

San Francisco 2006 Collision Report



**City and County of San Francisco
Municipal Transportation Agency
Traffic Engineering Division**

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REPORT HIGHLIGHTS

- Non-fatal injury collision totals for 2006 were 2,869, an 11 percent decrease from the 2005 figure of 3,227 and the lowest annual total during the past ten years.
- Pedestrian-involved injury collisions were 726 in 2006, down 3 percent from the 747 reported in 2005 and the second-lowest annual total during the past decade.
- Overall number of collisions leading to a fatality was 28 in 2006. Pedestrian fatal collisions were 13 in 2006, the lowest total during the past ten years.

INTRODUCTION

This report summarizes long-term collision trends. It also lists intersections with the highest collision totals in San Francisco. This information is used to help identify locations that may need special attention and evaluate progress of previous mitigation measures.

The intersections in this report are not a list of the "most dangerous" intersections in San Francisco. Traffic and pedestrian activity play a key role in determining collision totals: the more people that use an intersection, the more likely a collision can be. The intersections listed in this report include some of the busiest in the city. An increase in collisions at an intersection could also be simply the result of random yearly fluctuations. Out of the thousands of intersections in San Francisco, in any one year some will have more collisions than usual, while other locations will have lower collisions than the expected annual average.

The source of the collision data is the Statewide Integrated Traffic Records Systems (SWITRS) maintained by the California Highway Patrol (CHP). The California Vehicle Code requires that local governments send their police collision reports to the State. The CHP provides electronic summaries of these reported collisions, which are then processed by local jurisdictions. The data used in this report excludes collisions that occurred on San Francisco freeways or private property but includes collisions on city streets that are classified as state highways (such as 19th or Van Ness Avenues). State SWITRS totals for 2006 were not considered official until August of 2007, thus delaying the preparation of this report.

Due to limited Police Department resources, in San Francisco property damage only (non-injury) collisions are typically not reported. Last year only 1,314 property damage only collisions were reported, well below what would be expected given the 2,869 injury collisions reported in the same period. Injury and fatal collisions are reported more consistently over time, however. This report focuses on collisions that involve an injury to at least one of the parties involved in order to minimize the influence that changes in reporting procedures can have on collision trend analysis.

PART 1: CITYWIDE INJURY AND FATAL COLLISION TRENDS

Reported non-fatal injury collisions in San Francisco totaled 2,869 in 2006. This figure is the lowest injury collision total of the past ten years (Figure 1) and represents a remarkable 11 percent drop from the 3,227 injury crashes reported in 2005. The total number of victims injured by these collisions was approximately 3,804. The drop in injury collisions follows a long-term decline that started at the start of the 1990's.

The number of collisions resulting in fatalities in 2006, 28, increased by 2 from the 2005 total but remained below the average number of fatal collisions over the past decade (Figure 2). In general, injury collisions are a more reliable indicator of collision trends over time because fatal collisions, being rarer events, are more subject to random fluctuations. This is illustrated in the year-to-year variance in Figure 2.

FIGURE 1
San Francisco Non-Fatal Injury Collision Totals (1998-2006)

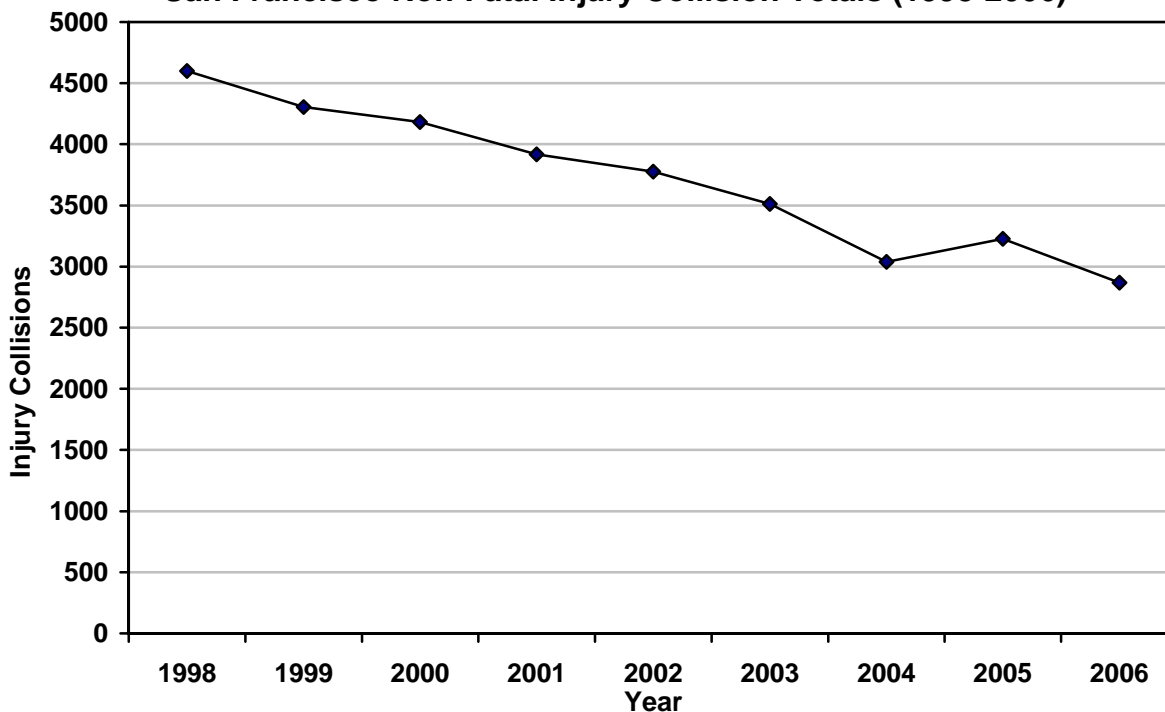
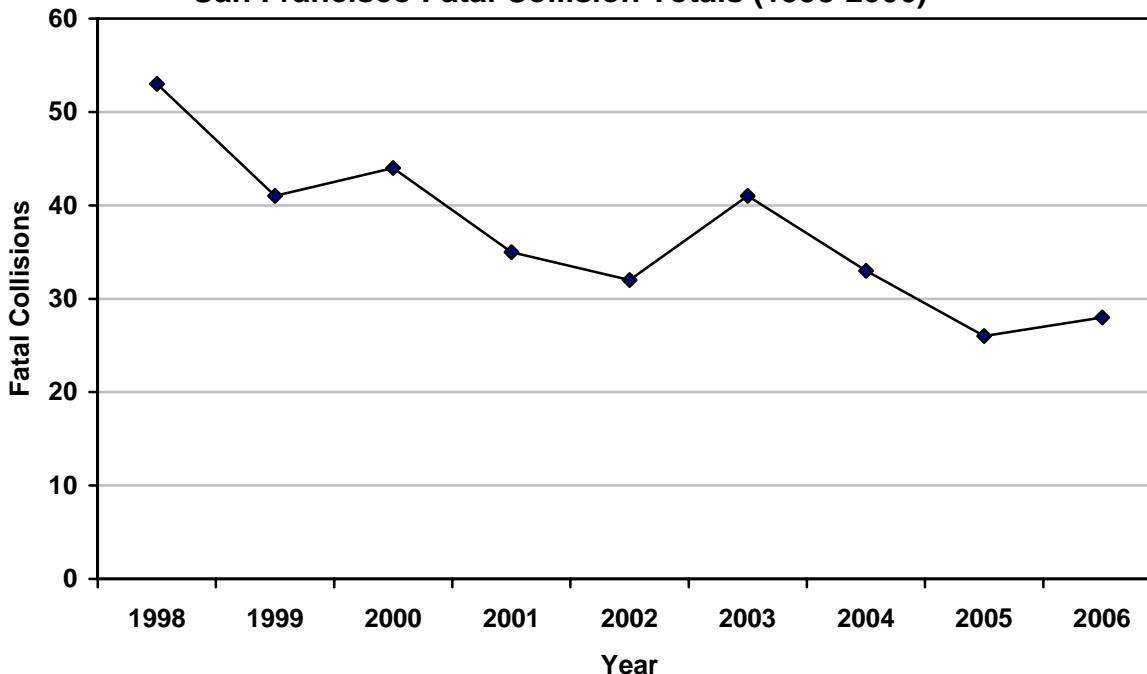


FIGURE 1
San Francisco Non-Fatal Injury Collision Totals (1998-2006)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	4599	4304	4182	3917	3777	3511	3038	3227	2869

**FIGURE 2
San Francisco Fatal Collision Totals (1998-2006)**



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San Francisco Fatal Collision Totals (1998-2006)**

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	53	41	44	35	32	41	33	26	28

Table 1 lists the previous five-year injury collisions according to the three non-fatal injury severity categories used by all police departments in the State. The proportion of severe injuries to less non-severe injuries appear to be more stable over the past five years, ranging from 4 to 5 percent in previous years to 6 percent in 2006.

**TABLE 1
2002-2006 Injury Collision Severity
(With percentage of annual total injury collisions)**

Year	Complaint of Pain	Other Visible Injury	Severe Injury
2006	1895 (66%)	807 (28%)	167 (6%)
2005	2118 (66%)	936 (29%)	173 (5%)
2004	2006 (66%)	882 (29%)	150 (5%)
2003	2411 (69%)	942 (27%)	157 (4%)
2002	2505 (66%)	1126 (30%)	145 (4%)

Tables 2 and 3 break down injury collision totals by primary collision type and cause. The two most common types of collisions, broadsides and vehicle-pedestrian, comprise 45 percent of all reported injury collisions. The two most common types of collision causes are speeding and signal violations. Figure 3 illustrates the continuing decline in red light running injury collisions over the past eight years. Table 4 breaks down violation categories according to common rules of the road contained in the California Vehicle Code.

**TABLE 2
2006 Non-Fatal Injury Collisions by Primary Collision Types**

Type	Total	Percent
Broadside (Right-Angle)	665	23
Vehicle-Pedestrian	629	22
Rear-End	499	17
Sideswipe	302	11
Head-On	182	6
Other	592	21

**TABLE 3
2006 Non-Fatal Injury Collisions by Primary Collision Causes**

Cause	Total	Percent
Unsafe Speed	609	21
Violation of Traffic Signals and Signs	471	16
Vehicle Right-of-Way Violations	351	12
Driver Violations of Pedestrian Right-of-Way	269	9
Violations by the Pedestrian	223	8
Improper Turning	163	6
Other	783	28

FIGURE 3
San Francisco Injury Red Light Violation Collisions
CVC 21453(A) (1998-2006)

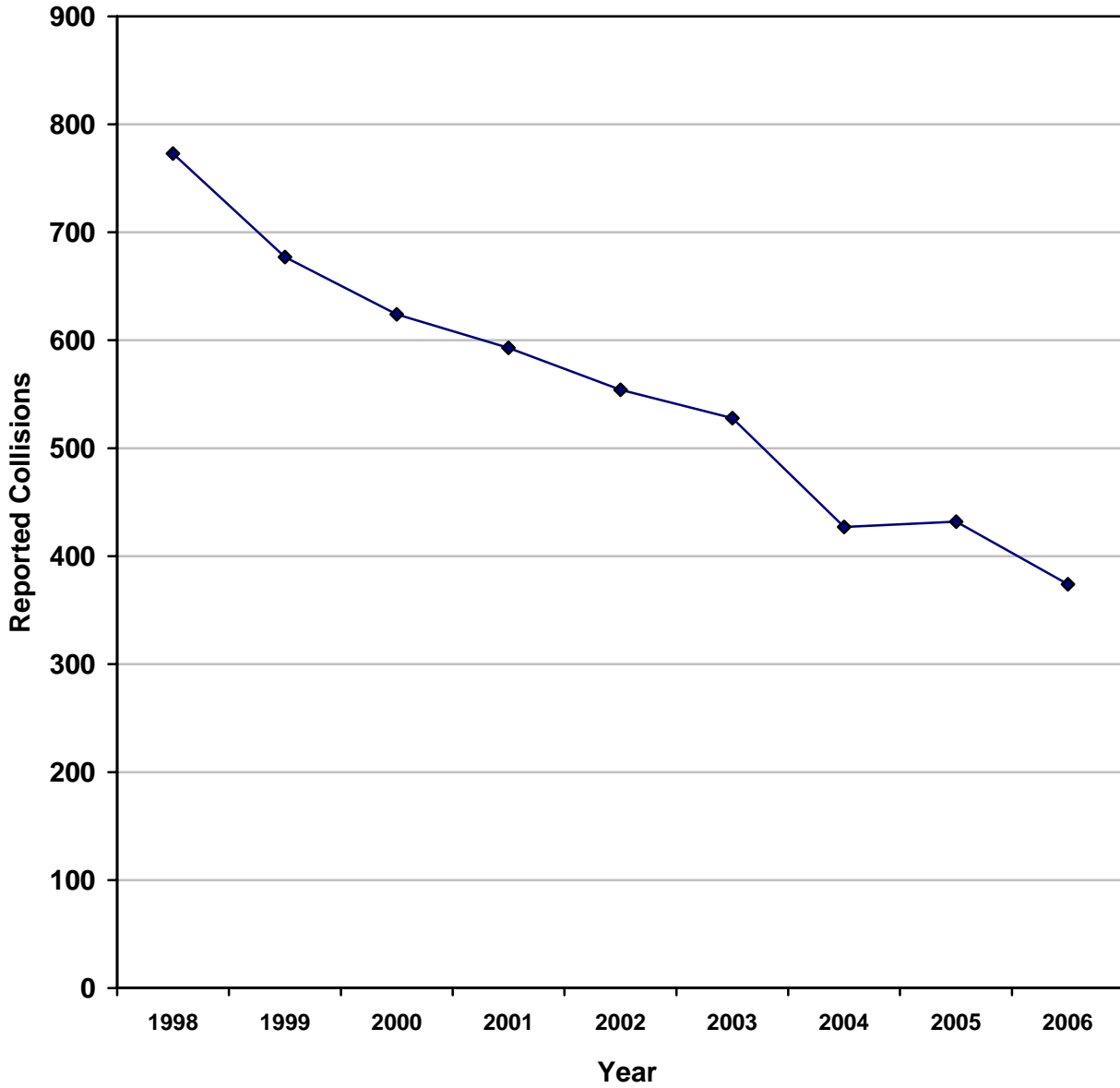


FIGURE 3
San Francisco Injury Red Light Running Collisions, CVC 21453(A) (1998-2006)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	773	677	624	593	554	528	427	432	374

TABLE 4
2006 Non-Fatal Injury Collisions by California Vehicle Code (CVC) Violation

CVC Section	General Description of CVC Violation	Total
22350	Driving at unsafe speed given conditions of roadway	607
21453(A)	Vehicular violation of signal red light	373
21950(A)	Failure to yield to pedestrian at a crosswalk	262
21801	Failure to yield while making a left or U-turn	198
22450	Failure to stop at a STOP sign limit line	93
21802	Failure to yield to cross traffic at a two-way STOP	92
22106	Unsafe maneuver or backing after being parked	83
21703	Driver following another vehicle too closely	80
21658	Vehicle not staying in traffic lane	77
22107	Vehicle changing lanes or turning without signaling	77
21954(A)	Pedestrian failure to yield right-of-way outside crosswalk	73
23152/23153	Driving under the influence of drugs or alcohol (DUI)	72
21955	Crossing between signalized intersections (jaywalking)	52
21950(B)	Pedestrian failure to watch for cross traffic at crosswalk	46
22100	Failure to make turn as close to curb as practical	42
22517	Unsafe opening of a vehicle door	34
21650	Driving on the wrong side of the street	31
21453(D)	Pedestrian violation of signal red light	27
22101	Failure to obey "No Left Turn" or "No Right Turn" regulation	25
21804	Failure to yield from driveway or alleyway	24
21800	Failure to yield at an all-way STOP or uncontrolled intersection	22

Many collisions can be the result of more than one violation factor, some not readily apparent, but typically the officer at the scene will determine through witness and party statements the most likely cause of the collision.

In 2006 there were 340 injury collisions that were reported as hit and runs. These are incidents where a party to a collision illegally flees the scene of crash without exchanging information. This total is down from a recent high of 591 hit and runs in 1998.

PART 3: HIGHEST COLLISION INTERSECTIONS

Intersection collisions comprise the majority of injury collision in San Francisco. In 2006, nearly 70 percent of injury collisions (2,004) were collisions at or adjacent to an intersection. As documented in previous annual reports, the number of intersections with double digit injury collision totals has gradually decreased. This is due in part to the City's targeted engineering safety efforts. Last year only one location (Oak Street and Octavia Boulevard) reported ten or more injury or fatal collisions.

Table 5 lists the locations with the most collisions reported during 2006 (seven or more collisions resulting in injury to at least one party).

TABLE 5
2006 Highest Injury Collision Total Intersections
Intersections with 7 or more collisions resulting in injury during 2006

Street A	Street B	2006 Injury Collisions	2005 Injury Collisions	Change
Oak St.	Octavia Blvd.	14	2	+12
Gough St.	Market St.	8	9	-1
Park Presidio	Fulton St.	7	2	+5
19 th Ave.	Sloat Blvd.	7	6	+1
Broadway	Van Ness Ave.	7	6	+1

The largest jump in collisions occurred at Oak Street and Octavia Boulevard. On September of 2005, Octavia Boulevard and its associated freeway ramps at Market Street were opened to traffic. In order to manage the large volumes of traffic going through this intersection, various signal timing changes have been implemented along Octavia Boulevard since opening day. A new set of traffic signal hardware changes were implemented in April 2007. MTA will continue to monitor changes at this intersection.

Gough and Market Streets will be receiving signal hardware changes shortly as part of a planned Prop. K signal modification. The changes will add a median signal facing Market Street to improve signal visibility.

The remaining three intersections on Table 6 are on State Routes 1 (19th Avenue, Park Presidio Boulevard), 35 (Sloat Boulevard) and U.S. Highway 101 (Van Ness Avenue). At Park Presidio Boulevard and Fulton Street a major signal upgrade is planned with Caltrans. This upgrade would install new pedestrian signals and modify the location of some signal indications. 19th Avenue and Sloat Boulevard is an intersection that has already been upgraded and has red light cameras as well. MTA will modify the sequencing of the signals at this intersection for the eastbound Sloat Boulevard left turns. Broadway and Van Ness Avenue is part of a larger evaluation of bus rapid transit along Van Ness Avenue. Median modifications to accommodate center-running buses may prohibit the left turns from southbound Van Ness Avenue to Broadway, along with other possible operational changes.

Table 6 takes a longer view and presents the highest ten collision intersections during the ten year period from 1997 to 2006. Two five-year periods are compared in order to measure whether individual intersection collision trends have been improving or not.

TABLE 6
Ten Year Highest Injury Collision Intersections
Intersections with 64 or more collisions resulting in injury, 1997-2006

Street A	Street B	1997-2006 Injury Collisions	1997-2001 Injury Collisions	2002-2006 Injury Collisions	Five year change
19 th Ave	Sloat Blvd	81	47	34	-13
Gough St.	Market St.	78	35	43	+8
7 th St.	Mission St.	76	49	27	-22
Broadway	Van Ness Ave.	69	35	34	-1
Franklin St.	Geary Blvd.	67	50	17	-33
4 th St.	Harrison St.	66	48	18	-30
13 th St.	S. Van Ness Ave.	66	41	25	-16
Bayshore Blvd	Silver Ave.	65	30	35	+5
Divisadero St.	Geary Blvd.	64	39	25	-14
Geary Blvd.	Park Presidio	64	35	29	-6

Of the ten intersections in this list, two show increases: Gough at Market Streets and Bayshore Boulevard and Silver Avenue. As noted above, signal changes are in design at Gough and Market Streets. Signal modifications are also planned at Bayshore Boulevard and Silver Avenue, a signal currently operated by Caltrans. These include possible changes to the way left turns are signalized from Bayshore Boulevard.

The remaining eight intersections show small to large decreases in collision totals when the first five years (1997-2001) are compared to the most recent five-year period (2002-2006). Among the notable improved intersections are 7th and Mission, where a signal upgrade was completed in 2003; Franklin Street and Geary Boulevard, which has received signal timing and hardware changes as well as a red light camera; and 4th and Harrison, where signal timing was modified and overhead lane signs were added on 4th Street to minimize sideswipe collisions.

PART 4: COLLISIONS BY PARTY TYPE

Table 7 details the collisions by main party types. The most common collision is between two motor vehicles, comprising over half of injury collisions reported last year. Approximately 22 percent of San Francisco injury collisions and 54 percent of fatal collisions involve pedestrians. The high percentage of collisions that are pedestrian-related has remained a concern and has led to increased funding of programs to improve pedestrian safety. The higher number of people walking in San Francisco may explain the above average percentage of pedestrian collisions relative to other cities that are more motor vehicle dependent.

**TABLE 7
2006 Non-Fatal Injury and Fatal Collisions by Parties Involved**

Motor Vehicle Involved With	Total Injury Collisions	Percent of Injury Collisions	Total Fatal Collisions	Percent of Fatal Collisions
Other Motor Vehicle	1519	53%	8	26%
Pedestrian	679	24%	13	46%
Bicyclist	276	10%	2	7%
Parked Car, Object, Other	395	13%	5	21%

Bicycle Collision Totals

There were 354 collisions in 2006 involving bicyclists, the same total as in 2005. Although recent annual totals have remained lower than those reported at the end of the 1990's, bicycle-involved collisions have not dropped to the same degree as other collision types (Figure 4). This trend could be due to an increasing number of bicyclists on city streets, but is difficult to estimate at this time. Table 8 summarizes the last five-year fatal bicycle collision totals. MTA Bicycle Program is preparing a more detailed report on bicycle collision statistics and is compiling more detailed projections on the potential increase in bicycling.

TABLE 8 - Fatal Collisions Involving Bicycles, 2002-2006

2002	2003	2004	2005	2006
1	1	1	2	2

FIGURE 4
San Francisco Injury Collisions Involving Party Type Bicyclist
(1998-2006)

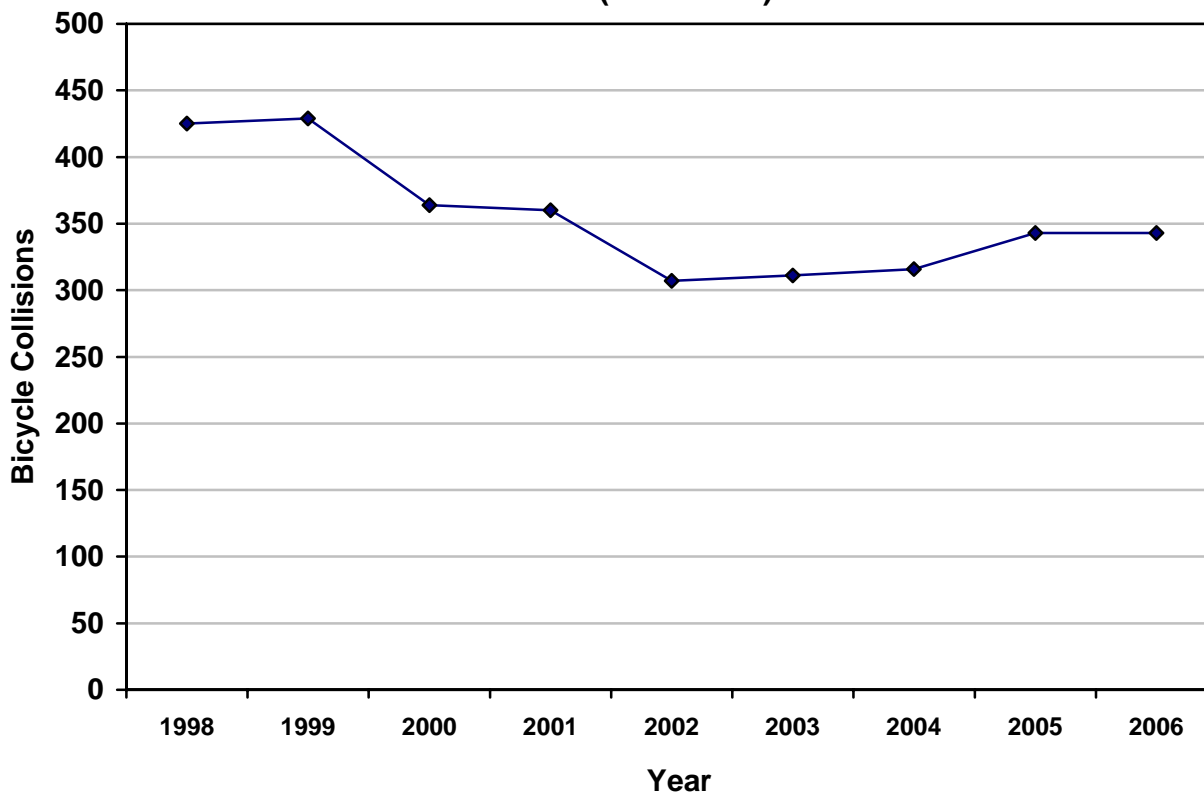


Figure 4
San Francisco Injury Collisions Involving Party Type Bicyclist (1998-2006)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	425	429	364	360	307	311	316	343	343

Pedestrian Collisions

The 2006 total of 726 injury collisions involving a pedestrian is down slightly from the 2005 total of 747 (Figure 5). In recent years pedestrian collisions have come down from the 900 to 1000 range recorded in the 1990's. Additional improvements are necessary but the overall decline in pedestrian collision totals over the past fifteen years is encouraging.

The number of pedestrian fatal collisions decreased to 13 and was the lowest in the past decade (Figure 6). Annual pedestrian fatality collision totals do fluctuate more than injury collisions but appear to be stabilizing below 20 fatality collisions a year.

FIGURE 5
San Francisco Injury Collisions Involving Party Type Pedestrian
(1998-2006)

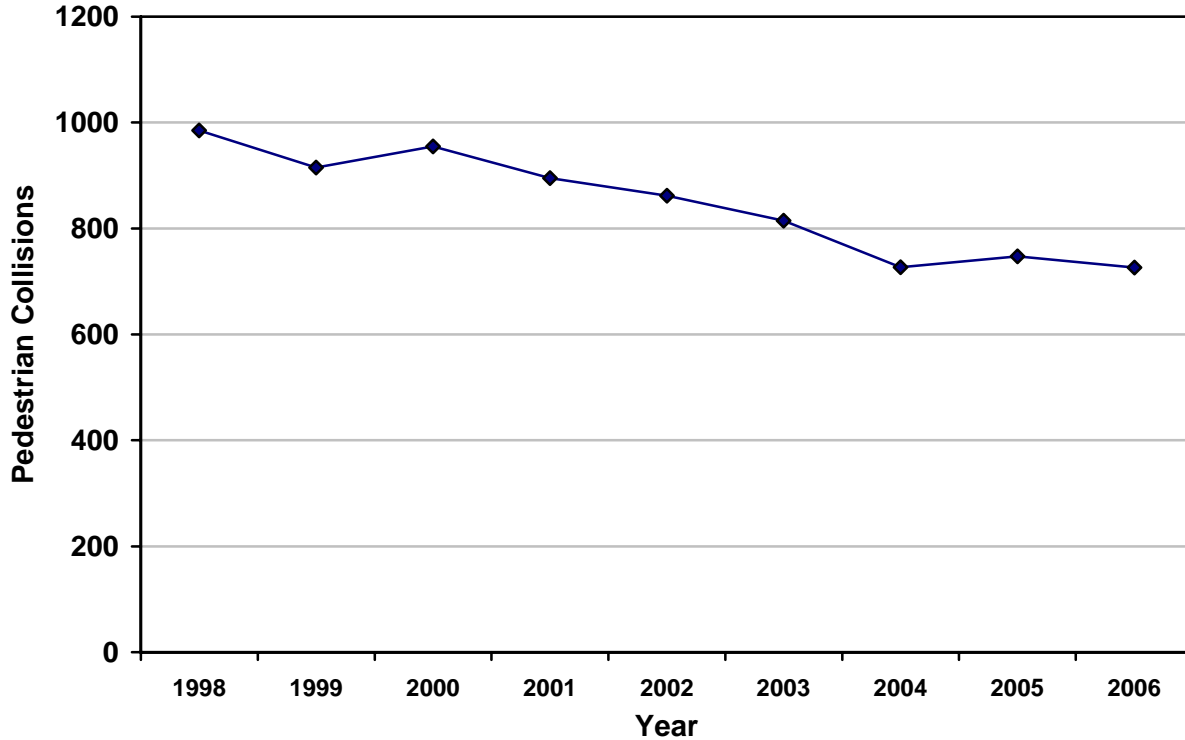


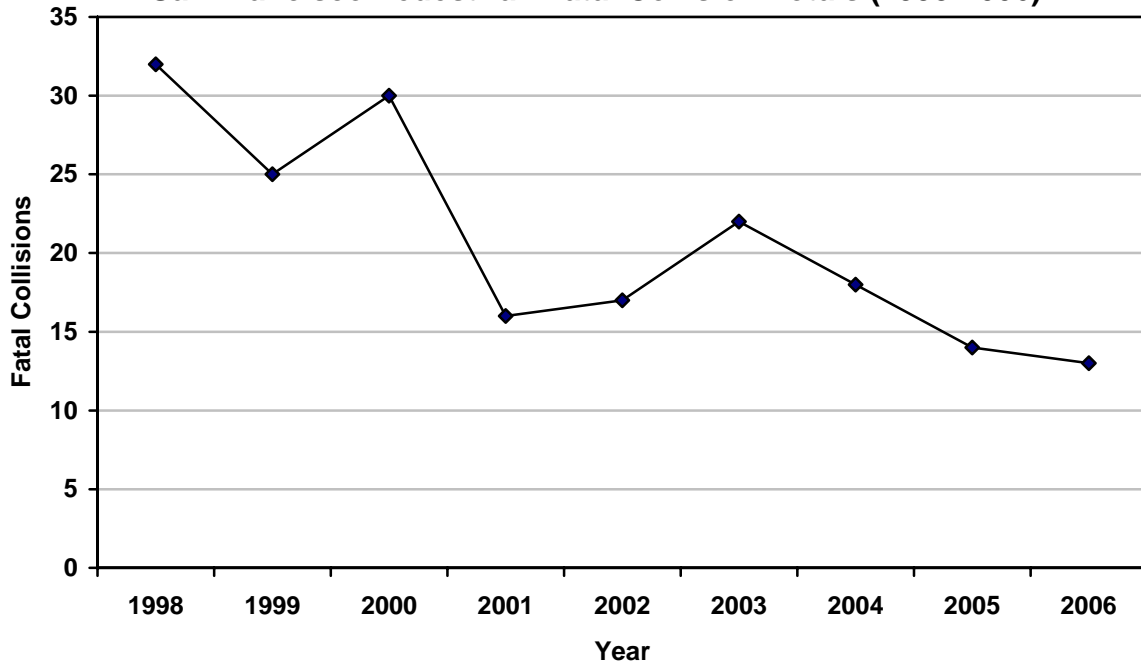
Figure 5
San Francisco Injury Collisions Involving Party Type Pedestrian (1998-2006)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	985	915	955	895	862	815	727	747	726

The City has been implementing a variety of measures to improve pedestrian safety, including the upgrade of various pedestrian signs, modification of crosswalk markings to the ladder style at designated school crosswalks and mid-block locations, signal timing changes, citywide adoption of countdown pedestrian signals, traffic calming measures, targeted police enforcement, and improved planning efforts. Signal upgrades also benefit pedestrians by installing pedestrian signals at intersections where these devices are currently not present and by improving the visibility of signal indications to motorists.

Table 9 summarizes the highest pedestrian intersection injury collision locations for the past five years (2002-2006). It notes actions recently taken to improve intersection safety. Three of the top four intersections have had signal upgrades completed that added pedestrian signals. These changes may reduce future collision totals and will be closely monitored.

**FIGURE 6
San Francisco Pedestrian Fatal Collision Totals (1998-2006)**



**FIGURE 6
San Francisco Pedestrian Fatal Collision Totals (1998-2006)**

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	32	25	30	16	17	22	18	14	13

**Table 9
Intersections with 10 or more vehicle-pedestrian injury collisions, 2002-2006**

Street A	Street B	Injury Collisions	Notes
4 th / Stockton	Market St.	12	Signal timing changes (2005) and MTC TETAP grant review (2007)
Jones St.	Golden Gate Ave	11	Prop. K signal upgrade completed, with new pedestrian signals (2005); East sidewalk corners widened (2006)
6 th St.	Mission St.	10	Prop. K signal upgrade completed, with new pedestrian signals (2003)
16 th St.	Potrero Ave.	10	Prop. K signal upgrade completed, with new pedestrian signals (2005)

PART 5: COLLISIONS FOR VULNERABLE AGE GROUPS

This section looks at two age groups vulnerable to injuries from collisions, school-age children and seniors. Figure 7 shows the overall trend of injury collisions reported for parties ages 5 to 17, broken down by whether the party was a driver, pedestrian or bicyclist. Overall recent trends are positive. Since 1998 injury collisions involving drivers younger than 18 years old have dropped by a notable 54 percent. In the same period, pedestrian collisions dropped by 34 percent and bicycle collisions for the same age group declined by 72 percent.

FIGURE 7
San Francisco Injury Collisions Involving Parties Ages 5 to 17
(1998-2006)

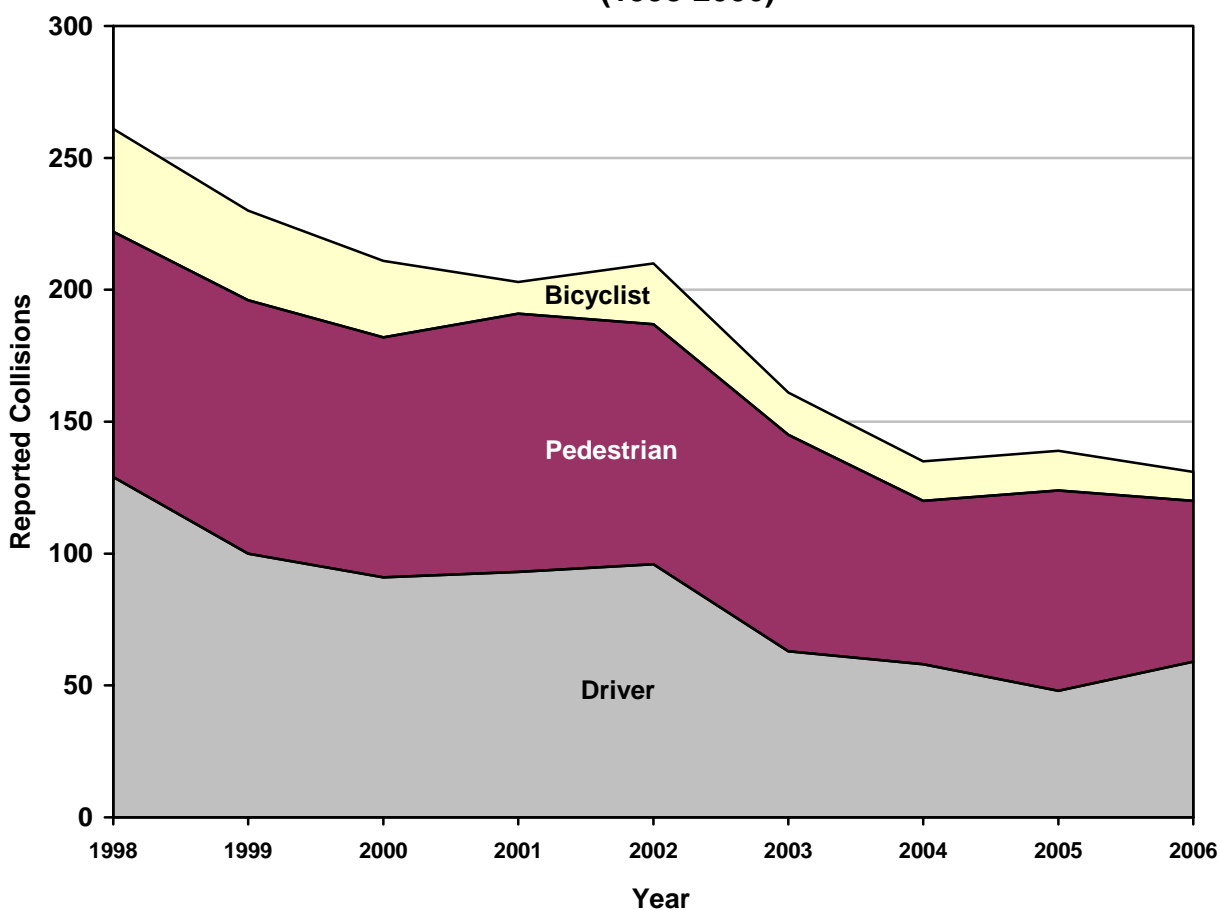


FIGURE 7
San Francisco Injury Collisions Involving Parties Ages 5 to 17 (1998-2006)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Driver	129	100	91	93	96	63	58	48	59
Pedestrian	93	96	91	98	91	82	62	76	61
Bicyclist	39	34	29	12	23	16	15	15	11

Figure 8 shows the same injury information for parties ages 65 and older. Trends are also positive, with injury collisions for drivers over 64 declining by 38 percent since 1998 and pedestrian injury collisions declining by 32 percent. In 2006 people 65 and older were three times as likely to be involved in a collision as a driver than as a pedestrian.

FIGURE 8
San Francisco Injury Collisions Involving Parties Ages 65 and Older (1998-2006)

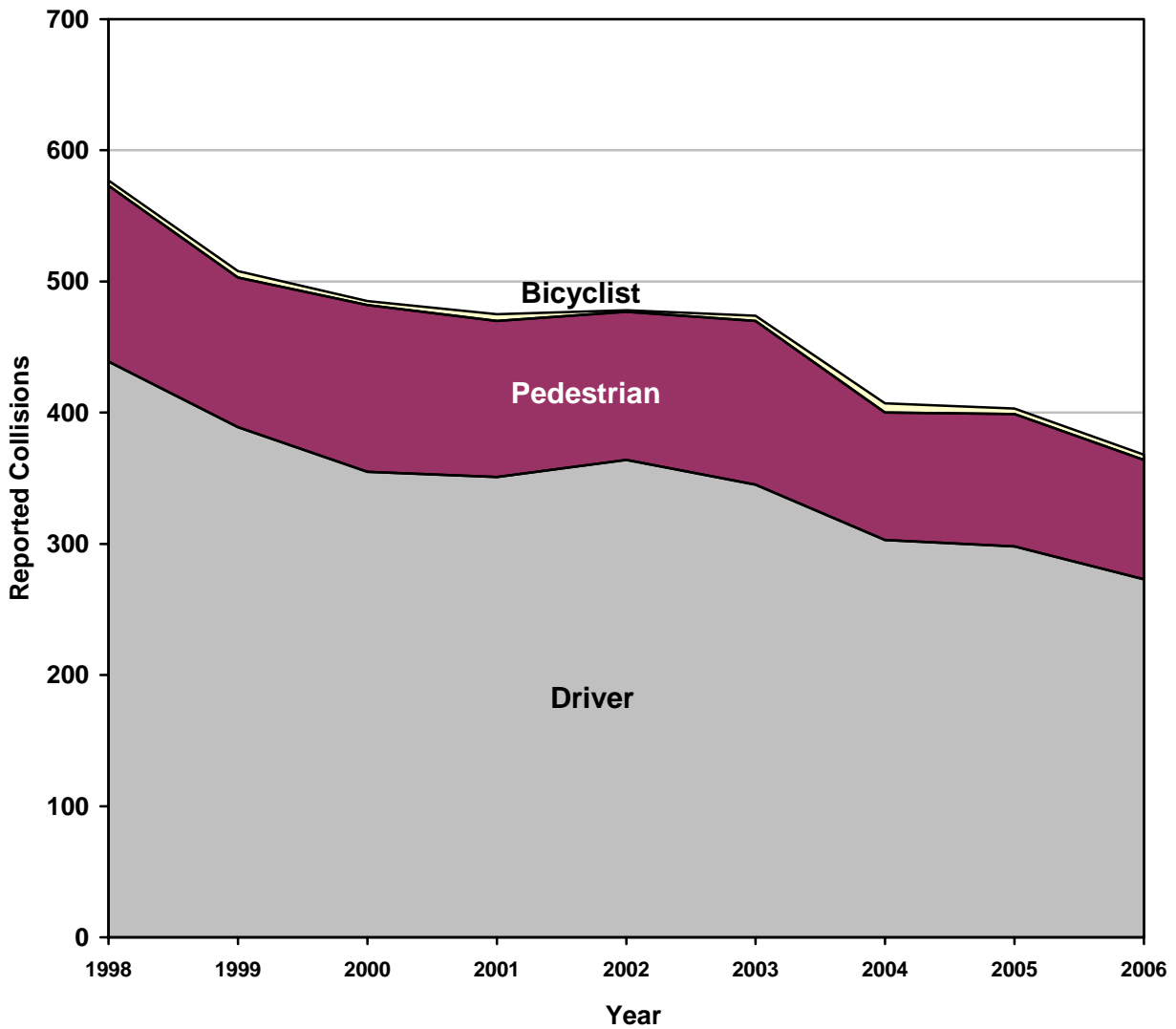


FIGURE 8
San Francisco Injury Collisions Involving Parties Ages 65 and Older (1998-2006)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Driver	439	389	355	351	364	345	303	298	273
Pedestrian	134	114	127	119	113	125	97	101	91
Bicyclist	4	5	3	5	1	4	7	4	4

PART 6: CONCLUSION

City and state collision trends (Figure 9) can be influenced by many factors, some difficult to control or measure. Among some of the key factors that can influence long-term collision trends are:

- Demographic changes that affect the number of drivers, pedestrians and other users of the streets in a certain population group (such as teenage drivers).
- Economic fluctuations that lead to more driving, whether these be commuters (jobs), visitors (tourism), or residents (population growth).
- Incentives that change the amount of driving individuals engage in (such as higher gas prices or improved public transit).
- Improvements in vehicular technology and safety standards (for example air bags and anti-lock brakes).
- Changes in local enforcement levels or fines, making drivers less or more willing to engage in risky driving practices.
- Cultural changes and educational efforts that lead to fewer injuries (increased seat belt usage) or decreased safety (increased cell phone usage).
- Improvements in roadway conditions and traffic controls.

The annual collision totals reported in any one year are a result of an unknown and fluctuating combination of these factors. Whether San Francisco's overall totals will continue to decrease in the coming years is thus impossible to predict. Concerted education, engineering and enforcement efforts should, however, help to make San Francisco's streets safer for everyone.

