%), including one person riding on the coupler between two light-rail vehicle cars.
 - Compared to 2019's count of nine people killed while travelling in a motor vehicle, two fewer motor vehicle drivers or passengers died.
- 2020 saw a number of vehicle crashes involving a single party. These solo vehicle crashes totaled 23% (n=7) of fatalities. This represents five more people than in 2019 (7%, n=2).

Demographics: Homelessness, Sex, Age and Race/Ethnicity

- Six people without a fixed address were among 2020 Vision Zero traffic fatalities, comprising 20% of all fatalities. *Separate from the Vision Zero count, three additional people experiencing homelessness died on SF freeways or Caltrain right of way within San Francisco in 2020.*
- The large majority of those killed in traffic collisions in 2020 were male (83%, n=25). Three quarters of people killed while walking were male (n=9). All people killed while cycling, riding a motorcycle, or a standing powered scooter micromobility device were male (n=2, 7 and 2, respectively). People killed while driving were also more likely to be male than female (n=4 and 1, respectively). One person killed while riding outside a vehicle was male. The sole vehicle passenger killed in 2020 was female.
- Thirteen percent of fatalities were of people aged 65 years or older (n=4). The majority of seniors killed in 2020 were pedestrians, comprising 25% of fatalities in that mode (n=3). One person over age 64 was killed while riding a motorcycle.
- Black and Native American people are overrepresented among traffic fatalities: 17% and 3% of those killed in 2020 were Black and Native American respectively, compared to 5% and <1% of the city population. People killed in traffic collisions were predominantly of White (43%) and Asian (28%) races, though these groups are slightly underrepresented relative to the demographic profile of San Francisco at large (approximately 45% White and 35% Asian). Seven percent of people killed were of Hispanic ethnicity (n=2), compared to 15% of San Francisco's population.

Primary Collision Factors

- Among 28 collisions leading to 30 fatalities, the most-cited collision factors were unsafe speed, driver failure to yield at crosswalks, and failure to stop at a red signal— the same three collision factors that have topped the list each year since reporting began in 2016.



- The most commonly-cited primary collision factor was unsafe speed (CVC 22350), cited as the primary or secondary factor in 40% (n=12) of fatalities.
- The next most commonly-cited collision factors were failure by a driver to yield right-of-way at crosswalks (CVC 21950(a)) and driver failure to stop at a red signal (CVC 21453(a)), cited as a primary or secondary factor in 13% (n=4) and 20% (n=6) of fatalities, respectively.
- Of pedestrian fatalities with vehicle code information available, police classified two thirds (67%, n=8/12) as caused primarily by the driver of a vehicle.
- Two deaths (7%) resulted from a collision primarily caused by a driver under the influence (DUI) of alcohol, according to police assessment. Two additional collisions and fatalities may have involved an intoxicated driver per police reports but did not cite DUI as a primary or secondary collision factor.¹⁴

California Vehicle Code (CVC)	Primary Collision Factor Description	Count (N=28)
22350	Unsafe speed for prevailing conditions	8
21950(a)	Driver failure to yield right-of-way at crosswalks	4
21453(a)	Red signal - driver responsibilities	4
23152(a)	Driver under the influence of alcohol	1
21456(c)	Pedestrian violation of Walk or Wait signals	1
21954(a)	Pedestrians must yield right-of-way outside of crosswalks	1
21755(a)	Unsafe overtaking or passing by driver	1
21453(d)	Red signal - pedestrian responsibilities	1
21804(a)	Entering highway from alley or driveway	1
21954(b)	Failure of driver or bicyclist to exercise due care for safety of pedestrian on roadway	1
22517	Opening door on traffic side when unsafe	1
7.2.13(c)(3) *	Other improper driving	1
n/a	Unknown, N/A, or None	3

* This vehicle code number refers to City and County of San Francisco Traffic Vehicle Code.

Driver Characteristics (for Drivers Determined to be at Fault)

- The majority of fatal collisions involved an at fault driver, by police determination (n=19, 68%).
- The most common turn movement preceding a collision was proceeding straight (74%), followed by turning left (21%).
- At fault drivers spanned the age spectrum. One was a young adult (5%, defined as age 18-24), and one was a senior (5%, age 65 or more).

Hit and Run Collisions

- Seven traffic fatalities (23%) resulted from six hit and run collisions in 2020, resulting in the death of four people walking, a driver, a motorcyclist and one e-scooter rider. This is an increase from 2019, during which 4 fatalities resulted from hit and run collisions.

Large Vehicle Involvement

Of 28 fatal traffic collisions in 2020, one (4%) involved a large vehicle. This is three fewer than the four fatal collisions (14%) involving a large vehicle in 2019.

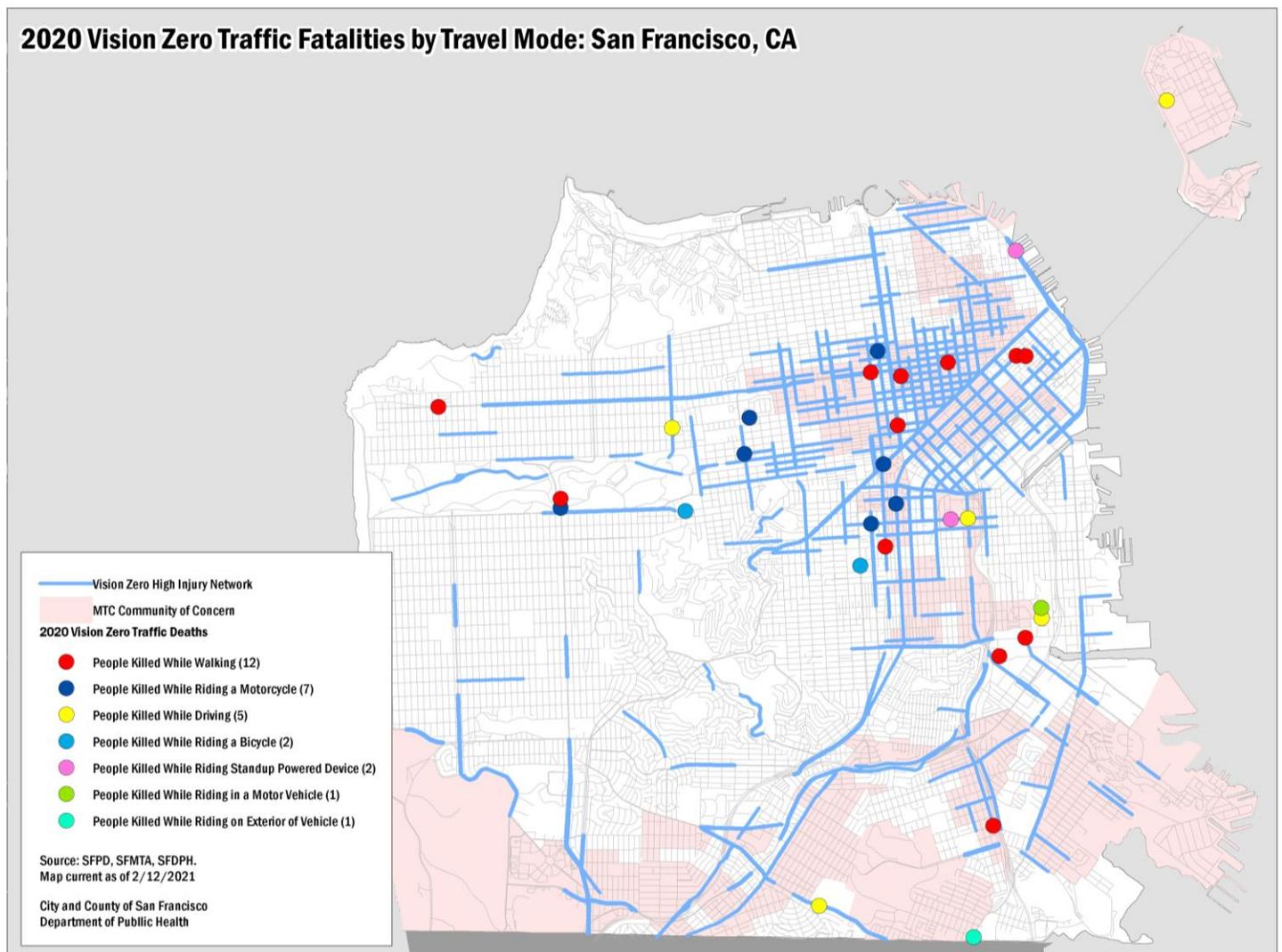
¹⁴ Note that at time of writing, driver intoxication data unavailable for five collisions: two hit and run crashes involving unknown drivers and three crashes for which Office of the Chief Medical Examiner toxicology results are not yet available.



THE VISION ZERO HIGH INJURY NETWORK AND COMMUNITIES OF CONCERN

The Vision Zero High Injury Network (VZHIN) identifies the corridors where the most severe and fatal injuries in San Francisco are concentrated, and is used to identify and prioritize where improvements in engineering, education, enforcement and policy are focused to realize Vision Zero. The VZHIN¹⁵ incorporates both police and hospital data and represents the 13% of San Francisco streets where more than 75% of severe and fatal traffic injuries occur. The majority (52%, or 66/128 miles) of the VZHIN is in the Metropolitan Transportation Commission's (MTC) Communities of Concern,¹⁶ which contain 31% of the city's surface streets. Communities of Concern are areas with high concentrations of poverty, communities of color, seniors and other vulnerable populations.

- In 2020, 63% (n=19) of traffic fatalities occurred on the Vision Zero High Injury Network.
- About one in two fatalities (47%, n=14) occurred in a Community of Concern in 2020, 71% (n=10) of which were on the VZHIN.



¹⁵ Source: San Francisco Department of Public Health-Program on Health, Equity and Sustainability. 2017. Vision Zero High Injury Network: 2017 Update – A Methodology for San Francisco, California. San Francisco, CA. Available at: <https://www.sfdph.org/dph/eh/PHES/PHES/TransportationandHealth.asp>.

¹⁶ Source: Plan Bay Area: 2040 Plan, 2018. <http://www.planbayarea.org/2040-plan/plan-details/equity-analysis>

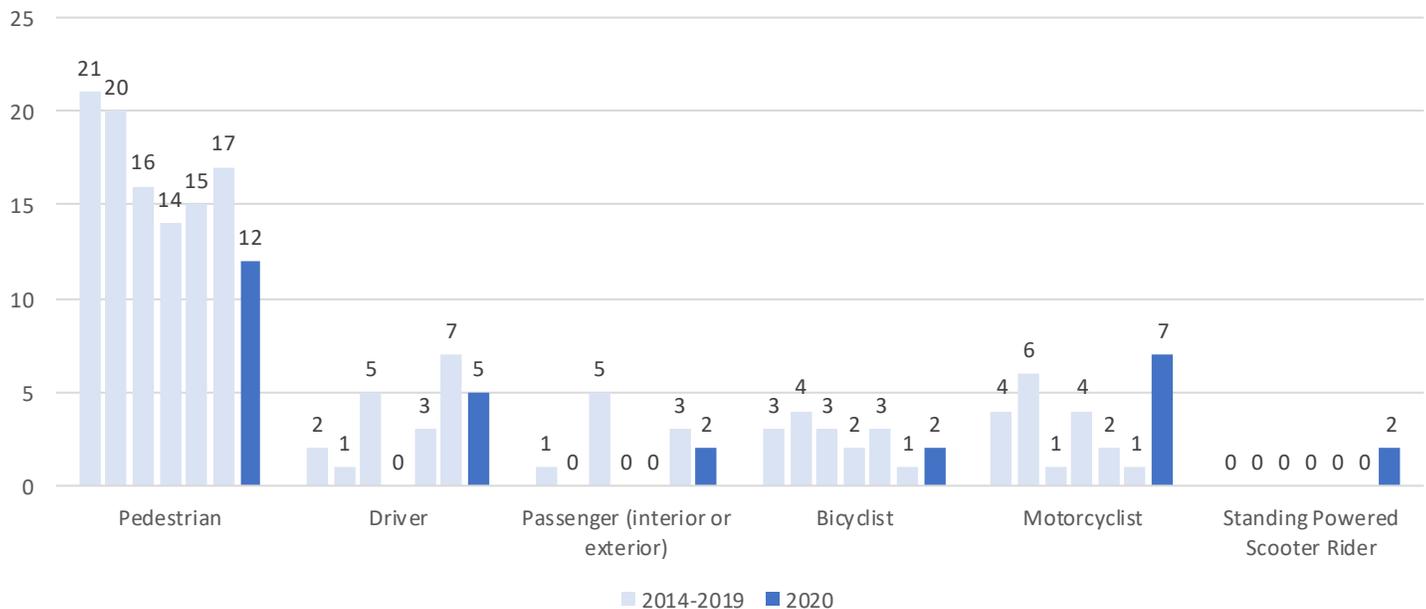


TRAVEL MODE

Pedestrians are consistently among the most vulnerable road users in San Francisco, accounting for 40% of all fatalities in 2020 (n=12). For the first year since Vision Zero was adopted in 2014, pedestrians constituted fewer than half of traffic fatalities in 2020. There were five fewer pedestrian deaths in 2020 relative to the year prior. Eleven of 12 pedestrian fatalities resulted from (or in the case of a person found down, were presumed to result from) collisions with a motor vehicle; one involved a fallen skateboarder. Those killed in motor vehicles (comprised of drivers, passengers, and a light rail vehicle exterior passenger) numbered seven people in 2020, marginally down from nine people in 2019. Two people were killed while biking, representing one more cyclist death than in 2019. Motorcyclist fatalities made up almost one quarter of all 2020 fatalities (23%, n=7), reversing two years of decline in this mode. For the first time in San Francisco, two people were killed while riding standing e-scooters in 2020.

Notably in 2020 there were an unprecedented number of solo vehicle crashes (i.e. crashes involving a single party). These totaled 23% (n=7) of fatalities, resulted from six collisions, and fell into a variety of travel modes: three drivers, one passenger, one motorcyclist, one standing powered scooter rider, and one pedestrian riding a skateboard. This total compares to two solo vehicle crashes in 2019 (n=7%).

Fatalities by Mode (2014-2020)



RACE AND ETHNICITY

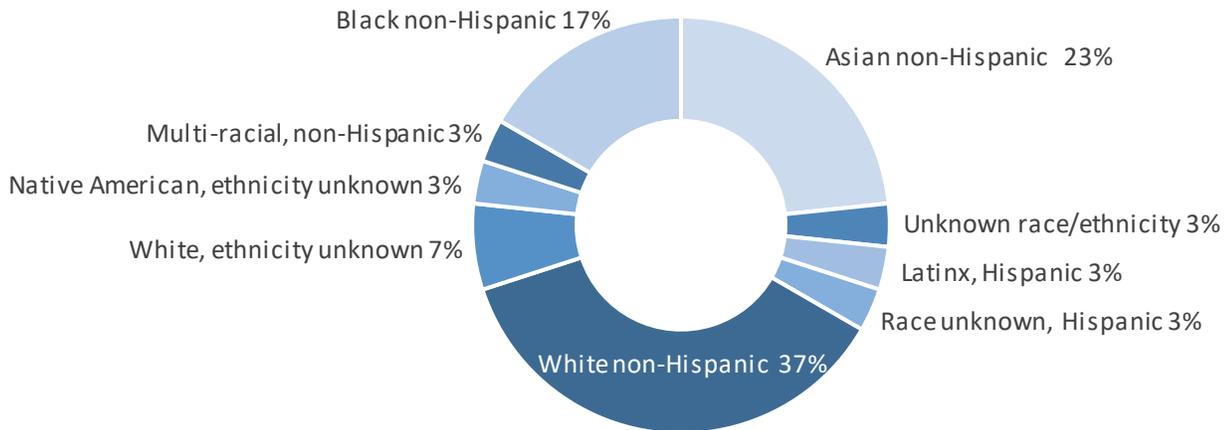
Native American and Black individuals are disproportionately impacted by traffic death in San Francisco. Of people killed in traffic collisions in 2020, 3% (n=1) were Native American, 17% (n=5) were Black, 23% (n=7) were Asian, 43% (n=13) were White, 3% (n=1) were multi-racial, 3% (n=1) were Latinx, and 7% (n=2) were of unknown race. Compared to the demographic profile of San Francisco at large (under 1% Native American and approximately 5% Black, 35% Asian, and 45% White and among people reporting a single race, with 6% reporting two or more races),¹⁷ White and Asian individuals are slightly under-represented and Native American and Black individuals are over-represented in these fatality data.

¹⁷ Source: U.S. Census Bureau (2019). Hispanic or Latino Origin by Race American Community Survey 1-year estimates. Retrieved from <<https://censusreporter.org>>. Note that the Census does not report Latinx or Latino/a as a racial group.



Regarding ethnicity, 15% of San Francisco’s population is Hispanic while a smaller proportion (7%, n=2) of those killed in traffic in 2019 were Hispanic.^{18,19}

Race and Ethnicity* of 2020 Traffic Victims (N=30)



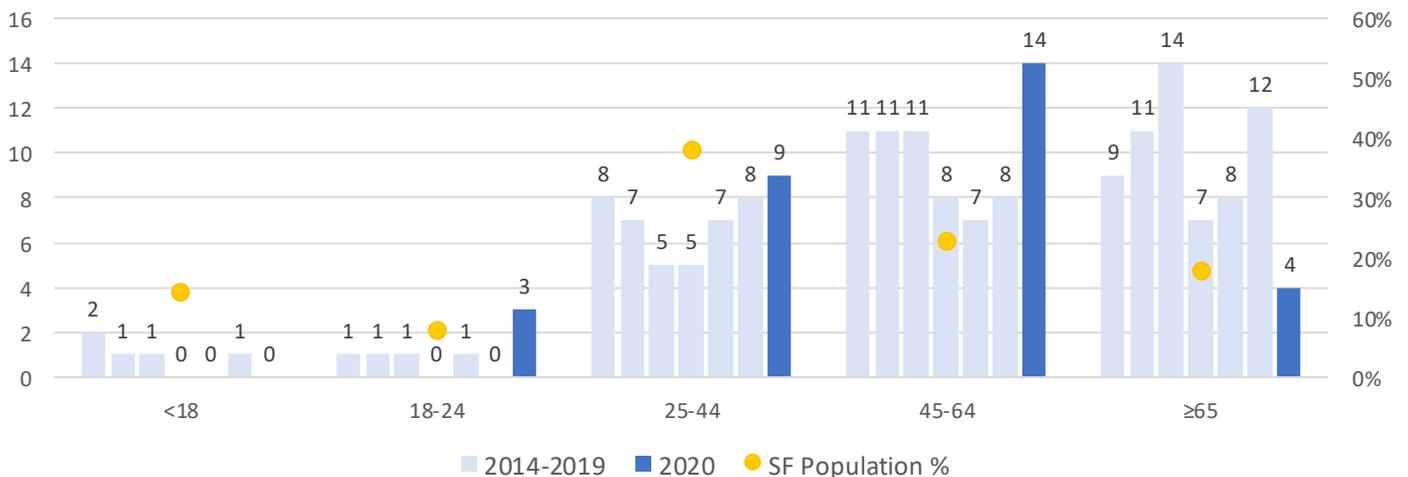
*Race and ethnicity per Office of the Chief Medical Examiner, supplemented by Vision Zero crisis response team

AGE

Seniors (aged 65 and up) have traditionally suffered a disproportionate rate of traffic fatalities. However, this was not true in 2020. Representing 18% of San Francisco’s total population²⁰, seniors accounted for 13% (n=4) of all traffic fatalities in 2020, down from 41% of all traffic fatalities in 2019. Looking specifically at pedestrian fatalities in 2020, one quarter (n=3 of 12) were people age 65 and older and three-quarters (75%, n=9) were people age 50 and older (*data in Appendix A*).

In the opposite direction of the traffic death decline observed among seniors, the numbers of young adults 18-24 and adults 45-64 were higher in 2020 than in any year since Vision Zero was implemented. No youth (under 18 years) died as a result of a traffic collision in 2020.

Fatalities by Age (2014-2020)



¹⁸ Source: same as previous

¹⁹ Note: San Francisco is a city with significant tourist and commuter populations. Though members of these groups are also at risk of injury or death while traveling on San Francisco streets, they are not reflected in the Census population estimates for San Francisco.

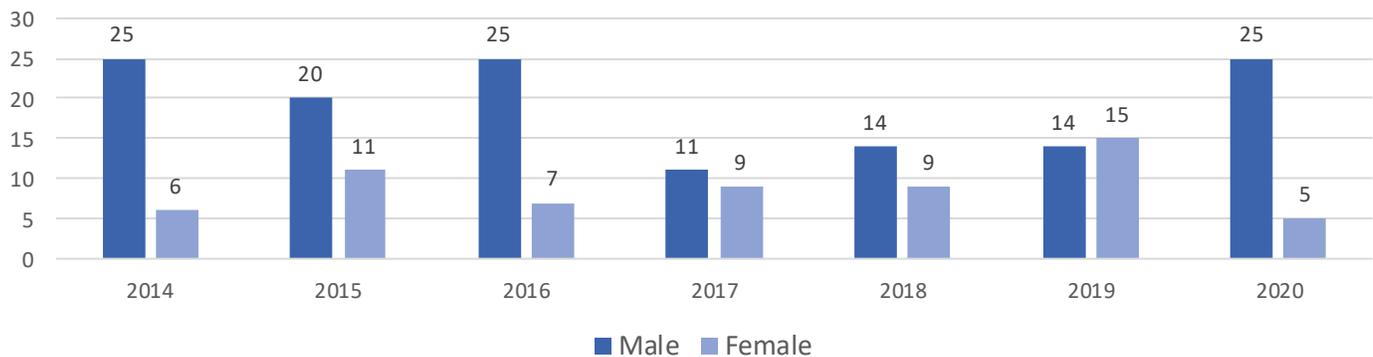
²⁰ Source: U.S. Census Bureau, 2019 American Community Survey 1-Year Estimate



SEX

In 2020 the male:female balance departed from three years of relative parity. The year’s traffic fatalities were 83% male and 17% female, contrasting with the prior year’s 45:55 split. As historically the case (excepting 2019), more males than females were killed on San Francisco streets (n=25 male deaths). Fatality mode reveals different patterns between males and females: three quarters of people killed while walking were male (75%; n=9/12) and 80% of drivers killed were male (n=4/5). All those killed while cycling, riding a motorcycle, or a standing powered scooter micromobility device were male (n=2, 7 and 2, respectively). One person killed while riding outside a vehicle was male. The sole vehicle passenger killed in 2020 was female.

Fatalities by Sex (2014-2020)



HOMELESSNESS

Vision Zero SF tracks the proportion of traffic fatalities affecting people with no fixed address as a conservative proxy for people experiencing homelessness who die in traffic crashes. In 2020, six people without a fixed address were killed on City streets (20%), up from zero in 2019 and similar to 22% of fatalities in 2018. The homeless population of San Francisco is estimated to be 8,011²¹, making up only 0.9% of the City population²². Forty percent of fatalities occurring on SF freeways were to people without a fixed address (n=2/5). In addition, one person who died on Caltrain right of way had no fixed address. People experiencing homelessness are particularly vulnerable to traffic injury.

PRIMARY COLLISION FACTORS

Unsafe speed, driver failure to yield, and not stopping at a red signal were top primary collision factors in 2020, as in prior years. Two fatalities resulted from a collision primarily caused by a driver under the influence (DUI) of alcohol, according to police assessment. Two additional fatalities may have involved a collision with an intoxicated driver but did not cite DUI as a factor. Drug, alcohol, and polysubstance use is a focus of further analysis for Vision Zero in 2021. Four fatal collisions involved a secondary collision factor (*noted in Appendix A*). Of pedestrian fatalities which have vehicle code information available, police classified two thirds (67%, n=8/12) as caused primarily by the driver of a vehicle. Counts of primary collision factors by year can be found in Appendix C.

²¹ Source: Applied Survey Research, 2019 San Francisco Homeless Count & Survey Comprehensive Report. http://hsh.sfgov.org/wp-content/uploads/2019HIRDReport_SanFrancisco_FinalDraft.pdf

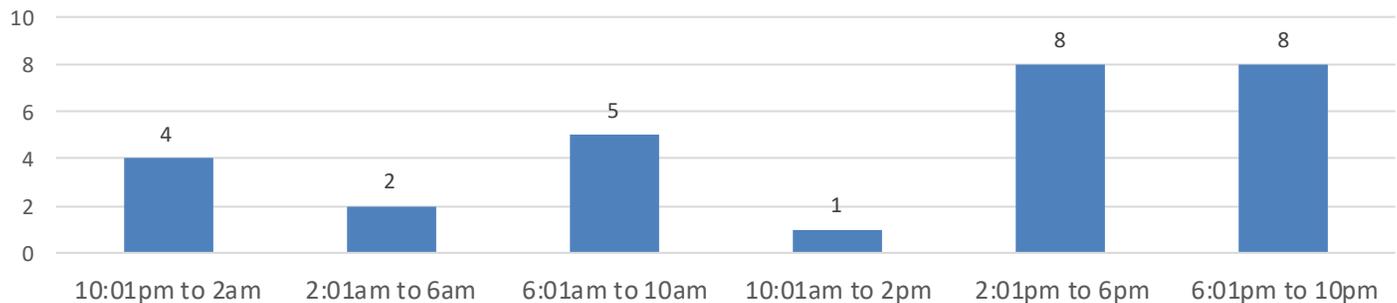
²² San Francisco population estimate of 883,305. Source: U.S. Census Bureau, Population Estimates Program, July 1, 2019



TIME OF DAY

Collisions resulting in traffic fatalities in 2020 occurred more frequently in the afternoon and evening hours with peak numbers occurring between 2:01pm and 10pm (57%, n=16). Fatal collision time of day has shown notable variation from year to year.

Fatalities by Collision Time of Day (2020; N=28 collisions)



TURN MOVEMENT PRECEDING COLLISION

In 19 driver-at-fault fatal traffic collisions, 74% of cases involved drivers proceeding straight prior to collision (n=14). Four (21%) involved a left-turning vehicle or motorcycle, and one involved an unknown movement preceding collision (5%). One additional collision involved a door of a parked vehicle opening into the roadway, but was not considered to involve a driver.

DRIVER AGE (FOR DRIVERS DETERMINED TO BE AT FAULT)

Over two thirds of fatal collisions were determined by police to be the responsibility of a driver or motorcyclist (68%, n=19/28)²³. At fault drivers spanned the age spectrum, with a median age of 42.5. One was a young adult (4%, defined as age 18-24), and one was a senior (4%, defined as age 65 or more).

HIT AND RUN COLLISIONS

In 2020, 23% (n=7) of traffic fatalities resulted from a collision in which the driver left the scene, associated with the deaths of one motor vehicle occupant, one motorcyclist, one standup powered scooter rider, and four pedestrians. This represents an increase from four hit and run collisions in 2019, and only a moderate decline from 2018 when over 30% of all traffic fatalities resulted from a collision in which a driver left the scene.

SHARING TECHNOLOGY INVOLVEMENT

For the first time, riders of standing powered devices figured in the fatality count in 2020. Both e-scooter riders rode rented e-scooters: one each from permitted companies Spin and Lime.

LARGE VEHICLE INVOLVEMENT

Of 28 fatal traffic collisions in 2020, one (4%) involved a large vehicle²⁴. This compares to four in 2019.

RIDE-HAIL INVOLVEMENT

Ride-hail includes Transportation Network Companies (TNCs) like Uber and Lyft, as well as traditional taxis. In 2020, TNCs and taxis were not determined by police to be a party in any fatal traffic collisions.

²³ At the time of publication, two fatal collisions involve unsolved hit and run collisions for which driver age is unavailable. In addition, riders of micro-mobility devices were not considered drivers for this analysis.

²⁴ Large vehicles are defined as those larger than a pickup truck (with unladen weight of over 8,000 lbs) or a van designed to carry 10 or more people. Note that vehicle size information was unavailable for two hit and run collisions.



SAFETY EQUIPMENT

Use of personal safety equipment as recorded in police collision reports varied by mode. Among six fatalities involving a driver or (interior) passenger, three involved unbelted people (50%) and three had unknown seatbelt information. In seven fatal motorcycle crashes, six (86%) involved helmeted riders. One fatal motorcycle crash (14%) involved a rider without a helmet. In two fatal cyclist crashes, both (100%) involved a helmeted rider. In two fatal standing powered scooter crashes none involved a helmeted rider (0%). Note that according to state law, neither cycling nor powered scooter riding require helmets be worn by adult riders. However, these data may point to different helmet usage patterns by travel mode.



APPENDIX A – TABLE OF 2020 VISION ZERO TRAFFIC FATALITIES

#	Collision Date	Collision Time	Deceased	Victim Age	Victim Sex	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Collision Location	Collision Description
1	1/8/2020	2333	Driver	45	M	Motor Vehicle Collision	22350	N	9th Street and H Avenue, Treasure Island	A person driving crashed into a tree.
2	1/12/2020	116	Exterior Passenger	21	M	Pedestrian vs. Train	None	N	Bayshore Boulevard and Sunnydale Avenue	A person on the coupler connecting two Muni light rail vehicle cars, a non-designated passenger area, fell and was crushed.
3	1/26/2020	1645	Motorcyclist	30	M	Motorcycle Collision	21755(a) (22350)	N	Mission Street south of 14th Street	A motorcyclist collided into the back of a motor vehicle.
4	2/21/2020	830	Pedestrian	80	M	Pedestrian vs. Motor Vehicle	21950(a)	N	Polk Street and O'Farrell Street	A vehicle struck a pedestrian in the crosswalk.
5	3/1/2020	727	Pedestrian	67	F	Pedestrian vs. Motor Vehicle	21950(a)	N	Geary Boulevard at Taylor Street	A left-turning vehicle struck a pedestrian in the crosswalk.
6	3/5/2020	2300	Pedestrian	49	M	Pedestrian vs. Motor Vehicle	21950(a)	N	Valencia Street at 18th Street	A left-turning vehicle struck a pedestrian in the crosswalk.
7	3/17/2020	2015	Motorcyclist	36	M	Motorcycle Collision	21453(a)	N	Guerrero Street at 16th Street	A motorcyclist collided into the side of a motor vehicle.
8	4/21/2020	1730	Driver	28	F	Motor Vehicle Collision	22350	N	Dakota Street and 25th Street	A person driving drove down a hill, killing the driver and a passenger.
9	4/21/2020	1730	Passenger	32	F	Motor Vehicle Collision	22350	N	Dakota Street and 25th Street	
10	5/29/2020	729	Cyclist	31	M	Bicycle vs. Motor Vehicle	22517	N	Westbound Frederick Street	A person riding a bicycle was hit by the opening door of a parked car, then collided with an oncoming vehicle.



#	Collision Date	Collision Time	Deceased	Victim Age	Victim Sex	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Collision Location	Collision Description
11	6/18/2020	700	Pedestrian	63	M	Pedestrian vs. Motor Vehicle	21453(d)	N	Dwight Street and San Bruno Avenue	A person driving struck a pedestrian outside the marked crosswalk.
12	6/18/2020	1638	Motorcyclist	53	M	Motorcycle vs. Auto	22350	N	Crossover Drive at Martin Luther King Jr. Drive	A motorcyclist collided into the back of a stopped motor vehicle.
13	7/10/2020	2129	Pedestrian	58	M	Pedestrian vs. Motor Vehicle	21456(c)	N	Grove Street and Van Ness Avenue	A person driving struck a pedestrian in a wheelchair outside of the marked crosswalk.
14	7/17/2020	1800	Cyclist	23	M	Cyclist vs. Pedestrian (Skateboarder)	22350	N	Dolores Street and Cumberland Street	A person on a bicycle collided with a person dismounting a skateboard.
15	7/19/2020	1159	Pedestrian	53	M	Pedestrian vs. Motor Vehicle	21954(a)	Y	Bayshore Boulevard and Jerrold Avenue	A person walking was struck by a vehicle.
16	7/30/2020	1908	Pedestrian (skateboarder)	23	M	Fall from Skateboard	7.2.13(c)(3) TC *	N	Martin Luther King Drive and 19th Avenue	A person riding a skateboard lost control and fell.
17	8/11/2020	658	Pedestrian	50	M	Pedestrian vs. Motor Vehicle	21453(a) (22350)	N	Geary Boulevard at Gough Street	A person walking was struck by a vehicle which ran a red light at a high rate of speed.
18	8/15/2020	1930	Driver	63	M	Motor Vehicle Collision	21453(a) (22350)	Y	1500 block of Geneva Avenue at Prague Street	A person driving was stuck by another vehicle which ran a red light at a high rate of speed.
19	9/7/2020	1426	Motorcyclist	57	M	Motorcycle vs. Vehicle	22350	N	Turk Boulevard at Central Avenue	A person riding a motorcycle collided with another vehicle.
20	10/2/2020	451	Pedestrian	55	M	Pedestrian vs. Motor Vehicle	21954(b)	Y	Cesar Chavez Street and Evans Avenue	A person was found down in the roadway with injuries consistent with a pedestrian-motor vehicle collision.



#	Collision Date	Collision Time	Deceased	Victim Age	Victim Sex	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Collision Location	Collision Description
21	10/13/2020	38	Driver	57	M	Motor Vehicle vs. Building	22350	N	Turk Boulevard and Arguello Boulevard	A person driving collided with a building.
22	10/14/2020	418	Motorcyclist	42	M	Motorcycle vs. Vehicle	Unknown	Y	Masonic Avenue and Hayes Street	A person riding a motorcycle was found down in the roadway with injuries consistent with a motorcycle-motor vehicle collision.
23	10/27/2020	1903	Motorcyclist	30	M	Seated Scooter vs. Parked Vehicle	22350	N	Franklin Street at Bush Street	A person riding a motorcycle collided with a parked vehicle.
24	11/22/2020	1931	Driver	32	M	Motor Vehicle Collision	21804(a)	N	16th Street and Potrero Avenue	A person driving collided with a truck.
25	12/1/2020	1857	Pedestrian	68	M	Pedestrian vs. Motor Vehicle	21950(a)	N	38th Avenue and Geary Boulevard	A person walking in the crosswalk was struck by a vehicle.
26	12/1/2020	1922	Standup powered device rider	45	M	e-Scooter vs. Motor Vehicle	21453(a)	Y	16th Street and Bryant Street	A person riding a standup electric rental scooter collided with a vehicle.
27	12/3/2020	1726	Standup powered device rider	51	M	e-Scooter Collision	None	N	700 Block Embarcadero	A person riding a standup electric rental scooter collided with a bench and fell.
28	12/30/2020	1612	Motorcyclist	81	M	Motorcycle Collision	22350	N	Market Street and Gough Street	A person riding a motorcycle lost control and fell.
29	12/31/2020	1558	Pedestrian	60	F	Pedestrian vs. Motor Vehicle	23152(a) (21453(a))	Y	Mission Street and 2nd Street	Two people walking were struck in the crosswalk by a vehicle that ran a red light and was traveling at a high rate of speed.
30	12/31/2020	1558	Pedestrian	27	F	Pedestrian vs. Motor Vehicle	23152(a) (21453(a))	Y	Mission Street and 2nd Street	

*TC refers to City and County of San Francisco Traffic Code. This collision did not require a California Vehicle Code classification.



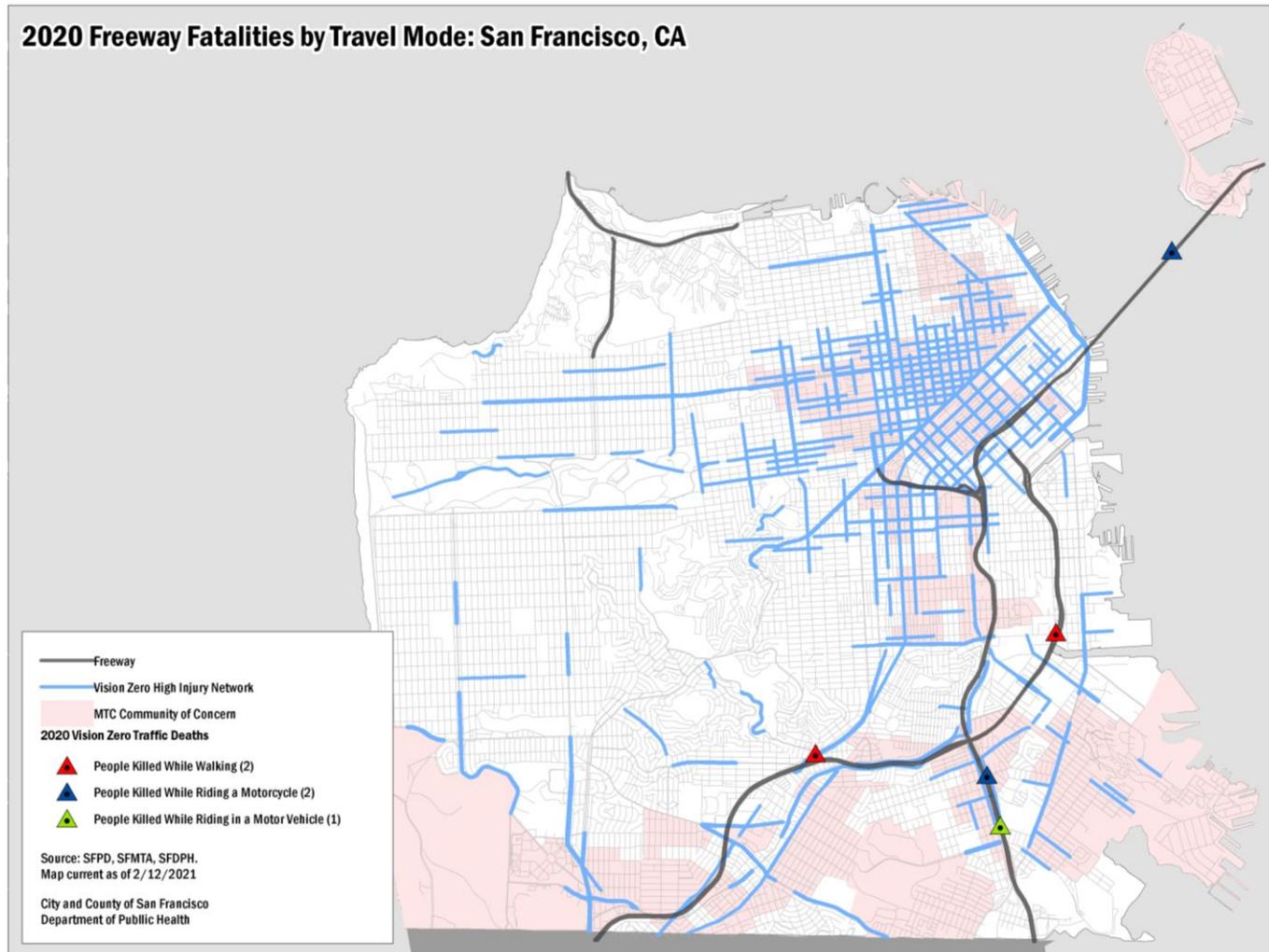
APPENDIX B – TRACKING SEPARATE FROM VISION ZERO TOTALS: FATALITIES ON FREEWAYS, AT SAN FRANCISCO INTERNATIONAL AIRPORT, AND IN THE PRESIDIO

Five people (2 people walking, 1 person riding in a motor vehicle, and 2 people on motorcycles) were killed in transportation-related collisions on freeways in San Francisco in 2020. This number is down from eleven people in 2019.

There were no traffic deaths in the Presidio or on San Francisco International Airport (SFO) roadways in 2020.

Freeways are defined as grade separated highway with high-speed vehicular traffic and controlled ingress/egress. Traffic fatalities on freeways and in the Presidio are tracked, but not included in the Vision Zero SF Fatality counts, as these areas are serviced by various state and federal agencies. Caltrans is the state agency responsible for freeway operation, maintenance and improvements, and the California Highway Patrol (CHP) is the state agency responsible for traffic law enforcement. SFO and its roadways are private property under San Mateo County jurisdiction. Within the Presidio, the National Park Service’s US Park Police officers perform law enforcement and public safety functions. Additionally, the Presidio Trust is responsible for operation, maintenance and improvement of all roadways within the Presidio. The City engages with these agencies regarding transportation safety issues and freeway right-of-ways in San Francisco.

2020 Freeway Fatalities by Travel Mode: San Francisco, CA





FATALITIES ON FREEWAYS

#	Collision Date	Deceased	Collision Type	Victim Age	Victim Sex	Collision Time	Collision Location
1	1/11/2020	Passenger	Motor Vehicle Collision	88	F	1426	Northbound 101 north of Paul Avenue undercrossing
2	1/18/2020	Pedestrian	Pedestrian vs. Vehicle	36	F	1955	Southbound 280 near Cesar Chavez Boulevard onramp
3	8/8/2020	Pedestrian	Pedestrian vs. Vehicle	45	M	1500	Northbound 280 near San Jose Avenue exit tunnel
4	9/5/2020	Motorcyclist	Motorcycle vs. Vehicle	43	M	2328	Northbound 101 at 280
5	11/16/2020	Motorcyclist	Motorcycle Collision	58	M	1344	Westbound 80 (Bay Bridge) west of Treasure Island



APPENDIX C – PRIMARY COLLISION FACTORS BY YEAR

CA Vehicle Code	Primary Collision Factor Description	2014	2015	2016	2017	2018	2019	2020
22350	Unsafe speed for prevailing conditions	6	7	3	4	3	4	9
21950(a)	Driver failure to yield right-of-way at crosswalks	6	9	6	7	5	8	4
21453(a,c)	Red signal - driver or bicyclist responsibilities	2	4	8	1	2	3	4
23152(a)	Under the influence of alcohol or drug	1	1	2	0	1	2	2
21456(b,c)	Pedestrian violation of Walk or Wait signals	1	1	2	0	1	2	1
21954(a)	Pedestrians must yield right-of-way outside of crosswalks	2	2	1	0	3	1	1
21453(d)	Red signal - pedestrian responsibilities	1	0	2	0	0	1	1
21804(a)	Entering highway from alley or driveway	0	1	0	0	0	1	1
21954(b)	Failure of driver or bicyclist to exercise due care for safety of pedestrian on roadway	0	0	0	0	0	1	1
22517	Opening door on traffic side when unsafe	0	0	0	0	0	1	1
21755(a)	Unsafe overtaking or passing by driver	0	0	0	0	0	0	1
n/a	Unknown, Pending, or None	3	0	4	1	1	2	4
21460(a)	Remain at right of double parallel solid yellow lines - driver responsibility	0	0	0	0	1	1	0
22107	Unsafe turn or lane change prohibited	0	2	0	0	0	1	0
21203	Illegal to hitch a ride on other vehicle	0	0	0	0	0	1	0
21650	Failure to keep to right side of road	1	1	2	0	2	0	0
21955	Crossing between controlled intersections (Jaywalking)	3	1	1	2	1	0	0
21956	Pedestrian upon roadway	0	0	0	0	1	0	0
22102	Illegal U-turn in business district	0	0	0	1	1	0	0
22106	No starting or backing vehicle while unsafe	0	0	0	0	1	0	0
22101(d)	Violating special traffic control markers (illegal turning movement)	0	0	0	1	0	0	0
22515(a)	Leaving vehicle unattended without setting the brakes or stopping the motor	0	0	0	1	0	0	0
21650.1	Bicycle to travel in same direction as vehicles (riding wrong way)	0	0	0	1	0	0	0
21950(b)	Pedestrian suddenly entering into vehicle path close enough to create an immediate hazard	3	0	0	1	0	0	0
21208(a)	Riding outside bicycle lane prohibited	0	1	0	0	0	0	0
21651(b)	Wrong way driving	0	0	1	0	0	0	0
21658(a)	Lane straddling or failure to use specified lanes	1	0	0	0	0	0	0



CA Vehicle Code	Primary Collision Factor Description	2014	2015	2016	2017	2018	2019	2020
21712(b)	Unlawful riding on vehicle or bicycle prohibited	1	0	0	0	0	0	0
21801(a)	Violation of right-of-way - left turn	0	1	0	0	0	0	0



APPENDIX D – EXCLUSIONS: APPLYING THE VISION ZERO TRAFFIC FATALITY PROTOCOL

Data provided from San Francisco’s Office of the Medical Examiner may include fatalities that: occurred in a motor vehicle but are not directly attributable to a traffic collision; occurred outside San Francisco; or occurred more than 30 days after the collision. The Vision Zero Traffic Fatality Protocol provides exclusion criteria for these cases, consistent with national and international best practices. The purpose of the protocol is to ensure consistent reporting of traffic fatalities through uniform application of agreed-upon criteria for defining a traffic death. A shared and consistent definition ensures that we can objectively evaluate trends and the impact of our efforts over time.

Cases are excluded if the death: occurs outside of the City and County of San Francisco; occurs on private property (including Caltrain right of way); occurs in the underground MUNI or BART transportation infrastructure; is reported as a suicide based on investigation; is reported as a homicide in which the ‘party at fault’ intentionally inflicted serious bodily harm that caused the victim’s death; or is a fatality caused directly and exclusively by a medical condition or where the fatality is not attributable to road user movement on a public roadway. (Note: If a person driving suffers a medical emergency and consequently hits and kills another road user, the latter is included although the driver suffering a medical emergency is excluded.) Below is a chart of fatalities excluded from Vision Zero counts in 2020, with reasons for exclusion. *Fatalities may fall into multiple exclusion categories.* Fatalities included in Appendix B are not represented here.

2020 Railway deaths: Two deaths excluded from the Vision Zero fatality total were associated with railways (specifically Caltrain) in 2020. One of these two was also determined to be a suicide. The number of railway associated fatalities is down from six in 2019.

Vision Zero Traffic Fatality Protocol Exclusions (2020)

N=15; Fatalities within SF may fall in multiple categories

