T&E COMMITTEE #1
December 6, 2007

MEMORANDUM

December 5, 2007

TO: Transportation and Environment Committee

FROM: Glenn Orlin, Deputy Council Staff Director

SUBJECT: Pedestrian safety programs

On December 5 the County Executive released a pedestrian safety initiative aimed at reducing the number and severity of pedestrian/vehicle accidents over the next several years. His proposal, which is co-sponsored by Councilmember Ervin, would require an investment of about $32 million more for pedestrian safety improvements and programs (roughly double the current investment): about $4.8 million over each of the next six years, plus about $3.8 million in one-time expenditures. A breakdown of the costs is displayed on ©12.

This worksession is an opportunity for Executive staff to present the proposal in some level of detail and to take initial questions from Councilmembers and Council staff. The spending proposals will be formalized subsequently as part of the Recommended FY09-14 Capital Improvements Program and the Recommended FY09 Operating Budget, so the thorough analysis of these proposals will occur during the winter and spring of 2008.

The proposal is described in the attached brochure (through ©12) and PowerPoint presentation (©13-30). The briefing will be introduced by Arthur Holmes, Director of the Department of Public Works and Transportation (DPWT) and will be presented by Fred Lees of the Traffic Engineering and Operations Section of DPWT's Division of Operations. Other members of the Pedestrian Safety Initiative Work Group (©iv) may also attend this worksession and be available for questions.

f:\orlin\fy08\fy08t&e\pedestrian safety\071206te.doc

Montgomery County Executive Isiah Leggett

Pedestrian Safety Initiative

December 2007

Message from County Executive Isiah Leggett

I believe we can dramatically improve pedestrian safety and accessibility for everyone in Montgomery County. During the past few years, the County has been part of a regional renaissance to make our area more pedestrian-friendly. However, there is much more we can and should do. Every pedestrian injury and fatality is one too many – and, with an average in Montgomery County of 14 fatalities and 430 collisions each year, we need to make significant improvements to resolve this crisis. Our challenge is to reassess what we are doing, keep what's working well and find new and creative ways to significantly expand our pedestrian safety efforts.

It is my pleasure to present you with this landmark Pedestrian Safety Initiative. For the first time, Montgomery County has created a pedestrian safety strategic plan with specific performance measures, timelines and budgets for achieving recommended actions. Ongoing evaluations will ensure the proposed engineering, enforcement, and education solutions are really working.

I am committed to recreating Montgomery County into a model of a truly walkable community. It's what every resident deserves. Through this initiative, we are transforming our pedestrian environment for future generations and enhancing the high quality of life for which Montgomery County is known.

Isiah Leggett
County Executive

Letter from Councilmember Valerie Ervin

Dear Resident,

There must be a partnership between County Government and its residents for pedestrian safety initiatives to be successful. That is why I am so proud to be working with the County Executive on an issue that is a top priority for me—creating safe walkable communities in Montgomery County.

As the Council's representative on the County's Pedestrian Safety Advisory Committee, I am committed to do all that I can to promote pedestrian safety. The Pedestrian Safety Initiative will provide the critical infrastructure and funding necessary to improve pedestrian safety throughout the County, with a special focus on areas with high pedestrian collision rates. This initiative will approach pedestrian safety issues comprehensively by conducting an overall analysis of where the County is today and identifying the direction that the County needs for the future.

The Pedestrian Safety Initiative focuses on the three essential components of pedestrian safety: education, engineering and enforcement. Living in and representing District 5, which has a high number of pedestrian related traffic incidents, I know that the County's initiatives on speed enforcement, outreach and education, especially for children and non-English speaking residents, are critical to improving safety.

According to the U.S. Department of Transportation's Federal Highway Administration a pedestrian is killed or injured every seven minutes. In 2006, the number of traffic and pedestrian fatalities exceeded homicides in the County. According to County Police statistics, there were 18 fatal pedestrian collisions and 419 reported pedestrian-related collisions. This data illustrates why pedestrian safety is a vital part of the County's overall approach to transportation management.

The Pedestrian Safety Initiative will work towards creating an interconnected system of pedestrian access routes around school zones, central business districts and transit areas because these areas have a significant amount of pedestrian activity combined with high traffic volumes. This initiative will ensure that the County's most vulnerable roadway users receive as much attention as drivers.

Increasing and improving pedestrian access and infrastructure can do far more than just improve mobility. Creating walkable communities can improve public health, promote a sense of place, improve quality of life, reduce vehicle trips and help to offset environmental impacts by increasing pedestrian routes to mass transit.

Through this partnership with County residents, we will make our County a safer and more pedestrian friendly place to live, work and play. Please join us as we embark on building safe communities together.

Sincerely,

Valerie Ervin

Valerie Ervin
Councilmember - District 5

Acknowledgements

Preparation of this initiative was the result of a collaborative inter-agency effort by a dedicated and expert work group. They deserve sincere appreciation for their time, talent and hard work in creating this blueprint for action. The members of the pedestrian safety initiative work group are:

Esther Bowring	Montgomery County Office of Public Information
Victoria Buckland	Montgomery County CountyStat
Joseph Cheung	Montgomery County Department of Permitting Services
Larry Cole	Maryland-National Capital Park and Planning Commission
Matthew Greene	Montgomery County Department of Housing and Community Affairs
Edgar Gonzalez	Montgomery County Department of Public Works and Transportation
Kate Harrison	Montgomery County Public Schools
Fred Lees	Montgomery County Department of Public Works and Transportation
Felicia Murphy	Maryland State Highway Administration
Sarah Navid	Montgomery County Department of Permitting Services
Tom Pogue	Montgomery County Department of Public Works and Transportation
Alexandra Shabelski	Montgomery County Office of Management and Budget
Lt. Ron Smith	Montgomery County Department of Police
Tom Street	Montgomery County Office of the County Executive
Ben Stutz	Montgomery County Council, Councilmember Valerie Ervin
Andrea Turner	Montgomery County Department of Public Works and Transportation
Emil Wolanin	Montgomery County Department of Public Works and Transportation

Table of Contents

Message from Montgomery County Executive Isiah Leggett i

Letter from Valerie Ervin, Councilmember – District 5 iii

Acknowledgements iv

Executive Summary 1

Introduction 2

Approach

- Strategy 1: Target Pedestrian Safety Improvements in High Incidence Areas 4
- Strategy 2: Assess and Improve Pedestrian Network and Connectivity Needs 5
- Strategy 3: Increase Emphasis on Pedestrians and Bicyclists in the Planning Process 7
- Strategy 4: Identify and Implement Corridor and Intersection Modifications and Traffic Calming Treatments 7
- Strategy 5: Upgrade Pedestrian Signals 8
- Strategy 6: Assess and Enhance Street Lighting 8
- Strategy 7: Modify Pedestrian and Driver Behavior through Enhanced Enforcement and Educational Efforts 9

Performance Measures 11

Summary Budget Table 12

Executive Summary

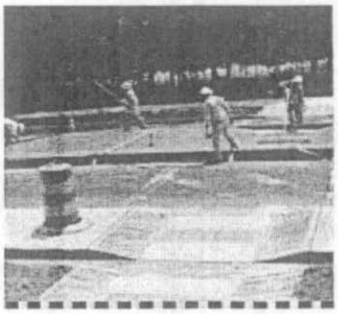
When Montgomery County Executive Isiah Leggett was elected in December 2006, he pledged to make improving pedestrian and traffic safety a priority of his administration. This County Executive Pedestrian Safety Initiative outlines a comprehensive approach to meet that pledge. This initiative is a cooperative effort between the County Executive, Councilmember Valerie Ervin as the County Council representative on the Pedestrian Safety Advisory Committee, and the Montgomery County Planning Board. This plan provides Montgomery County, for the first time, with a blueprint for action based on measurable strategies.

In January 2002, a Blue Ribbon Panel for Pedestrian and Traffic Safety issued its report identifying 54 recommendations to reduce pedestrian collisions and fatalities. For the past six years, these recommendations have guided County efforts to improve safety for pedestrians and make Montgomery County a more walkable community. Progress has been made – regional surveys have shown that awareness of pedestrian safety issues has increased both among the driving and walking public. But, with an average of 14 pedestrian fatalities and 430 collisions involving pedestrians each year in Montgomery County between 2003 and 2006, it is clear that more needs to be done.

To fulfill Mr. Leggett's vision for increased pedestrian mobility and safety, this plan establishes goals to:

- Reduce pedestrian-related crashes, injuries, fatalities, and their associated social and economic costs; and
- Ensure that all areas of the County provide safe and convenient travel options for pedestrians.

By making pedestrian travel safer, easier and more convenient, other important objectives are also achieved, including improving health and fitness, decreasing local vehicular congestion and pollution and making the community more appealing to businesses, residents and tourists.



The initiative sets out timeframes and budgets for new and enhanced efforts to achieve each strategy, starting with fiscal year 2009. The strategic approach to achieve the goals and objectives of this initiative are as follows:

Strategy 1: Target pedestrian safety improvements in High Incidence Areas

Strategy 2: Assess and improve pedestrian network and connectivity needs

Strategy 3: Increase emphasis on pedestrians and bicyclists in the planning process

Strategy 4: Identify and implement corridor and intersection modifications and traffic calming treatments

Strategy 5: Upgrade pedestrian signals

Strategy 6: Assess and enhance street lighting

Strategy 7: Modify pedestrian and driver behavior through enhanced enforcement and educational efforts

This initiative significantly enhances the County's investment in educating motorists and pedestrians, keeping enforcement efforts visible and intensive, and aggressively applying the most innovative and pedestrian-friendly road engineering design to prevent pedestrian injury and make Montgomery County a safe, livable, and accessible community.

This initiative proposes new spending of about $4.8 million per year and $32.4 million over six years on pedestrian safety activities. The County currently spends approximately $30 million annually in programs related to pedestrians.

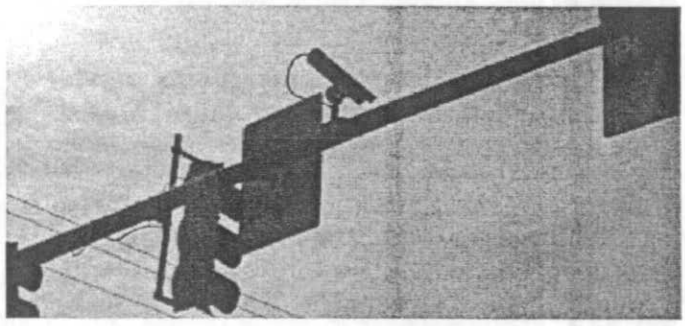
Introduction

One of the key priorities that Montgomery County Executive Isiah Leggett laid out for his administration was improving pedestrian safety and mobility by transforming the County into a truly walkable community. His vision is to create a community where people of all ages and abilities can walk, bike, use transit, and/or travel by motor vehicle safely and comfortably in a pedestrian-friendly environment by:

- Ensuring that every Montgomery County resident has a safe and viable alternative to using cars for local trips;
- Ensuring that children living within walking distance of their neighborhood school have a safe walking route to school;
- Significantly increasing the proportion of residents and visitors who are aware of the behaviors most often involved in pedestrian collisions and take recommended actions to reduce their risks; and
- Ensuring that pedestrian safety and accessibility are integrated in all public projects implemented by County and State agencies and in all future growth and private development in Montgomery County.

In 2002, a Blue Ribbon Panel on Pedestrian and Traffic Safety made 54 recommendations to improve pedestrian safety in Montgomery County. The Panel report did not prioritize the recommendations it offered, nor did it outline the level of resources or timeframes needed for each of the recommendations. Nonetheless, the Panel report provided valuable guidance and strongly influenced the County's pedestrian safety efforts over the last six years. Nearly every recommendation has been addressed in whole or in part. The County's achievements include:

- Installing pedestrian countdown signals at 110 County-owned intersections.
- Passing enabling legislation and initiating a speed camera enforcement program.
- Creating the Pedestrian Safety Advisory Committee.
- Creating the regional Street Smart pedestrian and bicycle safety public awareness campaign in 2002 and continuing contributions to this annual program.
- Developing pedestrian safety education programs for Spanish and other non-native English speakers.
- Funding a comprehensive bus stop improvement program to increase safety and access.
- Mandating use of Pedestrian and Bicycle Safety Impact Statements for all public projects and private developments.
- Addressing pedestrian safety and accommodation in all area Master and Sector Plan updates.
- Initiating a countywide Safe Routes to Schools program in 2003.
- Hiring a full time Safe Routes to Schools Coordinator.
- Increasing use of innovative engineering approaches, such as "bump-outs" and "road diets," which calm traffic and increase pedestrian safety and comfort.
- Toughening several key State pedestrian and traffic safety laws, such as doubling fines in school zones.



While the County has grown in population, employment and traffic, it is believed the County's pedestrian safety efforts over the past few years have prevented an increase in collisions between vehicles and pedestrians. However, there are still opportunities for the County to reduce the number of collisions.

From 2003 to 2006, Montgomery County averaged 14 pedestrian fatalities and 430 pedestrian and vehicle collisions each year – resulting in an estimated annual cost of nearly $64 million. Reducing crashes is an investment in the social and financial well being of the County.

To further increase the safety and security of pedestrians, the County Executive has developed a new, comprehensive initiative that, for the first time, outlines a systematic, results-oriented strategy with measurable results and outcomes. Building on past accomplishments, this new approach identifies specific "Three E" strategies – engineering, enforcement and education – as well as the resources needed to achieve them, and establishes performance goals to measure improvements.

This pedestrian initiative is designed to:

- Reduce pedestrian-related crashes, injuries, fatalities, and their associated social and economic costs; and
- Ensure that all areas of the County provide safe and convenient travel options for pedestrians.

In developing this initiative, an inter-agency working group reviewed recommendations developed in prior studies and information gathered from a variety of sources, including:

- Blue Ribbon Panel Report On Pedestrian and Traffic Safety (2002)
- Pedestrian Safety Advisory Committee – "The 2007 Pedestrian Safety Agenda" plus subcommittee reports
- Citizen's Advisory Boards input to the Capital Improvement Program
- M-NCPPC input to the Capital Improvement Program
- Public Information Officer Working Group
- Departmental and expert staff input
- Local Advocates (e.g., AIM, Crossroads, PREZCO, etc)
- Published sources of engineering and planning "best practices"

Approach

Improving pedestrian and traffic safety is a complex endeavor because it involves millions of daily trips taken by people of every age, ability and background. In order to prevent collisions, there must be a change in driver and pedestrian behavior. Research has shown that the most effective traffic safety programs involve a combination of approaches to change behavior, including the Three E's of traffic safety - engineering, enforcement, and education. Engineering changes, such as building sidewalks and installing pedestrian countdown signals at intersections, make the physical environment safer. Enforcement of traffic laws using automated technologies, such as red light and speed cameras to supplement traditional enforcement activities, induces people to slow down and follow the rules. Finally, educating the public on the rules of the road, teaching safe driving and walking skills and stressing the importance of looking out for each other all contribute to safer behavior on our roadways.

Mr. Leggett's overall vision is to increase the safety and security of pedestrians and reduce pedestrian fatalities and collisions. This Pedestrian Safety Initiative comprehensively addresses the engineering, enforcement, and education challenges of the County Executive's vision by identifying enhanced and new strategies to reduce collisions. Strategies developed in this plan:

- Target the most effective short-term solutions for locations that have historically had the highest number of pedestrian collisions; and
- Boost pedestrian safety initiatives that expand the frequency, intensity or geographic focus of effective programs.

Current spending on pedestrian safety has not been sufficient to achieve a reduction in collisions and make adequate progress towards creating a truly walkable community. The strategies listed below (not in priority order) outline the approaches and additional resources needed for this initiative, starting with the fiscal year 2009 budget.

Target Pedestrian Safety Improvements in High Incidence Areas

Collisions between pedestrians and vehicles occur throughout the County. However, crash data show that a significant number of collisions are clustered in a relatively few "High Incidence Areas." High Incidence Areas are located mostly in commercial areas, along transit corridors, and near high-density residential neighborhoods with a significant number of pedestrians and high traffic volumes.

Components

- Examine crash data yearly to identify High Incidence Areas (i.e. those locations with the highest frequency of pedestrian collisions). High Incidence Areas will be prioritized on a yearly basis to direct Three E efforts to those locations. It is anticipated that each year these areas will change as ongoing improvements reduce incidents at targeted locations. Based on available pedestrian crash data, the four High Incidence Areas to be targeted initially are:
    - Colesville Road corridor from East-West Highway to Spring Street

- Georgia Avenue corridor from Thayer Avenue to Spring Street
- Piney Branch Road corridor from Flower Avenue to Carroll Avenue
- Georgia Avenue corridor from Arcola Avenue to Glenallen Avenue

- Conduct Pedestrian Road Safety Audits (PRSAs) at the top four sites each year. The audits will be based on Federal Highway Administration Pedestrian Road Safety Audit Guidelines. Since most of the High Incidence Areas in Montgomery County involve State highways, the County will partner with the Maryland State Highway Administration (SHA) to perform audits. The audit process includes the following steps:

1. Identify target road segments to be audited based on pedestrian collision data.
2. Select a PRSA team of County and State experts to develop appropriate corrective strategies.
3. Perform site reviews under various conditions.
4. Analyze and prioritize safety issues and make recommendations to reduce risk.
5. Present audit findings to stakeholders and incorporate feedback.

- Implement physical improvements in High Incidence Areas selected as a result of the audits, in partnership with the Maryland State Highway Administration, and measure results. Examples of engineering enhancements that may be used include:
  - Accessible pedestrian signals and countdown signals
  - Sidewalk improvements, including building new segments, rebuilding sidewalks, adding ramps or widening sidewalks
  - Increased lighting
  - Improved signs and markings
  - Enhanced pedestrian crossings
  - Pedestrian buffers
  - Roadway adjustments (e.g. bump-outs, refuge islands)
- Conduct additional education and outreach on pedestrian safety, targeting the High Incidence Areas.
- Establish a program to monitor and track travel speeds and pedestrians' and motorists' perceptions of safety in High Incidence Areas. Compare High Incidence Areas that do and do not receive infrastructure improvements to gauge the impact and effectiveness of interventions.

Budget Requirements

- Auditing and improving each High Incidence Area will cost an estimated $300,000. Cost: $1.2 million per year to correct four areas annually.
- Develop and conduct an ongoing speed and safety evaluation program. Cost: $100,000 per year.
- Conduct targeted education and outreach. Cost: $100,000 per year.

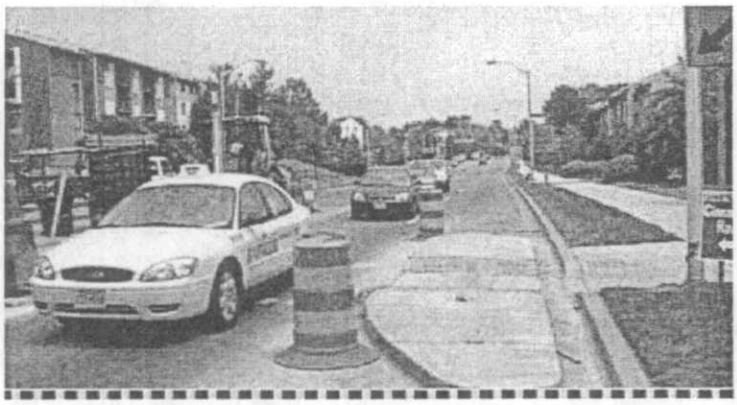
Assess and Improve Pedestrian Network and Connectivity Needs

A complete, accessible and unobstructed pedestrian network is an essential component of a walkable community. The County's pedestrian infrastructure is comprised of its sidewalks and trails and associated physical infrastructure. Many do not meet current standards or have gaps, undesirable conditions or other pedestrian safety challenges. This strategy focuses on mitigating those deficiencies by extending and improving sidewalks, signage and crosswalks.

Components

- Conduct a comprehensive assessment of the County's sidewalk network within the urban ring (as defined in the December 1993 General Plan) and I-270 corridor. The inventory will include sidewalk

characteristics such as width, Americans with Disabilities Act compliance and presence of buffer strips between the road and sidewalk. This data will be merged with existing sidewalk infrastructure information from State and County agencies.



The inventory will identify and assess deficiencies in the pedestrian network, including (a) areas lacking sidewalks or with gaps or dead ends requiring short sidewalk links; (b) areas with high levels of pedestrian activity where undesirable sidewalk conditions create pedestrian safety challenges and negative perceptions of walkability; and (c) sidewalks along major transit corridors that need to be retrofitted to meet the requirements of the County's new road standards.

The improvements will be prioritized by areas with (a) high levels of pedestrian activity, such as public facilities, transit stations, schools, libraries and shopping centers; (b) moderate levels of pedestrian activity, including transit corridors; and (c) near- to mid-term potential for increased pedestrian activity.

- Accelerate the "Safe Routes to Schools" engineering program to evaluate and implement pedestrian safety treatments at County schools. Treatments typically consist of new crosswalks, enhancements to school zone signing, physical improvements (e.g., bump-outs or other traffic calming features), flashing beacons, etc. Schools to be improved during fiscal year 2009 include Bel Pre Elementary School (ES), Bethesda ES, Capt. James Daly ES, Clarksburg ES, Darnestown ES, Galway ES, Glenallan ES, Highland ES, Jackson Road ES, Monocacy ES, Oakland Terrace ES, Olney ES, Poolesville ES, Rock View ES, Watkins Mill ES, Wayside ES, Westbrook ES, Wood Acres ES, Woodlin ES, Argyle Middle School (MS), Earle B. Woods MS, Herbert Hoover MS, John Poole MS, Montgomery Village MS, North Bethesda MS, Ridgeview MS, Roberto Clemente MS, Shady Grove MS and William H. Farquhar MS.

- Increase annual sidewalk construction efforts to address the current backlog and improve connectivity using the comprehensive sidewalk network assessment.

- Improve crosswalk installation and maintenance program, changing it to a performance-based system to ensure crosswalks are re-striped on an as-needed basis. Re-striping crosswalks is currently done cyclically, regardless of need. In high traffic areas, crosswalks may require replacement on a more frequent basis, and in low volume roadways, on a less frequent basis. Under a performance-based system, crosswalks will be monitored and replaced based on their retro-reflectivity and the percentage of intact markings.

- Expedite construction of new sidewalks by modifying current legislation that requires a public hearing for all sidewalk projects. The current process is cumbersome and results in implementation delays. Providing sidewalks where none exist is a public policy emphasis.

- Enhance pedestrian accommodations and ensure compliance with the new Road Code requirements in work zones by increasing monitoring and enforcement at construction sites. New resources will enable quicker response to complaints of sidewalk obstructions or closures and better coordination of multiple construction sites involving sidewalk closures in the same area.

Budget Requirements

- Prepare a comprehensive assessment of the County's sidewalk network. Cost: $500,000 over two years.
- Accelerate "Safe Routes to Schools" engineering program at a cost of $15,000 per school and add a new engineering staff position. Cost: $521,000 per year.
- Increase the rate of new sidewalk construction and add a new engineering staff position. Cost: Additional $1 million per year.
- Improve crosswalk installation and maintenance program. Cost: Additional $100,000 per year.
- Enhance monitoring and enforcement of pedestrian safety accommodations in work zones by hiring two additional Department of Permitting Services inspectors. Cost: $174,000 per year.

Strategy 3 — Increase Emphasis on Pedestrians and Bicyclists in the Planning Process

The Montgomery County Planning Board approves park projects and reviews other public projects under the Mandatory Referral process and approves most private development in the County. The Board is committed to increasing its efforts to provide for safe and convenient pedestrian and bicyclist accommodation. The Board will direct its staff in the Planning Department and the Department of Parks to place greater emphasis during the review process on the Zoning requirement that pedestrian access be safe, adequate and efficient.

Components

- Expand the use of Pedestrian and Bicyclist Safety Impact Statements. Statements will be required as part of any (a) Facility Planning Project Prospectus for Parks projects, (b) submissions for the Mandatory Referral Review of other public projects, and (c) LocalArea Transportation Review of proposed private developments.
- Include Subsections addressing pedestrian and bicyclist access and safety in the Transportation section of all Master and Sector Plans.

Budget Requirements

No additional resources are needed to implement this strategy.

Strategy 4 — Identify and Implement Corridor and Intersection Modifications and Traffic Calming Treatments

Many of the County's major roads were constructed before current traffic calming and pedestrian oriented design philosophies were recognized. To achieve the objectives of the newly revised Road Code, an effort is required to reassess corridor and intersection adequacy for pedestrians. The improvements would be made consistent with approved Master Plans and in balance with the other demands that are placed on the transportation system, including the needs of transit, commuters, delivery trucks, school buses, emergency response vehicles, etc.

Components

- Evaluate road sections throughout the County in areas with high concentrations of pedestrian activity or demand.
- Prioritize and implement improvements such as road diets, bump-outs, pedestrian refuge islands, pedestrian buffers, re-striping and other traffic calming measures for road sections that have excess vehicular capacity and where a traffic engineering analysis determines there would be an overall operational benefit.

Budget Requirements

- Develop and conduct an ongoing corridor and intersection improvement program. Cost: $500,000 per year.

Strategy 5

Upgrade Pedestrian Signals

This strategy will reduce conflicts for pedestrians and motorists at signalized intersections; provide safer crossing for the elderly, disabled and children; enhance walkability in central business districts; and improve the operation of the County-wide transportation system.

Currently, most traffic signals in the County are timed to allow pedestrians walking at a speed of four feet per second to safely cross an intersection. The new walking speed standard of 3.5 feet per second will provide additional crossing time for pedestrians and better accommodate those who have slower walking speeds.

Most of the traffic signals in the County do not meet current standards for Accessible Pedestrian Signals (APS). The Maryland State Highway Administration has established a 10-year goal to bring all State-owned signals into compliance and is upgrading traffic signals to meet that objective.

Components

- Complete a comprehensive review of pedestrian timings at the County's 750+ signalized intersections to ensure they meet the revised walking speed standard.
- Enhance County-owned traffic signals to meet APS standards to aid the visually impaired.

Budget Requirements

- Reassess pedestrian signal timings at approximately 250 locations per year. Cost: $1.125 million over three years.
- Enhance traffic signals to meet APS standards at a cost of $30,000 per signal. Cost: $150,000 per year.

Strategy 6

Assess and Enhance Street Lighting

Montgomery County's lighting standards provide for safe nighttime mobility and accessibility for motorists, pedestrians and bicyclists along all roadways, sidewalks and joint use paths. This strategy advances the County's ability to improve street lighting.

Due to current State policy and fiscal considerations, SHA does not provide continuous lighting on its roadways. In addition, there are County roadways, sidewalks and paths that were built either without lighting or with lighting that does not meet current standards.

Identification and reporting of outages is now mainly reactive, relying on reports from residents or from the five-year cycle of streetlight servicing. This initiative will allow the County to proactively identify outages by performing bi-annual nighttime inspections.

Components

- Conduct an evaluation of existing streetlight levels on all arterial and primary roads in the County and identify and prioritize areas requiring in-fill lighting, upgrades to meet current County lighting standards or new streetlights along roadways with sidewalks or paths that were built without lighting.
- Enhance the streetlight program to add major pedestrian and roadway lighting projects to prioritized areas identified in the evaluation. The following locations have already been identified as needing streetlights, but this list may be reprioritized for improvement once the comprehensive evaluation is completed:

- Great Seneca Highway – (near Seneca Valley High School)
- Goshen Road – Girard Street to Mid County Highway
- Odend'hal Road – Goshen Road to Lost Knife
- Watkins Mill Road –Club House Road to Gaithersburg City limits
- Centerway Road – Montgomery Village Avenue to Goshen Road
- Diamondback Drive – Muddy Branch Road to Story Drive
- Seven Locks Road – River Road to Lonesome Pine Lane
- Muddy Branch Road –Midsummer Drive to Mission Road
- Germantown Road – Clopper Road to Bowman Mill Road
- Georgia Avenue – Connecticut Avenue to Hewitt Avenue
- University Boulevard – Colesville Road to Piney Branch Road
- Wisteria Drive – Blue Sky Drive to Great Seneca Highway
- East Village Avenue – Goshen Road to Lewisberry Drive

- Provide matching funds to leverage SHA dollars for continuous pedestrian lighting along roadways, sidewalks, and paths adjacent to State highways. Two interchanges are targeted: (1) Maryland Route 355 and Montrose Parkway and (2) Maryland 124 between Airpark and Fieldcrest.
- Conduct a proactive, biannual nighttime inspection of roadway and pedestrian lighting to identify outages for follow-up repair.

Budget Requirements

- Conduct lighting evaluation on all arterial and primary roads. Cost: $100,000.
- Construct new streetlights on priority roads built without them. Cost: $500,000 per year.
- Provide matching funds for SHA projects. Cost: $2.04 million.
- Proactively inspect all streetlights twice a year for outages. Cost: $75,000 per year.

Modify Pedestrian and Driver Behavior through Enhanced Enforcement and Educational Efforts

Raising public awareness of the role both drivers and pedestrians play in pedestrian safety is an integral part of the County's effort to reduce the number of pedestrian-related motor vehicle collisions. The goal of both enhanced enforcement and public education is to encourage and maintain public support and compliance with traffic laws. Modifying perceptions of risk and responsibilities on the road can change behavior and contribute toward building a culture of safety.

Components

- Establish a pedestrian safety work group in the Special Operations Division of the Police Department to increase coordination and expand education and enforcement operations in a consistent manner across the County. Countywide pedestrian enforcement initiatives will increase from quarterly to monthly utilizing the six district traffic squads. Police will target areas with a high incidence of pedestrian-related collisions, which will be identified on a quarterly basis by a traffic analyst.
- Continue expansion of the photo speed enforcement program that began on May 2, 2007 on 30 roads throughout the County. The program conducts consistent, high-profile speed enforcement operations in school zones and residential areas where the maximum speed limit is 35 MPH. During the first seven months of the program, it has expanded to more than 40 mobile sites and two fixed sites.

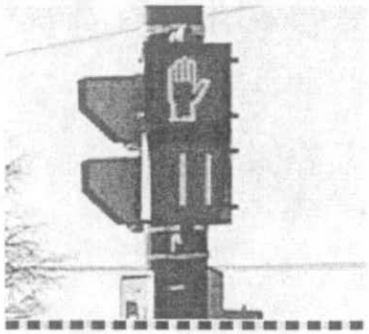
- Expand participation in the regional Street Smart pedestrian safety campaign. Street Smart is a public education, awareness, and behavioral change campaign that uses radio, newspaper, and transit advertising; public awareness efforts; and added law enforcement to respond to the challenges of pedestrian and bicyclist safety.
- Increase the Police department's traffic safety efforts by expanding its crash analysis and data collection capability. New software tools will provide information about the more than 12,000 reported annual traffic collisions and the more than 400 annual collisions with pedestrians. This effort is essential to targeting enforcement and engineering countermeasures effectively.
- Conduct additional education and outreach on pedestrian safety, targeting groups at high risk for pedestrian collisions, including young people, non-native English speakers and seniors.
- Enhance awareness of the role that pedestrian visibility plays in collisions, especially in the winter months, targeting transit users and groups at high risk for pedestrian collisions. Many pedestrians do not understand that while they can see vehicles, the drivers may not be able to see them. Retro-reflective items, which greatly enhance visibility, will be provided to at-risk pedestrians along with educational messages.
- Continue the Safe Routes to Schools education and encouragement program for elementary and middle school students by identifying preferred walking and biking routes; conducting walking and biking skills training; working with parents, students, school personnel, and others to understand the benefits of walking; and engaging in encouragement activities to increase the frequency and numbers of children walking and biking to school.
- Expand the "Safe Walks" program in schools to train additional high school students who educate second graders about safe walking skills. Programs that teach street-crossing skills to children can help them more successfully cope with complex crossing decisions and reduce their chances of being involved in a crash. The high school students also learn valuable traffic safety lessons that they convey to their friends and family and affect their behavior as newly licensed drivers.
- Increase the number of schools participating annually in "Walk to School Day." Twenty-eight MCPS schools participated in 2007, which was 14 percent of all schools.
- Conduct annual countywide survey of residents, employees and visitors to gauge perceptions of safety and walkability.

Budget Requirements

- Enhance Police enforcement operations by expanding targeted actions from quarterly to monthly. Cost: $100,000 per year.
- Expand participation in regional Street Smart pedestrian safety campaign. This is a Metropolitan Washington Council of Governments participation requirement. Cost: $45,000 per year.
- Expand crash analysis and data collection capability by adding a traffic data analyst. Cost: $71,500 per year.
- Expand targeted education and outreach to groups at high risk for pedestrian collisions. Cost: $50,000 per year.
- Distribute reflective materials to enhance pedestrian visibility. Cost: $72,500 per year.
- Conduct annual countywide survey of residents, employees, and visitors. Cost: $20,000 per year.

Performance Measures

In order to determine the effectiveness of this initiative in reducing collisions, enhancing safety and improving walkability, it is important to focus, to the extent possible, on measurable results. The following measures have been developed to assist in evaluating the impact and success of the initiative. Periodic review of this information will allow the County to alter strategies and redistribute resources as necessary to achieve stated objectives.



- Reduce pedestrian collisions in each of the targeted High Incidence Areas by 20 percent following completion of improvements.
- Reduce average traffic travel speeds in targeted High Incidence Areas.
- Increase perception of pedestrian safety and walkability in targeted High Incidence Areas using an annual County survey of residents and visitors to assess results.
- Increase the annual sidewalk construction effort to 10.5 miles of new sidewalks each year.
- Complete Safe Routes to Schools improvements at 29 schools per year, completing the remainder of County schools in a six-year timeframe.
- Review/update pedestrian signal timings at a rate of 250 per year for each of the next three years.
- Upgrade all County-owned traffic signals to current APS standards, adding pedestrian countdown features, at a rate of five per year.
- Complete improvements to 13 identified lighting projects within the next six years.
- Increase the number of elementary school students being trained through the Safe Walks program by five percent each year.
- Increase the number of schools that participate in Walk to School Day by five percent each year.

Summary Budget Table

This budget summary table identifies the funding requirements associated with each strategy. It identifies the source of funds and whether they are existing, one-time, or recurring funds. **All funds shown are in thousands of dollars.**

Project Description	Operating or Capital Budget	Existing Annual Funding*	New Funding	
			One-Time	Annual Recurring
Strategy 1: High Incidence Areas				
High incidence areas (HIAs)	Capital			$1,200
Education and outreach for HIAs	Operating			$100
Speed monitoring & survey for HIAs	Operating			$100
Subtotal Strategy 1				$1,400
Strategy 2: Pedestrian Network & Connectivity				
Pedestrian network facility plan	Operating		$500	
Accelerate "Safe Routes to Schools" program	Operating	$80		$521
Enhanced sidewalk construction program	Capital	$1,350		$1,000
Enhanced crosswalk installation/maintenance	Operating	$200		$100
Enforcement of pedestrian accommodations in work zones	Operating			$174
Subtotal Strategy 2		$1,630	$500	$1,795
Strategy 3: Increase Planning Emphasis				
Increase emphasis on pedestrians by Planning Department	Operating		$0	$0
Subtotal Strategy 3			$0	$0
Strategy 4: Corridor & Intersection Modifications				
Redesign/reconstruct roads and intersections	Capital			$500
Subtotal Strategy 4				$500
Strategy 5: Upgrade Pedestrian Signals				
Reassess pedestrian signal timings	Operating		$1,125	
Accessible pedestrian signals (APS)	Capital			$150
Subtotal Strategy 5			$1,125	$150
Strategy 6: Enhance Street Lighting				
Lighting evaluation	Operating		$100	
New street lighting: major lighting projects	Capital			$500
New street lighting: MSHA projects	Capital		$2,040	
Biannual streetlight inspection	Operating			$75
Subtotal Strategy 6			$2,140	$575
Strategy 7: Enforcement & Education				
Enhance County-wide enforcement operations	Operating			$100
Regional Street Smart campaign	Operating	$45		$45
Expand crash analysis and data collection capability	Operating			$71.5
Enhance education and awareness among at-risk populations	Operating			$50
Distribute reflective materials	Operating	$8		$72.5
Annual Countywide survey	Operating			$20
Subtotal Strategy 7		$53		$359
Total Expenditures		$1,683	$3,765	$4,779

* Current funding levels for initiative items. Does not include CIP funding of about $30 million/year in other CIP projects.

PEDESTRIAN SAFETY INITIATIVE

13

Presented by
Pedestrian Safety Initiative Working Group

December 2007

Safe Streets & Secure Neighborhoods

- Safety and security of pedestrians must be increased. To reduce pedestrian fatalities and injuries:
  - Develop a public education campaign for pedestrians and drivers, with special attention to those with limited English proficiency and people with disabilities.
  - Increase visibility at pedestrian crossings using both short-term, low-cost means and long-term investments (*e.g.*, improved lighting, barriers, ADA curbs, pedestrian bridges and tunnels, landscaping).
  - Increase targeted enforcement.
  - Conduct a study of pedestrian fatalities and injuries and make findings available to the public

Overview

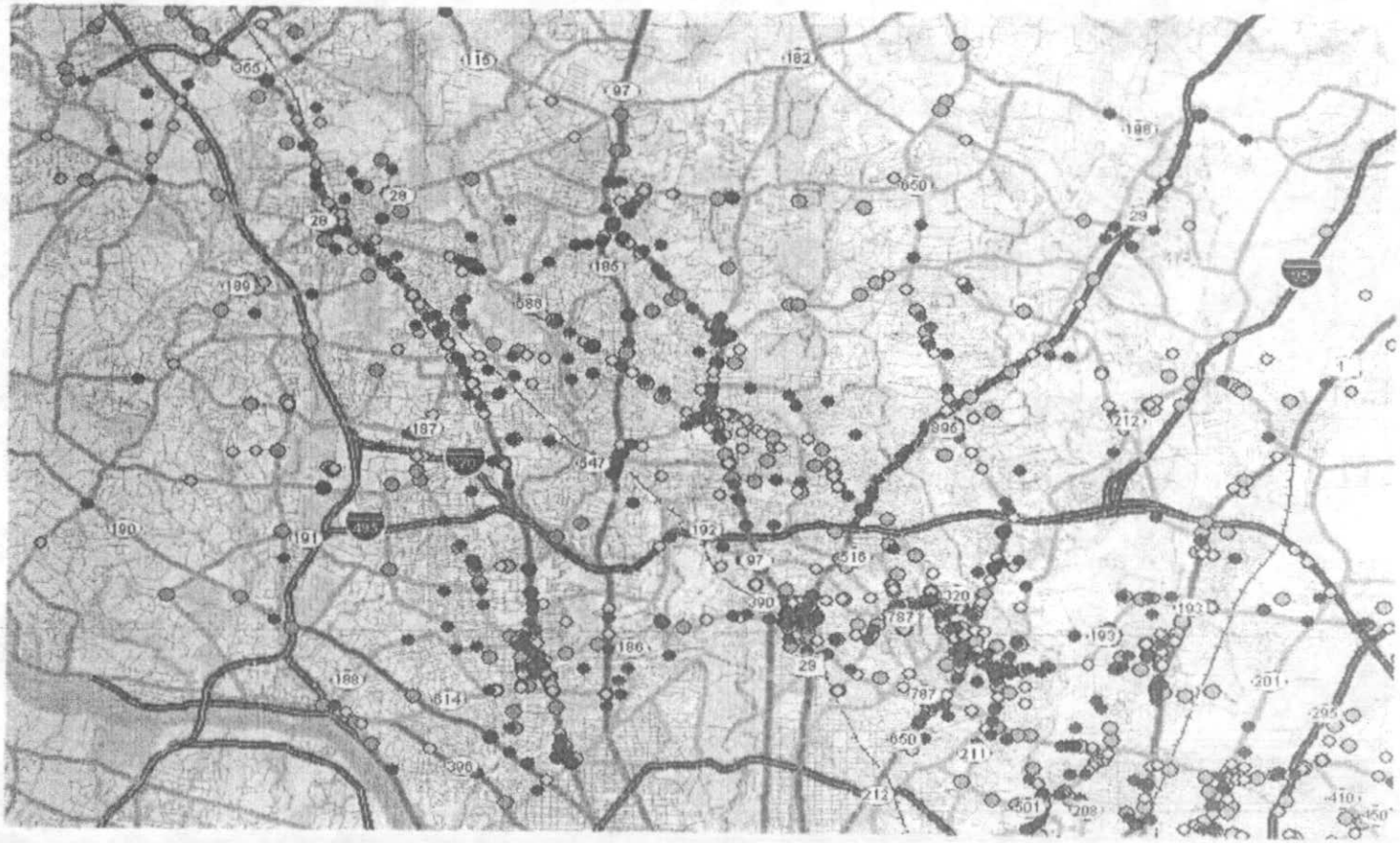
- This initiative proposes to spend approximately $4.8 million per year and $32.4 million over the next six years on pedestrian-related activities.
- Currently, the County spends approximately $30 million annually focused on infrastructure revitalization, maintenance, park trail expansion, increased lighting at some central business districts, traffic enforcement, and achieving American Disabilities Act (ADA) compliance in sidewalks and other pedestrian facilities.
- Initiative Development relied on:
  - Blue Ribbon Panel Report on Pedestrian Safety (2002)
  - Pedestrian Safety Advisory Committee reports
  - MNCPPC & Citizens Advisory Boards input to the Capital Improvements Program
  - Departmental staff expertise
  - Local advocates (e.g. AIM, Crossroads, PREZCO, etc.)
  - Published sources of engineering & planning "best practices"

Objectives

- Reduce pedestrian-related crashes, injuries, fatalities, and their associated social and economic costs

- Ensure that all areas in Montgomery County provide safe and convenient travel options for pedestrians

High Incident Area Map



17

Strategies

1. Target most intensive pedestrian safety improvement efforts in High Incidence Areas
2. Assess and improve pedestrian network and connectivity needs
3. Increase emphasis on pedestrians and bicyclists in the planning process
4. Identify and implement corridor and intersection modifications and traffic calming treatments
5. Upgrade pedestrian signals
6. Assess and enhance street lighting
7. Modify pedestrian and driver behavior through enhanced enforcement and educational efforts

Strategy 1: High Incidence Areas

- Target High Incidence Areas
  - Examine Crash Data yearly to identify High Incidence Areas
  - Conduct four pedestrian safety road audits each year
  - Implement physical improvements such as pedestrian buffers and refuge islands
- Provide additional education and outreach to residents in High Incidence Areas.
- Implement speed monitoring and safety perception survey

Strategy 2: Pedestrian Network and Connectivity

- Conduct a comprehensive evaluation of the sidewalk network within the urban ring & I-270 Corridor
- Accelerate pedestrian safety treatments related to "Safe Routes to Schools" program
- Increase sidewalk construction
- Improve crosswalk installation and maintenance
- Monitor pedestrian safety in work zone areas

Strategy 3: Increase Planning Emphasis

- Require Pedestrian and Bicyclist Safety Impact Statements
- Include subsections addressing pedestrian and bicyclist access in the Transportation section of all Master and Sector Plans

Strategy 4: Corridor and Intersection Modifications

- Evaluate road sections in areas with high concentrations of pedestrian activity or demand
- Prioritize and implement improvements such as bump-outs, pedestrian refuge islands, pedestrian buffers, re-striping and other traffic calming measures for road sections

Strategy 5: Upgrade Pedestrian Signals

- Review pedestrian timings at the County's 750+ signalized intersections
- Enhance County-owned traffic signals to meet Accessible Pedestrian Signal (APS) standards to aid the visually impaired

Strategy 6: Enhance Street Lighting

- Conduct an evaluation of existing streetlights on all arterial and primary roads and identify and prioritize areas requiring in-fill lighting, upgrades, or new streetlights along roadways with sidewalks and paths
- Enhance program to add lighting along County-owned roads
- Provide matching funds to leverage State Highway Administration (SHA) dollars to provide continuous pedestrian lighting
- Proactively inspect street lighting outages twice a year.

Strategy 7: Enforcement and Education

- Enhance County-wide enforcement operations
- Increase participation in the regional Street Smart pedestrian safety campaign
- Expand crash analysis capability
- Expand the photo speed enforcement program
- Enhance educational outreach to high risk populations such as young children, seniors, and non-English speaking individuals
- Distribute reflective materials
- Augment the "Safe Walks" program in schools

Expected Outcomes

- Reduce pedestrian collisions at High Incidence Areas by 20%
- Reduce traffic travel speeds at High Incidence Areas with greater enforcement
- Complete Safe Routes to Schools improvements at 29 schools per year

Expected Outcomes

- Change timing at 750 pedestrian signal locations to accommodate slower walking populations

- Install 5 Accessible Pedestrian Signals per year to aid the visually impaired

- Build a total of 10.5 (up from 6) sidewalk miles per year to improve connectivity

Budget Costs

Strategy #	Existing Funding	New One-Time Costs	New Recurring
1	$0	$0	$1,400,000
2	1,630,000	500,000	1,795,000
3	0	0	0
4	660,000	0	500,000
5	168,000	0	500,000
6	428,000	2,140,000	575,000
7	53,000	0	359,000
Total	**2,939,000**	**3,765,000**	**4,779,000**

Acknowledgements

- Ester Bowring
- Victoria Buckland
- Joseph Cheung
- Larry Cole
- Matthew Greene
- Edgar Gonzalez
- Kate Harrison
- Fred Lees
- Felicia Murphy

Sarah Navid
Tom Pogue
Alexandra Shabelski
Ron Smith
Tom Street
Ben Stutz
Andrea Turner
Emil Wolanin

Questions