Washington Area's Mean Streets:

Where pedestrians face the most danger and what is being done about it.

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Executive Summary

A disturbing increase in the number of pedestrian deaths in the Washington, D.C., region is prompting public concern. In response, area officials have launched a "Street Smart" education campaign exhorting both walkers and motorists to watch out. Area jurisdictions are also stepping up law enforcement. Caution is always warranted and enforcement essential, but the only lasting way to ensure all users can travel safely is to design communities and streets that make walking and bicycling less risky and provide convenient connections. Each land use and transportation decision must consider and design for safe walking and bicycling.

In the long term, walking will be made safe by community designs that offer compact, mixed use, pedestrian-friendly places where walking is a practical and pleasant transportation choice. In the short term, transportation professionals, land use planners and public officials must act to make high-risk areas safer for pedestrians. Rising energy prices, the cost of car ownership, concern about health, frustration with traffic, and increased demand for walkable communities are all contributing to an increase in walking, bicycling and riding transit. **Based on the growing ranks of walkers, bicyclists and transit riders, we call on our region's leaders to act immediately to ensure that walking is a safe way to travel and to commit to reducing, by half, the number of pedestrian crashes that result in death and severe injury in our region.**

To achieve this goal, we recommend:

1. **Fix the worst places:** Immediately identify and fix high-crash/high-risk intersections and roadways.
2. **Complete the streets:** Ensure that all streets and intersections are built and operated for the safety and convenience of all users.
3. **Institutionalize changes:** Update standards in all relevant planning, design, and maintenance manuals, and retrain all personnel responsible for street design and operations.
4. **Build mixed-use walkable places:** Local governments should revise land use plans and development regulations to guide new development and retrofit existing development to create mixed-use, walkable environments that make walking, bicycling, and riding transit safe and convenient choices.

Pedestrian Danger Index, 2004-2006

Jurisdiction	Pedestrian Danger Index
Fairfax County, VA	44.1
Prince George's County, MD	42.6
Prince William County, VA	33.1
Montgomery County, MD	24.4
Loudoun County, VA	20.6
District of Columbia	10.0
Arlington County, VA	9.6
Alexandria City, VA	7.8
Regional	21.8

Our assessment, using a Pedestrian Danger Index (PDI), demonstrates that suburban high-speed roads serving patterns of scattered land uses are the scenes of most fatal pedestrian crashes in our region while urban places offer the safest environments for walking. The PDI looks at rates of pedestrian deaths relative to the amount that people walk in the community. In this report, we use the PDI to show where it is most dangerous to walk in our region. The PDI shows that suburban jurisdictions -- Fairfax, Prince George's, and Prince William counties – pose far worse hazards to pedestrians than urban ones -- Arlington, Alexandria and the District of Columbia.

Most pedestrian deaths in suburban areas occur on higher speed roadways. When we compared injury crashes to deaths, we found a similar pattern to what the PDI shows – an injury crash in a suburban jurisdiction is far more likely to result in death than in an urban area. In Prince George's County, 1 in 16 injury crashes ends in death, while 1 in 48 crashes results in death in the District of Columbia.

Suburban areas with scattered land uses and high-speed roadways face the greatest challenge in ensuring that walking to the store or the bus stop is safe. Some jurisdictions have devoted substantial funding and staff to addressing pedestrian hazards, including Fairfax County, while others have devoted little. Despite efforts to date, far more needs to be done to implement both urgent safety measures and longer term street and urban design solutions.

I. Introduction

Each year more than 75 pedestrians are killed on our region's roadways and more than a thousand injured. Nationwide, 4,784 pedestrians died and 70,000 were injured in crashes on roadways in 2006. Walking to the store, school, or work should be safe and enjoyable activities, but pedestrians face higher risks than motorists. Although eight percent of all trips are made on foot nationwide, 11 percent of traffic fatalities are pedestrians.[1] Pedestrian injuries and deaths are a serious problem, and most of them are avoidable.

The Coalition for Smarter Growth undertook this research to assess how well our region's governments are planning for the safety and comfort of pedestrians. People walk for many reasons – convenience, health, or even to reduce their contribution to greenhouse gas emissions and climate change. For many, walking is a necessity due to age, physical disability or inability to afford a car. More and more people are living in walkable, transit-oriented neighborhoods and rely increasingly on walking as an important transportation option. Transit use is also growing rapidly, and most people walk to and from bus stops and Metro stations.

As a region, we need to ensure that walking is convenient, comfortable and fundamentally safe. However, pedestrian fatalities were up significantly in our region last year. This spike in pedestrian deaths should be a wake-up call to reexamine street design and development decisions to ensure that walking is made safer. In recent years, local governments have responded to pedestrian safety concerns with educational and enforcement initiatives along with some reassessment of street and intersection design approaches, but far more can be done.

The fundamental problem begins with the fact that roadways and communities are designed with pedestrians as an afterthought. As long as moving motor vehicles at high speeds is the overarching goal of roadway design, we will not sufficiently improve safety for people walking, bicycling, or making their way to bus and rail stops. In the majority of crashes between pedestrians and vehicles, the pedestrian is trying to navigate an environment designed primarily for automobile use.

Mount Rainier, Prince George's County MD, roundabout on Route 1, a Maryland state highway. Roundabouts are considered the most effective technique for lowering vehicle speeds and reducing pedestrian crashes. Source: Retting et al., 2003.

This report examines pedestrian dangers across our region. We also compare local governments' records in safety and actions in addressing the problem. Our recommendations are based on national state-of-the-art practice in pedestrian safety. Our goals are to:

1. Inspire governments to expand their commitment to ensure that our public streets are designed for the safety and comfort of all users, particularly the most vulnerable: walkers, bicyclists, and people with disabilities.
2. Highlight the need to build walkable communities through our land use, development, and urban design decisions.

Ultimately, the goals of reducing traffic congestion, addressing rising energy prices and climate change, and even improving personal health cannot be achieved without creating walkable communities. The oldest and most energy efficient mode of transportation – walking – should be safe, practical, convenient and pleasant.

II. Pedestrian Safety by Jurisdiction

The suburban jurisdictions of Fairfax, Prince George's, and Prince William's counties are the most dangerous places for pedestrians in the Washington, D.C., region according to the Pedestrian Danger Index (PDI) for 2004-2006 (Table 1 and Figure 1). Using the same analysis, the urban core communities of Alexandria, Arlington and the District of Columbia are the least dangerous places to walk.

Table 1: Pedestrian Danger Index for the Washington, D.C., Metropolitan Region

Jurisdiction	Average Pedestrian Fatalities per Year, 2004-2006	Pedestrian Danger Index	Rank – Highest Pedestrian Danger
Fairfax County, VA	15	44.1	1
Prince George's County, MD	24	42.6	2
Prince William County, VA	3	33.1	3
Montgomery County, MD	13	24.4	4
Loudoun County, MD	1	20.6	5
District of Columbia	15	10.0	6
Arlington County, VA	2	9.6	7
Alexandria City, VA	1	7.8	8
All 8 Jurisdictions	**75**	**21.8**	

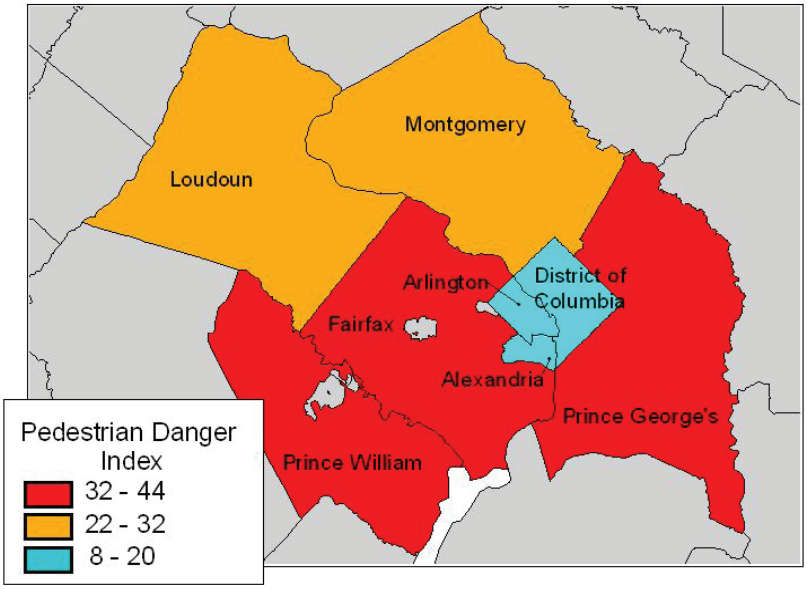
Source: See Appendix A

This report follows the general approach used by the Surface Transportation Policy Partnership (STPP) in *Mean Streets* in calculating a Pedestrian Danger Index (PDI) for each jurisdiction.[2] The index examines pedestrian deaths relative to the percent of people walking to work or taking the bus in a given area since most people walk to the bus stop. Using the rate of walking allows for systematic comparisons between jurisdictions. The larger the PDI, the more danger is posed to pedestrians.

Not only do Fairfax and Prince George's counties have high PDIs, the scores are roughly twice the regional average. The three highly urban jurisdictions (Alexandria, Arlington and D.C.) scored much better than average with PDIs less than half the regional average. The District of Columbia has a relatively low PDI, but it should be noted that pedestrian fatalities were up significantly in D.C. in 2007 with 25 deaths. Another way of looking at danger for pedestrians is to examine how likely it is for a pedestrian crash to be fatal in a given jurisdiction. Crashes on high-speed roads are more likely to be fatal while slow speeds are likely to cause injury-only crashes. This report compares the number of fatal pedestrian crashes to injury-only crashes involving pedestrians (Table 2, Figure 2).

Prince George's County has the highest rate of fatalities in its pedestrian injury crashes. Approximately 6 percent, or 1 in 16 pedestrian injury crashes in Prince George's, ends in a death. In comparison, only 2 percent, or 1 in 48 pedestrian injury crashes in D.C. ends in death. While the jurisdictions range between these two extremes, there is a significant drop in the fatality rate between the more spread-out jurisdictions (Prince George's, Loudoun, Prince William, and Fairfax counties) and the more urbanized areas.

Figure 1: Pedestrian Danger Index Map



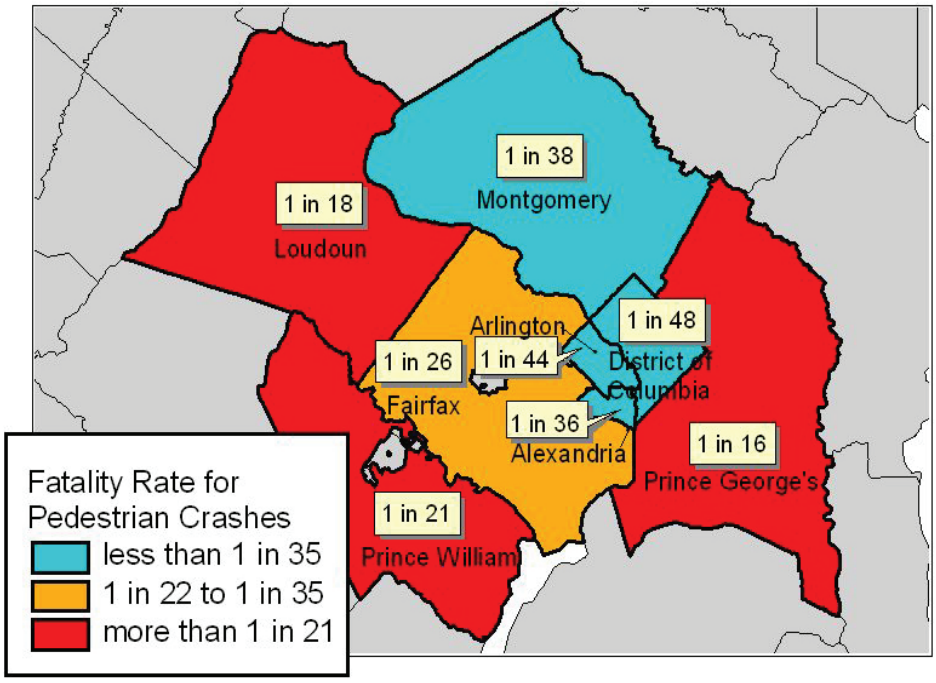
The roadways with the most pedestrian fatalities over 10 years in each jurisdiction were compiled and are highlighted in Table 3. All of these deadly roadways are owned by the respective states' departments of transportation. These roadways tend to be designed for higher speeds (35 mph or higher), even when a large number of pedestrians are using the roadway. It should be noted that these data do not reflect the length of the roadway or the number of people walking on it. Thus, comparisons are inexact but provide an overview of which roadway deserves additional attention in each jurisdiction.

Table 2: Pedestrian Fatalities Relative to Pedestrian Injuries by Jurisdiction, 2003-2005*

	Pedestrian Fatalities (Average Annual)	Pedestrian Injuries (Average Annual)	Fatality Rate in Pedestrian Crashes
Prince George's County, MD	28	426	1 in 16
Loudoun County, VA	2	34	1 in 18
Prince William County, VA	3	52	1 in 21
Fairfax County, VA	12	300	1 in 26
Alexandria City, VA	2	71	1 in 36
Montgomery County, MD	12	440	1 in 38
Arlington County, VA	3	130	1 in 44
District of Columbia	14	671	1 in 48

*Virginia jurisdictions show crashes from 2001-2003 because of data availability; See Appendix B

Figure 2 Fatality Rate Among Pedestrian Crashes



In the case of Prince George's County, Md., Route 193, University Boulevard, hosts large traffic volumes as well as many thousands of pedestrian each day. Around the intersection with New Hampshire Avenue (MD 650), University Boulevard crosses into Montgomery County. In Montgomery County, there were 7 fatalities on MD 193. In Prince George's County, there were 22 on the same roadway, adding up to 29 deaths over 10 years. University Boulevard is a busy commercial hub surrounded by concentrations of housing. The physical layout of University Boulevard, however, is dominated by automobiles. The area is characterized by wide crossing distances, skewed intersections, vast parking lots, and long blocks with few street connections. Distances between destinations are long for walkers, making crossing difficult and pedestrian shortcutting the norm.

Table 3: Roads with the Highest Number of Pedestrian Fatalities Over 10 Years by Jurisdiction

Jurisdiction	Road	State vs. Local Control of Road	Number of Pedestrian Fatalities (1995-2005)
Prince George's County	University Boulevard (MD-193)	state	22
Fairfax County	Richmond Highway (US-1)	state	22
Montgomery County	Wisconsin Ave/Rockville Pike (MD-355)	state	14
District of Columbia	Benning Road, NE	local/state	9
Arlington County	US 50	state	7
Alexandria	Shirley Highway (I-395)	state	5
Loudoun County	Harry Byrd Highway (VA Route 7)	state	6
Prince William County	Jefferson Davis Highway (US 1)	state	3

Source: FARS; see Appendix C at: www.smartergrowth.net

The intersection of University Boulevard and New Hampshire Avenue, known as Takoma/Langley Crossroads, has been the subject of numerous studies by state and local governments.[3] Most studies recognize that a fundamental problem is the suburban scale of the area—the road network putting large through-traffic volumes on the arterials and the motor vehicle traffic mixing with high numbers of transit users and shoppers on foot.

III. Recommended Actions

To save lives, increase health through physical activity, reduce automobile use, and create more sustainable communities, our region's jurisdictions can and should do more to make walking safer and more inviting. Decision-makers should act immediately to cut in half the pedestrian crashes that result in serious injury and death. To address the problem -- from urgent actions to long term solutions -- we recommend the following framework for local and state governments:

Alexandria uses curb extensions to reduce crossing distances for pedestrians on Mt. Vernon Avenue.

1. **Fix the worst places:** Immediately identify and fix high-crash/high-risk intersections and roadways.

2. **Complete the streets:** Ensure that all streets and intersections are built and operated for the safety and convenience of all users. Each jurisdiction should adopt new policies, practices, and performance measures to support this objective. Transportation decisions should be reoriented to support local land use and economic development objectives that create safe walking environments and help communities thrive.

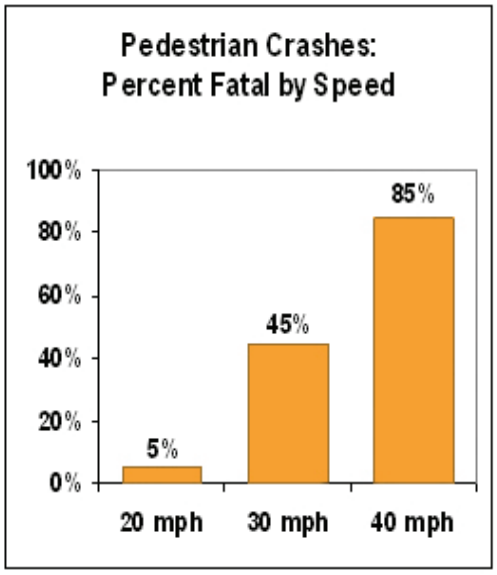
3. **Institutionalize changes:** Update standards in all relevant planning, design, and maintenance manuals. Invest in training all transportation and development review professionals on new complete streets policies and practices that measure the success of street designs based on all users' needs—not just vehicles. Replace vehicle "level of service" measures with multi-modal performance measures to evaluate all road and development projects. Create new data collection procedures to track how well the streets are serving all users.

4. **Build mixed-use walkable places:** Local governments should guide new development and retrofit existing development to create mixed-use, walkable environments that make walking, bicycling, and access to transit safe and convenient choices. The long-term solution to pedestrian safety problems lies in creating places that offer a comfortable and walkable environment in which homes, businesses, services, and community facilities are linked by a highly connected street grid of short blocks, lined with street-oriented buildings and pedestrian-scaled civic spaces.

1. Fix the worst places – identification and countermeasures

Identifying and fixing the places posing the most danger to pedestrians is the first action that all governments should take. Wide, multi-lane roads, expansive intersections, high-speed traffic and lack of safe, convenient crossings and sidewalks can make walking a deadly activity. Experts agree that speed is the most critical factor in the death and severe injury of pedestrians. Higher speeds produce more severe crashes and also reduce a driver's ability to avoid a crash in the first place. Research shows a strong relationship between fatal crashes and speed. A Transportation Research Board report found that while 95 percent of pedestrians are likely to survive being struck by a vehicle traveling at 20 mph, only 15 percent are likely to live through a collision with a vehicle traveling 40 mph (see Figure 3).[4]

Figure 3



Source: TRB, Managing Speed, 1998

In suburban jurisdictions, the majority of pedestrian fatalities occur on higher speed arterials. In Prince William County, VA., 86 percent of all fatalities, from 2003-2005, occured on roadways with speed limits 40 mph or greater and in Fairfax, 70 percent of the crashes occured on these types of roadways. In suburban counties, many areas of high pedestrian activity occur in commercial areas along higher speed state highways such as Route 1 in Fairfax County or Viers Mill Road (MD 586) in Montgomery County.

In highly urban jurisdictions, few roadways are posted for speeds 40 mph or greater, and in the case of D.C., no roads other than limited access expressways and freeways have speed limits higher than 35 mph. Table 4 shows the percentages of pedestrian fatalities on high-speed roads for each jurisdiction.

Given the steep decline in chances of survival for pedestrians colliding with vehicles traveling 30 mph or more (Figure 3), common sense suggests that in places that a significant number of pedestrians are present, streets should be designed to discourage vehicle speeds over 30 mph. In the long term, this could mean rebuilding parts of roadways and intersections and altering land use through zoning and other measures. In the short term, some simple actions can reduce vehicle speeds and save lives. Short term measures include re-striping intersections and roads to narrow travel lanes, installing temporary

Table 4. Percentage of Pedestrian Fatalities on Roadways with Speed Limits of 40 mph or Greater by Jurisdiction, 2003 - 2005

Jurisdiction	Percentage of Pedestrian Fatalities on Roadways with Speed Limits of 40 mph or more
Prince William County	86
Fairfax County	70
Montgomery County	54
Prince George's County	48
Loudoun County	40
Arlington County	38
District of Columbia	2
Alexandria City	0

Source: FARS Database

physical barriers, allowing on-street parking, and creating curb extensions to slow turning vehicles and give pedestrians shorter crossing distances. All of these changes affect *design speed*, or the speed that the road is built for, and not only the posted speed limit. Simply lowering the posted speed limit may not affect drivers' speeds if the roadway design encourages higher speeds, and enforcement is not publicized.[5]

Speed and Red Light Cameras: Important tools for safer streets

The deterrence effect of automated enforcement is broadly recognized: motorists are discouraged from violating the law because they know they risk detection if cameras are in use.

Results vary, but studies find that photo enforcement reduces speeds, injury crashes and overall crashes. Studies also show reductions of 30 percent in injury crashes in the U.S. from red light cameras. D.C., the U.S. jurisdiction to use speed cameras most extensively, has experienced reductions of 38 – 89 percent in vehicle speeds where cameras are used. In 2007, Montgomery County, Md., reported similarly positive results from automated speed enforcement: Speeds dropped by 70 percent at locations with both warning signs and speed camera enforcement.

Source: Insurance Institute for Highway Safety

Safety improvements should begin with a systematic assessment of crash patterns and hazardous locations. This analysis should form the basis for a pedestrian safety plan to address each jurisdiction's immediate pedestrian safety needs. Qualified engineering assessments should be implemented to fill gaps where crash data are missing or ambiguous. High crash and high-risk locations should be documented according to intersections or specific corridors and neighborhoods. Once these places are identified, decision-makers can target funds to immediately address the jurisdiction's worst pedestrian safety problem spots.

The Federal Highway Administration's *How to Develop a Pedestrian Safety Plan* recommends addressing the following five objectives to improve pedestrian safety and access:

- reduce the speed of motor vehicles;
- reduce pedestrian risks at street crossing locations;
- provide sidewalks and walkways separate from motor vehicle traffic;
- improve awareness of and visibility between motor vehicles and pedestrians; and
- improve pedestrian and motorist behaviors.[6]

Countermeasures should be selected to address specific problems related to different types of crashes. Countermeasures considered by most traffic engineers fall into three general categories: engineering, enforcement, and education. Engineering measures include any modifications to the design and facilities of roadways and intersections. Enforcement measures make sure that all users are obeying the roadway laws. New enforcement technologies, such as speed and red light cameras, have resulted in reduced crashes.[7] Lastly, education efforts teach all roadway users about proper behavior and are usually addressed through public campaigns, school systems, and motor vehicle departments.

Enforcement and education actions are important, but engineering options have the greatest potential for solving the inherent problem of poor physical designs that create hazardous situations for all roadway users.[8] Roadway redesigns that foster a pedestrian-friendly environment and network of streets make safe behavior for motorists and pedestrians intuitive. In contrast, designs that increase the likelihood of dangerous decision-making need to be reexamined, such as

roadway designs that encourage higher speeds, provide infrequent signalized crossings, or place bus stops in areas where riders are encouraged to cross outside the crosswalk.

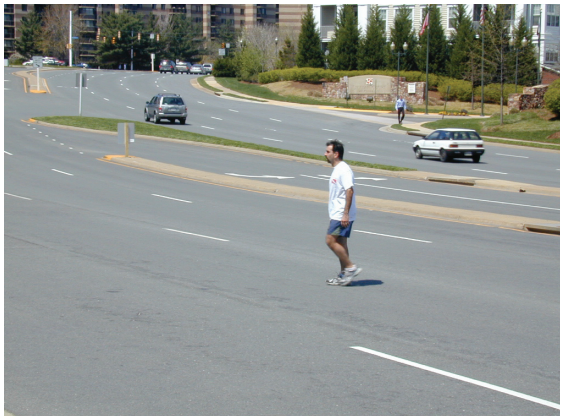
Countermeasures that treat pedestrians as the problem to be removed from the street and fail to recognize why pedestrians are present in the first place should be avoided. Such measures include extensive use of fencing to channelize pedestrian movements, which often create a prison-like effect.[9] Pedestrian bridges built to separate walkers from surface roadways often increase travel distances for pedestrians and produce a new threat of crime by creating an entrapment zone. Approaching streets as public spaces to be shared by all users rather than as the domain of motor vehicles can direct us away from removal of pedestrians from streets.

Complete the streets

Under a complete streets policy, all streets are designed and operated to safely accommodate all users.[10] This includes pedestrians, transit users, bicyclists, people with disabilities, and motor vehicles. Design elements of complete streets include crosswalks, wide shoulders on rural roads, medians, sidewalks, bicycle lanes, countdown and audible pedestrian signals, bus lanes, and sidewalk bulb-outs at intersections.

Complete streets policies are developed at different levels of government and can be implemented through legislation, resolutions, plans, tax ordinances, or internal policies. Complete streets policies are needed at the state as well as the local level since state roads often serve local communities. State routes are also the roadways with the highest number of fatalities in the Washington, D.C., region (see Table 3).

Complete streets policies should contain language that ensures compulsory rather than optional accommodation of all users on roadways; should avoid provisions for exceptions; and if exceptions exist, should require a formal approval process for each one.[11]



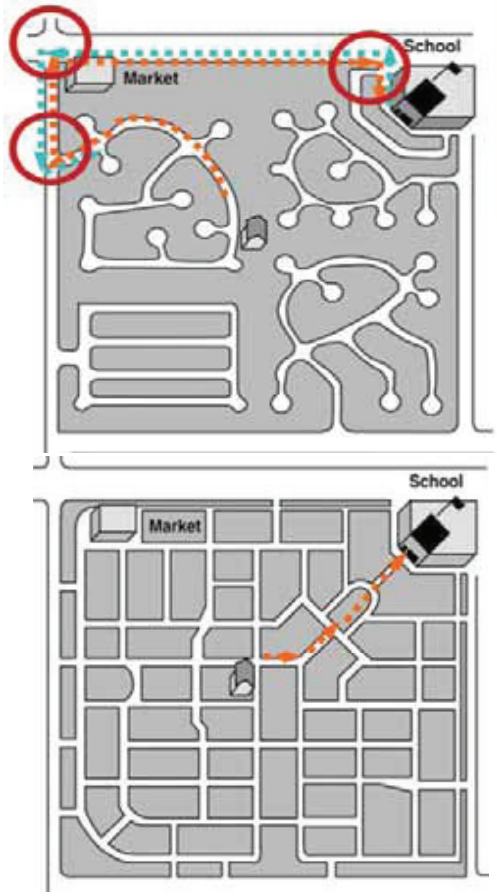
Wide roads and long distances between intersections in Tysons Corner, Fairfax County.

Institutionalize changes

To institutionalize these changes, an effective complete streets policy needs to integrate planning, design, and project development processes with a constellation of new training, new procedures and design manual changes that put walking, bicycling, and transit on a par with motor vehicles. Changes in design manuals and training ensure that multi-modal design automatically occurs with all future actions by the responsible agencies. It is not enough to have the best standards in the correct manuals; training of staff is needed to ensure that all responsible parties understand the standards and interpret and apply them consistently and accurately. Tracking, data collection, and routine application of performance measures that indicate how well streets serve

pedestrians, bicyclists, and transit riders are essential. Until engineers have performance measures that indicate success in achieving pedestrian safety and access goals, roadways will not provide appropriate safety and comfort for those on foot.

Figure 4



In the top image, residential streets are not well-connected, force most travel onto larger roads, and create long pedestrian pathways to destinations; below, connected streets provide a more direct route to the school. From: *How to Develop a Pedestrian Safety Action Plan*, Federal Highway Administration.

Build mixed-use walkable places

From a broader view, the need to build communities and business districts that are safe and inviting for pedestrians is fundamental to addressing pedestrian safety. Land use decisions often result in environments that are unsafe for pedestrians. Suburban land use patterns typically separate homes, offices, shops, and schools with high-volume multi-lane roads that force people to walk across streets in places that may not be safe.

The concentration of commercial activities along auto-dominated arterial corridors creates a number of disadvantages for walking and generates more traffic than would be necessary if activities were better integrated. Separated land uses mean that trip origins and destinations are often far apart. Longer travel distances cause fewer people to walk and create more driving trips. Those who do walk are exposed to long distances and high levels of risk along busy arterials, where they take their lives into their hands when they cross the street. Many destinations designed for automobile access along arterials have large surface parking lots which further undermine pedestrian access, since businesses are separated from the road and from each other by large parking lots.

These auto-dominated corridors typically have few intersecting streets, and therefore fewer signalized intersections, making these roads more difficult to cross. Local and national crash data indicate that many pedestrian crashes and deaths occur along higher speed arterials roadways where pedestrian facilities are few and land uses are highly separated. Street connectivity, short blocks, land use, and site design are all important elements in creating a place that is accessible and safe for pedestrians.[12]

Development requirements can create pedestrian-oriented buildings, site layouts, street grids, narrow roadways, and facilities such as sidewalks and pedestrian countdown signals. These elements can help reduce crossing distances and vehicle speeds while knitting together both sides of the street. These large and small scale layout and design decisions will support walking and bicycling and make transit more feasible. Land use planning should consider the origins and destinations of potential pedestrian trips and ensure that these trips will be safe, direct, and pleasant.

IV. Addressing Pedestrian Safety:
Assessment by Jurisdiction

Six basic questions guided our assessment of each jurisdiction's efforts to make walking safer:

1. Have high pedestrian crash or risk zones been identified from crash data or other relevant information?
2. Has the jurisdiction fixed problem roadways or intersections to reduce pedestrian risk?
3. Does the jurisdiction have a complete streets policy? Does the jurisdiction have implementing mechanisms that include capital projects and development review?
4. Are multi-modal performance measures used for all transportation projects and development projects?
5. Has the jurisdiction prepared a pedestrian master plan?
6. How many full time staff positions are devoted to pedestrian and bicycle planning and engineering?

Table 4 summarizes the answers to the questions above. In order to answer these questions, we consulted with a variety of government officials, local activists, and supporting plans and documents.

The first question was answered by examining whether or not the jurisdiction has utilized pedestrian crash data or other supporting data in the last 10 years to identify roadways and intersections that pose the highest threat to pedestrians. For the second question, if pedestrian projects or initiatives were created to combat pedestrian dangers posed in these high danger zones, the jurisdiction was given a positive rating. We used the *Thunderhead Alliance,* along with local sources, as a guide to determine if the jurisdiction meets minimum expectations for a complete streets policy. The most important criterion used in this assessment was whether all roadway projects require routine walking and bicycle accommodation in the given jurisdiction.

The fourth question addresses performance measures – or what parameters are used to evaluate how well a road is meeting the expectations of users and managers. This report assesses whether the jurisdiction uses multi-modal performance measures. Almost without exception, governments use a vehicle level of service (LOS) to measure the performance of roads while performance measures for other modes – walking, bicycling, and transit -- are rarely incorporated into roadway projects or adequate public facilities evaluations if at all. We found that no jurisdiction routinely uses multi-modal performance measures to evaluate roadways or as a part of development review.

Pedestrian master plans or pedestrian elements of master transportation plans were considered for this evaluation, whereas, countywide trail plans were not. Trail plans are valuable, but they do not take the place of planning and policies that treat pedestrians as a mode of travel on public roads. Lastly, calculating the number of full time employees was conducted primarily through self-reporting by jurisdictions. Staff professionals devoted to pedestrian and bicycle planning in transportation, public works, or planning departments were all treated equally.

Table 5: Summary of Practices and Policies to Address Pedestrian Safety by Jurisdiction, Washington, D.C., Region

	Alexandria	Arlington County	Fairfax County	Loudoun County	Prince William County	Montgomery County	Prince George's County	DC
Identified high-crash/high-risk areas	yes	yes	yes	yes	no	yes	no	yes
Fixed or in the process of fixing priority areas	ongoing	yes	ongoing		no	ongoing	no	yes
Complete streets policy	yes	yes	partial	yes	no	yes	no	partial
Multi-modal performance measures	no	partial	no	no	no	no	no	no
Pedestrian master plan	yes	yes	no	yes	no	no	no	In process
Pedestrian/ bicycle staff positions	1	3.25	5	0.1		3	2.5	4
PDI Rank	8 (least dangerous)	7	1 (most dangerous)	5	3	4	2	6

Arlington County, Virginia

Arlington County is a leader in pedestrian transportation safety planning, policy, and practice. As shown in the table, Arlington is excelling in all categories except multi-modal performance measures. Arlington showed early leadership with the adoption of the *Arlington County Pedestrian Transportation Plan* in January of 1997. This plan served as a comprehensive update of the Walkways Section of the *Master Transportation Plan* of 1986.[13] Arlington was the first of the region's eight jurisdictions to develop a pedestrian master plan. The goals, objectives, analysis, and implementation strategies in the plan set direction for addressing pedestrian conditions. Notably, the primary goal of fully integrating pedestrian considerations into the planning, design, and construction of all transportation and land developments, establishes a comprehensive approach to both transportation facilities and land use factors for pedestrian safety and walkability.

The Arlington plan contains the key elements of an effective plan. It lists the roadways and intersections with the most pedestrian-motor vehicle accidents for 1990-1995. Columbia Pike and North Glebe Road are shown as the worst roads, and the Lee Highway/North George Mason Drive and North Glebe Road/Pershing Drive are identified as the worst intersections for that particular time period. In addition to high crash locations, the plan outlines walkway

deficiencies and pedestrian projects in the Rosslyn, Court House, Clarendon, Virginia Square, Ballston, Crystal City, Pentagon City, Columbia Pike, and Lee Highway-Cherrydale areas. In order to make pedestrian improvements, the plan lays out a wide range of programs such as the Missing Links Program, Streetscape Program, and the Bus Shelter Program.

Since the 1997 plan, Arlington has made substantial progress which is noted in the current draft of the *Master Transportation Plan Pedestrian Element*.[14] The county created dozens of projects to retrofit existing intersections and streets to make them more pedestrian-friendly. In this process, street design standards were updated to assist pedestrians by making sidewalks wider, crossing distances shorter, and sidewalks more visible. Significant pedestrian signal improvements include ensuring that all traffic signals have pedestrian indicators; the majority of which have countdown signals. Also, all pedestrian traffic signals were retimed so that the standard walking speed is set to 3.5 feet per second rather than 4, which gives slower pedestrians more time to make street crossings.

The new plan presents a clear complete streets policy statement: "Ensure all streets are 'complete streets,' safe and comfortable for pedestrians, bicyclists, transit riders, motorists and other users." Arlington is one of only two jurisdictions examined in this report that provides such an explicit complete streets policy; Alexandria is the other. The pedestrian element complements this statement with the express intent that pedestrian access and circulation "will be fully integrated into the planning, design, construction and operation of the local and regional transportation systems and major land developments." These are vital policy statements that underscore the county's attention to pedestrian safety.

The *Master Transportation Plan – Streets Element* document articulates many elements of Arlington County's complete streets policy.[15] The plan describes street design standards according to the correlated street typology. For example, Urban Center Retail arterials have a target speed of between 20-25 mph, limited driveway access, two to four travel lanes, and so forth. The 15 arterial streets that are foreseen to be future complete streets are: Arlington Ridge Road, Carlin Springs Road, Clarendon Boulevard, Columbia Pike, Crystal Drive/Potomac Avenue, Four Mile Run Drive, Glebe Road, George Mason Drive, Lee Highway, Military Road, North Sycamore Street, Old Dominion Drive, Walter Reed Drive, Washington Boulevard, and Wilson Boulevard.

The performance goals listed by objective in the Arlington *Master Transportation Plan* are far more expansive and detailed than those of the other jurisdictions. Further, the *Master Transportation Plan* sets an objective of achieving multi-modal quality of service goals and recommends "Develop[ing] new approaches to measuring street performance that support the goals of Complete Streets. These measures should emphasize person-capacity instead of vehicle-capacity, qualitative measures of service in addition to quantitative measures, and include measures that address all modes."[16] While the County does not employ multi-modal performance measures currently, it plans to implement them in the future.

City of Alexandria, Virginia

Alexandria offers many policy and planning practices similar to those in Arlington. The city has mapped pedestrian and bicycle crashes for the years 2004-2006 as a part of its draft *Pedestrian & Bicycle Mobility Plan*, due to be completed in 2008.[17] Analysis of the map data reveals that the top three pedestrian crash roads for this time period are Duke Street, Mount Vernon Avenue, and King Street; whereas, the top pedestrian crash intersections are Mount Vernon Avenue/Four Mile Road and then Jefferson Davis Highway/East Glebe Road.

In addition to the crash map, the Priority Assessment Areas Map highlights the areas that need improvements.[18] The Priority Assessment Areas are where most of the detailed field analysis and recommendations will be focused for the mobility plan project. The city used a variety of variables to identify these areas, including high pedestrian and bicycle crash locations and high pedestrian and bicycle activity locations (e.g., places near schools, parks, retail, multi-use trails, transit, and institutional locations). Public input was used to help establish priorities for pedestrian and bicycle data collection. Lastly, the city considered socioeconomic equity, geographic distribution, proximity to transit, roadway locations and repaving schedules.

The 2007 *Alexandria Comprehensive Transportation Plan* is a product of the Comprehensive Transportation Policy and Program that Alexandria initiated in 2002. The plan establishes a multi-modal vision but only adopts bicycle level of service standards. The plan provides a complete streets policy statement which reads, "With 'complete streets' designed to enable safe travel by all users and routine accommodations for bicyclists, the City can make bicycling a viable transportation option in Alexandria." [19] The pedestrian section of the comprehensive transportation plan outlines proposed pedestrian projects in its "Proposed Pedestrian Network & Infrastructure" map. Also, along with Arlington, Alexandria is the other Northern Virginia jurisdiction that has implemented a "Safe Routes to School" initiative.

District of Columbia

The District of Columbia has performed the most extensive pedestrian crash mapping of all the jurisdictions with its Pedestrian Crash map for 2000-2005 (available at the *D.C. Pedestrian Master Plan* Web site). This analysis is part of the city's first Pedestrian Master Plan, planned to be completed in spring 2008. To help provide a more comprehensive assessment, the plan developed a high activity/high deficiency map as well as a sidewalk gap map. These analyses, along with input from community members, provide a better understanding of where improvements are needed the most. As a result, priority corridors were identified in each ward, and additional assessments of conditions were conducted. Detailed recommendations were developed for each of the eight priority corridors to improve conditions for pedestrians walking along and crossing the road. A corridor profile, analysis, and map book have been prepared for each corridor summarizing and illustrating recommended improvements.[20]

Table 6: Priority Corridors in the D.C. Pedestrian Master Plan

Ward	Road	From	To
1	16th St. NW	Spring Rd. NW	Massachusetts Ave. NW
2	New York Ave. NW to NE	7th St. NW	Penn St. NE
3	Wisconsin Ave. NW	Western Ave. NW	Woodley Rd. NW
4	New Hampshire Ave. NW to NE	Park Rd. NW	Peabody St. NE
5	Bladensburg Rd. NE	Benning Rd. NE	Eastern Ave. NE
6	M Street SW to SE	6th St. SW	Isaac Hull SE
7	East Capitol St. NE	B St. NE	Division Ave. NE
8	Alabama Ave. SE	MLK Jr. SE	Naylor Rd. SE

Source: DDOT

In terms of improving safety at high pedestrian crash areas, D.C. completed initial improvements at 20 of the top intersections as of January 2007, with signs, revised signal timings, pavement markings, and other minor changes. Over the last year, DDOT introduced more long-term fixes at these intersections by changing crosswalks, sidewalks, curbs, and by reducing the number of traffic lanes. D.C. took an early lead in countdown pedestrian signals -- installing them at more than 1,300 intersections starting in 2003. It should be noted that D.C. has more countdown signals than any other city in the United States. DDOT planned to add 120 more by the end of 2007.[21]

D.C. has made quick progress in the last few years given that prior to May 2005 it did not have a full time pedestrian coordinator. D.C. is also implementing a Safe Routes to School program. The District lags behind Arlington in the development of a pedestrian master plan, but is in the process of completing one. Current policies offer only some of the elements of a complete streets policy, but DDOT is currently creating a complete streets policy with input from local and national experts and activists.

Fairfax County, Virginia

Fairfax County has acted in several important ways to address its pedestrian safety problems. However, the county is ranked most dangerous for the 2004-2006 period among eight jurisdictions. Many crashes occur on wide, high-speed, state-controlled arterials such as Route 1 and Route 7, where posted speeds are often 35 and 45 mph. As discussed above, higher speeds lead to more fatal or serious injury crashes. The county has taken many recommended steps to address pedestrian safety, but the goal that pedestrian experts consider the top priority -- reducing vehicle speeds in high pedestrian activity areas -- has not been attempted. In part, this is because most high-fatality roadways are state highways and convincing VDOT to routinely adopt better designs has been a challenge. However, VDOT recently proposed reducing the speed limit on sections of Route 1 heavily traveled by pedestrians from 45 mph to 35 mph in order to improve the road's poor safety record.

Benning Road and Minnesota Avenue is a high crash intersection that is being re-planned as part of the Great Streets initiative by DDOT.

The county has focused substantial resources on building sidewalks and improving crossings across multi-lane roadways. In the case of Route 50 at Seven Corners, VDOT is constructing a $6 million pedestrian bridge and fencing in an attempt to remove pedestrians from a high-speed busy arterial where a number of pedestrians have been killed. While providing sidewalks and separating pedestrians from conflicts with vehicles are part of the solution, vehicle speed, street design, and land use remain important factors affecting pedestrian risks. Also, pedestrian bridges are usually not the right answer to conflicts between pedestrians and vehicles where roadways are in mixed use environments.[22]

In 2002, the County Board of Supervisors established a Pedestrian Program. The county also appointed a Pedestrian Task Force made up of a cross-section of concerned residents and staff. Fairfax established and funded a comprehensive Bus Stop Inventory and Safety program throughout the jurisdiction to determine if these stops are safe for pedestrians and to make recommendations on improving the stops. In January 2006, the *Pedestrian Task Force Final Report* was published, outlining many pedestrian problems in the county. The report includes a map of pedestrian crashes and fatalities for the years 2002-2004. Major pedestrian improvement needs of the county are identified through the 10-year and 4-year pedestrian improvement plans. Many of the projects listed in the plans were funded quickly and are under way. Of the $60 million funding goal for the 10-year plan, Fairfax has already committed roughly $37 million as of the end of 2007.

High speed section of Route 1 in Fairfax County, Virginia

The Task Force's work included the original top 24 pedestrian crash locations (1995-2001) in a Top 40 Pedestrian Intersection Retrofits project. This project is now funded and four intersections have been completed since 2006. The Fairfax County Department of Transportation has worked with the Department of Public Works and Environmental Services and VDOT on field reviews at 27 locations, and they advanced 11 projects to preliminary design and construction on projects within existing public right-of-way. These projects will go to construction in early-to-mid 2008; the first of which is already underway.

Regarding a complete streets policy, Fairfax County's policy is similar to D.C.'s partial policy. The key phrase in the *Fairfax County Comprehensive Plan* identifies assessing the needs of all users as optional rather than required. The document states: "Consider the needs of all users, especially seniors and people with disabilities, when making programming decisions."[23] Although this statement lacks potency, other policies in the Comprehensive

Plan should be recognized as part of a broader goal to provide a complete transportation network for all users so it is best to describe Fairfax County as having a partial complete streets policy. The most important policy statements in the plan that contribute to complete streets are:

- Objective 1: Policy a. Integrate motorized and non-motorized transportation facilities and services in accordance with transportation elements in both the Transportation Plan and Countywide Trails Map.
- Objective 4: Policy c. Provide for clearly-marked bicycle and pedestrian facilities, such as sidewalks, on-road bicycle routes, trails, crosswalks, curb cuts, refuge areas and pedestrian signals, in the construction and reconstruction of roads and bridges.
- Objective 6: Policy c. Integrate non-motorized transportation projects into the programming of construction and maintenance projects and improve bicycle level of service with road reconstruction projects.
- Objective 13: Policy d. Integrate planning and review so that non-motorized, mass transit, and motorized transportation needs are evaluated concurrently.

These statements support elevation of the needs of non-motorized users to the same level of priority as motorists. Routinely, however, street design decisions – such as design speed and land use -- perpetuate hazardous conditions for pedestrians, even as the county becomes more urban.

Montgomery County, Maryland

In December 2007, Montgomery County Executive Isiah Leggett released a *Pedestrian Safety Initiative*, which calls for better incorporation of consideration for pedestrians and bicyclists in the land use planning process. It also includes several other priorities, including investment in pedestrian safety countermeasures at high risk locations and improvement of pedestrian connectivity.[24] This initiative builds on the 2002 *Montgomery County Blue Ribbon Panel on Pedestrian and Traffic Safety* which laid out education, enforcement, and engineering findings and the correlated recommendations by each type in addition to legislative solutions.[25] Several maps in the report show the general location of pedestrian crashes that occurred in 1999. A supporting list highlights particular intersections with above average pedestrian crashes; the top two are Wisconsin Circle/ Wisconsin Avenue and Carroll Avenue/Piney Branch Road for the years 1997-1999. According to the Montgomery County Pedestrian Safety Advisory Committee (PSAC), however, many of the original Blue Ribbon Panel recommendations have not been completed. The county has also conducted an innovative bus stop safety improvement program and is implementing a Safe Routes to School program.

In July 2007, the County Council adopted revisions to its Road Code, establishing the basic elements of complete streets policy. Article II of the Road Design and Construction Code of Bill Number 48-06 makes accommodating all users a requirement:

> "Each roadway in the County must be designed to maximize the choice, safety, convenience, and mobility of all users and to minimize stormwater runoff and otherwise preserve the natural environment. To achieve these goals, each road and street must be designed so that the safety and convenience of all users of the roadway system including pedestrians, bicyclists, transit users, automobile drivers, commercial vehicles and freight haulers, and emergency vehicles is accommodated. Each street must be designed to facilitate multi-modal use and assure that all users can travel safely in the public right of way…These policies must be employed in all phases of roadway development, including planning, design, construction, and reconstruction."[26]

This law clearly defines all roadways as included in the policy and includes all phases of roadway development. The law also incorporates minimization of stormwater runoff. This is the first example of a combined complete streets and green streets policy in the country. Revision of road design standards will be implemented by the County Executive's office, which has hired a transportation consultant to conduct a series of stakeholder meetings to provide input into the revision process. Regarding staff, the county has approximately three staff positions that focus on pedestrian and bicycle issues.

Loudoun County, Virginia

Loudoun County identified pedestrian "hot spots" (high risk areas) in conjunction with its *Bicycle and Pedestrian Mobility Master Plan* (October 2003). The hot spots were comprised of both high use areas and problem areas. The problem areas were defined as locations where "pedestrian crashes are occurring, where street crossings are difficult or dangerous, where connectivity is desired but blocked by large roads, lack of facilities or other barriers, or where poor pedestrian conditions or personal security are a deterrent to pedestrian use."[27] Identifying the hot spots in Loudoun County helped to produce maps with pedestrian improvement areas throughout the county; many of which are intersections. The Master Plan also notes that there should be a minimum bicycle and pedestrian level of service for all roadway improvements and development projects.

A recent draft of the *Countywide Transportation Plan* puts forth a complete streets policy statement that the county "will work with VDOT to ensure that bicycle and pedestrian accommodations are addressed as part of each stage of planning, design, and implementation, beginning with the scoping stage of all transportation projects."[28] An additional statement strengthens the policy because it requires that "planning for the pedestrian must be integrated with the entire process of planning, design, and implementation by both the public and private sectors and effectively advocated within that process."

Prince George's County, Maryland

Prince George's County does not score well in this assessment on pedestrian danger or actions taken to improve pedestrian safety. Additionally, it consistently has the highest number of pedestrian fatalities in the region. The county has the equivalent of approximately 2.5 staff positions in the land use planning, development review, and transportation agencies who work on pedestrian and bicycle issues. Given the county's safety record, it clearly needs one or more full-time pedestrian transportation professionals to assist with urgent actions and longer term planning, policy, and design. It is the only inner jurisdiction that does not have one.

Prince George's County has never undertaken a systematic assessment of pedestrian danger areas in the county or developed a plan to address them. Since most pedestrian fatalities occur on state roads, the state of Maryland would be a key partner in addressing safety problems. The county, however, has not initiated any concerted effort to address the problem with the state in a comprehensive way. The state, Prince George's County, and Montgomery County have collaborated on addressing the pedestrian safety problems at one of the highest pedestrian crash intersections and corridors in the region – University Avenue (MD 193) near New Hampshire Avenue (MD 650) (the Takoma/ Langley Crossroads). The Maryland State Highway Department is erecting extensive fencing to redirect pedestrians from mid-block crossings. However, a recent Council of Governments pedestrian safety plan for the area recommends removing these fences as its recommendations are implemented.[29]

Wide intersection by the Addison Road Metro station

The relevant pedestrian policy statement in the *Master Plan of Transportation* notes that appropriate pedestrian, bicycle and transit-oriented design (TOD), and transit-supporting design features should be incorporated in all new development within centers and corridors.[30] As sector plans and transit district development plans have been developed, they have included policy recommendations to improve pedestrian access and safety through pedestrian-oriented land uses, urban design, and street design. The County's Park and Planning Board is currently updating its Transportation Master Plan and may include more policy focus on improving pedestrian and bicycle transportation. Translating these plans into implementation, however, remains an open question.

Prince William County, Virginia

Prince William County is an urbanizing community that ranked third worst on the PDI. The transportation section of its FY 2004-2008 Strategic Plan lists objectives to improve pedestrian safety and reduce the number of pedestrian accidents.[31] This is a positive place to begin, but far more needs to be done to address significant pedestrian safety problems in the county.

Virginia Department of Transportation (VDOT)

The Commonwealth of Virginia Department of Transportation has a complete streets policy, but effective implementation remains a challenge.[32] VDOT has one full-time pedestrian/ bicycle coordinator for the state.

Pedestrian safety advocates and local governments often cite the problem of VDOT-controlled higher speed arterials and highways that today serve many communities as their main street. Many Virginia communities still struggle to convince VDOT engineers to design arterial roadways for slower, safer speeds with full pedestrian and bicycle facilities. Recently, VDOT pushed for widening Route 7 in Tysons Corner from 6 lanes to 8 lanes with double left turn lanes, despite a county task force effort to redesign the area into a walkable, transit-oriented community. As for new secondary streets, VDOT's draft Secondary Street Acceptance Regulations offer an opportunity to ensure that private and county built streets are designed for pedestrians and bicyclists and help create an interconnected grid.

Maryland Department of Transportation (MDOT)

MDOT also has a complete streets policy. Like VDOT, MDOT is not considered to be acting in a systematic way to implement the policy. In 2002, the state published a Twenty-Year Bicycle and Pedestrian Access Master Plan which built on the Bicycle and Pedestrian Access 2000 law adopted in 1995. Access 2000 offered several important provisions:

- Building sidewalks along new and rebuilt state roads in urban areas;
- Creating a retrofit sidewalk program that provided 50 percent matching funds to localities;
- Conducting a study of pedestrian and bicycle access to rail transit stations in Maryland (DC Metro, MARC, Baltimore light rail and subway).

Prior to this law, sidewalks were not routinely built as a part of state road construction. Given that the law has only been in effect since the mid-1990s, the state has extensive needs for sidewalk retrofits where pedestrians are using state roadways.

V. Conclusion:
From Mean Streets to Main Streets

Walking is an increasingly important part of our lives. As our society ages, and as a larger share of our population seeks mixed use urban environments for a variety of reasons, people are walking to bus stops, stores, and services. Some walk because they do not own a car or cannot drive and others walk as a practical, healthy and environmentally-friendly way to get around. For all these reasons, we need to stop approaching streets and transportation as the sole domain of the automobile.

Suburban-style roads and places designed for high-speed vehicle traffic are fundamentally unsafe and impractical for pedestrians. If we do not design and operate roadways and shape our communities in ways that allow walking as a safe and convenient option, we cannot encourage more transit use, reduce traffic, or reap the other benefits gained by individuals and communities through walking.

Walking and walkable neighborhoods are critical elements for a future of health, independence and vitality for a large share of our population as the baby boom generation passes age 65. From simple street designs that offer raised medians and slower speeds, to building requirements that connect store front doors to sidewalks, we can eliminate pedestrian risks and drastically reduce the number of pedestrian deaths and severe injuries witnessed by our region.

Over the next five years, urgent safety actions and reshaped land uses can make the difference in the lives of many people and foster a healthier environment for the future. With the commitment of our elected leaders and transportation and planning officials, we can move from mean streets to main streets where everyone has the choice to walk safely to her or his destination.

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See: http://www.virginiadot.org/programs/resources/bike_ped_policy.pdf

VII. Appendices

Appendix A - Pedestrian Danger Index -- Fatalities

	Pedestrian Fatalities			Pedestrian Fatalities per 100,000 Population			Commute	Pedestrian Danger Index	
COUNTY/CITY	2004	2005	2006	2004	2005	2006	Percent Walk or Bus to Work	Pedestrian Danger Index	PDI Ranking
Fairfax County, VA	16	10	18	1.59	0.99	1.78	3.3%	44.1	1
Prince George's County, MD	18	35	20	2.15	4.15	2.38	6.8%	42.6	2
Prince William County, VA	1	2	7	0.30	0.57	1.96	2.9%	33.1	3
Montgomery County, MD	14	10	16	1.52	1.08	1.72	5.9%	24.4	4
Loudoun County, VA	2	0	1	0.83	0.00	0.37	1.9%	20.6	5
District of Columbia	9	16	21	1.55	2.75	3.61	26.4%	10.0	6
Arlington County, VA	2	3	1	1.01	1.50	0.50	10.5%	9.6	7
Alexandria City, VA	0	2	1	0.00	1.45	0.73	9.4%	7.8	8
Regional (8-jurisdiction area)	62	78	85	1.46	1.81	1.96	8.0%	21.8	

Description of Methodology

CSG used the same methodology created by the Surface Transportation Policy Partnership (STPP) for its *Mean Streets* reports to calculate a "Pedestrian Danger Index." The pedestrian fatalities data for the jurisdictions of interest were queried from the Fatality Analysis Reporting System of the National Highway Traffic Safety Administration, known as "FARS." In order to avoid anomalies occurring in a single year for relatively rare events, the fatality data were retrieved for a three-year increment -- 2004-2006. STPP calculated the pedestrian danger index by taking the average pedestrian fatalities per 100,000 population and dividing it by the percent of those who walk to work. The walk to work figure is derived from the 2000 Census Journey to Work data and represents an estimate of how many pedestrians are walking and exposed to possible risks. The number for average pedestrian fatalities per 100,000 was derived by dividing the three-year average fatalities by the U.S census population for a given jurisdiction. For this report, CSG opted to use the total percent that walk as well as ride the bus to work in an attempt to achieve a more accurate exposure rate. As noted in the referenced STPP report, there are limitations to the PDI because there is a lack of data to achieve a truly accurate walking exposure rate. The Census Journey to Work data only includes trips to work, thus assessing walking exposure of all trips would provide for a better PDI calculation.

Appendix B - Percentage of Fatal Injuries Among Pedestrian Injury Crashes

Jurisdiction	Time Frame	Pedestrian Fatalities	Pedestrian Injuries	Fatalities of all Pedestrian Injury Crashes	1 Fatality per XX Injury Crashes
Prince George's [1]	2003 - 2005	83	1,277	6.1%	1 in 16
Loudoun [2]	2001 - 2003	6	103	5.5%	1 in 18
Prince William [2]	2001 - 2003	8	156	4.9%	1 in 21
Fairfax [2]	2001 - 2003	36	901	3.8%	1 in 26
Alexandria [2]	2001 - 2003	6	212	2.8%	1 in 36
Montgomery [1]	2003 - 2005	36	1,321	2.7%	1 in 38
Arlington [2]	2001 - 2003	9	391	2.3%	1 in 44
District of Columbia [3]	2003 - 2005	43	2,012	2.1%	1 in 48

Note: Virginia jurisdictions show crashes from 2001-2003 because of data availability.

[1] Maryland State Highway Data

[2] Virginia data from Virginia Department of Transportation Traffic Engineering Division.

[3] DC Data from District of Columbia Department of Transportation and fatalities from FARS

Appendix C - Pedestrian fatalities by roadway over 10 years

View online at www.smartergrowth.net/pedreport

Appendix C: Pedestrian Fatalities by Roadway, 1995 - 2005, source: FARS

	Jurisdiction	Roadway	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
Alexandria City, VA														
		4511 TANEY AVE											1	
SR-236	DUKE ST/ LITTLE RIVER TURNPIKE	SR-236						1			1		1	
1-395	HENRY G. SHIRLEY MEM HWY	**I-395**			**1**				**2**	**2**				**5**
SR-23		SR-23						1						
		CAMERON ST					1							
		HOLMES RUN PK					1							
SR-401	N VAN DORN ST/S VAN DORN ST	SR-401					1							
SR-420	SR-420 (WITH JANNEYS LANE)	SEMINARY RD			1									
SR-401	SR-401 (WITH N VAN DORN ST)	501 S VAN (DORN) ST		1										
Arlington Co., VA														
I-395	HENRY G. SHIRLEY MEM HWY	I-395						1					1	
SR-120	NORTH GLEBE RD	SR-120							2				1	
SR-23		SR-23									1		1	
US-1	JEFFERSON DAVIS HWY (WITH SR-110)	US-1										1		
US-50		**US-50**		**2**		**1**		**2**		**1**		**1**		**7**
SR-12		SR-12									1			
SR-120	SR-120 (WITH W/N GLEBE RD)	S. GLEBE RD		1										
US-29	LEE HWY, OLD DOMINION RD, N WASHINGTON ST	US-29					1	1			1			
		5100 COLUMB			1									
		FOUR MILE RUN DR				1								
SR-237	PART OF SR- 237	WASHINGTON (BLVD)			1									
		949 MCKINLEY					1							
SR-237	WASHINGTON BLVD, N GLEBE RD, N FAIRFAX DR, 10TH STREET N	SR-237						1						
SR-27	WASHINGTON BLVD	SR-27							1					
		WILSON (BLVD)							1					
SR- 24		SR-24								1				
Fairfax Co., VA														
RT-644	Old Keene Mill Rd	RT-644	1					1	2				1	5
SR-123	Chain Bridge Rd / Ox Rd	SR-123	1						1			2	1	
SR-244	Columbia Pike	SR-244		1	1		1		1				1	
SR-7	Leesburg Pike	SR-7				1		5	2			1	2	
US-50	Lee Hwy / Fairfax Blvd / Arlington Blvd	US- 50		1			1		1		1	1	1	
US-1	Richmond Hwy	**US-1**	**5**	**1**	**2**		**2**	**4**		**3**	**1**	**2**	**2**	22
		US-56											1	
WILSON BLVD		WILSON BLVD											1	
SR-7100	SR-'7100	FAIRFAX CO PKWY										1		
I-395	Shirley Hwy	I-395							1			1		
I-95	Shirley Hwy	I-95			1				1		1	1		
RT-644	Rt-644	OLD KEENE MILL										1		
RT-644	Rt-644	RD										1		
RT-3449	SOUTH GEORGE MASON DRIVE?	RT-3449										1		
RT-638	Rolling Road	RT-638						1				1		
SR-267	Dulles Toll Road	SR-267									1	1		
SR-28	Sully Road / Centreville Road	SR-28	1									1		
		TIL WELL DR										1		
	CO 617	COMMERCE ST									1			

SR-644	ST-644	FRANCONIA RD OLD RICHMOND				1					1			
	(Old Richmond HWY Alex)	RD									1			
SR- 267	SR- 267	DULLES AIRP	1											
1-495	Capital Beltway	I-495	1	1		1		1	2	2				
SR-123	SR-123	OX RD	1											
RT-235	Mt. Vernon Memorial Hwy	RT-235	1											
RT-236	Little River Turnpike / Duke Street	RT-236	2						1					
RT-5062		RT-5062	1											
RT-7100	Fairfax County Pkwy / Herrity Pkwy	RT-7100	1											
	Lake Drive	SLAKE DR	1											
US-50	Arlington Blvd / US 50	ARLINGTON		1										
I-66	Custis Memorial Pkwy	I-66		1			2			1				
RT-29	Lee Hwy	RT-29		1										
RT-617	Backlick Road	RT-617		1										
	Center Road?	CENTRE RD			1									
SR-123	SR-123	CHAIN BRIDG			1									
SR-650	SR-650	GALLOWS RD			1		1							
	Olley Lane (crosses Bradock Rd, 620)	OLLEY RD			1									
RT-309	Old Dominion Drive	RT-309			1									
RT-796		RT-796			1									
SR- 649	SR-649	ANNANDALE RD				1								
SR-620	SR-620	BRADDOCK RD				1		1						
	FAIRFAX CO PKWY+B104	FAIRFAX CO				1								
RT-699	RT-699	PROSTERITY AVE				1								
	(crossed Wiehle Ave / 828)	N SHOE DR				1								
	(crosses Fairfax Co Pkwy / 7100)	SUNRISE VLLEY DR				1								
RT-617	Rt 617	BACKLICK RD					1		1					
RT-665	Waples Mill Road (crosses Rt 50)	RT-665					1							
RT-693	Westmorland Street	RT-693					1							
RT-699	Properity Ave	RT-699					1							
SR-241	N Kings Hwy	SR-241					1							
SR-72		SR-72					1							
SR-602	SR-602	RESTON PARKWAY						1						
	FFX Pkwy in springfield	SPRINGFIELD PKWY						1						
SR-193	Georgetown Pike	SR-193						1						
		TYSONS BOULEVARD						1						
		WEST PARK DR						1						
		HERNDON PKWY							1	1				2
	(crosses Rt 1 & others)	HUNTINGTON							1					
		INT'L DR							1					
		POPLAR TREE RD							1					
SR-790	SR-790	ALBAN RD								1				
SR-645	SR-645	BURKE LAKE RD								1				
RT-602	Reston Parkway	RT-602								1				
RT-470		RT-470								1				
US-11		US-11								1				
Prince William Co., VA														
SR-784	SR-784	DALE BLVD				1							1	
SR-619	SR-619	LINTON HALL RD											1	

US-15	James Madison Hwy	US-15										1			
RT-2179		RT-2179	1									1			
SR-234	Sudley Road	SR-234									1	1			2
SR-28	Nokesville Road	SR-28	1									1			
US-29	Lee Hwy	US-29										1			1
I-66	Custis Memorial Pkwy	I-66	1			1									
		MINNEVILLE			1	1									
US-1	Jefferson Davis Hwy	**US-1**						**1**	**1**	**1**					**3**
SR-3000	SR-3000	PRINCE WILLIAM PKWY						1		1					
I-95		I-95													
Loudoun Co., VA															
		HYDE PARK DR										1			
SR-7	Harry Byrd Hwy	**SR-7**			**1**		**1**	**1**		**1**	**1**	**1**			**6**
		SUGARLAND										1			
US-15	James Monroe Hwy	US-15									1	1			2
RT-626	The Plains Rd	RT-626	1												
RT-1701		RT-1701	1												
RT-1401		RT-1401		1											
RT-15BYPASS		RT-15BYPASS		1											
RT-658	Compton Rd	RT-658			1										
US-50	John S Mosby Hwy	US-50				1				1					
Montgomery Co., MD															
CO-1522		CO-1522											1		
CO-1659		CO-1659											1		
CO-4692		CO-4692											1		
SR-124	QUINCE ORCHARD RD	SR-124						1					1		
SR-185	CONNECTICUT AVE	SR-185			2	1		1	1	1		3	1		10
SR-193	University Blvd	SR-193					3		2				2		7
SR-586	VEIRS MILL RD	SR-586		2	3	1	1	2		1	1		1		12
SR-650	DAMASCUS RD	SR-650		1	1		1		1	1	2	2	1		10
SR-97	Roxbury Mills Road	SR-97	3	2			1	2				1	1		10
CO-148		C0-148					1					1			2
CO-132		CO-132										1			
CO-3439		CO-3439							1			1			2
CO-4897		CO-4897										1			
CO-780		CO-780										1			
I-270	WASHINGTON NATIONAL PIKE	I-270								1		1			2
SR-119	GREAT SENECA HWY	SR-119										1			
SR-396	MASSACHUSETTS AVE	SR-396										1			
CO-212		CO-212			1						1				2
SR-28	Darnestown Rd/ Dickerson Rd	SR-28		1		1		1			2				5
SR-355	WISCONSIN AVE/ ROCKVILLE PIKE	**SR-355**	**1**	**1**	**1**	**1**	**4**	**1**	**1**	**1**	**3**				**14**
SR-115	MUNCASTER MILL RD	SR-115									1				
SR-117	Old Towne Ave/ W Diamond Ave/ Clopper Rd/ Barnesville Rd/ Bucklodge Rd	SR-117						1			1				2
SR-320	Piney Branch Rd	SR-320	1					1		1	1				4
		182	1				1								2
		190	1												
		112	1												

		118	2											
		2722	2											
		29	1			1			1					3
		3072	1											
		37	1											
		95	1											
		495	1			1	1		3					6
		n/a	1	2			1							4
		135		1										
		2360		1										
		273		1										
		292		1										
		3727		1										
		4359		1										
		230			1									
		449				1								
		565				1								
		360				1								
		191				1								
		138					1							
		2423					1							
		5798					1							
SR-97	SR-97 (WITH ROXBURY MILLS RD)	GEORGIA AVE					1			1				2
		2593					1							
		CLUBHOUSE RD						1						
		MONTROSE RD						1						
		WESTLAKE DR						1	1					2
		198						1						
		410						2						2
		164								1				
		4226								1				
		108								1				
		BEL PRE ROAD								1				
US-29	US-29 (With Columbia Pike)	COLESVILLE RD METRO								1				
SR-119	SR-119	GREAT SENECA HGWY								1				
		WOODMONT AVE								1				
Prince George's Co., MD														
		CO-126									2		2	4
		CO-1599											1	
		CO-3074	1			1							1	3
		CO-332					1						1	
		CO-367				1							1	
		CO-81											1	
		CO-84											1	
		I-595					1						1	2
I-95	CAPITAL BELTWAY	I-95	1		1	1	2	1	2	1		1	3	13
SR-193	UNIVERSITY BLVD, WATKINS PARK DR, ENTERPRISE RD, GLENN DALE BLVD,	SR-193	**1**	**2**	**1**	**3**	**1**	**2**	**1**	**2**	**5**	**1**	**3**	**22**
SR-202	ANNAPOLIS RD, LANDOVER RD, LARGO RD	SR-202			1					5			1	7
SR-210	INDIAN HEAD HWY	SR-210	1	1	1	3	1		2		1	3	3	16
SR-212	RIGGS RD, POWDER MILL RD	SR-212					1		1		2		1	5

SR-214	CENTRAL AVE	SR-214		1	1	2	1	1			3		2	11
SR-4	PENNSYLVANIA AVE	SR-4		4	1		1		1	5	3	2	1	18
SR-410	EAST-WEST HWY, RIVERDALE RD, VETERANS PKWY	SR-410			1								1	2
SR-414	OXON HILL RD, ST BARNABUS RD	SR-414	2						1		1		1	5
SR-450	ANNAPOLIS RD, N CRAIN HWY	SR-450		1	2				2	1			4	10
SR-5	BRANCH AVE, CRAIN HWY, BLUE STAR MEM HWY	SR-5	3		1	1	1			1	1	2	2	12
SR-650	NEW HAMPSHIRE AVE	SR-650		2	1	1	1		1	1	2		1	10
SR-704	MARTIN LUTHER KING JR HWY	SR-704	1	1		2		1				1	1	7
US-301	BLUE STAR MEM HWY, S CRAIN HWY, JOHN HANSON HWY	US-301	1	1		2			1	3	1	2	2	13
		C0-366										1		
		CO-428										1		
		CO-5678										1		
		CO-2828										1		
SR-373	LIVINGSTON RD, ACCOKEEK RD	SR-373										1		
US-1	BALTIMORE AVE	US-1		2		1	2	2	2		2	1		12
		CO-14									1			
		CO-302							1		1			2
		HAMPTON PARK BLVD									1			
SR-295	BALTIMORE WASHINGTON PKWY	SR-295					1			2	2			5
SR-458	SILVER HILL RD	SR-458				1		1	2		1			5
SR-382	CROOM RD	SR-382									1			
		170	2											
		198	1							1				
SR-201	KENILWORTH AVE, EDMONSTON RD	SR-201	2	4	1				2					9
		218	1											
		10	1											
		117	1											
		1231	1											
		28	1											
		49	1											
		75	1											
		195	2		2									4
		197	2	2	1	1								6
		2375		1										
		3108		1										
		3668		1										
		4524		1		1								2
		501		2										2
		557		1										
		360			1									
		804			1									
		CO-999			1									
MD-500	QUEENS CHAPEL RD	MD-500			1			2						3
MD-637	NAYLOR RD	MD-637			1	1								2
		240			1									
		US 50037			1									
		982				1								
SR-564	LANHAM SEVERN RD, 9TH STREET, OLD LAUREL BOWIE RD, 11TH STREET	SR-564				1			1					2
		n/a					1							
		CO-87					1		1					2

	SR-410 (WITH EAST-WEST HWY, VETERANS PKWY)	RIVERDALE RD						2						2
		15TH AVENUE							1					
		CO-3643							1					
		SR-992							1					
	NO NUMBER	WALKER MILL RD							1					
	NO NUMBER	LANGLEY WAY								1				
		MD-30								1				
		SR-140								1				
SR-381	BRANDYWINE RD	SR-381								1				
US-50	JOHN HANSON HWY	US-50								1				

Washington, D.C. Pedestrian Fatalities, 1995 - 2005, source: FARS

Consolidated Street	Street Number	Roadway	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
South Capitol (Consolidated)			1	1	0	0	0	0	1	0	1	0	1	5
		SOUTH CAP ST	1						1				1	3
		S.CAP. & I ST. SE									1			1
		S CAPT I ST		1										1
14th Street NW (Consolidated)			0	1	0	0	1	0	0	1	0	0	1	4
	US-1 (with 6th St NW, Constitution Ave, and Rhode Island Ave)	14TH STREET NW											1	1
		14TH NW & Madison		1										1
		14TH NW & CORCORAN ST					1							1
		14TH NW & MISSOURI AVE								1				1
Benning Rd (Consolidated)			0	0	0	4	0	1	1	0	1	0	2	9
		BENNING RD				2		1					2	5
		21 ST & BENNING RD.									1			1
		BENN.RD & 19TH ST				1								1
		MN. AVE.& BENN.RD.				1								1
		BENNING RD./41 ST							1					1
16th Street NW (Consolidated)			0	0	1	1	0	1	1	0	0	0	1	5
		16TH ST NW			1								1	2
		16TH NW& LAMONT ST				1								1
		16TH NW& PARK RD						1						1
		16TH NW& LONGFELLOW							1					1
Pennsylvania Ave (Consolidated)			0	3	0	0	0	0	0	0	0	0	1	4
		PA. AVE		1									1	2
		10th & PA AV		1										1
		13 & PA AV		1										1
Connecticut Ave (Consolidated)			0	0	0	1	0	0	0	0	2	0	1	4
		CONN AVE									1		1	2
		CONN. & L ST									1			1
		CT AVE & DESALES ST				1								1
E. Capitol Street (Consolidated)			0	0	0	1	0	0	0	0	0	1	1	3
		E. CAP. ST.										1	1	2
		I295S/B &E. CAPITOL				1								1
Florida Ave (Consolidated)			0	2	0	0	1	0	0	0	1	0	1	5
		FLORIDA AVE		1									1	2
		FLORIDA & QUINCY									1			1
		6TH & FL		1										1
		7TH ST & FLA. AVE					1							1
Eastern Ave (Consolidated)			0	1	0	0	1	0	1	0	3	0	1	7
		EASTERN AVE		1							2		1	4

		EASTERN & QUARELS									1			1
		EASTERN & OLIVE					1							1
		DC295 & EASTERN							1					1
Rhode Island Ave (Consolidated)			0	1	1	0	1	1	0	0	1	0	1	6
	US-1 (with 6th St NW, Constitution Ave, and 14th St N/SW)/ US-29 (WITH GEORGIA AVE, 11TH ST NW, K ST NW, WHITEHURST FWY)	RHODE ISLAND		1			1	1			1		1	5
		ri ave & 12st			1									1
H Street N (Consolidated)			0	0	1	0	2	0	0	0	0	1	1	5
		H ST NW					1					1	1	3
		h & 4th st ne			1									1
		MD.AVE & H ST. NE					1							1
Bladensburg Road (Consolidated)			1	0	0	0	0	0	2	0	0	1	0	4
		BLADENSBURG RD	1						1			1		3
		17 & BLADENSBURG RD							1					1
Chesapeake Street (Consolidated)			1	0	0	0	1	0	0	0	0	0	0	2
		CHESAPEAKE (ST)	1											1
		RT-295 & CHESAPEAKE					1							1
N. Capitol Street (Consolidated)			3	0	0	0	1	1	1	0	0	0	0	6
		N CAPT ST	1					1						2
		N.CAPT. & R ST	2											2
		N.CAP & E ST					1							1
		NY.AVE & N.CAP.ST							1					1
Suitland Pky (Consolidated)			0	1	1	3	0	1	0	0	0	0	0	6
		SUITLAND PKWY		1										1
		Suitland Parkway			1	2								3
		SUITLAND & STANTON				1		1						2
Goergia Ave (Consolidated)			0	0	1	0	0	1	2	0	1	0	0	5
	US-29 (WITH RHODE ISLAND AVE, 11TH ST NW, K ST NW, WHITEHURST FWY)	GEORGIA AVE							2					2
		GEORGIA & UNDERWOOD									1			1
		GA AVE & V ST			1									1
		GEORGIA & KENNEDY ST						1						1
Alabama Ave (Consolidated)			1	0	0	0	0	0	0	0	1	0	0	2
		ALABAMA & STANTON									1			1
		2400 Alabama Ave	1											1
		15 & ALABAMA												0

Virginia Ave (Consolidated)			1	0	0	0	0	0	0	1	0	0	0	2
		VA Ave & 23rd NW	1											1
		19TH & VIRGINIA								1				1
Other Streets														
		3RD STREET											1	1
		FARRAGUT ST											1	1
		SUITLAND RD											1	1
		WISCONSIN AVE						1				1	1	3
		12TH STREET										2		2
		MORRIS RD S			1							1		2
		SOUTHERN AV			3		1	1				1		6
		MACOMB STREET										1		1
		THOMAS CIR NW									1			1
	DC-295	KENILWORTH AVE			1				1	1	1			4
		NEW HAMPSHIRE AVE									1			1
		ELVANS RD									1			1
		PLACE									1			1
		F ST	1											1
		GOOD HOPE RD	1											1
	US-29 (RHODE ISLAND AVE, GEORGIA AVE, K ST NW, WHITEHURST FWY)	11th St		1	1									2
		MASS AVE		1	1	1								3
		M ST		1	1									2
		MISSOURI AV		1										1
		HUNTER PL		1										1
		V ST			1									1
		WARDER ST		1										1
		DIX ST			1									1
		Sargent			1									1
		EISENHOWER			1		1							2
		OGLETHORPE			1									1
		WAHLER PL SE			1									1
		Rockcreek Pkwy			1									1
		SE Freeway			1									1
		NEBRASKA AVE					1							1
		ANACOSTIA AVE					1	1						2
		NY AVE				1								1
		10TH ST					1							1
		17TH STREET						1						1
		NJ. AVE						1						1
		NAYLOR RD						1						1
		LANGLEY CT						1						1
		CALVERT ST						2						2
		SHERIFF ROAD						1						1
		MACARTHUR BLVD						1						1
	US-29 (RHODE ISLAND AVE, 11TH ST NW, GEORGIA AVE, WHITEHURST FWY)	K ST							1					1
		PINEY BRANCH								1				1
		IRVING ST/PARK ROAD								1				1
		COLUMBIA RD									1			1
		9TH & F ST.									1			1
		15th & E St SE	1											1
		3900 9 St. NE	1											1
		Wayne Place	1											1

		17TH & C ST		1										1
		2801 NM Ave		1										1
		5TH & F ST		1										1
		9 St Tunnel		1										1
		SE SW FRWY		1										1
		14th & H			1									1
		4th & C St SW			2									2
		14TH & F ST.				1								1
		MISS AVE & STANTON RD				1								1
		S DAKOTA & KENNEDY				1								1
		12TH & G ST					1							1
		13 & L ST					1							1
		FIRST & Q					1							1
		11TH & H ST								1				1
		MALCOM X AVE, & NEWC								1				1