DRAFT

5. ENFORCEMENT AND SAFETY

ENFORCEMENT AND SAFETY GOAL AND OBJECTIVES

Goal:
Improve bicycle safety through targeted enforcement

Objectives:
- Increase San Francisco Police Department (SFPD) enforcement of motorist and bicyclist traffic violations that pose the greatest threat to safety
- Provide San Francisco Municipal Transportation Agency (SFMTA) bicycle safety education to SFPD staff and to those cited for moving violations that focuses on safe cycling, relevant traffic laws and safe sharing of the roadway
- Increase SFMTA and SFPD enforcement of motorist violations in bicycle facilities

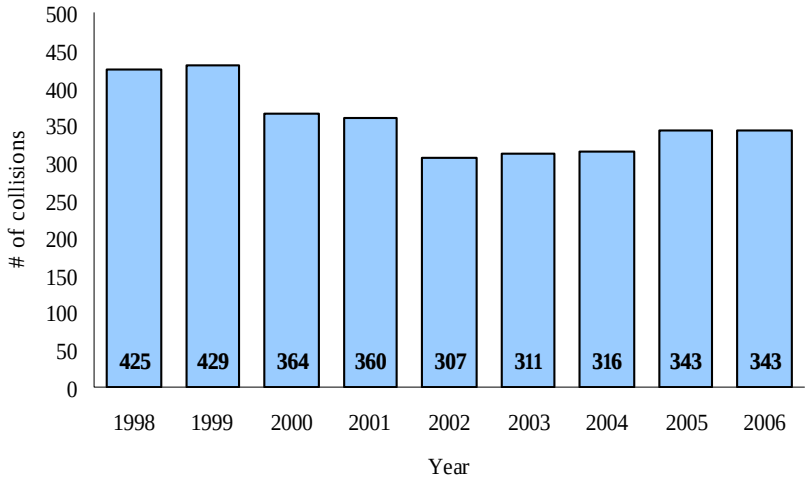
INTRODUCTION

This chapter presents recommendations for increased traffic law enforcement as well as bicycle safety education to improve bicycling safety in San Francisco. When combined with well-planned facilities and educational programs, enforcement can be an effective means of enhancing safety for all road users. Reported bicyclists injury collisions have declined from 425 in 1998 to 343 in 2006, as shown in Chart 5-1 below[1], while the number of people bicycling in San Francisco has increased. According to the U.S. Census, the number of bicycle commuters in the City more than doubled between 1990 and 2000 and continues to grow[2]. Furthermore, the SFMTA's citywide bicycle counts, conducted at 33 locations throughout the City, reveal a 43 percent increase in bicycle ridership from 2006 to 2008. Finally, Bike to Work Day in 2008 saw a record number of bicyclists, with 858 bicyclists counted in one hour during the morning commute at the intersection of Market Street and Van Ness Avenue – an increase of more than 400 percent since 2005.

1 Does not include an average of eight reported non-injury, property-damage only bicycle collisions per year over the period analyzed.
2 According to the U.S. Census Bureau, the percentage of San Francisco commuting workers 16 years of age and older that commuted to work by bicycle increased from 1 percent in 1990 to 2.1 percent in 2000 and increased to 2.7 percent in 2007, not including those who worked at home.

Chart 5-1

Bicyclist Injury Collisions in San Francisco: 1998-2006[3]



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

Although there is evidence that bicycle collisions are underreported[4], those that do get reported provide a strong indication of roadway behaviors that negatively impact bicyclists' safety. Careful review of these bicycle collisions can help identify which violations should be prioritized for increased education and enforcement, assist with the planning of new bicycle facilities and provide safety education opportunities. The discussion of recommended policies below is based on data from reported traffic collisions covering January 1, 1998 to December 31, 2006. All recommendations are based on analysis of this data and the knowledge that some collisions go unreported (Actions 5.11, 5.12 and 5.13 specifically address unreported collisions).

ANALYSIS OF MOTORIST AND BICYCLIST MOVING VIOLATIONS

From January 1, 1998 to December 31, 2006, motorists were cited as the party at fault in a slight majority (51 percent) of the nearly 4,000 reported bicycle collisions. Bicyclists, however, shared responsibility in some of the high-frequency collision categories. Regardless of the primary cause of an automobile/bicycle collision, bicyclists are far more likely to be injured than motor

3 This table uses Statewide Integrated Traffic Records System (SWITRS) data from 01/01/1998 to 12/31/2006.

4 Anecdotal evidence comes from collisions or near-misses that resulted in very minor or no injury, but were still caused by some of the same unsafe roadway behaviors outlined in this chapter.

vehicle operators. For example, bicyclists were injured in almost all reported collisions analyzed.

Improving bicycle safety in San Francisco is the primary goal of this Plan's proposed bicycle education and enforcement strategies. Education and enforcement, therefore, should focus on violations that most frequently cause personal injury. Based upon the latest understanding of bicyclists' and motorists' behaviors and collision data, this Plan recommends the creation of an SFMTA Bicycle Citation Diversion Education Program (a bicycle violator "traffic school") that builds upon existing education efforts (Chapter 4) and renewed enforcement of a few high-frequency violations by both bicyclists and motorists.

Any increased enforcement effort, however, also should include bicycle safety training for all police officers to enhance their understanding of the proper operation of a bicycle in traffic and to ensure more equitable assessments at collision scenes. Education should include crucial bicycle traffic knowledge such as: bicyclists passing stopped buses; double-parked vehicles; right-turning vehicles on the left; lane positioning techniques for bicyclists to establish their proper and legal right in a travel lane; stopping at red lights; and the necessity of avoiding the "door zone" (the area next to parked cars into which a car door can be abruptly opened). Bicyclists also should be educated regarding the conflicts of these and other cycling maneuvers. In issuing citations, police officers must be able to distinguish between legitimate bicycle maneuvers and those that violate the Vehicle Code. For example, a bicyclist legitimately passing on the right of a slow-moving motor vehicle, whether in a striped bicycle lane or a shared travel lane, is appropriate as opposed to a bicyclist passing on the right when passing on the left is recommended. The City should continually evaluate which motorist and bicyclist violations are the most common sources of collisions and tailor enforcement efforts to discourage these behaviors. The City also should explore education and facility improvements that encourage motorists and bicyclists to share the road.

MOTORIST MOVING VIOLATIONS

Analysis of recent collision data indicates that a few common motorist behaviors contribute to the majority of automobile-bicycle collisions. The five most common reported behaviors of motorists that result in collisions with bicycles from 1998-2006 are shown in Table 5-1 below.

Opening a car door when unsafe (resulting in what is commonly known as a "dooring" collision) is the most frequent motorist violation. The second and third-most common motorist violations involve failure to yield to bicyclists who, by law, had the right-of-way, and unsafe turns without signaling. The fourth and fifth-most frequent violations are two types of unsafe traffic maneuvers that lead to collisions with bicyclists. As outlined in Table 5-3, motorists were responsible for 51 percent of the ten most common collision categories, yet a minority (48

percent) of all bicycle-related collisions as shown in Table 5-4. Bicyclists, however, suffered all of the injuries and fatalities. Only 12 of 1,375 motorist-caused bicycle collisions (.009 percent) involved drugs or alcohol, as shown in Table 5-4. It also should be noted that motorists, while assigned fault, were not often cited for their violations.

Table 5-1
Bicycle/Automobile Collisions in San Francisco Where Motorists Were Most Frequently Assigned Fault [1998-2006]

Ranking	Description	CVC Section	Number of Collisions	% of Total Collisions	No Fault or other Assigned[5]	# of Motorists Assigned Fault	% of Motorists Assigned Fault[6]	# of Bicyclists Assigned Fault	% of Bicyclists Assigned Fault[7]
1	Opening Car Door when Unsafe	22517	285	9	9	276	100	0	0
2	Failure to Yield when Turning Left	21801.a	252	8	9	227	93	16	7
3	Unsafe Turn and/or without Signaling	22107	208	7	6	165	82	37	18
4	Unsafe Speed	22350	342	11	4	107	32	231	68
5	Failure to Stop at Red Light Limit Line	21453.a 21453.c	281	9	10	83	31	188	69
TOTALS			**1,368**	**43**	**38**	**858**	**65[8]**	**472**	**35[9]**

The Right Of Way violations, ranked second and third in Table 5-1, could indicate that motorists are either not “seeing” bicyclists lawfully operating as traffic or simply disregarding bicyclists’ rights to the road. Although it is encouraging that

5 The number of collision reports that did not assign fault to either party.
6 These percentages were calculated after the number of collisions for which no fault was assigned were subtracted.
7 Id.
8 This represents the percentage of collisions from these five categories only (Table 5-1).
9 Id.

the SFPD is assigning fault to motorists in these cases, they have not often cited motorists for the violations. To reinforce proper roadway behavior, it is recommended that SFPD pursue more rigorous enforcement of such violations.

BICYCLIST MOVING VIOLATIONS

From 1998-2006, bicyclists were most frequently assigned fault in collisions for: unsafe speed, failure to stop at the limit line for red lights, riding on the wrong side of the roadway, failure to yield to approaching traffic and failure to stop at the limit line for STOP signs, as shown in Table 5-2.

Because unsafe speed was the most common primary collision factor for which bicyclists were assigned fault, it is one bicyclist behavior recommended for targeted public outreach and enforcement. During the period 1998–2006 there were 342 bicycle injury collisions for which unsafe speed was the primary collision factor. Of these collisions, twice as many bicyclists were reported at fault as motorists, as shown in Tables 5-1 and 5-2. The speed of motor vehicles involved in collisions with bicyclists significantly impacts the degree of injury suffered by bicyclists. However, bicyclists also commonly exhibit unsafe speeds resulting in injury crashes, pointing to an overall need for the City to promote slower speeds by both modes in bicycle/motor vehicle conflict areas. This should be accompanied with targeted public outreach and focused traffic enforcement to reduce unsafe speeds by motor vehicles and bicycles.

Red light running is another primary collision factor for which bicyclists are often assigned fault, which should be a focus for targeted enforcement. The size and geometry of some San Francisco intersections combined with relatively low cycling speeds sometimes contributes to bicyclists not being able to clear an intersection before a traffic signal changes to red. In this situation, the bicyclist has a right to clear the intersection with oncoming traffic legally required to wait. Police should not cite bicyclists under these circumstances. Before proceeding at a green traffic signal, however, bicyclists must allow vehicles and pedestrians who have entered the intersection legally to clear the intersection.

Curtailing red light running is important. The City should combine enforcement with roadway improvements and bicycle traffic education to achieve improved safety for bicyclists. For example, roadway upgrades, such as bicycle boxes at intersections and shared roadway bicycle markings (sharrows) for narrow lanes, are potential solutions for proper bicyclist lane positioning. Bicycle safety education for both bicyclists and police officers should include lessons on how to distinguish between legitimate bicycle maneuvers and those that violate the Vehicle Code. One example is a bicyclist legitimately passing slow-moving motorists, whether in a striped bicycle lane or not, as opposed to a bicyclist passing on the right when she should pass on the left (such as when passing a stopped bus, passing a double-parked vehicle or passing a right-turning vehicle).

Table 5-2
Bicycle/Automobile Collisions in San Francisco Where
Bicyclists Were Most Frequently Assigned Fault [1998-2006] [15]

Ranking	Description	CVC Section	Number of Collisions	% of 5-Year Total	No Fault or other Assigned [10]	# of Motorists Assigned Fault	% of Motorists Assigned Fault[11]	# of Bicyclists Assigned Fault	% of Bicyclists Assigned Fault[12]
1	Unsafe Speed	22350	342	11	4	107	31	231	68
2	Failure to Stop at Red Light Limit Line	21453.a 21453.c	281	9	10	83	31	188	69
3	Wrong Side of Roadway	21650 21650.1	189	6	5	10	5	174	95
4	Yield to Approaching Traffic	21804.a 21804.b	187	6	2	26	14	159	86
5	Failure to Stop at STOP sign Limit Line	22450	163	5	4	35	22	124	78
TOTALS			**1,162**	**36**	**25**	**261**	**23[13]**	**876**	**77[14]**

Table 5-3
Summary: Most Frequest Bicycle Related Collisions
(Based on 3,198 total collisions, 1998-2006)

Description	Number of Collisions
# Motorists responsible for Ten Most Frequent Collision Types	1,046
# Bicyclists Responsible for Ten Most Frequent Collision Types	1,001

10 The number of collision reports that did not assign fault to either party.
11 These percentages were calculated after the number of collisions for which no fault was assigned were subtracted.
12 Id.
13 This represents the total percentage of collisions from these five categories only (Table 5-2).
14 Id.
15 This table uses Statewide Integrated Traffic Records System (SWITRS) data from 01/01/1998 to 12/31/2006.

Description	Number of Collisions
# Collisions Where "No Fault/Other" Assigned	50
Total Collisions from Ten Most Frequent Collision Types	2,097
% Motorists Responsible for Ten Most Frequent Collision Types	51%
% Bicyclists Responsible in Ten Most Frequent Collision Types	49%
Top Ten Collisions as % of All Collisions	66%

ENFORCEMENT AND SAFETY ACTION FRAMEWORK

MOVING VIOLATIONS

Action 5.1
Work with the SFPD to place a high priority on enforcement of both bicyclist and motorist violations that most frequently cause injuries and fatalities.

Action 5.2
Work with the SFPD to develop a “fix-it ticket” program for bicycle equipment violations.

Action 5.3
Work with the SFPD to develop a method to systematically share non-collision bicyclist citations with the SFMTA.

Action 5.4
Work with the SFPD and the Superior Court of California to develop and implement a bicycle traffic school program as an option for those cited for moving violations.

An active campaign to involve the SFPD in enforcement of traffic safety laws directly affecting bicyclists should be carried out by the SFMTA Bicycle Program. A task force with the SFPD and the SFMTA should be set up to develop priorities for enforcement of both motorists’ and bicyclists’ infractions. Priority for issuing citations should be given to the motorist and bicyclist violations identified above that most frequently cause collisions with bicyclists.

When cited for riding without lights and/or reflectors, bicyclists should have the option to avoid a fine if they present evidence of properly equipping their bicycle within a reasonable time period. Such a “fix-it ticket” policy already exists for motor vehicles not equipped with the proper safety equipment and those not operating properly. This policy could also address the enforcement of other

bicycle safety violations, such as properly operating bicycles and requiring helmets on child bicyclists.

In order for the SFMTA Bicycle Program to accurately gauge common bicyclist behaviors that lead to cited violations of the CVC or the San Francisco Transportation Code, augmenting injury and non-injury collision data with non-collision bicycle citations will provide a more complete picture of the risks facing bicyclists and identify locations for targeted outreach and education on common violations. The SFMTA Bicycle Program should work with the SFPD to regularly receive data on non-collision related bicyclist citations.

Citations issued for moving violations are bicycle-safety education opportunities. While proactive measures are best, classes to correct errant roadway behavior should be developed by the SFMTA and offered as “bicycle traffic school” using best practices from other California communities with similar programs already in place. San Francisco’s curriculum should focus primarily on cycling in traffic skills, “share the road” concepts, and the rights and responsibilities of both bicyclists and motorists. As an alternative to a fine for a bicycle-related violation, offenders should be given the option of enrolling in a traffic school program with an emphasis on bicycle issues. Such a program also could be an option for non-bicycle related traffic infractions.

BICYCLES PASSING ON THE RIGHT

Action 5.5

Support efforts to change California Vehicle Code (CVC) Section 21754 (Passing on the right) so that it applies to bicycles.

The 1997 Bicycle Plan recommended that the City ask the state legislature to correct an apparent oversight in CVC Section 21754 which allows passing on the right under certain circumstances:

> The driver of a motor vehicle may overtake and pass to the right of another vehicle only under the following conditions: (a) When the vehicle overtaken is making or about to make a left turn; (b) Upon a highway within a business or residence district with unobstructed pavement of sufficient width for two or more lines of moving vehicles in the direction of travel; (c) Upon any highway outside of a business or residence district with unobstructed pavement of sufficient width and clearly marked for two or more lines of moving traffic in the direction of travel; (d) Upon a one-way street; (e) Upon a highway divided into two roadways where traffic is restricted to one direction upon each of such roadways. The provisions of this section shall not relieve the driver of a slow moving vehicle from the

duty to drive as closely as practicable to the right hand edge of the roadway.

CVC Section 21754 allows motor vehicles to pass on the right of left-turning vehicles, when there is room for at least two lines of moving traffic in the direction of travel or on a one-way street or divided highway, and it seems within the spirit of the CVC for a bicyclist to be able to legally overtake a motorist on the right within a travel lane wide enough to accommodate a line of moving bicycles and motor vehicles side-by-side. This clearly would be the case where there is a bicycle lane or shoulder provided adjacent to a travel lane. In other places, it depends on the width and condition of the travel lane and on traffic speed and volume.

As currently written, CVC Section 21754 refers only to *motor* vehicles, not to vehicles in general and is therefore not made applicable to bicycles by CVC Section 21200. This seems to be an oversight on the Legislature's part, because if construed literally, CVC Section 21754 would require bicyclists to pass even left-turning motorists on the left. Note that Action 5.5 does not recommend unrestricted passing on the right by bicyclists.

Because this is a statewide issue, it would be more properly initiated by a regional body such as the Metropolitan Transportation Commission or the California Bicycle Coalition but such changes should be endorsed by the City.

BLOCKING OF BICYCLE LANES

Action 5.6
Increase parking enforcement and fines for violations involving vehicles parking or double-parking in bicycle lanes.

Action 5.7
Post “no stopping in bike lane” signs along bicycle lanes where double-parking violations occur and work with the SFPD to increase enforcement of these violations.

Action 5.8
Work with the SFPD to increase the enforcement of the prohibition of operating motorcycles in bicycle lanes.

While enforcement of double-parking in bicycle lanes has improved since 1997, automobiles are still blocking the free movement of bicyclists.

As a result of the 1997 Bicycle Plan, an SFMTA Parking Control Officer (PCO) has been assigned to bicycle lane duty during the morning peak period. The SFMTA also has actively identified and re-designated some curb zones in areas

where double-parking in bicycle lanes was a problem (such as along Valencia and Market Streets). This measure addressed some of the double-parking by providing more short-term parking through colored curb short-term parking zones. This measure should be expanded. The SFMTA should undertake a thorough analysis of the PCO enforcement beat structure, double-parking violation locations, and land use data to improve its enforcement and to create additional mitigation measures (as specified above) for double-parking. As staff resources permit, a team of PCOs should be assigned to patrol bicycle lanes to cite double-parked vehicles at all times of day, with a particular focus on morning and evening peak periods.

As gas prices continue to rise and two-wheeled transportation gains popularity, so does the number of motorcycles, mopeds and scooters illegally using bicycle lanes to circumvent traffic queues, often dangerously passing bicycles operating legally in bicycle lanes. The SFMTA should work with the SFPD to prioritize enforcement of illegal operation of all motor vehicles in bicycle lanes, focusing on motorcycles, mopeds and motorized scooters. The SFMTA Bicycle Program should complement this enforcement with public outreach to inform the drivers of motorcycles, mopeds and motorized scooters that they are prohibited from driving in bicycle lanes.

CITY DEPARTMENT OUTREACH ON BICYCLE ENFORCEMENT ISSUES

A variety of City departments have influence over the proper enforcement, acceptance and management of bicycling. In order for these departments to more effectively and judiciously manage bicyclists' behavior and collect bicycle-related traffic and collision data, additional action is required by the City.

SAN FRANCISCO POLICE DEPARTMENT

Action 5.9

Develop an SFMTA bicycle safety curriculum for all SFPD police officers that focuses on the rights and responsibilities of bicyclists and techniques required for safe and legal sharing of the roadway.

Action 5.10

Work with the SFPD to increase bicycle-mounted enforcement patrols.

The SFPD has made progress in addressing bicycle collision reporting issues in the City[16]. Building upon this success, the SFMTA should provide bicycle traffic education to police officers focusing on the rights and responsibilities of bicyclists and the practice of proper bicycle positioning techniques in traffic. The curriculum and materials for this education effort should draw from relevant

16 During 1996 and 1997 the SFPD underreported bicycle-related collisions to the State. This underreporting has been addressed; however it has created a two-year gap in reliable bicycle Statewide Integrated Traffic Records System (SWITRS) data for San Francisco.

sources such as the League of American Bicyclists, the CVC and the San Francisco Transportation Code.

Bicycle traffic education should be integrated into trainings for all SFPD police officers. In addition to developing awareness of the challenges of maneuvering a bicycle in traffic, a bicycle-safety training course should provide a list of guidelines to assist with bicycle-related collision reports to help ensure valuable documentation of information for public health studies regarding injury prevention. The bicycle-safety education training should be administered by a certified instructor as opposed to simply showing officers educational videos. Support from the Chief of Police is essential and a meeting between the Chief of Police, the SFMTA Executive Director, the SFPD Traffic Company and bicycle-mounted police is recommended as a first step.

Consistent with the City's *Transit-First* policy, the beat structure for the SFMTA Enforcement Division should be restructured to better serve transit, pedestrians and bicyclists. Individual beats should incorporate transit and bicycle corridors rather than using such corridors as divisions between beats. For example, it would be preferable to include both sides of a section of Market Street in one beat, rather than use this section of Market Street as the boundary of two beats. With Market Street being the boundary, each direction of the street falls into separate beats.

Because the District Attorney's Office staff has to review cases involving conflicts and collisions between motorists and bicyclists, they should be included in bicycle safety training. Such training could be integrated with the recommended police trainings or with workshops offered at other City departments as proposed in Chapter 4.

Bicycle-mounted police officers are more sensitive to bicyclists' rights and bicycle safety issues due to their increased understanding of the physical characteristics of bicycles, the relationship of bicyclists to motorists in traffic situations and the challenges of bicycle operation in an urban environment. As police departments have learned throughout the country, bicycle patrols are very effective in dealing with crimes that take place where police cars cannot go or where they cannot go without being noticed.

While patrol car beats and patrol car back-ups will always be required, the SFPD should evaluate the potential of expanding bicycle patrols into more neighborhoods, as well as into open space and downtown settings.

The City should encourage written contributions from police officers to neighborhood and bicycling publications to present their perspectives on bicycling issues to motorists and bicyclists alike.

DEPARTMENT OF PUBLIC HEALTH AND EMERGENCY SERVICES AGENCIES

Action 5.11
Work with the SFPD to develop a system for hospitals, emergency rooms, and clinics to report all instances of bicyclist injuries to the SFPD and to the SFMTA.

Action 5.12
Inform bicyclists that they are legally entitled to file a collision report when one is not initiated by the police.

The collision data presented in this chapter, while useful in identifying the most crucial roadway behaviors that lead to bicyclist injuries, does not include the many unreported bicycle collisions believed to occur in San Francisco. To better understand the current state of cycling conditions and best improve bicyclists' safety, this Plan recommends the injury/collisions reporting actions 5.11, 5.12, and 5.13. The information gathered from these actions will help improve the City's understanding of patterns and causes of injuries and assist with Bicycle Program injury prevention and education efforts.

Currently, San Francisco General Hospital (SFGH) is not obligated to report bicycle injuries to the SFPD. This is left up to the injured parties. EMS (ambulance services) are supposed to report bicycle injuries, but many are not reported. Comparing police collision reports with SFGH emergency room visits or hospital admissions shows that approximately 20 percent of pedestrian injuries (caused by a collision with a motor vehicle) did not show up in police collision reports in 2000 and 2001. The rate for bicycle injuries is probably similarly under-reported. The SFMTA should collaborate with the San Francisco Department of Public Health (SFDPH), the SFPD, EMS providers and the Medical Examiner to collect and analyze all instances of bicycle related injury and fatality that are not reported in the Statewide Integrated Traffic Records System (SWITRS).

The City should work to educate law enforcement officers and bicyclists about bicyclists' legal right to file a police report about collisions or threatening behavior by motorists. In addition, there is an issue of confidentiality if collision data is reported without the individual's consent. Therefore, improved injury reporting and coordination between departments is necessary.

MUNI INCIDENT REPORTS

Action 5.13
Develop a standardized procedure for reporting bicycle-related incidents with transit vehicles and ensure that this information is readily available to appropriate City staff.

To maintain a relevant bicycle safety and education program, it is important to have the most accurate data available on bicycling conditions. Because police reports do not have a standardized method for reporting transit/bicycle collisions, finding data for these incidents is time consuming and impedes the SFMTA's bicycle-safety efforts. Police reports sometimes place transit/bicycle collision data in ambiguous categories such as "Other" and "Other Bus" which could be a private bus, an airport shuttle, a taxi or a trailer. For example, when the SFMTA queried several different category combinations from 3/31/1998 to 6/01/2003 in search of transit/bicycle collisions, individual police reports had to be pulled and reviewed to determine how many collisions (approximately 50 percent or 33 collisions) involved Muni, with one additional collision that involved Golden Gate Transit. This data, especially when combined with other sources, helps SFMTA staff with bicycle facility improvements and bicycle safety education. The SFPD and transit agencies, therefore, should make standardized collision and incident data more comprehensive and available to SFMTA staff in a useful format.

Muni currently tracks collisions (and other incidents) in a separate, internal database – the TransitSafe Incident database. This database tracks all incidents that cause delay to Muni vehicles. All Muni/bicycle collisions could be queried and tracked within this database, if the appropriate query attributes were added. In its current format, this database is not very useful in analyzing conflicts between bicyclists and Muni vehicles. If improved, this database would be a valuable resource for analyzing and improving bicycle safety in San Francisco. This database would be able to track police reported collisions and bicycle/Muni conflicts that currently go unreported. Every effort within the SFMTA should be made to improve Muni's TransitSafe Incident reporting to make it a more a useful tool for improving general traffic safety as well as bicyclist safety.

Table 5-4
Summary: Injury Related Bicycle Collisions in San Francisco by CVC Violation (1998-2006)[17]

Description	CVC Section	# of collisions	No fault or other assigned[18]	# Motorists assigned fault	% Motorists assigned fault[19]	# Bicyclists assigned fault	% Bicyclists assigned fault[20]
Unsafe Speed	22350	342	4	107	31.7	231	68.3
Opening Car Door when Unsafe	22517	285	9	276	100.0	0	0.0
Failure to Stop at Red Light Limit Line	21453.a 21453.c	281	10	83	30.6	188	69.4
Failure to Yield when Turning Left	21801.a	252	9	227	93.4	16	6.6
Various Descriptions Given[21]	Not cited	248	192	19	33.9	37	66.1
Unsafe Turn and/or without Signaling	22107	208	6	165	81.7	37	18.3
Wrong Side of Roadway	21650 21650.1	189	5	10	5.4	174	94.6
Yield to Approaching Traffic	21804.a 21804.b	187	2	26	14.1	159	85.9
Failure to Stop at STOP sign Limit Line	22450	163	4	35	22.0	124	78.0
Unsafe Pass on Left	21750	95	0	68	71.6	27	28.4
Unsafe Lane Change	21658.a	95	1	49	52.1	45	47.9
Passing on Right When Unsafe	21755	74	1	4	5.5	69	94.5

17 This table uses Statewide Integrated Traffic Records System (SWITRS) data from 01/01/1998 to 12/31/2006.
18 The number of collision reports that did not assign fault to either party.
19 These percentages were calculated after the number of collisions for which no fault was assigned were subtracted.
20 Id.
21 Since so many collisions do not have a CVC violation cited, it is difficult to analyze these collisions in a meaningful way. It indicates a need to improve police reportage at bicycle collision scenes.

Description	CVC Section	# of collisions	No fault or other assigned[18]	# Motorists assigned fault	% Motorists assigned fault[19]	# Bicyclists assigned fault	% Bicyclists assigned fault[20]
Starting/Backing when Unsafe	22106	65	0	57	87.7	8	12.3
Failure to Yield ROW Entering Highway	21802.a 21802.b	64	3	44	72.1	17	27.9
Bicycle Operation on Roadway	21202 21202.a	50	1	4	8.2	45	91.8
Failure to yield ROW at Intersection	21800.a 21800.b 21800.c	43	1	20	47.6	22	52.4
Wrong-way travel	21657	38	0	5	13.2	33	86.8
Failure to Yield to Pedestrian in Crosswalk	21950.a	36	0	15	41.7	21	58.3
Following too Closely	21703	32	0	15	46.9	17	53.1
Driving Under the Influence	23152.a 23153.a	32	0	12	37.5	20	62.5
Pedestrian ROW in Crosswalk	21950.b	29	22	0	0.0	7	100.0
Driving on Sidewalk	21663	26	0	0	0.0	26	100.0
Yield ROW to vehicle making U-turn	21801.b	25	1	2	8.3	22	91.7
Failure to Obey Traffic Signal for Turn at Intersection	22101 22101.d	24	1	15	65.2	8	34.8
Improper Position for a Right-Turn at Intersection	22100.a	21	0	19	90.5	2	9.5

Description	CVC Section	# of collisions	No fault or other assigned[18]	# Motorists assigned fault	% Motorists assigned fault[19]	# Bicyclists assigned fault	% Bicyclists assigned fault[20]
Proceed at Green Light but Yield to Pedestrians/ Vehicles Lawfully in Intersection	21451.a	21	1	10	50.0	10	50.0
Improper Position for a Left-Turn at Intersection	22100.b	19	1	3	16.7	15	83.3
Pedestrians outside a x-walk	21954.a	18	15	1	33.3	2	66.7
Yield ROW on turn at Red Light	21453.b	17	1	15	93.8	1	6.3
Illegal U-Turn in Business District	22102	15	0	14	93.3	1	6.7
Failure to obey Traffic Signal	21461.a	15	1	5	35.7	9	64.3
Passing on Right	21754	14	0	2	14.3	12	85.7
Crossing b/t controlled intersections	21955	14	14	0	0.0	0	0.0
Pedestrian Signal Violation	21456.a 21456.b	13	12	0	0.0	1	100.0
Motor Vehicle Turning Unsafely Into Bicycle Lane	21717	12	0	12	100.0	0	0.0
Crossing Double Yellow Line	21460.a 21460.b	12	1	3	27.3	8	72.7
Riding bicycle under the influence	21200.5	10	0	0	0.0	10	100.0
Illegal Operation on Divided Highway	21651.a 21651.b	9	0	4	44.4	5	55.6

Description	CVC Section	# of collisions	No fault or other assigned[18]	# Motorists assigned fault	% Motorists assigned fault[19]	# Bicyclists assigned fault	% Bicyclists assigned fault[20]
Laws Applicable to Bicycle Use	21200.a	8	0	0	0.0	8	100.0
Permitted Movements from Bicycle Lanes	21208.a 21208.b	8	0	0	0.0	8	100.0
Peace officer exemption	21200	8	2	0	0.0	6	100.0
Circular Green or Green Arrow	21451.b 21451.c	7	2	3	60.0	2	40.0
Bicycle Equipment Requirements - Lights	21201.d	7	0	0	0.0	7	100.0
Bicycle Equipment Requirements - Brakes	21201.a	6	0	0	0.0	6	100.0
Illegal U-Turn in Residence District	22103	5	0	4	80.0	1	20.0
Passing w/o sufficient clearance	21751	5	0	2	40.0	3	60.0
Motorized Vehicle Illegally Operated in Bike Lane	21209.a	4	0	4	100.0	0	0.0
ROW on sidewalk	21952	4	0	1	25.0	3	75.0
Failure to Yield at Flashing Light	21457.a 21457.b	4	0	0	0.0	4	100.0
Unsafe Passing on Left/ Obstructed View	21752.c 21752.d	4	0	0	0.0	4	100.0
Stop at limit line on Red - Peds	21453.d	4	4	0	0.0	0	0.0
Minimum Speed Law	22400.a	3	0	2	66.7	1	33.3

Description	CVC Section	# of collisions	No fault or other assigned[18]	# Motorists assigned fault	% Motorists assigned fault[19]	# Bicyclists assigned fault	% Bicyclists assigned fault[20]
Failure to Yield ROW at Yield Sign	21803.a 21803.b	3	0	1	33.3	2	66.7
Failure to Yield ROW at Left or U-Turn	21801	2	0	2	100.0	0	0.0
Obstruction of bicycle facilities	21211.a 21211.b	2	0	2	100.0	0	0.0
Signal When Stopping	22109	2	0	2	100.0	0	0.0
Overtaking vehicle stopped at x-walk	21951	2	0	1	50.0	1	50.0
Duration of Signal	22108	2	0	1	50.0	1	50.0
Obstruction of x-walk	22526.a	2	0	1	50.0	1	50.0
Hitching rides	21203	2	0	0	0.0	2	100.0
Designated Lanes for Certain Vehicles	21655.b	2	1	0	0.0	1	100.0
Duty to Stop at Scene of Accident	20001.a	1	0	1	100.0	0	0.0
Disobey traffic directions of local official	21100.3	1	0	1	100.0	0	0.0
U-Turn at Controlled Intersection	22100.5	1	0	1	100.0	0	0.0
Circular Yellow or Yellow Arrow	21452.b	1	0	0	0.0	1	100.0
Failure of Slow Moving Vehicles to Turn Out	21656	1	0	0	0.0	1	100.0

Description	CVC Section	# of collisions	No fault or other assigned[18]	# Motorists assigned fault	% Motorists assigned fault[19]	# Bicyclists assigned fault	% Bicyclists assigned fault[20]
Failure to Yield to Emergency Vehicle	21806.a	1	0	0	0.0	1	100.0
Reckless Driving: Bodily Injury	23104.a	1	0	0	0.0	1	100.0
Tailgating	21704.a	1	1	0	0.0	0	0.0
Pedestrian in bicycle lane	21966	1	1	0	0.0	0	0.0
TOTALS		**3,198**	**329**	**1,375**	**47.9**	**1,494**	**52.1**