



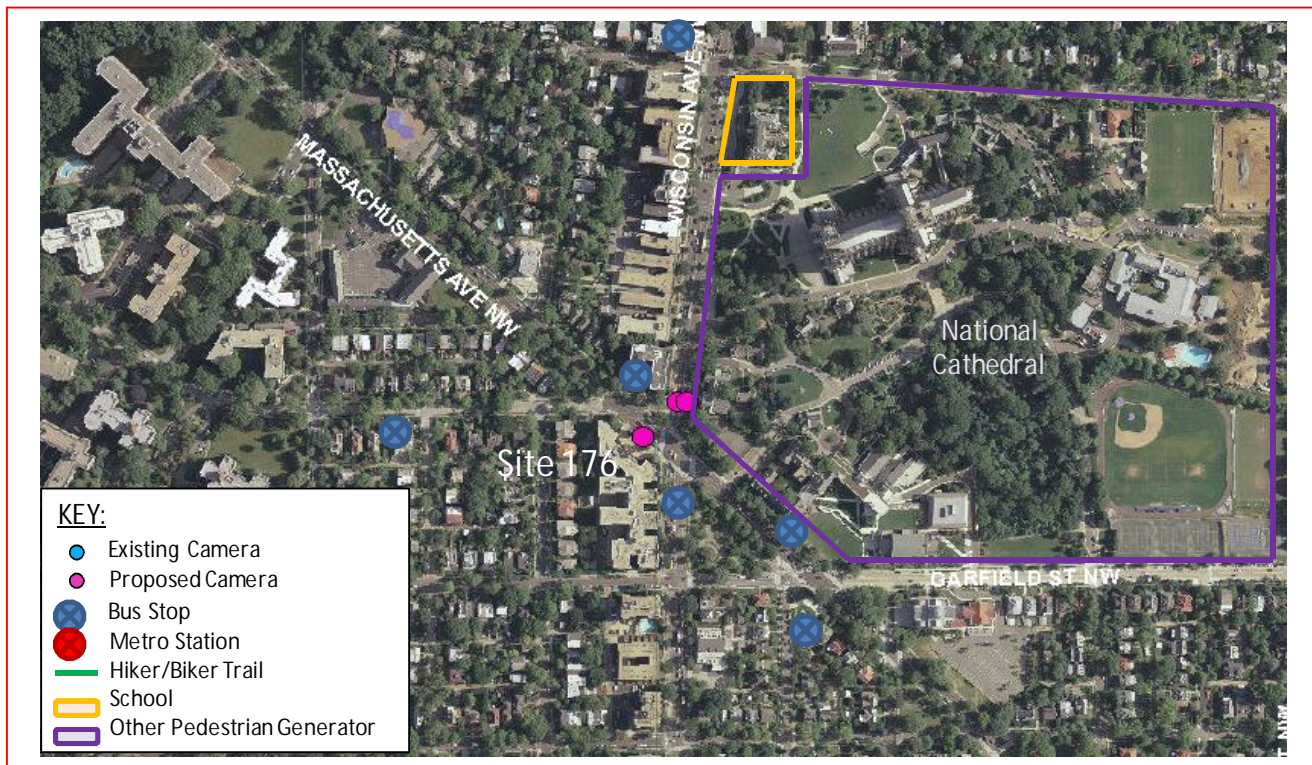
District Department of Transportation

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

Wisconsin Avenue at Massachusetts Avenue NW

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
2	204	3	3C	Proposed	Wisconsin Avenue Southbound at Massachusetts Avenue Northwest



This *proposed* speed camera will be located in Ward 3 at the intersection of Wisconsin Avenue in the southbound direction and Massachusetts Avenue Northwest. Massachusetts Avenue runs from Dalecarlia Parkway Northwest and Western Avenue Northwest in the north to 19th Street Southeast in the south. Wisconsin Avenue runs from Western Avenue Northwest to the north of the City, and Water Street Northwest to the south. The posted speed limit is 30 MPH.

W3 - 434





District Department of Transportation

Wisconsin Avenue at Massachusetts Avenue NW

Field Assessment Summary

Wisconsin Avenue is assumed to run in a North-South direction and is classified as a principal arterial. Massachusetts Avenue is assumed to run in an East-West direction and is also classified as a principal arterial. This site has the following characteristics:

- This site is located in a residential area with many apartment buildings and houses in the surrounding area.
- There are sidewalks with curb, gutter, and drainage inlets on both sides of the street.
- There is a traffic signal and crosswalks with pedestrian signals. The existing pavement is in good condition.
- There is one school in the area: National Cathedral School.
- There one other pedestrian generator is in the area: The National Cathedral.
- There is a bus station on northwest and southwest corner and one bus route makes a right turn westbound at this location.



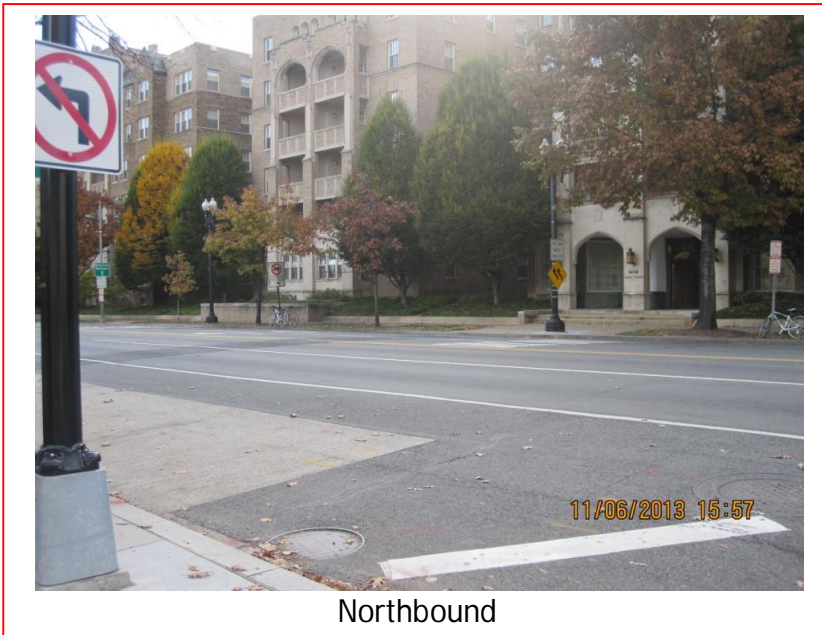
East Leg

W3 - 435



District Department of Transportation

Wisconsin Avenue at Massachusetts Avenue NW



Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	12
85th Percentile Speed (MPH)	18
10 MPH Pace Speed (MPH)	4-13
ADT	10,394

Both the mean speed and the 85th percentile speed are lower than the posted speed limit. The 85th percentile speed is 12 MPH lower than the posted speed limit.

Crash Data Analysis

From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 65 crashes at this location. A breakdown of number of crashes by collision type can be found in the chart on the next page. The most common types of crash were Side Swipe (18 crashes), Rear End (15 crashes), and Right Angle (10 crashes).

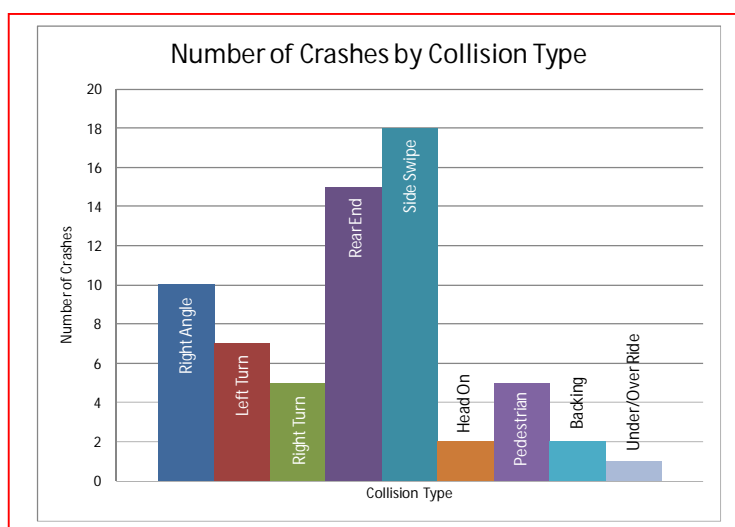
W3 - 436



District Department of Transportation

Wisconsin Avenue at Massachusetts Avenue NW

Severity			Weather			Surface condition			Light Condition		
Total	65										
Fatal	0	0.0%	Clear	51	78.5%	Dry	53	81.5%	Day	37	56.9%
Injury	14	21.5%	Rain	12	18.5%	Wet	11	16.9%	Night	25	38.5%
Taxi	13	20.0%	Snow	0	0.0%	Snow/Ice	0	0.0%			
Bus	14	21.5%									



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”¹ 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 were an elevated number of speed-related crashes at this location, including rear end and side swipe crashes. There was also a high frequency (14 crashes) of injury-related crashes at this location.

¹ AASHTO Highway Safety Manual, 1st Edition, 2010; Volume 1, page 2-13



District Department of Transportation

Wisconsin Avenue at Massachusetts Avenue NW

3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
 - a. This site is located in a residential area with many apartment buildings and houses in the surrounding area.
 - b. There is one school in this area: National Cathedral School.
 - c. There is one other pedestrian generator in this area: The National Cathedral.
 - d. There are multiple bus stops in the area 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 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.

W3 - 438

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

Wisconsin Avenue SB at Massachusetts Ave NW Speed

SB

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	10	3	5	4	0	0	0	0	0	0	0	0	0	0	22
04:00	33	22	42	9	1	0	0	0	0	0	0	0	0	0	107
05:00	62	29	97	26	4	0	0	0	0	0	0	0	0	0	218
06:00	105	87	171	50	3	0	0	0	0	0	0	0	0	0	416
07:00	308	87	47	8	0	0	0	0	0	0	0	0	0	0	450
08:00	329	76	14	3	0	0	0	0	0	0	0	0	0	0	422
09:00	279	122	35	3	0	0	0	0	0	0	0	0	0	0	439
10:00	251	134	72	7	0	0	0	0	0	0	0	0	0	0	464
11:00	257	137	62	9	0	0	0	0	0	0	0	0	0	0	465
12 PM	257	128	60	6	0	0	0	0	0	0	0	0	0	0	451
13:00	257	99	54	9	2	0	0	0	0	0	0	0	0	0	421
14:00	264	42	54	71	60	22	2	2	0	0	0	0	0	0	517
15:00	392	22	38	50	46	31	34	28	16	14	14	10	7	1	703
16:00	649	17	31	31	21	16	3	2	8	9	20	19	17	125	968
17:00	422	11	30	13	3	2	3	1	0	0	1	1	0	7	494
18:00	451	24	25	18	9	3	2	2	1	1	2	6	2	16	562
19:00	581	17	29	14	15	10	17	14	11	9	5	10	5	85	822
20:00	531	20	26	15	4	8	5	17	14	15	3	6	3	39	706
21:00	287	16	20	18	8	0	0	1	0	0	0	0	0	1	351
22:00	304	3	15	13	14	6	3	2	1	0	0	1	0	1	363
23:00	310	2	7	11	16	15	1	2	0	0	0	2	0	0	366
Total	6339	1098	934	388	206	113	70	71	51	48	45	55	34	275	9727

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

Wisconsin Avenue SB at Massachusetts Ave NW Speed

SB

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	242	3	3	12	10	2	3	2	1	0	0	0	0	0	278
01:00	168	0	5	6	7	3	1	1	0	2	0	0	0	2	195
02:00	102	0	0	2	5	3	0	1	1	0	0	0	0	0	114
03:00	64	1	2	5	4	3	0	0	0	0	0	1	0	0	80
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
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	576	4	10	25	26	11	4	4	2	2	0	1	0	2	667
Grand Total	6915	1102	944	413	232	124	74	75	53	50	45	56	34	277	10394

15th Percentile : 4 MPH
50th Percentile : 9 MPH
85th Percentile : 18 MPH
95th Percentile : 29 MPH

Stats
Mean Speed(Average) : 12 MPH
10 MPH Pace Speed : 4-13 MPH
Number in Pace : 6474
Percent in Pace : 64.0%
Number of Vehicles > 30 MPH : 469
Percent of Vehicles > 30 MPH : 4.6%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

Wisconsin Avenue SB at Massachusetts Ave NW 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	*	130	81	*	*	*	81	130
12:15	*	115	65	*	*	*	65	115
12:30	*	109	68	*	*	*	68	109
12:45	*	97	64	*	*	*	64	97
01:00	*	99	50	*	*	*	50	99
01:15	*	109	63	*	*	*	63	109
01:30	*	108	43	*	*	*	43	108
01:45	*	105	39	*	*	*	39	105
02:00	*	98	42	*	*	*	42	98
02:15	*	126	22	*	*	*	22	126
02:30	*	125	24	*	*	*	24	125
02:45	*	168	26	*	*	*	26	168
03:00	*	136	25	*	*	*	25	136
03:15	*	143	31	*	*	*	31	143
03:30	*	186	24	*	*	*	24	186
03:45	22	238	*	*	*	*	22	238
04:00	21	251	*	*	*	*	21	251
04:15	25	242	*	*	*	*	25	242
04:30	23	233	*	*	*	*	23	233
04:45	38	242	*	*	*	*	38	242
05:00	37	147	*	*	*	*	37	147
05:15	51	114	*	*	*	*	51	114
05:30	61	101	*	*	*	*	61	101
05:45	69	132	*	*	*	*	69	132
06:00	90	125	*	*	*	*	90	125
06:15	91	115	*	*	*	*	91	115
06:30	117	136	*	*	*	*	117	136
06:45	118	186	*	*	*	*	118	186
07:00	105	222	*	*	*	*	105	222
07:15	111	202	*	*	*	*	111	202
07:30	108	201	*	*	*	*	108	201
07:45	126	197	*	*	*	*	126	197
08:00	125	200	*	*	*	*	125	200
08:15	107	197	*	*	*	*	107	197
08:30	86	186	*	*	*	*	86	186
08:45	104	123	*	*	*	*	104	123
09:00	124	85	*	*	*	*	124	85
09:15	100	103	*	*	*	*	100	103
09:30	88	88	*	*	*	*	88	88
09:45	127	75	*	*	*	*	127	75
10:00	121	67	*	*	*	*	121	67
10:15	120	78	*	*	*	*	120	78
10:30	103	110	*	*	*	*	103	110
10:45	120	108	*	*	*	*	120	108
11:00	104	110	*	*	*	*	104	110
11:15	125	92	*	*	*	*	125	92
11:30	128	76	*	*	*	*	128	76
11:45	108	88	*	*	*	*	108	88
Total	3003	6724	667	0	0	0	3670	6724
Combined Total	9727		667		0		10394	
Peak	10:45	04:00	12:00				10:45	04:00
Vol.	477	968	278				477	968
P.H.F.	0.932	0.964	0.858				0.932	0.964
ADT		ADT 10,394	AADT 10,394					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: WISCONSIN AVE,NW From CATHEDRAL AVE,NW TO GARFIELD ST,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:	65	Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Fatalities:	0	Right Angle:	10	15.4%	Fixed Object:	0	0.0%
Total Number of Injuries:	20	Left Turn:	7	10.8%	Ran Off Road:	0	0.0%
Total Number of Disabling Injuries:	2	Right Turn:	5	7.7%	Ped. Involved:	5	7.7%
Total Number of NonDisabling Injuries:	3	Rear End:	15	23.1%	Backing:	2	3.1%
Total Number of Pedestrians Involved:	5	Side Swiped:	18	27.7%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	1	Head On:	2	3.1%	Under/Over Ride:	1	1.5%
Total Number of Motorcycles Involved:	0	Parked:	0	0.0%	Unspecified:	0	0.0%

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	3	4.6%	Sunday:	4	6.2%
09:30 ~ 11:30:	7	10.8%	Monday:	8	12.3%
11:30 ~ 13:30:	6	9.2%	Tuesday:	10	15.4%
13:30 ~ 16:00:	9	13.8%	Wednesday:	13	20.0%
16:00 ~18:30:	12	18.5%	Thursday:	10	15.4%
18:30 ~ 07:30:	28	43.1%	Friday:	13	20.0%
Unspecified:	0	0.0%	Saturday:	7	10.8%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	51	78.5%	Dry:	53	81.5%
Rain:	12	18.5%	Wet:	11	16.9%
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:	0	0.0%
Unspecified:	2	3.1%	Unspecified:	1	1.5%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	88	66.2%	Fatal Collision:	0	0.0%
Bus:	14	10.5%	Injury Collision:	14	21.5%
Truck:	6	4.5%	PDO Collision:	51	78.5%
Taxi:	13	9.8%	Light Condition	#ACC	%
Minivan:	0	0.0%	Daylight:	37	56.9%
Police/Emergency Vehicle:	4	3.0%	Dawn/Dusk:	2	3.1%
Motorcycle/Moped:	0	0.0%	Dark(Lighted):	25	38.5%
Bicycle:	1	0.8%	Dark(Not Lighted):	0	0.0%
Fixed Object:	0	0.0%	Dark(Unknown Lighting):	0	0.0%
Unspecified:	7	5.3%	Unspecified:	1	1.5%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	1	0.8%	In Crosswalk with Signal:	2	40.0%
Driver: Alcohol/Drug:	1	0.8%	In Crosswalk against Signal:	1	20.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	34	25.6%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	2	40.0%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	97	72.9%	Unspecified:	0	0.0%

36 Records are not approved as of 9/15/2013 9:37:10 PM