

# Fact Sheet on Pedestrian Injury

San Francisco is a walker's city. With its mild temperatures and moderate rainfall, it is often called the "air conditioned city." It consists of at least 15 neighborhoods, with stores within easy walking distance from the majority of residences. It has many parks where residents of all ages can play, walk, or sit on the grass. Public transportation systems support walkability and allow people to move around the city without using a car.

Approximately 435,000 vehicles drive into or through San Francisco on an average workday.<sup>10</sup> About 35,000 of these are present in the city at noon. Another 469,000 vehicles are registered in San Francisco. That totals over 900,000 vehicles in a geographically small city. This may explain some of the frequent conflicts with pedestrians who cross city streets to get to workplaces, schools, shopping areas, and hundreds of other destinations. The major arterial streets in the city have extremely high traffic volumes, congestion, and not surprisingly, very high rates of pedestrian deaths and injuries.

The State-Wide Integrated Traffic Records System (SWITRS) is the main source of statistics of traffic injuries and deaths in California. While these numbers fluctuate from year to year, there has been an overall decrease in both pedestrian injuries and deaths over the past decade.<sup>14</sup> Fatalities have declined from approximately 30 to 20 per year, and injuries have decreased from about 1,000 to nearly 800 per year.

## General Statistics

- In 2004, there were 20 pedestrian fatalities in San Francisco and 709 pedestrian injuries.<sup>14</sup>
- Between 1992 and 2003, pedestrians in San Francisco were far more likely to be killed in traffic collisions than drivers or their passengers, accounting for 54% of all traffic fatalities.<sup>19</sup> During the same time period, pedestrians nationwide accounted for only 12% of all those killed in traffic collisions.<sup>11</sup>
- San Francisco pedestrians are a steadily increasing proportion of those killed in motor vehicle collisions. In 1990 they accounted for 37% of fatalities,<sup>22</sup> but in 2004 pedestrians made up 49% of traffic fatalities.<sup>18</sup>

## Who is at Risk?

- From 1995 through 2004, 41% of pedestrian fatalities were seniors (age 65 or older).<sup>15</sup> This is significant because seniors make up 14% of the population in San Francisco.<sup>23</sup>
- Pedestrians over age 65 were 9 times more likely than younger people to have a fatal injury when hit.<sup>19</sup>
- Most child pedestrians are injured in the areas immediately surrounding schools, particularly in the Western Addition, the Mission District, the Excelsior, the Sunset, and the southern end of 19<sup>th</sup> Avenue.<sup>10</sup>
- African-Americans in San Francisco are 2.5 times more likely to be injured as pedestrians than other ethnic groups. This is notable since studies have shown that collisions involving African-American pedestrians are half as likely to be recorded in a police report.<sup>20</sup> This suggests that the burden of pedestrian injury in the African-American community may be considerably higher than the reported numbers reveal.
- The injury rate for Latino pedestrians is slightly above that of white San Franciscans, and the rate for Asian-Americans and Pacific Islander-Americans is below that of whites.<sup>20</sup>

## Frequency and Geography

- The single street with the highest number of pedestrian injuries is Market Street.<sup>10</sup> Streets that carry heavy commute traffic and serve as feeder routes to freeways also have high numbers of pedestrian injuries.<sup>10</sup>
- In 2004, the areas with the highest number of pedestrian injuries and fatalities were Civic Center/Tenderloin, South of Market, and Financial District respectively.<sup>14</sup>
- **Top 10 intersections for pedestrian injuries:**<sup>16</sup>

1. Mission and 16 <sup>th</sup> Streets	6. Noe/Market/16th Streets
2. Potrero Avenue and 16 <sup>th</sup> Street	7. Stockton and Ellis Streets
3. Jones Street and Golden Gate Avenue	8. Taylor Street and Golden Gate Avenue
4. Market and Hyde Streets	9. Columbus Avenue and Broadway
5. Mission and 18th Streets	10. Howard and 3 <sup>rd</sup> Streets
- While the location of the majority of pedestrian injuries is fairly stable throughout the city, the location of the smaller number of fatalities varies considerably. However, pedestrian fatalities are distributed throughout San Francisco, mainly on arterial streets and near freeway ramps.<sup>10</sup>

## DUI and Substance Use

- Pedestrians struck by drivers charged with DUI were nearly 3 times more likely to die than have minor injuries.<sup>19</sup>
- In collisions involving intoxicated pedestrians, the pedestrian was over 5 times more likely to die than to sustain a minor injury.<sup>19</sup>
- Among 66 pedestrian fatalities in 2000 and 2001, 19% were found to have illegal drugs present in their blood. 12% had a blood alcohol concentration (BAC) that met the legal threshold for DUI (BAC=.08%).<sup>19</sup>
- Alcohol-related pedestrian injuries are more common along routes with a high concentration of alcohol outlets, such as bars, liquor stores and mini-marts. Market and Mission Streets have the highest incidence of alcohol-related pedestrian injuries, followed by Columbus Avenue, Van Ness Avenue, and Geary Boulevard.<sup>10</sup>
- Seniors and children, the two highest risk groups for pedestrian fatality, are unlikely to be under the influence of alcohol or other substances when injured.<sup>2</sup>

## Behavioral & Environmental Factors

- **Speeding:** In collisions involving speeding drivers, the pedestrian was nearly twice as likely to die than to sustain a minor injury.<sup>19</sup>
- **Speeding:** The severity of pedestrian injury is strongly related to the speed of the vehicle at impact. At a pre-crash speed of 40 MPH, a pedestrian who is hit has an 85% chance of being killed, whereas at 20mph, the likelihood falls to 15%.<sup>6</sup>
- **Vehicle Direction:** Pedestrians were more likely to sustain fatal or severe injuries in collisions in which the vehicle was traveling straight, passing another vehicle, or changing lanes, compared to crashes where the vehicle was turning.<sup>19</sup>
- **Pedestrian and Vehicle Density:** The risk to individual pedestrians decreases as the number of pedestrians in an area increases. Conversely, the risk for pedestrian injury increases as the number of vehicles in an area increases.<sup>7,8</sup>
- **Time of Day:** Children are more likely to be injured during the week, peaking at the morning and afternoon school commute times. Seniors are more likely to be injured between 8am and 7pm, with a slight peak around 3pm.<sup>21</sup>

## Pedestrian Laws & Regulations

There are a multitude of laws and policies that affect pedestrian injuries, including the California Motor Vehicle code, design guidelines for pedestrian facilities, and local policies and ordinances. Below is a sample of the laws and regulations regarding pedestrians in San Francisco:

- **Crosswalks:** California Motor Vehicle Code states that drivers shall yield the right-of-way to pedestrians crossing within any *marked* crosswalk or within any *unmarked* crosswalk at an intersection.<sup>12</sup>
- **Parking on the Sidewalk:** The California Vehicle Code states that it is illegal to park “on any portion of a sidewalk, or with the body of the vehicle extending over any portion of a sidewalk... Lights, mirrors, or devices that are required to be mounted upon a vehicle under this code may extend from the body of the vehicle over the sidewalk to a distance of not more than 10 inches.”<sup>4</sup> The San Francisco Vehicle Code designates a fine of \$100 for an infraction of the sidewalk parking ban.<sup>17</sup>
- **Speed Limits:** Nationwide, speed limits are determined by The Fair Speed Limit Act of 1993, which requires that municipalities post speed limits that represent the 85<sup>th</sup> percentile speed of the prevailing traffic for each class of street, road or highway.<sup>9</sup> A California law passed in June 2000 allows local authorities to consider residential density and pedestrian/bicyclist safety when setting speed limits.<sup>3</sup>
- **Signal timing:** The *Manual on Uniform Traffic Control Devices* assumes a 4 feet/second walking speed to establish pedestrian signal timings.<sup>13</sup> The *Transportation and Traffic Engineering Handbook* states that speeds of 3.0 to 2.25 ft/sec may be more appropriate to accommodate slower pedestrians at specific locations (i.e., seniors, disabled persons).<sup>13</sup>
- **Fines:** Drivers who violate pedestrian safety laws can be heavily fined. Examples of fines include:
  - \$371 for passing a car which has stopped for a pedestrian;
  - \$271 for running a red light;
  - \$155 for turning right on a red without yielding to pedestrians;
  - \$155 for failing to yield to a pedestrian in a crosswalk; and
  - \$155 for not allowing a pedestrian to finish crossing before driving through a green light.<sup>1</sup> (Fine amounts are as of July 2005 and are subject to change.)

## Effective Prevention Measures

Pedestrian safety professionals refer to the “three E’s of prevention:” Engineering, Education, and Enforcement:<sup>10</sup>

- **Education:** Teaching and organizing local communities to advocate for traffic safety improvements can make neighborhoods more pedestrian-friendly. In addition, educating drivers and pedestrians through educational and media campaigns can raise their awareness regarding safe practices.
- **Engineering:** Improvements to the built environment to prevent pedestrian injuries, such as corner bulb-outs, zebra crosswalks, count-down crossing signals, and speed humps.
- **Enforcement:** Enact and enforce laws improving pedestrian safety, such as those against drunk driving, speeding, or running red-lights.

## Prevention Tips

- Advocate for an **environment** that is safe for pedestrians and drivers.
- Be Alert. Whether driving or walking, don't assume that others see you.

### Pedestrians:

- Use a marked crosswalk if available.
- Look left, right, and left again when crossing. Keep looking as you cross.
- Never allow children under age 10 to cross streets alone.
- In low visibility conditions, wear light-colored clothing or items incorporating retro-reflective materials.

### Drivers:

- Obey all traffic laws, including stopping at red lights and driving at or below the speed limit, and safely for local road and weather conditions.
- Yield to pedestrians crossing the street. Do not pass a car that is stopped for pedestrians.
- Don't drink or use drugs and drive.
- Always yield to pedestrians when entering or leaving a driveway, or otherwise crossing a sidewalk.

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