PEDESTRIAN INJURY IN THE WASHINGTON METROPOLITAN AREA

Status Report
September 2007

An Analysis of Data from 1994 through 2006

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EXECUTIVE SUMMARY

Pedestrian injury continues to be a major cause of death and serious injury regionally, nationally and around the world. In the United States, a pedestrian injury occurs every six minutes and a pedestrian fatality occurs every 107 minutes. Pedestrians suffer more serious injuries and have higher case fatality rates than other victims of motor vehicle crashes. Victims of pedestrian injury are more likely to be from vulnerable or marginalized populations in society.

This report provides a summary status report on pedestrian injury in the District of Columbia Metropolitan Area (DCMA) using available data sources from the District of Columbia, Northern Virginia and Central Maryland (Montgomery, Prince Georges and Anne Arundel counties) through 2006. It is a follow-up to the report produced in September 2005 from similar data sources in the region. The aim of this report is to provide data to inform the public, policymakers, community leaders, law enforcement, public safety workers, engineers and researchers with interest in this important subject.

The general conclusions of this report include:

- Pedestrian injuries continue to be a significant source of morbidity, mortality, and disability in the DC Metropolitan Area.
- The most up to date data for the region show that there were 87 pedestrian fatalities reported in 2006 and 2245 pedestrian injuries reported in 2005.

- An average of 82 fatalities occur each year in the region from pedestrian crashes (highest year 1994 with 94 fatalities; lowest year 2004 with 65 fatalities)

- An average of 2061 injuries occur each year in our region.

- *There is a pedestrian killed in our region every 4.4 days.*

- *There are 5.6 pedestrians injured in our region each day.*

- Central Maryland had the most fatalities (on average 44 per year) followed by Northern Virginia and Washington DC (on average 21 and 16 per year, respectively).

- Central Maryland had the highest number of pedestrian injuries (average 841 pedestrians injured per year), followed by Washington DC (634 pedestrians injured per year), and Northern Virginia (588 pedestrians injured per year).

- The fatality rate for pedestrians in our region appears to have decreased over time when considered as a function of population. When adjusted for population growth, there were 1.94 pedestrian deaths for every 100,000 population in the time period 1994-1999 and 1.66 deaths per 100,000 population in the time period 2000-2005. This is a statistically significant difference but should be interpreted cautiously: since we cannot determine the true number of pedestrians (who are the group at risk), we use overall population statistics as a surrogate.

- The population-adjusted pedestrian injury rates for the two time periods were not significantly different. Between 1994 and 1999, there were 46.1 pedestrian injuries per 100,000 population. Between 2000 and 2005 there were 44.9 pedestrian injuries per 100,000 population.

- Age is an important determinant of survival after pedestrian injury with older patients being significantly more likely to die than younger ones.

- The vast majority of pedestrians struck had no evidence of drug or alcohol use and the vast majority of drivers in striking vehicles had no evidence of drug or alcohol use.

- Passenger vehicles were by far the most common vehicles striking pedestrians. A very small proportion (<5%) of pedestrians were struck by commercial trucks or buses and this proportion appeared unchanged since our previous report.

- Most pedestrian injuries occur around the afternoon rush hour on weekdays.

- Most pedestrian injuries occur at a location other than at an intersection.

- The problem of pedestrian injury is complex with many contributing factors and variables. It is unlikely that any one approach/strategy will significantly alter the impact of this problem on our communities. A long term, region-wide effort involving many individuals, groups and agencies is likely required to adequately address the problem.

INTRODUCTION

Pedestrian injury continues to be a significant problem in the United States and worldwide. Each year in the United States, there are 8,000 pedestrians killed and another 100,000 injured in traffic crashes. This accounts for 13% of the nation's total traffic fatalities and 5% of injuries. On average, a pedestrian injury occurs every six minutes and a pedestrian fatality occurs every 107 minutes in the United States (*U.S. Department of Transportation, National Highway Traffic Safety Administration, 2000*). The proportion of pedestrian fatalities is a greater concern in many other countries, such as Japan, where pedestrians account for nearly 27% of total traffic fatalities, and in Europe, where the percentage reaches nearly 30% in the United Kingdom. Studies have shown that many pedestrians are from marginalized portions of society and are frequently non-vehicle owners. These groups include the elderly, children, immigrants, the poor, minorities and the homeless.

This is the second report of pedestrians involved crashes in the District of Columbia Metropolitan Area (DCMA). While there have been significant efforts to decrease the number of pedestrian injuries and deaths, the problem persists as an important public health and traffic safety issue. This report provides an analysis of pedestrian injuries and deaths from available DC, Central Maryland (Montgomery, Prince Georges and Anne Arundel counties) and Northern Virginia data. These data can provide support and direction to both media and enforcement campaigns by identifying common crash factors and characteristics of drivers and pedestrians.

The purpose of this report is to provide a comprehensive status report on pedestrian injury in the Washington, D.C. metropolitan area and to assess the quality of available data to answer future questions related to pedestrian crashes. The report identifies data sources for the jurisdictions in Washington DC, Virginia counties and municipalities bordering on DC, and Maryland counties bordering on DC.

Variables analyzed in this report include:

- pedestrian demographics (such as age, race, gender, ethnicity),
- vehicle information including vehicle type (commercial motor vehicles and passenger cars),
- vehicle and pedestrian actions prior to the crash, day of the week,
- time and locality,
- hospital and medical data such as diagnosis,
- outcome of injury,
- hospital stay,
- hospital charges.

Data were analyzed to determine adequacy of data sources commonalties in pedestrian crashes and potential for identifying target populations and strategies for prevention efforts.

METHODS

The following Virginia data sets were available and analyzed:

Injury mortality data provided by the Virginia Center for Health Statistics, 1999-2003

Injury related hospital discharge data provided by Virginia Health Information (VHI, Inc.) 1999-2003

Police crash data provided by Virginia Department of Motor Vehicles (DMV), 1999-2006.

The following District of Columbia data sets were available and analyzed:

Crash data provided by District Department of Transportation (DDOT) 2000-2006 (7 years)

Hospital discharge data provided by DC Hospital Association 2000-2003

The rates are calculated using 2000 population obtained from US Census Bureau.

The following Maryland data sets were available and analyzed 1999-2006:

Maryland crash records

Maryland Hospital Discharge Data

ICD-9 codes used to select cases for analysis include the following:

The injury morbidity data (non-fatal injuries), are coded using ICD-9 Codes: E810-E819 (.7)

Injury deaths were assigned cause of injury deaths within ICD-10 Codes: V02-V04 (.1,.9) V09.2

Data collection is not uniform across the states or even between jurisdictions within a state. As a result, on occasion, statements will be made about one state without the ability to provide comparable information from other states. When this occurs in the report, it will be noted. Police reports remain an important source of information about the circumstances surrounding traffic injuries. Police reports often lack detailed information about the injuries themselves. The forms used to collect crash data by the police in DC are not consistent with those used in Virginia. This makes the data on crash profile inconsistent throughout this report. Finally, while DC crash reports were available for the years 2000-2004, hospital discharge data were only available for 2000-2002.

Within the limits of the available data, this report provides:

    Comprehensive baseline information about pedestrian crashes that will enable
        policymakers, researchers, city engineers and the public to assess the
        magnitude and impact of these events.

    Identification and better understanding of the populations at risk

    Identification of driver, pedestrian and vehicular characteristics and actions
        associated with pedestrian crashes

    Identification of high risk environments for pedestrian crashes

Assistance in determining resources and interventions needed to respond to the

problem of pedestrian crashes.

Recommendations regarding:

Potential evaluation strategies for existing and future prevention programs.

Coordination of data systems between the District, Maryland and Virginia that

would better support surveillance efforts in the future

The report begins with an executive summary and introduction. It then presents data on

pedestrian crashes in the DCMA as a whole followed by more in depth data on Central

Maryland, DC and Northern Virginia.

FINDINGS

Overall District of Columbia Metropolitan Area Findings

When examining the annual number of fatal pedestrian crashes for all three regions from 1994 to 2006, there was a relatively flat to slightly decreasing trend with an average of 82 fatalities occurring per year (Figure 1, below). Of the three regions, Central Maryland had the most fatalities (on average 44 per year) followed by Northern Virginia and Washington DC (on average 21 and 16 per year, respectively). The calendar year 1994 reported the greatest number of fatalities (n=94) and calendar year 2004 report the least number of fatalities (n=65). In 2006 there were 87 fatalities for the tri-region area.

Figure 1

Total Regional Pedestrian Fatalities, 1994-2006
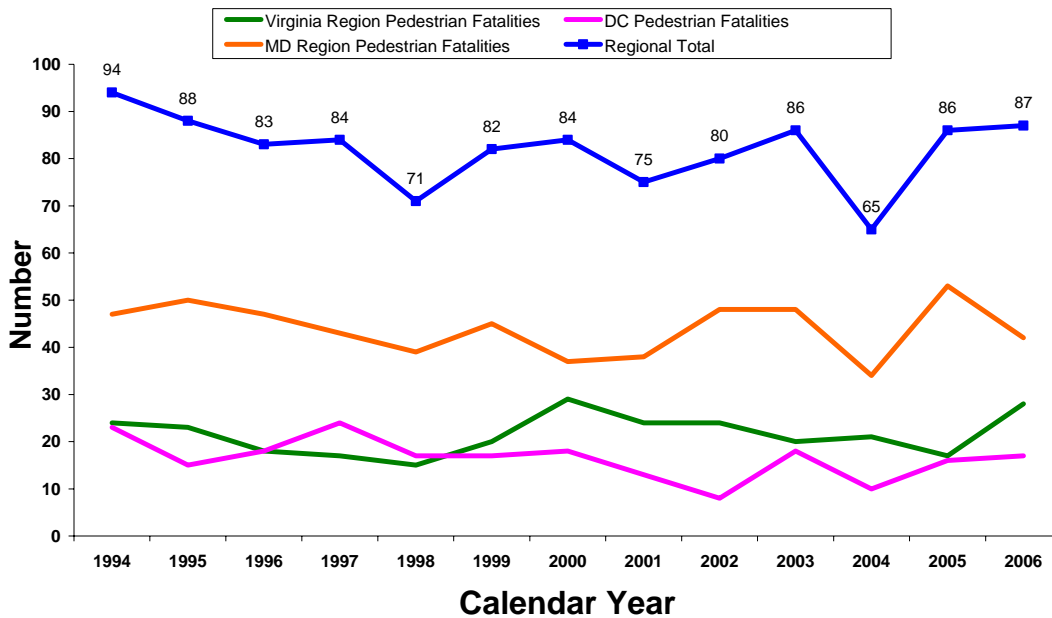
The number of pedestrians with injuries due to a vehicle impact has been increasing slightly during the same time period (Figure 2, below). For all three regions, the average number of pedestrian injuries was 2061 per year. On average, Central Maryland had 841 pedestrians injured per year, followed by Washington DC (634 per year), and Northern Virginia (588 per year). For all three regions, the calendar year 2001 experienced the greatest number of injuries (n=2274) and the calendar year 1996 saw the least number of injuries (n=1820). The most current data, year 2005, reported 2245 pedestrian injuries.

Figure 2

Regional Pedestrian Crashes Resulting in an Injury, 1994-2006
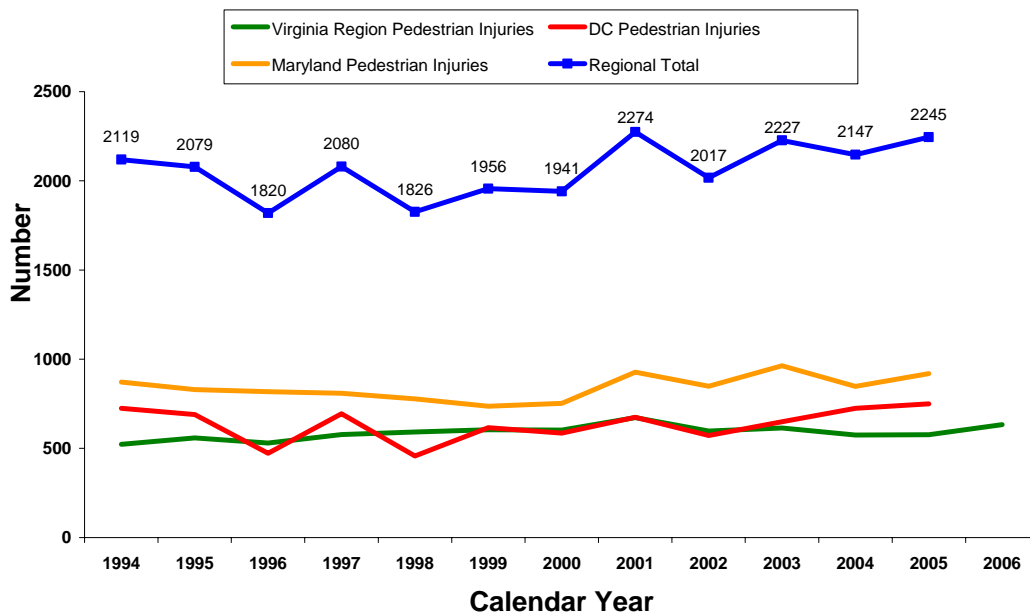
Although the temporal trends depicted above give a general overview of increases and decreases in the number of fatalities and injuries, it does not describe factors that may influence the temporal trend. Population growth is a factor that may influence the number of motorists as well as the number of pedestrians utilizing roadways over time. Thus, with increasing population growth, the probability of pedestrians interacting with

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motorists increases. When population estimates are plotted against aggregated injury and fatality data for two time periods (1994 to 1999 and 2000 to 2005), several observations can be made (Figure 3, below). First, between the two time periods, the population of all three regions grew from an average of 2,576,200 to an average of 2,861,103. During the same two time periods, the total number of pedestrian fatalities slightly decreased from 502 to 476. In contrast, the total number of injuries increased from 11,880 to 12,851.

Figure 3

Number of Pedestrian Fatalities and Injuries by Population, 1994-2005
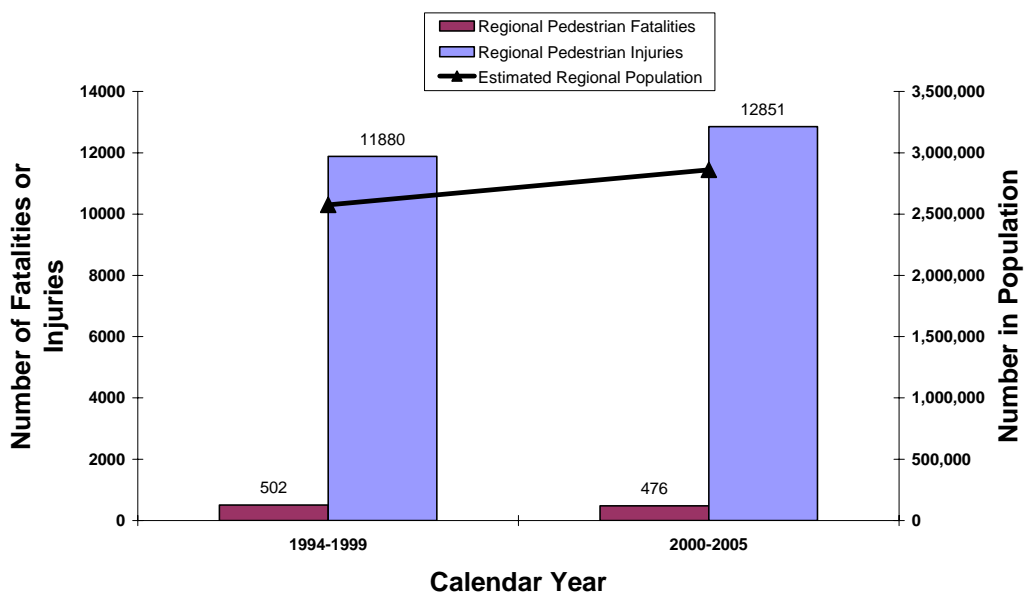
To determine the observed change, population based fatality and injury rates were calculated for two calendar periods, 1994 to 1999 and 2000 to 2006. Pedestrian fatality rates decreased with statistical significance between these two time periods. Thus, for every 100,000 people in the three region area, there were 1.94 pedestrian deaths in the first time period. In the second time period, there were 1.66 deaths per 100,000

population (Figure 4, below). The confidence interval for both these estimates did not overlap and thus it can be concluded that these rates are statistically different from one another.

Figure 4

Pedestrian and Bicyclist Fatality Rate, 1994-1999 versus 2000-2006
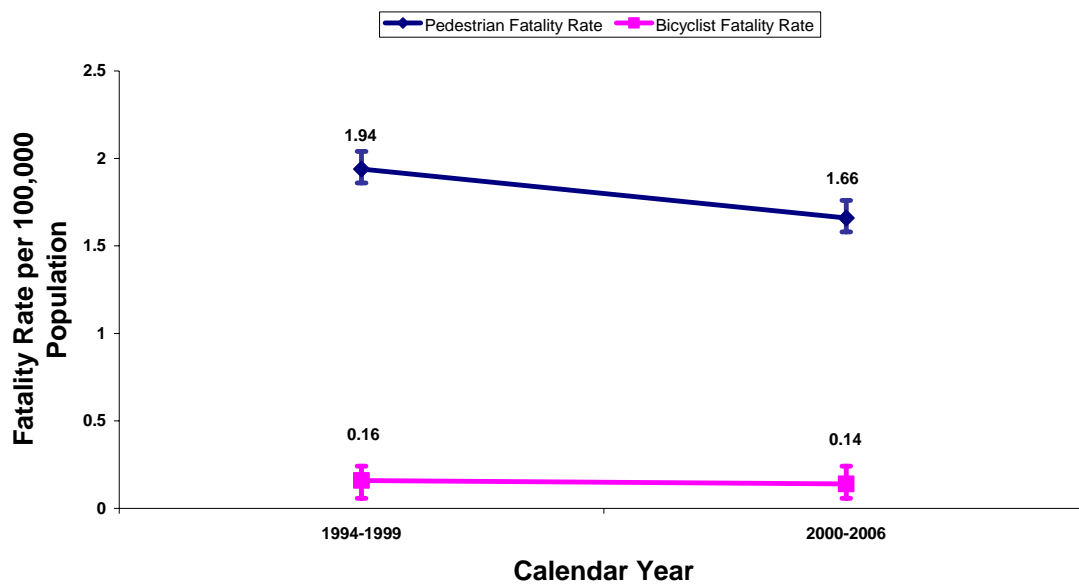
Pedestrian injury rates were also calculated. It was shown that for the calendar years 1994 to 1999 for every 100,000 people who lived in the three region area there were 46.1 pedestrian injuries. During the calendar years, there were 44.9 pedestrian injuries per 100,000 population (Figure 5, below). The statistical confidence intervals do overlap indicating that there was no statistical increase or decrease in the pedestrian injury rate.

Figure 5

Pedestrian and Bicyclist Injury Rate, 1995-1999 versus 2000-2005
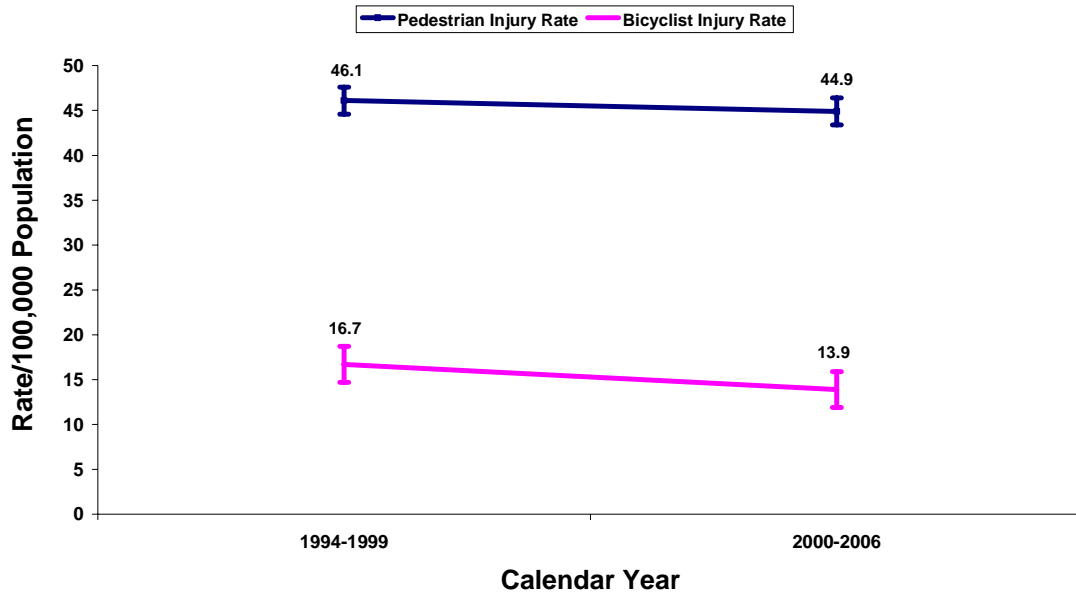
A caveat on calculating injury rates based on the general population must be stated. Calculating rates using the general population as the denominator may underestimate the true rate of pedestrian injuries. An accurate way of calculating rates would be to use the total number of pedestrians in a population or the number of miles traveled by all pedestrians in the denominator. Since both these measure are very difficult to obtain, general population data should suffice as indicator of increasing or decreasing regional trends.

Central Maryland Findings

The counties of Montgomery, Prince Georges and Anne Arundel will be referred to in this report as Central Maryland. Montgomery and Prince Georges border the District of Columbia on the North and East sides, house approximately two thirds of the Capitol Beltway and are routinely considered to be part of the "DC Metro" area (DCMA). Anne Arundel is a growing "bedroom" community for the DCMA. Data for portion of the report are taken from the Maryland CODES dataset.

In the years 2004-2005 the number of pedestrian involved in crashes rose substantially from 1030 to 1182. 2006 showed a decrease to 1134. (Fig 6, below)

Figure 6

Central Maryland Pedestrian Crashes by Year, 2004 - 2006
(N=3346)
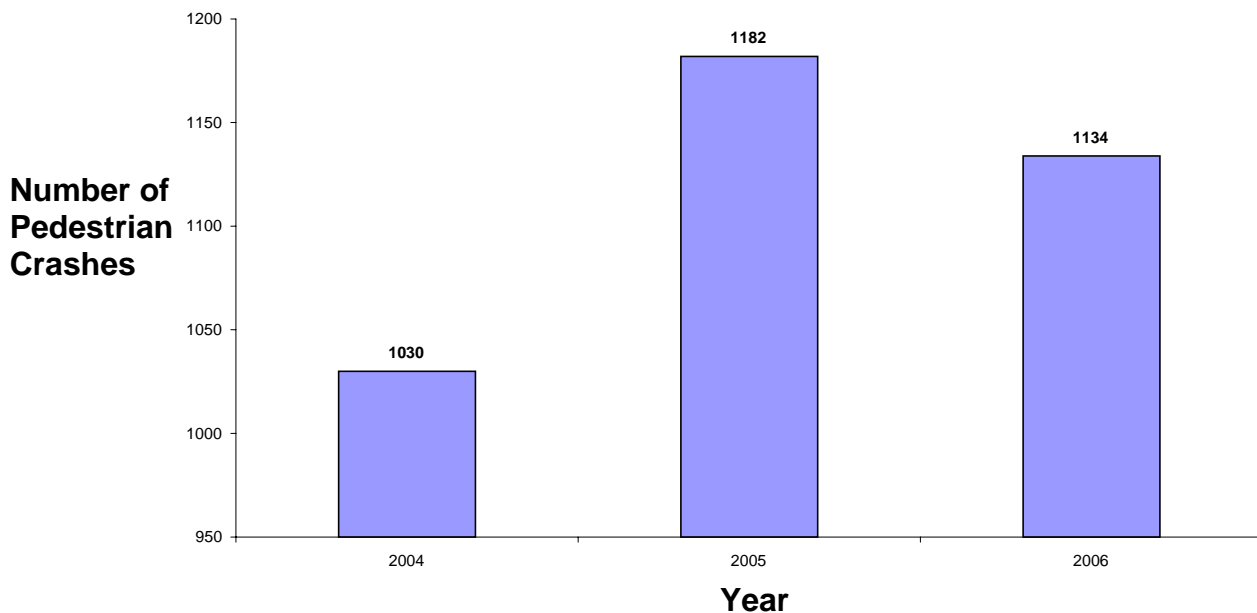
Anne Arundel, with a population of 509, 300, remains less densely populated with less

traffic and fewer commercial areas. The frequency of pedestrian crashes in Anne

Arundel was less than half of that for Montgomery and Prince Georges counties whose

populations are 932,131 and 841,315. (Fig 7, below)

Figure 7

Central Maryland Pedestrian Crashes by County, 2004-2006

(N=3346)
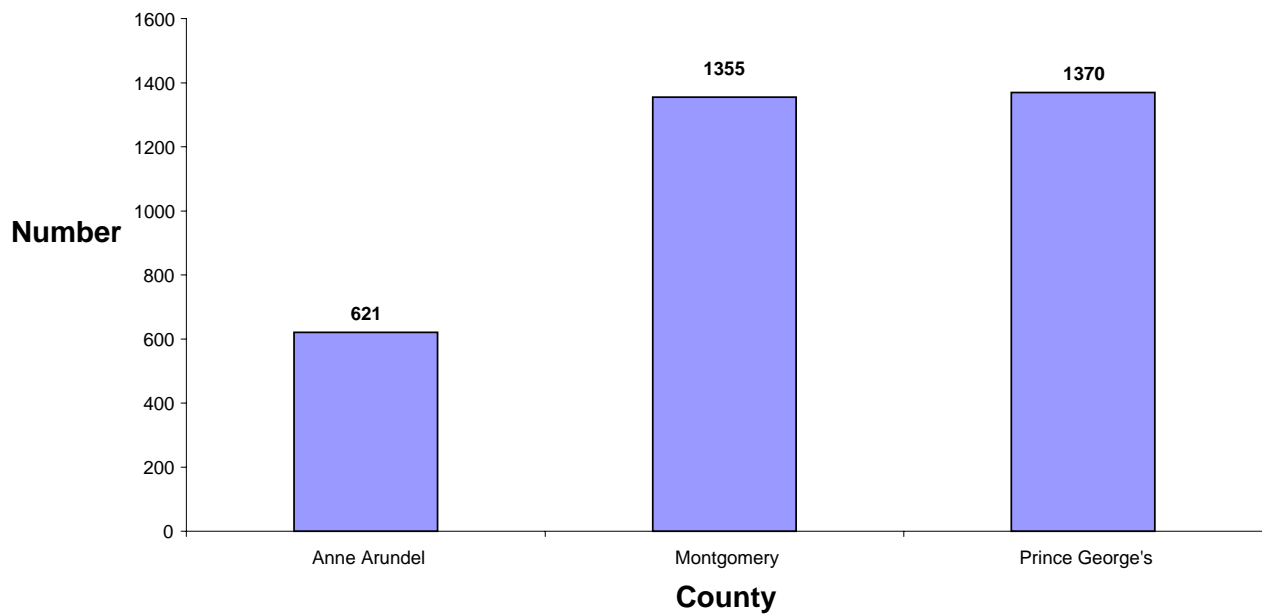
These crashes represented an injury rate of 4.64 per 100,000 population and a fatality rate

of 4.69 per 100,000 over the period from 2004-2006. This is a slightly decreased rate

from the previous period from 2000 to 2003.

Characteristics of Pedestrians

Gender and Age

Fifty seven percent of Central Maryland pedestrians involved in crashes were male. (Fig 8, below). The age group most frequently involved is 25-34 years old. (Table 1, below).

Figure 8

Central Maryland Pedestrian Crashes by Gender, 2004-2006
(N=3346)
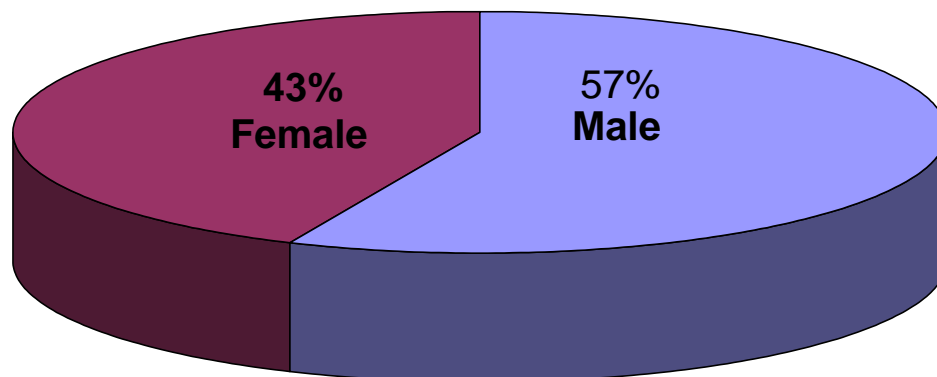
Table1. Pedestrian Injury Severity, Central Maryland, 2004-2006

Age Group (yrs.)	Fatal n	(%)	Injury n	(%)	Hit but no injury n	(%)	Total n	(%)
0 to 4	3	(3.1)	79	(82.3)	14	(14.6)	96	(3.0)
5 to 9	4	(2.4)	142	(86.6)	18	(11.0)	164	(5.1)
10 to 14	4	(1.4)	248	(89.2)	26	(9.4)	278	(8.6)
15 to 19	4	(1.0)	372	(91.0)	33	(8.1)	409	(12.6)
20 to 24	6	(1.8)	293	(89.1)	30	(9.1)	329	(10.2)
25 to 34	17	(3.4)	451	(89.1)	38	(7.5)	506	(15.6)
35 to 44	30	(6.5)	390	(84.4)	42	(9.1)	462	(14.3)
45 to 54	34	(7.3)	401	(85.5)	34	(7.3)	469	(14.5)
55 to 64	9	(3.5)	235	(91.4)	13	(5.1)	257	(7.9)
65 +	21	(7.8)	235	(87.0)	14	(5.2)	270	(8.3)
Total	132	(4.1)	2846	(87.8)	262	(8.1)	3240	(100.0)

The age of the pedestrian when struck has a significant impact on the survivability of the crash. For every 100 teens between 15 and 19 years, 1 will die. For every 100 people over the age of 64 who are struck, approximately 8 will die. Fatality is a more likely outcome at either end of the age spectrum. The downward slope at age 55-65 is likely due to the small sample size in that age group for the period of time studied. (Fig 9, below).

Figure 9

Age Specific Crash Fatality Rate, Central Maryland, 2004-2006

(N=3240)
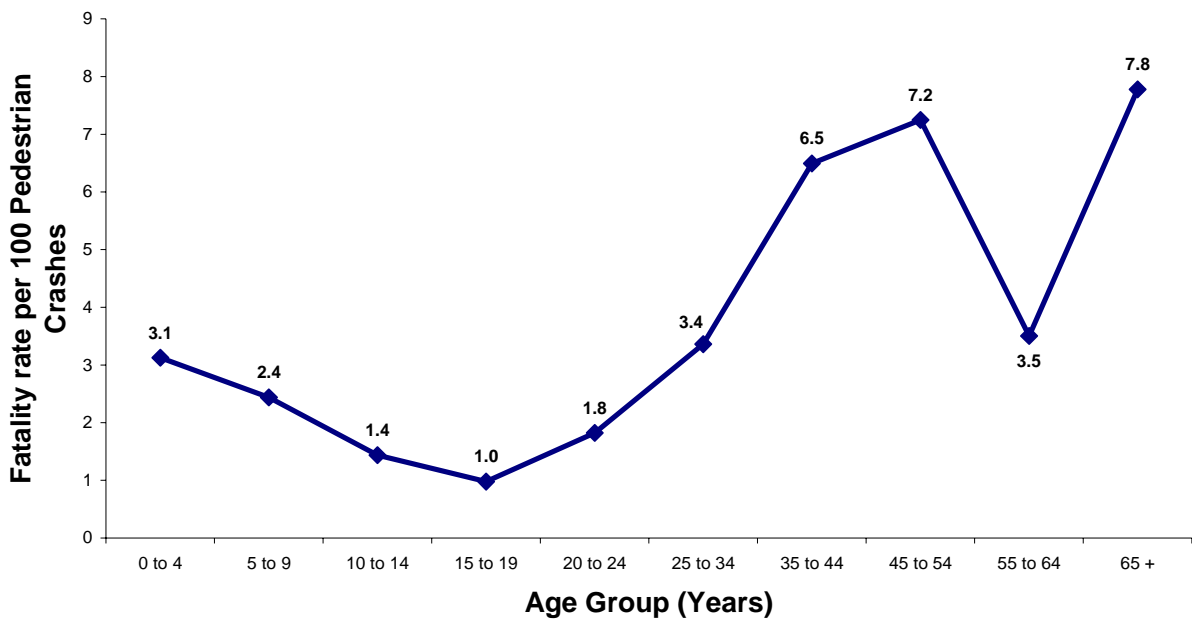
Ninety percent of all pedestrians struck (n=3346) had no evidence of drug or alcohol use at the time of the crash. Of those that were under the influence of a substance, 92% were using alcohol (n=307), 3% drugs (n=11) and 5% were using both (n=17) (fig 10).

Figure 10

Central Maryland Pedestrian Crashes by Type of Substance Use, 2004 - 2006

(N=335)
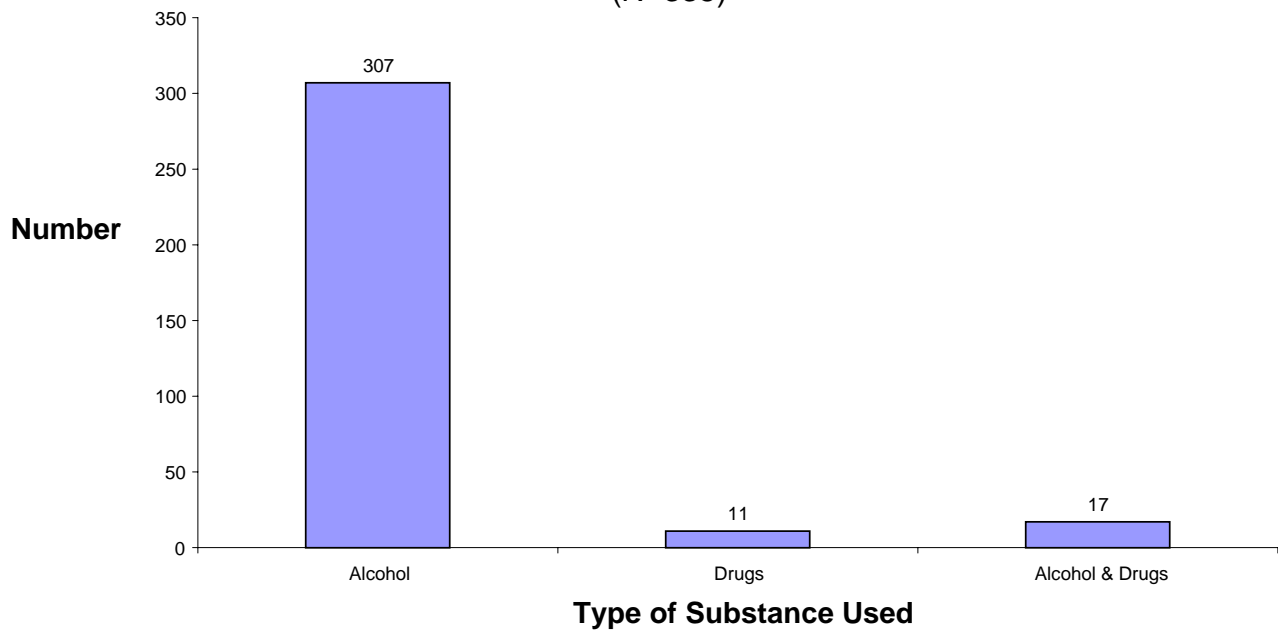
Characteristics of the Vehicle

Eighty-five percent of pedestrians (n=2795) were struck by a passenger vehicle including vans (n=323), station wagons (n=51), pickup trucks (n=238) and automobiles (n=1776) totaling 2388. Of those not struck by a passenger vehicle (n=406), 63% were struck by recreational vehicles (n=257) and 25% were struck by commercial trucks or buses (n=102). (Fig 11, below).

Figure 11

Proportion of vehicles involved in a pedestrian crash other than passenger vehicles Central Maryland, 2004-2006

(N=406)

Category	Percent
Fire/Ambulance/Police	4.2
School Bus	2.7
Transit Bus	10.1
Recreational Vehicle	63.3
Single Truck 2-3 Axles	15.0
Limousine	0.7
Motorcycle/moped	3.9

Percent (%)
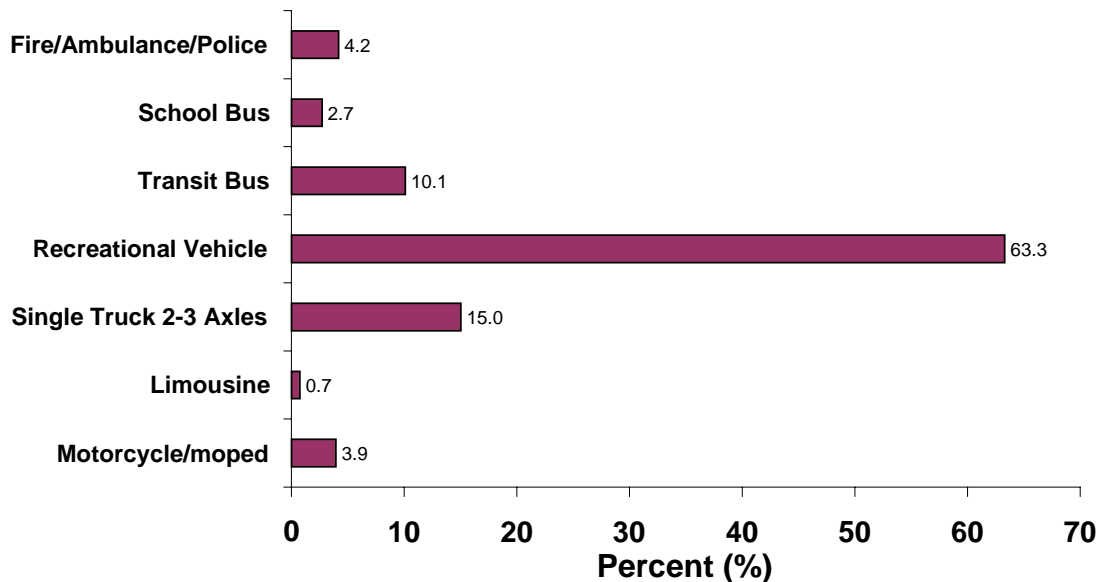
Characteristics of Crash Conditions

Time of day

A graph of pedestrian crashes by the time of day the crash occurred demonstrates two distinct peaks. The first and smaller of the two occurs in the early morning rush hours followed by a slight mid morning dip. Starting at noon, the frequency of encounters steadily rises until 5 PM when it peaks for the day and then gradually declines. This temporal pattern remains largely unchanged from the previous report. (Fig 12, below)

Figure 12

Pedestrian Crashes by Time of Day, Central Central Maryland, 2000-2003 vs. 2004-2006
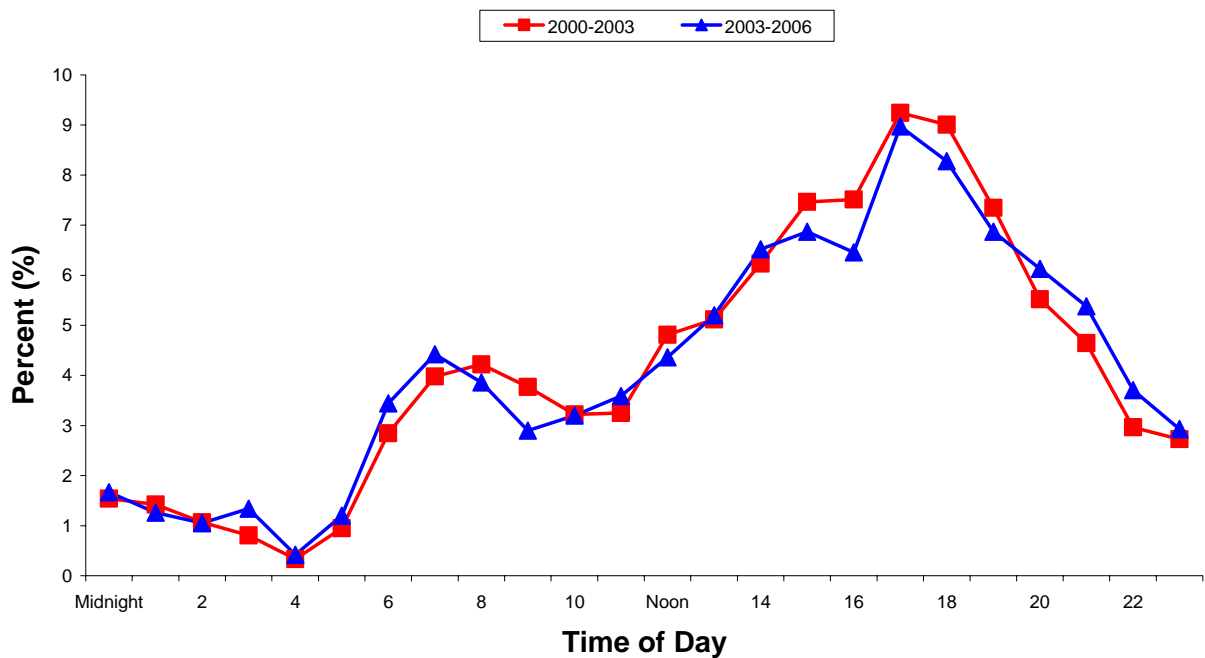
Location of Pedestrian Crash

Seventy-two percent of all pedestrian crashes occur somewhere other than at an
intersection where a cross walk might be available. (Fig 13, below).

Figure 13

Central Maryland Pedestrian Crashes by Type of Junction, 2004 - 2006
(N=3346)
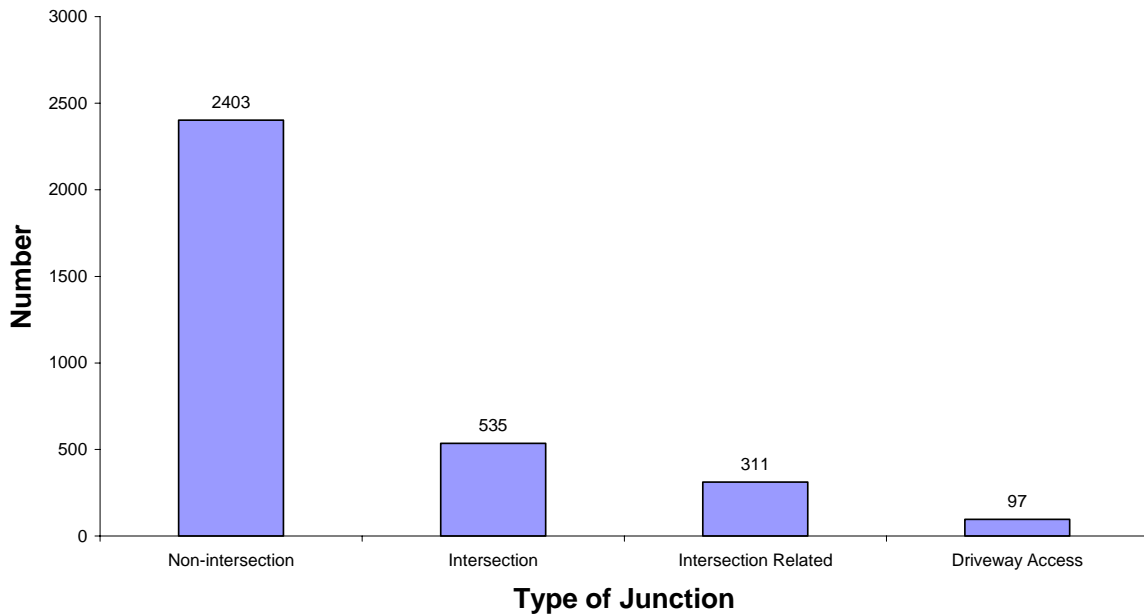
Pedestrian Crash Conditions

Conditions at the time of crash were largely favorable. It was daylight for 58% of the
crashes (Fig 14, below), road defects were absent in 97% of all crashes (fig 15, below),
the road surface was dry (Fig 16, below) and the weather was clear or cloudy in 81% and
86% of the cases respectively. (Fig 17 below)

Figure 14

Central Maryland Pedestrian Crashes by Light Conditions, 2004-2006

(n=3327)

Figure 15

Road Conditions as Factor in Pedestrian Crashes, Central Maryland, 2004-2006

(n=64)
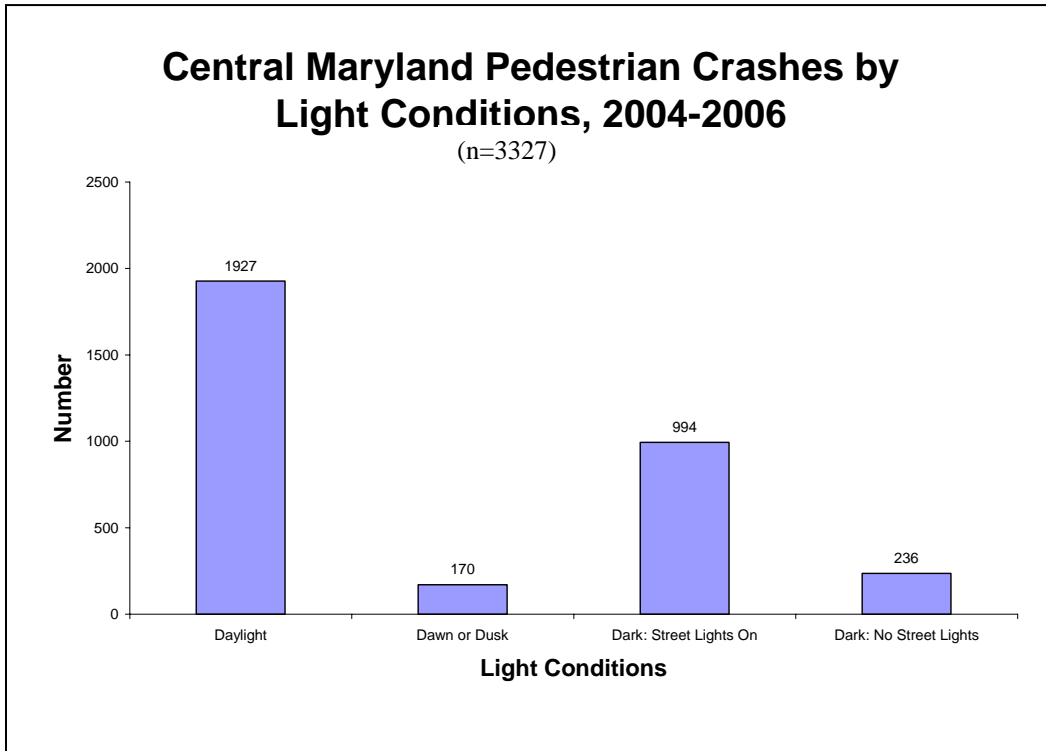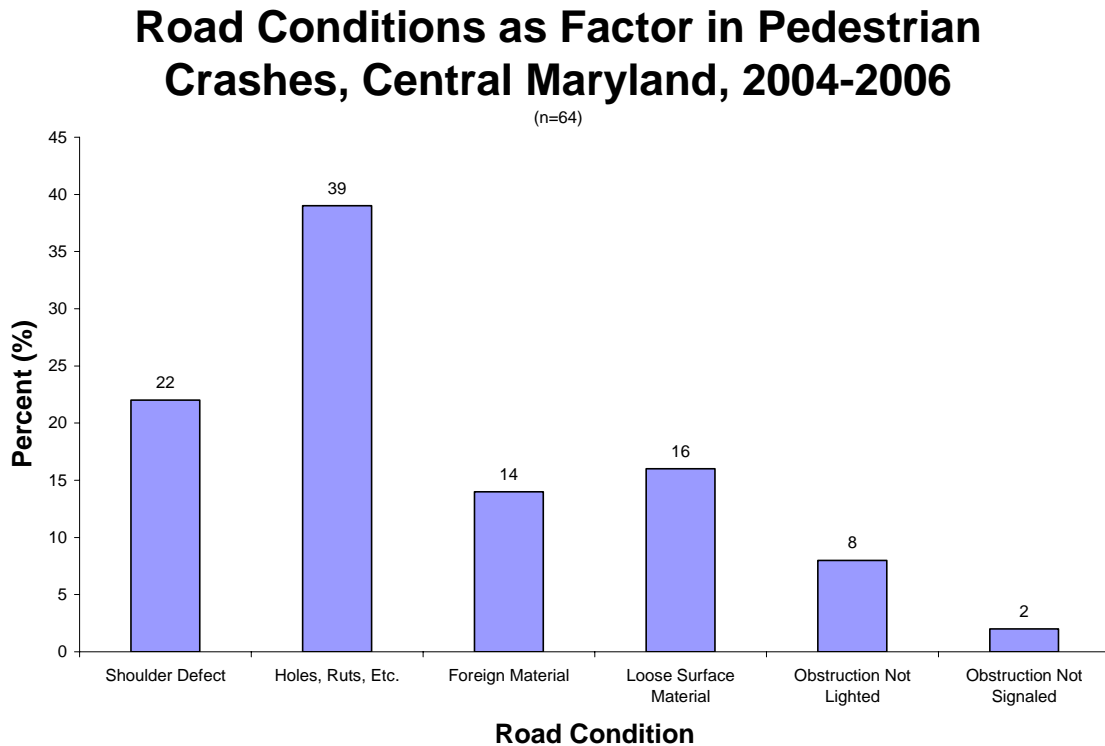
Figure 16

Central Maryland Pedestrian Crashes by Surface Condition, 2004-2006

(N=3316)
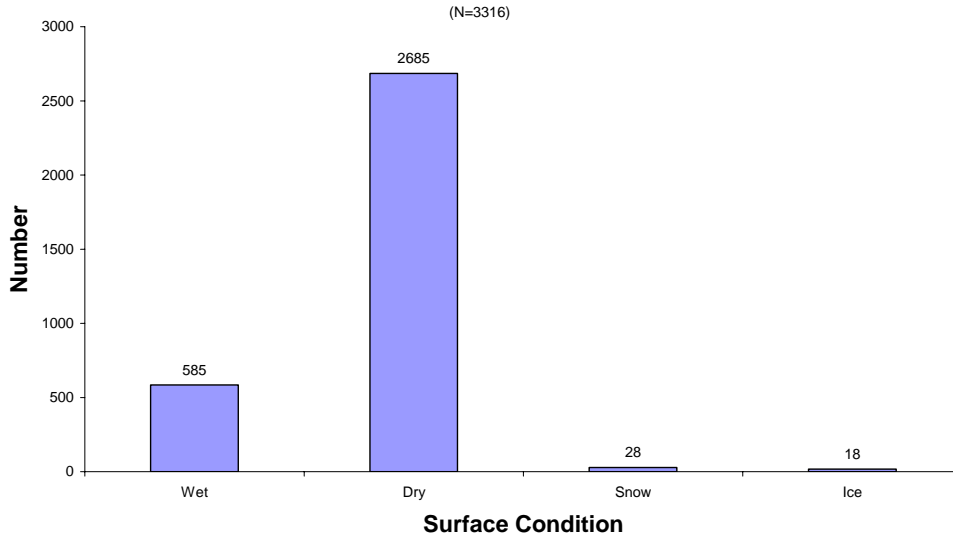
Figure 17

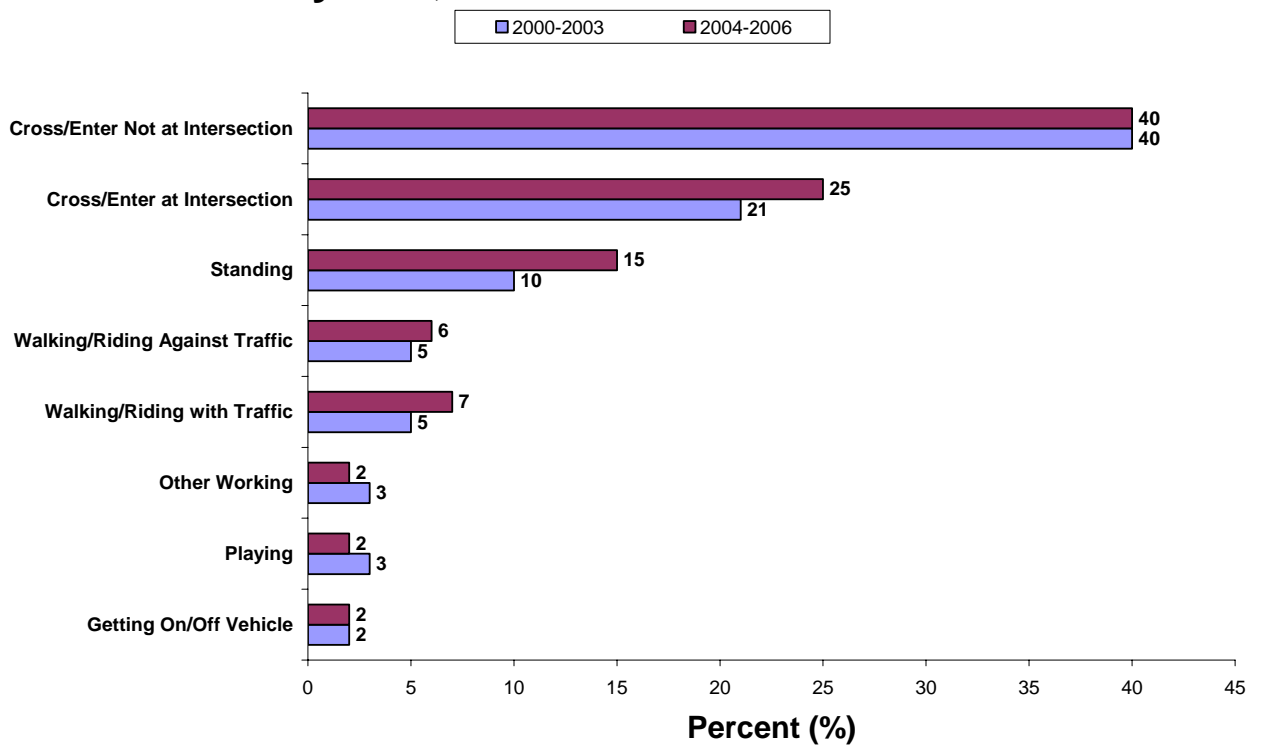## Central Maryland Pedestrian Crashes by Weather Type, 2004-2006

(N=3314)
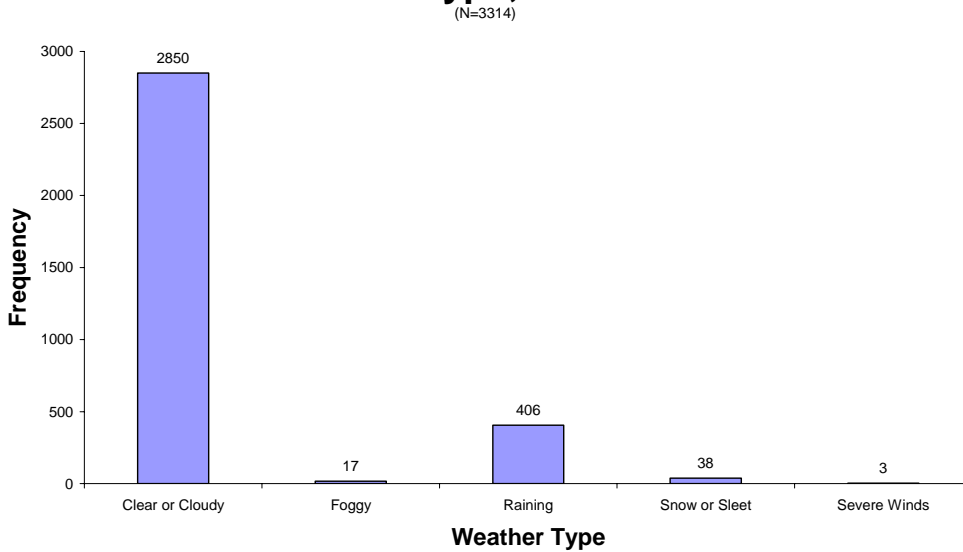
Characteristics of the Vehicle/Pedestrian Interaction

Pedestrian actions potentially contribute to a pedestrian crash. Pedestrians were most frequently crossing the highway somewhere other than at an intersection at the time of the crash (40%). Twenty-five percent were crossing at an intersection, 15 % were standing still and 13% were walking on the highway either with or against the traffic. (Fig 18, below).

Figure 18

Pedestrian Action Prior to Crash, Central Maryland, 2000-2003 vs. 2004-2006

□ 2000-2003   ■ 2004-2006

Pedestrian Action	2000-2003	2004-2006
Cross/Enter Not at Intersection	40	40
Cross/Enter at Intersection	21	25
Standing	10	15
Walking/Riding Against Traffic	5	6
Walking/Riding with Traffic	5	7
Other Working	3	2
Playing	3	2
Getting On/Off Vehicle	2	2

Percent (%)

Vehicles were most often moving at a constant speed, but backing up or making turns, (either right or left) was also frequently involved. (Fig 19, below).

Figure 19

## Central Maryland Pedestrian Crashes by Vehicle Movement, 2004-2004
(N=2889)
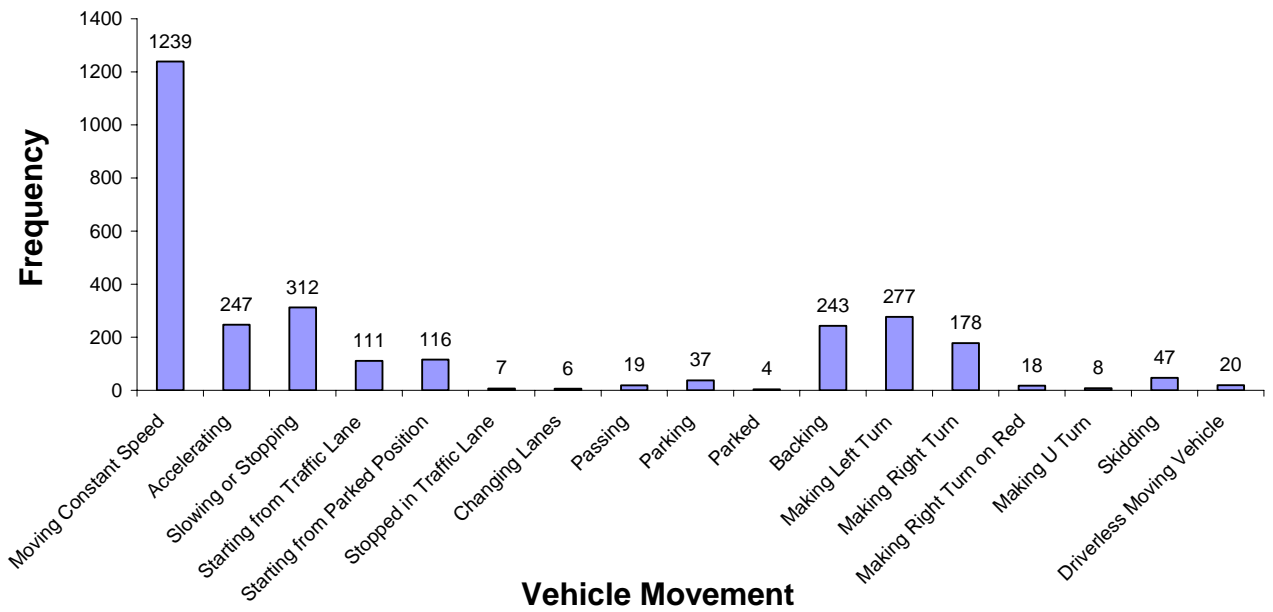
District of Columbia Findings

While injuries have been steadily decreasing since 2000, the pedestrian contribution to the total number of injuries has risen by 4%. This may be due to increasingly safe vehicle design which mitigates vehicle occupant injuries. Pedestrians have no such protective gear nor have most vehicles adopted designs which are safe for the objects they hit. (Fig 20, below).

Figure 20

Proportion of Pedestrian Injuries as Compared to all Traffic Injuries, Washington DC, 2000-2006
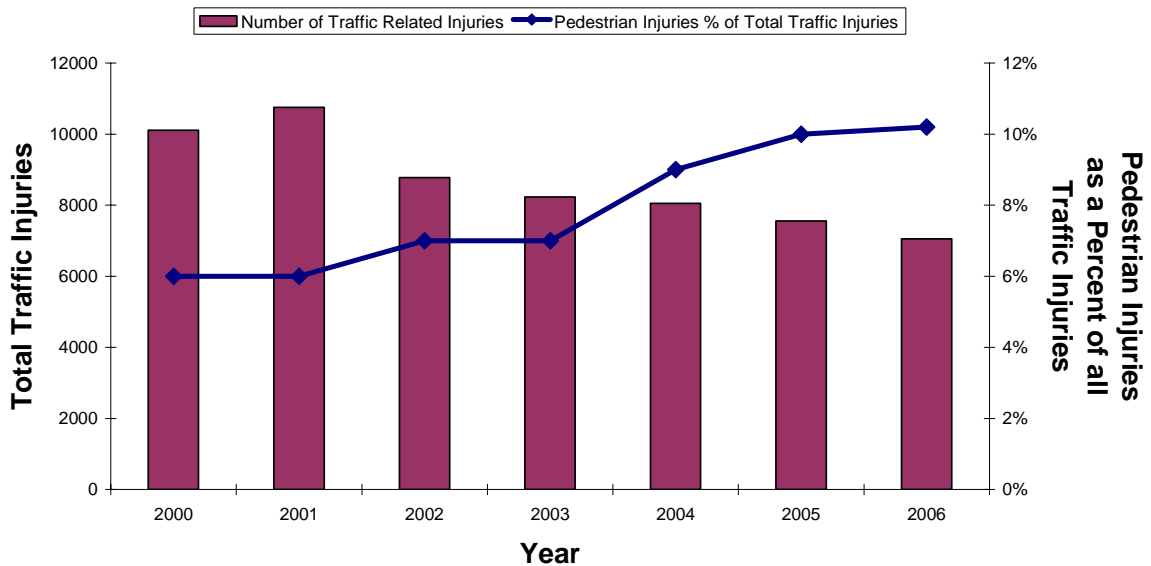
Although pedestrian involved crashes are much less frequent than other types of crashes they account for 32% of all traffic related fatalities. (Fig 21, below).

Figure 21

Traffic Fatalities, Washington DC, 2000-2003 vs. 2004-2006
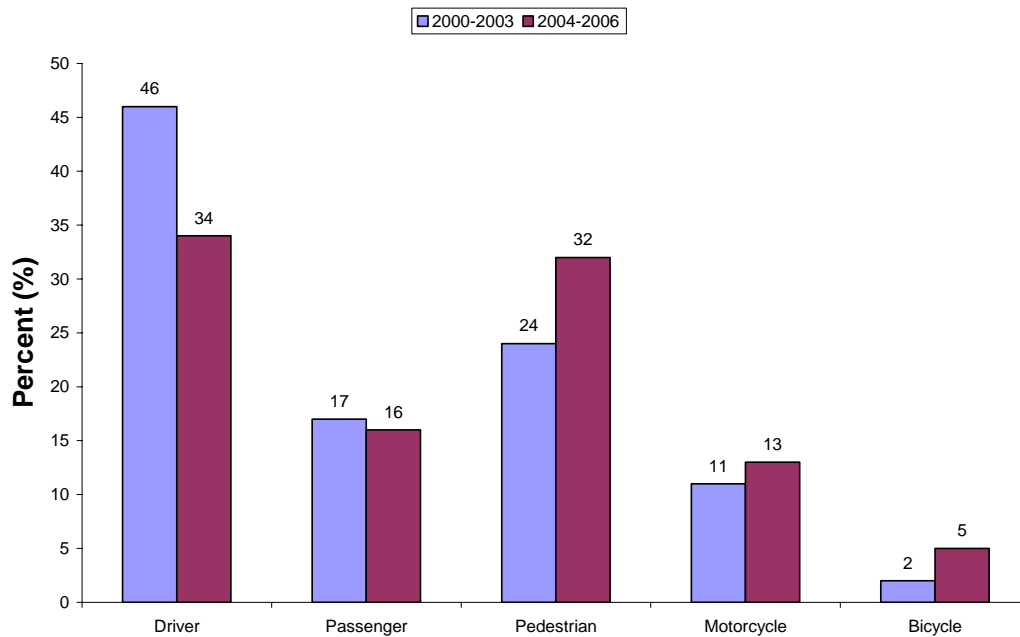
The number of pedestrian fatalities have varied by year from 8 to 19 but demonstrate no clear trend. (Fig 22, below).

The pedestrian injury rate per 10,000 population (estimated) has varied from 10.1 to 14.2 between 2001 and 2006 resulting in an overall upward trend in occurrence. Fig 23, below)

Figure 22

Traffic Fatalities,
Washington DC, 2000-2006
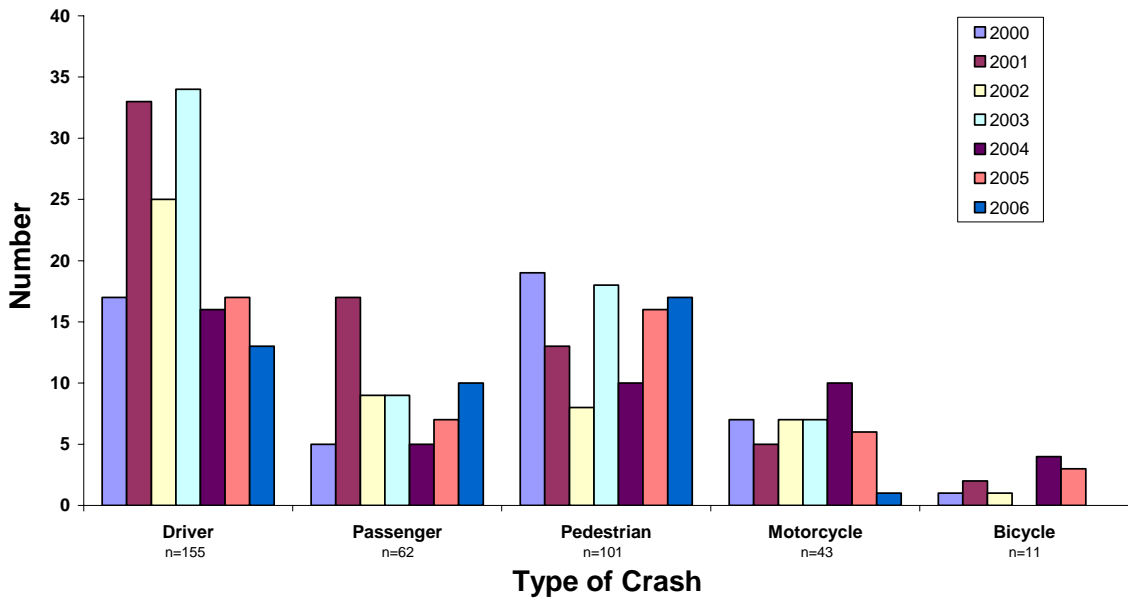
Figure 23

Pedestrian Injury Rate, Washington DC,
2001-2006
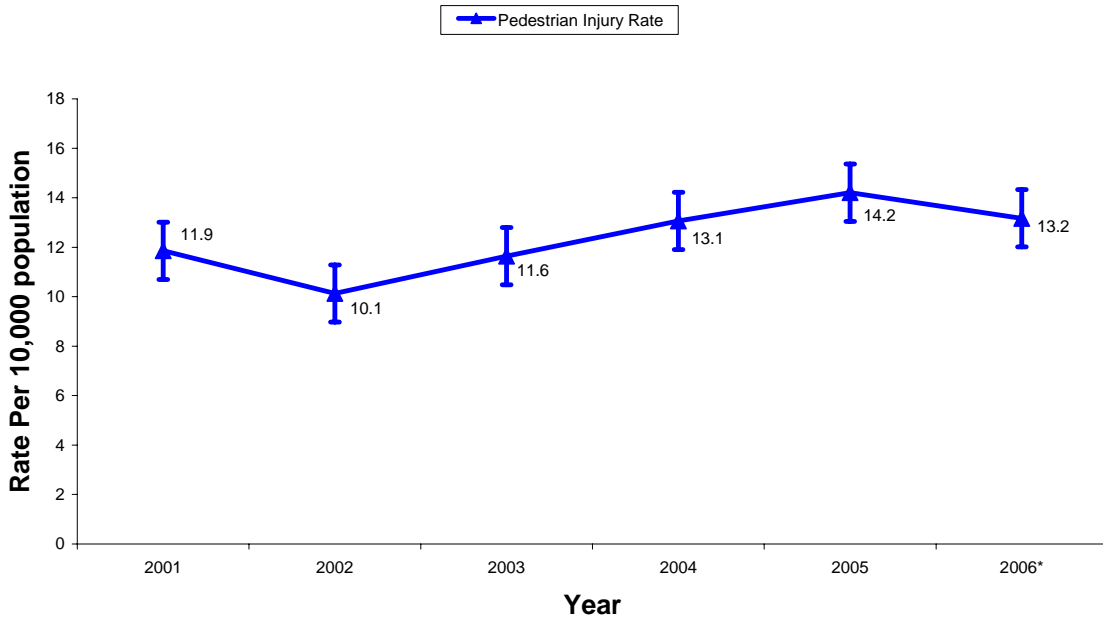
Characteristics of Crash Conditions

Pedestrian crashes are most frequent Monday through Friday as might be expected with the increased volume of traffic on those days. (Fig 24, below).

Figure 24

## Pedestrian Crashes by Day of the Week, Washington DC, 2000-2004 vs. 2005-2006
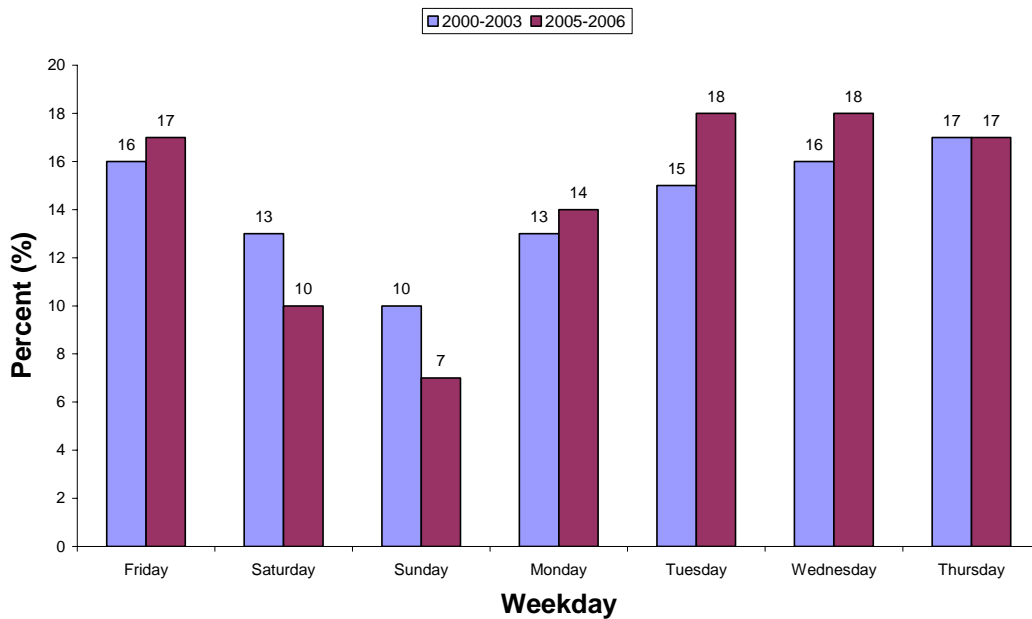
The greatest percentage of crashes occurs in May and June followed by a more gradual rise as school returns to session and the winter holidays approach in September through November. (Fig 25, below).

Most pedestrian crashes occurred during the daylight hours (65%) (Fig 26, below) and when traffic was judged to be either medium or light (80%). (Fig 27, below).

Figure 25

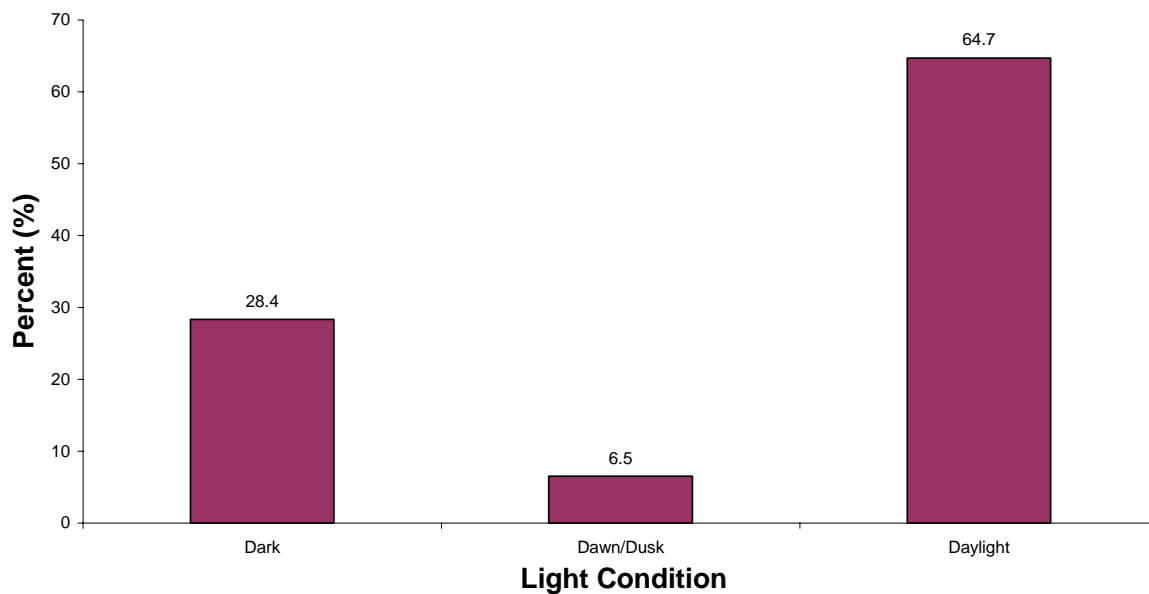## Seasonal Trends in Pedestrian Crashes, Washington DC, 2004-2006

(N=1505)
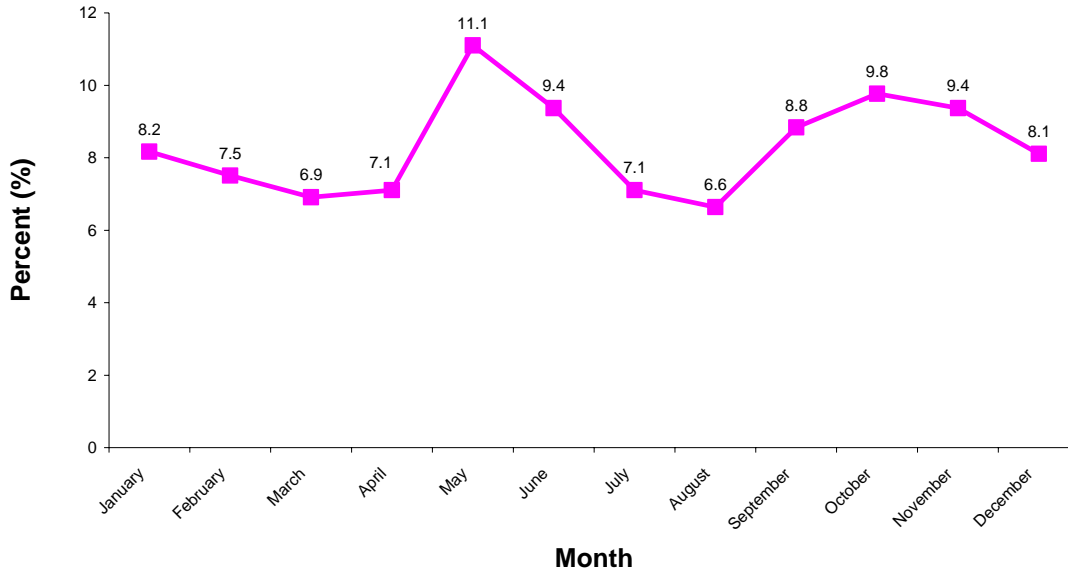
Figure 26

Light Condition at Pedestrian Crash, Washington DC, 2005-2006

(N=1485)

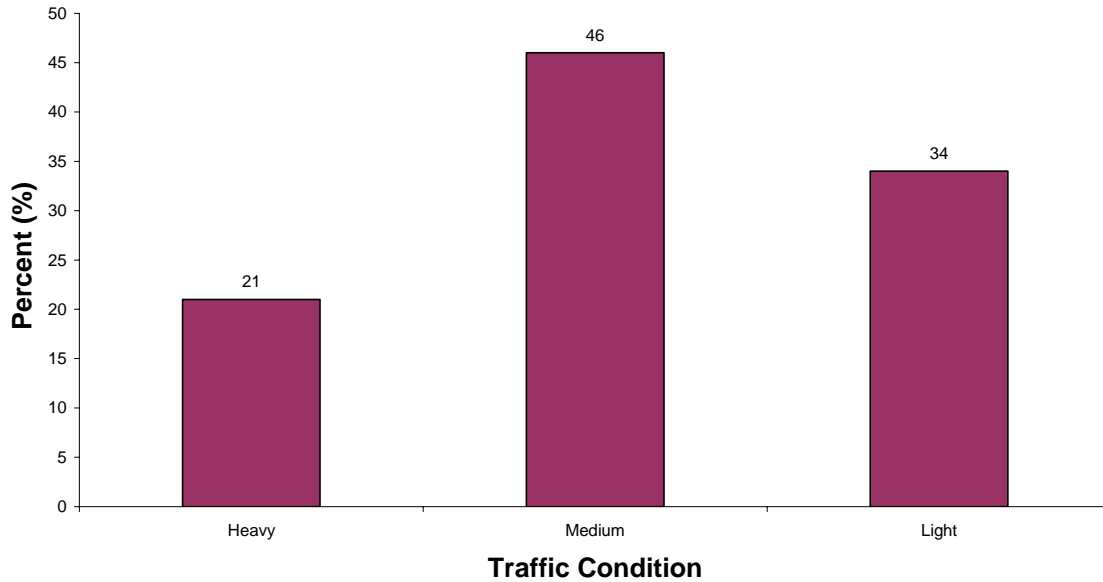# Figure 27

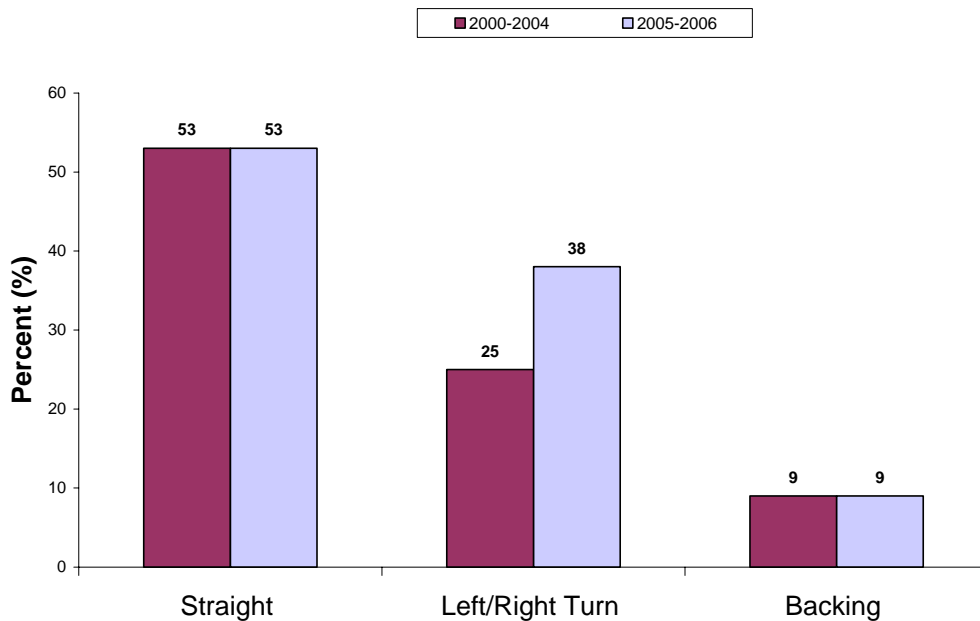## Traffic Congestion at Time of Pedestrian Crash, Washington DC, 2005-2006

(N=1321)

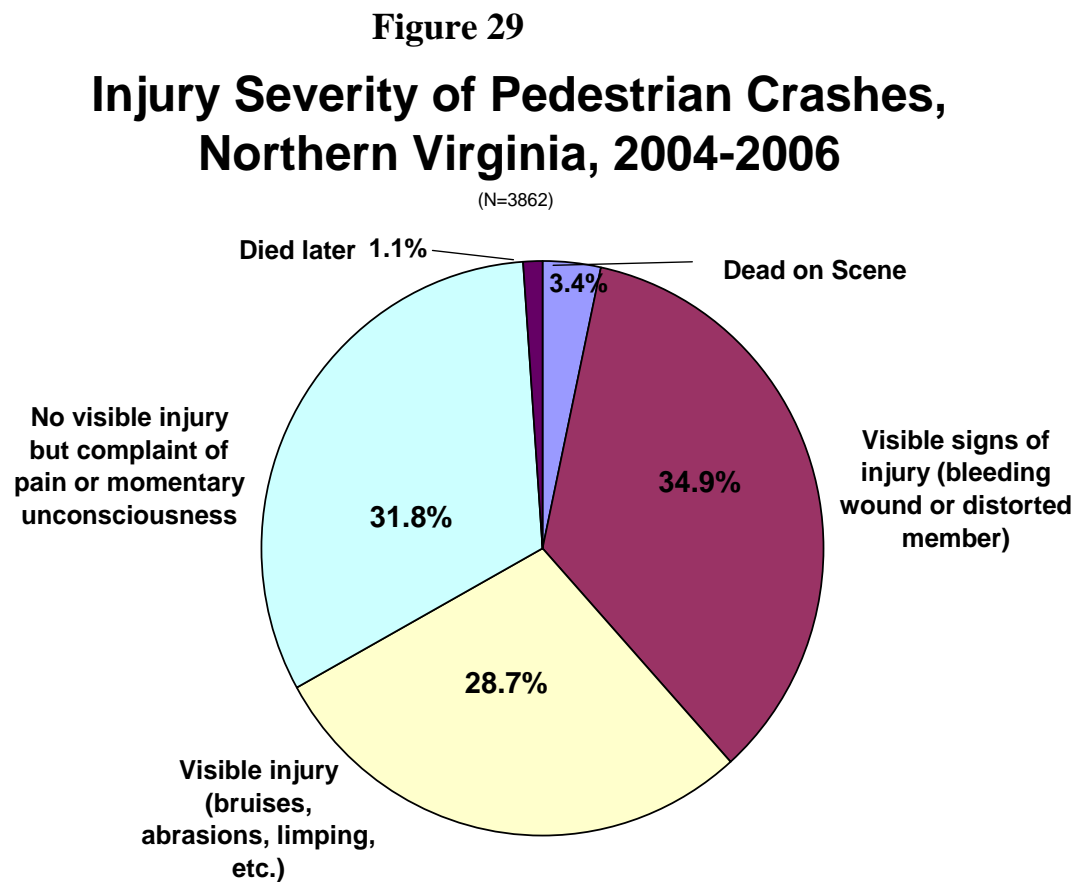In DC, most pedestrian crashes involved a vehicle traveling straight (Fig 28, below).

Figure 28

Pedestrian Crashes by Vehicle Maneuver, Washington DC, 2000-2004 vs. 2005-2006

Northern Virginia Findings

Virginia data from the police crash database were analyzed and are presented here. There were 3,870 pedestrian crashes in Northern Virginia between 2004 and 2006.

Three percent (n=132) of the pedestrians were dead on scene, 63% (n=2464) were visibly injured, 32% had no visible injuries (1232) and 1% (n=42) died later. (Fig 29, below)

Figure 29

Injury Severity of Pedestrian Crashes, Northern Virginia, 2004-2006

(N=3862)

Died later 1.1%

Dead on Scene

3.4%

No visible injury but complaint of pain or momentary unconsciousness

31.8%

Visible signs of injury (bleeding wound or distorted member)

34.9%

Visible injury (bruises, abrasions, limping, etc.)

28.7%

Characteristics of Pedestrians

Pedestrians age 15 to 24 accounted for 24% (n=968) of all pedestrian crashes, more than

any other age group (Fig 30).

Figure 30

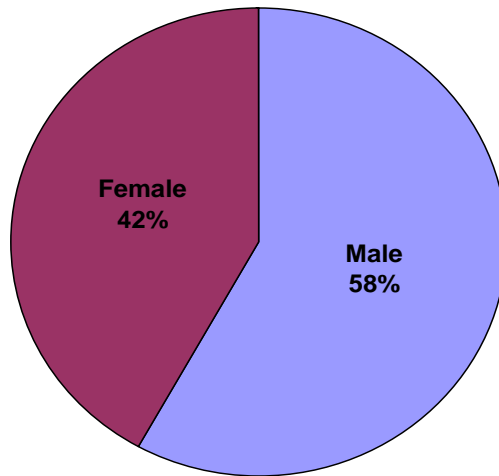# Pedestrian Age, Northern Virginia, 2004-2006

(N=3870)
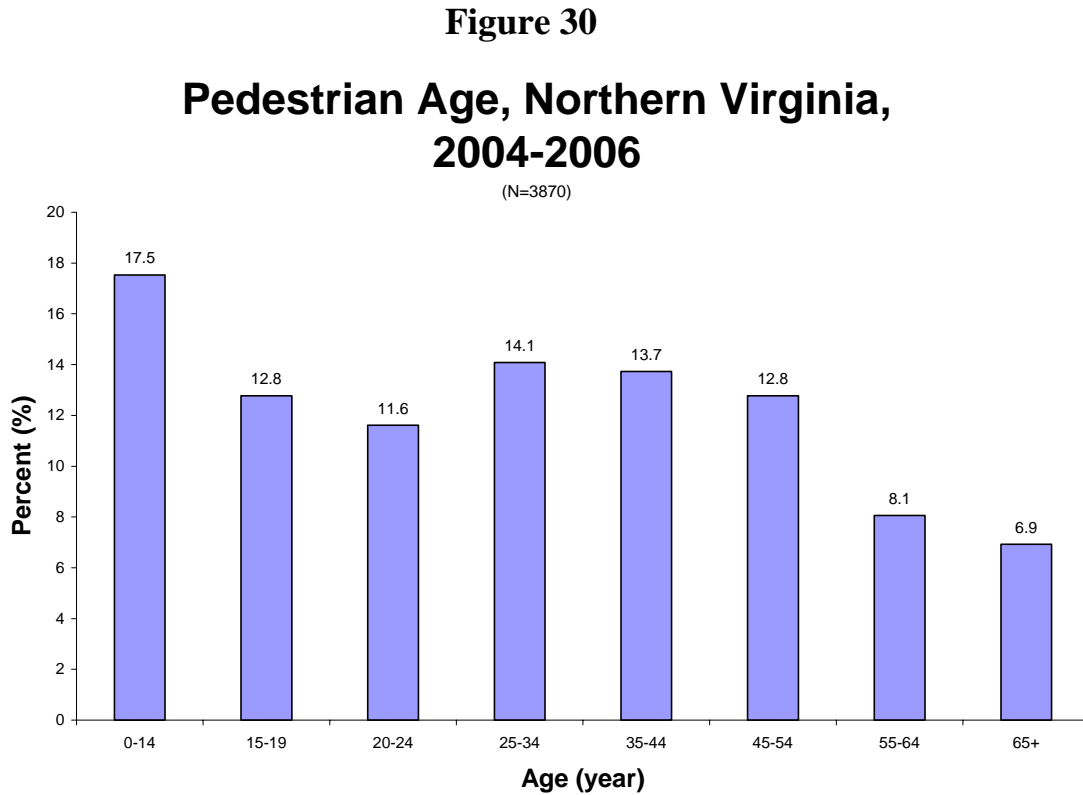
Fifty-eight percent of the pedestrians struck were male (Fig 31, below), 85% (n=2960)

had not been drinking. Six percent had been drinking and were impaired at some level.

(Fig 32, below).

Forty-five percent of pedestrians struck were attempting to cross the street while 30%

were either standing or walking on the roadway. (Fig 33, below).

Figure 31

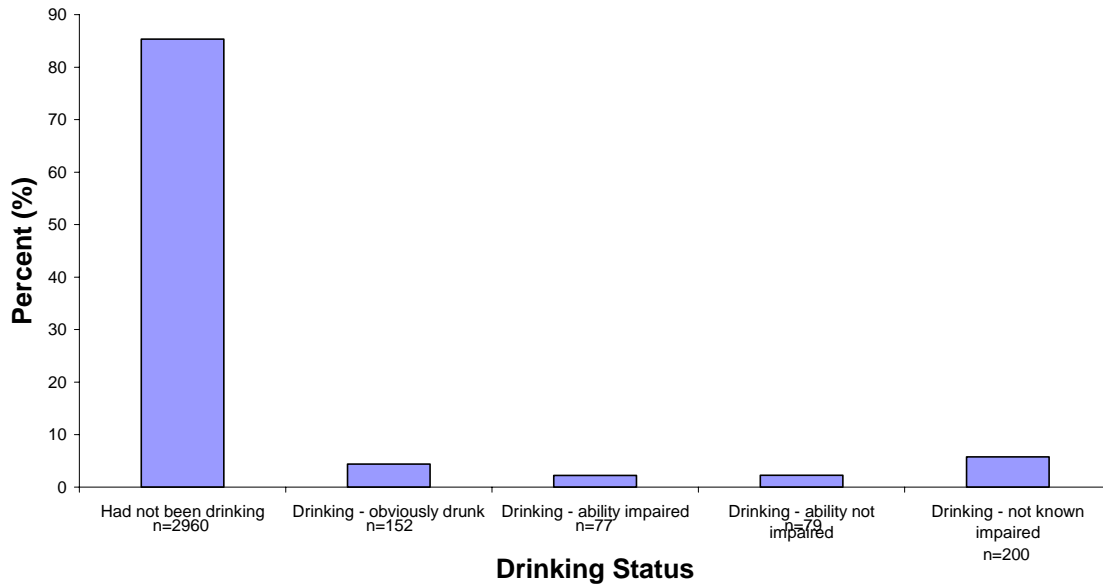## Northern Virginia Pedestrian Crashes by Gender of Pedestrian, 2004-2005

(N=3863)

Figure 32
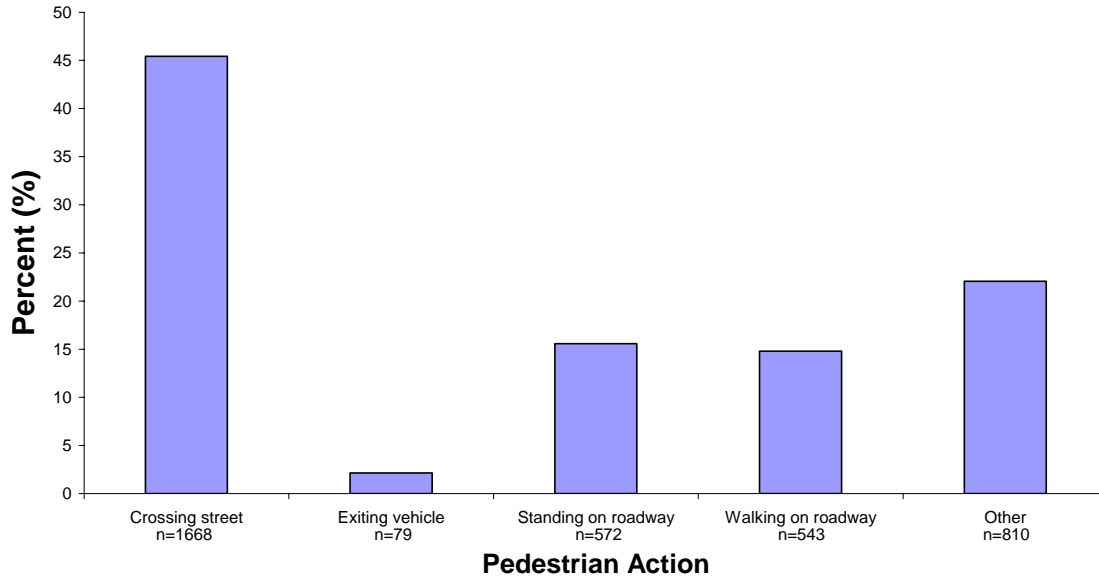
Pedestrian Drinking Status, Northern Virginia,2004-2006

(N=3468)

Figure 33

Pedestrian Action at Time of Crash, Northern Virginia, 2004-2006

(N=3672)

**Characteristics of Drivers Involved in Pedestrian Crashes**

Drivers between the ages 24 and 44 were most frequently involved in pedestrian crashes. Very young drivers and drivers 65 years of age and older each accounted for less than 10% of all pedestrian crashes. (Fig 34, below).

Forty-nine percent of the drivers are male, 32% female and 19% are listed as "unknown". (Fig 35, below)

Figure 34

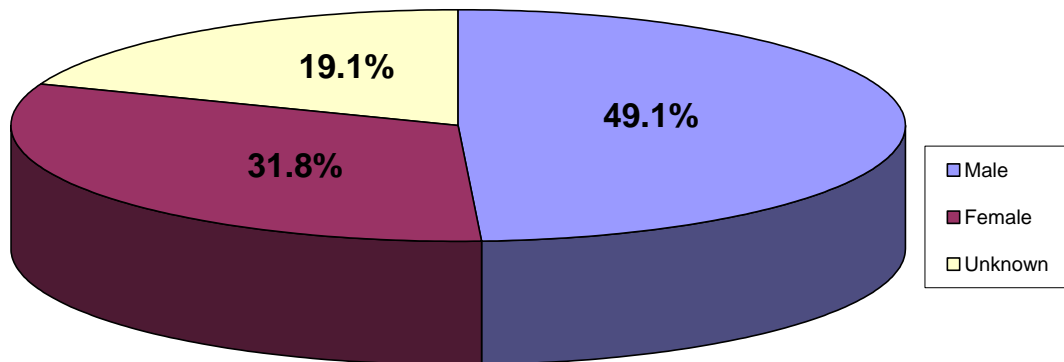# Age of Drivers Involved in Northern Virginia Pedestrian Crashes, 2004-2006

N=1895
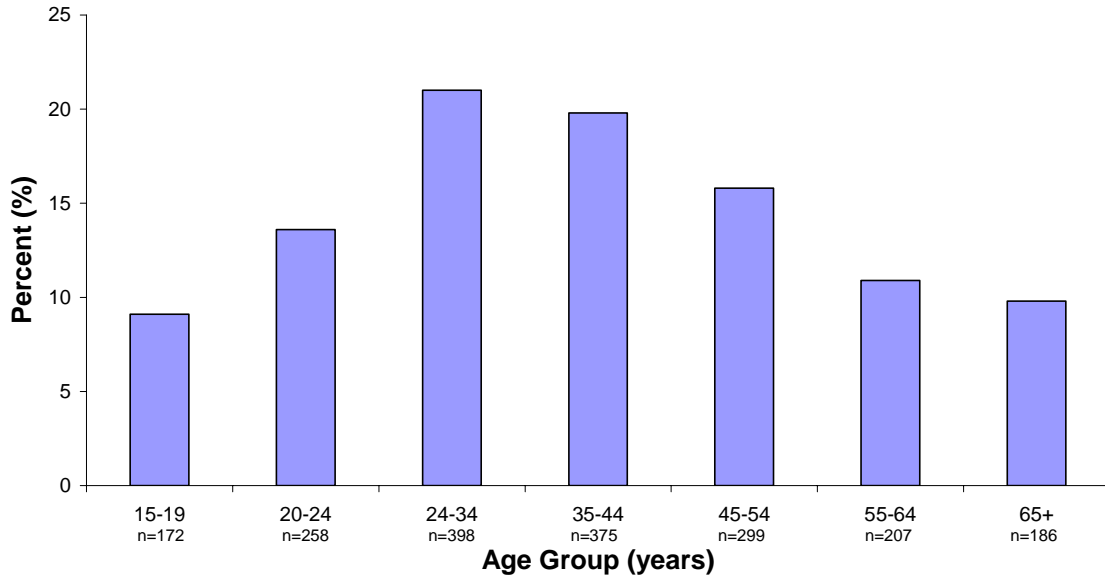
Figure 35

Gender of Drivers Involved in Pedestrian Crashes, Northern Virginia, 2004-2006
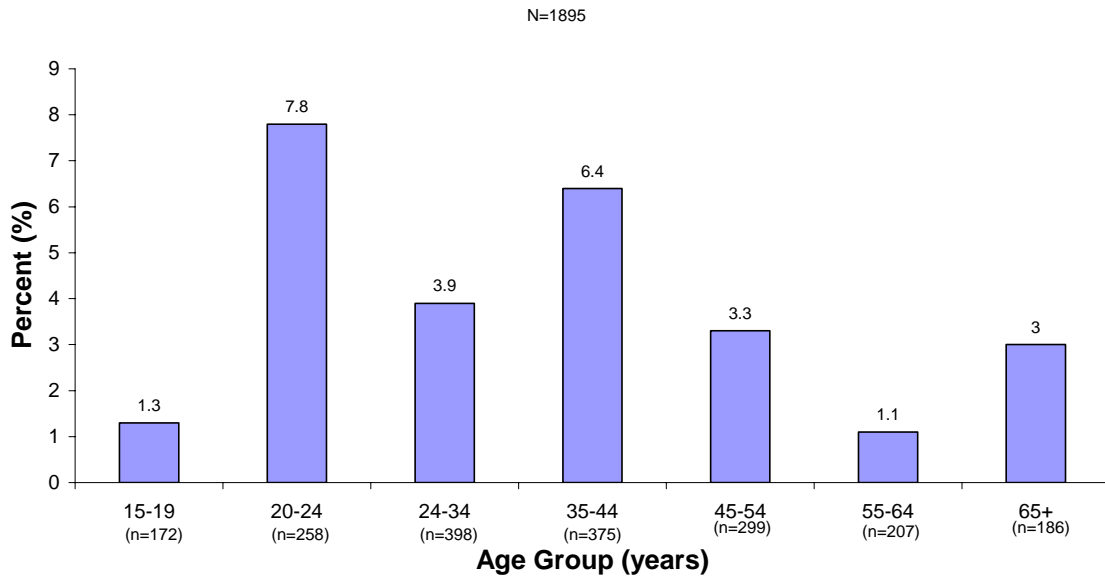
N=1895

Ninety-five percent of drivers were not under the influence of alcohol at the time of the crash. This varied by age (1.3% to 7.8%). Drivers aged 15 to 19 years had the lowest rate while those aged 20 to 24 year had the highest (fig 36., below).

Figure 36

Age of Alcohol Impaired Drivers Involved in a Pedestrian Crash, Northern Virginia, 2005-2006
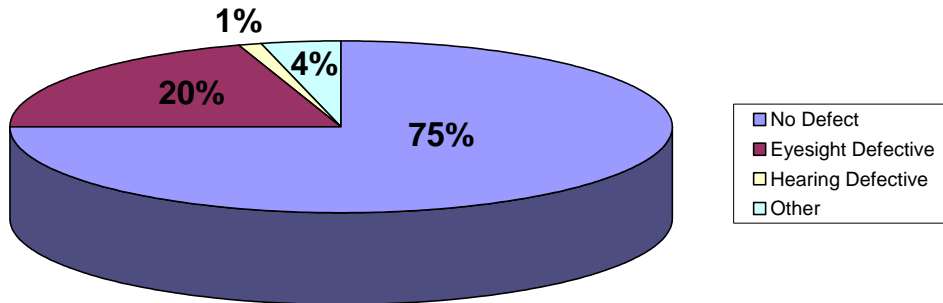
N=1895

Seventy-five percent of drivers had no physical impairment at the time of the crash, 20% had defective eyesight and 4% were ill, fatigued or had fallen asleep (Fig 37, below).

Figure 37

Physical Condition of Driver at the Time of Pedestrian Crash, Northern Virginia, 2004-2006
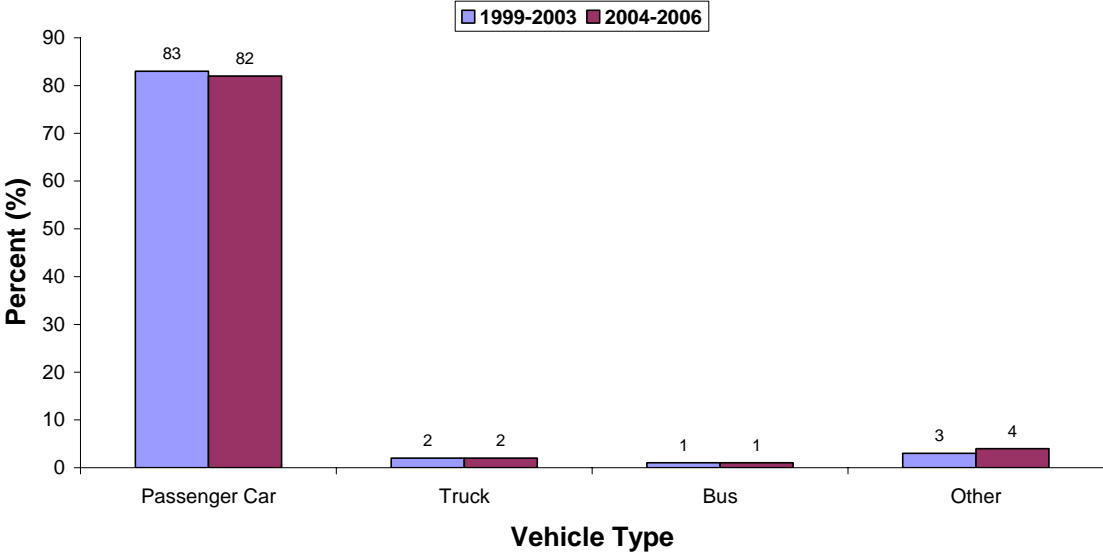
N=1734

Passenger vehicles accounted for the vast majority of pedestrian crashes. The proportion of crashed involving a truck or bus has remained stable since the earlier report.

Figure 38

Pedestrian Crashes by Vehicle Type, Northern Virginia, 1999-2003 vs. 2004-2006

RECOMMENDATIONS

Pedestrian injury is a real source of injury and death in the District of Columbia
Metropolitan Area (DCMA). With a pedestrian killed in our region every 4.4 days and
5.6 pedestrians injured in our region each day, continued efforts to ameliorate this
situation are justified. It should be recognized that the problem of pedestrian injury is
complex with many contributing factors and variables. It is therefore unlikely that any
one simple solution will suffice. As a result, a long term, multi-faceted, region-wide
effort involving many individuals, groups and agencies is likely required to adequately
address the problem.

The findings of this report would support a number of actions including:

1) PUBLIC EDUCATION: in the DCMA, most pedestrian injury involves an
   unimpaired driver striking an unimpaired pedestrian in daylight hours. Voluntary
   actions on the part of one or both of the driver and pedestrian are causing the
   pedestrian injury and may be influenced by effective educational campaigns.

2) ROADWAY DESIGN ENHANCEMENTS: pedestrians continue to be struck
   most often at locations other than at an intersection where a designated pedestrian
   crossing may provide pedestrians with some protection. Developing strategies to
   limit the exposure of pedestrians to unsafe activity may decrease their chance of
   injury.

3) LEGISLATION/ENFORCEMENT: legislative initiatives designed to promote
   pedestrian safety may be effective in reducing injuries. Since both drivers and
   pedestrians may be at fault, these efforts should be directed at both parties. There

are currently a variety of pedestrian friendly laws in place especially in DC. Enforcement is obviously a necessary adjunct to any such efforts.

4) DATA MANAGEMENT: We make note of the need to develop a more standardized approach to data collection in this field. Our analysis is significantly limited by the different ways in which jurisdictions collect and maintain their data on pedestrian injury. An organized region wide effort to improve data management will make it significantly more likely that we will note important trends, find causative links and identify effective prevention strategies. A possible practical solution that would allow standardized, region-wide data management while preserving the ability of each jurisdiction to meet its own needs and pursue its own agenda would include:

  a. Development of a consensus "**core dataset**" that all jurisdictions would collect and maintain electronically. Additional datapoints would be customized per each jurisdiction's preferences.

  b. Creation of a central "**data warehouse"** for data accrual and maintenance.

  c. An **electronic portal** providing online data entry and retrieval. This site would allow secure data input and streamline the process of data collection across jurisdictions. Using password protection and data encryption, the site would also allow authorized users to obtain pre-formatted reports and perform customized queries. Data would be available in near real-time fashion.

In conclusion, pedestrian injury continues to be an important public safety and injury control problem in the DCMA. Continued efforts are needed to decrease the burden of

this injury in our region especially in light of continued population growth and

congestion.