

Vision Zero Traffic Fatalities: 2022 End of Year Report

May 2023



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









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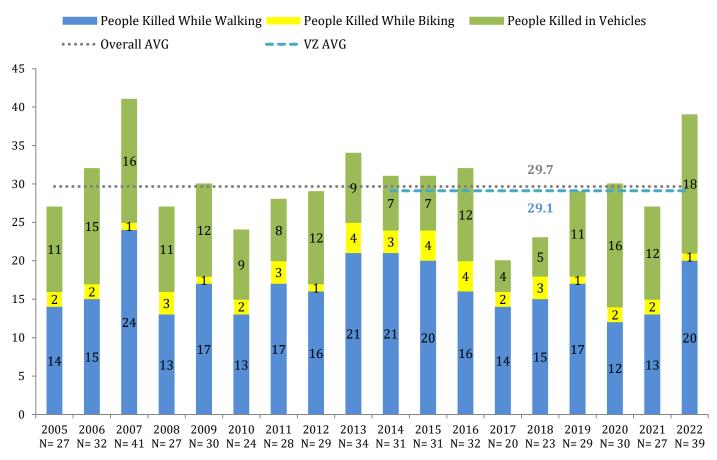
INTRODUCTION AND NATIONAL CONTEXT

San Francisco saw 39¹ traffic-related deaths in 2022, which is the highest fatality count since 2007. Thirty-nine lives lost is unacceptable. Every death in this report represents indescribable loss suffered by an individual and the community.

The 39 deaths in 2022 are a 44% increase since 2021. San Francisco remains committed to achieving our Vision Zero goal of zero traffic deaths. This report summarizes traffic death patterns in 2022 and aims to inform Vision Zero initiatives to save lives.

The following chart compares annual fatality data from 2005 through 2022. Vision Zero was adopted in 2014, and the numbers of traffic deaths were relatively stable between 2014 to 2016. Then, the number of traffic deaths in San Francisco fell notably in 2017 to a period low of 20 deaths. Unfortunately, the deaths then rose steadily between 2018 to 2020, leading to the Vision Zero record high of fatalities in 2022.

San Francisco Traffic Fatalities from 2005 to 2022



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. 2014-2021 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 standup powered micro-mobility devices and skateboards not propelled by a second vehicle.

¹ There are two pending investigations into traffic fatalities as of 2023-03-03.



Staff from the SF Department of Public Health (SFDPH) 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 Protocol: http://visionzerosf.org/maps-data/.

This report summarizes characteristics of traffic deaths in San Francisco from 2014 to 2022 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 and/or fluctuations due to historical or time-specific factors (e.g., COVID). 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. SFDPH also monitors and reports on severe injuries to understand trends and characteristics of the most severe traffic-related injuries, which serves as an additional metric by which to evaluate the progress of Vision Zero efforts.³

San Francisco was the second city in the country to adopt Vision Zero in 2014 and the goal of zero traffic deaths, now implemented by over 50 communities across the United States. The Federal Government has now joined this movement with the recent release of the 2022 "National Roadway Safety Strategy" which states: "Zero is the only acceptable number of deaths on our highways, roads, and streets." 4

While collision fatality and injury data are not equally available for all jurisdictions, 2022 traffic deaths reported in major news outlets for many cities across the country, including in Oakland, San Jose, and Los Angeles exceeded or matched five-year highs. ^{5,6,7} Meanwhile, some cities who saw record high fatality counts in 2021, saw lower fatalities in 2022, such as was reported in New York City, Long Beach, and San Diego. ^{8,9,10}

The National Highway Traffic Safety Administration (NHTSA) estimates of traffic fatalities suggest that 2021 reached a 16-year high across the country. In 2022, NHTSA also estimates that while vehicle miles traveled increased back to their 2019 pre-pandemic level, 2022 seems to show a leveling off in the total traffic fatality count; nationwide, there was a 0.2% decrease from 31,850 traffic fatalities in the first nine months of 2021 to 31,785 in the same time period of 2022. In spite of this 0.2% decrease overall, fatality rates increased year-over-year on rural interstates, and among crashes involving at least one large truck, cyclists, motorcyclists, and pedestrians in 2022. As people shift their transportation modes, non-vehicular parties remain the most vulnerable on our streets. The Federal Highway Administration projects a moderate growth year over year in vehicle miles traveled from 2019 to 2049, 4 with the exception of 2020 due to the pandemic and its associated lockdowns.

² In 2015, with periodic updates since, the City finalized and standardized the <u>San Francisco Vision Zero Traffic Fatality Protocol</u>, 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 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.

³ Severe Injury Trends Report available at: www.visionzerosf.org/wp-content/uploads/2021/11/Severe-Injury-Trends 2011-2020 final report.pdf

New data will be added to these trends in a report due out later this year.

⁴ U.S. Department of Transportation (2020, January). National Roadway Safety Strategy. https://www.transportation.gov/sites/dot.gov/files/2022-01/USDOT National Roadway Safety Strategy 0.pdf

⁵ https://www.oaklandca.gov/topics/traffic-fatality-tracking

⁶ https://www.sanjoseca.gov/your-government/departments-offices/transportation/safety/vision-zero/maps-data

https://www.latimes.com/california/story/2023-01-14/traffic-deaths-rise-again-in-2022-with-marked-increase-in-pedestrian-fatalities

⁸ https://www.nyc.gov/html/dot/html/pr2023/vision-zero-fatalities-dropped-2022.shtml

⁹ https://lbpost.com/news/traffic-deaths-have-spiked-in-recent-years-with-45-in-2021

¹⁰ https://data.sandiego.gov/datasets/police-collisions-details/

¹¹ https://www.nhtsa.gov/press-releases/early-estimate-2021-traffic-fatalities

¹² https://afdc.energy.gov/data/10315

¹³ https://www.nhtsa.gov/press-releases/nhtsa-estimates-traffic-deaths-2022-third-quarter

¹⁴ https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm



KEY FINDINGS

Thirty-eight collisions resulted in 39 traffic deaths on San Francisco streets in 2022.

High Injury Network and Communities of Concern

- Of the 39 traffic deaths in 2022, the majority (59%; n=23) occurred on the 2017 Vision Zero High Injury Network (VZHIN).¹⁵
- Over a third of all fatalities (44%; n=17) occurred in a 2018 Community of Concern (renamed to Equity Priority Communities) as defined by the Metropolitan Transportation Commission, and of those, almost two-thirds (65%; n=11) were also on the 2017 VZHIN.

Travel Mode

- Twenty people were killed while walking in San Francisco, comprising the largest road user group impacted by traffic fatalities (51%).
 - Compared to 2021's thirteen fatalities, seven more people were killed while walking in 2022.
- Five people were killed while riding a motorcycle and two people were killed riding a moped, comprising 13% and 5% of all traffic fatalities, respectively.
 - Compared to 2021's eight motorcyclist deaths, one fewer people were killed while riding a motorcycle or moped.
- Seven people were killed while travelling in a motor vehicle (18%): five drivers and two passengers.
 - o Compared to 2021's three deaths while travelling in a motor vehicle, four more motor vehicle drivers or passengers died while riding in this mode in 2022.
- One person was killed in 2022 while bicycling, comprising 3% of all traffic fatalities.
 - Compared to 2021's two fatalities, one fewer cyclist died in 2022.
- Four riders of standing powered scooters (10%) died on San Francisco streets in 2022, representing seven total traffic deaths associated with this mode in the City since tracking started in 2017.

Demographics: Homelessness, Sex, Age and Race/Ethnicity

- Seven people without a fixed address were among 2022 Vision Zero traffic fatalities, comprising 18% of all fatalities. Separate from the Vision Zero count, no other people without a fixed address died on freeways or a rail right of ways within San Francisco in 2022.
- The majority of those killed in traffic collisions in 2022 were male (67%; n=26).
 - Nine out of the 13 female fatalities were pedestrians, compared to 11 out of 26 male fatalities. In other words, among women, walking is the top at risk travel mode.
 - All those killed while riding on bicycles (n=1), mopeds (n=2), motorcycles (n=5), or as passengers in motor vehicles (n=2) were male.
 - Three women and two men were killed as drivers of motor vehicles.
 - Three out of four fatalities on standup powered micro mobility devices were male.
- Approximately one-quarter of fatalities (n=10, 26%) were among people aged 65 years or older. Seven seniors killed in 2022 were pedestrians, and one senior each died while riding a bicycle, motorcycle, or standup powered device, respectively.
- Persons who identify as Black are overrepresented among traffic fatalities: 15% of those killed in 2022 were Black, despite those identified as Black representing only 5% of the city's population. People killed in traffic collisions were predominantly of White race (54%). Asians comprised 15% of fatalities, which is underrepresented relative

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. While a 2022 update for the VZHIN was released last November, because it came out so late in the year, and because MTA is also using 2017 for all the project mileage tracking for 2022, this report continues to use the 2017 VZHIN as reference. Beginning in February 2023 and in 2023's EOY report, we'll be using the 2022 VZHIN update



to the demographic profile of San Francisco at large (approximately 34% Asian). Ten percent of people killed were of Hispanic ethnicity (n=4), despite representing 15% of San Francisco's population.



Primary Collision Factors

- Among 38 collisions leading to 39 fatalities, the most-cited collision factors in 2022 were unsafe speed, pedestrian
 crossing outside of a legal crosswalk, and failure to stop at a red signal—two of which, 22350 (unsafe speed) and
 21453(a) (Red signal), have topped the list each year since reporting began in 2016.
 - The consistently most cited primary collision factor was unsafe speed (CVC 22350), cited as the primary factor in 21% (n=8) of fatalities.
 - The next most cited collision factors were failure by a driver or bicyclist to stop at a red light (CVC 21453(a, c)) and failure by a driver or bicyclist to yield right-of-way at crosswalks (CVC 21950(a, c)), each cited as a primary or secondary factor in 10% (n=4) of fatalities.
 - Five deaths (13%) resulted from a collision primarily caused by a driver under the influence (DUI) of alcohol, according to police assessment. All four were drivers of motor vehicles.¹⁶ There are also two pending DUI investigations—one a driver of a motor vehicle and one a driver of a standup powered device.
 - o One collision was dual-fault according to the SFPD incident report.

California Vehicle Code (CVC)*	Primary Collision Factor Description	Count (N=39)
22350	Unsafe speed for prevailing conditions	8
Unknown	Unknown	5
21453(a, c)	Red signal - driver or bicyclist responsibilities	4
21950(a, c)	Driver or bicyclist to yield right-of-way at crosswalks	4
21456(c)	Pedestrian violation of walk or wait signals	3
21801(a)	Violation of right-of-way - left turn	2
	Failure of driver or bicyclist to exercise due care for safety of pedestrian	
21954(b)	on roadway	2
22100(a)	Turn at intersection from wrong position	2
23152(a)	Driving under influence of alcohol and/or drugs	2
DUAL FAULT 21801(a) for Driver 22350 for Motorcyclist	Driver - Violation of right-of-way - left turn Motorcyclist - Unsafe speed for prevailing conditions	1
21663	Operating vehicle or bicycle on sidewalk prohibited	1
21955	Crossing between controlled intersections (Jaywalking)	1
22107	Unsafe turn or lane change prohibited	1
21950(b)	Pedestrian suddenly entering into vehicle path close enough to create an immediate hazard	1
21954(a)	Pedestrians must yield right-of-way outside of crosswalks	1
22450(a)	Failure to stop at STOP sign	1

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

¹⁶ Note that at time of writing, this does not include one pending motor vehicle driver DUI investigation and one pending standup powered driver DUI investigation.



Driver Characteristics (for Drivers Determined to be at Fault)

- The most common movement preceding a collision when a driver was determined to be at fault was proceeding straight (n=14 out of 23; 61%), followed by making either a left (n=4 out of 23; 17%) or making a right turn (n=2 out of 23; 9%).
- At-fault drivers spanned the age spectrum. One was a youth under age 18, three were young adults (13%, defined as age 18-24), and one was a senior (4%, age 65 or more).
- Of the motor-vehicle/motorcycle vs. non-motor-vehicle collisions (pedestrian, cyclist, or e-scooter), (n=22), 15 (68%) involved a motor-vehicle driver at fault, six (27%) involved a pedestrian at fault, and one (5%) fatality had an unknown at-fault party due to a hit and run with no witnesses.

Hit and Run Collisions

• Eleven traffic fatalities (28%) resulted from eleven hit and run collisions in 2022, resulting in the death of six people walking, one motor vehicle driver, one moped rider, one motorcyclist, one motor vehicle passenger, and one standup powered device rider. This is a 38% increase from 2021, during which 8 fatalities resulted from hit and run collisions.

Large Vehicle Involvement

• Of the 39 fatal traffic fatalities in 2022, four (11%) involved a large vehicle. This is compared to zero fatalities with large vehicle involvement in 2021. In addition, one pedestrian was hit by a light rail vehicle.

Single-Party Collisions

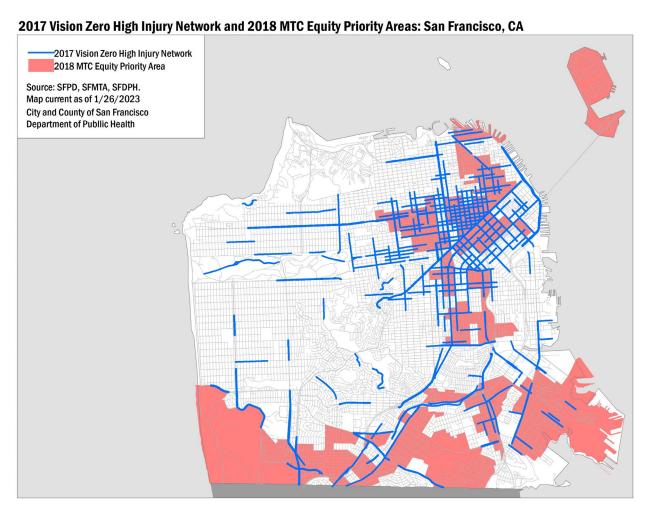
• Eight traffic fatalities (21%) were a single-party incident where the victim collided with an unoccupied parked vehicle, an inanimate roadway object such as a median, concrete wall, overpass column, or utility pole, hit a dumpster, or fell off their means of conveyance. This count represents a 11% decrease from 2021.



THE VISION ZERO HIGH INJURY NETWORK AND EQUITY PRIORITY COMMUNITIES

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 VZHIN¹⁷ 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 out of 128 miles) of the VZHIN is in the Metropolitan Transportation Commission's (MTC) Equity Priority Communities, ¹⁸ which contain 31% of the city's surface streets. Equity Priority Communities are areas with high concentrations of poverty, communities of color, seniors, and other vulnerable populations.

- In 2022, 59% (n=23) of traffic fatalities occurred on the Vision Zero High Injury Network.
- In 2022, 44%, (n=17) occurred in Equity Priority Communities. Of these 17 fatalities, 65% (n=11) were on the VZHIN.



¹⁷ 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. While a 2022 update for the VZHIN was released last November, because it came out so late in the year, and because MTA is also using 2017 for all the project mileage tracking for 2022, this report continues to use the 2017 VZHIN as reference. Beginning in February 2023 and in 2023's EOY report, we'll be using the 2022 VZHIN update

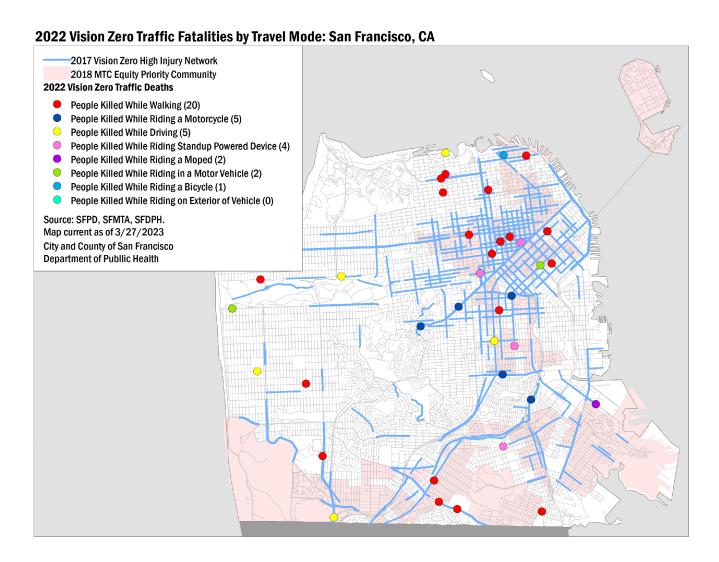
¹⁸ Source: Plan Bay Area: 2040 Plan, 2018. http://www.planbayarea.org/2040-plan/plan-details/equity-analysis



TRAVEL MODE

Pedestrians are consistently among the most vulnerable road users in San Francisco, accounting for 51% of all fatalities in 2022 (n=20). There were seven more pedestrian deaths in 2022 than in 2021. Of the twenty pedestrian fatalities, 19 resulted from collisions with a motor vehicle or motorcycle, and one resulted from a collision with a light rail vehicle.

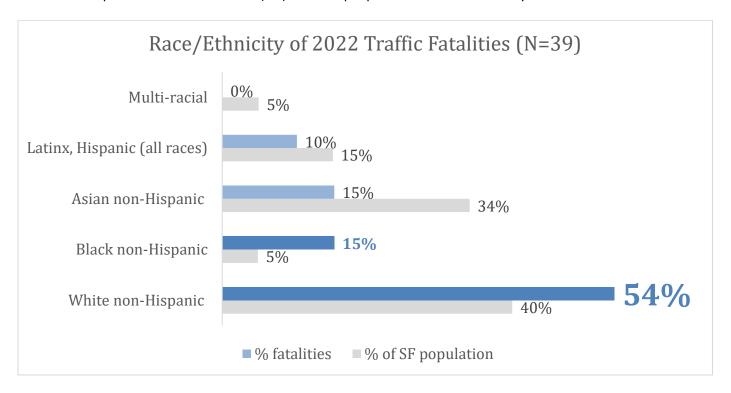
Those killed in **motor vehicles** (comprised of five drivers and two passengers) totaled seven people in 2022, up from three people in 2021. One person was killed while **bicycling** in 2022 (+1 compared to 2021). **Motorcyclist** fatalities decreased by three for a total of five fatalities in 2022 compared to eight in 2021. Two people were killed while riding a moped. Finally, four people were killed while riding standing e-scooters in 2022, which brings the total e-scooter deaths to seven since tracking began.





RACE AND ETHNICITY

When traffic related fatalities are examined by race/ethnicity, White individuals represent the majority of fatalities in 2022, and both White and Black individuals are disproportionately represented in our fatality reporting in San Francisco relative to their proportion of the city's population. Of people killed in traffic collisions in 15% (n=6) were Black, 15% (n=5) were Asian, and 54% (n=20) were White. However, the demographic profile of San Francisco at large is approximately 5% Black, 35% Asian, and 45% White among people reporting a single race, and 6% reporting two or more races). Pegarding ethnicity, 15% of San Francisco's population is Hispanic but a smaller proportion (10%; n=4) of those killed in traffic in 2022 were Hispanic. On the determined in the contraction of the city's population is Hispanic but a smaller proportion (10%; n=4) of those killed in traffic in 2022 were Hispanic.



¹⁹ 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.

²⁰ Source: same as above

²¹ 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.

²² Seven traffic fatality victims (26%) in 2021 had a home address outside San Francisco's city limits.

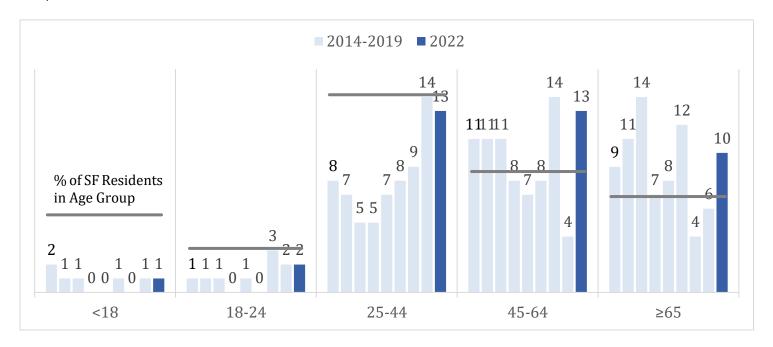


AGE

Seniors (aged 65 and up) are disproportionately represented in traffic fatality reporting.²³ Despite currently representing 18% of San Francisco's total population,²⁴ seniors accounted for 26% (n=10) of all traffic fatalities in 2022, up slightly from 22% of all traffic fatalities in 2021. As investigated in other jurisdictions, data reveal that seniors die at a higher rate when struck by motor vehicles because they are more likely to succumb to injuries than younger pedestrians.²⁵ Looking specifically at pedestrian fatalities in 2022, over one-third (n=7 of 20, 35%) were people age 65 (*data in Appendix A*).

The age group with the greatest increase in their fatality count were the 45-64 year olds; the fatalities in this group rose from four deaths in 2021 to 13 deaths in 2022—a 225% year over year increase.

Fatalities among 25-44 year olds remained relatively constant compared to last year, though still at least 44% higher compared to before 2021.



²³ Sklar DP, Demarest GB, McFeeley P. Increased pedestrian mortality among the elderly. Am J Emerg Med. 1989 Jul;7(4):387-90. doi: 10.1016/0735-6757(89)90044-2. PMID: 2735985.

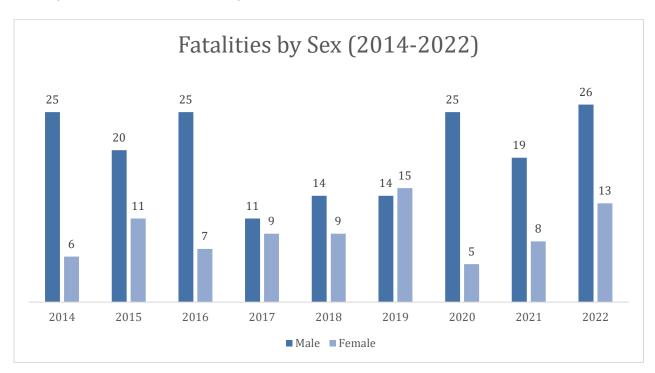
²⁴ Source: U.S. Census Bureau, 2019 American Community Survey 1-Year Estimate

²⁵ Basem Y. Henary, Johan Ivarsson & Jeff R. Crandall (2006) The Influence of Age on the Morbidity and Mortality of Pedestrian Victims, Traffic Injury Prevention, 7:2, 182-190, DOI: 10.1080/15389580500516414



SEX

In 2022, males continue to be overrepresented in traffic fatalities. The year's traffic fatalities were 67% male and 33% female, similar to 2021's 70:30 split. As historically the case (excepting 2019), more males than females are killed on San Francisco streets. Examination of fatality by mode reveals different patterns between males and females: over half of people killed while walking were male (55%; n=7/20). All those killed while riding a motorcycle, moped, and bicycle were male (n=5, 2, and 1, respectively). Three-quarters (75%; n=3/4) of those killed riding a standing powered scooter micro mobility device were also male. Finally, two-thirds (57%; n=4/7) of motor vehicle fatalities in 2022 were male.



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 2022, seven people without a fixed address were killed on City streets (18%) as a result of a traffic collision, up from four in 2021. The homeless population of San Francisco is estimated to be 7,754,²⁶ making up approximately 0.9% of the City population.²⁷ In 2022, there were no fatalities occurring on SF freeways among people without a fixed address. Thus, people experiencing homelessness continue to be particularly vulnerable to traffic injury.

²⁶ Source: Applied Survey Research, San Francisco Homeless Count & Survey 2022 Comprehensive Report. https://hsh.sfgov.org/wp-content/uploads/2022/08/2022-PIT-Count-Report-San-Francisco-Updated-8.19.22.pdf

²⁷ San Francisco population estimate of 865,933. Source: U.S. Census Bureau, 2017-2021 5-year American Community Survey, December 8, 2022

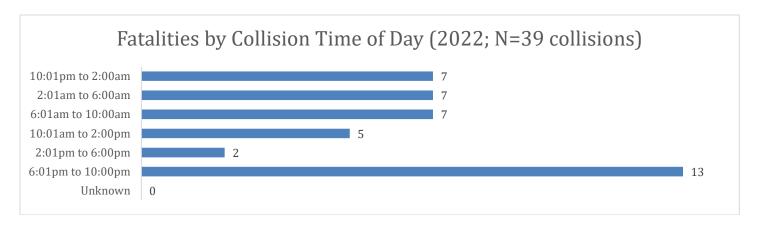


PRIMARY COLLISION FACTORS

Unsafe speed, not stopping at a red signal, and drivers/bicyclists not yielding right of way at crosswalks were three of the top primary collision factors in 2022. Five fatalities resulted from a collision primarily caused by a driver under the influence (DUI) of alcohol, according to police assessment, with two pending DUIs under investigation. Drug, alcohol, and polysubstance use is a focus of further analysis for Vision Zero in 2022. Six fatal collisions involved a secondary collision factor (noted in Appendix A). Of pedestrian fatalities which have vehicle code information available, police classified 60% (n=12 out of 20) as caused primarily by the driver of a vehicle, while for on pedestrian fatality it is unknown who is at fault due to the driver leaving the scene (5%; n=1 out of 20). There was one motor vehicle vs. motorcycle collision that was fault to be dual-fault. Counts of primary collision factors by year can be found in Appendix C.

TIME OF DAY

Collisions resulting in traffic fatalities in 2022 occurred more frequently in the nighttime hours with peak numbers occurring between 6:01pm and 10pm (33%; n=13). Fatal collision time of day has shown notable variation from year to year.



TURN MOVEMENT PRECEDING DRIVER AT-FAULT COLLISIONS

In 23 driver-at-fault fatal traffic collisions, 61% of cases involved drivers proceeding straight prior to collision (n=14 out of 27). Four (17%) involved a left-turning vehicle or motorcycle, and two involved a right-turning vehicle (9%). For the nine driver-not-at-fault fatal collisions, six were pedestrians, two were e-scooter riders proceeding straight, and one was a bicyclist proceeding straight. Five of the pedestrians were crossing in a crosswalk at an intersection, and the sixth was crossing the street mid-block.

DRIVER AGE (FOR DRIVERS DETERMINED TO BE AT FAULT)

Over two thirds of the 38 fatal collisions were determined by police to be the responsibility of a driver or motorcyclist (61%; n=23 out of 38 collisions). At fault drivers spanned the age spectrum, with a median age of 42. One was a minor, two others were young adults defined as age 18-24, and one was a senior (5%, defined as age 65 or more). Four at-fault drivers had unknown ages. Of the 38 total fatal collisions, 8 (n=8 out of 38; 21%) were single-party collisions that involved only a motor vehicle, motorcycle, moped, or bicycle party (see Appendix A).

HIT AND RUN COLLISIONS



In 2022, 28% (n=11) of traffic fatalities resulted from a collision in which the driver left the scene. Across these hit and run deaths, six were pedestrians, one was a motor vehicle driver, one was a motor vehicle passenger, one motorcycle rider, one moped rider, and one rider of a standup e-scooter. This represents an increase of three hit and run collisions from eight in 2021.

SHARING TECHNOLOGY INVOLVEMENT AND RIDE-HAIL INVOLVEMENT

Sharing technology includes app-based services for ride-hailing as well as e-scooters and e-bikes. In 2022, there was one Uber passenger fatality and one rider fatality of a Bird rental standing powered devices. Ride-hail includes Transportation Network Companies (TNCs) like Uber and Lyft, as well as traditional taxis. In 2022, there was one passenger of a TNC involved in fatal traffic collisions. No taxis were determined by police to be a party in any fatal traffic collisions.

LARGE VEHICLE INVOLVEMENT

Of 39 traffic fatalities in 2021, 4 (10%) involved a large vehicle—all large trucks. ²⁸ These four fatalities are an increase from zero in 2021. The four victims included two motorcyclists and two riders of standup powered devices. In addition to these four, one pedestrian was hit by a light rail vehicle.

SAFETY EQUIPMENT

Use of personal safety equipment as recorded in police collision reports varied by mode. Among five fatalities involving a driver, two involved unbelted persons, two involved belted persons, and one had unknown seatbelt information. In five fatal motorcycle crashes, all of them were wearing helmets. The one fatal cyclist crash involved a non-helmeted rider. Zero out of two fatal moped riders wore a helmet. Finally, only one out of the four standing powered scooter crashes involved a helmeted rider (25%). 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.

SINGLE-PARTY COLLISIONS

Single-party collisions are traffic fatalities that involve only one party and may include collisions with unoccupied parked vehicles; trips or falls from a means of conveyance; colliding with inanimate objects such as buildings, streetlights, and center medians; or falling from environmental hazards such as steep cliffs or embankments. In 2022, 8 traffic fatalities (n=8/39; 21%) were single-party collisions. Of these 8 single-party traffic collisions resulting in a fatality: four were people in motor vehicles (50%), two were people riding a motorcycle (25%), one person was riding a bicycle (13%), and one was riding a standup powered device (13%).

²⁸ 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.



APPENDIX A - TABLE OF 2022 VISION ZERO TRAFFIC FATALITIES

#	Collision Date	Collision Time	Collision Location	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Deceased	Victim Age	Victim Sex	Collision Description
				Motor						Driver of a Hyundai sedan traveled eastbound and struck the victim who was
			Geary Blvd and	Vehicle &	21456(c)					crossing Geary from the northwest to the
1	1/5/2022	21:05	Laguna St	Pedestrian	(None)	No	Pedestrian	33	Male	southwest corner against a solid red hand.
2	1/29/2022	9:30	46th Ave and Lincoln Way	Motor Vehicle & Motor Vehicle	21801(a) (None)	Yes	Passenger	38	Male	Driver of an Audi SUV traveled eastbound and broadsided a westbound left-turning Honda SUV. The victim was a rideshare passenger of the Honda SUV. The eastbound vehicle and license plates were previously reported as stolen and the driver fled the scene.
	, , , ,		,				,			Driver of a 2-axle, 6 tire truck struck traveled
										northbound and struck the rider of an
							_			electric kick scooter who traveled eastbound
			Hamisan Chand	e-Scooter &	22450/-)		Standup			on 22nd Street. SFPD investigation
3	3/2/2022	20:44	Harrison St and 22nd St	Motor Vehicle	22450(a) (None)	No	Powered Device Rider	23	Male	determined that both parties had ran the STOP sign at this all-way STOP intersection.
4	3/4/2022	20:44	34 France St	Motor Vehicle & Pedestrian	Unknown (Unknown)	No	Pedestrian	47	Male	Victim parking parallel exited vehicle to check parking job and turned off engine, which resulted in the vehicle rolling downhill as it was left in reverse with the emergency brake disengaged. Victim became pinned between the open car door and vehicle.
				Motor						Victim was driving at a high rate of speed in
				Vehicle						a Honda SUV eastbound on Quintara and
5	2/5/2022	0.24	39th Ave and	Collision	22350	No	Drivor	34	Fomale	struck the concrete wall at the intersection
5	3/5/2022	0:24	Quintara St	(solo)	(None)	No	Driver	34	Female	with 39th Avenue, where the street turns. Driver of a Chevy van made a westbound
										right-turn and struck the victim, who crossed
				Motor						from the northeast corner towards to
	l		Chestnut St and	Vehicle &	21950(b)				_	northwest corner. A school crossing guard
6	3/10/2022	9:30	Fillmore St	Pedestrian	(None)	No	Pedestrian	84	Female	warned the victim not to proceed into the



#	Collision Date	Collision Time	Collision Location	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Deceased	Victim Age	Victim Sex	Collision Description
										intersection due to little to no crossing time left.
7	3/20/2022	8:58	IFO 370 Bayshore Blvd	Motorcycle & Motor Vehicle	22107 (None)	Yes	Motorcyclist	67	Male	Northbound Bayshore motorist made U-Turn south of the intersection, which caused a southbound Harley Davidson motorcyclist to lose control, fall, and collide with a parked 2 axle, 6-tire truck on the west side of Bayshore.
8	4/9/2022	15:38	Evans St and Mendell St	Moped & Motor Vehicle	23152(a) / 21453(a) (None)	Yes	Moped	33	Male	Driver of a Ford SUV traveled northbound under the influence, ran the red light, and struck the rider of a motorized scooter.
9	5/1/2022	20:26	Taylor St and Turk St	e-Scooter & Motor Vehicle	21453(a) (21453(a))	Yes	Standup Powered Device Rider	34	Female	Driver of a GMC SUV ran red light going northbound and struck the rider of a westbound electric stand up rental scooter (Bird) who had also ran the red light. Motorist fled the scene of the crash. The victim was experiencing homelessness.
10	5/11/2022	9:53	Steiner St and Green St	Motor Vehicle & Pedestrian	21950(a) (None)	No	Pedestrian	76	Female	Driver of a Toyota Tundra made a southbound left-turn and struck pedestrian in the east crosswalk of this all-way STOP.
11	5/15/2022	1:30	Ellis St near Leavenworth St	Motor Vehicle & Pedestrian	21954(b) (21955)	Yes	Pedestrian	58	Male	Driver of a Toyota SUV traveled westbound and struck the victim, who was already lying on the street midblock. Driver fled the scene but was later found and arrested. The victim was experiencing homelessness.
12	5/15/2022	21:01	Bayshore St and Blanken St	LRV & Pedestrian	None (None)	No	Pedestrian	62	Male	Victim was waiting in the bus shelter on east side of Bayshore. When T-train arrived, victim ran diagonally across northbound Bayshore lanes, tripped at the raised curb separating trackway from northbound lane



#	Collision Date	Collision Time	Collision Location	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Deceased	Victim Age	Victim Sex	Collision Description
										#1, and fell in front of the train just as the train was starting to move.
13	5/21/2022	4:17	37th Ave and Fulton St	Motor Vehicle & Pedestrian	21950(a) (None)	No	Pedestrian	81	Female	Driver of a Hyundai SUV made a southbound left-turn onto eastbound Fulton and struck pedestrian in crosswalk. Victim was traveling northbound from southeast corner. Driver may have been distracted with changing radio stations while making left-turn.
14	5/22/2022	4:47	3rd St and Mission St	Motor Vehicle & Pedestrian	22100(a) (None)	No	Pedestrian	31	Female	Driver of a Mercedez sedan made a northbound right-turn from the center lane and struck a taxi driver (Ford SUV) going northbound in transit/taxi lane, which sent the taxi towards the northeast corner. The taxi then struck multiple pedestrians, two of whom were victims who were standing on the northeast corner.
15	5/22/2022	5:20	3rd St and Mission St	Motor Vehicle & Pedestrian	22100(a) (None)	No	Pedestrian	72	Female	Driver of a Mercedez sedan made a northbound right-turn from the center lane and struck a taxi driver (Ford SUV) going northbound in transit/taxi lane, which sent the taxi towards the northeast corner. The taxi then struck multiple pedestrians, two of whom were victims who were standing on the northeast corner.
16	6/1/2022	16:30	Octavia Blvd and Oak St	Motor Vehicle & e- Unicycle	21453(a) (None)	No	e-Unicycle	31	Male	Victim riding an electric unicycle proceeded against a red light eastbound on Oak Street and collided with a northbound Recology 3+axle truck.



#	Collision Date	Collision Time	Collision Location	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Deceased	Victim Age	Victim Sex	Collision Description
17	6/9/2022	19:34	Larkin St and Eddy St	Motorcycle & Motor Vehicle	21453(a) (None)	No	Motorcyclist	26	Male	The victim proceeded against a red light at Eddy Street on a stolen Yamaha motorcycle and struck an eastbound tractor-trailer. Victim may have also been performing motorcycle stunts prior to crash.
18	6/14/2022	1:07	21st St and Mission St	Motor Vehicle & Motor Vehicle	22350 (22102)	Yes	Driver	29	Female	Victim was driving northbound in a a Toyota sedan on Mission Street, past 21st Street, and began a U-turn from the parking lane. The driver of a northbound Honda sedan was speeding and struck the U-turning vehicle. The driver of the second northbound vehicle fled the scene.
19	6/21/2022	5:30	16th St and South Van Ness	Motor Vehicle & Pedestrian	22350 (None)	Yes	Pedestrian	48	Male	Driver of a Honda sedan was speeding northbound on South Van Ness Avenue, ran the red light, and struck a pedestrian in the north crosswalk at 16th Street. The driver was suspected to be involved with a robbery. The driver fled the scene after the collision. The victim was experiencing homelessness.
20	6/23/2022	7:53	North Point east of Jones Street	Bicycle Collision (solo)	22350 (None)	No	Bicyclist	80	Male	The victim was riding his bicycle eastbound on North Point past Jones within the bicycle lane, ran over a tree branch partially in the bicycle lane, lost control, sideswiped a dumpster, and fell off the bicycle.
21	8/11/2022	11:30	Danvers St and Market St	Motorcycle & Motor Vehicle	21801(a) (None)	No	Motorcyclist	41	Male	Driver of an Toyota sedan made an eastbound left turn and struck the rider of a motorcycle traveling westbound. The driver of the automobile did not hold a valid driver's license and was cited for vehicular manslaughter.
22	8/11/2022	20:13	Junipero Serra Blvd underneath Alemany overpass	Motor Vehicle Collision (solo)	21663 (None)	No	Driver	61	Male	Victim drove onto the sidewalk and struck an overpass column adjacent to the right-most lane northbound on Junipero Serra Boulevard beneath the Alemany overpass.



#	Collision Date	Collision Time	Collision Location	Collision Type	Primary (Secondary) Collision Factor	Hit and Run	Deceased	Victim Age	Victim Sex	Collision Description
										Driver of a Ford sedan (taxi) traveled southbound and struck a pedestrian who
			McAllister St	Motor						started and continued crossing eastbound in the north crosswalk against the solid red
			and Van Ness	Vehicle &	21456(c)					hand. The victim was experiencing
23	8/12/2022	9:53	Ave	Pedestrian	(None)	No	Pedestrian	47	Male	homelessness.
			D II 6: 1	Motor	24050()					Driver of a Honda sedan traveled westbound
24	9/1/2022	18:25	Polk St and Vallejo St	Vehicle & Pedestrian	21950(a) (None)	No	Pedestrian	95	Female	and struck the victim who was walking west of the intersection.
					, , ,					Driver of an unknown silver sedan traveled
										northbound on 5th Street and struck a pedestrian who was crossing midblock
										between Bryant and Harrison Streets,
				Motor						diagonally northeastbound. Driver fled the
25	9/6/2022	19:30	5th St and Bryant St	Vehicle & Pedestrian	21954(b) (21955)	Yes	Pedestrian	61	Male	scene. The victim was experiencing homelessness.
	5, 5, 2222				(=====)					Driver was speeding and fleeing from CHP,
				D.A. a.t. a.u.						ran red light while traveling northbound on
				Motor Vehicle &						6th Street, was struck by driver traveling westbound on Harrison Street, was ejected
			6th St and	Motor						from the vehicle, and succumbed to his
26	9/8/2022	2:45	Harrison St	Vehicle	Unknown	No	Passenger	16	Male	injuries. The investigation is ongoing. Driver of an Infiniti sedan traveled
										eastbound on a green light and struck a
										pedestrian who started and continued
			Lombard St and	Motor Vehicle &	21456(c)					crossing in the west crosswalk against a solid red hand. The victim was experiencing
27	9/8/2022	17:15	Steiner St	Pedestrian	(None)	No	Pedestrian	52	Male	homelessness.
				Motor						Driver of an Audi SUV traveled southbound
			Fulton Street and 12th	Vehicle Collision	22350					on 12th Avenue, sideswiped a vehicle in the 700 block of 12th Avenue, continued
28	9/28/2022	23:21		(solo)	(None)	No	Driver	37	Male	through the intersection, and struck a tree.



					Primary	11:4				
	Collision	Collision	Collision	Collision	(Secondary) Collision	Hit and		Victim	Victim	
#	Date	Time	Location	Type	Factor	Run	Deceased	Age	Sex	Collision Description
				- 70-						Driver of a Toyota sedan was traveling on
										Buckingham Way intending to turn right
			19th Ave and	Motor						onto 19th Avenue and struck the victim, who
			Buckingham	Vehicle &	21950(a)					was walking northbound on a marked
29	10/22/2022	12:40	Way	Pedestrian	(None)	No	Pedestrian	75	Female	crosswalk.
										Driver of a Ford sedan traveled at a high rate
										of speed eastbound on Santiago and struck
										the victim, who was walking northbound in
										the east side yellow school crosswalk, then proceeded to strike other vehicles east of
				Motor						the intersection. The driver was booked for
			24th Ave and	Vehicle &	23152(a)					vehicular manslaughter and driving under
30	10/24/2022	10:45	Santiago Street	Pedestrian	(None)	No	Pedestrian	66	Female	the influence.
			<u> </u>		,					Driver of a motorized scooter traveled from
										the southeast corner of 14th and Harrison
										Street and struck a utility pole on the west
			Harrison St	Motorcycle						side of Harrison Street, midblock, between
			between 13th St	Collision	22350					13th and 14th Streets. The victim may have
31	10/28/2022	1:45	and 14th St	(solo)	(None)	No	Motorcyclist	48	Male	been experiencing homeless.
				N 4 - 4 - 11 - 11 - 1						Driver of a motorcycle was speeding westbound and struck the center median
			Market St and	Motorcycle Collision	22350					west of the intersection and sustained fatal
32	10/31/2022	23:14	Sanchez St	(solo)	(None)	No	Motorcyclist	57	Male	iniuries.
32	10/31/2022	25.14	Janenez Je	(3010)	(None)	110	Wiotorcyclist	37	iviaic	Rider of an electric scooter at the
										intersection of Silver Avenue and University
				Standup						Street backed up his scooter to avoid a
				Powered						vehicle and tripped on the sidewalk. The
				Device			Standup			rider fell backwards, struck his head, and did
			Silver Ave at	Collision			Powered			not survive due to complications of the
33	11/27/2022	13:00	University St	(solo)	N/A	No	Device Rider	80	Male	injury.
										Driver of a Ford truck was traveling
				Motor						eastbound on a green and struck the victim,
	10/6/222		Geneva Ave and	Vehicle &	21954(a)					who was walking near the east crosswalk,
34	12/6/2022	22:13	Naples St	Pedestrian	(None)	No	Pedestrian	51	Male	southbound, against a solid red hand.



					Primary (Secondary)	Hit				
#	Collision Date	Collision Time	Collision Location	Collision	Collision Factor	and Run	Deceased	Victim	Victim Sex	Collision Description
#	Date	Time	Cesar Chavez St	Type Motorcycle &	Factor	Kun	Deceased	Age	Sex	Collision Description Driver of a Chevy SUV made an eastbound left turn on a fresh green ball and struck the driver of a Harley motorcyclist speeding westbound within the bicycle lane.
35	12/7/2022	9:20	and South Van Ness Ave	Motor Vehicle	21801(a) (22350)	No	Motorcyclist	29	Male	Investigation into criminal charges is ongoing.
			Geneva Ave east of Prague	Motor Vehicle &	21955					Driver of a black SUV traveling eastbound struck the victim, who was crossing northbound somewhere 500 feet east of Prague St. The driver then fled the scene. A second driver of a Tesla SUV that was traveling eastbound behind the black SUV
36		19:33	Marina Blvd west of Webster St	Motor Vehicle Collision (solo)	(None) 22350 (None)	Yes	Pedestrian	55	Male	also struck the victim. Driver of a vehicle was speeding eastbound on Marina Blvd west of Webster St, did not follow the roadway curve, continued straight into the parking lot, struck various objects such as gates and trees, and was ejected from the vehicle. The driver was under the influence.
3,	12/24/2022	3.10	Larkin St and	Motor Vehicle &	21453(a)	110	Dilvei	27	remare	Driver of a vehicle struck a pedestrian and fled the scene. The victim may have been
38	7 - 7 - 2	20:08	Eddy St Bay St east of	Pedestrian Motor Vehicle &	(21456(b))	Yes	Pedestrian	63	Female	experiencing homelessness. A driver possibly traveling westbound struck the victim midblock on Bay St east of Stockton St and fled the scene. The victim may have been experiencing homelessness.
39	12/28/2022	5:01	Stockton St	Pedestrian	Unknown	Yes	Pedestrian	38	Male	The investigation is ongoing.

^{*}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

Eight people (2 people walking, 3 people riding in vehicles as passengers, 1 person riding in a motor vehicle, and 3 people on motorcycles) were killed in transportation-related collisions on freeways in San Francisco in 2022. This number is up from seven people in 2021.

There were no traffic deaths in the Presidio or on San Francisco International Airport (SFO) roadways in 2022.

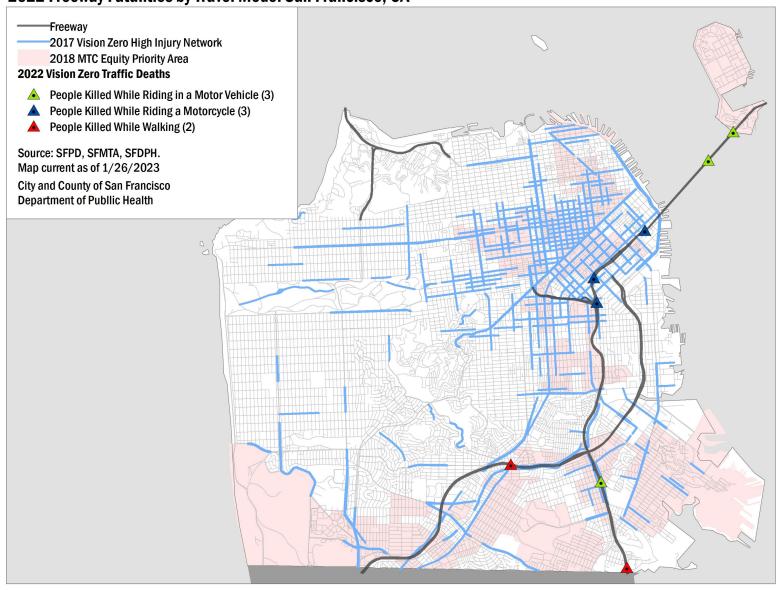
Freeways are defined as grade separated highway with high-speed vehicular traffic and controlled ingress/egress. Traffic fatalities on freeways and in the Presidio are tracked, but not included in the Vision Zero SF Fatality counts, as these areas are serviced by various state and federal agencies. Caltrans 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 rights-of-way in San Francisco.

FATALITIES ON FREEWAYS

	Collision			Victim	Victim	Collision	
#	Date	Deceased	Collision Type	Age	Sex	Time	Collision Location
1	4/20/2022	Passenger	Motor Vehicle Collision (solo)	17	Female	6:30	Northbound HWY 101
2	5/1/2022	Passenger	Motor Vehicle Collision (solo)	32	Male	7:30	I-80 at Treasure Island off ramp
3	6/7/2022	Motorcyclist	Motorcycle & Motor Vehicle	34	Male	15:04	I-80 Eastbound onto HWY 101 SB
4	6/19/2022	Passenger	Motor Vehicle Collision (solo)	22	Male	16:30	I-80 Westbound Bay Bridge
5	7/19/2022	Pedestrian	Motor Vehicle & Pedestrian	60	Male	5:19	Southbound 280 Under Mission Street Overpass
6	9/17/2022	Motorcyclist	Motorcycle & Motor Vehicle	26	Female	20:26	I-80 Eastbound east of Bryant St
7	10/8/2022	Pedestrian	Motor Vehicle & Pedestrian	29	Male	21:01	Northbound 101 near Candlestick Park
8	11/21/2022	Motorcyclist	Motorcycle & Truck	42	Female	Unknown	Eastbound on Interstate 80 near the 1st Street on-ramp



2022 Freeway Fatalities by Travel Mode: San Francisco, CA





APPENDIX C-PRIMARY COLLISION FACTORS BY YEAR

CA Vehicle Code	Primary Collision Factor Description	2014	2015	2016	2017	2018	2019	2020	2021	2022
22350	Unsafe speed for prevailing conditions	6	7	3	4	3	4	9	9	8
n/a	Unknown, Pending, or None	3	0	4	1	1	2	4	0	5
21453(a,c)	Red signal - driver or bicyclist responsibilities	2	4	8	1	2	3	4	4	4
21950(a)	Driver failure to yield right-of-way at crosswalks	6	9	6	7	5	8	4	0	4
21456(b,c)	Pedestrian violation of Walk or Wait signals	1	1	2	0	1	2	1	1	3
21801(a)	Violation of right-of-way - left turn	0	1	0	0	0	0	0	0	3
23152(a)	Under the influence of alcohol or drug	1	1	2	0	1	2	2	2	2
22100(a)	Turn at intersection from wrong position	0	0	0	0	0	0	0	1	2
21954(b)	Failure of driver or bicyclist to exercise due care for safety of pedestrian on roadway	0	0	0	0	0	1	1	0	2
21954(a)	Pedestrians must yield right-of-way outside of crosswalks	2	2	1	0	3	1	1	3	1
21955	Crossing between controlled intersections (Jaywalking)	3	1	1	2	1	0	0	1	1
21950(b)	Pedestrian suddenly entering into vehicle path close enough to create an immediate hazard	3	0	0	1	0	0	0	1	1
21663	Operating vehicle or bicycle on sidewalk prohibited	0	0	0	0	0	0	0	0	1
22107	Unsafe turn or lane change prohibited	0	2	0	0	0	1	0	0	1
22450(a)	Failure to stop at STOP sign	0	0	0	0	0	0	0	0	1
20001(a)	Duty to stop when involved in accident with injury or death	0	0	0	0	0	0	0	2	0
22106	No starting or backing vehicle while unsafe	0	0	0	0	1	0	0	1	0
21651(a,b)	Wrong way driving	0	0	1	0	0	0	0	1	0
7.213(c)13 TC	Other improper driving	0	0	0	0	0	0	0	1	0
22517	Opening door on traffic side when unsafe	0	0	0	0	0	1	1	0	0
21804(a)	Entering highway from alley or driveway	0	1	0	0	0	1	1	0	0
21755(a)	Unsafe overtaking or passing by driver	0	0	0	0	0	0	1	0	0
21453(d)	Red signal - pedestrian responsibilities	1	0	2	0	0	1	1	0	0
22515(a)	Leaving vehicle unattended without setting the brakes or stopping the motor	0	0	0	1	0	0	0	0	0
22102	Illegal U-turn in business district	0	0	0	1	1	0	0	0	0
22101(d)	Violating special traffic control markers (illegal turning movement)	0	0	0	1	0	0	0	0	0
21956	Pedestrian upon roadway	0	0	0	0	1	0	0	0	0
21712(b)	Unlawful riding on vehicle or bicycle prohibited	1	0	0	0	0	0	0	0	0
21658(a)	Lane straddling or failure to use specified lanes	1	0	0	0	0	0	0	0	0
21651(b)	Wrong way driving	0	0	1	0	0	0	0	0	0
21650.1	Bicycle to travel in same direction as vehicles (riding wrong way)	0	0	0	1	0	0	0	0	0
21650	Failure to keep to right side of road	1	1	2	0	2	0	0	0	0
21460(a)	Remain at right of double parallel solid yellow lines - driver responsibility	0	0	0	0	1	1	0	0	0
21208(a)	Riding outside bicycle lane prohibited	0	1	0	0	0	0	0	0	0
21203	Illegal to hitch a ride on another vehicle	0	0	0	0	0	1	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 2022, with reasons for exclusion. Fatalities may fall into multiple exclusion categories.

2022 Railway deaths: Two deaths excluded from the Vision Zero fatality total were associated with railways (both on Caltrain's right of way) in 2022. The number of railway-associated but Vision Zero-excluded fatalities is down from three in 2021. As stated in the main report, there was one railway-related Vision Zero death that was from a pedestrian fatality involving a light rail vehicle.

