



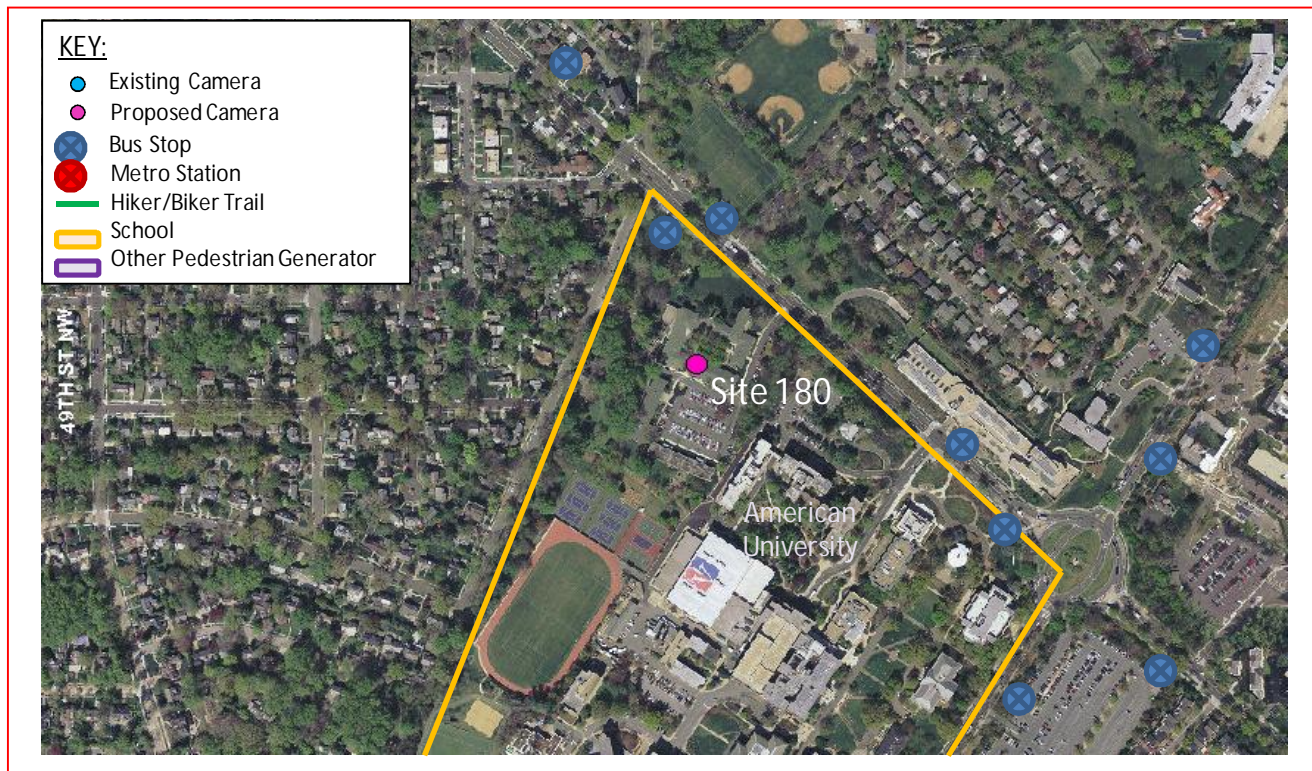
District Department of Transportation

## Speed Limit and Safety Nexus Studies for Automated Enforcement Locations in the District of Columbia

### 4500 Block Massachusetts Avenue NW

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
2	205	3	3D	Proposed	4500 Block Massachusetts Avenue Northwest Northwest-Bound



The *proposed* speed camera will be located in Ward 3 at the 4500 block of Massachusetts Avenue Northwest in the northwest bound direction. Massachusetts Avenue runs from Dalecarlia Parkway Northwest and Western Avenue Northwest in the north to 19<sup>th</sup> Street Southeast in the south. The posted speed limit is 30 MPH.

W3 - 474





District Department of Transportation

4500 Block Massachusetts Avenue NW

## Field Assessment Summary

Massachusetts Avenue is assumed to run in an East-West direction, and is classified as a principal arterial. Massachusetts Avenue has two lanes in each direction. This site has the following characteristics:

- This site is located in a residential area with houses and driveways outside of the block.
- There are slip lanes to 46<sup>th</sup> Street and Tilden Street at north end of block.
- There is sidewalk with curb and gutter on both sides of the street.
- The existing pavement is in good condition.
- American University and sports facilities for the university are also located in the area.



Looking Northbound

W3 - 475





District Department of Transportation

## 4500 Block Massachusetts Avenue NW



Looking Southbound

### Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	13
85th Percentile Speed (MPH)	21
10 MPH Pace Speed (MPH)	5-14
ADT	11,885

The mean speed and the 85<sup>th</sup> percentile speed are both lower than the posted speed limit. The 85<sup>th</sup> speed is 9 MPH lower than the posted speed limit.

### Crash Data Analysis

Between January 1, 2010 and December 31, 2012, there were a total of 34 crashes at this location. A breakdown of number of crashes by collision type can be found in chart on the next page. The most common type of crash were Rear End (12 crashes) and Side Swipe (6 crashes). Furthermore, this site experienced a high frequency (9 crashes) of injury-related crashes.

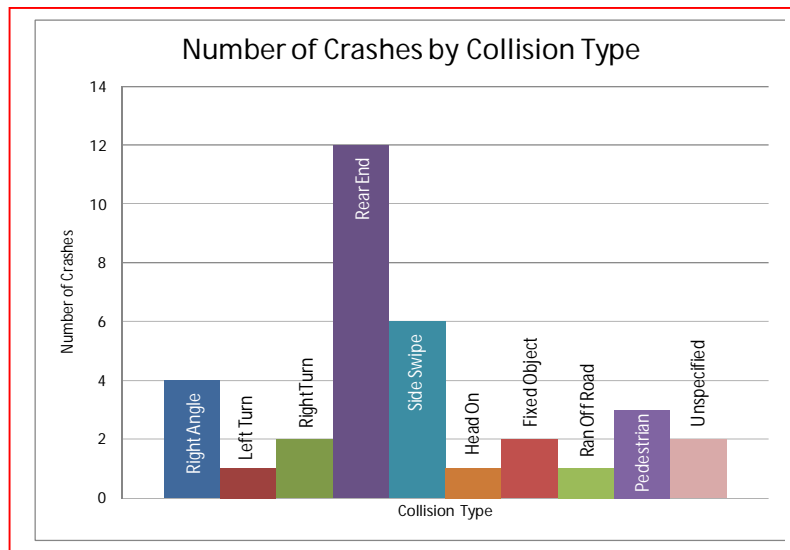
W3 - 476



District Department of Transportation

4500 Block Massachusetts Avenue NW

Severity			Weather			Surface condition			Light Condition		
Total	34										
Fatal	0	0.0%	Clear	31	91.2%	Dry	28	82.4%	Day	22	64.7%
Injury	9	26.5%	Rain	2	5.9%	Wet	4	11.8%	Night	10	29.4%
Taxi	2	5.9%	Snow	0	0.0%	Snow/Ice	0	0.0%			
Bus	3	8.8%									



There were an elevated number of speed-related crashes at this location, including rear end and side swipe crashes. The AASHTO Highway Safety Manual lists “assuming the lead driver will go through a green or yellow light, but the lead driver stops” and “changing lanes to avoid a slowing or stopped vehicle”<sup>1</sup> as two errors leading to rear-end and sideswipe crashes. Both of these errors can be decreased with a decrease in travel speed.

## Safety Nexus

This site presents the following safety considerations which may establish a nexus between the speed camera and traffic safety:

1. Speed Data – The speed data analysis shows travel speeds being lower than the posted speed limit.
2. Crash Data – There was an elevated number of speed-related crashes at this location, including rear end collisions, as well as a high frequency (9 crashes) of injury-related crashes.

<sup>1</sup> AASHTO Highway Safety Manual, 1<sup>st</sup> Edition, 2010; Volume 1, page 2-13



District Department of Transportation

4500 Block Massachusetts Avenue NW

3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
- a. This site is located adjacent to a college campus: American University.
  - b. This site is located in a residential area with houses and driveways outside of the block.
  - c. This site is located near several sports facilities which generate pedestrian activity.
  - d. There are multiple bus stations near this location which generate pedestrian activity.

Although the speed data analysis showed the mean and 85th percentile speeds to be lower than the posted speed limit, due to the elevated number of speed-related crashes and injury-related crashes, the specific site characteristics, and pedestrian generators, there is a nexus between traffic safety and the speed camera at this location.

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# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

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## 4500 block of Massachusetts Ave NW NWB Speed

NWB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
11/07/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	40	5	36	29	4	1	0	0	0	0	0	0	0	0	115
06:00	134	45	199	99	8	1	0	0	0	0	0	0	0	0	486
07:00	394	96	182	46	8	0	0	0	0	0	0	0	0	0	726
08:00	512	14	0	1	0	0	0	0	0	0	0	0	0	0	527
09:00	397	211	224	53	2	0	0	0	0	0	0	0	0	0	887
10:00	361	138	230	64	5	1	0	0	0	0	0	0	0	0	799
11:00	350	169	203	47	3	0	0	0	0	0	0	0	0	0	772
12 PM	368	165	170	45	3	0	0	0	0	0	0	0	0	0	751
13:00	347	134	179	42	5	0	1	0	0	0	0	0	0	0	708
14:00	396	130	132	38	5	0	0	0	0	0	0	0	0	0	701
15:00	413	107	117	38	4	0	0	0	0	0	0	0	0	0	679
16:00	439	90	98	40	5	0	0	0	0	0	0	0	0	0	672
17:00	494	92	66	22	2	0	0	0	0	0	0	0	0	0	676
18:00	470	101	62	23	2	0	0	0	0	0	0	0	0	0	658
19:00	408	93	102	37	1	0	0	0	0	0	0	0	0	0	641
20:00	335	58	123	35	3	0	0	0	0	0	0	0	0	0	554
21:00	316	59	120	27	5	0	1	0	0	0	0	0	0	0	528
22:00	246	33	80	38	1	0	0	0	0	0	0	0	0	0	398
23:00	139	12	48	25	5	0	0	0	0	0	0	0	0	0	229
Total	6559	1752	2371	749	71	3	2	0	0	0	0	0	0	0	11507

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## 4500 block of Massachusetts Ave NW NWB Speed

### NWB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
11/08/13	85	3	17	4	1	0	0	1	0	0	0	0	0	0	111
01:00	43	4	7	5	0	0	0	0	0	0	0	0	0	0	59
02:00	26	1	8	3	1	2	0	0	0	0	0	0	0	0	41
03:00	17	1	7	5	1	0	1	0	0	0	0	0	0	0	32
04:00	28	2	18	24	1	1	0	0	0	0	0	0	0	0	74
05:00	22	8	13	16	2	0	0	0	0	0	0	0	0	0	61
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	221	19	70	57	6	3	1	1	0	0	0	0	0	0	378
Grand Total	6780	1771	2441	806	77	6	3	1	0	0	0	0	0	0	11885

15th Percentile : 5 MPH  
50th Percentile : 10 MPH  
85th Percentile : 21 MPH  
95th Percentile : 25 MPH

Stats  
Mean Speed(Average) : 13 MPH  
10 MPH Pace Speed : 5-14 MPH  
Number in Pace : 6819  
Percent in Pace : 57.4%  
Number of Vehicles > 30 MPH : 114  
Percent of Vehicles > 30 MPH : 1.0%

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## 4500 block of Massachusetts Ave NW NWB Volume

Start Time	Thu A.M.	07-Nov-13 P.M.	Fri A.M.	08-Nov-13 P.M.	Sat A.M.	09-Nov-13 P.M.	Daily Average	
							A.M.	P.M.
12:00	*	182	39	*	*	*	39	182
12:15	*	171	31	*	*	*	31	171
12:30	*	200	22	*	*	*	22	200
12:45	*	198	19	*	*	*	19	198
01:00	*	185	17	*	*	*	17	185
01:15	*	173	16	*	*	*	16	173
01:30	*	187	10	*	*	*	10	187
01:45	*	163	16	*	*	*	16	163
02:00	*	176	15	*	*	*	15	176
02:15	*	185	12	*	*	*	12	185
02:30	*	168	5	*	*	*	5	168
02:45	*	172	9	*	*	*	9	172
03:00	*	188	9	*	*	*	9	188
03:15	*	157	9	*	*	*	9	157
03:30	*	164	6	*	*	*	6	164
03:45	*	170	8	*	*	*	8	170
04:00	*	162	8	*	*	*	8	162
04:15	*	164	9	*	*	*	9	164
04:30	*	173	32	*	*	*	32	173
04:45	*	173	25	*	*	*	25	173
05:00	*	181	25	*	*	*	25	181
05:15	*	192	36	*	*	*	36	192
05:30	40	150	*	*	*	*	40	150
05:45	75	153	*	*	*	*	75	153
06:00	67	163	*	*	*	*	67	163
06:15	92	187	*	*	*	*	92	187
06:30	138	144	*	*	*	*	138	144
06:45	189	164	*	*	*	*	189	164
07:00	199	158	*	*	*	*	199	158
07:15	246	171	*	*	*	*	246	171
07:30	151	148	*	*	*	*	151	148
07:45	130	164	*	*	*	*	130	164
08:00	140	161	*	*	*	*	140	161
08:15	139	143	*	*	*	*	139	143
08:30	118	121	*	*	*	*	118	121
08:45	130	129	*	*	*	*	130	129
09:00	240	127	*	*	*	*	240	127
09:15	218	141	*	*	*	*	218	141
09:30	221	130	*	*	*	*	221	130
09:45	208	130	*	*	*	*	208	130
10:00	211	111	*	*	*	*	211	111
10:15	185	114	*	*	*	*	185	114
10:30	205	96	*	*	*	*	205	96
10:45	198	77	*	*	*	*	198	77
11:00	183	64	*	*	*	*	183	64
11:15	198	45	*	*	*	*	198	45
11:30	181	57	*	*	*	*	181	57
11:45	210	63	*	*	*	*	210	63
Total	4312	7195	378	0	0	0	4690	7195
Combined Total	11507		378		0		11885	
Peak	09:00	00:30	04:30				09:00	00:30
Vol.	887	756	118				887	756
P.H.F.	0.924	0.945	0.819				0.924	0.945
ADT		ADT 11,885	AADT 11,885					



DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** MASSACHUSETTS AVE,NW,NE,SE From WESLEY CIR (EAST),NW TO WARD CIR (NORTH),NW

**Time Period Covered:** From 01/01/2010 To 12/31/2012

**Prepared By:** Rahul Jain

**Prepared Date:** 9/15/2013

Total Number of Accident:	34	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Fatalities:	0	Right Angle:	4	11.8%	Fixed Object:	2	5.9%
Total Number of Injuries:	10	Left Turn:	1	2.9%	Ran Off Road:	1	2.9%
Total Number of Disabling Injuries:	0	Right Turn:	2	5.9%	Ped. Involved:	3	8.8%
Total Number of NonDisabling Injuries:	5	Rear End:	12	35.3%	Backing:	0	0.0%
Total Number of Pedestrians Involved:	3	Side Swiped:	6	17.6%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	0	Head On:	1	2.9%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	0	Parked:	0	0.0%	Unspecified:	2	5.9%

<b>Time of Day</b>	<b>#ACC</b>	<b>%</b>	<b>Day o fweek</b>	<b>#ACC</b>	<b>%</b>
07:30 ~ 09:30:	3	8.8%	Sunday:	2	5.9%
09:30 ~ 11:30:	3	8.8%	Monday:	1	2.9%
11:30 ~ 13:30:	7	20.6%	Tuesday:	8	23.5%
13:30 ~ 16:00:	8	23.5%	Wednesday:	9	26.5%
16:00 ~18:30:	3	8.8%	Thursday:	5	14.7%
18:30 ~ 07:30:	10	29.4%	Friday:	3	8.8%
Unspecified:	0	0.0%	Saturday:	6	17.6%

<b>Weather Condition</b>	<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	<b>#ACC</b>	<b>%</b>
Clear:	31	91.2%	Dry:	28	82.4%
Rain:	2	5.9%	Wet:	4	11.8%
Snow:	0	0.0%	Snow/Ice:	0	0.0%
Sleet/Hail:	0	0.0%	Slush:	0	0.0%
Fog/Mist:	0	0.0%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	0	0.0%	Repairing:	1	2.9%
Unspecified:	1	2.9%	Unspecified:	1	2.9%

<b>Type of Vehicle</b>	<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	<b>#ACC</b>	<b>%</b>
Passenger Car:	58	82.9%	Fatal Collision:	0	0.0%
Bus:	3	4.3%	Injury Collision:	9	26.5%
Truck:	2	2.9%	PDO Collision:	25	73.5%
Taxi:	2	2.9%			
Minivan:	0	0.0%	<b>Light Condition</b>	<b>#ACC</b>	<b>%</b>
Police/Emergency Vehicle:	0	0.0%	Daylight:	22	64.7%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	1	2.9%
Bicycle:	0	0.0%	Dark(Lighted):	8	23.5%
Fixed Object:	0	0.0%	Dark(Not Lighted):	2	5.9%
Unspecified:	5	7.1%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	1	2.9%

<b>Contributing Factor</b>	<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	<b>#ACC</b>	<b>%</b>
Driver: Speed:	0	0.0%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	2	2.9%	In Crosswalk against Signal:	1	33.3%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	1	33.3%
Driver: Others:	14	20.0%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	1	33.3%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	54	77.1%	Unspecified:	0	0.0%

26 Records are not approved as of 9/15/2013 9:48:57 PM