



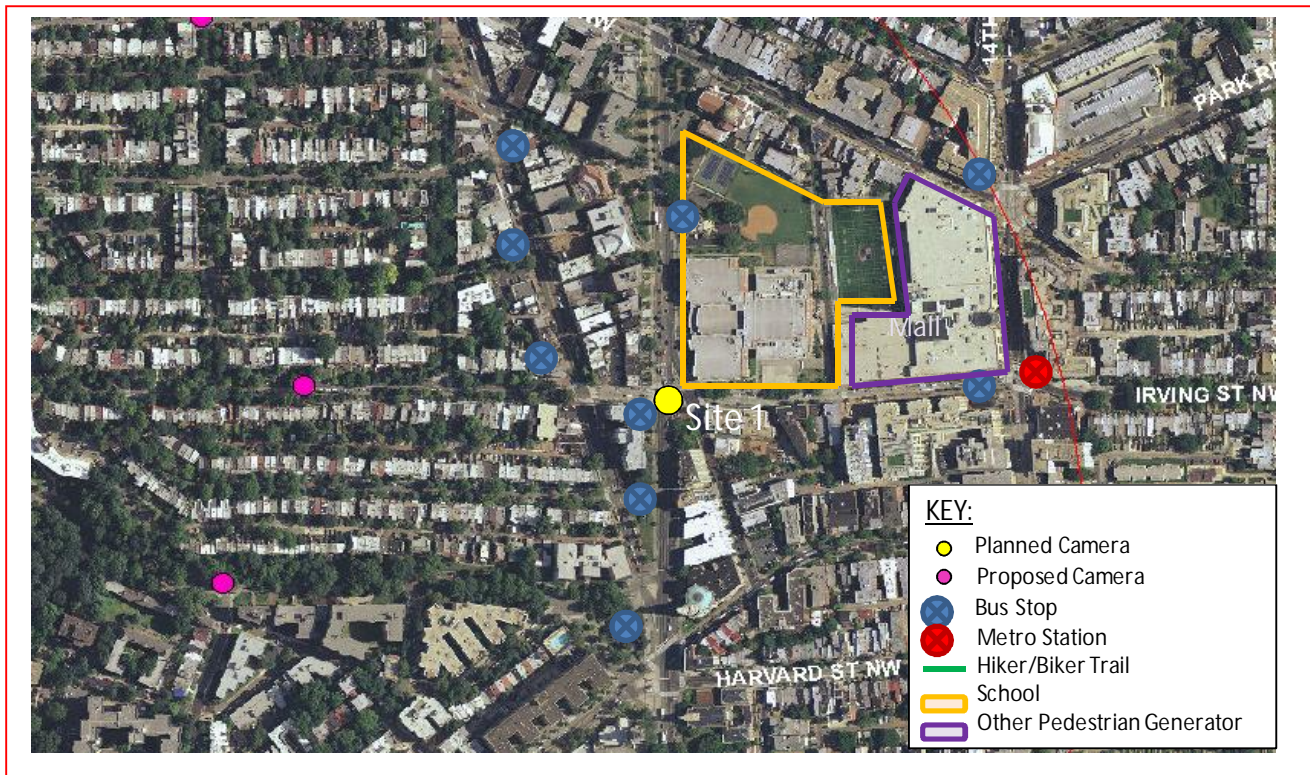
District Department of Transportation

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

### 16<sup>th</sup> Street SB at Irving Street NW

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
4	408	1	1A/1D	Planned	16 <sup>th</sup> Street Southbound at Irving Street NW



This *planned* speed camera is located in Ward 1 at the intersection of 16<sup>th</sup> Street and Irving Street NW in the southbound direction. The speed camera is located on the Northwest corner of this intersection. 16<sup>th</sup> Street runs from Eastern Avenue Northwest and ends at H Street Northwest in the south. The posted speed limit is 25 MPH.

W1 - 26





District Department of Transportation

## 16<sup>th</sup> Street SB at Irving Street NW

### Field Assessment Summary

16<sup>th</sup> Street is assumed to run in a North-South direction, and is classified as a principal arterial. 16<sup>th</sup> Street has two lanes in the northbound direction and three lanes in the southbound direction at this intersection. This site has the following characteristics:

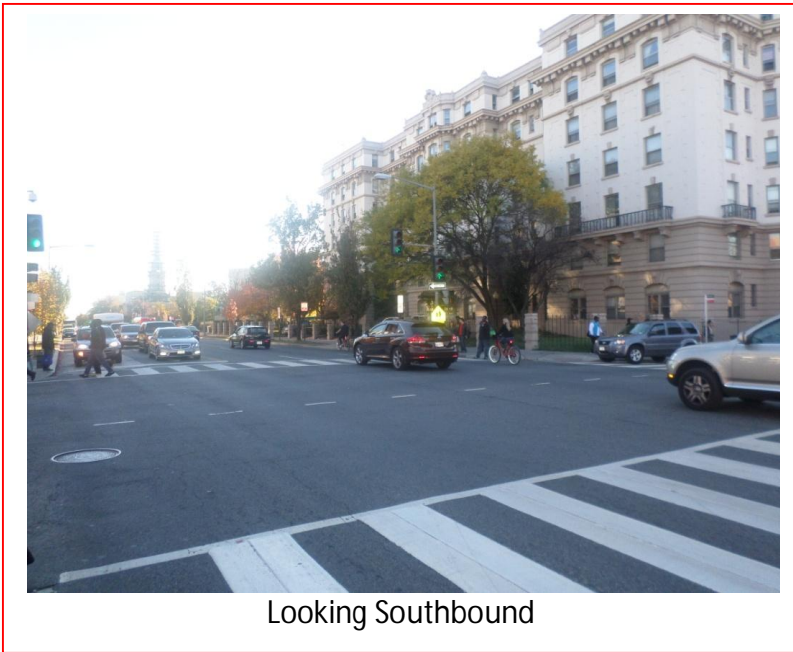
- This site is located in a residential area with apartments, houses and driveways in the surrounding area and on the western side of 16<sup>th</sup> Street.
- There are sidewalks with curb and gutter on both sides of the street and the existing pavement is in fair condition.
- The intersection has a traffic signal as well as crosswalks and pedestrian signals on all legs.
- There is a concrete island on west side between 15<sup>th</sup> Street and 16<sup>th</sup> Street.
- There is one school in the area, with sports facilities: Bell Multicultural High School.
- There is one other pedestrian generator in the area, a shopping mall, DC USA.
- There are bus stops on the southwest and southeast corners of the intersection and several other bus stops in the surrounding area.



Looking Northbound



## 16<sup>th</sup> Street SB at Irving Street NW



Looking Southbound

### Speed Data Analysis

Posted Speed Limit (MPH)	25
Mean Speed (MPH)	19
85th Percentile Speed (MPH)	27
10 MPH Pace Speed	20-29 MPH
ADT	11,545

The mean speed is lower than the posted speed limit by 6 MPH and the 85<sup>th</sup> percentile speed is 2 MPH higher than the posted speed limit at this location.

### Crash Data Analysis

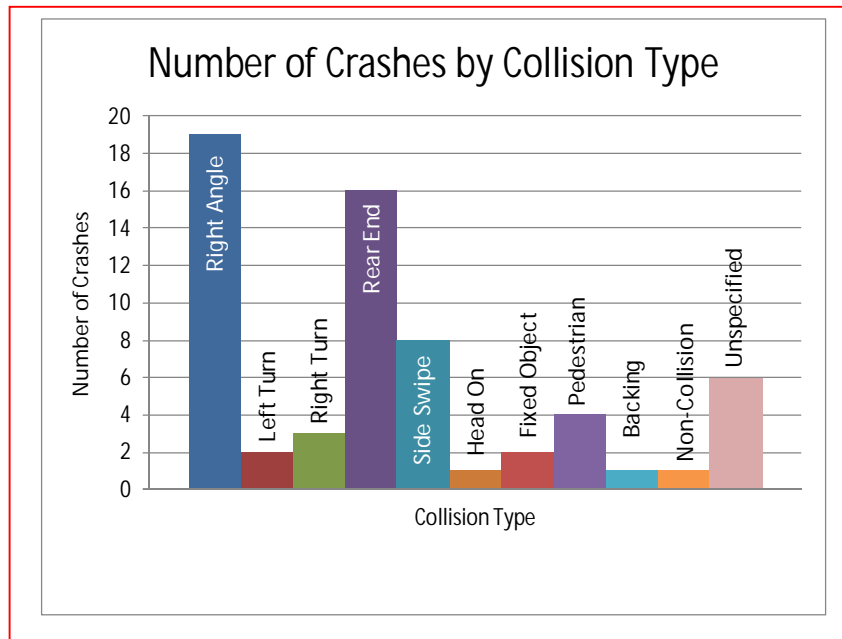
From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 63 crashes at this location. A breakdown of number of crashes by collision type can be found in the chart on the next page.



## 16<sup>th</sup> Street SB at Irving Street NW

Severity			Weather			Surface condition			Light Condition		
Total	63										
Fatal	0	0.0%	Clear	48	76.2%	Dry	50	79.4%	Day	46	73.0%
Injury	24	38.1%	Rain	9	14.3%	Wet	10	15.9%	Night	15	23.8%
Taxi	8	12.7%	Snow	1	1.6%	Snow/Ice	1	1.6%			
Bus	7	11.1%									

The most common types of collision at this location were Right Angle (19 crashes), Rear End (16 crashes) and Side Swipe (8 crashes). The other collision types had less than 6 crashes or less each. Three pedestrians were involved in crashes. Two crashes involved a pedestrian in the crosswalk with a signal and one crash involved a pedestrian not in crosswalk. There were seven buses and three bicycles involved in crashes at this location.



The 16<sup>th</sup> Street Corridor is listed as one of the top ten high frequency crash corridors from 2009 to 2011, according to the report *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*<sup>1</sup>.

### Safety Nexus

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

<sup>1</sup> DDOT, *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*, pg. 80.



District Department of Transportation

## 16<sup>th</sup> Street SB at Irving Street NW

1. Speed Data –The 85<sup>th</sup> percentile speed is higher than the posted speed limit.
2. Crash Data – The site has a high percentage of injury-related collisions, and there were an elevated number of speed-related crashes at this location including Right Angle, Rear End and Side Swipe collisions.
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 and along the western side of the street.
  - b. This site is located near one school: Bell Multicultural High School and its recreational facilities.
  - c. There is one other pedestrian generator in the area, a shopping mall, DC USA.
  - d. There are multiple bus stops in the area which generate pedestrian activity

Due to the speed data analysis, the crash data analysis, and specific site characteristics and the surrounding pedestrian generators, there is a nexus between traffic safety and the speed camera at this location.

# SAMMAT ENGINEERING SERVICES, LLC

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MOUNT AIRY, MD 21771

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## 16th St SB at Irving St NW Speed

SB

Start Time	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
11/04/13	7	7	33	44	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	
01:00	4	5	18	27	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	
02:00	4	6	23	15	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	
03:00	3	3	17	35	14	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	
04:00	8	2	36	74	41	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	173	
05:00	41	27	91	150	78	26	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	419	
06:00	134	77	191	282	106	25	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	820	
07:00	337	179	156	105	24	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	802	
08:00	416	66	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	503	
09:00	327	85	111	95	31	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	652	
10:00	81	81	266	205	52	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	690	
11:00	36	118	293	168	36	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	656	
12 PM	45	115	290	174	17	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	643	
13:00	40	81	273	215	48	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	663	
14:00	65	88	265	194	44	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	661	
15:00	96	104	300	168	25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	695	
16:00	124	149	296	139	32	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	742	
17:00	187	148	251	155	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	756	
18:00	106	137	287	156	28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	715	
19:00	42	97	279	121	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	549	
20:00	23	30	193	108	15	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	373	
21:00	19	31	165	92	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	314	
22:00	19	22	130	94	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	281	
23:00	11	10	46	56	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	
<b>Total</b>	<b>2175</b>	<b>1668</b>	<b>4030</b>	<b>2873</b>	<b>677</b>	<b>106</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11545</b>	

Daily  
 15th Percentile : 8 MPH  
 50th Percentile : 20 MPH  
 85th Percentile : 27 MPH  
 95th Percentile : 31 MPH

Mean Speed(Average) : 19 MPH  
 10 MPH Pace Speed : 20-29 MPH  
 Number in Pace : 5298  
 Percent in Pace : 45.9%  
 Number of Vehicles > 25 MPH : 3116  
 Percent of Vehicles > 25 MPH : 27.0%

<b>Grand Total</b>	<b>2175</b>	<b>1668</b>	<b>4030</b>	<b>2873</b>	<b>677</b>	<b>106</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11545</b>
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Overall  
 15th Percentile : 8 MPH  
 50th Percentile : 20 MPH  
 85th Percentile : 27 MPH  
 95th Percentile : 31 MPH

Mean Speed(Average) : 19 MPH  
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## 16th St SB at Irving St NW Volume

Start Time	Mon	04-Nov-13	Tue	05-Nov-13	Wed	06-Nov-13	Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	32	176	*	*	*	*	32	176
12:15	32	144	*	*	*	*	32	144
12:30	21	175	*	*	*	*	21	175
12:45	21	148	*	*	*	*	21	148
01:00	16	152	*	*	*	*	16	152
01:15	17	165	*	*	*	*	17	165
01:30	21	173	*	*	*	*	21	173
01:45	11	173	*	*	*	*	11	173
02:00	9	165	*	*	*	*	9	165
02:15	9	183	*	*	*	*	9	183
02:30	18	169	*	*	*	*	18	169
02:45	17	144	*	*	*	*	17	144
03:00	12	151	*	*	*	*	12	151
03:15	22	162	*	*	*	*	22	162
03:30	26	205	*	*	*	*	26	205
03:45	14	177	*	*	*	*	14	177
04:00	18	198	*	*	*	*	18	198
04:15	36	184	*	*	*	*	36	184
04:30	59	179	*	*	*	*	59	179
04:45	60	181	*	*	*	*	60	181
05:00	64	177	*	*	*	*	64	177
05:15	88	204	*	*	*	*	88	204
05:30	134	193	*	*	*	*	134	193
05:45	133	182	*	*	*	*	133	182
06:00	191	191	*	*	*	*	191	191
06:15	204	197	*	*	*	*	204	197
06:30	201	171	*	*	*	*	201	171
06:45	224	156	*	*	*	*	224	156
07:00	219	152	*	*	*	*	219	152
07:15	215	134	*	*	*	*	215	134
07:30	193	139	*	*	*	*	193	139
07:45	175	124	*	*	*	*	175	124
08:00	148	112	*	*	*	*	148	112
08:15	131	80	*	*	*	*	131	80
08:30	123	93	*	*	*	*	123	93
08:45	101	88	*	*	*	*	101	88
09:00	144	78	*	*	*	*	144	78
09:15	120	68	*	*	*	*	120	68
09:30	206	77	*	*	*	*	206	77
09:45	182	91	*	*	*	*	182	91
10:00	178	72	*	*	*	*	178	72
10:15	169	73	*	*	*	*	169	73
10:30	171	67	*	*	*	*	171	67
10:45	172	69	*	*	*	*	172	69
11:00	154	41	*	*	*	*	154	41
11:15	162	47	*	*	*	*	162	47
11:30	157	42	*	*	*	*	157	42
11:45	183	10	*	*	*	*	183	10
Total	5013	6532	0	0	0	0	5013	6532
Combined Total	11545		0		0		11545	
Peak	06:30	05:15					06:30	05:15
Vol.	859	770					859	770
P.H.F.	0.959	0.944					0.959	0.944
ADT		ADT 11,545		AADT 11,545				

DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** 16TH ST,NW From FIFTEENTH ST,NW TO ARGONNE PL,NW

**Time Period Covered:** From 01/01/2010 To 12/31/2012 **Prepared By:** Rahul Jain

**Prepared Date:** 10/6/2013

		<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Accident:	63	Right Angle:	19	30.2%	Fixed Object:	2	3.2%
Total Number of Fatalities:	0	Left Turn:	2	3.2%	Ran Off Road:	0	0.0%
Total Number of Injuries:	36	Right Turn:	3	4.8%	Ped. Involved:	4	6.3%
Total Number of Disabling Injuries:	0	Rear End:	16	25.4%	Backing:	1	1.6%
Total Number of NonDisabling Injuries:	9	Side Swiped:	8	12.7%	Non Collision:	1	1.6%
Total Number of Pedestrians Involved:	3	Head On:	1	1.6%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	3	Parked:	0	0.0%	Unspecified:	6	9.5%
Total Number of Motorcycles Involved:	2						

<b>Time of Day</b>	<b>#ACC</b>	<b>%</b>	<b>Day o fweek</b>	<b>#ACC</b>	<b>%</b>
07:30 ~ 09:30:	12	19.0%	Sunday:	8	12.7%
09:30 ~ 11:30:	7	11.1%	Monday:	9	14.3%
11:30 ~ 13:30:	5	7.9%	Tuesday:	5	7.9%
13:30 ~ 16:00:	17	27.0%	Wednesday:	11	17.5%
16:00 ~18:30:	6	9.5%	Thursday:	10	15.9%
18:30 ~ 07:30:	16	25.4%	Friday:	12	19.0%
Unspecified:	0	0.0%	Saturday:	8	12.7%

<b>Weather Condition</b>	<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	<b>#ACC</b>	<b>%</b>
Clear:	48	76.2%	Dry:	50	79.4%
Rain:	9	14.3%	Wet:	10	15.9%
Snow:	1	1.6%	Snow/Ice:	1	1.6%
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:	5	7.9%	Unspecified:	2	3.2%

<b>Type of Vehicle</b>	<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	<b>#ACC</b>	<b>%</b>
Passenger Car:	92	77.3%	Fatal Collision:	0	0.0%
Bus:	7	5.9%	Injury Collision:	24	38.1%
Truck:	6	5.0%	PDO Collision:	39	61.9%
Taxi:	8	6.7%			
Minivan:	0	0.0%	<b>Light Condition</b>	<b>#ACC</b>	<b>%</b>
Police/Emergency Vehicle:	1	0.8%	Daylight:	46	73.0%
Motorcycle/Moped:	2	1.7%	Dawn/Dusk:	1	1.6%
Bicycle:	3	2.5%	Dark(Lighted):	15	23.8%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	0	0.0%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	1	1.6%

<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:	2	66.7%
Driver: Alcohol/Drug:	0	0.0%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	1	0.8%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	37	31.1%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	1	33.3%
Roadway:	1	0.8%	From Between Parked Cars:	0	0.0%
Unspecified:	80	67.2%	Unspecified:	0	0.0%

44 Records are not approved as of 10/6/2013 11:18:51 AM