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Abstract During its 1989 session, the Virginia General Assembly passed House Joint Resolution No. 419. The Resolution requested that Virginia's pedestrian safety laws be studied and that recommendations for revisions of those laws be made to improve pedestrian safety. Data concerning motor vehicle crashes involving pedestrians, for the period from 1986 through 1988, were obtained and analyzed. During these 3 years, 389 pedestrians were killed, and 6,540 were injured. Pedestrians accounted for over 12 percent of the fatalities and nearly 3 percent of the injuries resulting from motor vehicle crashes. The analysis of the data identified specific pedestrian, location, driver, and vehicle crash characteristics. It was found that nearly 90 percent of the pedestrians killed and 78 percent of those injured were over 9 years old. They were either not using crosswalks when crossing the roadway, or were walking along the roadway, or were standing or working in the roadway. Nearly 55 percent of the pedestrians killed and 83 percent of those injured were in business and residential areas. Hit-and-run, speed limit violations, inattention, and avoiding maneuvers were the primary driver actions cited. The vehicle was going straight ahead in over 70 percent of the cases when a pedestrian was killed or injured. The Code of Virginia was analyzed as it applied to the rights, duties, and responsibilities of both pedestrians and motorists and as it addressed the pedestrian crash problem. It was found that the Code does not address several problems and deals inadequately with others. The following changes were suggested: o add six definitions o clarify pedestrian right of way in crosswalks o require drivers to yield to pedestrians on sidewalks o require pedestrian obedience to traffic control devices o prohibit passing a loading or unloading bus on the right o prohibit certain pedestrian actions at railroad crossings o regulate pedestrian crossing behavior at locations other than crosswalks o regulate pedestrian use of the highways o detail pedestrian response to emergency vehicles o require both motorists and pedestrians to use due care.				

THE PEDESTRIAN IN THE TRANSPORTATION SYSTEM:
LEGISLATION FOR IMPROVED TRAFFIC SAFETY

A Report to the Governor and General Assembly of Virginia
in Response to House Joint Resolution No. 419

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(The opinions, findings, and conclusions expressed in this
report are those of the authors and not necessarily those of
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EXECUTIVE SUMMARY

During its 1989 session, the Virginia General Assembly passed House Joint Resolution No. 419. The Resolution requested the Transportation Safety Administration of the Department of Motor Vehicles "to study Virginia's pedestrian safety laws and to recommend appropriate revisions of those laws to improve pedestrian safety."

Pedestrian/motor vehicle crash data for the period from 1986 through 1988 were obtained and analyzed. During these 3 years, 389 pedestrians were killed and 6,540 were injured. Pedestrians accounted for over 12 percent of the fatalities and nearly 3 percent of the injuries resulting from motor vehicle crashes.

Data related to nine pedestrian, vehicle, and roadway crash characteristics were obtained to determine their level and frequency in pedestrian/motor vehicle crashes. After a preliminary review of the data, it was determined that only an analysis of pedestrian age, crash location, vehicle maneuver, driver action, and pedestrian action would provide information useful in detailing pedestrian/motor vehicle safety problems that might be resolved by changes to the Code of Virginia.

The analysis of the data identified specific pedestrian, location, and driver/vehicle characteristics associated with pedestrian/motor vehicle crashes. The pedestrian age data show that nearly 90 percent of those killed and 78 percent of those injured were over 9 years old. When pedestrians were involved in a crash, not using crosswalks when crossing the roadway, walking along the roadway, or standing/lying/working in the roadway were the most frequent pedestrian actions recorded. Nearly 55 percent of the pedestrians killed and 83 percent of those injured were killed or injured in business and residential areas. Hit-and-run, speed limit violations, inattention, and avoiding maneuvers were the primary driver actions when drivers were cited for violations. The vehicle was going straight ahead in over 70 percent of the cases when a pedestrian was killed or injured.

The Code of Virginia was analyzed as it applies to the rights, duties, and responsibilities of both pedestrians and motorists and as it addresses the pedestrian crash problem. It was found that the Code does not address several problem situations and deals inadequately with others. The following changes are suggested to Chapter 8 of the Code:

- o adding six definitions
- o clarifying pedestrian right of way in crosswalks
- o requiring drivers to yield to pedestrians on sidewalks

- o requiring pedestrian obedience to traffic control devices
- o prohibiting passing a loading or unloading bus on the right
- o prohibiting certain pedestrian actions at railroad crossings
- o regulating pedestrian crossing behavior at locations other than crosswalks
- o regulating pedestrian use of the highways
- o detailing pedestrian response to emergency vehicles
- o requiring both motorists and pedestrians to use due care

The attached report is organized into four sections: (1) the introduction, purpose, and method; (2) the analysis of Virginia crash data; (3) a discussion of changes in the Code to improve pedestrian safety; and (4) the specific proposed changes to the Code.

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A Report to the Governor and General Assembly of Virginia
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INTRODUCTION

As a result of House Joint Resolution No. 419 (1989 Session), the Transportation Safety Administration of the Department of Motor Vehicles was requested "to study Virginia's pedestrian safety laws and to recommend appropriate revision of those laws to improve pedestrian safety" (see the Appendix for a copy of the resolution).

Since increased numbers of citizens have taken to walking and jogging for exercise and travel, concern over pedestrian safety has been a topic of discussion among citizen groups, highway safety professionals, members of the General Assembly, and other interested groups in recent years. These concerns were made especially acute after enactment of Virginia's Right-Turn-on-Red law in 1976, which allowed these turns except where expressly prohibited. Because of these concerns, there was a need to determine whether there had been an increase in pedestrian deaths and injuries.

There also were questions about whether other sections of the Code of Virginia provided for sufficient safety for pedestrians. In a study evaluating the nature, characteristics, and severity of crashes involving pedestrians in Virginia, it was concluded that changes were needed in the state's traffic laws to improve the level of protection for pedestrians (Eilenberger, 1981). This study also included a comparison of the Code with the codes of several other states and with the Uniform Vehicle Code. It was revealed that there were a number of areas where the Code of Virginia could be changed to emphasize the protection of pedestrians in the traffic stream.

The Eilenberger study and a later study by Stoke and Williams (1981) each analyzed data on crash characteristics associated with pedestrian/motor vehicle crashes. These studies reported that there were specific

characteristics of pedestrian and driver behavior that resulted in pedestrian death and injury. The studies concluded that changes to the Code might result in increased pedestrian safety. Both studies detailed where changes in the statutes should be considered and proposed revisions where appropriate.

The National Committee on Uniform Traffic Laws and Ordinances has emphasized that traffic laws must be (1) comprehensive, so that all highway users know what is expected of them and what to expect of others in traffic; (2) understandable, so that motorists and pedestrians can readily know what behavior is required to observe the laws; and (3) reasonable, so that they will induce compliance (Fisher, 1974). It was determined that these three standards would be used to evaluate the current language of the Code and the language of any changes or additions to it.

PURPOSE

The primary purposes of this project were: (1) to collect and analyze pedestrian/motor vehicle crash data, (2) to review the statutes related to pedestrian safety, and (3) to suggest changes to the Code of Virginia as appropriate.

METHODOLOGY

Because the current study is a result of the findings of earlier studies of pedestrian safety in Virginia, the studies by Eilenberger and by Stoke and Williams were used to establish how much data was needed for analysis. These studies contained extensive data analysis and proposed many revisions to the Code of Virginia. The state system used to capture and store crash data has been extensively modified in the intervening years. In addition, years of discussion have shown that not all of the earlier proposed revisions to the Code may now be necessary. In considering the changes to the data base and the need for changes to the Code, it was determined that current data needs were not as extensive as those for 1981.

Because of a continuing concern for pedestrian safety, the DMV established a pedestrian safety advisory committee several years ago. Concerns about pedestrian safety have also been expressed by members of the Transportation Safety Board, and the research staff has been involved in discussions with them. In addition, the researchers have met with

other parties with an interest in this issue, including representatives of the Medical Society of Virginia, AAA, private citizens, and a member of the General Assembly.

During the 1989 session of the legislature, a package of changes to the Code resulting from the work of the Code Commission was enacted into law. Therefore, a second task of the project was to determine whether the language of the new statutes is practically different from that of the statutes they replaced and whether the changes affect pedestrian safety.

The third and final task was to determine whether the current Code adequately and clearly defines the rights, duties, responsibilities, and actions of highway system users and to develop provisions that would remedy any problems discovered. The new and revised statutes proposed herein clearly define the actions of motorists and pedestrians in specific situations to provide increased safety for both groups.

ANALYSIS OF VIRGINIA CRASH DATA

The data utilizing the relevant vehicle, roadway, and pedestrian characteristics necessary to analyze pedestrian crash involvement were not available from published sources. As a result, a special request was submitted to the Evaluation Division of the Department of Motor Vehicles' Transportation Safety Administration to obtain the data needed for this analysis. A special run of the Centralized Accident Processing System file was required to obtain the necessary data. This file is composed of data contained on the FR300 crash report form filed by police officers after they have completed their investigation of a motor vehicle crash.

Fatality and injury data for 1986, 1987, and 1988 categorized by nine crash characteristics were furnished. After an initial review of the data, it was determined that an analysis of pedestrian age, crash location, vehicle maneuver, driver action, and pedestrian action would provide information useful in detailing pedestrian/motor vehicle safety problems that could be resolved by changes to the language of the Code of Virginia.

In addition, this review of the data revealed that there was little year-to-year variation in the crash rates in subcategories of these characteristics. Because of this lack of change over time, it was determined that the data would be more useful if they were combined into a 3-year figure to show the magnitude of the problem in terms of pedestrians killed and injured. A 3-year figure also more clearly shows which subcategories of the crash characteristics were the major contributing factors to pedestrian death and injury.

It is apparent from the data in Table 1 that a significant number of pedestrians are killed in Virginia. Over the past 3 years, a total of 389 pedestrians were killed. The number of pedestrians killed during this 3-year period was greater than the number of persons killed who were operating 2-wheeled vehicles (bicycles, mopeds, and motorcycles). In addition to pedestrians killed in traffic crashes, the number of pedestrians injured during the 1986 through 1988 period is also cause for concern for the safety of the walking public. There were 6,540 pedestrians injured to a degree sufficient to require a motor vehicle crash report to be filed with the state. From 1986 through 1988, pedestrians accounted for 12.1 percent of all persons killed and 2.8 percent of those injured in motor vehicle crashes.

TABLE 1

Pedestrian Motor Vehicle Crash Severity
1986-1988 Aggregated Data

<u>Severity</u>	<u>Number</u>	<u>Percent</u>
Fatal	389	12.1%
Injury	6,540	2.8%

Because pedestrian death and injury are a severe highway safety problem in Virginia, data on the five crash characteristics previously listed were analyzed to identify the subcategories associated with the greatest proportion of crashes. At the conclusion of the data analysis, there is a summary of the major findings related to these crash characteristics and narrative relating these findings to safety problems that might be remedied by changes to the Code.

Ages of Pedestrians

There are two caveats with respect to data categorized by age. First, the number of years encompassed by each of the age brackets is not the same in all cases, and fatality and injury counts and rates are not evenly distributed among the brackets. Second, there are differences in the numbers of persons in the general population in the various age brackets and differences in their daily activities and exposure to a crash, and these two factors could cause differences in the rates of pedestrian/motor vehicle crash involvements not directly attributable to age. These factors create some problems in the interpretation of the data.

There were 13 pedestrians in the preschool group (0-4 years) who were killed, which is 3.3 percent of the total number of fatalities. The

number of preschool pedestrians who were injured (388) gives rise to concern for the safety of very young children, even though they accounted for fewer than 6 percent of all injured pedestrians. In addition, the next youngest age group (5-9 years) accounted for just over 5 percent (20) of the deaths and 13 percent (863) of the injuries during the 3-year period. Nearly 90 percent of the deaths and 78 percent of the injuries were to persons over the age of 9 years.

TABLE 2

Ages of Pedestrians Killed and Injured
1986-1988 Aggregated Data

<u>Age</u>	<u>Killed</u>		<u>Injured</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
0-4	13	3.3	388	5.9
5-9	20	5.1	863	13.2
10-14	19	4.9	656	10.0
15-19	26	6.7	827	12.6
20-25	51	13.1	831	12.7
26-35	58	14.9	1,062	16.2
36-45	41	10.5	651	9.9
46-55	35	9.0	413	6.3
56-65	39	10.0	304	4.6
66-70	19	4.9	108	1.7
70 +	60	15.4	250	3.8
Not Stated	8	2.1	187	2.9
TOTAL	389	99.9	6,540	99.9

Pedestrians over 65 years old accounted for over 20 percent (79) of the pedestrians killed but less than 6 percent (358) of those injured. The age group of those 70 years and older showed the highest rate of fatalities over the 3 years--slightly more than 15 percent. The results of other published research on pedestrian death and injury have shown that this high fatality rate results from the physical condition of persons over 65 whose ability to withstand trauma is lower.

An important conclusion can be drawn from the data in Table 2. Because most pedestrian deaths and injuries involve persons over 9 years old, it could be expected that such persons would be able to read and understand changes made to the statutes and any public information and education programs developed to explain the legislative changes.

While proposed changes to the Code might not be expected to reduce the injury rate of those under 9 of age years (19 percent) or the rate of

those over age 65 who were killed (20 percent), the data do show areas of concern and indicate where engineering or education might be effective.

Location of Crash

The data in Table 3 categorize pedestrian deaths and injuries by the location of the crash. Just over 34 percent (134) of those killed were in business areas, and nearly 22 percent (85) were in residential areas. The posted speed limits in these two areas are generally 45 mph and below. In addition, 30 percent (117) of those killed were in open country and another 10 percent (40) were on the interstates, where speeds are generally posted for 55 mph and above. The data also show that relatively few pedestrians are killed in church, school, or playground areas, which is consistent with the rates categorized by age group.

TABLE 3

Location of Pedestrian Crashes 1986-1988 Aggregated Data

<u>Location</u>	<u>Killed</u>		<u>Injured</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Church, School, Playground	5	1.3	258	3.9
Open Country	117	30.1	584	8.9
Business	134	34.4	2,704	41.3
Residential	85	21.9	2,729	41.7
Interstate	40	10.3	168	2.6
Other	7	1.8	77	1.2
Not Stated	1	0.2	20	0.3
TOTAL	389	100.0	6,540	99.9

The data show that 83 percent (5,433) of all pedestrian injuries occurred in two types of locations: over 41 percent occurred in business areas (2,704) and over 41 percent occurred in residential areas (2,729). Nearly all of the remaining pedestrian injuries were in open country (9 percent); in church, school, or playground areas (4 percent); and on the interstate highways (3 percent).

These data indicate that a more careful regulation of both motor vehicle and pedestrian travel in business and residential areas might yield an increase in the safety of all highway users. The data also indicate that the regulation of motor vehicle speeds and of pedestrian crossing locations and maneuvers might reduce the number and severity of these crashes.

Vehicle Maneuver

The data in Table 4 identify the maneuver the vehicle was making at the time it struck the pedestrian. Because more than one vehicle might be involved in a crash, the vehicle maneuver total is greater than that for the number of pedestrians involved. The data show that 455 vehicles were involved in crashes in which 389 pedestrians were killed. In addition, there were 7,081 vehicles involved in crashes in which 6,540 pedestrians were injured.

TABLE 4

Vehicle Maneuver in Pedestrian Crashes
1986-1988 Aggregated Data

<u>Vehicle Maneuver</u>	<u>Killed</u>		<u>Injured</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Going Straight	354	77.8	4,905	69.3
Making Turns	6	1.3	736	10.4
Slowing/Stopping	1	0.2	139	2.0
Ran Off Road	25	5.5	234	3.3
Stopped in Traffic	26	5.7	285	4.0
Backing	4	0.9	214	3.0
Change Lanes/Passing	14	3.1	155	2.2
Other	14	3.1	303	4.3
Not Stated	11	2.4	110	1.6
TOTAL	455	100.0	7,081	100.1

The vehicle was going straight in nearly 78 percent (354) of the instances when a pedestrian was killed. In nearly 70 percent (4,905) of the cases where a pedestrian was injured, the vehicle also was going straight. These data do not indicate whether this maneuver is over-represented or underrepresented in crash involvements because they can not be compared with total vehicle movements. But, because the pedestrian is the party most likely to suffer injury in a pedestrian/motor vehicle crash, the data are indicative of a safety problem that might be alleviated through changes to the Code.

Three types of vehicle maneuvers were associated with just over 14 percent (65) of the pedestrian fatalities. These maneuvers were: the vehicle ran off the road (5 percent), the vehicle was changing lanes or passing (3 percent), and one vehicle was stopped in traffic (6 percent). The data show that four types of vehicle maneuvers were associated with nearly 21 percent (1469) of all pedestrian injuries. Although few (6)

pedestrians were killed when the vehicle was making a turn, over 10 percent of the injuries were at locations where a vehicle was making a left, right, or U-turn. The other vehicle maneuvers occurring when pedestrians were injured were: one vehicle stopped in traffic (4 percent), the vehicle ran off the road (3 percent), and the vehicle was backing (3 percent).

Thus, there is a need for statutes to clearly require both motorists and pedestrians to use due care while they are sharing the highway and to clearly define pedestrian and motorist behavior in specific crossing situations.

Driver Action

Data on the actions of the driver at the time of the pedestrian/motor vehicle crash are contained in Table 5. The data show that in 49 percent (223) of the fatalities and over 53 percent (3,783) of the injuries the driver was not cited for a driving infraction, an illegal action, or a violation. In addition, a driver action was not stated on the crash report for over 6 percent (29) of the fatalities and over 4 percent (324) of the injuries. This is an indication that the officer investigating the crash did not determine that the motor vehicle operator was at fault.

TABLE 5

Driver Action in Pedestrian Crashes 1986-1988 Aggregated Data

<u>Driver Action</u>	<u>Killed</u>		<u>Injured</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Exceeding Speed Limit	21	4.6	102	1.4
Exceeding Safe Speed	8	1.8	68	1.0
Passing	2	0.4	40	0.6
Not Having Right-of-Way	3	0.7	189	2.7
Improper Backing	2	0.4	82	1.2
Driver Inattention	39	8.6	592	8.4
Avoiding Pedestrian/Vehicle	29	6.4	436	6.2
Hit-and-Run	48	10.5	670	9.5
Other	51	11.2	795	11.2
Not Stated	29	6.4	324	4.6
Driver not Cited/None	223	49.0	3,783	53.4
TOTAL	455	100.0	7,081	100.2

When the motor vehicle operator was at fault, four types of driver action accounted for 32 percent (145) of the fatalities: hit-and-run (10 percent), driver inattention (9 percent), speed violations (6 percent), and pedestrians and motorists attempting to avoid each other (6 percent). Four types of driver action were associated with 27 percent (1887) of the pedestrian injuries when a motor vehicle operator was at fault: hit-and-run (10 percent), driver inattention (8 percent), avoiding each other (6 percent), and driver right of way violations (3 percent).

These fatality and injury data clearly indicate a need for modifications to the Code to ensure that motorists are cognizant of the rights, duties, and responsibilities of pedestrians.

Pedestrian Action

The data in Table 6 categorize the actions of pedestrians killed and injured as a result of a motor vehicle crash. In nearly 32 percent (124) of the fatalities, no specific pedestrian action was detailed on the crash report. When a pedestrian action was recorded, four types were involved in nearly 61 percent (236) of the fatalities: not crossing at a crosswalk (30 percent); working, standing, or lying in the roadway (16 percent); walking with traffic (11 percent); and walking against traffic (4 percent). Although crossing at an intersection was involved in just over 4 percent (17) of all pedestrian deaths, 70 percent (12) involved crossing against the signal.

TABLE 6

Actions of Pedestrians Killed and Injured 1986-1988 Aggregated Data

<u>Pedestrian Action</u>	<u>Killed</u>		<u>Injured</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Crossing at Intersection:				
With Signal	5	1.3	357	5.5
Against Signal	12	3.1	338	5.2
Not Crossing at Crosswalk	115	29.6	1,715	26.2
Came Onto Road Between Parked Cars	9	2.3	525	8.0
Getting On or Off Vehicle	3	0.8	131	2.0
Walking:				
With Traffic	43	11.1	408	6.2
Against Traffic	17	4.4	182	2.8
Working in Roadway	8	2.1	147	2.2
Standing/Lying on Road	53	13.6	454	6.9
Other	124	31.9	2,283	34.9
TOTAL	389	100.2	6,540	99.9

In nearly 35 percent (2,283) of the injuries, no specific pedestrian action was detailed on the crash report. When the actions of injured pedestrians were considered, four types accounted for 55 percent (3,601) of the injuries: not crossing at a crosswalk (26 percent), crossing at an intersection (11 percent) (half of these when the pedestrian was crossing against a signal), walking with and against traffic (9 percent), and being in the roadway (9 percent).

These data indicate that changes to the Code of Virginia are needed to define and regulate the actions of pedestrians who are crossing or using the roadway.

The preceding data analysis identified a number of specific pedestrian, location, and driver/vehicle characteristics associated with pedestrian/motor vehicle crashes. The pedestrian age data show that 90 percent of the pedestrians killed and 78 percent of those injured were over 9 years old. When a pedestrian was involved in a crash, the following were the most frequent pedestrian actions recorded: not using crosswalks when crossing; walking along the roadway; and standing, lying, or working in the roadway. Nearly 55 percent of all pedestrians killed and 83 percent of those injured were in business or residential areas. Another 40 percent of those killed were in open country or on the interstate highway. Hit-and-run, speed limit violations, inattention, and avoiding maneuvers were the primary driver actions when drivers were cited for violations. The vehicle was going straight ahead in over 70 percent of the fatal and injury pedestrian crashes. Making turns, one vehicle stopped in traffic, and ran off road were the other most frequent vehicle maneuvers.

The pedestrian age findings are significant in that most pedestrian deaths and injuries involve persons old enough to be able to understand changes in the law and modify their behavior. The pedestrian action data indicate that there is a need to clearly define and regulate the actions of persons who are crossing or using the roadway. The location where crashes occurred indicates that there is a need for the regulation of motor vehicle speed and pedestrian crossing locations and maneuvers. And finally, the driver action and vehicle maneuver data show that there is a need to clearly define pedestrian and motorist behavior and to require both groups to use due care. The data, the identified safety problems, and the legal implications of modifications to specific sections of the Code of Virginia are discussed in the following portion of this report.

CHANGES IN THE CODE OF VIRGINIA TO IMPROVE PEDESTRIAN SAFETY

Title 46 of the Code of Virginia applies specifically to motor vehicles; their operation; and the rights, duties, and responsibilities

of roadway users. Article 16 of Chapter 8 deals with issues concerning pedestrians. The major provisions call for pedestrians to cross at intersections or to use marked crosswalks wherever possible, to obey signals, to use the roadway only when necessary, to refrain from standing on bridges, and to refrain from soliciting rides while on the roadway. Drivers are required to yield the right of way to blind pedestrians and to persons in crosswalks and to use care when approaching pedestrians at intersections.

Section 46.2-923 sets the tone for this entire portion of the Code. It states that ". . . pedestrians shall not carelessly or maliciously interfere with the orderly passage of vehicles." This suggests that vehicle movement has a higher priority than does pedestrian safety. Because in a pedestrian/motor vehicle crash, the pedestrian has the greater likelihood than the motorist of being injured or killed, revisions to the Code are required to increase pedestrian safety.

The data analyzed in the previous section of this report identified a number of crash characteristics associated with pedestrian death and injury. These data suggested that amendments are needed to the Code to improve the safe use of the highways by both motorists and pedestrians, and the narrative identified sections in the Code where the changes should be considered. In this portion of the report, the specific section of the Code concerning pedestrians is analyzed, and the discussion includes the data related to crash characteristics and also considers legal factors that demonstrate pedestrian safety needs. The changes in the Code that have resulted from the activities of the Virginia Code Commission and legislation enacted by the General Assembly in 1989 (1989 Va. Acts 727) have been taken into account.

Definitions

Words and phrases used in Title 46.2 of the Code are defined in § 46.2-100, but a number of terms related to pedestrian safety are not currently defined therein. To clarify the meaning and application of both the current Code and the revisions proposed in this report, it is suggested that the definitions of marked crosswalk, unmarked crosswalk, pedestrian, sidewalk, traffic control device, and traffic control signal be added to § 46.2-100.

Pedestrian Right of Way in Crosswalks

The analysis of the pedestrian crash data discussed in earlier sections of this report shows that nearly 30 percent of pedestrian fatalities and over 26 percent of pedestrian injuries occurred when

pedestrians crossed roadways at locations without crosswalks. In addition, over 4 percent of those killed and nearly 11 percent of those injured were crossing at an intersection. Although the current version of the Code affords substantial protection for pedestrians in crosswalks, there is little in the Code to discourage crossing where a crosswalk is not in place. Further clarification of both a pedestrian's and a driver's rights, duties, and responsibilities with regard to crosswalks may reduce the proportion of crashes involving pedestrians at such locations.

The Code defines crosswalk to include both marked and unmarked crosswalks at intersections. The Code also contains provisions dealing with pedestrian and vehicle movement at intersections and the right of way of pedestrians at nonsignalized intersections. These provisions protect pedestrians by requiring drivers to yield the right of way, change course, slow down, or stop if necessary to allow pedestrians to cross safely.

A problem arises with regard to pedestrian safety because the language concerning unmarked crosswalks makes it difficult to determine where pedestrians are given the right of way. In addition, the meaning of "enter or cross an intersection in disregard of approaching traffic" is unclear. This might create legal difficulties for pedestrians if they were to be injured and then had to show that they did not act in "disregard" of approaching traffic.

Few revisions to the Code would be necessary to improve pedestrian safety at crosswalks or intersections without signals. The language concerning the duty to yield should be simplified for easier comprehension by motorists and pedestrians. The provision with respect to crossing in disregard of traffic should be revised to give pedestrians greater legal protection. A section should be added stressing that neither drivers nor pedestrians are relieved of their duty of using due care. Revisions are proposed to §§ 46.2-821, 46.2-833, 46.2-923, and 46.2-924.

Pedestrian Right of Way on Sidewalks

Sidewalks are specifically intended for use by pedestrians. As such, pedestrians do not expect to conflict with vehicles on sidewalks. Therefore, drivers should be required to yield the right of way to pedestrians on sidewalks at all times. The Code, however, requires drivers to yield to pedestrians on sidewalks only when their vehicles are emerging from (not when entering) private roads, driveways, alleys, or buildings (§ 46.2-826). The proposed revision includes a new section requiring the driver of any vehicle to yield the right of way to all pedestrians approaching on a sidewalk before driving over or upon the sidewalk.

Pedestrian Obedience to Traffic Control Devices

Although few pedestrians are killed while crossing at a crosswalk, 695 persons have been injured in the past 3 years. Over half of those killed and nearly half of those injured were crossing against the signal. In spite of this, the Code does not contain explicit language requiring pedestrians to obey traffic signals. The sections in the Code that deal with responses to signals, law officers, and school crossing guards do not address pedestrians. These sections dictate traffic responses but do not define traffic as including pedestrians. Pedestrian responses to signals are specifically addressed only when pedestrians are directed to obey the special pedestrian control signals "Walk" and "Don't Walk."

In an effort to decrease pedestrian/motor vehicle conflict at signalized intersections, the Code should include a provision requiring pedestrians to obey traffic control devices unless otherwise directed to do so by a police officer. Such a provision would require obedience to signals such as a prohibition against crossing at certain locations but not to signs such as "Stop" and/or "One-Way." Provisions directing pedestrian action when signals are red, green, and amber should be added to the Code. By requiring specific responses to signals, confusion by both pedestrians and motorists would be lessened. These deficiencies can be remedied by making revisions to § 46.2-833 (relating to traffic lights) and § 46.2-925 (relating to pedestrian control devices).

Passing a Passenger Bus on the Right

In obtaining background information for this project, meetings were held with a number of state agency personnel and private citizens. Attention was directed to the fact that there are a number of locations throughout the state where it is possible to pass on the right a passenger bus that is loading or unloading. Although the crash data are not specifically categorized in a manner to determine the exact severity of this problem, the data do show that 131 persons were injured in the period from 1986 through 1988 while getting on and off a vehicle. These figures may be applicable to mass transit situations, but might not be caused by passing on the right. Although the data do not specifically address passing on the right, this is a potentially dangerous situation for both pedestrians and motorists. To deal with this issue, a new section to the Code is proposed to prohibit the passing on the right of a loading or unloading bus.

Reckless and Improper Driving

Passing and avoiding actions by motorists caused nearly 7 percent of the pedestrian fatalities and nearly 7 percent of the pedestrian injuries. These rates represent 31 persons killed and 476 persons

killed and 476 persons injured. Although these data do not indicate what percentage was due to reckless or improper actions by motorists, they do indicate a severe pedestrian safety problem. In addition, the data show that over 4 percent (17) of the fatalities and nearly 11 percent (695) of the injuries were at intersections.

Because of the potential of death and injury to pedestrians at an intersection when motorists are acting in a reckless manner, a revision is proposed to § 46.2-858 of the Code to require drivers to determine whether it is safe to proceed before overtaking other vehicles in the same or adjacent lanes that are stopped at a crosswalk. This revision offers pedestrians protection from oncoming vehicles that are hidden from view while the pedestrian is lawfully crossing in front of stopped vehicles. Additionally, the revision would make it clear that a driver is not to pass another vehicle at an intersection when pedestrians are present.

Railroad Crossing Gates and Signals

There are no provisions in the Code to indicate the correct pedestrian response to signals or barriers at railroad crossings. Concern about this omission was expressed by the pedestrian safety advisory panel and a pedestrian safety subcommittee of the Transportation Safety Board. In addition, there have been newspaper stories detailing injury and death to persons who have gone over, through, under, or around these devices. A new section to the Code is proposed, which would prohibit pedestrians from going over, through, under, or around a closed (or closing) railroad crossing barrier.

Crossing at Locations Other Than Crosswalks

The largest single category of pedestrian death and injury is associated with not crossing at a crosswalk. In the past 3 years, 115 persons were killed and 1,715 were injured at these locations. When the figures for coming onto the road between parked cars are added to the above, the number of deaths rises by 9 persons and injuries increase by 525. These two categories of pedestrian behavior account for nearly one-third of all pedestrian deaths and injuries in Virginia.

Despite the fact that the most common pedestrian crash involves crossing the road at places other than at intersections and crosswalks, the Code fails to adequately describe the correct pedestrian response at these locations. The Code states that pedestrians shall cross only at intersections or marked crosswalks whenever possible but does not address those who choose to cross elsewhere, other than to prohibit careless or malicious interference with traffic. The language does not provide sufficient direction to either motorists or pedestrians.

Revisions to the Code are proposed in an effort to decrease the number of fatalities and injuries that occur to pedestrians who cross the highway at locations other than at intersections. A proposed revision to § 46.2-923 requires pedestrians crossing outside of crosswalks to yield the right of way and is designed to allow a crossing only when the gap in traffic is large enough to allow crossing in safety. However, there are some situations where the gap may never be large enough for a safe crossing. To deal with this, local authorities should be able to prohibit crossing outside of a crosswalk in a business district or at any other location where traffic engineering studies indicate that it is unsafe. A third revision proposed to § 46.2-923 requires pedestrians to use only a mid-block crosswalk when crossing between adjacent intersections less than 300 feet apart at which traffic control signals are in operation.

Pedestrian Use of Highways

Being in the roadway (walking, working, and standing) was the pedestrian action associated with over 31 percent of the fatalities and 18 percent of the injuries that occurred in the period from 1986 through 1988. Over the 3 years, 121 persons lost their life, and 1,191 were injured while in the roadway.

Section 46.2-928 currently promotes pedestrian safety by requiring pedestrians to avoid use of the roadway except when necessary. This section also requires the use of sidewalks that are reasonably suitable and passable. In addition, it directs where to walk on the hard surface and on the shoulder.

The Code however, does not describe proper pedestrian behavior in those situations where persons are most likely to be on the highway. It is not clear whether in the absence of sidewalks pedestrians must use a suitable shoulder where available or whether they may chose to walk on the roadway even where a usable shoulder exists. Second, it may not always be practical or safe for a pedestrian to walk on the left edge of the roadway. A pedestrian walking to the left on a one-way road or divided highway would not be facing oncoming traffic and might be safer walking on the right edge of the roadway.

The proposed revisions to § 46.2-928 describe in detail the correct behavior for pedestrians using the highway, based upon the availability of sidewalks or shoulders suitable for pedestrian use.

Pedestrian Response to Emergency Vehicles

Another pedestrian safety issue that arose as a result of meetings and discussions with state agency personnel, transportation safety

officials, and citizens dealt with the responses and actions of pedestrians to emergency vehicles. The Code does not have a provision that addresses this issue. Revising the Code to include such a section would provide a clear and complete definition of the duties and responsibilities of pedestrians. The proposed revisions would require a pedestrian to yield the right of way to emergency vehicles but at the same time leave intact the duty of care required of the driver of an emergency vehicle to avoid colliding with pedestrians.

Due Care Provision

Three types of driver action at the time of the pedestrian/motor vehicle crash accounted for nearly half of the pedestrian fatalities and over 40 percent of the pedestrian injuries: speeding/speed limit violations, inattention, and hit-and-run. Over the 3 years, there were 116 pedestrian deaths and 1,432 pedestrian injuries caused by these driver maneuvers. A new section to the Code is proposed that would require drivers to avoid colliding with or creating a hazard for a pedestrian, notwithstanding the other provisions of Title 46.2.

MEASURES TO ENHANCE PEDESTRIAN SAFETY: PROPOSED PEDESTRIAN SAFETY LEGISLATION

The pedestrian statutes that are proposed are detailed in this section of the report. The proposals include changing existing sections of the Code of Virginia as well as adding new sections. The section numbers that have been used are intended to correspond to existing statute numbers. The text has been prepared in standard legislative format to show additions by underlining and by lining through the language to be deleted.

SUBTITLE I.

GENERAL PROVISIONS; DEPARTMENT OF MOTOR VEHICLES.

CHAPTER 1.

GENERAL PROVISIONS.

§ 46.2-100. Definitions.—The following words and phrases when used in this title shall, for the purpose of this title, have the meanings respectively ascribed to them in this section except in those instances where the context clearly indicates a different meaning:

"Crosswalk" means ~~that part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the traversable roadway; or any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface.~~ Any marked or unmarked crosswalk as defined in this section.

"Marked crosswalk" means any portion of a roadway at an intersection or elsewhere distinctively indicated for pedestrian crossing by lines or other markings on the surface.

"Pedestrian" means any person afoot, using a wheel chair as defined in this section, or using a means of conveyance propelled by human power other than a bicycle or moped as defined in this section.

"Sidewalk" means that portion of a highway intended for use by pedestrians that is located between the lateral lines of a roadway and the adjacent property lines.

"Traffic control device" means any sign, signal, marking or device not inconsistent with this title placed or erected by authority of a public body or official having jurisdiction, for the purpose of regulating, warning, or guiding traffic.

"Traffic control signal" means any device, whether manually, electrically, or mechanically operated, by which traffic is alternately directed to stop and permitted to proceed.

"Unmarked crosswalk" means that part of a roadway at an intersection included within the prolongation of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the traversable roadway.

SUBTITLE III.

OPERATION.

CHAPTER 8.

REGULATION OF TRAFFIC.

Article 2.

Right-of-Way.

§ 46.2-821. Vehicles before entering certain highways shall stop or yield right-of-way.-The driver of a vehicle approaching an intersection on a highway controlled by a stop sign shall, immediately before entering such intersection, stop at a clearly marked stop line, or, in the absence of a stop line, stop before entering the crosswalk on the near side of the intersection, or, in the absence of a marked crosswalk, stop at the point nearest the intersecting roadway where the driver has a view of approaching traffic on the intersecting roadway. Before proceeding, he shall yield the right-of-way to the driver of any vehicle approaching on such other highway from either direction and to any pedestrian within an adjacent crosswalk.

Where a "Yield Right-of-Way" sign is posted, the driver of a vehicle approaching or entering such intersection shall slow down to a speed reasonable for the existing conditions, yield the right-of-way to the driver of another vehicle approaching or entering such intersection from another direction, and, if required for safety, shall stop at a clearly marked stop line, or, in the absence of a stop line, stop before entering the crosswalk on the near side of the intersecting roadway where the driver has a view of approaching traffic on the intersecting roadway, and shall yield the right-of-way to the driver of any vehicle approaching on such other highway from either direction and to any pedestrian within an adjacent crosswalk.

§ 46.2-826. Stop before entering public highway or sidewalk from private road, etc.; yielding right-of-way.-The driver of a vehicle entering a public highway or sidewalk from a private road, driveway, alley, or building shall stop immediately before entering such highway or sidewalk and yield the right-of-way to vehicles and pedestrians approaching on such public highway or ~~to pedestrians or vehicles~~ ~~approaching~~ on such public sidewalk.

The provisions of this section shall not apply at an intersection of public and private roads controlled by a traffic control signal. At any such intersection, all movement of traffic into and through the intersection shall be controlled by the traffic signal.

§ 46.2-xxx. Pedestrian right-of-way on sidewalks.-The driver of any vehicle, prior to driving over or upon any sidewalk, shall yield the right-of-way to any pedestrian approaching thereon.

Article 3.

Traffic Signs, Lights, and Markings.

§ 46.2-833. Traffic lights.-Signals by traffic lights shall indicate ~~be~~ as follows:

Steady red indicates that moving traffic shall stop before entering any crosswalk and remain stopped as long as the red signal is shown, except in the direction indicated by a lighted green arrow.

Pedestrians facing a steady red signal alone shall not enter the roadway, unless otherwise directed by a pedestrian control signal as provided in § 46.2-925.

Green indicates the traffic shall move in the direction of the signal and remain in motion as long as the green signal is given, except that such traffic shall yield to other vehicles and pedestrians lawfully within the intersection.

Pedestrians facing any green signal may proceed with due care across the roadway within any crosswalk, unless otherwise directed by a pedestrian control signal as provided in § 46.2-925.

Steady amber indicates that a change is about to be made in the direction of the moving of traffic. When the amber signal is shown, traffic which has not already entered the intersection, including the crosswalks, shall stop if it is not reasonable safe to continue, but traffic which has already entered the intersection shall continue to move until the intersection has been cleared. The amber signal is a warning that the steady red signal is imminent.

Pedestrians facing a steady amber signal are thereby advised that there is insufficient time to cross the roadway before a red indication is shown, and no pedestrian shall start to cross the roadway, unless otherwise directed by a pedestrian control signal as provided in § 46.2-925.

Flashing red indicates that traffic shall stop before entering an intersection or any crosswalk thereof.

Flashing amber indicates that traffic may proceed through the intersection or past such signal with reasonable care under the circumstances.

In the event a traffic control device is erected and maintained at a place other than an intersection, the provisions of this section shall be applicable except as to those provisions which by their nature can have no application.

§ 46.2-834. Signals by law-enforcement officers and crossing guards.-Law-enforcement officers and uniformed school crossing guards may assume control of traffic otherwise controlled by lights and in such event, signals by such officers and uniformed crossing guards shall take precedence over such traffic control devices.

§ 46.2-835. Right turn on steady red light after stopping.-Notwithstanding the provisions of § 46.2-833, except where signs are placed prohibiting turns on steady red, vehicular traffic facing a steady red signal, after coming to a full stop, may cautiously enter the intersection and make a right turn.

Such turning traffic shall yield the right-of-way to pedestrians lawfully within an adjacent crosswalk and to other traffic using the intersection.

§ 46.2-836. Left turn on steady red after stopping.-Notwithstanding the provisions of § 46.2-833, except where signs are placed prohibiting turns on steady red, vehicular traffic facing a steady red signal on a one-way highway, after coming to a full stop, may cautiously enter the intersection and make a left turn onto another one-way highway.

Such turning traffic shall yield the right-of-way to pedestrians lawfully within an adjacent crosswalk and to other traffic using the intersection.

Article 4.

Passing.

§ 46.2-xxx. Prohibition of passing to the right a loading or unloading passenger bus.-Drivers of vehicles shall not pass to the right of any passenger bus loading or unloading passengers.

Article 7.

Reckless Driving and Improper Driving.

§ 46.2-858. Passing at a railroad grade crossing.-A person shall be guilty of reckless driving who overtakes or passes any other vehicle proceeding in the same direction at any railroad grade crossing or at any intersection of highways unless such vehicles are being operated on a highway having two or more designated lanes of roadway for each direction of travel or unless such intersection is designated and marked as a passing zone or on a designated one-way street or highway, or ~~while pedestrians are passing or about to pass in front of either of such vehicles,~~ unless permitted so to do by traffic light or law enforcement officer.

§ 46.2-858a. When approaching from the rear in the same or an adjacent lane, a person shall be guilty of reckless driving who overtakes or passes any other vehicle at any intersection of highways while pedestrians are passing or about to pass in front of either of such vehicles, or any other vehicle stopped in a roadway at a marked or unmarked crosswalk or at any stop line in advance of a crosswalk without having determined that it is safe to proceed.

Article 9.

Railroad Crossings.

§ 46.2-885. When vehicles to stop at railroad grade crossings. . . .
No person shall drive any vehicle through, around, or under any crossing gate or barrier at a railroad crossing while such gate or barrier is closed or is being opened or closed.

§ 46.2-885a. No pedestrian shall pass through, around, over, or under any crossing gate or barrier at a railroad grade crossing while such gate or barrier is closed or is being opened or closed.

Article 16.

Pedestrians.

§ 46.2-923. How and where pedestrians to cross highways.—When crossing highways, pedestrians shall not carelessly or maliciously interfere with the orderly passage of vehicles. They shall cross, wherever possible, only at intersections or marked crosswalks. Every pedestrian crossing at a point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right-of-way to all vehicles upon the roadway. Where intersections contain no marked crosswalks, pedestrians shall not be guilty of negligence as a matter of law for crossing at any such intersection or between intersections when crossing by the most direct route, except in the event that between adjacent intersections less than 300 feet apart at which traffic control signals are in operation, pedestrians shall cross only at the intersections or in marked mid-block crosswalks.

Any pedestrian crossing a roadway at a point where a pedestrian tunnel or overhead pedestrian crossing has been provided shall yield the right-of-way to all vehicles on the roadway.

Generally, a pedestrian may not cross a roadway intersection diagonally. However, the governing body of a town or city or the governing body of a county authorized by law to regulate traffic may by ordinance permit pedestrians to cross an intersection diagonally when all traffic entering the intersection has been halted by lights, other traffic control devices, or by a law-enforcement officer. If authorized to cross diagonally, a pedestrian may cross only in accordance with the traffic control device or the instructions of the officer.

§ 46.2-924. Right-of-way of pedestrians.-The driver of any vehicle on a highway shall yield the right-of-way to any pedestrian crossing such highway:

1. At any clearly marked crosswalk, whether at mid-block or at the end of any block;
2. At any unmarked crosswalk;
3. At any intersection when the driver is approaching on a highway or street where the legal maximum speed does not exceed thirty-five miles per hour.

Notwithstanding the foregoing provisions of this section, at intersections or crosswalks where the movement of traffic is being regulated by law-enforcement officers or traffic control devices, the driver shall yield according to the direction of the law enforcement officer or device.

No pedestrian shall enter or cross an intersection in disregard of approaching traffic.

The drivers of vehicles entering, crossing or turning at intersections shall change their course, slow down, or stop if necessary to permit pedestrians on the roadway to cross such intersections safety and expeditiously.

Pedestrians crossing highways or streets at intersections shall at all times have the right-of-way over vehicles making turns into the highways or streets being crossed by the pedestrians.

§ 46.2-925. Pedestrian control signals.-A pedestrian shall obey the instructions of any traffic control device specifically applicable to a pedestrian, unless otherwise directed by a law-enforcement officer.

Whenever special pedestrian control signals ~~exhibiting the words~~ indicating "Walk" or "Don't Walk" are in place such signals shall ~~indicate~~ mean as follows:

Walk indication.-Pedestrians facing such signal may proceed across the highway in the direction of the signal and shall be given the right-of-way by the drivers of all vehicles.

Don't Walk indication.—No pedestrian shall start to cross the highway in the direction of such signal, but any pedestrian who has partially completed his crossing on the Walk signal shall proceed to a sidewalk or safety ~~island~~ zone and remain there while the Don't Walk signal is showing, and shall be given the right-of-way by the drivers of all vehicles until an area of safety has been reached.

Pedestrians shall be subject to traffic control signals as provided in § 46.2-833.

§ 46.2-926. Pedestrians ~~stepping~~ moving into highway roadway where they cannot be seen.—No pedestrian shall ~~step~~ move into a highway roadway open to moving vehicular traffic at any point between intersections where his presence would be obscured from the vision of drivers of approaching vehicles by a vehicle or other obstruction at the curb or side. The foregoing prohibition shall not apply to a pedestrian stepping into a highway to board a bus or to enter a safety zone, in which event he shall ~~cross~~ move into the highway roadway only at right angles.

§ 46.2-927. Boarding or alighting from buses.—When actually boarding or alighting from passenger buses, pedestrians shall have the right-of-way over vehicles, but shall not, in order to board or alight from buses, step into the highway sooner or remain there longer than is absolutely necessary.

§ 46.2-928. Pedestrians not to use roadway except when necessary; keeping to left.—Pedestrians shall not use the roadways for travel, except when necessary to do so because of the absence of sidewalks which are reasonably suitable and passable for their use. If they walk on the ~~hard surface, or the main travelled portion of the roadway,~~ roadway, they shall keep to the extreme left side or edge thereof, while traveling in the direction of oncoming vehicular traffic. Where a suitable and passable sidewalk is not provided but a shoulder of sufficient width and condition is available, any pedestrian using a highway shall travel on either shoulder as far as reasonably possible from the edge of the roadway. ~~or where the shoulders of the highway are of sufficient width to permit, they may walk on either shoulder thereof.~~ Except as otherwise provided in this article, any pedestrian upon a roadway shall yield the right-of-way to all vehicles upon the roadway.

§ 46.2-xxx. Pedestrians to yield to emergency vehicles.—Upon the immediate approach of an emergency vehicle as defined in § 46.2-920 making use of audible and visual signals as described in § 46.2-829, every pedestrian shall yield the right-of-way to the emergency vehicle.

This section shall not operate to relieve the driver of an emergency vehicle from the duty to drive with due regard for the safety of all persons using the highway, nor from the duty to exercise due care to avoid colliding with any pedestrian.

§ 46.2-xxx. Drivers to exercise due care.-Notwithstanding any other provision of this title, every driver of a vehicle shall exercise due care to avoid colliding with any pedestrian or approaching so close as to present a hazard, and shall give warning by sounding the horn when necessary.

REFERENCES

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Parker, M. R. et. al., Right Turn on Red, A Report to the Governor and General Assembly of Virginia, Virginia Transportation Research Council, Charlottesville, Virginia, 1975.

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APPENDIX

1 HOUSE JOINT RESOLUTION NO. 419

2 House Amendments in [] - February 6, 1989

3 [*Establishing a joint subcommittee Requesting the Transportation Safety Administration*]
4 *to study Virginia's pedestrian safety laws.*

5
6 Patrons—Van Yahres, Van Landingham, Jones, J. C., Tata, Keating, Plum and Cooper

7
8 Referred to the Committee on Rules
9

10 WHEREAS, the Commonwealth of Virginia seeks to ensure the safety and convenience
11 of users of the public highways; and

12 WHEREAS, motorists, pedestrians, and other users desire to travel these highways with
13 safety and without an apprehension of being involved in a crash; and

14 WHEREAS, traffic safety is essential to the protection of human lives and personal
15 property; and

16 WHEREAS, over eleven percent of all persons killed in motor vehicle crashes in 1987
17 were pedestrians; and

18 WHEREAS, more pedestrians were killed in 1988 than in 1987; and

19 WHEREAS, more pedestrians are killed each year than motorcyclists and bicyclists
20 combined; and

21 WHEREAS, more than 2,000 pedestrians have been injured in motor vehicle crashes
22 each year since 1983; and

23 WHEREAS, the improvement of safety for pedestrians would have a beneficial and
24 lasting effect on the safety of other users of the public highways; and

25 WHEREAS, it is desirable that Virginia have traffic laws that clearly and logically
26 define the rights and responsibilities of all users of the public highways in relation to one
27 another; and

28 WHEREAS, several technical studies have been completed concerning the safety of
29 pedestrians; now, therefore, be it

30 RESOLVED by the House of Delegates, the Senate concurring, That [a joint
31 subcommittee be established to study pedestrian safety laws of the Commonwealth and
32 make recommendations for the revision of those laws to improve pedestrian safety.

33 The joint subcommittee shall consist of four members of the House of Delegates
34 appointed by the Speaker and three members of the Senate appointed by the Senate
35 Committee on Privileges and Elections. The joint subcommittee shall present its legislative
36 recommendations, if any, to the 1990 Session of the General Assembly.

37 The indirect costs of this study are estimated to be \$13,675; the direct costs of this
38 study shall not exceed \$6,300 the Transportation Safety Administration is requested to study
39 Virginia's pedestrian safety laws and to recommend appropriate revision of those laws to
40 improve pedestrian safety.

41 The Transportation Safety Administration is requested to complete its work in time to
42 submit its findings and recommendations to the Governor and the 1990 General Assembly
43 pursuant to the procedures of the Division of Legislative Automated Systems for the
44 processing of legislative documents] .

