



District Department of Transportation

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

5000 Block East Capitol Street NE

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
7	608	7	7C	Proposed	5000 Block East Capitol Street Northeast, Westbound



This *proposed* speed camera will be located in Ward 7 at the 5000 block of East Capitol Street Northeast in the westbound direction. East Capitol Street Northeast runs between Southern Avenue Southeast to the east and C Street Northeast to the west. The posted speed limit is 35 MPH.

W7 - 561





District Department of Transportation

5000 Block East Capitol Street NE

Field Assessment Summary

East Capitol Street is assumed to run in the east-west direction, and is classified as a principal arterial. East Capitol Street has three travel lanes in each direction. One of the eastbound lanes is a left turn only lane for Division Street. This site has the following characteristics:

- This is a residential area with houses and driveways.
- There are five schools in the area: Kelly Miller Middle School, Richardson Elementary School, Nalle Elementary School, Maya Angelou Public Charter School/Evans Middle School and Shadd Elementary School.
- The Kelly Miller Recreation Center, Evans Recreation Center and East Capitol Community Center are in the area and generate pedestrian activity.
- There are several bus stops near the site that generate pedestrian activity.
- There is a concrete median and sidewalk on both sides of the street.
- There are traffic signals, pedestrian signals, and crosswalks at 50th Street and Division Street.
- There is on-street parking on both sides of the street.
- The pavement is in good condition and there is curb and gutter with drainage inlets. There is a downgrade slope westbound.



Looking Eastbound

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District Department of Transportation

5000 Block East Capitol Street NE



Looking Westbound

Speed Data Analysis

Posted Speed Limit (MPH)	35
Mean Speed (MPH)	23
85th Percentile Speed (MPH)	33
10 MPH Pace Speed	25-34
ADT	8,992

The mean speed is 12 MPH lower than the posted speed limit and the 85th percentile speed is 2 MPH lower than the posted speed 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 44 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 collision at this location were Rear End (12 crashes), Left Turn (7 crashes), and Right Angle and Side Swipe (5 crashes each). The other collision types had 4 crashes or less each. There was 1 crash where vehicular speeding was the contributing factor. Furthermore, the site experienced a high frequency (22 crashes) of injury-related crashes.

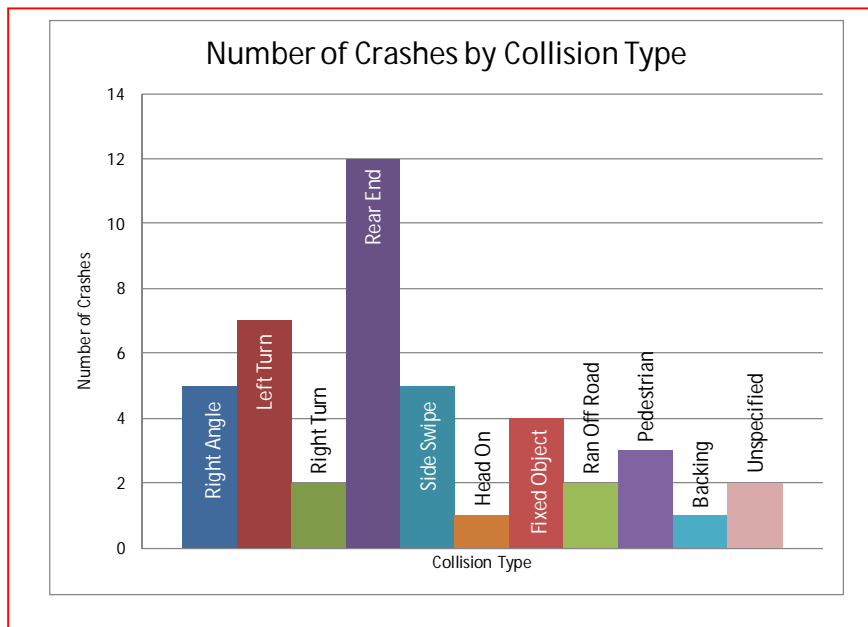
W7 - 563



District Department of Transportation

5000 Block East Capitol Street NE

Severity			Weather			Surface condition			Light Condition		
Total	44										
Fatal	0	0.0%	Clear	33	75.0%	Dry	32	72.7%	Day	26	59.1%
Injury	22	50.0%	Rain	8	18.2%	Wet	10	22.7%	Night	15	34.1%
Bus	5	11.4%	Snow	1	2.3%	Snow/Ice	1	2.3%			
Taxi	2	4.5%									



There were an elevated number of speed-related crashes at this location, including Rear End crashes. The *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” as two errors leading to rear end crashes.¹ Both of these errors can be reduced 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.

¹ AASHTO, *Highway Safety Manual*, 1st Edition, 2010; Volume 1, pages 2-13.



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5000 Block East Capitol Street NE

2. Crash Data – There was an elevated number of speed-related crashes at this location, including Rear End crashes, as well as a high frequency (10 crashes) of injury-related crashes.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
 - a. This is a residential area with houses.
 - b. There are five schools in the area: Kelly Miller Middle School, Richardson Elementary School, Nalle Elementary School, Maya Angelou Public Charter School/Evans Middle School and Shadd Elementary School.
 - c. The Kelly Miller Recreation Center, Evans Recreation Center and East Capitol Community Center are in the area and generate pedestrian activity.
 - d. There are several bus stops in the area which generate pedestrian activity.
 - e. There is on-street parking in both directions.

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, the proximity of schools to the site, and other pedestrian generators, there is a nexus between traffic safety and the speed camera at this location.

W7 - 565

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

5000 block of East Capitol St NE WB Speed

WB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/20/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	0	0	15	14	11	9	6	3	0	0	0	0	0	0	58
04:00	1	3	6	16	19	23	25	14	2	0	0	0	0	0	109
05:00	57	33	50	70	58	37	24	19	7	2	0	0	0	0	357
06:00	256	84	121	97	77	24	13	6	3	0	0	0	0	0	681
07:00	357	97	65	28	18	2	1	0	0	0	0	0	0	0	568
08:00	255	91	131	126	93	25	4	1	0	0	0	0	0	0	726
09:00	190	74	137	120	73	38	8	3	1	0	0	0	0	0	644
10:00	54	48	82	114	99	53	16	2	0	0	0	0	0	0	468
11:00	50	45	90	133	86	42	11	1	1	0	0	0	0	0	459
12 PM	54	48	99	107	99	38	7	2	0	0	0	0	0	0	454
13:00	74	55	111	125	84	28	4	4	0	0	0	0	0	0	485
14:00	29	32	85	137	112	45	13	1	0	0	0	0	0	0	454
15:00	18	25	68	134	162	65	14	7	0	0	0	0	0	0	493
16:00	13	20	85	184	155	63	8	3	0	0	0	0	0	0	531
17:00	20	27	86	182	131	38	8	1	0	0	0	0	0	0	493
18:00	15	31	91	159	128	45	11	3	0	0	0	0	0	0	483
19:00	10	3	46	152	146	22	4	0	0	0	0	0	0	0	383
20:00	5	4	48	116	124	24	2	1	0	0	0	0	0	0	324
21:00	3	10	39	119	111	20	3	0	0	0	0	0	0	0	305
22:00	4	2	16	78	88	14	10	0	0	0	0	0	0	0	212
23:00	0	0	15	51	57	9	1	0	0	0	0	0	0	0	133
Total	1465	732	1486	2262	1931	664	193	71	14	2	0	0	0	0	8820

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

5000 block of East Capitol St NE WB Speed

WB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/21/13	1	2	9	27	21	29	4	2	0	0	0	0	0	0	95
01:00	0	1	7	10	15	10	0	0	1	0	0	0	0	0	44
02:00	0	1	5	9	8	7	2	1	0	0	0	0	0	0	33
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
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	1	4	21	46	44	46	6	3	1	0	0	0	0	0	172
Grand Total	1466	736	1507	2308	1975	710	199	74	15	2	0	0	0	0	8992

15th Percentile : 8 MPH
 50th Percentile : 24 MPH
 85th Percentile : 33 MPH
 95th Percentile : 38 MPH

Stats
 Mean Speed(Average) : 23 MPH
 10 MPH Pace Speed : 25-34 MPH
 Number in Pace : 3506
 Percent in Pace : 39.0%
 Number of Vehicles > 35 MPH : 983
 Percent of Vehicles > 35 MPH : 10.9%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

5000 block of East Capitol St NE WB Volume

Start Time	Wed	20-Nov-13	Thu	21-Nov-13	Fri	22-Nov-13	Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	127	34	*	*	*	34	127
12:15	*	115	22	*	*	*	22	115
12:30	*	103	24	*	*	*	24	103
12:45	*	109	15	*	*	*	15	109
01:00	*	120	13	*	*	*	13	120
01:15	*	121	14	*	*	*	14	121
01:30	*	110	12	*	*	*	12	110
01:45	*	134	5	*	*	*	5	134
02:00	*	120	9	*	*	*	9	120
02:15	*	110	9	*	*	*	9	110
02:30	*	107	7	*	*	*	7	107
02:45	*	117	8	*	*	*	8	117
03:00	16	143	*	*	*	*	16	143
03:15	13	123	*	*	*	*	13	123
03:30	14	118	*	*	*	*	14	118
03:45	15	109	*	*	*	*	15	109
04:00	18	133	*	*	*	*	18	133
04:15	20	126	*	*	*	*	20	126
04:30	34	141	*	*	*	*	34	141
04:45	37	131	*	*	*	*	37	131
05:00	65	132	*	*	*	*	65	132
05:15	87	133	*	*	*	*	87	133
05:30	100	121	*	*	*	*	100	121
05:45	105	107	*	*	*	*	105	107
06:00	162	123	*	*	*	*	162	123
06:15	149	118	*	*	*	*	149	118
06:30	212	128	*	*	*	*	212	128
06:45	158	114	*	*	*	*	158	114
07:00	169	93	*	*	*	*	169	93
07:15	151	89	*	*	*	*	151	89
07:30	109	106	*	*	*	*	109	106
07:45	139	95	*	*	*	*	139	95
08:00	177	88	*	*	*	*	177	88
08:15	176	84	*	*	*	*	176	84
08:30	204	65	*	*	*	*	204	65
08:45	169	87	*	*	*	*	169	87
09:00	177	82	*	*	*	*	177	82
09:15	186	91	*	*	*	*	186	91
09:30	150	66	*	*	*	*	150	66
09:45	131	66	*	*	*	*	131	66
10:00	136	63	*	*	*	*	136	63
10:15	106	51	*	*	*	*	106	51
10:30	124	48	*	*	*	*	124	48
10:45	102	50	*	*	*	*	102	50
11:00	132	50	*	*	*	*	132	50
11:15	111	28	*	*	*	*	111	28
11:30	114	35	*	*	*	*	114	35
11:45	102	20	*	*	*	*	102	20
Total	4070	4750	172	0	0	0	4242	4750
Combined Total	8820		172		0		8992	
Peak	08:30	04:30	12:00				08:30	04:30
Vol.	736	537	95				736	537
P.H.F.	0.902	0.952	0.699				0.902	0.952
ADT	ADT 8,992		AADT 8,992					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: EAST CAPITOL ST,BN From FORTY NINTH ST,BN TO DIVISION AVE,BN

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

Prepared By: Rahul Jain

Prepared Date: 11/25/2012

Total Number of Accident:	44	Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Fatalities:	0	Right Angle:	5	11.4%	Fixed Object:	4	9.1%
Total Number of Injuries:	34	Left Turn:	7	15.9%	Ran Off Road:	2	4.5%
Total Number of Disabling Injuries:	2	Right Turn:	2	4.5%	Ped. Involved:	3	6.8%
Total Number of NonDisabling Injuries:	4	Rear End:	12	27.3%	Backing:	1	2.3%
Total Number of Pedestrians Involved:	4	Side Swiped:	5	11.4%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	0	Head On:	1	2.3%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	1	Parked:	0	0.0%	Unspecified:	2	4.5%
Time of Day				#ACC	%	Day of week	
07:30 ~ 09:30:				8	18.2%	Sunday:	
09:30 ~ 11:30:				3	6.8%	Monday:	
11:30 ~ 13:30:				3	6.8%	Tuesday:	
13:30 ~ 16:00:				4	9.1%	Wednesday:	
16:00 ~ 18:30:				8	18.2%	Thursday:	
18:30 ~ 07:30:				18	40.9%	Friday:	
Unspecified:				0	0.0%	Saturday:	
Weather Condition				#ACC	%	Surface Condition	
Clear:				33	75.0%	Dry:	
Rain:				8	18.2%	Wet:	
Snow:				1	2.3%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				1	2.3%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				1	2.3%	Unspecified:	
Type of Vehicle				#VEH	%	Accident Severity Type	
Passenger Car:				71	88.8%	Fatal Collision:	
Bus:				5	6.3%	Injury Collision:	
Truck:				1	1.3%	PDO Collision:	
Taxi:				2	2.5%		
Minivan:				0	0.0%	Light Condition	
Police/Emergency Vehicle:				0	0.0%	Daylight:	
Motorcycle/Moped:				1	1.3%	Dawn/Dusk:	
Bicycle:				0	0.0%	Dark(Lighted):	
Fixed Object:				0	0.0%	Dark(Not Lighted):	
Unspecified:				0	0.0%	Dark(Unknown Lighting):	
						Unspecified:	
Contributing Factor				#VEH	%	Pedestrian Actions	
Driver: Speed:				2	2.5%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				1	1.3%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				17	21.3%	In Unmarked Crosswalk:	
Vehicle:				0	0.0%	Not in Crosswalk:	
Roadway:				1	1.3%	From Between Parked Cars:	
Unspecified:				59	73.8%	Unspecified:	

28 Records are not approved as of 11/25/2013 3:41:35 PM