Pedestrian Safety

Initiative Meeting #6

March 19, 2010

CountyStat

CountyStat Principles

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

Agenda

- **Introductions**
- **Pedestrian collisions – general update**
- **Pedestrian strategies**
  - Geographic strategies
  - Demographic strategies
  - Time-based strategies
- **Trends in collisions**
  - Trends by jurisdiction
  - Trends in injuries
  - Trends by age
- **Evaluation – successes and lessons learned**
- **Wrap-up and follow-up items**

Meeting Purpose

- **Review progress on reducing pedestrian collisions and ensure that pedestrian safety strategies being pursued are effective uses of tax dollars**

Number of Pedestrian Collisions

	2004	2005	2006	2007	2008	2009
January	21	36	31	32	48	31
February	30	28	28	33	30	37
March	36	37	28	34	37	30
April	32	26	25	35	34	28
May	39	27	36	34	47	46
June	33	41	33	29	24	40
July	33	24	29	20	37	35
August	24	28	37	26	36	29
September	31	39	39	38	35	28
Jan to Sept Total	**279**	**286**	**286**	**281**	**328**	**304**
October	46	48	42	37	31	
November	52	48	49	60	38	
December	43	52	52	34	47	
Total	**420**	**434**	**429**	**412**	**444**	

Data Limitations

- **Pedestrians collision reports for October-December 2009 are still being entered into the Police database**
  - Total pedestrian fatalities for 2009 is known: 14
    - Fatalities in 2006: 18
    - Fatalities in 2007: 15
    - Fatalities in 2008: 17
  - Estimate of when 2009 data will be completely entered: data not received
- **Analytical maps of pedestrian collisions have been difficult to generate**
  - Traffic analyst position within the Police continues to be unfilled
  - Expectations about future analytical capabilities within MCPD: data not received

Strategies to Address Geographic Trends

- **High Incidence Areas**
  - The highest rate of pedestrian collisions are along State roads, so this strategy engages the State in targeting pedestrian safety activities within the County where rate of collisions are highest
  - Creates opportunities to leverage multiple projects in target areas with cost-sharing between multiple agencies
  - Targets funding where it can have the greatest effect on reducing pedestrian collisions
- **Safe Routes to School**
  - Demonstrated success of reducing pedestrian collisions recommends that additional resources be targeted at these priority locations
  - Focuses resources on demographic group that benefits most from improved pedestrian safety and mobility – all kids walk and bike

Strategies to Address Geographic Trends

- **Traffic Calming**
  - Traffic calming projects are undertaken on County roads, so they can be implemented more quickly than projects that require state involvement
  - Addresses immediate community concerns regarding pedestrian safety and speeding
  - Demonstrated effectiveness in reducing speeds - - a key factor in collision rate and severity
  - Enhanced crossing features induce improved pedestrian behavior and compliance
- **Bus Stop Improvements**
  - Bus Stops = lots of pedestrians + lots of crossings
  - Compliments other pedestrian safety and mobility programs: sidewalks, ADA Accessibility, traffic calming

Geographic Trends
High Incidence Areas

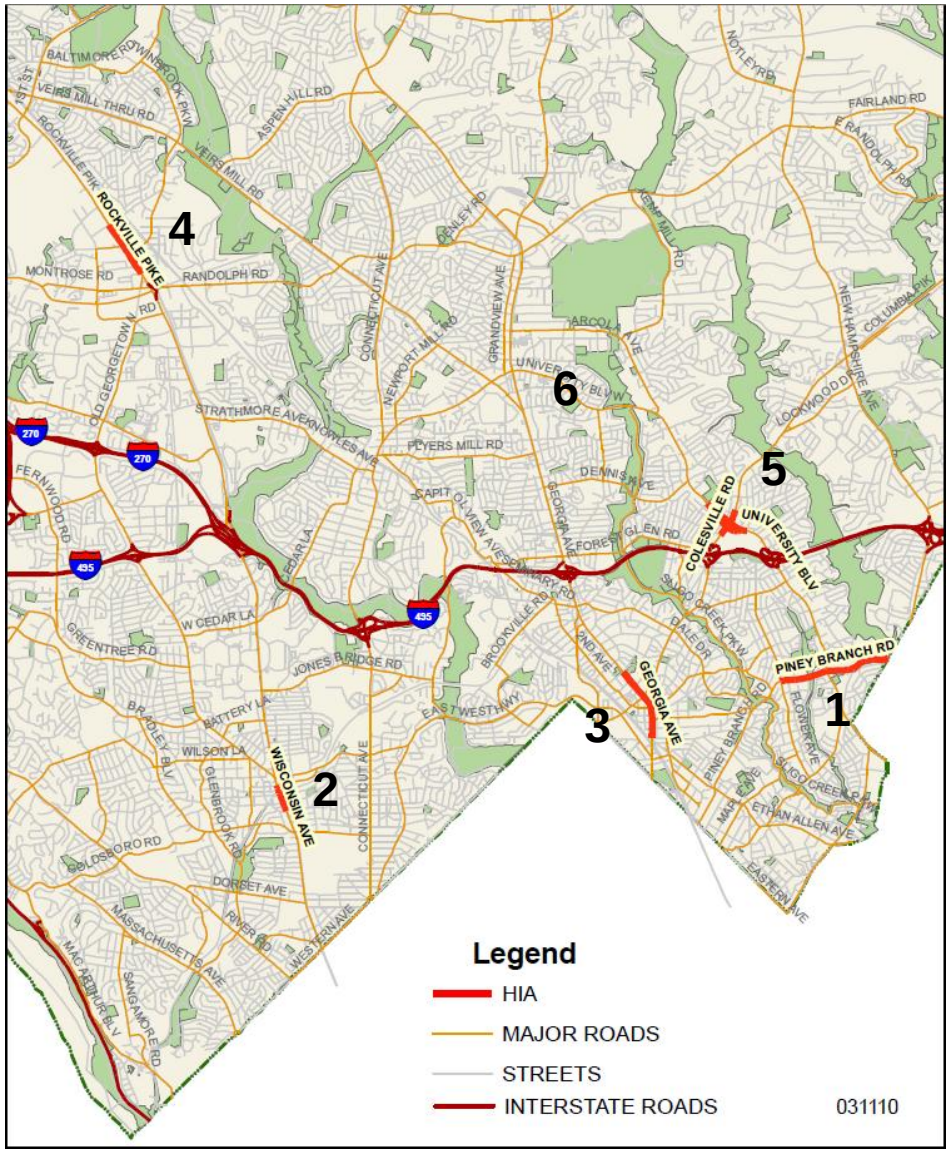
High Incidence Area	Date of PRSA Audit	Number of Pedestrian Collisions					
		2004	2005	2006	2007	2008	2009*
Piney Branch Rd	**Oct 2008**	14	10	10	8	6/2	7
Wisconsin Ave	**Dec 2008**	8	6	6	10	3	3
Georgia Ave	**Mar 2009**	13	4	7	5	8	2/2
Rockville Pike	**June 2009**	4	11	4	3	8	2/2
Four Corners	**Jan 2010**	2	4	4	7	7	0
Reedie Drive	**TBD**	4	2	0	3	3	5

#/# indicates collisions that occurred before/after the PRSA audit. For example, in 2008 there were a total of 8 collisions in the Piney Branch HIA, 6 of which occurred before the audit and 2 of which occurred after the audit.

** 2009 includes collisions from January-September only.*

Geographic Trends
High Incidence Areas

1. Piney Branch Rd
2. Wisconsin Ave
3. Georgia Ave
4. Rockville Pike
5. Four Corners
6. Reedie Dr



Geographic Trends
High Incidence Areas

High Incidence Area	Date of PRSA Audit	Dollar Value of Potential Improvements		
		Engineering	Education	Enforcement
Piney Branch Rd	**Oct 2008**	$1,950,000	$50,000	$62,500
Wisconsin Ave	**Dec 2008**	$423,000	$50,000	$62,500
Georgia Ave	**Mar 2009**	$594,000	$25,000	$62,500
Rockville Pike	**June 2009**	$590,000	$25,000	$62,500
Four Corners	**Jan 2010**	N/A	$25,000	$62,500
Reedie Drive	**TBD**	N/A	N/A	N/A

Geographic Trends
High Incidence Areas

High Incidence Area	FY09 Expenditures						FY10 Expenditures*					
	Budget			Actual			Budget			Actual		
	Eng	Educ	Enf	Eng	Educ	Enf	Eng	Educ	Enf	Eng	Educ	Enf
Piney Branch	$275k	$55k	$62.5k	$25k	-	-	-	-	-	$38k	$41.4k	$26k
Wisconsin	$275k	$55k	$62.5k	$25k	-	-	-	-	-	$16k	-	$25k
Georgia	$25k	$25k	$62.5k	$25k	-	-	$275k	-	-	$28k	-	$23.5k
Rockville	$25k	$25k	$62.5k	$25k	-	-	$275k	-	-	$6k	-	$10k
Four Corners	-	-	-	-	-	-	$300k	$20k	-	-	-	-
Reedie	-	-	-	-	-	-	$300k	$20k	-	-	-	-
Totals	$600K	$160K	$250K	$100K	-	-	$1.15M	$40K	-	$88K	$41.4K	$84.5K

** Expenditures to date (as of 3/1/2010), Includes studies, construction, education and enforcement.*

Geographic Trends
Safe Routes to School

School Name	Before Treatment		After treatment*	
	Time period	# ped collisions	Time period	# ped collisions
Stone Mill ES	3/2006 – 3/2009	2	3/2009 – 3/2012	0
Olney ES	2/2006 – 2/2009	1	2/2009 – 2/2012	3
Georgian Forest ES	3/2006 – 3/2009	6	3/2009 – 3/2012	0
Kingsview MS	3/2006 – 3/2009	12	3/2009 – 3/2012	1
Thurgood Marshall ES	3/2006 – 3/2009	1	3/2009 – 3/2012	0
Martin Luther King MS	7/2006 – 7/2009	11	7/2009 – 7/2012	0
Flower Hill ES	6/2006 – 6/2009	7	6/2009 – 6/2012	0
Greenwood ES	4/2006 – 4/2009	2	4/2009 – 4/2012	0
Rosa Parks MS	4/2006 – 4/2009	2	4/2009 – 4/2012	0
Cannon Road ES	6/2006 – 6/2009	3	6/2009 – 6/2012	0
Clearspring ES	4/2006 – 4/2009	1	4/2009 – 4/2012	0
William B. Gibbs ES	9/2006 – 9/2009	2	9/2009 – 9/2012	0
Total		**50**		**4**

** Number of collisions so far. After treatment assessment period is still underway. All data has been supplied by the Department of Transportation and the Police Department.*

Geographic Trends
Traffic Calming

Project Name	Completion Date	Speeds (MPH)			Number of collisions	
		Posted	Avg before	Avg after	3 years before	3 years after
Connecticut Ave	July-07	40	48	40	10	3
Aspen Hill Dr	May-08	30	35	34	14	0
Arcola Ave	Aug-08	30	42	32	3	0
Fairland Rd	July-09	40	53	42	2	-
Calverton Blvd	July-09	30	41	35	1	-
Lockwood Dr	July-09	30	40	-	0	-
Sligo Ave	Sept-09	30	34	31	1	-
Carroll Ave	Nov-09	25	33	-	2	-

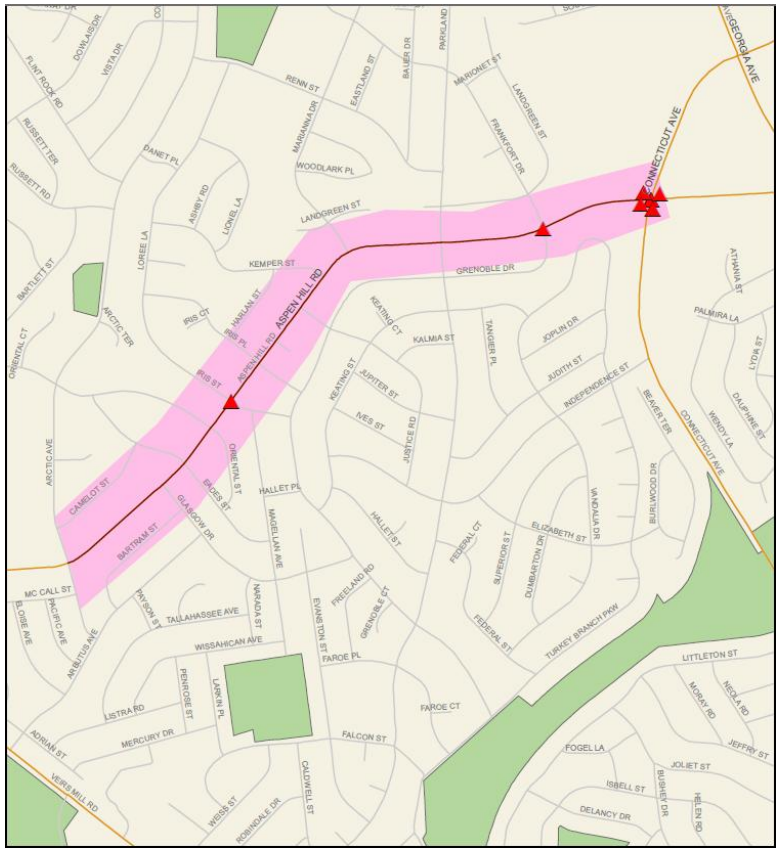
The Connecticut Avenue after-treatment period is almost done and will likely show significant improvements. Aspen Hill Drive is also almost done and shows signs of improvement.

Geographic Trends
Traffic Calming

Connecticut Ave. from Grand Pre to Bel Pre Rd.

10 collisions in the 3 years before treatment
3 collisions so far after treatment

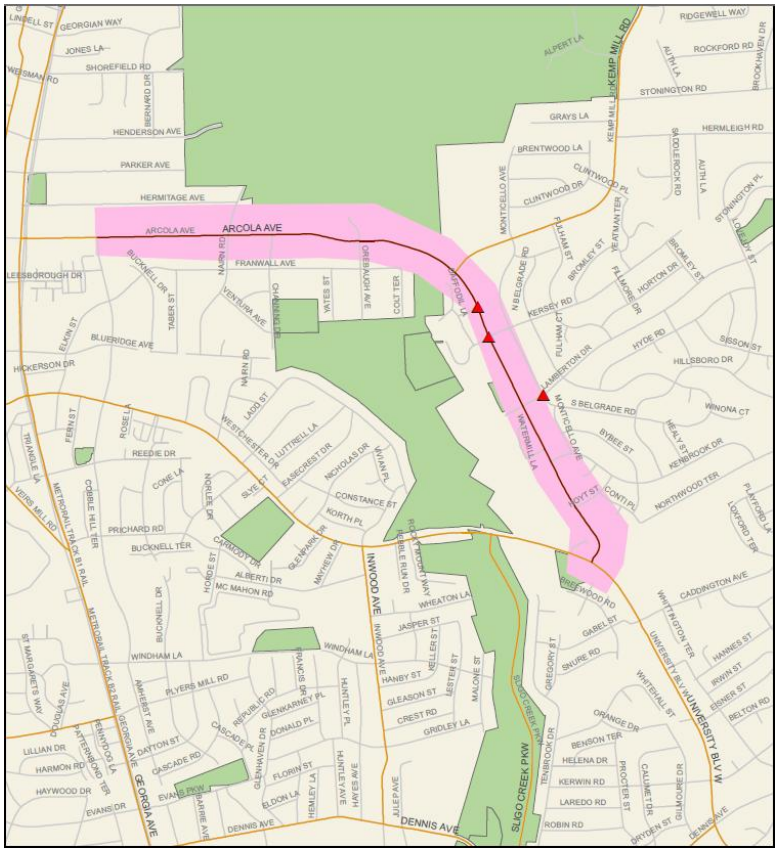
Aspen Hill Rd. from Artic Ave. to Connecticut Ave.



14 collisions in the 3 years before treatment
0 collisions so far after treatment

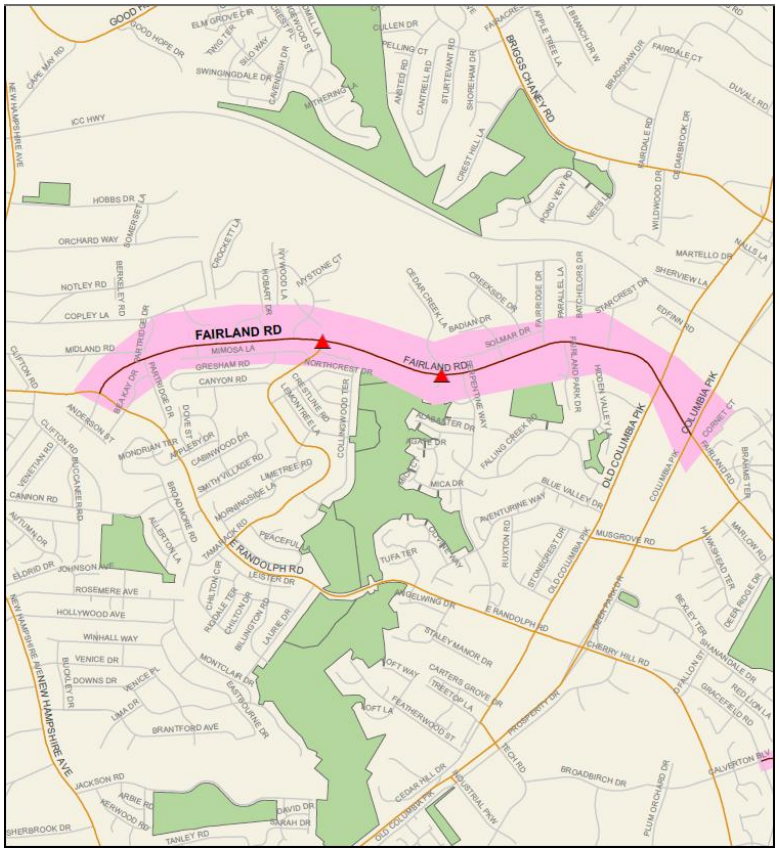
Geographic Trends
Traffic Calming

Arcola Ave. from Amherst to University Blvd.



3 collisions in the 3 years before treatment
0 collisions so far after treatment

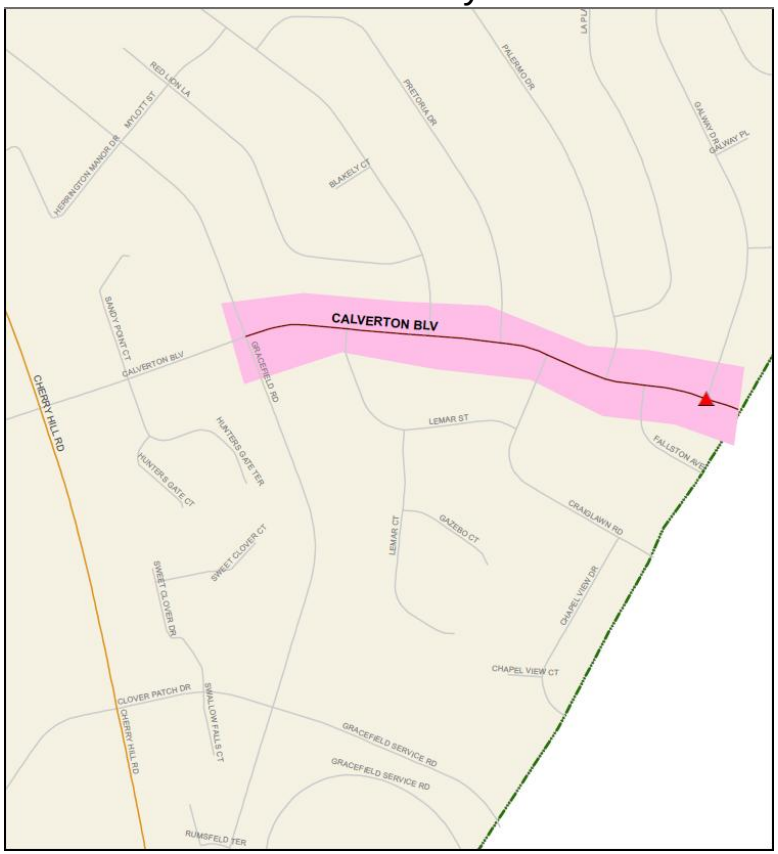
Fairland Rd. from E. Randolph Rd. to Old Columbia Pike



2 collisions in the 3 years before treatment

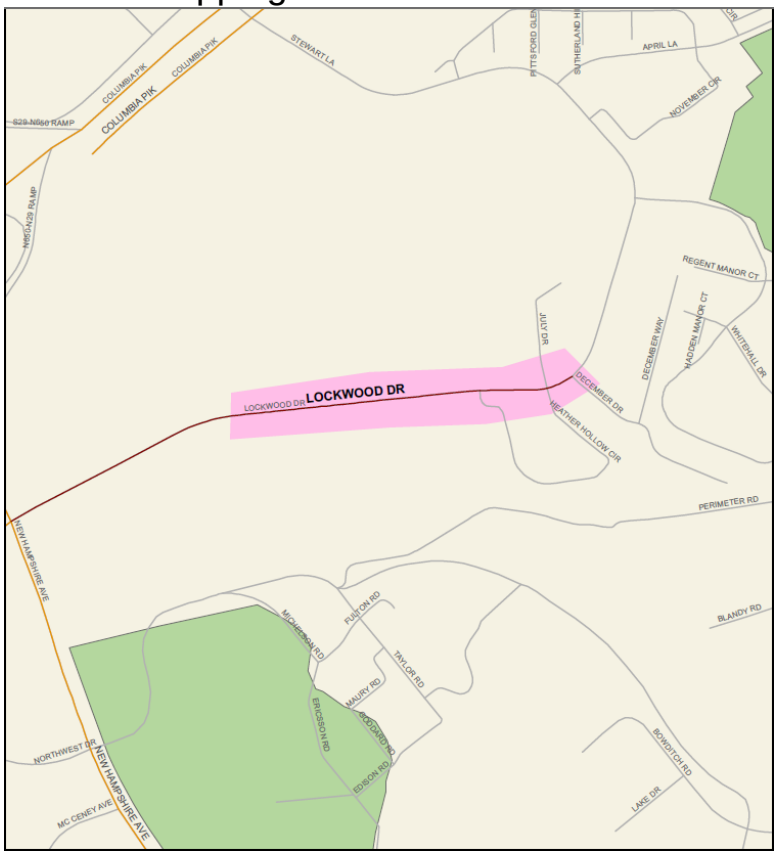
Geographic Trends
Traffic Calming

Calverton Rd. from Gracefield Rd. to P.G. County line



1 collision in the 3 years before treatment

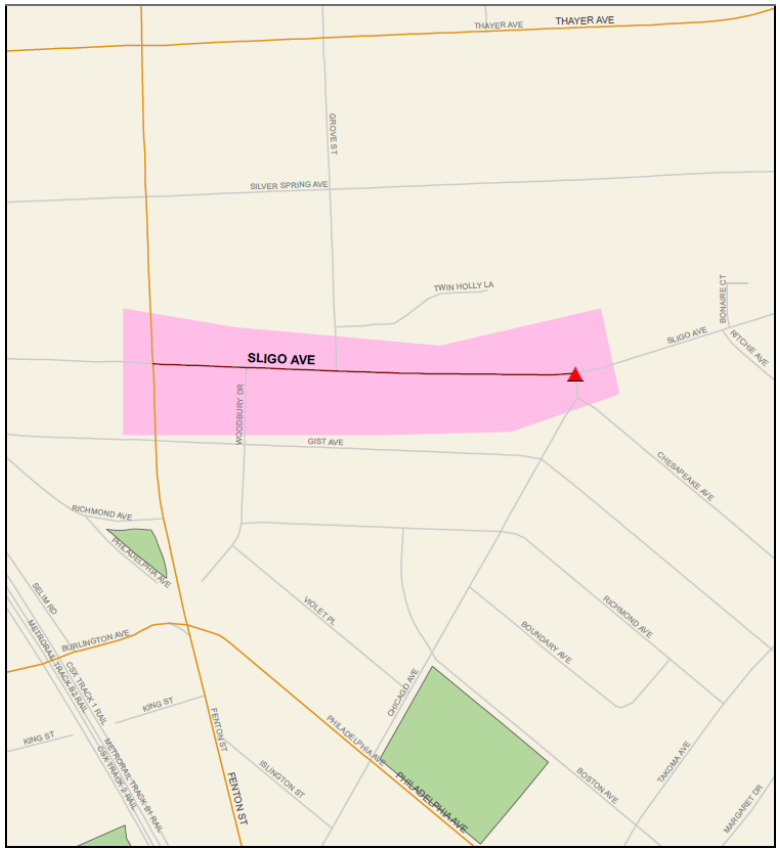
Lockwood Dr. from entrance to White Oak Shopping Mall to December Dr.



0 collisions in the 3 years before treatment

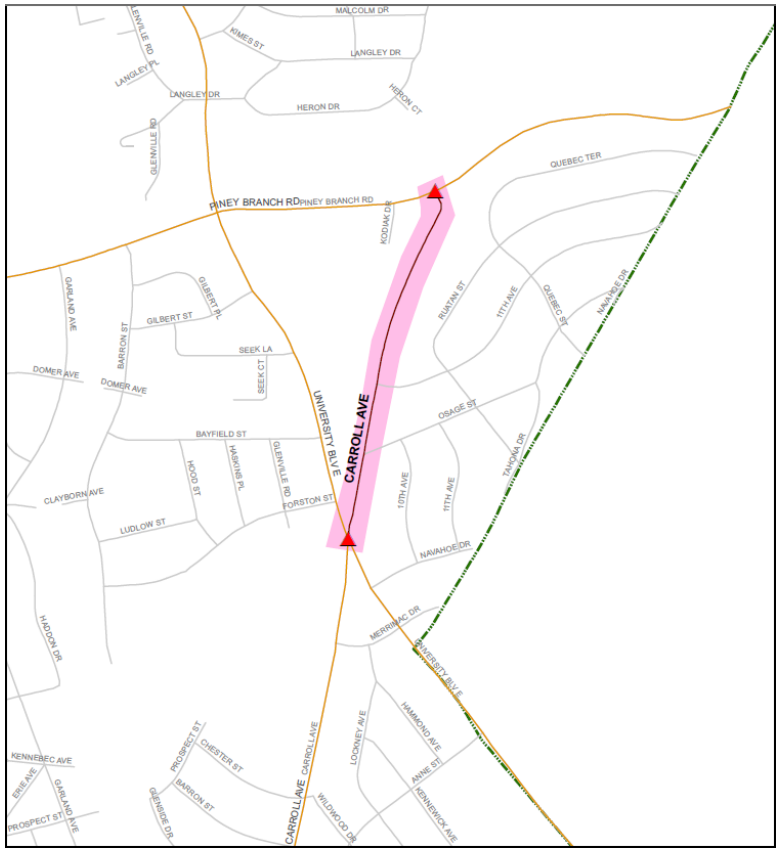
Geographic Trends
Traffic Calming

Sligo Ave. from Fenton St. to Chicago Ave.



1 collisions in the 3 years before treatment

Carroll Ave. from University Blvd. to Piney Branch Rd.



2 collisions in the 3 years before treatment

Strategies to Address Demographic Trends

- **Target clusters of senior collisions (Rockville Pike, Silver Spring, Bethesda)**
- **Modify pedestrian signal timing for slower pedestrians (old and young)**
- **Continue enhanced Safe Routes to School (SRTS) program**
- **Continue using bilingual organizations and media to educate and raise awareness of non-English speaking populations**

Strategies to Address Time-Based Trends

- **The spring Street Smart campaign across the DC metro region has been retooled to focus on the outcomes of ignoring pedestrian safety practices as a result of findings from the first pedestrian safety survey**

- **Enhanced enforcement and education efforts targeted Fall high collision months: November and December**

- **SRTS Education/Outreach targets back to school activities and walk to school day**

The pedestrian safety survey conducted at the Piney Branch HIA has impacted the entire region's approach to pedestrian education in the Street Smart campaign.

Number of Pedestrian Collisions Normalized for Population and Vehicle Miles Traveled

	2004	2005	2006	2007	2008
Total number of pedestrian collisions	420	434	429	412	444
All collisions	13,850	13,056	13,220	12,460	11,925
Annual vehicle miles traveled (AVMT – in millions of miles)	4,829	4,941	4,932	4,882	4,916
County population	923,094	930,286	936,070	941,491	950,680
Pedestrian collisions as a % of all collisions	**3.03%**	**3.32%**	**3.25%**	**3.31%**	**3.72%**
Pedestrian collisions per 10,000 population	**4.55**	**4.67**	**4.58**	**4.38**	**4.67**
Pedestrian collisions per 100M AVMT	**8.70**	**8.78**	**8.70**	**8.44**	**9.03**

Number of Collisions by Controlling Jurisdiction

Controlling Jurisdiction	2004	2005	2006	2007	2008	2009*	Grand Total
State	155	153	155	149	158	102	**872**
County	142	131	143	126	148	97	**787**
Parking lot	96	114	90	101	84	78	**563**
Municipal	19	27	33	30	29	22	**160**
All other	8	9	8	6	25	5	**61**
Total Number	**420**	**434**	**429**	**412**	**444**	**304**	**2,443**

Between 2004-2008, there were

- **2.2** collisions per center-line mile on the state's 357 miles of road.
- **0.3** collisions per center-line mile on the County's 2,287 miles of road.
- **0.4** collisions per center-line mile on the 351 miles of municipal roads.

** 2009 includes collisions from January-September only.*

Percent of Collisions by Controlling Jurisdiction

Controlling Jurisdiction	2004	2005	2006	2007	2008	2009*	Grand Total
State	37%	35%	36%	36%	36%	34%	**36%**
County	34%	30%	33%	31%	33%	32%	**32%**
Parking lot	23%	26%	21%	25%	19%	26%	**23%**
Municipal	5%	6%	8%	7%	7%	7%	**7%**
All other	2%	2%	2%	1%	6%	2%	**2%**
Total Number	**420**	**434**	**429**	**412**	**444**	**304**	**2,443**

Although 76% of County roadway miles are County-maintained, less than one third of pedestrian collisions occur on County-maintained roadways .

** 2009 includes collisions from January-September only.*

Number of Pedestrian Collisions
Severity of Pedestrian Injury

	2004	2005	2006	2007	2008	2009*
Collision type						
Property damage only	6	4	11	9	6	4
Injury	400	420	400	388	421	292
Fatal	14	10	18	15	17	8
Total collisions	**420**	**434**	**429**	**412**	**444**	**304**
Injury Type (ped only)						
Not injured/not known	17	12	32	19	20	17
Possible injury	98	129	114	94	115	80
Injured-not incapacitated	182	176	168	189	212	118
Injured-incapacitated	136	124	142	112	97	87
Fatal	13	9	14	14	16	8
Total pedestrians	**446**	**450**	**470**	**428**	**460**	**310**

Note: Fatal collisions are handled by a special reconstruction unit within the Police. The normal collision database does not always get updated with this unit's analysis, resulting in the discrepancy seen here between the number of fatal collisions and the number of pedestrians with fatal injuries.

** 2009 includes collisions from January-September only.*

Number of Pedestrian Collisions
Severity of Pedestrian Injury

	2004	2005	2006	2007	2008	2009*
Collision type						
Property damage only	1%	1%	3%	2%	1%	1%
Injury	95%	97%	93%	94%	95%	96%
Fatal	3%	2%	4%	4%	4%	3%
Injury Type (ped only)						
Not injured/not known	4%	3%	7%	4%	4%	6%
Possible injury	22%	29%	24%	22%	25%	26%
Injured-not incapacitated	41%	39%	36%	44%	46%	38%
Injured-incapacitated	31%	28%	30%	26%	21%	28%
Fatal	3%	2%	3%	3%	4%	3%

After seeing declines in serious injuries in 2007 and 2008, the percent of pedestrians with serious injuries has gone up again in 2009.

** 2009 includes collisions from January-September only.*

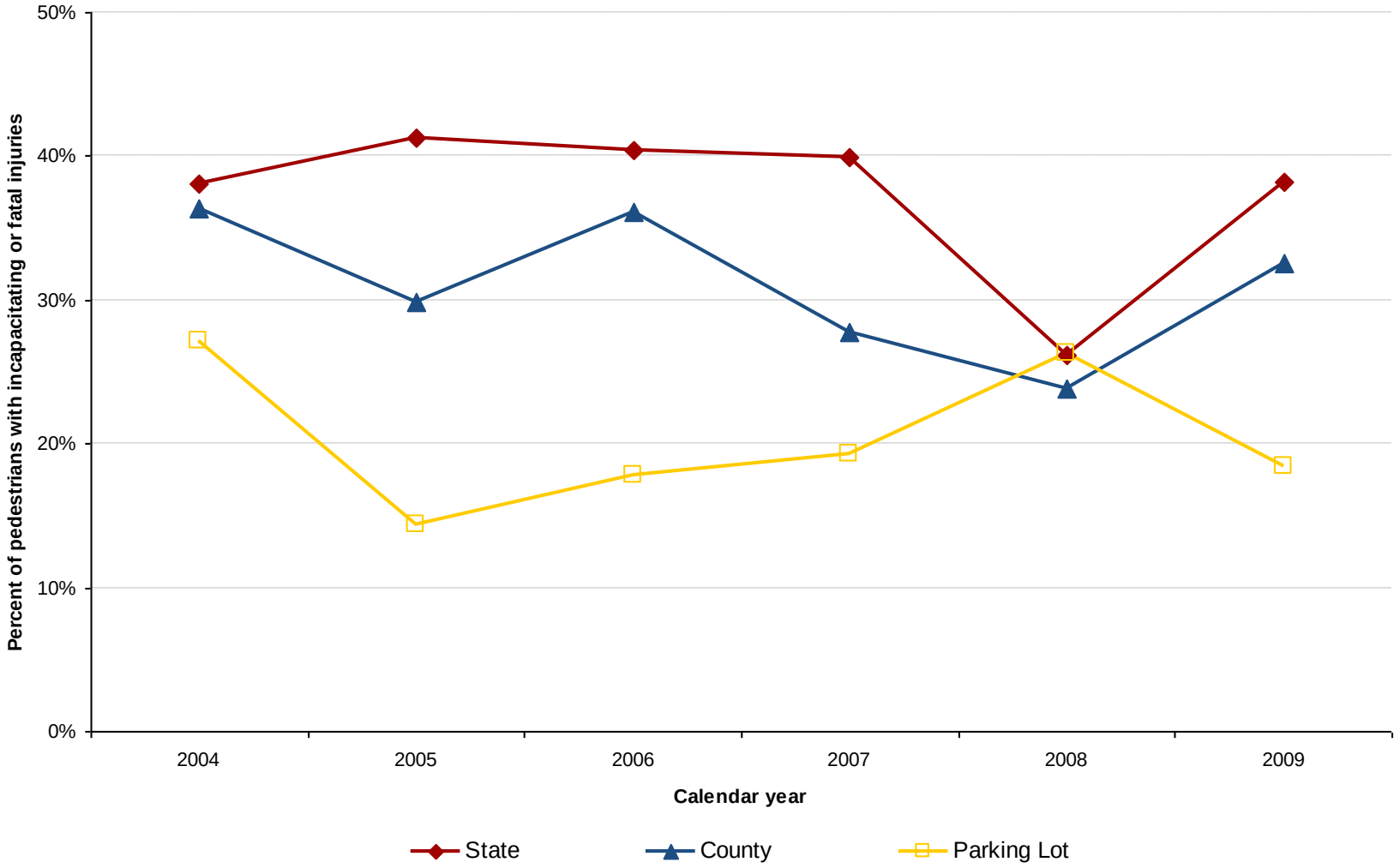
Injury Type by Controlling Jurisdiction, 2004-2009*

Controlling Jurisdiction	Percent of all collisions	Type of injury sustained				
		01	02	03	04	05
State	**36%**	4%	21%	38%	33%	5%
County	**32%**	4%	22%	43%	29%	2%
Parking lot	**23%**	5%	33%	41%	19%	1%
Municipal	**7%**	7%	27%	48%	18%	0%
All other	**2%**	7%	24%	38%	27%	4%
Total Number	**2,443**	**5%**	**25%**	**41%**	**27%**	**3%**

01 = Not injured/not known
02 = Possible injury
03 = Injured – not incapacitated
04 = Injured – incapacitated
05 = Fatal

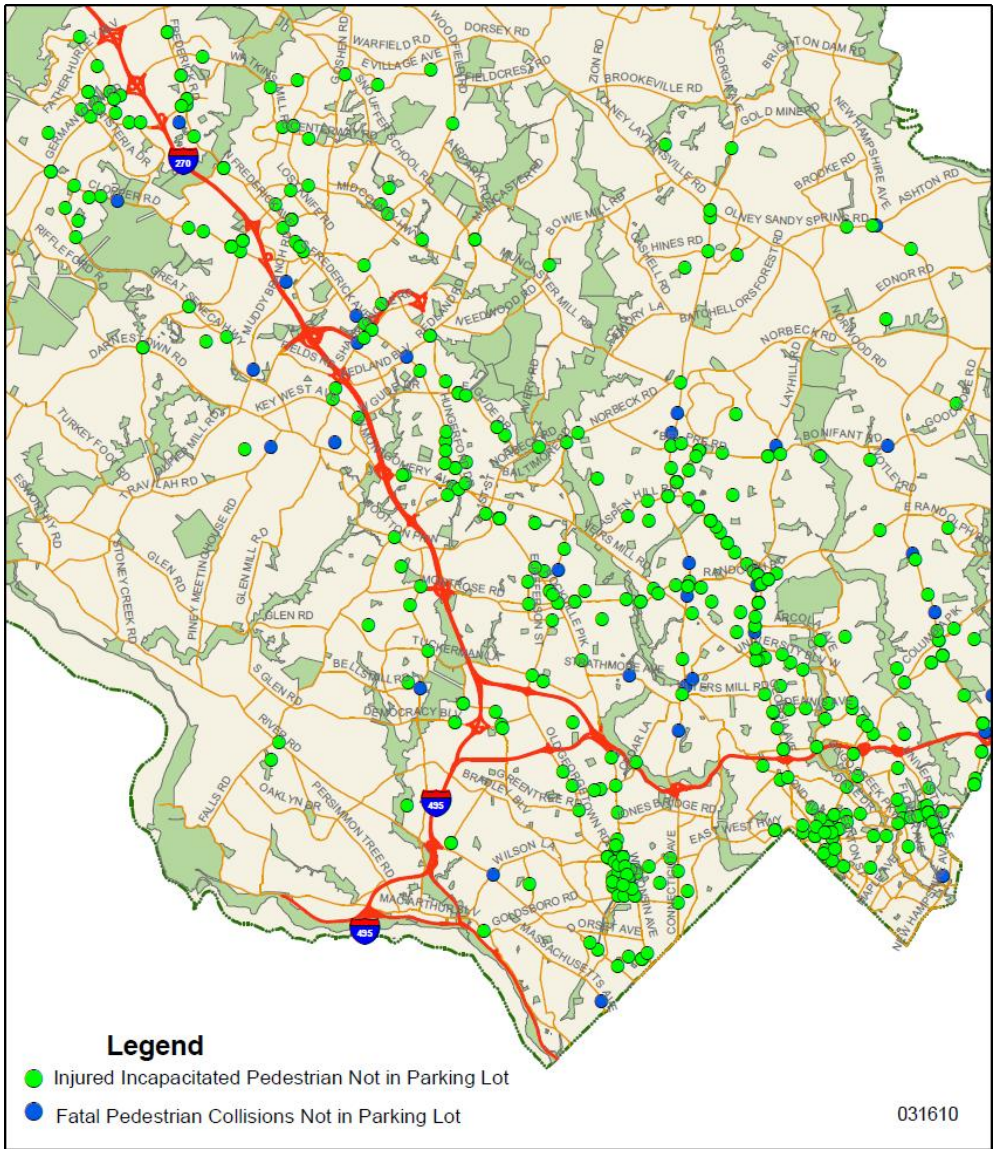
** 2009 includes collisions from January-September only.*

Injury Type by Controlling Jurisdiction
Trends in Injured-Incapacitated and Fatal Collisions

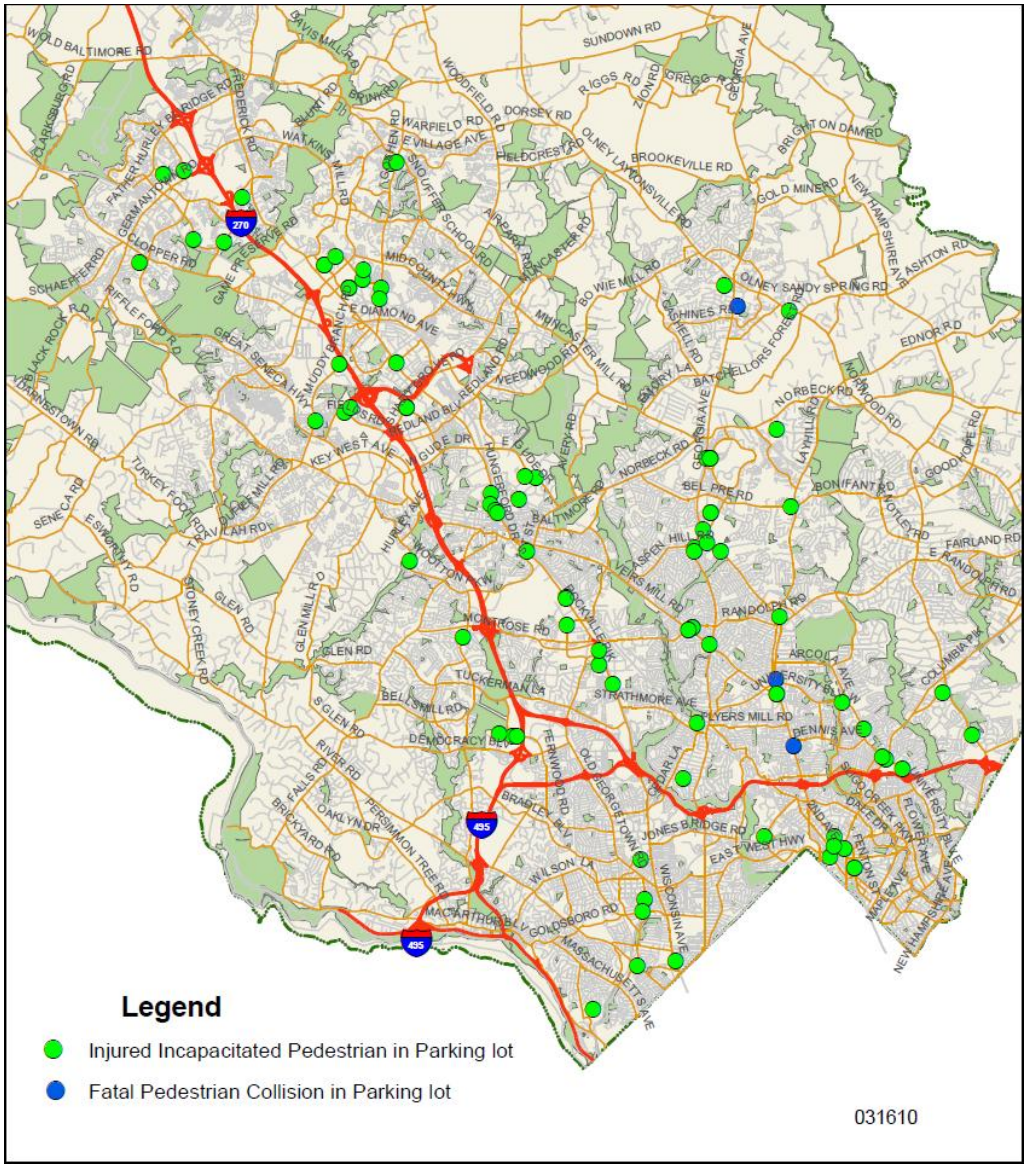


** 2009 includes collisions from January-September only.*

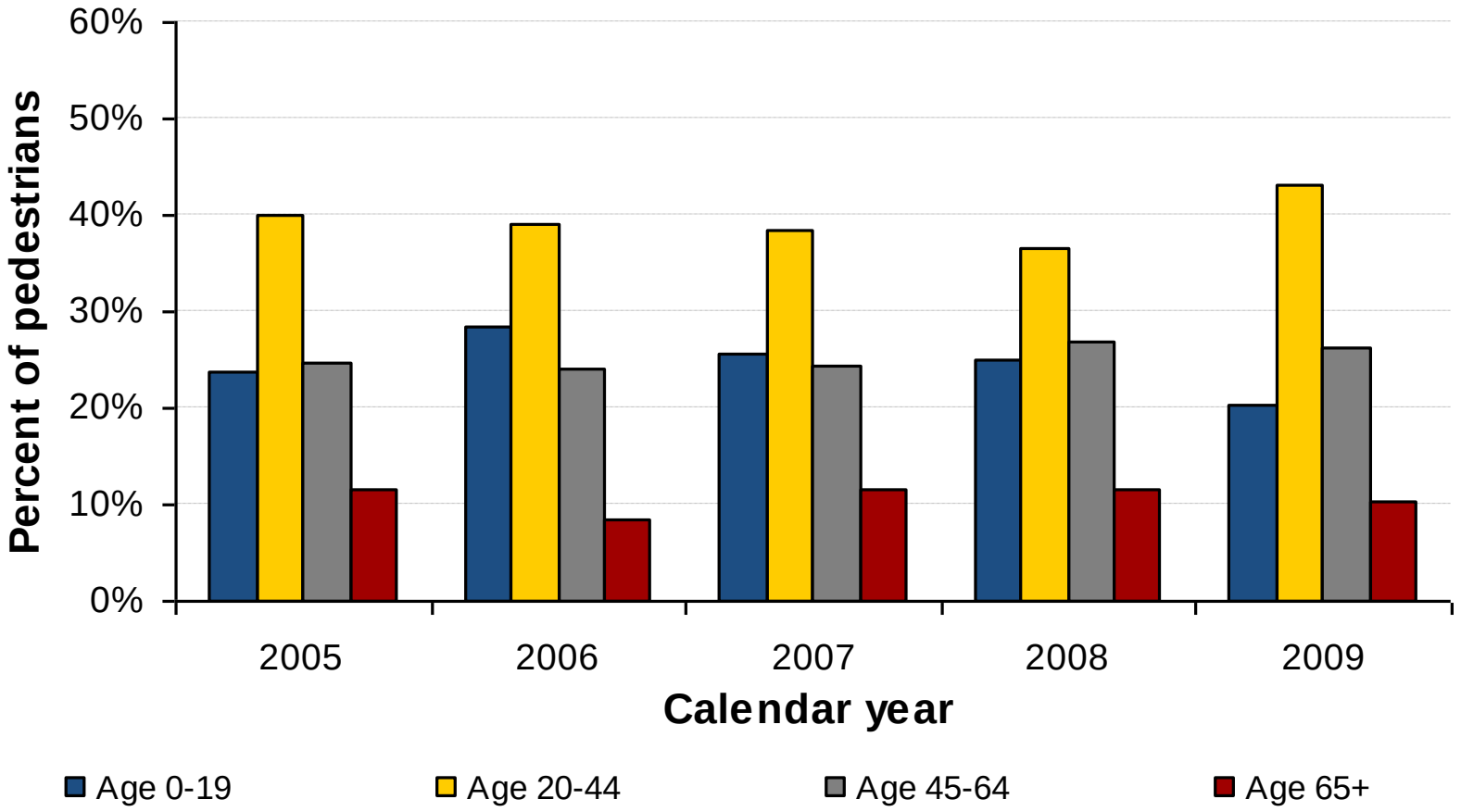
Trends in Injury Types Locations of Injured-Incapacitated and Fatal Collisions in Non-Parking Lots



Trends in Injury Types Locations of Injured-Incapacitated and Fatal Collisions in Parking Lots



Demographic Trends: Pedestrian Age



Note: Age was unreliably recorded in 2004, so that year has been excluded. 2009 includes collisions from January-September only.

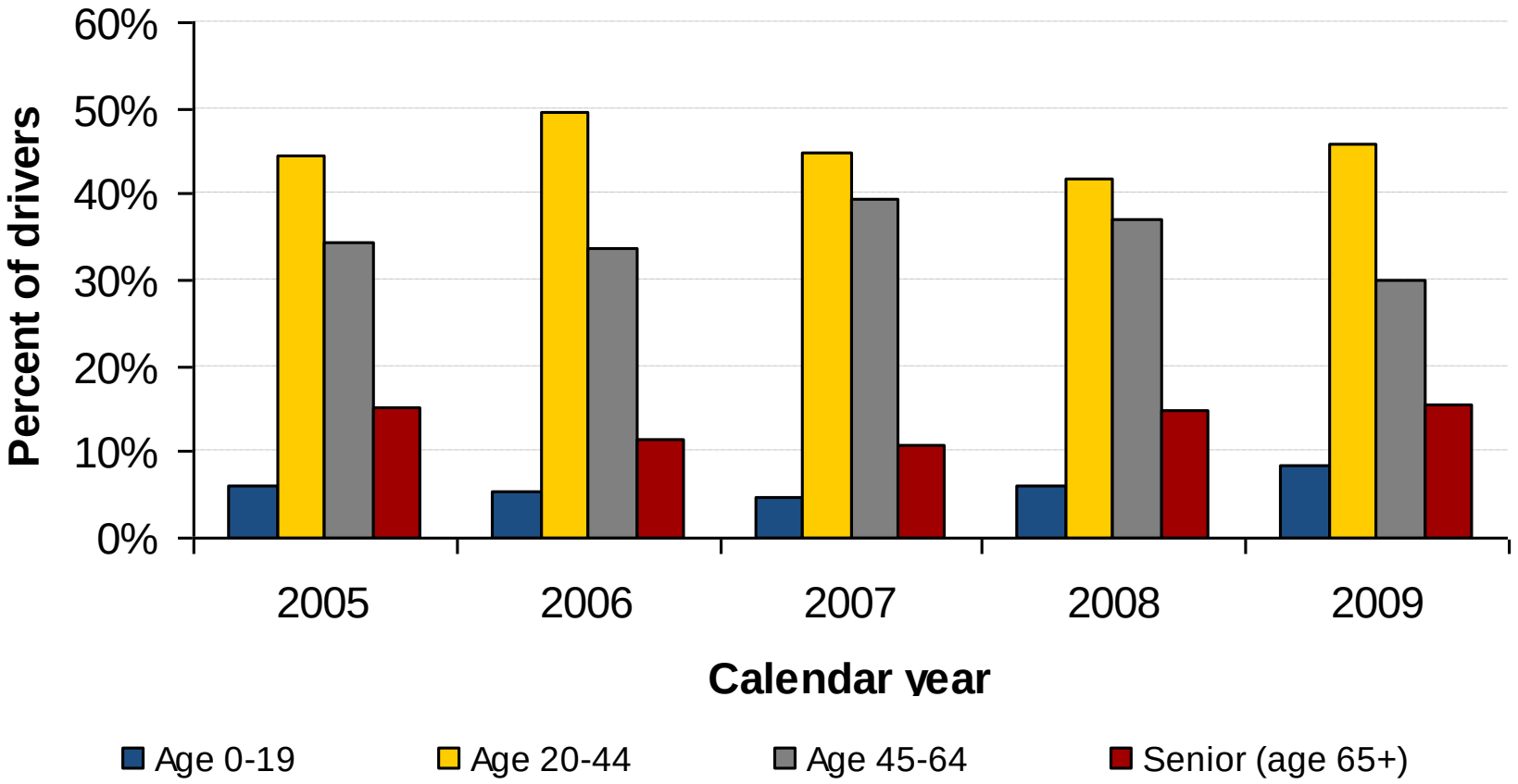
Demographic Trends: Pedestrian Age Comparison with Distribution in the General Population

	2005	2006	2007	2008	2009*
Pedestrian proportions					
Age 0-19	24%	29%	26%	25%	20%
Age 20-44	40%	39%	38%	37%	43%
Age 45-64	25%	24%	24%	27%	26%
Age 65+	12%	8%	12%	12%	10%
Population proportions					
Age 0-19	28%	27%	27%	26%	
Age 20-44	34%	33%	33%	32%	
Age 45-64	27%	28%	28%	29%	
Age 65+	11%	12%	12%	12%	

Statistically significant differences are highlighted: red cells show where the pedestrian proportions exceed the general population, green cells where it is under the general population.

** 2009 includes collisions from January-September only. General population data comes from the American Community Survey; 2009 data is not currently available.*

Demographic Trends: Driver Age



Note: Age was unreliably recorded in 2004, so that year has been excluded. 2009 includes collisions from January-September only.

Evaluation: Successes and Lessons Learned

- **Where strategies have been successful**
  - Reduced speeds and collisions due to traffic calming projects on County Roadways
  - Successful partnering with MCPD and the community for enforcement and education
  - Preliminary trends indicate successful SRTS and Traffic Calming programs
- **Lessons learned**
  - More emphasis on engaging the State to complete safety projects
  - Education and outreach are highly effective strategies = More Focus
  - More emphasis needed in accuracy of collision data
  - Pursue opportunities to leverage planned projects
  - Partnering with other Departments, Agencies, & Communities = Success

Evaluation: Successes and Lessons Learned (cont')

- **Stay the Course – preliminary results are promising:**
  - Emphasize SRTS efforts
  - Continue traffic calming projects
  - Continue signal timing assessment and modifications
  - Continue enhanced enforcement and education activities – targeting HIAs
  - Continue bus stop improvements – bring to completion
  - Explore ways to expedite implementation of HIA recommendations with MDSHA
  - Expand our internal and external partners: PEPCO, DHCA, DGS

Wrap-Up

- **Follow-up items**