



District Department of Transportation

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

2800 Block South Capitol Street SE

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
7	703	8	8C	Proposed	2800 Block South Capitol Street Southeast, Northbound



The *proposed* speed camera will be located in Ward 8 in the 2800 block of South Capitol Street Southeast in the northbound direction. South Capitol Street Southeast runs between Independence Avenue Southeast to the north and Southern Avenue Southeast to the south. The posted speed limit is 30 MPH.

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District Department of Transportation

55 M Street, SE, Suite 400

Washington, DC 20003



District Department of Transportation

2800 Block South Capitol Street SE

Field Assessment Summary

South Capitol Street Southeast is assumed to run in a north-south direction and is classified as a minor arterial. South Capitol Street has two travel lanes in each direction. This site has the following characteristics:

1. This site is located near Join Base Anacostia-Bolling and the DC Streetcar Maintenance Facility.
2. The road has a concrete barrier separating northbound and southbound traffic.
3. The pavement is in good condition and there is curb and gutter with drainage inlets.



Looking Northbound



District Department of Transportation

2800 Block South Capitol Street SE



Looking Southbound

Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	28
85th Percentile Speed (MPH)	31
10 MPH Pace Speed	24-33
ADT	7,648

The mean speed is 2 MPH lower than the posted speed limit and the 85th percentile speed is higher than the posted speed limit by 1 MPH 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 74 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 Side Swipe (17 crashes), Rear End (15 crashes), Fixed Object (12 crashes), Left Turn (7 crashes). The other collision types had 6 crashes or less each. There were 12 crashes where vehicular speeding was the contributing factor. Furthermore, the site experienced a high frequency (33 crashes) of injury-related crashes.

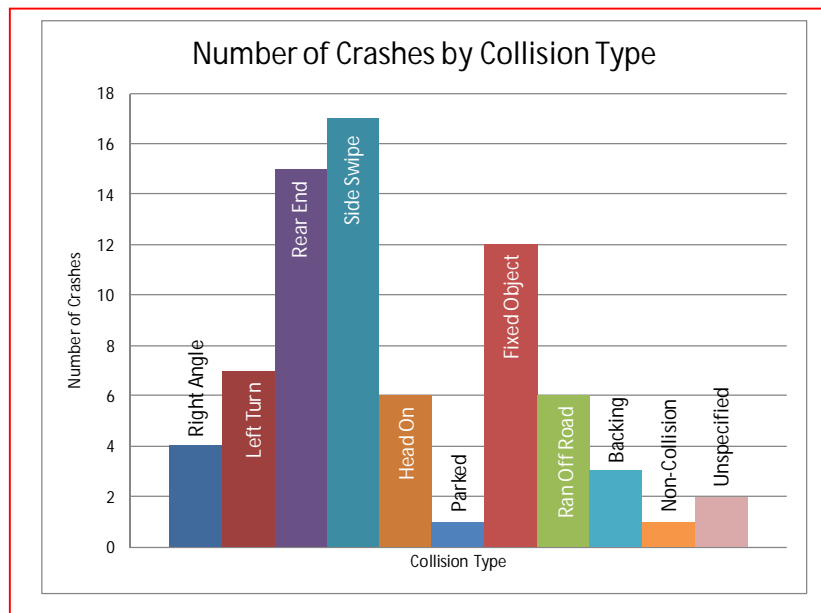
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District Department of Transportation

2800 Block South Capitol Street SE

Severity		Weather			Surface condition			Light Condition		
Total	74									
Fatal	1 1.4%	Clear	57 77.0%		Dry	57 77.0%		Day	42 56.8%	
Injury	33 44.6%	Rain	8 10.8%		Wet	11 14.9%		Night	25 33.8%	
Truck	15 20.3%	Snow	1 1.4%		Snow/Ice	3 4.1%				
Bus	10 13.5%									



There were an elevated number of speed-related crashes at this location, including Side Swipe 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 Side Swipe 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 traffic safety and the speed camera:

1. Speed Data – The 85th percentile speed is higher than the posted speed limit at this location.
2. Crash Data – There was an elevated number of speed-related crashes at this location including Side Swipe and Rear End collisions, as well as a high frequency (33 crashes) of injury-related crashes.

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



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2800 Block South Capitol Street SE

3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
 - a) This is a minor arterial with a concrete barrier separating traffic located near Join Base Anacostia-Bolling and the DC Streetcar Maintenance Facility.

Due to the elevated 85th percentile speed, and the elevated number of speed-related and injury-related crashes, there is a nexus between traffic safety and the speed camera at this location.

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

2800 Block of South Capitol St SE NB Speed

NB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/22/13	0	0	10	29	5	0	0	0	0	0	0	0	0	0	44
01:00	0	0	5	17	3	0	1	0	0	0	0	0	0	0	26
02:00	0	0	6	9	2	0	0	0	0	0	0	0	0	0	17
03:00	0	0	6	24	3	0	0	0	0	0	0	0	0	0	33
04:00	0	2	21	60	10	2	0	0	0	0	0	0	0	0	95
05:00	3	0	20	212	117	3	0	0	0	0	0	0	0	0	355
06:00	11	0	36	548	239	2	0	0	0	0	0	0	0	0	836
07:00	20	1	81	894	191	4	0	0	0	0	0	0	0	0	1191
08:00	20	0	55	604	118	2	0	0	0	0	0	0	0	0	799
09:00	8	0	43	331	83	2	0	0	0	0	0	0	0	0	467
10:00	4	0	50	189	42	1	0	0	0	0	0	0	0	0	286
11:00	2	0	35	242	53	0	0	0	0	0	0	0	0	0	332
12 PM	4	1	50	274	39	0	0	0	0	0	0	0	0	0	368
13:00	5	1	33	248	47	0	0	0	0	0	0	0	0	0	334
14:00	4	1	44	264	72	1	0	0	0	0	0	0	0	0	386
15:00	8	0	56	237	52	0	0	0	0	0	0	0	0	0	353
16:00	5	1	60	252	48	0	0	0	0	0	0	0	0	0	366
17:00	9	1	77	209	24	0	0	0	0	0	0	0	0	0	320
18:00	3	1	55	139	21	0	0	0	0	0	0	0	0	0	219
19:00	2	1	40	151	15	1	0	0	0	0	0	0	0	0	210
20:00	2	0	42	102	14	1	0	0	0	0	0	0	0	0	161
21:00	2	0	32	115	18	0	0	0	0	0	0	0	0	0	167
22:00	2	0	31	124	19	0	0	0	0	0	0	0	0	0	176
23:00	2	0	22	70	13	0	0	0	0	0	0	0	0	0	107
Total	116	10	910	5344	1248	19	1	0	0	0	0	0	0	0	7648
Grand Total	116	10	910	5344	1248	19	1	0	0	0	0	0	0	0	7648

15th Percentile : 24 MPH
 50th Percentile : 27 MPH
 85th Percentile : 31 MPH
 95th Percentile : 33 MPH

Stats
 Mean Speed(Average) : 28 MPH
 10 MPH Pace Speed : 24-33 MPH
 Number in Pace : 6375
 Percent in Pace : 83.4%
 Number of Vehicles > 30 MPH : 1737
 Percent of Vehicles > 30 MPH : 22.7%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

2800 Block of South Capitol St SE NB Volume

Start Time	22-Nov-13		23-Nov-13		24-Nov-13		Daily Average	
	Fri A.M.	P.M.	Sat A.M.	P.M.	Sun A.M.	P.M.	A.M.	P.M.
12:00	6	96	*	*	*	*	6	96
12:15	14	87	*	*	*	*	14	87
12:30	9	94	*	*	*	*	9	94
12:45	15	91	*	*	*	*	15	91
01:00	8	85	*	*	*	*	8	85
01:15	5	75	*	*	*	*	5	75
01:30	6	81	*	*	*	*	6	81
01:45	7	93	*	*	*	*	7	93
02:00	4	89	*	*	*	*	4	89
02:15	6	102	*	*	*	*	6	102
02:30	4	103	*	*	*	*	4	103
02:45	3	92	*	*	*	*	3	92
03:00	8	112	*	*	*	*	8	112
03:15	7	77	*	*	*	*	7	77
03:30	11	88	*	*	*	*	11	88
03:45	7	76	*	*	*	*	7	76
04:00	11	107	*	*	*	*	11	107
04:15	26	94	*	*	*	*	26	94
04:30	20	82	*	*	*	*	20	82
04:45	38	83	*	*	*	*	38	83
05:00	50	88	*	*	*	*	50	88
05:15	70	82	*	*	*	*	70	82
05:30	114	80	*	*	*	*	114	80
05:45	121	70	*	*	*	*	121	70
06:00	150	64	*	*	*	*	150	64
06:15	194	58	*	*	*	*	194	58
06:30	227	49	*	*	*	*	227	49
06:45	265	48	*	*	*	*	265	48
07:00	292	54	*	*	*	*	292	54
07:15	345	55	*	*	*	*	345	55
07:30	295	55	*	*	*	*	295	55
07:45	259	46	*	*	*	*	259	46
08:00	221	46	*	*	*	*	221	46
08:15	202	37	*	*	*	*	202	37
08:30	193	42	*	*	*	*	193	42
08:45	183	36	*	*	*	*	183	36
09:00	138	47	*	*	*	*	138	47
09:15	119	38	*	*	*	*	119	38
09:30	109	50	*	*	*	*	109	50
09:45	101	32	*	*	*	*	101	32
10:00	62	50	*	*	*	*	62	50
10:15	72	45	*	*	*	*	72	45
10:30	84	42	*	*	*	*	84	42
10:45	68	39	*	*	*	*	68	39
11:00	77	28	*	*	*	*	77	28
11:15	76	25	*	*	*	*	76	25
11:30	89	29	*	*	*	*	89	29
11:45	90	25	*	*	*	*	90	25
Total	4481	3167	0	0	0	0	4481	3167
Combined Total	7648		0		0		7648	
Peak	06:45	02:15					06:45	02:15
Vol.	1197	409					1197	409
P.H.F.	0.867	0.913					0.867	0.913
ADT	ADT 7,648		AADT 7,648					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: SOUTH CAPITOL ST,BN From DEFENSE BLVD,BN TO OVERLOOK AVE,BN

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

Prepared By: Rahul Jain

Prepared Date: 9/15/2013

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	74	Right Angle:	4	5.4%	Fixed Object:	12	16.2%
Total Number of Fatalities:	2	Left Turn:	7	9.5%	Ran Off Road:	6	8.1%
Total Number of Injuries:	58	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	4	Rear End:	15	20.3%	Backing:	3	4.1%
Total Number of NonDisabling Injuries:	7	Side Swiped:	17	23.0%	Non Collision:	1	1.4%
Total Number of Pedestrians Involved:	0	Head On:	6	8.1%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	0	Parked:	1	1.4%	Unspecified:	2	2.7%
Total Number of Motorcycles Involved:	1						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	10	13.5%	Sunday:	7	9.5%
09:30 ~ 11:30:	3	4.1%	Monday:	5	6.8%
11:30 ~ 13:30:	4	5.4%	Tuesday:	13	17.6%
13:30 ~ 16:00:	11	14.9%	Wednesday:	8	10.8%
16:00 ~18:30:	8	10.8%	Thursday:	15	20.3%
18:30 ~ 07:30:	38	51.4%	Friday:	17	23.0%
Unspecified:	0	0.0%	Saturday:	9	12.2%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	57	77.0%	Dry:	57	77.0%
Rain:	8	10.8%	Wet:	11	14.9%
Snow:	1	1.4%	Snow/Ice:	3	4.1%
Sleet/Hail:	0	0.0%	Slush:	0	0.0%
Fog/Mist:	3	4.1%	Water/Sand:	1	1.4%
Crosswind/Blowing Sand:	1	1.4%	Repairing:	0	0.0%
Unspecified:	4	5.4%	Unspecified:	2	2.7%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	90	70.9%	Fatal Collision:	1	1.4%
Bus:	10	7.9%	Injury Collision:	33	44.6%
Truck:	15	11.8%	PDO Collision:	40	54.1%
Taxi:	3	2.4%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	3	2.4%	Daylight:	42	56.8%
Motorcycle/Moped:	1	0.8%	Dawn/Dusk:	3	4.1%
Bicycle:	0	0.0%	Dark(Lighted):	23	31.1%
Fixed Object:	0	0.0%	Dark(Not Lighted):	2	2.7%
Unspecified:	5	3.9%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	4	5.4%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	12	9.4%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	3	2.4%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	24	18.9%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	1	0.8%	Not in Crosswalk:	0	0.0%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	87	68.5%	Unspecified:	0	0.0%

45 Records are not approved as of 9/15/2013 3:09:16 PM