



# Vision Zero Traffic Fatalities: 2018 End of Year Report

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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

**San Francisco saw 23 traffic-related deaths in 2018.** Twenty-three people losing their lives is unacceptable. Every death in this report represents indescribable loss suffered by an individual and the community.

**The 23 deaths in 2018 represent a 15% rise compared to 2017. 2018 is the second least deadly year on record for San Francisco traffic fatalities since 1915, and San Francisco is committed to achieving our Vision Zero goal of zero traffic deaths.** This report summarizes traffic death patterns in 2018 to inform Vision Zero initiatives to save lives.

The following chart compares annual fatality data 2005 through 2018. The number of traffic deaths in San Francisco fell significantly in 2017, after relatively stable counts in 2014-2016, then rose slightly in 2018. Note that not included in the 2018 total is one 12/12/2018 pedestrian fatality still under investigation by the Office of the Medical Examiner.

## San Francisco Traffic Deaths, 2005-2018



NOTE: 2005-2012 deaths 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. 2014-2018 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.

\*2018 totals do not include one 12/12/2018 pedestrian fatality still under investigation by the Office of the Medical Examiner.



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 Protocol<sup>1</sup>: <http://visionzerosf.org/maps-data/>.

**This report summarizes characteristics of traffic deaths in San Francisco from 2014-2018.** 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. SFPDH 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.<sup>2</sup>

## Key Findings

### ***High Injury Network and Communities of Concern:***

- Of the 23 traffic deaths in 2018, almost half (48%) occurred on the Vision Zero High Injury Network.
- Over half (52%, n=12) of fatalities occurred in a Community of Concern in 2018, and of those over half (n=7) were also on the High Injury Network.

### ***Travel Mode:***

- Fifteen people were killed while walking in San Francisco, comprising the largest road user group impacted by traffic fatalities (65%).
  - Compared to 2017's fourteen fatalities one additional person was killed while walking in 2018, truncating a steady decrease in pedestrian deaths seen 2014-2017.
- Three people were killed while biking, comprising 13% of all traffic fatalities.
  - Compared to 2017's two fatalities, there was one more cyclist death.
- Two people were killed while riding a motorcycle, comprising 9% of all traffic fatalities.
  - Compared to 2017's four motorcyclist deaths, two fewer people were killed while riding a motorcycle.
- Three people were killed while travelling in a motor vehicle.
  - This contrasts with 2017, when no one was killed while travelling in a motor vehicle as a driver or passenger.

### ***Demographics: Homelessness, Sex, Age and Race/Ethnicity***

- Individuals with no fixed address made up 22% (n=5) of traffic fatalities, while representing under 1% of the San Francisco population.
- In total, 65% of all traffic fatalities were male (n=15) in 2018. Sixty percent of people killed while walking were male (n=9). All people killed while bicycling were male (n=3), and half of people killed while riding motorcycles were male (n=1). Two thirds of people killed while driving were male (n=2).
- 35% of fatalities were people aged 65 years or older (n=8). Forty percent of people killed while walking were at least 65 years old (n=6/15).
- People killed in traffic collisions were predominantly of non-Hispanic ethnicity and White (39%), Black (26%) and Asian (18%) races. By comparison, the demographic profile of San Francisco at large is approximately 5% Black, 34% Asian and 47% White.

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<sup>1</sup>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 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.

<sup>2</sup> Severe Injury Trends Report available at: [http://visionzerosf.org/wp-content/uploads/2018/12/Severe-Injury-Trends\\_2011-2017Final.pdf](http://visionzerosf.org/wp-content/uploads/2018/12/Severe-Injury-Trends_2011-2017Final.pdf)



**Hit and Runs:**

- Seven traffic fatalities (30%) involved a hit and run incident in 2018, resulting in the death of four pedestrians, two bicyclists and one motorcyclist. This is a marked increase from 2017, during which a single pedestrian fatality resulted from a hit and run collision.
  - Half of fatal collisions occurring in nighttime hours (between 10pm and 6am) involved hit and run incidents (n=3; N=6).

**Primary Collision Factors:**

- *The most-cited collision factors leading to fatalities were driver failure to yield at crosswalks, unsafe speed, and failure to stop at a red signal:*
  - The most commonly-cited primary collision factor was failure by a driver to yield right-of-way at crosswalks (CVC 21950(a)), cited in 22% (n=5) of fatalities. This was also 2017’s leading collision factor.
  - The second most commonly-cited factors were unsafe speed (CVC 22350) and driver or bicyclist failure to stop at a red signal (CVC 21453(a)), each at 13% (n=3).

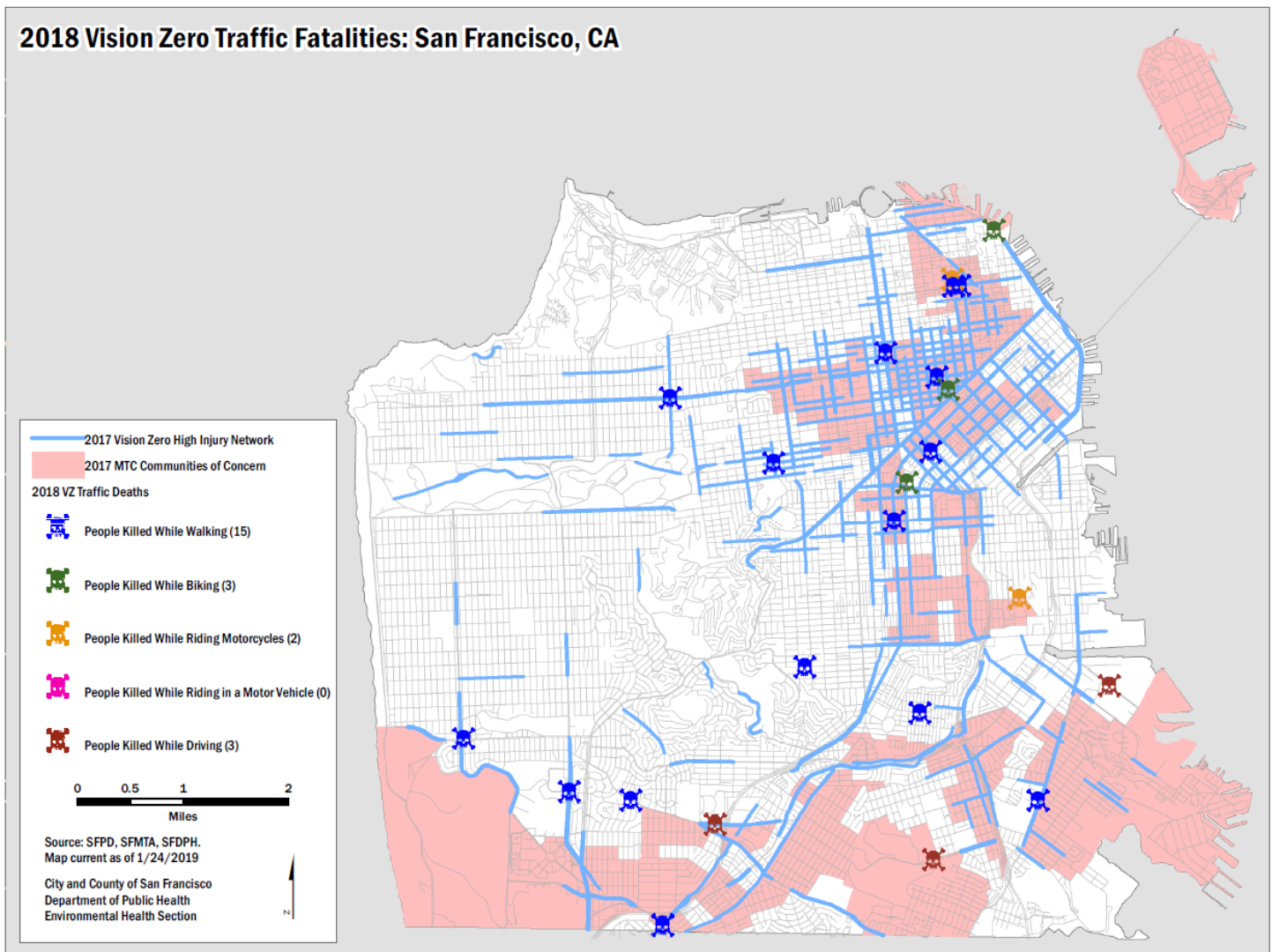
California Vehicle Code (CVC)	Primary Collision Factor Description	Count (N=23)
21950 (a)	Driver failure to yield right-of-way at crosswalks	5
21453 (a)	Red signal - driver or bicyclist responsibility	3
22350	Unsafe speed for prevailing conditions	3
21650	Vehicle shall be driven upon right half of roadway	2
21954 (a)	Pedestrians must yield right-of-way outside of crosswalks	2
21456 (c)	Pedestrian traffic signal - pedestrian responsibility	1
21460 (a)	Remain at right of double parallel solid yellow lines - driver responsibility	1
21955	Crossing between controlled intersections (Jaywalking)	1
21956	Pedestrian upon roadway	1
22102	Illegal U-turn in business district	1
22106	No starting or backing vehicle on highway while unsafe	1
23152 (a)	Unlawful to drive a vehicle under the influence of alcohol	1
n/a	Unknown	1



## 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 VZHIN represents the 13% of San Francisco streets where more than 75% of severe and fatal traffic injuries occur.

- In 2018, just under half (48%; n=11) of traffic fatalities occurred on the Vision Zero High Injury Network.
- 52% (n=12) of fatalities occurred in a Community of Concern in 2018, 58% (n=7) of which were on the VZHIN.



An update of the VZHIN was completed in 2017<sup>3</sup> that incorporates both police and hospital data from a pilot comprehensive Transportation-related Injury Surveillance System. The majority (51.5%, or 66/128 miles) of the updated VZHIN is in the Metropolitan Transportation Commission's (MTC) Communities of Concern<sup>4</sup>, which contain 31% of the

<sup>3</sup> Source: San Francisco Department of Public Health-Program on Health, Equity and Sustainability. 2018. Vision Zero High Injury Network: 2018 Update – A Methodology for San Francisco, California. San Francisco, CA. Available at: <https://www.sfdph.org/dph/eh/PHES/PHES/TransportationandHealth.asp>.

<sup>4</sup> Source: Plan Bay Area: 2040 Plan, 2018. <http://www.planbayarea.org/2040-plan/plan-details/equity-analysis>

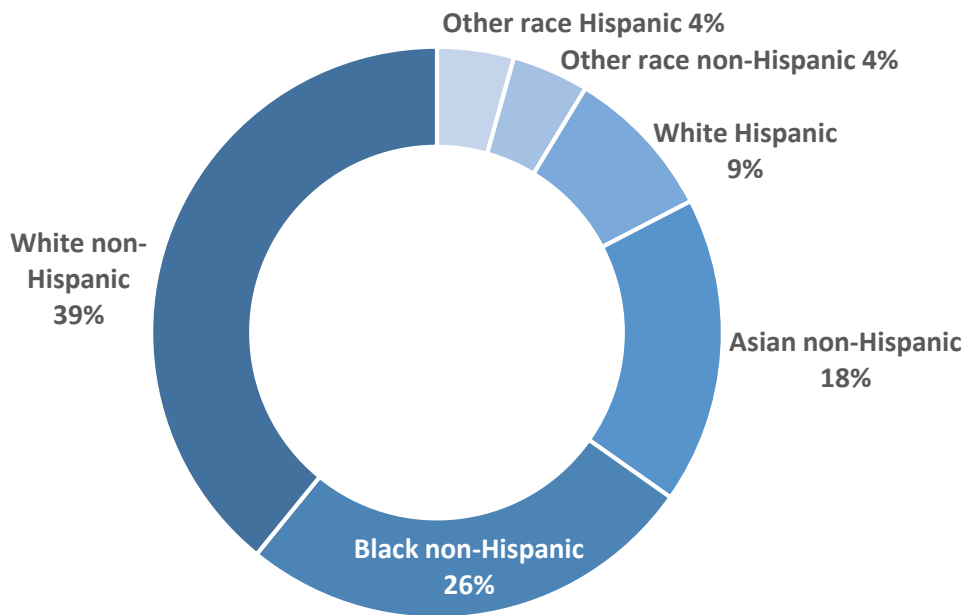


city's surface streets. Communities of Concern are areas with high concentrations of poverty, communities of color, seniors and other vulnerable populations.

### Race and Ethnicity

People killed in traffic collisions in 2018 were predominantly of non-Hispanic ethnicity and White (39%), Black (26%) and Asian (18%) races. Compared to the demographic profile of San Francisco at large (approximately 5% Black, 34% Asian and 47% White among people reporting a single race),<sup>5</sup> Black individuals are notably over-represented (26%) and Asian (18%) people are under-represented in these fatality data. White individuals are represented among traffic fatalities in similar proportion (48%) to their presence in the San Francisco population. Regarding ethnicity, 15% of San Francisco's population is Hispanic while a similar proportion (13%) of those killed in traffic in 2018 were Hispanic.<sup>6,7</sup>

Race and Ethnicity\* of 2018 Traffic Fatalities (N=23)



\*Race and ethnicity per Office of the Medical Examiner

<sup>5,7</sup> Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

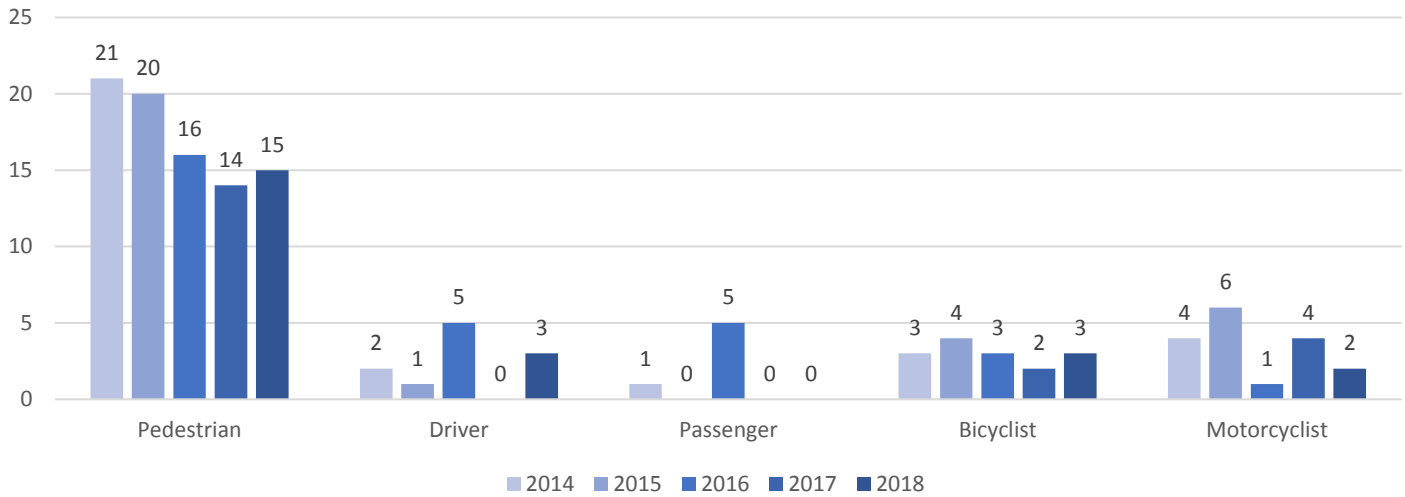
<sup>7</sup> Note: San Francisco is a city with significant tourist and commuter populations. Though members of these groups are also at risk of injury or death while traveling on San Francisco streets, they are not reflected in the Census population estimates for San Francisco.



### Travel Mode

Pedestrians continue to be the most vulnerable road users in San Francisco accounting for over half of all fatalities (65%; n=15). There was one more pedestrian death compared to 2017, truncating a decrease in numbers of pedestrian deaths seen annually since 2014. All pedestrian fatalities resulted from collisions with a motor vehicle. Three people were killed while biking, one more cyclist death than 2017. Motorcyclist fatalities saw a decline in 2018 while those killed in motor vehicles (drivers and passengers) increased from zero to three people in 2018.

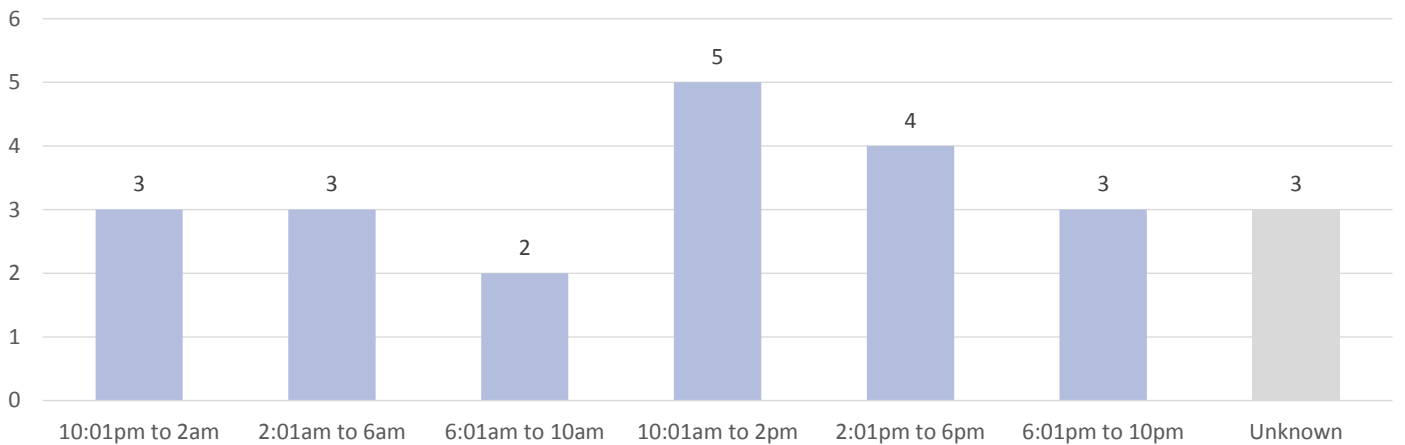
Fatalities by Mode (2014-2018)



### Time of Day

Collisions resulting in traffic fatalities in 2018 occurred more frequently in the late morning and early afternoon hours with peak numbers occurring between 10:01am and 2pm (22%, n=5). Fatal collision time of day has shown notable variation from year to year.

Fatalities by Collision Time of Day (2018; N=23)





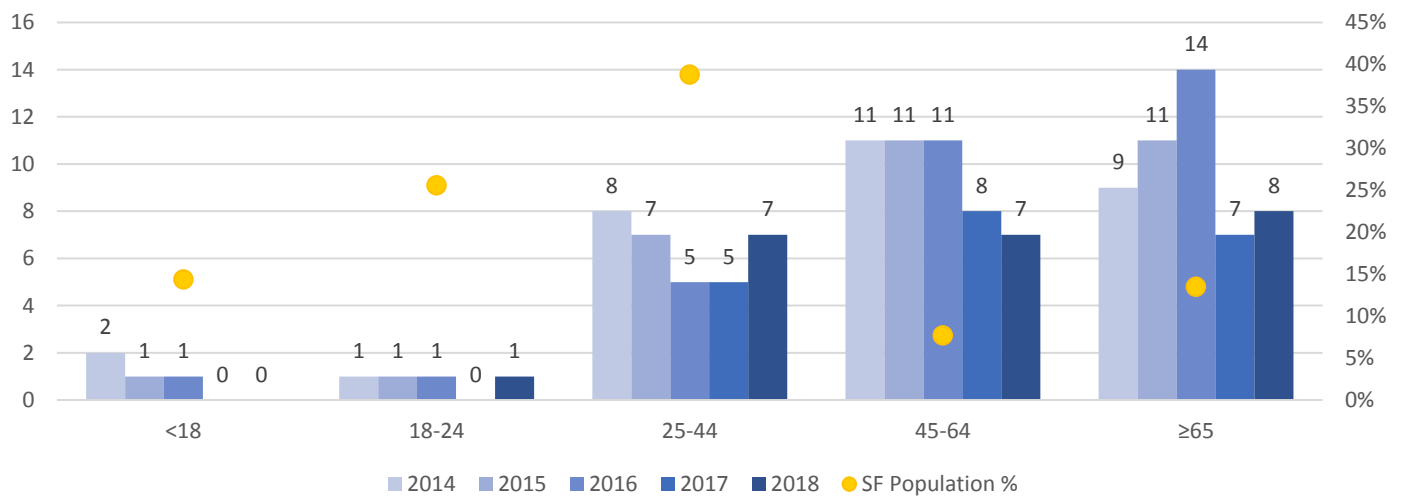


## Age

Seniors (aged 65 and up) suffer a disproportionate rate of traffic fatalities. While only 15% of San Francisco’s total population<sup>8</sup>, seniors accounted for 35% (n=8) of all traffic fatalities in 2018. Looking specifically at pedestrian fatalities in 2018, 40% (n=6) were people age 65 and older and 73% (n=11) were people age 50 and older (*data in Appendix A*).

Notably, no children died as a result of traffic collision in 2018. Historically fewer youth die from traffic injury than people in other age groups. In 2018 there was one death of a person in the 18-24 year age group.

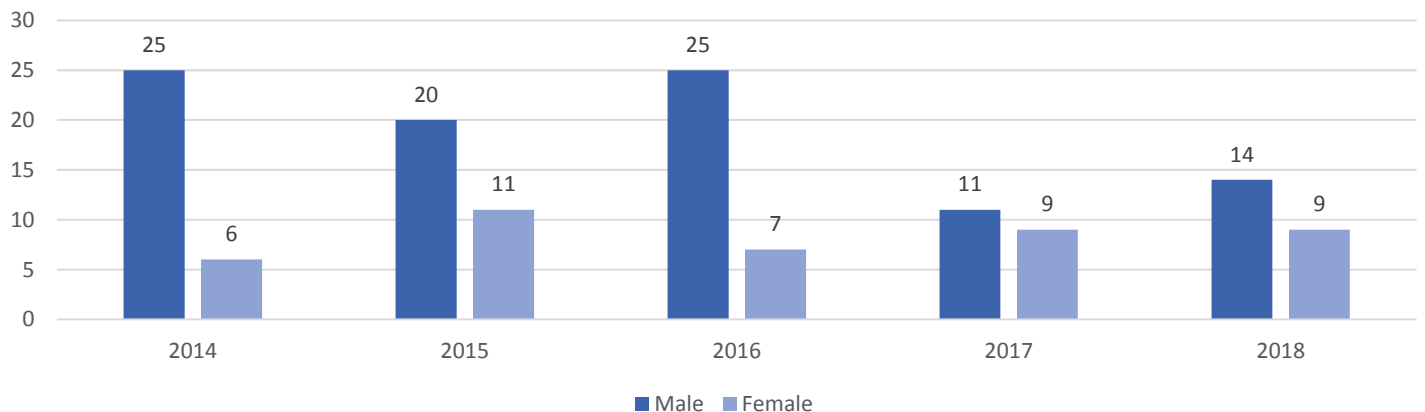
Fatalities by Age (2014-2018)



## Sex

Men are overrepresented in traffic fatalities in 2018. This overrepresentation has featured since the advent of Vision Zero in San Francisco, but reduced beginning in 2017 relative to other years. While making up 51% of San Francisco total population<sup>9</sup> men account for 65% (15/23) of all fatalities. However, fatality mode reveals different patterns between males and females: all bicyclists killed were male (n=3), whereas males made up 60% (9/15) of pedestrian fatalities. Two-thirds (67%; n=3) of drivers who died were male. By contrast in 2018, motorcyclists who died on San Francisco streets were as likely to be female as male (n=2 total).

Fatalities by Sex (2014-2018)



<sup>8,9</sup> Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates



## Homelessness

Vision Zero SF tracks the proportion of traffic fatalities affecting people with no fixed address as a proxy for people experiencing homelessness. In 2018, five people without an address were killed on City streets (22% of fatalities): all pedestrians. The homeless population of San Francisco is estimated to be 7,499<sup>10</sup>, making up only 0.9% of the City population<sup>11</sup>. People experiencing homelessness may be particularly vulnerable to traffic injury, which is a topic targeted for increased Vision Zero focus in the coming year.

## Primary Collision Factors

Failure to yield to pedestrians, unsafe speed and not stopping at a red signal were the top primary collision factors in 2018. Five fatal collisions involved a secondary collision factor (see *Appendix A*). Of pedestrian fatalities which have vehicle code information available, police classified 64% (n=9; N=14) as caused primarily by the driver of a vehicle.

California Vehicle Code	Primary Collision Factor Description	2014	2015	2016	2017	2018
21950(a)	Driver failure to yield right-of-way at crosswalks	6	9	6	7	5
21453(a,c)	Red signal - driver or bicyclist responsibilities	2	4	8	1	3
22350	Unsafe speed for prevailing conditions	6	7	3	4	3
21650	Failure to keep to right side of road	1	1	2	0	2
21954(a)	Pedestrians must yield right-of-way outside of crosswalks	2	2	1	0	2
21456(b,c)	Pedestrian violation of Walk or Wait signals	1	1	2	0	1
21460(a)	Remain at right of double parallel solid yellow lines - driver responsibility	0	0	0	0	1
21955	Crossing between controlled intersections (Jaywalking)	3	1	1	2	1
21956	Pedestrian upon roadway	0	0	0	0	1
22102	Illegal U-turn in business district	0	0	0	1	1
22106	No starting or backing vehicle while unsafe	0	0	0	0	1
23152(a)	Under the influence of alcohol or drug	1	1	2	0	1
n/a	Unknown	3	0	4	1	1
22101(d)	Violating special traffic control markers (illegal turning movement)	0	0	0	1	0
22515(a)	Leaving vehicle unattended without setting the brakes or stopping the motor	0	0	0	1	0
21650.1	Bicycle to travel in same direction as vehicles (riding wrong way)	0	0	0	1	0
21950(b)	Pedestrian suddenly entering into vehicle path close enough to create an immediate hazard	3	0	0	1	0
22107	Unsafe turn or lane change prohibited	0	2	0	0	0
21208(a)	Riding outside bicycle lane prohibited	0	1	0	0	0
21453(d)	Red signal - pedestrian responsibilities	1	0	2	0	0
21651(b)	Wrong way driving	0	0	1	0	0
21658(a)	Lane straddling or failure to use specified lanes	1	0	0	0	0
21712(b)	Unlawful riding on vehicle or bicycle prohibited	1	0	0	0	0

<sup>10</sup> Source: Applied Survey Research, 2018 San Francisco Homeless Count Report. <http://hsh.sfgov.org/wp-content/uploads/2018/06/2018-SF-Point-in-Time-Count-General-FINAL-6.21.17.pdf>

<sup>11</sup> San Francisco population estimate of 850,282. Source: 2012-2016 American Community Survey 5-Year Estimates



California Vehicle Code	Primary Collision Factor Description	2014	2015	2016	2017	2018
21801(a)	Violation of right-of-way - left turn	0	1	0	0	0
21804(a)	Entering highway from alley or driveway	0	1	0	0	0

### Hit and Run Collisions

A significant and concerning increase in fatal hit and runs arose in 2018, with over 30% of all traffic fatalities resulting from a collision in which a driver left the scene. The seven collisions involving a hit and run in 2018 resulted in the death of four pedestrians, two bicyclists and one motorcyclist. These collisions took place largely in nighttime hours, representing half (50%) of fatal collisions occurring between 10pm and 6am (n=3; N=6). In 2017, a single fatality resulted from a hit and run collision. Several of these investigations remain open, with police urging the public to come forward with relevant information.



## APPENDIX A – TABLE OF 2018 VISION ZERO FATALITIES

#	Collision Date	Collision Time	Deceased	Victim Sex	Victim Age	Collision Type	Primary (Secondary) Collision Factor	TNC <sup>12</sup>	Hit and Run	Collision Location
1	1/23/2018	1309	Driver	M	34	Motor Vehicle Collision	21460 (a)			Mansell Street near Visitacion Avenue
2	2/24/2018	627	Pedestrian	M	66	Pedestrian vs. Vehicle	21950 (a)	N	N	Intersection of San Jose Avenue and Rice Street
3	3/16/2018	500	Pedestrian	F	63	Pedestrian vs. Vehicle	21956	Y	N	IFO 732 Broadway Street
4	4/17/2018	900	Pedestrian	F	80	Pedestrian vs. Vehicle	21950 (a)	N	N	Victoria Street at Ocean Avenue
5	4/28/2018	140	Pedestrian	M	34	Pedestrian vs. Vehicle	21456 (c)			19th Ave at Winston Drive
6	5/29/2018	unk	Driver	F	25	Motor Vehicle Collision	22350		N	IFO 3450 Cargo Way
7	6/13/2018	unk	Pedestrian	F	34	Pedestrian vs. Auto	None	N	N	IFO 562 28th Street
8	6/27/2018	1613	Other cyclist	M	65	Bicycle vs. Motor Vehicle	22350		Y	Sansome St at the Embarcadero
9	7/7/2018	1948	Pedestrian	M	39	Pedestrian vs. Vehicle	21955 (22350)			16th Street and Mission Street
10	7/17/2018	1006	Pedestrian	M	69	Pedestrian vs. Vehicle	21950 (a)			36th Avenue at Sloat Boulevard
11	8/14/2018	1743	Bicyclist	M	65	Bicycle vs. Motor Vehicle	21954 (a) (21453 (d))	unk	Y	Taylor Street and Turk Street
12	8/18/2018	308	Pedestrian	M	57	Pedestrian vs. Vehicle	21453 (a) (23152(a))		Y	Ellis Street and Jones Street
13	8/4/2018	123	Pedestrian	M	54	Pedestrian vs. Vehicle	21453 (a)	N	Y	Arguello Boulevard and Geary Boulevard
14	8/25/2018	1540	Motorcyclist	M	33	Motorcycle vs. Motor Vehicle	21650 (22350)	N	Y	Arkansas Street and 23rd Street
15	9/13/2018	1206	Bicyclist	M	56	Bicycle vs. Vehicle	21650	N	N	IFO 1675 Howard Street
16	9/18/2018	2340	Pedestrian	M	61	Pedestrian vs. Vehicle	23152 (a) (22100 (b))	N	Y	1300 Block of Howard Street at Washburn Street
17	9/19/2018	1449	Pedestrian	F	75	Pedestrian vs. Vehicle	21950 (a)	N	N	Cortland Avenue and Ellsworth Street

<sup>12</sup> TNC stands for Transportation Network Company and refers to rideshare companies such as Uber and Lyft. This field was added to SFPD collision report forms in 2018 and is therefore not available in all cases.



#	Collision Date	Collision Time	Deceased	Victim Sex	Victim Age	Collision Type	Primary (Secondary) Collision Factor	TNC	Hit and Run	Collision Location
18	9/22/2018	2100	Pedestrian	M	42	Pedestrian vs. Vehicle	21954 (a)	N	N	Van Ness Avenue at Fern Street
19	10/3/2018	2115	Pedestrian	M	60	Pedestrian vs. Motor Vehicle	21453 (a)	unk	Y	Baker Street and Oak Street
20	11/5/2018	600	Motorcyclist	F	23	Motorcycle vs. Motor Vehicle	22102		N	Powell Street and Broadway Street
21	11/5/2018	1238	Pedestrian	F	86	Pedestrian vs. Auto	21950 (a)	N	N	Intersection of Powell Street and Vallejo Street
22	11/13/2018	1200	Pedestrian	F	83	Pedestrian vs. Vehicle	22106	N	N	3rd Street and Armstrong Avenue
23	12/24/2018	unk	Driver	M	58	Motor Vehicle Collision	22350	N	N	Ocean Avenue at Howth Street



## APPENDIX B – FATALITIES ON FREEWAYS AND IN THE PRESIDIO

Four people (1 person walking, 1 person riding in a motor vehicle, and 2 people riding motorcycles) were killed in transportation-related collisions on freeways in San Francisco in 2018. There were no traffic deaths in the Presidio in 2018.

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. 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.

2018 Vision Zero Traffic Fatalities: San Francisco, CA  
Freeways



#	Collision Date	Deceased	Collision Type	Victim Age	Victim Sex	Collision Time	Collision Location
1	3/4/2018	Pedestrian	Pedestrian vs. Vehicle	46	F	544	Eastbound Highway 80, near 4th Street
2	3/12/2018	Motor Vehicle Passenger	Motor Vehicle Collision	84	F	1800	Geneva Avenue off ramp Southbound Hwy 280
3	9/21/2018	Motorcyclist	Motorcycle vs. Motor Vehicle	49	M	1041	Westbound Hwy 80; West of Treasure Island
4	9/30/2018	Motorcyclist	Motorcycle Collision	19	M	2140	Westbound Hwy 80



## APPENDIX C – 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; 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: In the event that 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 by year, with reasons for exclusion. Note that a 12/12/2018 pedestrian fatality currently under investigation is not reflected in the numbers below.

Vision Zero Traffic Fatality Protocol Exclusions (2014-2018)

