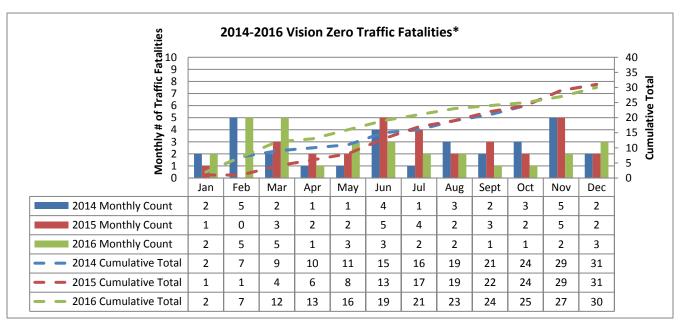


Vision Zero Traffic Fatalities: 2016 End of Year Report (February 2017)

Eliminating traffic fatalities by 2024 is the goal of San Francisco's Vision Zero policy. Vision Zero SF reports and maps the official Vision Zero fatality statistics on a monthly basis on the following webpage, utilizing the Vision Zero Traffic Fatality Protocol: http://visionzerosf.org/maps-data/. The Vision Zero Traffic Fatalities Monitoring Working Group is comprised of Leilani Schwarcz, San Francisco Department of Public Health (SFDPH), Vision Zero Surveillance Epidemiologist; Commander Robert O'Sullivan, San Francisco Police Department (SFPD), Traffic Company; James Shahamiri, San Francisco Municipal Transportation Agency (SFMTA), Associate Engineer.

Based on the most current data, 30 people have been killed while traveling in San Francisco in 2016. (Please see Appendix A for details regarding two additional pending fatality investigations; any updates will be made and posted to the above website as soon as possible. Appendix B is a summary table of fatalities and key characteristics.) The following chart compares month-to-month fatality data from 2014-2016; Vision Zero was adopted in San Francisco in 2014.

This report summarizes characteristics of traffic deaths in San Francisco from 2014-2016. Please note that traffic fatality numbers are low from a statistical standpoint, and the analyses are susceptible to random variation. Year to year changes may thus be due to chance. Analyzing longer-term trends helps address this issue. In 2017, SFDPH will also begin monitoring severe injuries to understand trends and characteristics of the most serious traffic-related injuries.



¹ In 2015, 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 (LRV), 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.

Working together to prioritize street safety and eliminate all traffic deaths in San Francisco by 2024



Summary and Vision Zero Context

The goal of Vision Zero is zero traffic deaths, period. Too many people die on our streets each year. Every death in this report represents an indescribable loss suffered by the individual and their family, friends, classmates, co-workers, and community. This report summarizes traffic death patterns to inform Vision Zero monitoring and initiatives to save lives.

The overall number of traffic deaths in 2016 is 30, compared to 31 in 2015 and 2014. Pedestrians made up the largest number of deaths, comprising over 50% of all traffic fatalities. Over 40% of all traffic fatalities were suffered by seniors. The most frequent primary collision factors for fatalities included red light running, vehicle failure to yield to pedestrians in a crosswalk, and speeding. Additional key findings are summarized in the next section.

San Francisco's number of traffic deaths has been relatively flat despite the increases in population that have occurred in the city over the last few years. This is in stark contrast to traffic collisions on a national level. Preliminary data from the National Highway Traffic Safety Administration (NHTSA) points to the number of traffic deaths rising in other cities nationwide. Road deaths in the U.S. rose 8 percent in the first nine months of 2016 compared to the same period in 2015, driven by increases in pedestrian, bicyclist and motorcyclist deaths. ²³ Regardless, any traffic fatality is unacceptable.

City agencies are working diligently to improve the safety of our streets, taking a comprehensive approach that includes engineering, enforcement, education, policy and evaluation, requiring coordination across multiple city agencies. The State of Vision Zero 2015 Report summarized actions completed through 2015. SFMTA completed 24 expedited Vision Zero safety projects two months ahead of the scheduled 24-month duration by the end of 2015. In 2016, SFDPH launched Safe Streets for Seniors, providing targeted outreach and education to this population at particularly high risk, and SFPD achieved its goal of issuing 50% of its monthly citations for the most dangerous driving behaviors - speeding, drivers not yielding to pedestrians, red light running, stop sign running, and failure to yield while turning. A year-long, citywide Anti-Speeding campaign kicked off in Fall 2016 that consists of strategic enforcement and education and a rigorous evaluation. In August 2016 Mayor Ed Lee issued an Executive Directive on Bicycle and Pedestrian Safety to continue to focus attention on key improvements to save lives, and progress is being tracked on the Vision Zero website. The City is releasing its next Vision Zero Two-year Action Strategy in February 2017 – focusing on creating safe streets, safe people and safe vehicles. Continued work with community stakeholders to address traffic safety concerns and inequities, including the Vision Zero Coalition and newly launched Bay Area Families for Safe Streets, is essential to creating the culture of safety we need to prevent future deaths on our streets. Please join the City at the next Vision Zero Task Force, a public meeting held quarterly to provide feedback and input on key Vision Zero policies and efforts.

The City is updating the High Injury Network with more current data in 2017, and will be monitoring injury and fatality patterns to assess where Vision Zero initiatives have improved safety, and where additional treatments are required. SFDPH is working with City partners including Zuckerberg SF General to improve the timeliness and comprehensiveness of data used to inform and monitor Vision Zero. In 2017, we will start utilizing hospital records and data to better understand injury patterns, including more severe injuries not currently captured in police data, and their consequences.

² https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812358

³ http://www.reuters.com/article/us-usa-traffic-idUSKCN1251GZ



2016 Vision Zero Fatality Characteristics

Mode:

- 16 people were killed while walking in San Francisco, comprising the largest road user group impacted by traffic fatalities (53%)
 - o Compared to 2015, there were 4 fewer people killed while walking
- 10 people were killed while travelling in a motor vehicle (5 drivers, 5 passengers), comprising 34% of all traffic fatalities
 - Compared to 2015, there were 9 more people killed while travelling in a motor vehicle
 - One collision on 2/6/16, a vehicle fleeing from the police, resulted in the deaths of all 3 vehicle occupants and represents 30% (n=3) of 10 total driver and passenger fatalities in 2016
- 1 person was killed while riding a motorcycle, comprising 3% of all traffic fatalities
 - Compared to 2015, there were 5 fewer people killed while riding on a motorcycle
- 3 people were killed while biking, comprising 10% of all traffic fatalities
 - Compared to 2015, there was 1 fewer cyclist death

Demographics:

- In total, 77% of all traffic fatalities were males (n=23) in 2016
- Among all people killed in a motor vehicle (passenger vehicle or motorcycle) 91% were males (n=10) and 9% were females (n=1)
- 66% (n=2) of bicyclist fatalities in 2016 were women
- 77% of fatalities were people over 45 years old (n=23), including 43% that were over 65 years old (n=13)

Primary Vehicle Code Violations:

- 27% (n=8): Red signal driver or bicyclist responsibilities (red light running by vehicle), (21453(a,c))
 - n=3 fatalities were in the same collision
- 20% (n=6): Driver or bicyclist to yield right-of-way at crosswalks (vehicle violation of pedestrian right-of-way), (21950(a))
- 10% (n=3): Unsafe speed for prevailing conditions, (22350) *Speed was indicated as a secondary collision factor in 2 fatalities.
- 7% (n=2): Pedestrian violation of Walk or Wait signals (pedestrian entering crosswalk without enough time to safely cross), (21456(b))
- 7% (n=2): Under the influence of alcohol or drug, (23152(a))
- 7% (n=2): Red signal pedestrian responsibilities (red light running by pedestrian), (21453(d))
- 7% (n=2): Failure to keep to right side of road, (21650)
- 7% (n=2): Unknown
- 3% (n=1): Pedestrians must yield right-of-way outside of crosswalks, (21954(a))
- 3% (n=1): Crossing between controlled intersections (jaywalking), (21955)
- 3% (n=1): Wrong way driving, (21651(b))

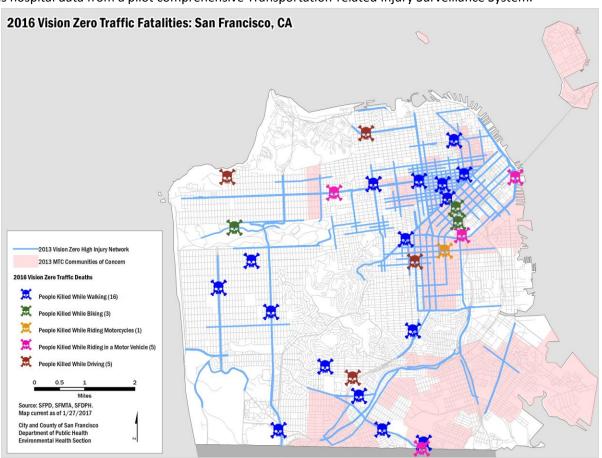
Hit and Runs:

- Five traffic fatalities (17%) involved hit and run incidents in 2016
- Among the fatalities, 3 were pedestrians and 2 were cyclists



The Vision Zero High Injury Network⁴ and Communities of Concern

63% of traffic fatalities occurred on the Vision Zero High Injury Network (VZHIN) in 2016, meaning approximately 6 out of 10 fatalities occur on the VZHIN which continues to be a useful tool for prioritizing the location of traffic safety projects throughout the City. This number is comparable though slightly less than the proportion of severe and fatal injuries identified on the network in recent years, with 65% of traffic fatalities happening on the VZHIN in 2015 and 71% of traffic fatalities happening on the VZHIN in 2014. The VZHIN was created by SFDPH in coordination with SFMTA to identify the corridors where the most serious and fatal injuries in San Francisco are concentrated, and is used to identify and prioritize where improvements in engineering, education and enforcement are focused to realize Vision Zero. The current VZHIN is based on data from 2008-2012, the most recent available data at the time of its development. In addition, 47.2% (59/125 miles) of the VZHIN is in the Metropolitan Transportation Commission's (MTC) Communities of Concern⁵. Communities of Concern highlight areas with high concentrations of poverty and vulnerable populations. 30% (n=9) of fatalities occurred in a Community of Concern in 2016, and of those 89% (n=8) were also on the VZHIN. An update of the VZHIN is underway in early 2017, which will incorporate police as well as hospital data from a pilot comprehensive Transportation-related Injury Surveillance System.



⁴ The High Injury Network represents the 12% of San Francisco streets where more than 70% of severe and fatal traffic injuries occur.

⁵ Source: Plan Bay Area, 2013. http://planbayarea.org/the-plan/plan-details/equity-analysis.html



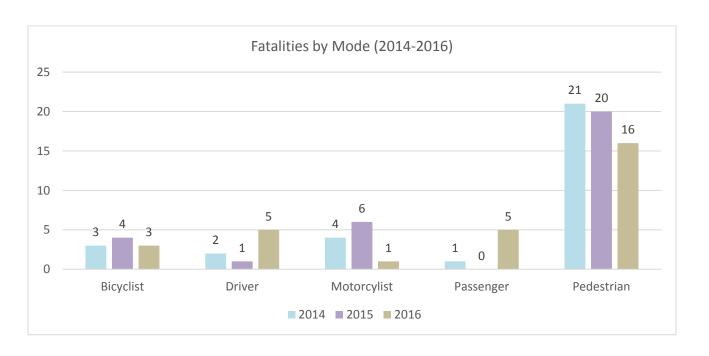
Mode

Pedestrians continue to be the most vunerable road users in San Francisco accounting for over half of all fatalities with a decrease in 2016 compared to previous years. Motorcylist fatalities also had a reduction in 2016 while those killed in motor vehicles increased; motor vehicle fatalities included one collision which resulted in the deaths of three people.

Fatalities by Travel Mode (N=30)

,	,			
Travel Mode	N (%)			
Pedestrian	16 (53%)			
Motor Vehicle Occupant*	10 (34%)			
Driver	5 (17%)			
Passenger	5 (17%)			
Bicyclist	3 (10%)			
Motorcyclist	1 (3%)			

^{*}One collision on 2/6/16, a vehicle fleeing from the police, resulted in the deaths of all 3 vehicle occupants and represents 30% (n=3) of 10 total driver and passenger fatalities in 2016.



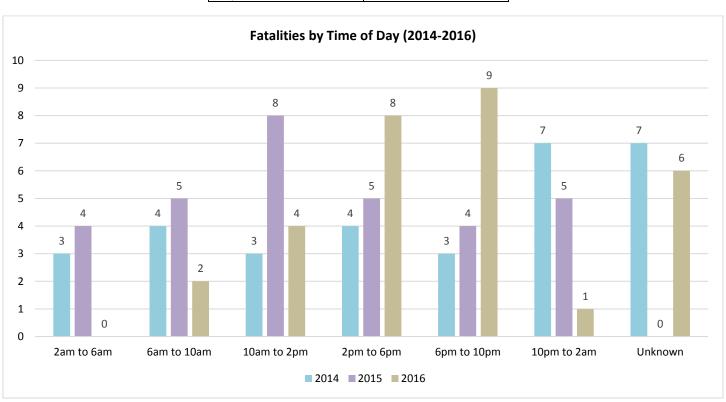


Time of Day

Traffic fatalities in 2016 occurred more frequently in the afternoon and evening hours with 57% (n=17) happening between the hours of 2pm and 10pm. Fatality time of day has shown notable variation from year to year.

Fatalities by Time of Day, 2016 (N=30)

	, ,
Time Category	N (%)
6pm to 10pm	9 (30%)
2pm to 6pm	8 (27%)
Unknown	6 (20%)
10am to 2pm	4 (13%)
6am to 10am	2 (7%)
10pm to 2am	1 (3%)



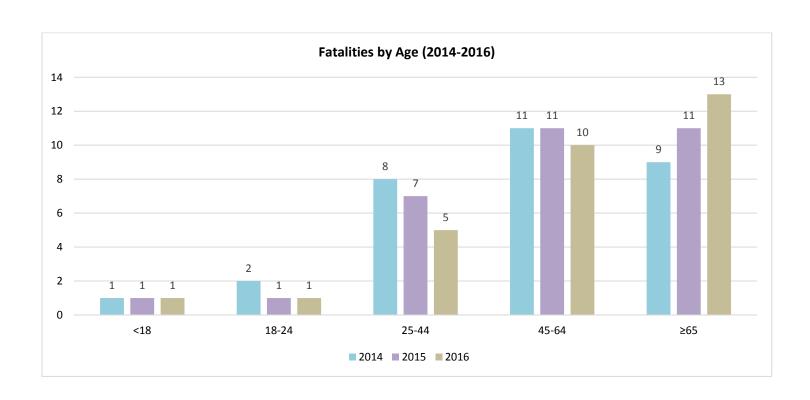


Age

Seniors (aged 65+) suffer a disproportionate rate of traffic fatalities. While only 15% of San Francisco's total population, seniors account for 44% (n=13) of all traffic fatalities in 2016. In addition, 63% (n=10) of pedestrian fatalities in 2016 were people age 65 and older and 88% (n=14) were people age 60 and older (data in Appendix B).

Fatalities by Age, 2016 (N=30)

Age Category	N (%)	% of City Population ⁶			
≥65	13 (44%)	15%			
45-64	10 (33%)	26%			
25-44	5 (17%)	39%			
<18	1 (3%)	13%			
18-24	1 (3%)	7%			



⁶ Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates

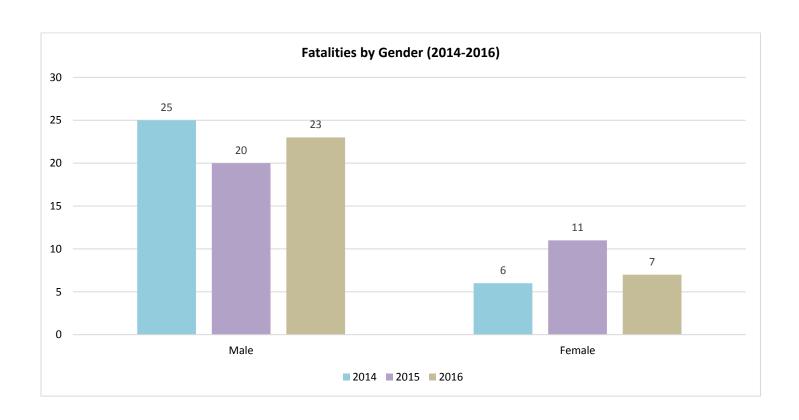


Gender

Men are vastly overrepresented in traffic fatalities in 2016, consistent with previous years. While making up only 51% of San Francisco total population they account for 77% (23/30) percent of all fatalities in the city including 90% (10/11) of motor vehicle/motorcyclists fatalities and 75% (12/16) of pedestrian fatalities; however, 67% (2/3) of bicyclist fatalities were women in 2016 (data in Appendix B).

Fatalities by Gender, 2016 (N=30)

Gender Category	N (%)	% of City Population ⁷					
category	14 (70)	Topulation					
Male	23 (77%)	51%					
Female	7 (23%)	49%					



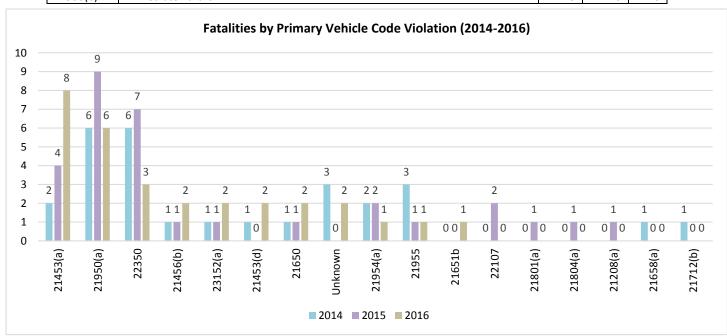
⁷ Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates



Primary Vehicle Code Violations

Driver-related vehicle code violations are the leading cause of traffic fatalities in 2016 accounting for 70% (n=21) of all fatalities in 2016, including 56% (n=9) of pedestrian fatalities and 67% (n=2) of bicyclist fatalities. Red light running, failure to yield to pedestrians, and unsafe speed were the top primary violations in 2016. Unsafe speed was indicated as a secondary collision factor in an additional two deaths. Three of the eight fatalities with red light running as the primary vehicle code violation in 2016 occurred in the same collision (*Appendix B*).

cvc	Description of Code	2014	2015	2016
21453(a,c)	Red signal - driver or bicyclist responsibilities	2	4	8
21950(a)	Driver failure to yield right-of-way at crosswalks	6	9	6
22350	Unsafe speed for prevailing conditions	6	7	3
21456(b)	Pedestrian violation of Walk or Wait signals	1	1	2
23152(a)	Under the influence of alcohol or drug	1	1	2
21453(d)	Red signal - pedestrian responsibilities	1	0	2
21650	Failure to keep to right side of road	1	1	2
Unknown	Unknown	3	0	2
21954(a)	Pedestrians must yield right-of-way outside of crosswalks	2	2	1
21955	Crossing between controlled intersections (Jaywalking)	3	1	1
21651(b)	Wrong way driving	0	0	1
22107	Unsafe turn or lane change prohibited	0	2	0
21801(a)	Violation of right-of-way - left turn	0	1	0
21804(a)	Entering highway from alley or driveway	0	1	0
21208(a)	Riding outside bicycle lane prohibited	0	1	0
21658(a)	Lane straddling or failure to use specified lanes	1	0	0
21712(b)	Unlawful riding on vehicle or bicycle prohibited	1	0	0
21950(b)	Pedestrian suddenly entering into vehicle path close enough to create an immediate hazard	3	0	0

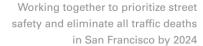




Fatalities on Freeways

5 people (3 people walking and 2 people riding motorcycles) were killed in transportation-related collisions on freeways in San Francisco in 2016*. Freeways are defined as grade separated highway with high-speed vehicular traffic and controlled ingress/egress. Traffic fatalities on freeways are tracked, but are not included in the Vision Zero SF Fatality total counts, as 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. The City engages with these State agencies regarding transportation safety issues on freeway right-of-ways in San Francisco.
*Based on the most current data available, January 2017.



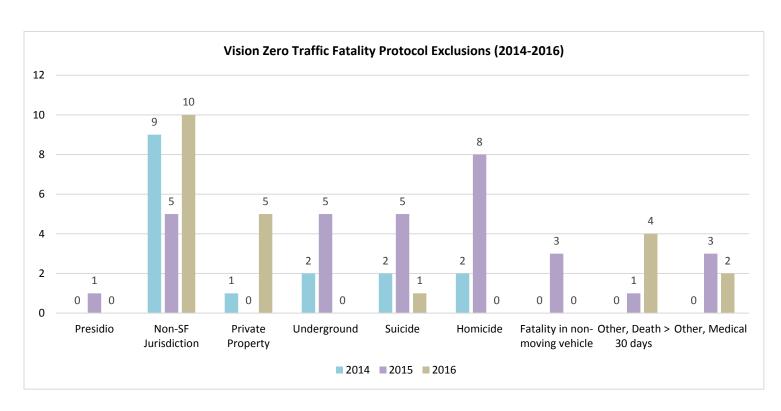




Exclusions: Applying the Vision Zero Traffic Fatality Protocol

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 the San Francisco's jurisdiction; or death occurred more than 30 days after the collision. Due to these discrepancies, the Vision Zero Traffic Fatality Protocol provides an exclusion criteria for these cases, consistent with national and international best practice. The purpose of the protocol is to ensure consistent reporting of traffic fatalities through uniformly applying an agreed upon criteria for determining a traffic death. This consistency over time ensures that we can objectively evaluate trends and the impact of our efforts.

Cases are excluded if the death: occurs outside of the City or County of San Francisco (Presidio is not considered part of the City); occurs on private property; occurs in the underground MUNI or BART transportation infrastructure; is reported as a Suicide based on agency-specific investigation; is reported as a Homicide in which the 'party at fault' intentionally inflicted serious bodily harm that causes the victim's death; 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 road user is included although the driver suffering a medical emergency is excluded.)





APPENDIX A – FINAL 2016 TRAFFIC FATALITY MONTHLY REPORT

2016 Traffic Fatality Monthly Report

January 12, 2017

As of January 12, 2017, the included table summarizes December traffic fatalities and all 2016 year to date traffic fatalities (through December 2016). Due to pending cases, we are still awaiting final investigation results from the Medical Examiner's Office for 2 traffic fatalities (1 person cycling, 1 person driving) from June and December. Until remaining final results are released from the Medical Examiner, these cases will remain preliminary and are not reflected in the following table totals and will not be mapped on the Vision Zero Fatality map on the website. Additionally, this report includes a revision to the 2016 July traffic fatality counts, pertaining to final cause of death results released by the Medical Examiner on a pending case. An 88-year old male pedestrian was struck by a light rail vehicle on July 8, 2016 and later died on July 15, 2016. The table below summarizes preliminary counts in red, which are subject to change based on final reports from the Medical Examiner.

Vision Zero Traffic Fatalities through December 2016

	20	16**	20	15 ^{фф}	2014 ^{§§}	
Traffic Victim	December Count	Year to Date Total	December Count	Year to Date Total	December Count	Year to Date Total
People Killed While Walking	1	16	1	20	1	21
People Killed While Cycling	1	3 ^b	1	4	0	3
People Killed While Riding in a Motor Vehicle	0	5	0	0	0	1
People Killed While on a Motorcycle	0	1	0	6	1	4
People Killed While Driving	1	5 ^a	0	1	0	2
TOTAL	3	30	2	31	2	31

PENDING: In a collision on December 23rd, 1 Driver death on City Streets is pending investigation from the Medical Examiner's Office for determination of cause of death (death may not be attributed to a crash- could be medical).

Data Source: Motor Vehicle Death Reports, Office of the Chief Medical Examiner and SFPD Reports.

b **PENDING**: In a collision on June 25th, 1 Cyclist death on City Streets and is pending investigation from the Medical Examiner's Office for determination of cause of death (death may not be attributed to a crash- could be medical).

^{*1} case involved a collision between above-ground light rail vehicle (LRV) and a pedestrian on city streets; LRV/pedestrian or cyclist injury collisions are not captured in the CHP's Statewide Integrated Traffic Records System.

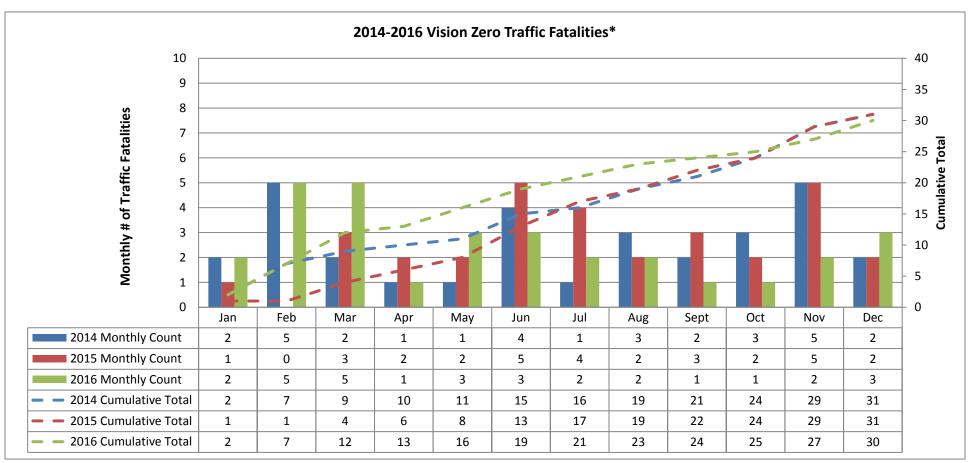
^{**}The table does not reflect 5 freeway deaths occurring on grade-separated freeways under Caltrans jurisdiction in the City and County of San Francisco (3 people walking, 2 people riding motorcycles).

^{фФ} The table does not reflect 7 freeway deaths occurring on grade-separated freeways under Caltrans jurisdiction in the City and County of San Francisco (4 people walking, 1 person on a motorcycle, and 2 people driving).

^{§§}The table does not reflect 5 freeway deaths occurring on grade-separated freeways under Caltrans jurisdiction in the City and County of San Francisco (1 person on a motorcycle, 1 person walking, 2 people riding in a vehicle, 1 person driving).



The chart below displays 2014 though 2016 Vision Zero traffic fatalities over time at a monthly scale, providing a concise snapshot of traffic fatality trends in San Francisco.



^{*}Per the table on the previous page, 2 fatalities in 2016 are under investigation at the Medical Examiner's Office to determine cause of death and are not reflected in this chart.

Contact

For questions or comments regarding traffic fatalities, please contact Leilani Schwarcz, MPH, Vision Zero Epidemiologist at Leilani.schwarcz@sfdph.org.



APPENDIX B – TABLE OF 2016 VISION ZERO FATALITIES

	Collision			Primary	Victim	Hit and	Victim		
#	Date	Deceased	Collision Type	Collision Factor	Age	Run (Y/N)	Sex	Collision Time	Collision Location
1	1/16/2016	Pedestrian	Pedestrian vs Tour Bus	21950(a)	82	N	Male	Unknown	Post Street and Divisadero Street
2	1/29/2016	Pedestrian	Pedestrian vs Motor Vehicle	21456(b)	60	N	Male	1856	30th Street and Dolores Street
	1,23,2010	redestrian	Pedestrian vs Motor	21130(3)	00	.,,	Ividic	1030	Sour Street and Bolores Street
3	2/5/2016	Pedestrian	Vehicle	21950(a)	38	N	Female	950	7th Street and Market Street
4	2/6/2016	Driver	Motor vehicle collision	21453(a)	23	N	Male	2120	Brannan Street and 9th Street
5	2/6/2016	Passenger	Motor vehicle collision	21453(a)	27	N	Male	2120	Brannan Street and 9th Street
6	2/6/2016	Passenger	Motor vehicle collision	21453(a)	31	N	Male	2120	Brannan Street and 9th Street
	- / - /		Pedestrian vs Motor	/					
7	2/12/2016	Pedestrian	Vehicle Pedestrian vs Motor	21950(a)	68	N	Female	754	Geneva Avenue and Athens Street
8	3/10/2016	Pedestrian	Vehicle	21456(b)	87	N	Male	1229	Sunset Blvd and Noriega Street
			Pedestrian vs Motor						-
9	3/11/2016	Pedestrian	Vehicle	21950(a)	62	Υ	Male	Unknown	Across from 814 Broadway
10	3/12/2016	Pedestrian	Pedestrian vs Motor Vehicle	21453(a)	56	Υ	Male	1839	Leavenworth Street and Ellis Street
11	3/21/2016	Passenger	Motor vehicle collision	22350	87	N	Male	1500	3245 Geary Blvd
12	3/27/2016	Driver	Motor vehicle collision	21650	63	N	Male	1700	556 Guerrero St
13	4/27/2016	Passenger	Motor vehicle collision	21453(a)	56	N	Female	Unknown	The Embarcadero and Bryant Street
	- / - /		Pedestrian vs Motor						Brotherhood Way at Junipero Serra Blvd
14	5/10/2016	Pedestrian	Vehicle	23152(a)/22350	77	N	Male	2225	Northbound onramp
15	5/19/2016	Passenger	Motor vehicle collision	22350	18	N	Male	1600	Calgary Street and Geneva Avenue
16	5/22/2016	Motorcyclist	Motorcycle collision	22350	52	N	Male	Unknown	Westbound on 16th Street and Harrison Street
17	6/9/2016	Pedestrian	Pedestrian vs. Bus (Paratransit)	21453(d)	86	N	Female	Unknown	Franklin Street at Geary Blvd
18	6/22/2016	Bicyclist	Bicyclist vs Motor Vehicle	21453(d) 21651(b)	41	Υ Υ	Female	1600	John F. Kennedy Drive West of 30th Avenue
19	6/22/2016	Bicyclist	Bicyclist vs Motor Vehicle	21453(a)	26	<u>'</u> Ү	Female	2020	Howard Street at 7th Street
		,	,						
20	7/6/2016	Driver	Motor vehicle collision	22350	75	N	Male	1315	182 32nd Avenue
21	7/8/2016	Pedestrian	Pedestrian vs Light Rail	Unknown	88	N	Male	Unknown	Judah Street and 25th Avenue
22	8/1/2016	Pedestrian	Pedestrian vs Motorcycle	21453(d)	60	N	Male	1608	Geary Street and Stockton Street
23	8/17/2016	Driver	Motor vehicle collision	21650	48	N	Male	1429	In front of 162 Judson Avenue





	Collision			Primary	Victim	Hit and	Victim		
#	Date	Deceased	Collision Type	Collision Factor	Age	Run (Y/N)	Sex	Collision Time	Collision Location
			Pedestrian vs Motor						
24	9/1/2016	Pedestrian	Vehicle	23152(a)	68	N	Male	1000	Santos Street and Velasco Avenue
			Pedestrian vs Motor						
25	10/28/2016	Pedestrian	Vehicle	21954(a)	67	N	Male	1633	19th Avenue at Rivera Street
			Pedestrian vs Motor						
26	11/5/2016	Pedestrian	Vehicle	21955	68	N	Male	1948	In front of 2027 Market Street
			Pedestrian vs Motor						
27	11/30/2016	Pedestrian	Vehicle	21950(a)	72	N	Male	1819	Ocean Avenue at Delano Avenue
28	12/1/2016	Driver	Motor vehicle collision	21453(a)/22350	45	N	Male	1149	Lombard Street and Divisadero Street
			Pedestrian vs Motor						
29	12/3/2016	Pedestrian	Vehicle	21950(a)	64	Υ	Female	1727	Monterey Blvd and Valdez Avenue
30	12/11/2016	Bicyclist	Bicyclist vs Motor Vehicle	21453(a)	70	N	Male	1955	8th Street and Harrison Street