Pedestrian Safety Initiative Update

May 08, 2013

CountyStat

CountyStat Principles

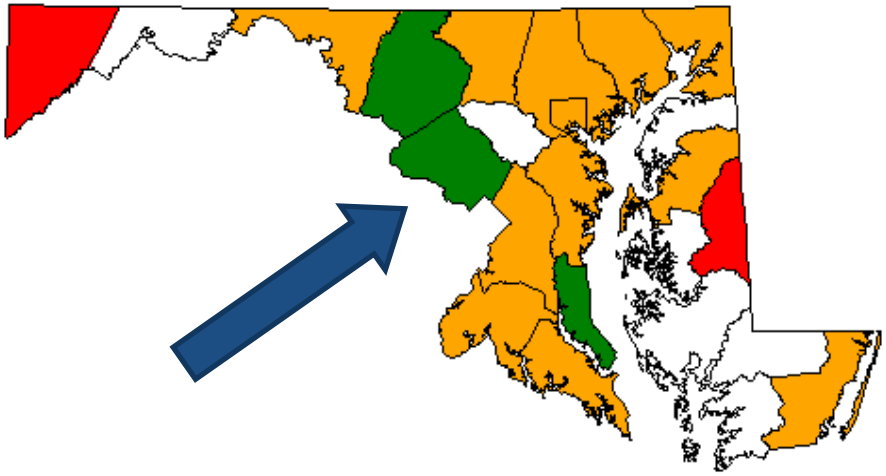
- **Require Data Driven Performance**
- **Promote Strategic Governance**
- **Increase Government Transparency**
- **Foster a Culture of Accountability**

Agenda

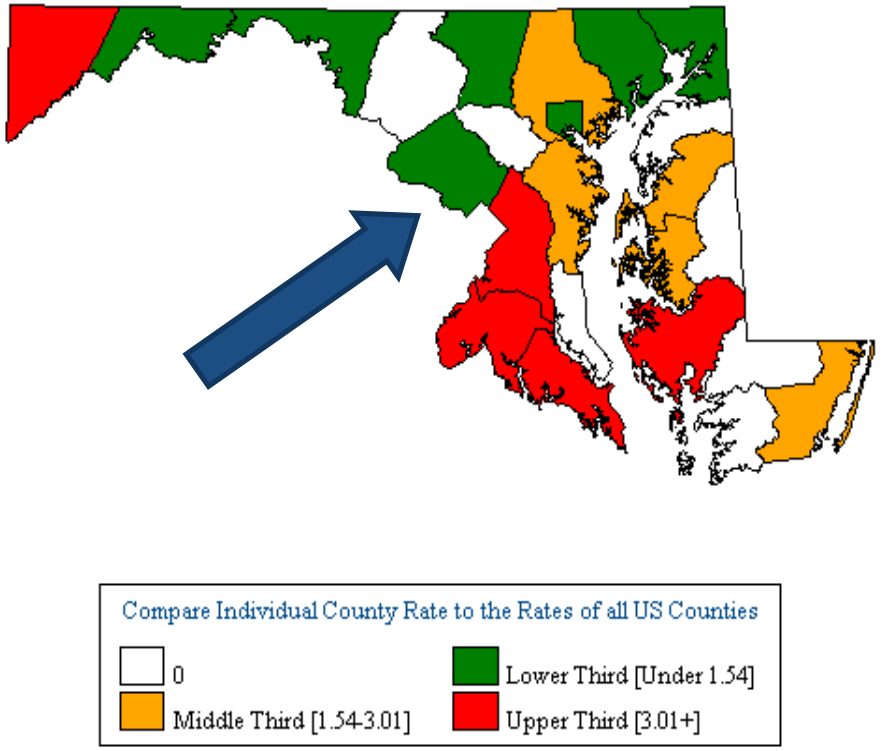
- **Introductions**
- **Comparison of National, Statewide, and Regional Data**
- **Summary of Pedestrian Collisions and Fatalities**
  - Trends before and after launch of the Pedestrian Safety Initiative
- **Detailed Analysis of Parking Lot/Garage Incidents**
- **Analysis of Pedestrian Collision Variables**
  - Time, Visibility, Fault
- **High Incidence Areas**
  - Engineering, Education, and Enforcement
- **Safe Routes to School**
- **Traffic Calming**
- **Other Programmatic Highlights**
- **Wrap-up and Follow-up**

National Rate Comparison – Pedestrian Fatalities

2010 Pedestrian Fatalities per 100,000 (National Comparison)



2011 Pedestrian Fatalities per 100,000 (National Comparison)

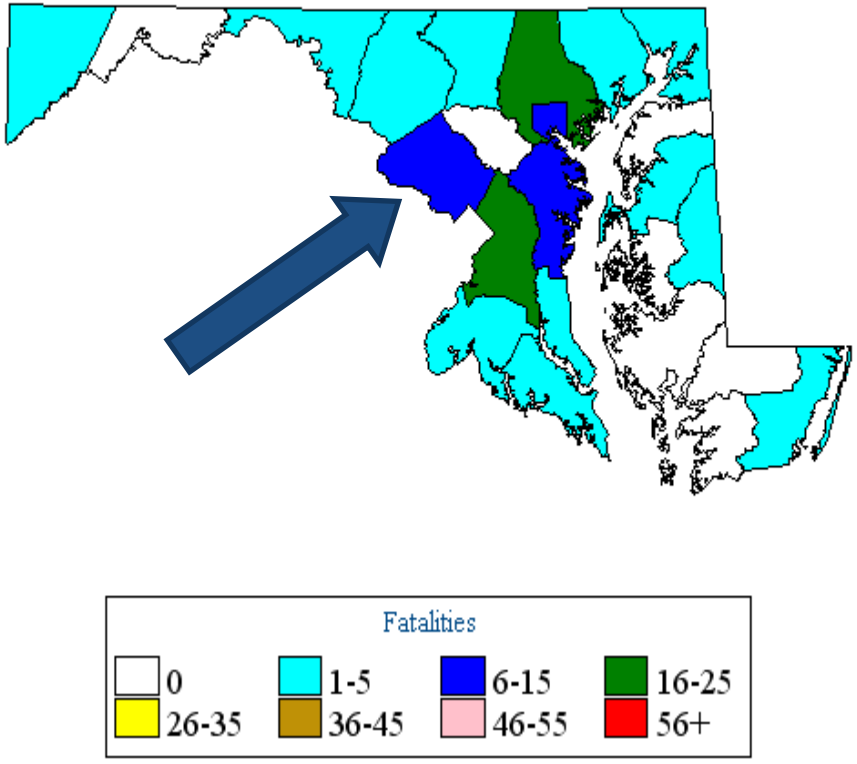


Montgomery County remains in the lower third of national pedestrian fatality rates.

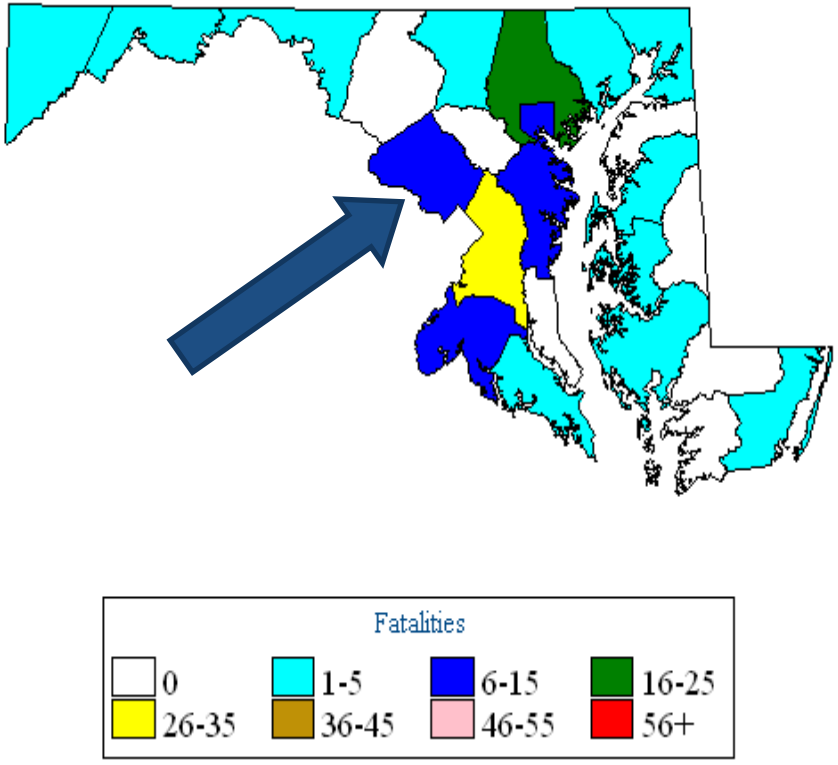
Source: National Highway Traffic Safety Administration: Fatality Analysis Reporting System
Data may vary from local jurisdiction's reported figures

Statewide Comparison – Pedestrian Fatalities

2010 Pedestrian Fatalities



2011 Pedestrian Fatalities



Montgomery County remains in the middle of the spectrum in terms of total fatalities.

Source: National Highway Traffic Safety Administration: Fatality Analysis Reporting System
Data may vary from local jurisdiction's reported figures

Regional Comparison – Pedestrian & Bicyclist Fatalities

STREET SMART

Jurisdiction	2006	2007	2008	2009	2010	2011*	Total
Arlington County	1	1	1	4	1	5	13
Charles County	2	6	1	3	3	9	24
City of Alexandria	1	2	0	0	2	2	7
City of Fairfax	0	1	0	2	0	1	4
City of Falls Church	0	0	0	0	2	0	2
City of Manassas	0	1	0	0	0	0	1
City of Manassas Park	0	0	0	0	0	0	0
District of Columbia	17	27	15	16	16	13	95
Fairfax County	20	17	4	11	13	10	75
Frederick County	4	1	0	1	4	0	10
Loudoun County	1	3	0	1	2	3	10
Montgomery County	18	18	19	15	14	11	95
Prince George's County	20	29	41	23	23	30	166
Prince William County	7	5	6	6	6	1	31
Total	91	111	87	82	86	85	533

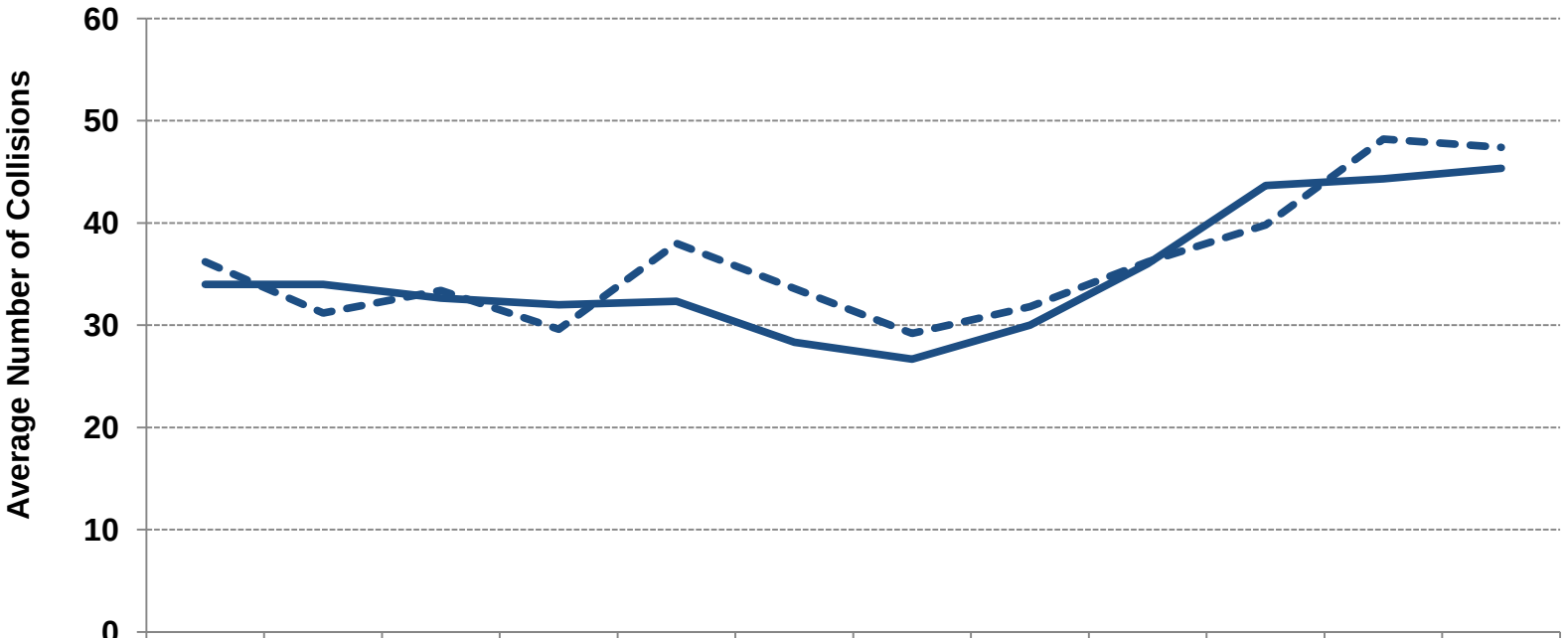
*Preliminary data

Montgomery County Pedestrian Collisions and Fatalities

With three years of data since the launch of the Pedestrian Safety Initiative in 2010, DOT and MCPD looked at the change in the average number of collisions pre- and post-launch.

	2005	2006	2007	2008	2009	2010	2011	2012	Pre-Initiative Average (2005-2009)	Post-Initiative Average (2010-2012)	Change
January	36	31	32	48	34	34	28	40	36	34	-6%
February	28	28	33	30	37	39	27	36	31	34	+10%
March	37	28	34	37	31	33	38	27	33	33	0%
April	26	25	35	34	28	33	36	27	30	32	+7%
May	27	36	34	47	46	33	28	36	38	32	-16%
June	41	33	29	24	41	33	17	35	34	28	-18%
July	24	29	20	37	36	33	24	23	29	27	-7%
August	28	37	26	36	32	26	33	31	32	30	-6%
September	39	39	38	35	30	41	32	35	36	36	0%
October	48	42	37	31	41	44	43	44	40	44	+10%
November	48	49	60	38	46	43	42	48	48	44	-8%
December	52	52	34	47	52	44	51	41	47	45	-4%
Total Collisions	434	429	412	444	454	436	399	423	435	419	-4%
Per 100,000	46.7	45.9	43.8	46.6	46.8	44.9	40.5	42.8	46	43	-7%
Level 4 & 5 Collisions (% of total)	130 (30%)	142 (33%)	119 (29%)	115 (26%)	132 (29%)	113 (26%)	104 (26%)	85 (20%)	128	101	-21%
Total Fatalities	10	18	17	19	14	13	11	6	16	10	-38%
Per 100,000	1.1	1.9	1.8	2	1.4	1.3	1.1	0.6	2	1	-50%

Pedestrian Collision Monthly Trends

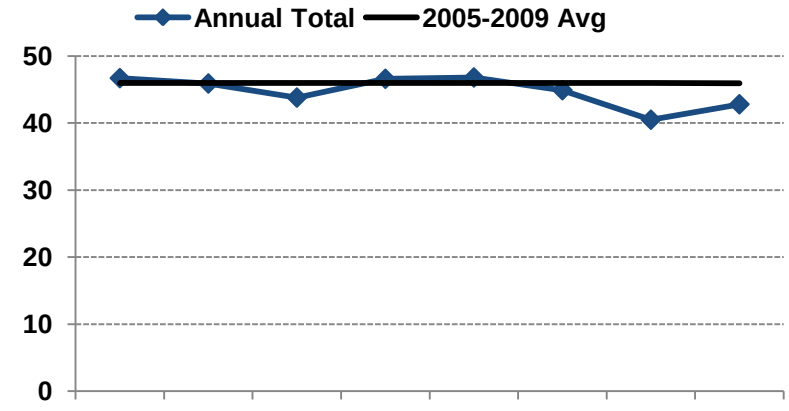


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2005-09 Avg	36	31	33	30	38	34	29	32	36	40	48	47
2010-12 Avg	34	34	33	32	32	28	27	30	36	44	44	45

The average number of collisions occurring in the spring and summer (May - August) and in the early winter (November - January) months has decreased since the pedestrian safety initiative was launched.

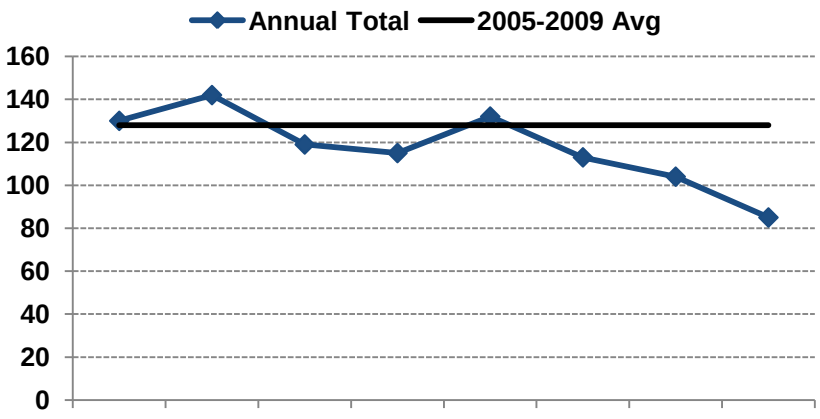
Pedestrian Collision Annual Trends

Total Collisions Per 100,000 Population



	2005	2006	2007	2008	2009	2010	2011	2012
% Change		-2%	-5%	+6%	0%	-4%	-10%	+6%

Total Level 4-5 Collisions



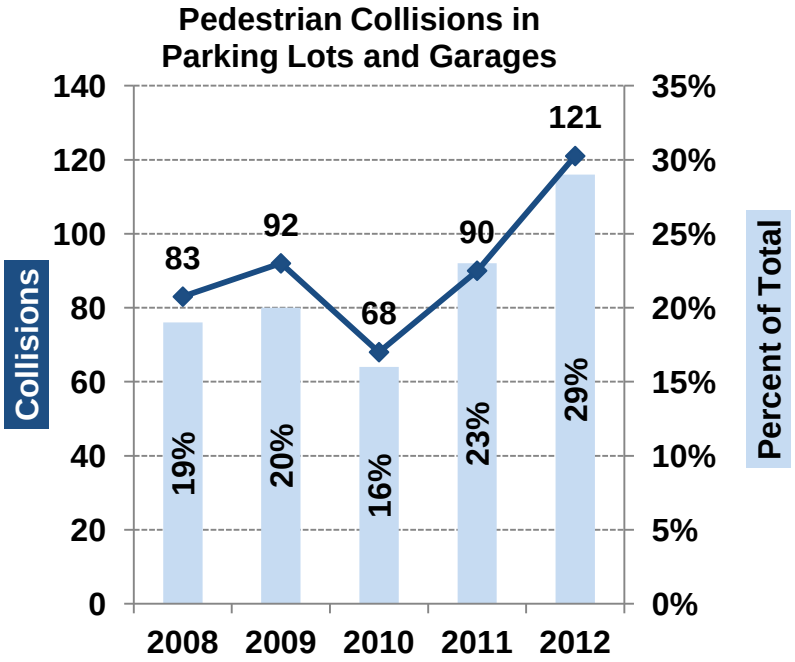
	2005	2006	2007	2008	2009	2010	2011	2012
% Change		+9%	-16%	-3%	+14%	-14%	-8%	-18%

Total collisions per 100,000 population increased by 6% after a 10% drop in 2011. The total remains below the pre-initiative (prior to 2010) average.

Percent of level 4-5 collisions dropped by 18% from 2011 and by 35% from 2005-2009 (pre-initiative) average.

Detailed Analysis of Collisions in Parking Lots/Garages

In 2012, there was a 34% increase in the number of pedestrian collisions occurring in parking lots/garages; these incidents represented 29% of all pedestrian collisions.

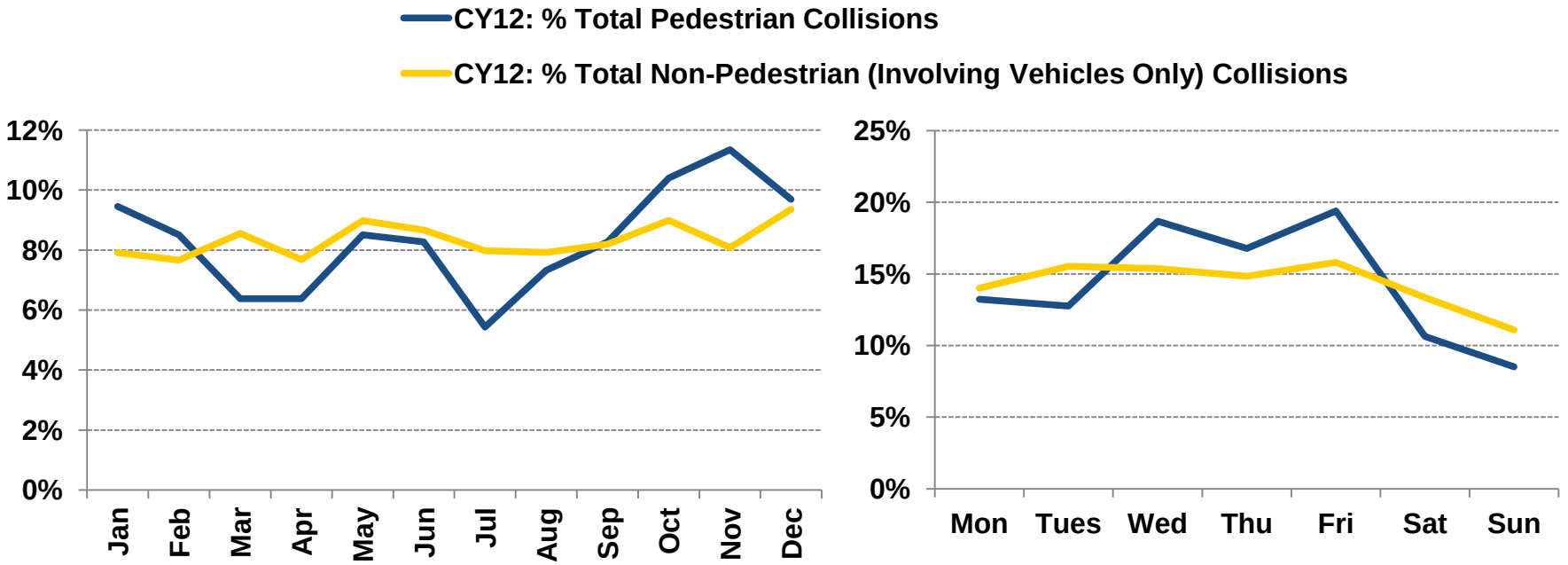


MCPD reviewed and analyzed the MARS reports for all pedestrian collisions occurring in parking lots/garages in CY12.

- 94% occurred in a parking lot (as opposed to a garage), 74% were fault of the driver, and 31% involved a vehicle backing out of a parking stall or travel lane
- 81% were recorded as Level 1, 2, or 3 collisions; 19% were Level 4; 0% resulted in fatality (Level 5)

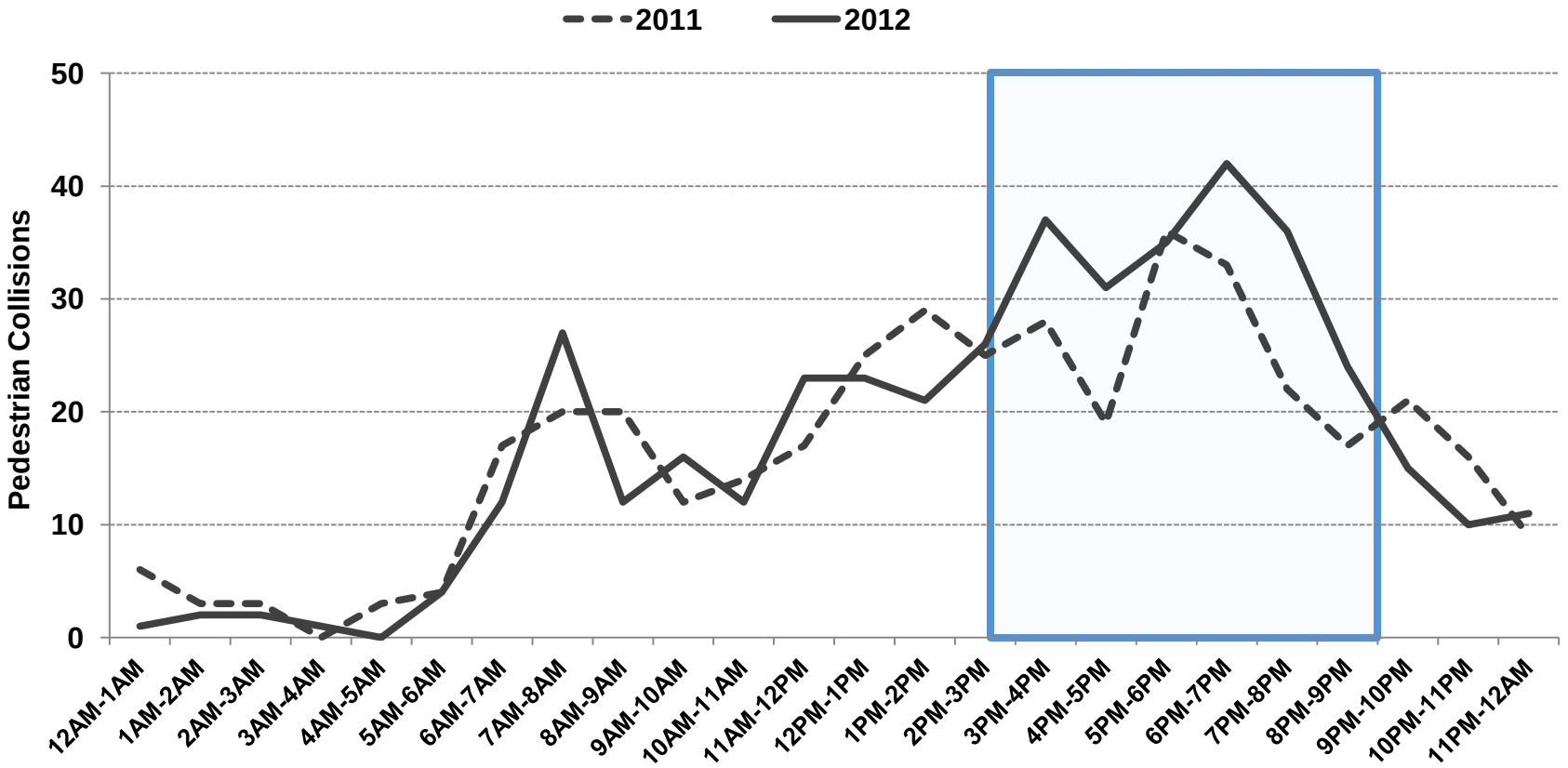
Reducing the volume of collisions occurring in parking lots/garages is challenging because MCPD and DOT do not have jurisdiction to implement enforcement and engineering methods which they would normally use in County-owned roadways. They are restricted to education efforts and rely significantly on business owners and developers to address engineering and enforcement.

Pedestrian Collision Variables: Month and Day



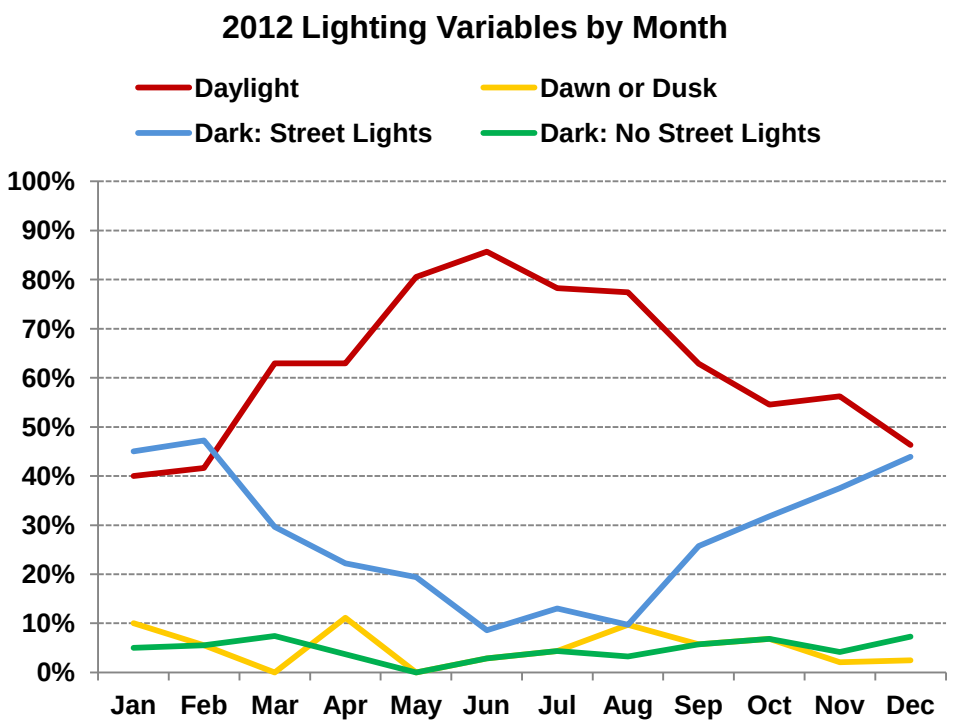
In CY2012, non-pedestrian collisions were spread out relatively consistently throughout the year, while pedestrian collisions saw a steady increase from July through November.

Pedestrian Collision Variables: Hour



In 2012, there was a higher volume of pedestrian collisions in the late afternoon and evening hours (2:00-10:00PM), than in 2011. There was an increase (from 18-24%) of the proportion in collisions occurring between 6:00 and 9:00PM.

Pedestrian Collision Variables: Visibility

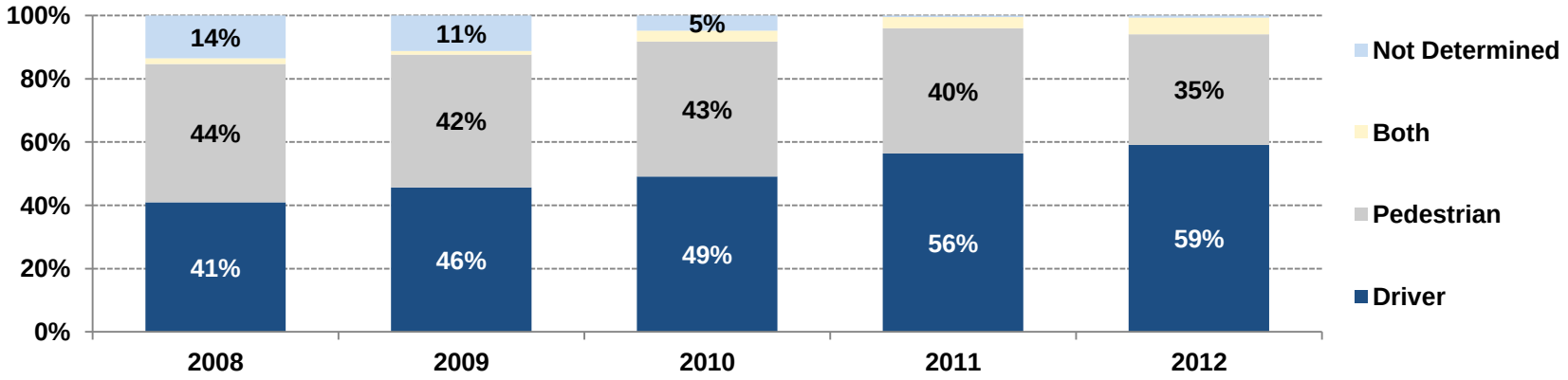


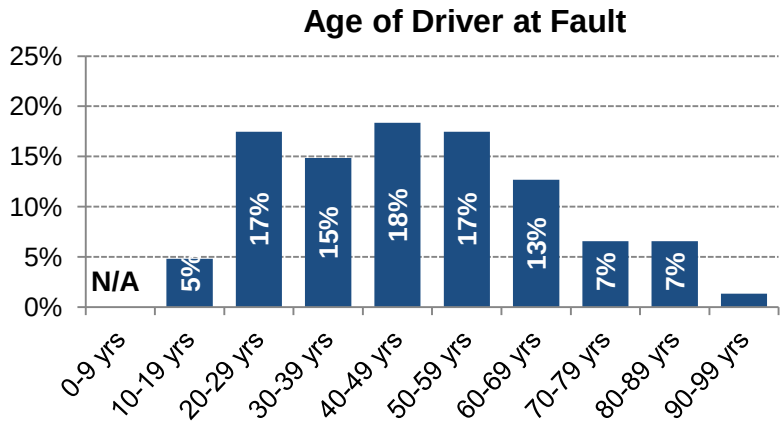
Clothing Variables

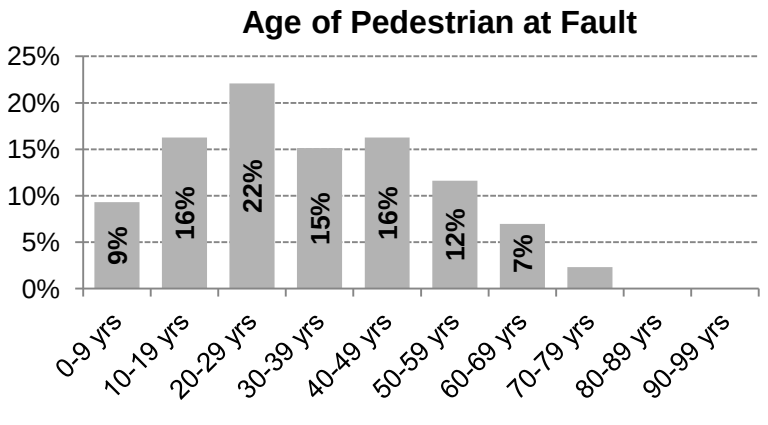
	2012	2009-11
Mixed Clothing	44%	40%
Dark Clothing	29%	29%
Light Clothing	17%	17%
Undetermined	8%	6%
Other	1%	1%
Reflective Material	0%	3%

Lighting variables trend with the seasons (more collisions occur in daylight during the months in which there is more daylight), and clothing variables did not show a significant change from previous years.

Pedestrian Collision Variables: Fault







Since 2008 there has been an increase in the percentage of collisions in which the driver was determined to be at fault. In 2012, 80% of drivers at fault were between 20 and 69 years of age.

High Incidence Areas Strategy Overview

- Targets funding for engineering, education, and enforcement (the 3 E's) where it can have the greatest effect on reducing pedestrian collisions
- The highest rate of pedestrian collisions has been along State roads, so this strategy engages the State in targeting pedestrian safety activities within the County where the rate of collisions and severity are highest
- Creates opportunities to leverage multiple projects in target areas with cost-sharing between multiple agencies

1. Piney Branch Rd
2. Wisconsin Ave
3. Georgia Ave (Silver Spring)
4. Rockville Pike
5. Four Corners
6. Reedie Dr
7. Randolph Rd
8. Connecticut Ave
9. Colesville Rd
10. Old Georgetown Rd
11. Georgia Ave (Wheaton)*
12. Randolph Rd (Wheaton)*

* MD 97 & Randolph Road Interchange Project RSA

Collisions in High Incidence Areas

Year of PRSA Audit

High Incidence Area	Date of PRSA Audit	Number of Pedestrian Collisions							
		2006	2007	2008	2009	2010	2011	2012	TOTAL
1) Piney Branch Rd	Oct 2008	10	8	7	8	3	5	9	50
2) Wisconsin Ave	Dec 2008	6	10	3	4	3	3	3	32
3) Georgia Ave	Mar 2009	7	5	7	10	4	4	2	39
4) Rockville Pike	Jun 2009	4	3	9	8	2	3	2	31
5) Four Corners	Jan 2010	4	7	5	0	1	3	0	20
6) Reedie Dr	Apr 2010	0	3	3	7	2	1	2	18
7) Randolph Rd	Sep 2010	2	1	4	4	1	2	3	17
8) Connecticut Ave	May 2011	4	5	6	2	2	3	3	25
9) Colesville Rd	Nov 2011	4	4	2	3	5	2	4	24
10) Old Georgetown Rd	May 2012	4	4	2	2	3	1	2	18
Total		45	50	48	48	26	27	30	

High Incidence Areas: Expenditures & Obligated Funds

	FY12 Budget	FY12 Actual	FY13 Budget	FY13 (To Date)
Engineering & Construction	$1,050,000	$ 713,000	$1,354,000	$1,368,000*
Education	$100,000	$255,000*	$100,000	$198,000*
Enforcement	$125,000	$50,000	$125,000	$59,000
Performance Monitoring	$50,000	$25,000	$50,000	$10,000
Total	$1,325,000	$1,043,000	$1,629,000	$1,635,000

Expenditures includes carry-over from previous fiscal years

Fiscal year spending in the HIAs is increasing with several major long-term projects beginning in the last quarter of FY12 and in FY13.

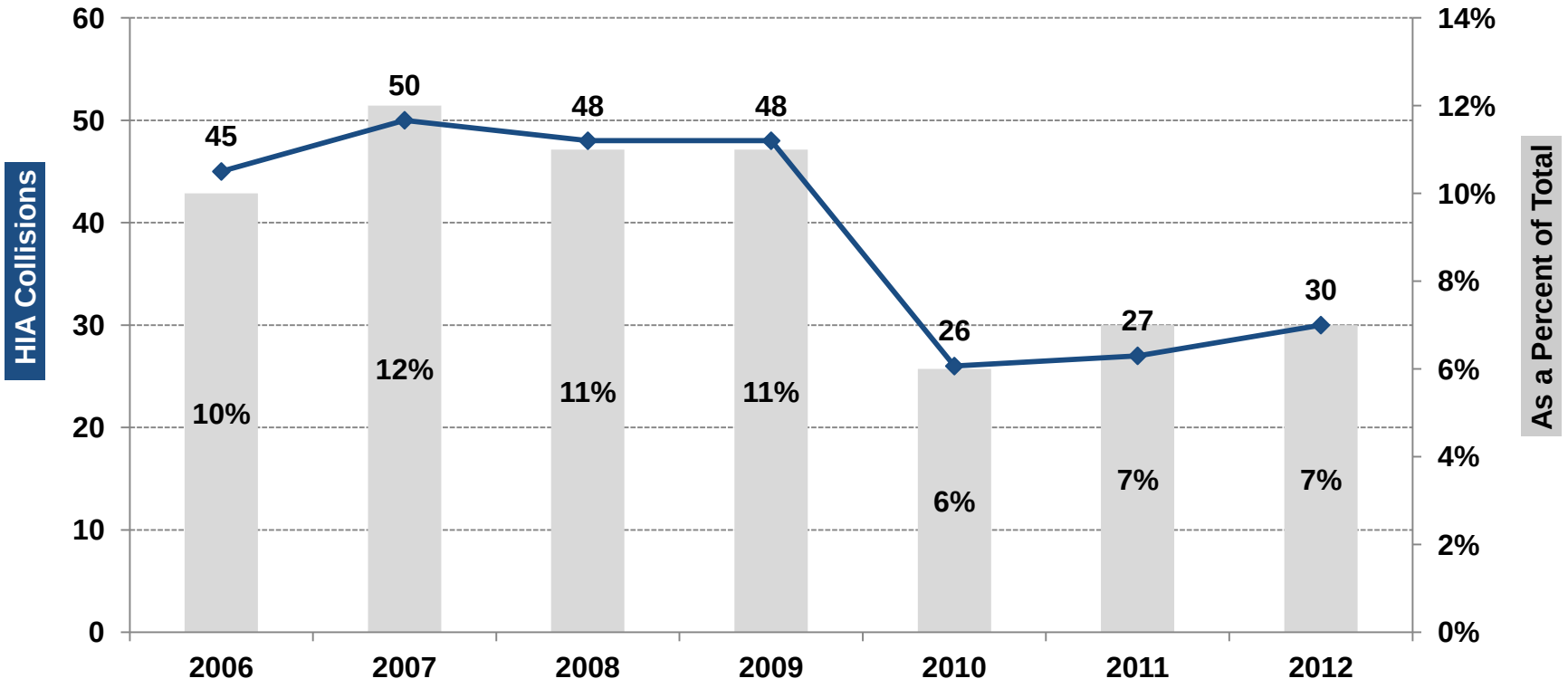
High Incidence Areas Highlights and Recent Developments: Engineering

- MDSHA embarking on Pedestrian Road Safety Audit Program for State-maintained roadways with support from MCDOT.
- MCDOT beginning to shift focus for Pedestrian Road Safety Audits to County-maintained Roadways, which will expedite implementation.
- Culture of cross-participation of State and County staff in respective pedestrian road safety audits. Prince George's County becoming a new partner.
- Prioritization of pedestrian safety projects on State roadways has led to cost-sharing initiatives for Traffic Signal Reconstruction Projects.
- Large-scale projects, including Reedie Drive Streetscape and Piney Branch HIBs* to be completed in FY13. Planning underway for other large-scale projects in FY14.

MCDOT continues to work with MDSHA to build a comprehensive strategy for pedestrian safety projects throughout Montgomery County.

*HIBs = Hazard Identification Beacons

Collisions in High Incidence Areas: Annual Trend



Since 2006, HIA collisions as a percentage of total pedestrian collisions has decreased. In earlier years, the HIA's accounted for roughly 11% of all pedestrian crashes, despite only consisting of approximately 1% of roadways County-wide.

High Incidence Areas: Piney Branch Road

Background

- 1st HIA: Piney Branch Road **from Flower Ave to the PGC/MC line**
- PRSA conducted in Oct. 2008

Observations

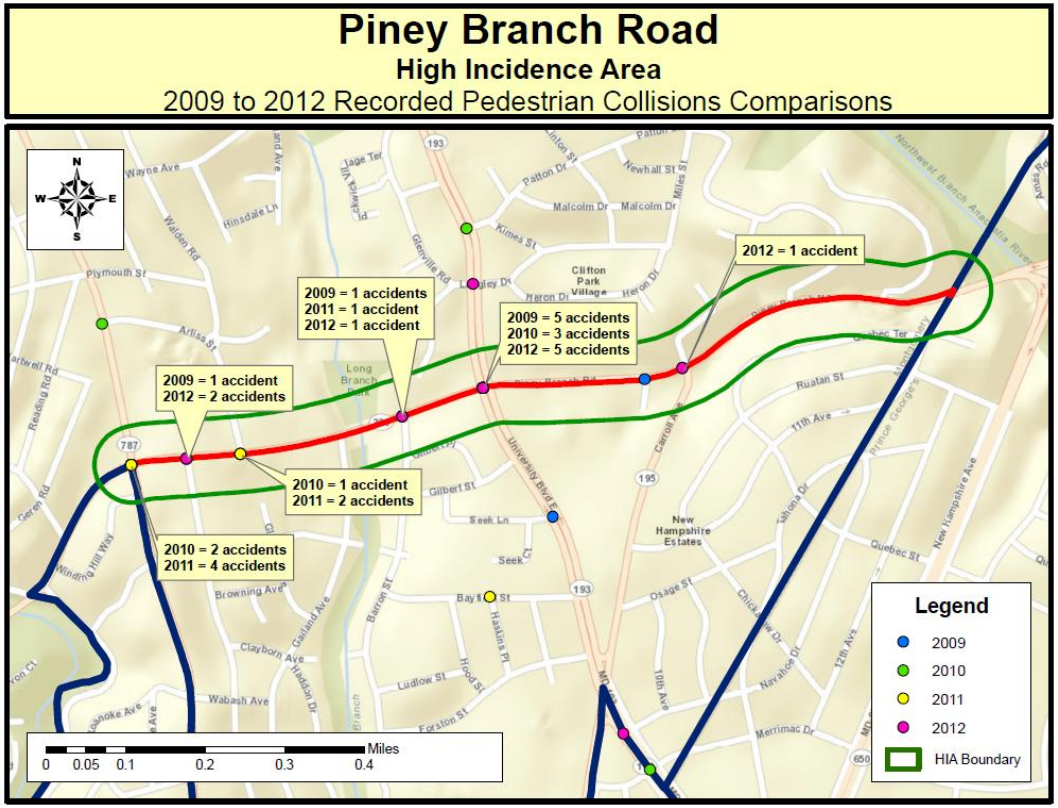
- Many mid-block crossings
- Pedestrian at fault in most crashes
- Limited roadway lighting
- Narrow sidewalks

Previous Accomplishments

- Targeted Enforcement
- Outreach & Education
- Installed Countdown Pedestrian Signals
- Lighting Upgrades
- Sidewalk Improvements

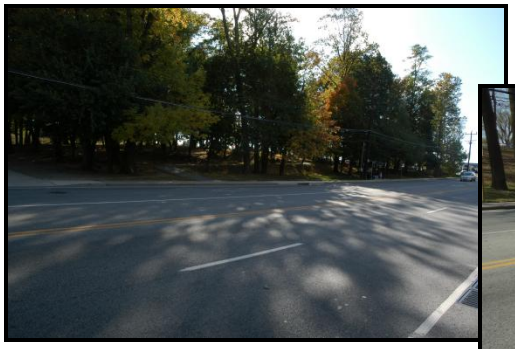
Updates since May 2012

- Installed two mid-block pedestrian crossings with flashers
- Bus shelter consolidation



2006	2007	2008	2009	2010	2011	2012	Total
10	8	7	8	3	5	9	50

High Incidence Areas: Project Updates (cont')



Before

After

Piney Branch Road Pedestrian Crossings with Flashers (HIB) Project

- **Location 1:** between University Blvd. and Carroll Ave.
- **Location 2:** between Carroll Ave. and New Hampshire Ave.
- Flashing Beacons, Islands, Marked Pedestrian Crossings
- Construction Completed – Spring 2013

Audible Push Button

Regulatory and Warning Signs

Flashing Beacons

High Incidence Areas: Reedie Drive

Background

- Reedie Drive **from Georgia Ave to Veirs Mill Rd** in Wheaton CBD
- PRSA conducted in April 2010
- 1st County roadway PRSA

Observations

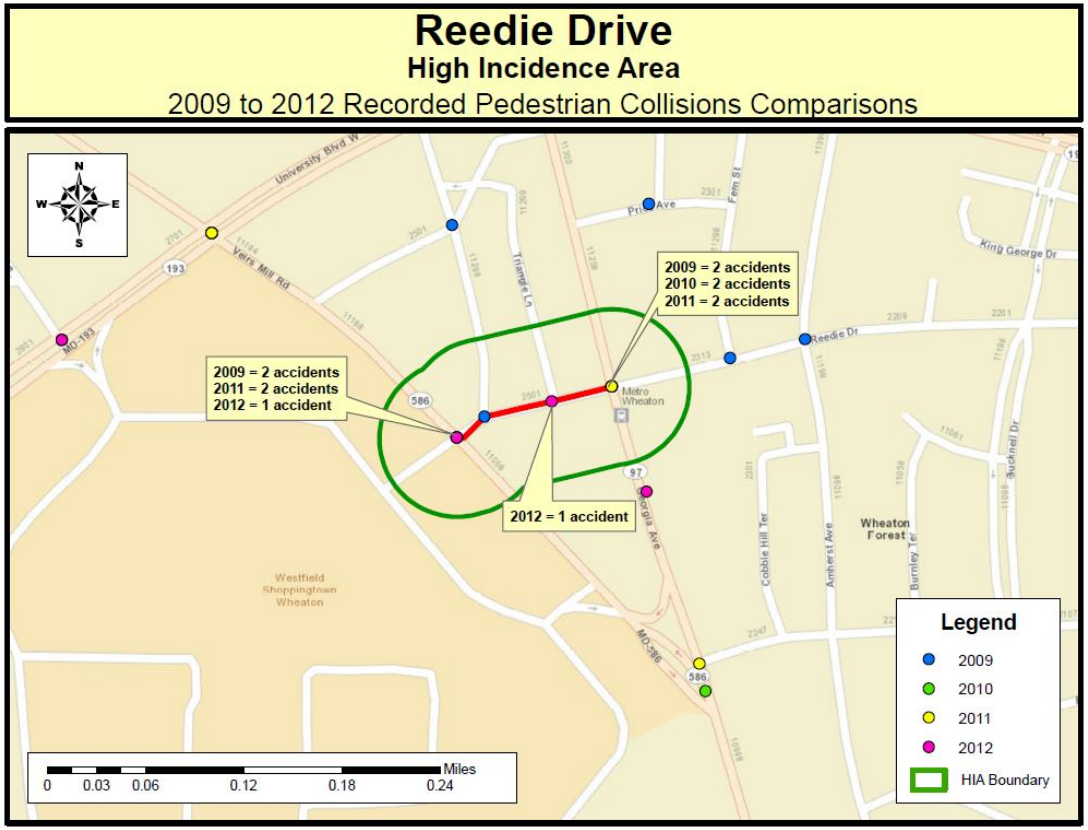
- Mid-block crossing encouraged by adjacent developments
- Numerous pedestrian/vehicle conflicts
- Many pedestrians cross at non-designated locations

Previous Accomplishments

- Upgraded Signage
- Lighting Maintenance
- Minor Drainage Structure Improvements

Updates since May 2012

- Streetscape Improvement Project (90% Construction)
- Early Stages of Education & Enforcement



2006	2007	2008	2009	2010	2011	2012	Total
0	3	3	7	2	1	2	18

High Incidence Areas: Project Updates

Before

After

Reedie Drive Streetscape Project

- Between Georgia Avenue and Veirs Mill Road
- Median and Curb Extensions
- Four High-Visibility Crosswalks
- Trees/Landscaping, Lighting Improvements
- Construction Underway (90%)
- Anticipated Completion – Spring 2013

Before

After

High Incidence Areas: Randolph Road

Background

- Randolph Road **from Colie Dr to Selfridge Rd**
- PRSA conducted in Sept 2010 (2nd County Road)

Observations

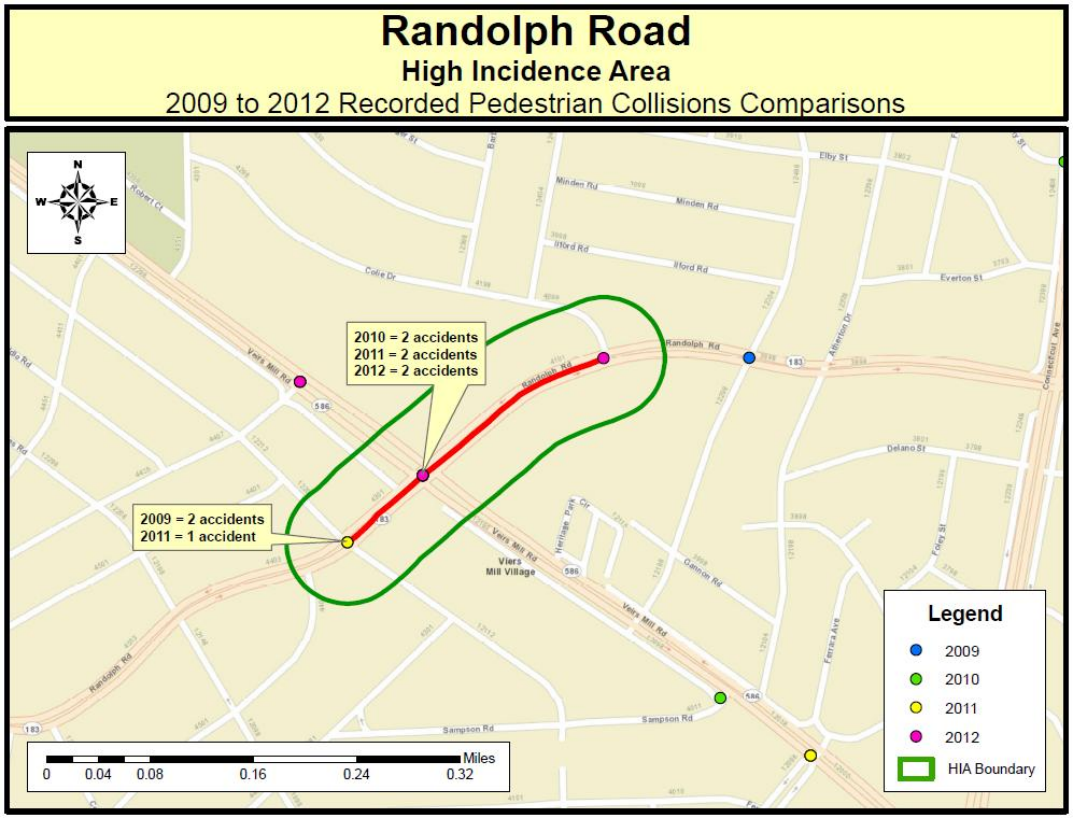
- Heavy ped/bike demand and transit usage
- Numerous pedestrian/vehicle conflicts
- Both drivers and pedestrians fail to obey
- Mid-block crossing encouraged by adjacent developments and bus transfers

Previous Accomplishments

- Randolph Road Pedestrian Barriers
- Sidewalk Installations & Improvements
- Enforcement, Education & Outreach

Updates since May 2012

- Randolph Road/Veirs Mill Road Lighting Improvements (NTP - Fall 2013)
- Veirs Mill Road & Randolph Road Traffic Signal Upgrade (90% MCDOT Participation)
- Randolph Road & Selfridge Road Traffic Signal Reconstruction (In Design)
- Additional Education & Enforcement



2006	2007	2008	2009	2010	2011	2012	Total
2	1	4	4	1	2	3	17

High Incidence Areas: Project Updates (cont')

Randolph Road & Veirs Mill Road

Pedestrian Signals

Push Buttons

Signal Heads

Randolph Road & Selfridge Road

Pavement Conditions

Push Buttons

Span Wire Design

Future Traffic Signal Improvements

Randolph Road at Veirs Mill Road

- Upgrade Push Buttons to APS
- Install New CPS
- Install new LED traffic lights
- Cost-sharing with MDSHA
- Construction Planned for Summer 2013

Randolph Road at Selfridge Road

- Traffic Signal Reconstruction
- County-maintained Intersection
- Conversion from span wire to mast-arm design
- Upgrade to APS/CPS
- Currently Under Design

High Incidence Areas: Connecticut Ave

Background

- Connecticut Ave **from Georgia Ave to Independence St**
- PRSA conducted in May 2011
- Conducted prior to MDSHA resurfacing project

Observations

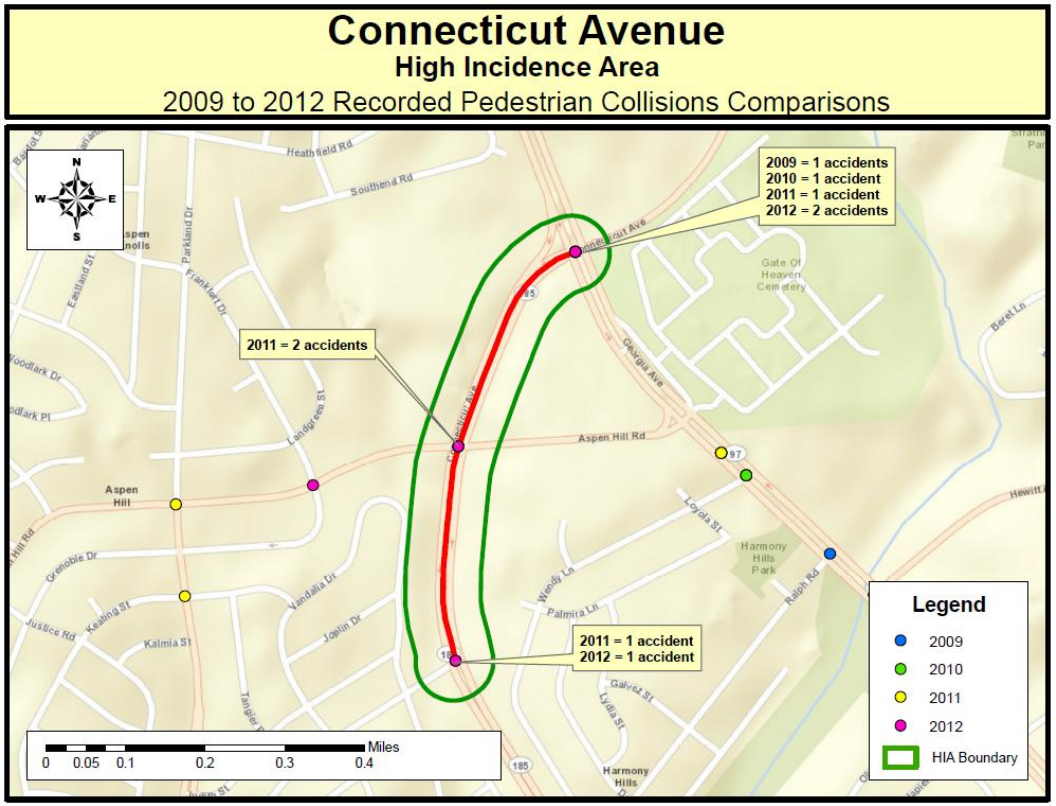
- Ped/vehicle conflicts coupled with high speeds
- Jaywalking and long block distances
- Limited ADA accessibility
- Notable lighting issues & "nighttime" crashes

Previous Accomplishments

- Lighting Repairs

Updates since May 2012

- Planned Traffic Signal Reconstruction Connecticut Avenue & Independence Street (NTP – February 2014)
- Planned MDSHA resurfacing project (FY12)
- MDSHA traffic signal improvements (Aspen Hill Rd)
- Education & Enforcement



2006	2007	2008	2009	2010	2011	2012	Total
4	5	6	2	2	3	3	**25**

High Incidence Areas: Colesville Road

Background

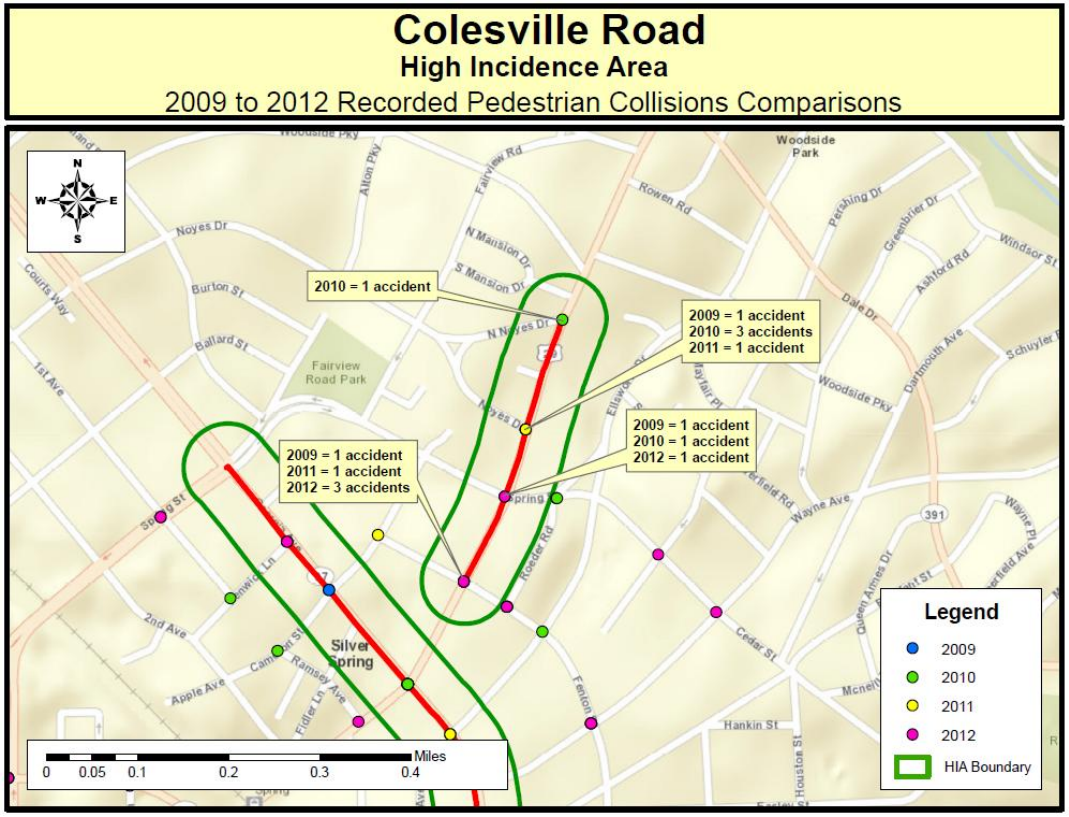
- Colesville Road **from Fenton St to N. Noyes Dr**
- PRSA conducted in November 2011
- Second PRSA in Silver Spring CBD

Observations

- Pedestrian/vehicle conflicts coupled with high speeds
- Jaywalking from commercial developments
- Heavy pedestrian demand
- Considerable peak period congestion

Previous Accomplishments

- Sidewalk & Drainage Structure Repairs
- Foliage Maintenance (sight distance)



2006	2007	2008	2009	2010	2011	2012	Total
4	4	2	3	5	2	4	24

High Incidence Areas: Old Georgetown Road

Background

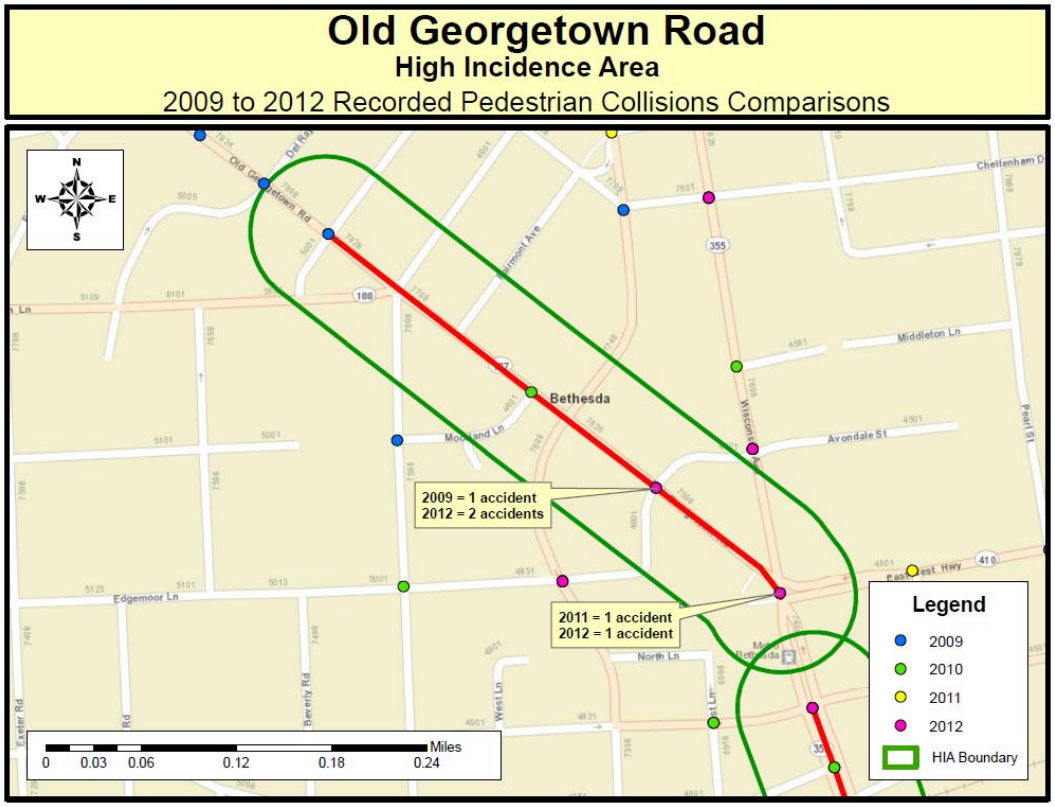
- Old Georgetown Road **from Wisconsin Ave to Cordell Ave**
- PRSA conducted in May 2012
- Second PRSA in Bethesda CBD

Observations

- Pedestrian/vehicle conflicts at "complex" intersections
- Jaywalking from commercial developments
- Heavy pedestrian demand
- Considerable high school student presence during midday peak
- Heavy Bike Demand
- Several "dark spots" where lighting appears limited

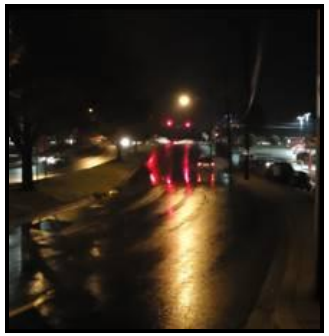
Updates since May 2012

- Old Georgetown Road Lighting Improvements (In Design)

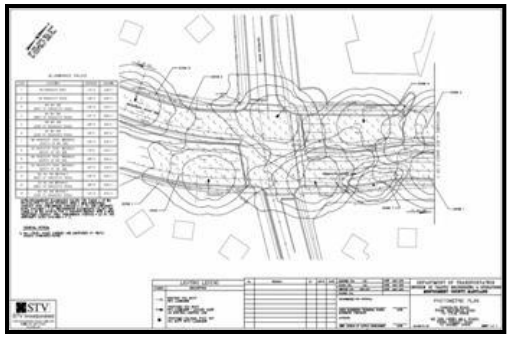


2006	2007	2008	2009	2010	2011	2012	Total
4	4	2	2	3	1	2	18

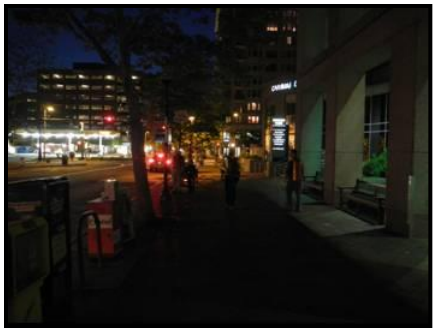
High Incidence Areas: Project Updates (cont.)



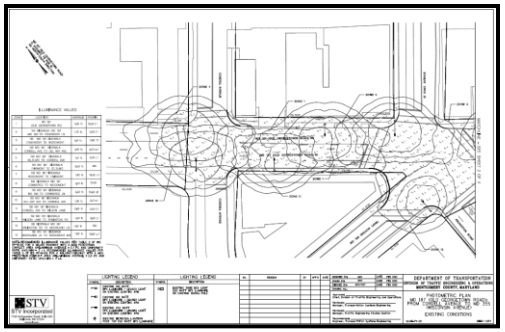
Randolph Rd East



Photometric Plans – Randolph Rd



East Side – Old Georgetown Rd



Photometric Plans – Old Georgetown Rd

West Side – Connecticut Ave

Aspen Hill Rd at Connecticut Ave

Future Lighting Improvements

Randolph Road - Lighting

- Randolph Rd (Colie Dr - Selfridge Rd)
- Veirs Mill Rd (Gridley Rd - Bushey Dr)
- Photometric Analysis and Lighting Design Completed
- Construction Planned for Fall 2013

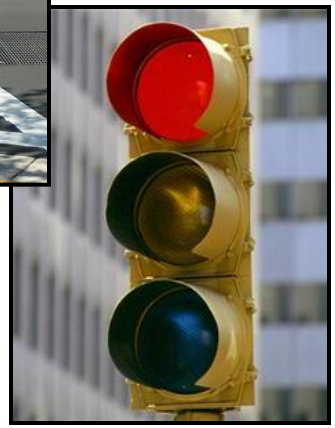
Old Georgetown Road - Lighting

- Wisconsin Ave to Cordell Ave
- Significant Pedestrian Night Activity
- Photometric Analysis Completed
- Design Underway

Connecticut Avenue - Lighting

- Georgia Ave to Independence St
- 48% of Ped Crash occurred during Dark/Dawn/Dusk
- Photometric Analysis Underway

High Incidence Areas: Project Updates (cont.)



Future Traffic Signal Reconstruction

Cost-sharing Projects with MDSHA

Rockville Pike

- Federal Plaza and Bou Ave
- Scheduled NTP – November 2013

Connecticut Avenue

- Independence St
- Scheduled NTP – February 2014

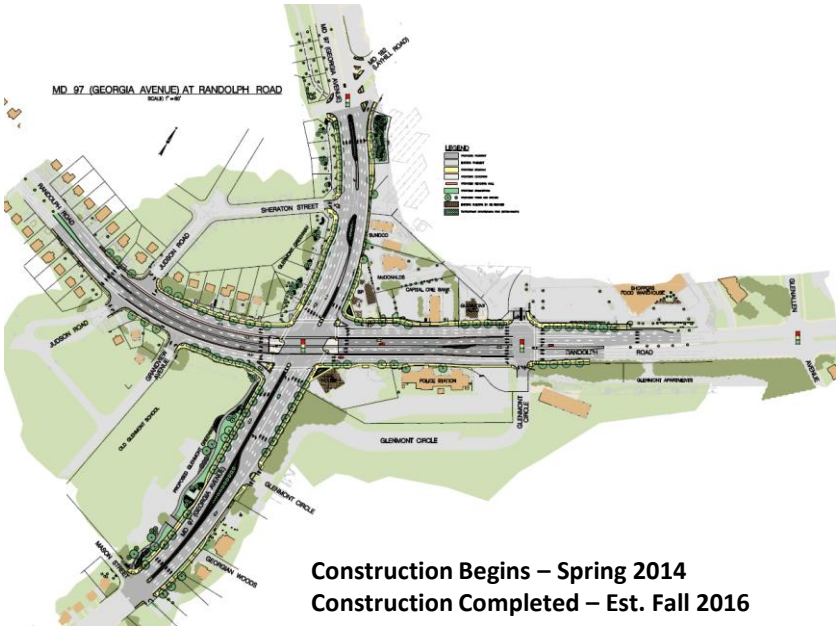
Wisconsin Avenue

- Leland St, Willow Ln/Bethesda Ave, Elm St, Elm St/Waverly St, Old Georgetown Rd
- Scheduled NTP – July 2014

Piney Branch Road

- Greenwood St, Arliss St, Barron St
- Design Request in Development

High Incidence Areas: Project Updates (cont.)



Construction Begins – Spring 2014
Construction Completed – Est. Fall 2016

MD 97 & Randolph Road Interchange Project

Road Safety Audit – November 2012

Includes Two Ped High Incidence Areas

- Randolph Rd (Grandview Ave - Glenmont Cir)
- Georgia Ave (Urbana Dr – Sheraton St)

Pedestrian Safety Considerations

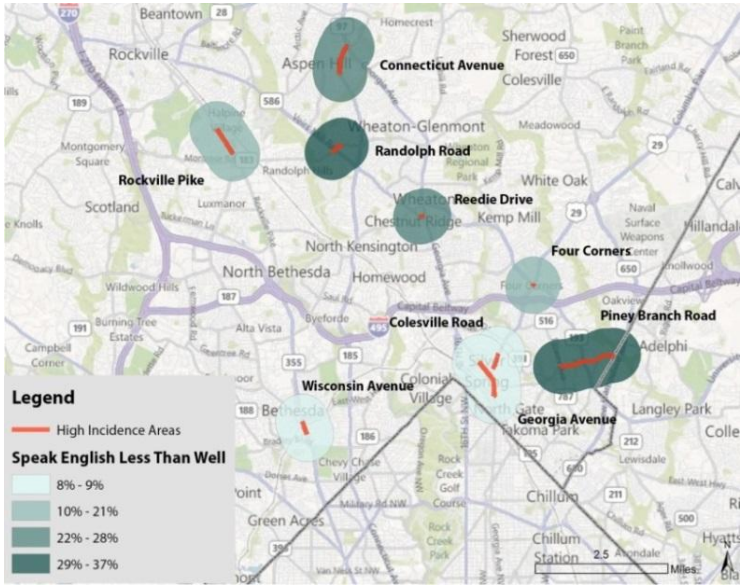
- MD 97 in project area significantly exceeds statewide averages for pedestrian crashes.
- Ped crashes among highest in crash occurrence on Randolph Road in project area.

Pedestrian-Related Issues

- Pedestrian Conflicts with Vehicles
- ADA Compliance, Crosswalk Orientation
- Pedestrians Access through Work Zone
- Bus Stop Locations within Work Zone
- Pedestrian & Traffic Signal Operations

High Incidence Areas: Education Grouping Similar HIAs

- **Data-driven approach to grouping HIAs using:**
  - Crash characteristics
  - Demographics
  - Land Use



Percent of Households that Speak English "Less Than Well"

Group 1 (FY 2012-2013)

- Piney Branch
- Randolph Road
- Reedie Drive
- Connecticut Avenue
- Four Corners

Group 2 (FY 2014-2015)

- Wisconsin Avenue
- Rockville Pike
- Colesville Road
- Georgia Avenue
- Old Georgetown Road

High Incidence Areas: Group 1 Education

Piney Branch, Randolph, Reedie, Connecticut

- **Curb Markers**
- **Safety Promotion Teams**
- **Volunteers at festivals**
- **Outreach to local business**
- **Shopping center intercepts**

Four Corners (Blair High School)

- **"Best Eyes" Campaign**
- **SWAG bracelets**
- **Text message contest**
- **Train-the-Trainer**
- **Fall "See Them See You" Campaign**

High Incidence Areas:
Close Coordination of Education and Enforcement

- Bi-weekly meetings
- Coordinated scheduling
- Joint planning – informed efforts
- Reporting on enforcement actions
- Sharing lessons learned

Education → Enforcement → Changing Pedestrian and Driver Behavior

High Incidence Areas: Enforcement Efforts in Group 1

HIA Effort (Dec. 2011 – Dec. 2012)

- 607 warnings
- 1,686 citations
  - 65 driver citations
  - 1,561 pedestrian citations
  - 60 additional citations (ped/driver not denoted)

Enforcement Activity by HIA

HIA	Citations	Warnings
Connecticut Avenue	141	18
Four Corners	409	142
Piney Branch	801	405
Randolph Road	335	42

Upcoming Effort: Pedestrian Stings

- **What is a "Pedestrian Sting"?**
  - Police decoy in visible clothing crosses at a crosswalk
  - Drivers who do not stop for the pedestrian are ticketed
- **15-20 locations across the County, including crosswalks in:**
  - Aspen Hill
  - Bethesda
  - Gaithersburg
  - Germantown
  - Rockville
  - Silver Spring
  - Wheaton

High Incidence Areas: Enforcement Lessons Learned

- Judges supporting citations in court (citing education effort)
- Enforcement effort results in declining violations over time
- Residents are educating each other
- High visibility increases awareness
- Citations more effective than warnings
- Education of laws to citizens after enforcement lessens recidivism

Safe Routes to Schools Prioritization

Started in 2005, over 160 schools have had comprehensive school zone traffic safety assessments conducted and improvements implemented.

- **ENGINEERING: Reprioritized to weight pedestrian collisions**
  - Weighted scores with pedestrian collisions - used to prioritize schools
  - Factored into engineering evaluation criteria for overall score
  - Safe Routes to School (SRTS) list reprioritized using crash data weighting factor
  - SRTS Grant Applications now reflect reprioritization

- **EDUCATION: Increased at schools with high ped collisions**
  - SRTS Coordinator working with Elementary, Middle, and High Schools
  - SRTS Coordinator placing highest priority on schools with pedestrian collisions within 1/4 mile

- **ENFORCEMENT: Increase at schools with high ped collisions**
  - Enforcement actions targeted at schools with higher number of pedestrian collisions

Focused resources that improve pedestrian safety and mobility have resulted in the evaluation of numerous safety concerns and the reduction of pedestrian collisions.

Safe Routes to School: Collision Update (Grant B Schools)

School Name	3 Years Before Treatment		After treatment	
	Time period	# of ped collisions	Time period (up to Dec 2012)	# of ped collisions
Stone Mill ES	3/2006 – 3/2009	2	3 yrs	0
Olney ES	2/2006 – 2/2009	1	3 yrs	3
Georgian Forest ES	3/2006 – 3/2009	6	3 yrs	0
Kingsview MS	3/2006 – 3/2009	12	3 yrs	1
Thurgood Marshall ES	3/2006 – 3/2009	1	3 yrs	0
Martin Luther King MS	7/2006 – 7/2009	11	3 yrs	1
Flower Hill ES	6/2006 – 6/2009	7	3 yrs	0
Greenwood ES	4/2006 – 4/2009	2	3 yrs	1
Rosa Parks MS	4/2006 – 4/2009	2	3 yrs	0
Cannon Road ES	6/2006 – 6/2009	3	3 yrs	0
Clearspring ES	4/2006 – 4/2009	1	3 yrs	1
Total	396 Months	48	396 Months	7

Three years of post-treatment data indicates that the collision rate has declined from 1.45 to .21 incidents per year.

Safe Routes to School: Collision Update

School Name	3 Years Before Treatment		After treatment	
	Time period	# of ped collisions	Time period (up to Dec 2012)	# of ped collisions
Westbrook ES	5/2006 – 10/2009	0	3 yrs - 0 mos.	2
William B. Gibbs ES	9/2006 – 9/2009	0	3 yrs - 0 mos.	0
Woodlin ES	4/2007 – 4/2010	0	2 yrs - 8 mos.	2
Judith A. Resnik ES	9/2007 – 9/2010	1	2 yrs - 3 mos.	0
Montgomery Village MS	9/2007 – 9/2010	6	2 yrs - 3 mos.	0
Rock View ES	10/2007 – 10/2010	1	2 yrs - 2 mos.	0
Capt. James Daly ES	10/2007 – 10/2010	2	2 yrs - 2 mos.	0
Jackson Road ES	3/2008 – 3/2011	1	1 yr - 9 mos.	0
Glenallan ES	10/2008 – 10/2011	0	1 yr - 2 mos.	0
Earle B. Wood MS	8/2009 – 8/2012	2	0 yrs - 3 mos.	0
Argyle MS	8/2009 – 8/2012	1	0 yrs - 3 mos.	0
Total	396 Months	14	251 Months	4

Now that a three-year post-treatment period has been evaluated for the Grant B schools, focus has expanded to monitoring the three-year post-treatment periods for more recent Grant and Non-Grant schools.

Safe Routes to School: Engineering Output Metrics

School Zone Pedestrian Treatments Activities

	FY08	FY09	FY10	FY11	FY12	FY13*	Total
Targeted Assessments	25	21	16	24	13	5	104
Comprehensive Assessments	10	13	11	23	18	10	85
Total Assessments	35	34	27	47	31	15	189
Improvements Implemented	35	34	19	30	16	10	144

School Zone Pedestrian Treatments

Budget and Expenditures

	FY09	FY10	FY11	FY12	FY13~
Budgeted	$80,000	$330,000	$156,240	$156,240	$156,240
Expended	$80,000	$159,000 **	$125,361 **	$ 156,240	$112,940~

** Through 2nd quarter of FY13*

** * Reduced due to savings plan and spending freeze*

~ Expenditures to Date

Safe Routes to School: Education and Enforcement Output

Education & Enforcement Activities					
Activities	FY09	FY10	FY11	FY12	FY13*
Outreach - Meetings held (School Admin. & Parent)	28	19	26	23	20
Schools Observed (Arrival and Dismissal)	34	7	24	5	8
Incentives Distributed	220	12,880	2,252	11,200	900
Citations Given	N/A	163	312	0	564

Education & Enforcement Budget and Expenditures						
	FY09		FY10		FY11	
Activities	Budget	Actual	Budget	Actual	Budget	Actual
Education	$56,852	$78,955	$40,376	$28,948	$33,952	$46,658
Enforcement	$10,900	$4,506	$12,800	$2,112	$12,200	$12,278

	FY12		FY13*	
Activities	Budget	Actual	Budget	Actual
Education	$53,090	$33,575	$31,240	$15,908
Enforcement	$25,200	$0	$15,200	$3,060

** Through 2nd quarter of FY13*

Safe Routes to School: Bicycle and Pedestrian Education

Bicycle Rodeo

- Goal - to empower young cyclists with a set of skills for on-road riding and includes helmet fitting and bike safety inspection.

Crosswalk Simulation

- Simulated real world experience of crossing a street.
- Kids practice approaching the street, looking left, right, and left again and crossing in the middle of the crosswalk.

Train-the-Trainer

- High School students are trained to conduct the crosswalk simulation activity for elementary school students.

Traffic Calming: Collisions Update

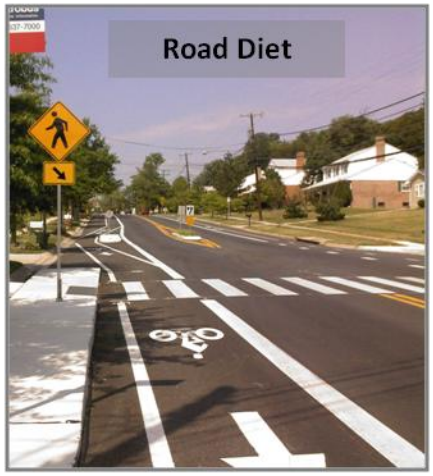
Project Name	Completion Date	Speeds (MPH)			Collisions 3 Years Before Treatment	Time period Since Treatment	Collisions Since Treatment
		Posted	Avg. Before	Avg. After			
Fairland Rd	July-09	40	53	42	2	3 yrs.	0
Calverton Blvd	July-09	30	41	35	1	3 yrs.	0
Lockwood Dr	July-09	30	40	30	0	3 yrs.	0
Sligo Ave	Sept-09	30	34	31	1	3 yrs.	4
Carroll Ave	Nov-09	25	33	27	2	3 yrs.	0
Spartan Rd	Nov-09	30	40	33	0	3 yrs.	0
Dale Dr	Aug-10	30	39	34	0	2 yrs. - 4 mos.	0
Prince Phillip Dr	Jun-11	30	36	31	0	1 yr. - 6 mos.	0
Waring Station Rd	Apr-12	30	38	34	4	8 mos.	1
Cedar Ln	May-12	30	36	30	0	7 mos.	0
Jones Bridge Rd	May-12	30	36	30	0	7 mos.	0
Rainbow Dr	May-12	25	31	26	0	7 mos.	0
Franklin Ave	Aug-12	30	34	33	0	4 mos.	0

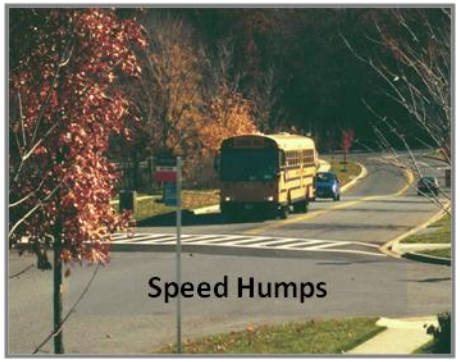
Speed decline >/= 5mph

Updated in 2011

Traffic Calming: Typical Treatments

- Pedestrian Refuge Islands
- Bump-Outs / Curb Extensions
- Chicanes / Chokers
- Enhance signing and marking
- Speed Humps
- Edgelines
- Road Diet





Traffic Calming: Recently Completed Projects

Cedar Lane and Summit Avenue

Jones Bridge Road

Sidewalk Connectivity & Bus Stop Improvements: Annual Sidewalk, ADA and Bus Stop Programs

–Project Description

- Construction of new sidewalks
- Reconstruction of existing sidewalks and ramps to meet ADA requirements
- Construction of Bus Stops.
- Provides pedestrian connectivity and safe facilities outside of the roadway.

–Total FY13 Accomplishments

- **3.1 miles** of new sidewalk
- **3.1 miles** of reconstructed sidewalk
- **0.5 miles** of new bus stop-related sidewalks
- **140 ramps** reconstructed to meet ADA specifications
- **116** concrete bus stop pads (approximately)

Seven Locks Road

6200 linear feet of new sidewalk

Gardiner Avenue

Arthur Avenue to Clark Place

**** Through 3rd quarter of FY12***

Other Programmatic Highlights: Pedestrian Signal Timing

Pedestrian Signal Timing Developed/Implemented

	Total (FY09 – FY13)
Ped Timing Upgrades Funded	392
New Ped Timing Implemented	316
Total County Traffic Signals	750
Percent Implemented	42%

- **Total Program Cost = $1.125M**
- **FY09 - FY13 Allocation = $587K**
- **Implemented by coordinated groups of traffic signals**
  - All timing parameters for all times of day
  - Requires jurisdictional coordination

Wrap-Up

- **Follow-up items**

High Incidence Areas: Wisconsin Avenue

Background

- Wisconsin Ave **from Montgomery Ave to Leland Ave** in Bethesda CBD
- PRSA conducted in Dec 2008

Observations

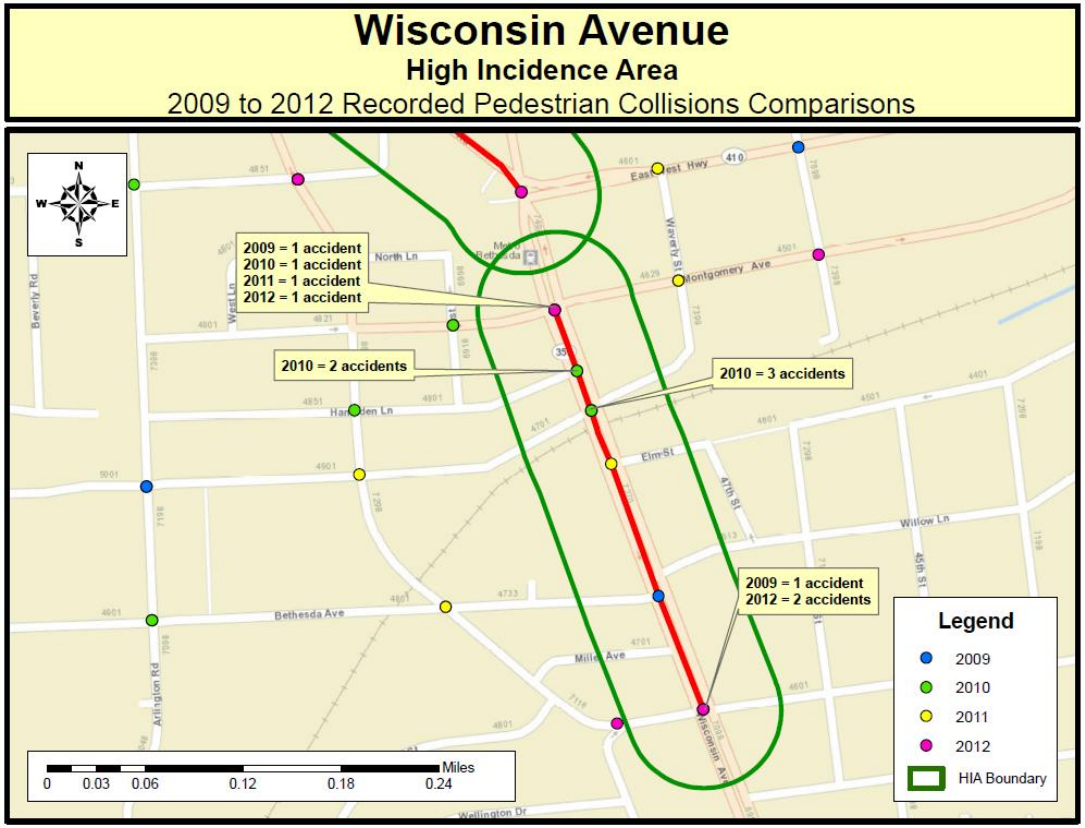
- Drivers at fault in most crashes
- Crashes mostly at intersections
- Most crashes involved turning vehicles
- High concentration at Montgomery Ave

Previous Accomplishments

- Installed Countdown Pedestrian Signals

Updates since May 2012

- Planned MDSHA resurfacing project (NTP – Fall 2013)
- Planned Traffic Signal Reconstruction MCDOT participation for 5 Intersections (NTP – July 2013)



2006	2007	2008	2009	2010	2011	2012	Total
6	10	3	4	3	3	3	**32**

High Incidence Areas: Georgia Avenue

Background

- Georgia Avenue **from to Spring St to Sligo Ave** in Silver Spring CBD
- PRSA conducted in March 2009

Observations

- Primary conflicts are between crossing pedestrians and turning vehicles
- Both drivers and pedestrians fail to obey traffic rules

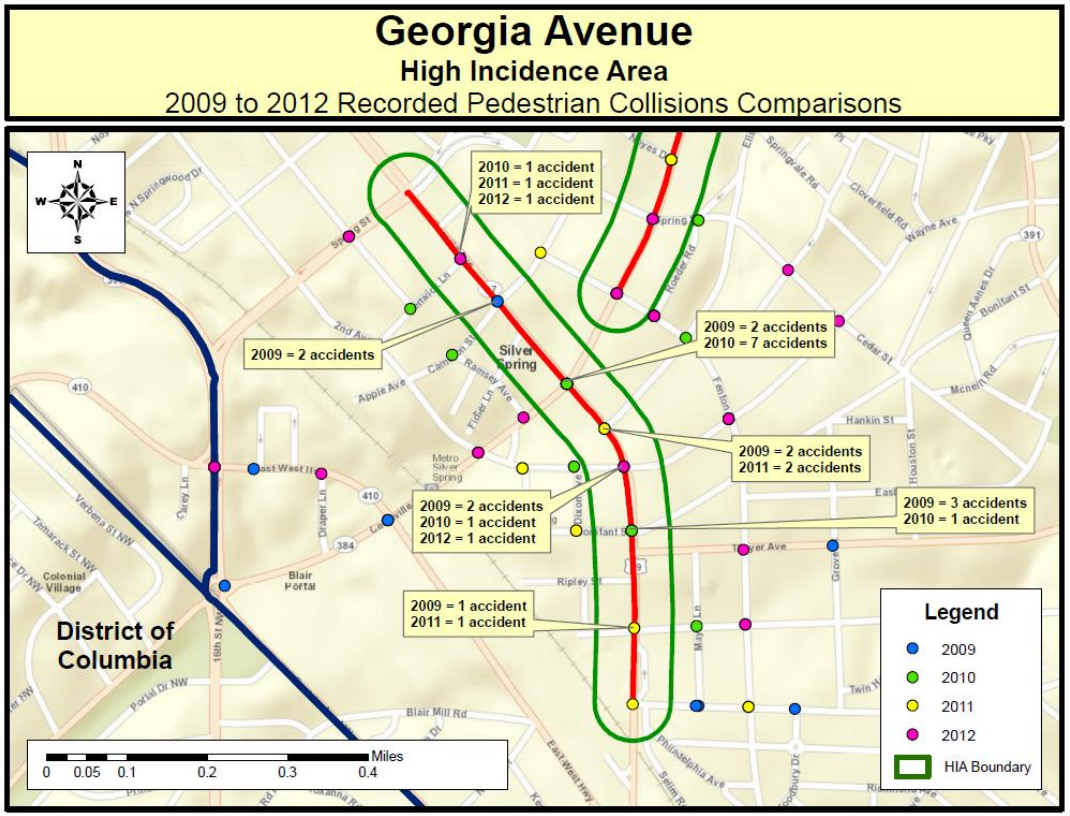
Previous Accomplishments

- MDSHA US 29 Traffic Signal Improvement Project (Completed)

Updates since May 2012

- DHCA Fenton Village Pedestrian Linkages Project (2 of 4 Phases Completed)

  Includes MCDOT-Funded Improvements



2006	2007	2008	2009	2010	2011	2012	Total
7	5	7	10	4	4	2	39

High Incidence Areas: Rockville Pike

Background

- Rockville Pike **from to Halpine Rd to Hubbard Dr**
- PRSA conducted in June 2009
- High incidents of collisions with seniors and bicyclists

Observations

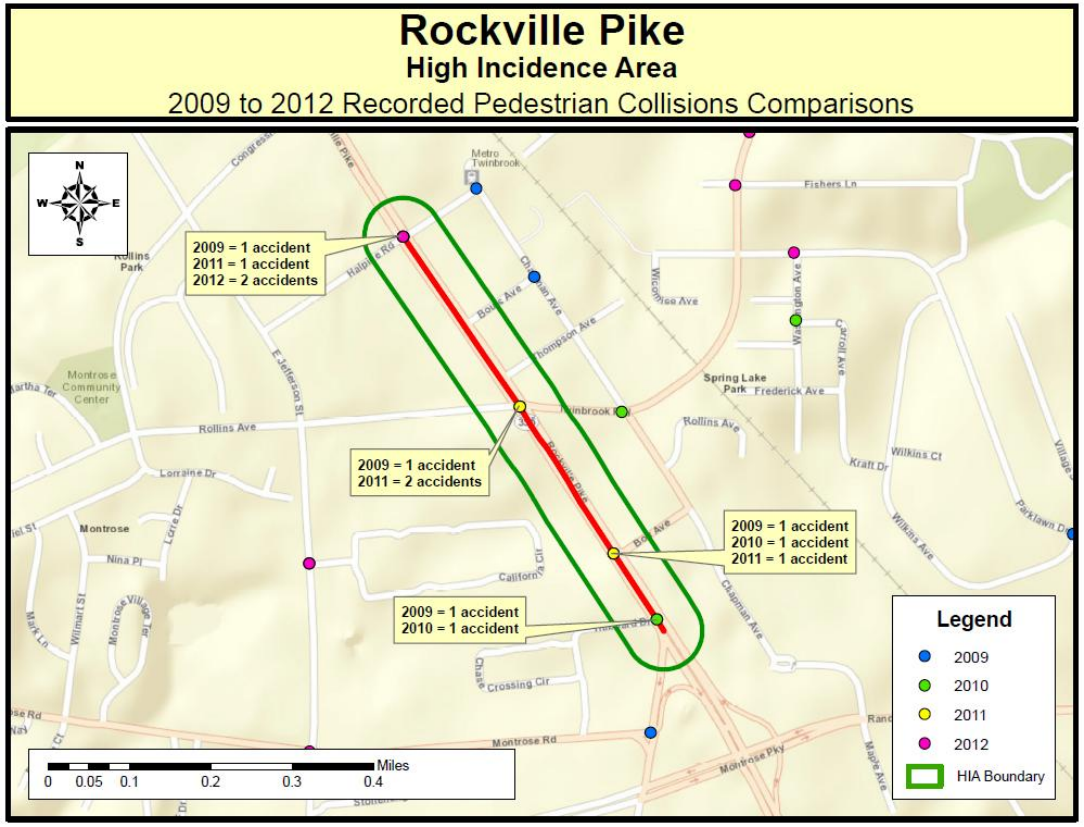
- Narrow sidewalks
- Multiple access points
- Long distance between controlled crossings

Previous Accomplishments

- Sidewalk Widening Project
- Installed Countdown Pedestrian Signals
- Minor Lighting Upgrades

Updates since May 2012

- Planned Traffic Signal Reconstruction
  MCDOT participation for 2 Intersections
  (NTP – November 2013)



2006	2007	2008	2009	2010	2011	2012	Total
4	3	9	8	2	3	2	31

High Incidence Areas: Four Corners

Background

- Intersection of **Colesville Rd and University Blvd**
- PRSA conducted in Jan 2010
- Montgomery Blair HS

Observations

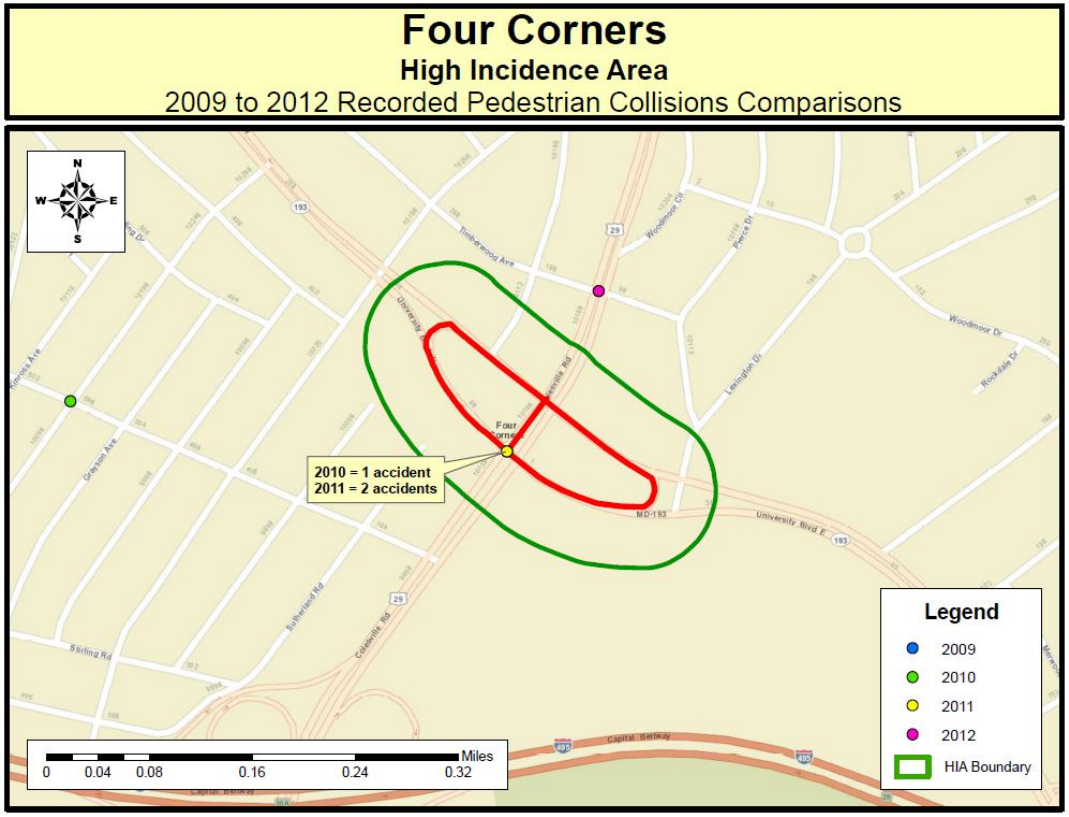
- Large student population
- Many pedestrians cross mid-block
- Numerous commercial access points
- Heavy bus transit usage

Previous Accomplishments

- Pedestrian Signal Improvements
- Completed MDSHA resurfacing project

Updates since May 2012

- Montgomery Blair HS Education & Outreach Event (Spring & Fall 2012)
- Targeted Enforcement (Spring 2012)



2006	2007	2008	2009	2010	2011	2012	Total
4	7	5	0	1	3	0	20