

Pedestrian Crash Statistics

Chapter 2



PHOTO BY DAN BURDEN

Magnitude of the Problem

Pedestrians Most at Risk

Area Type

Location Type

Times of Occurrence

Speeding

Alcohol Impairment

Chapter 1 provided an overview of the need to provide a more pedestrian-friendly environment along and near streets and highways. This chapter provides an overview of the pedestrian safety problem and related factors that must be understood to select appropriate facilities and programs to improve pedestrian safety and mobility. A brief description of the pedestrian crash problem in the United States is discussed in the following sections and is also reported by Zegeer and Seiderman in the *ITE Traffic Safety Toolbox*.¹ Similar statistics should be produced for States and municipalities to better understand the specific problems at the community level and thus select appropriate countermeasures.

MAGNITUDE OF THE PROBLEM

Pedestrian/motor vehicle crashes are a serious problem throughout the world and the United States has a particular problem with pedestrian deaths and injuries.

Specifically, 4,749 pedestrians were reported to have been killed in motor vehicle crashes in the United States in 2003.² These deaths accounted for 11 percent of the 42,643 motor vehicle deaths nationwide that year. An estimated 70,000 pedestrians were injured or killed in motor vehicle collisions, which represents 2 percent of the 2.9 million total persons injured in traffic crashes.² A drop in pedestrian fatalities in recent years may reflect the fact that people are walking less, as evidenced by the U.S. Census and the Nationwide Personal Transportation Survey (NPTS). The need to reduce pedestrian deaths and injuries while promoting increased walking continues to be an important goal for the engineering profession.



PHOTO BY DAN BURDEN

Older pedestrians are more likely to be injured or killed when struck by a motor vehicle than younger pedestrians.



Crash involvement rates per 100,000 people are highest for young males.

PEDESTRIANS MOST AT RISK

Crash involvement rates (crashes per 100,000 people) are the highest for 5- to 9-year-old males, who tend to dart out into the street. This problem may be compounded by the fact that speeds are frequently a problem in areas where children are walking and playing.

In general, males are more likely to be involved in a crash than females; in 2003, 69 percent of pedestrian fatalities were male, and the male pedestrian injury rate was 58 percent higher than for females.²

Rates for older persons (age 65 and over) are lower than for most age groups, which may reflect greater caution by older pedestrians (e.g., less walking at night, fewer dart-outs) and a reduced amount of walking near traffic. However, older adult pedestrians are much more vulnerable to serious injury or death when struck by a motor vehicle than younger pedestrians. For example, the percentage of pedestrian crashes resulting in death exceeds 20 percent for pedestrians over age 75, compared to less than 8 percent for pedestrians under age 14.^{3,4}

AREA TYPE

Pedestrian crashes occur most frequently in urban areas where pedestrian activity and traffic volumes are greater compared to rural areas. The National Safety Council estimates that 85.7 percent of all non-fatal pedestrian crashes in the United States occur in urban areas and 14.3 percent occur in rural areas. Seventy-two percent of all pedestrian fatalities in 2003 occurred in urban areas.² The percentage of rural fatalities relative to the total number of rural pedestrian crashes is more than doubled. In many cases, this is due to increased vehicle speeds found on rural roads. In addition, many rural areas



PHOTO BY DAN BURDEN

The majority of all pedestrian crashes occur in urban areas where pedestrian activity and traffic volumes are greatest.



Pedestrians sometimes choose the most direct path, which often places them at greater risk.

have no sidewalks, paths, or shoulders to serve as separated pedestrian facilities.

LOCATION TYPE

In terms of crash location, 65 percent of crashes involving pedestrians occur at non-intersections. This is particularly true for pedestrians under age 9, primarily because of dart-outs into the street. For ages 45 to 65, pedestrian crashes are approximately equal for intersections and non-intersections. Pedestrians age 65 and older are more likely to be injured or killed at intersections (59 percent) compared to non-intersections (41 percent), since older pedestrians tend to cross at intersections more often than younger ones.⁵ Moreover,



Wide multilane roadways without adequate crossing islands create an unsafe environment for many pedestrians.

some older pedestrians have diminished physical and visual abilities that make street crossings more challenging. In recent years, an emphasis has been placed on improving the design criteria used by engineers to ensure that the needs of all users are being met; the *Highway Design Handbook for Older Drivers and Pedestrians* is one resource.⁶

TIMES OF OCCURRENCE

Pedestrian crashes are most prevalent during morning and afternoon peak periods, when the traffic levels are highest. Fatal pedestrian crashes typically peak later in the day, between 5 and 11 p.m., where darkness and alcohol use are factors.⁷ In 2003, 54 percent of the pedestrian fatalities occurred between 4 p.m. and midnight. Nearly one-half of all pedestrian fatalities occurred on Friday, Saturday, or Sunday (16 percent, 18 percent, and 13 percent, respectively).^{2,8} Crashes where

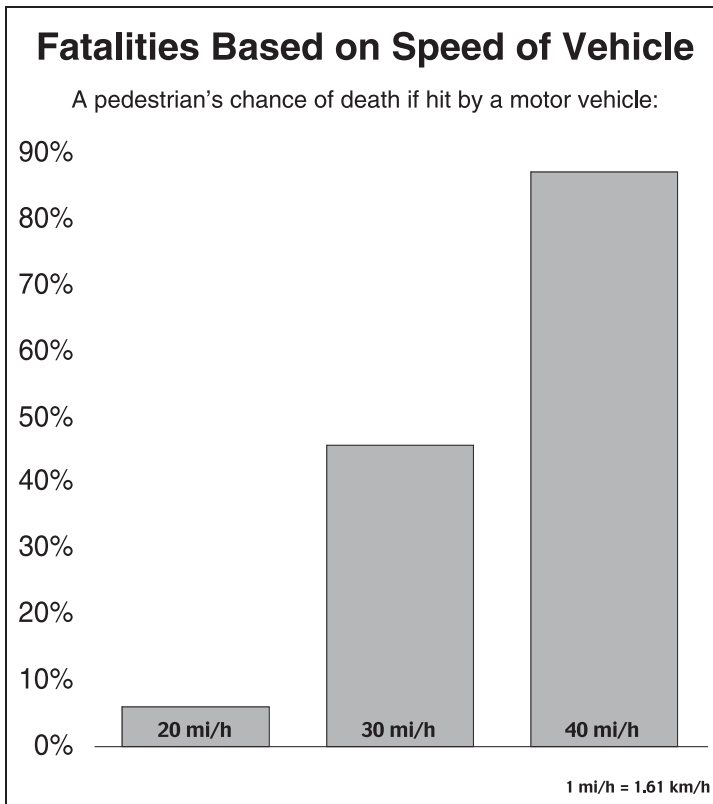


Fatal pedestrian collisions occur more often during periods of darkness.

older pedestrians are hit are more evenly distributed throughout the days of the week than those for younger pedestrians. Older pedestrians are more likely to be struck during daylight hours, when they are most likely to be exposed to traffic.³ September through January have the highest number of nationwide pedestrian fatalities, with typically fewer daylight hours and more inclement weather.^{4,9} Child pedestrian fatalities are greatest in May, June, and July, perhaps due to an increase in outside activity.⁹

SPEEDING

Speeding is a major contributing factor in crashes of all types. In 2003, speeding was a contributing factor in 31 percent of all fatal crashes.² Speeding has serious consequences when a pedestrian is involved. A pedestrian hit at 64.4 km/h (40 mi/h) has an 85 percent chance of being killed; at 48.3 km/h (30 mi/h), the likelihood goes down to 45 percent, while at 32.2 km/h (20 mi/h), the fatality rate is only 5 percent.¹⁰ Faster speeds increase the likelihood of a pedestrian being hit. At higher speeds, motorists are less likely to see a pedestrian, and are even less likely to be able to stop in time to avoid hitting one.



Source: U.K. Department of Transportation, *Killing Speed and Saving Lives*, London, 1987.

ALCOHOL IMPAIRMENT

Driving under the influence of alcohol is a well-publicized issue as related to motorists in this country. In 2003, alcohol was involved in 40 percent of the fatal crashes in the U.S. However, alcohol is also a contributing factor in pedestrian crashes. Of the 4,662 traffic crashes that resulted in a pedestrian fatality in 2003,



Alcohol impairment continues to be a serious problem for pedestrians involved in motor vehicle collisions.

34 percent involved pedestrians with a blood-alcohol concentration (BAC) of 0.08 or greater. More than half of the pedestrian fatalities in the age groups of 21 to 24, 25-34, and 35 to 44 involved intoxicated pedestrians (55 percent, 57 percent, and 55 percent, respectively).²