



District Department of Transportation

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

2200 Block Southern Avenue SE

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
7	704	8	8B	Proposed	2200 Block Southern Avenue Southeast, Northeast-bound



The *proposed* speed camera is located in Ward 8 at the 2200 block of Southern Avenue Southeast in the northeast-bound direction. Southern Avenue Southeast runs between 63rd Street Northeast to the north and South Capitol Street Southwest to the south. The posted speed limit is 25 MPH.

W8 - 187





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2200 Block Southern Avenue SE

Field Assessment Summary

Southern Avenue Southeast is assumed to run in a northeast-southwest direction and is classified as a minor arterial. Southern Avenue Southeast has two travel lanes in each direction. This site has the following characteristics:

- This is a residential area with apartments, houses and driveways.
- There is one school in the area: The Washington Middle School for Girls.
- There are several bus stops in the area that generate pedestrian activity.
- There is sidewalk on both sides of the street and a crosswalk at 23rd Street Southeast.
- There is a traffic signal with pedestrian signals at 23rd Street Southeast.
- The pavement is in good condition and there is curb and gutter with drainage inlets.
- There is one bus stop in each direction.
- There is a slight slope downgrade in the southwest-bound direction.



Looking Northeast-bound



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2200 Block Southern Avenue SE



Looking Southwest-bound

Speed Data Analysis

Posted Speed Limit (MPH)	25
Mean Speed (MPH)	28
85th Percentile Speed (MPH)	51
10 MPH Pace Speed	4-13
ADT	7,027

The mean speed is 3 MPH higher than the posted speed limit and the 85th percentile speed is 26 MPH higher than the posted speed at this location.

Crash Data Analysis

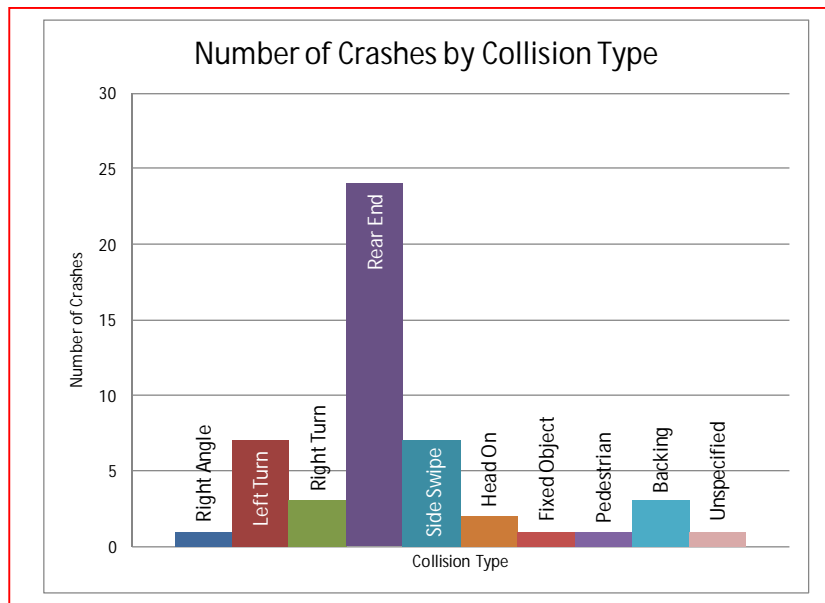
From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 50 crashes at this location. A breakdown of number of crashes by collision type can be found in the chart on the next page. The most common types of collision at this location were Rear End (24 crashes), Side Swipe and Left Turn (7 crashes each). The other collision types had 3 crashes or less each. There were 2 crashes where vehicular speeding was the contributing factor. Furthermore, the site experienced a high frequency (15 crashes) of injury-related crashes.



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2200 Block Southern Avenue SE

Severity			Weather			Surface condition			Light Condition		
Total	50										
Fatal	0	0.0%	Clear	43	86.0%	Dry	42	84.0%	Day	24	48.0%
Injury	15	30.0%	Rain	4	8.0%	Wet	5	10.0%	Night	20	40.0%
Bus	3	6.0%	Snow	0	0.0%	Snow/Ice	0	0.0%			
Taxi	2	4.0%									



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.

The Southern Avenue Corridor is listed as one of the Top 10 high frequency crash corridors from 2009 to 2011, according to the *Traffic Safety Statistics Report for the District of Columbia (2009-2011)*.²

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

² DDOT, *Traffic Safety Statistics Report for the District of Columbia (2009-2011)*, page 80.



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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 much 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 Rear End and Side Swipe crashes, as well as a high frequency (15 crashes) of injury-related crashes. The Southern Avenue Corridor is listed as one of the Top 10 high frequency crash corridors from 2009 to 2011.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
 - a. This is a residential area with apartments, houses and driveways.
 - b. There is one school in the area, The Washington Middle School for Girls.
 - c. There are several bus stops in the area that generate pedestrian activity.
 - d. One bus route turns at 22nd Street and Southern Avenue.

Due to the speed data analysis, 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.

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

2200 Block of Southern Ave SE NEB Speed

NEB															
Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
11/22/13	2	0	2	4	9	22	19	14	14	10	10	2	2	2	111
01:00	21	0	0	2	1	3	4	3	5	3	2	2	4	18	68
02:00	26	0	1	2	3	0	1	1	1	3	0	3	0	8	49
03:00	17	0	1	0	1	3	2	1	1	0	0	1	3	9	39
04:00	35	0	0	0	4	0	2	3	1	2	1	0	1	12	61
05:00	59	0	1	2	4	6	2	0	6	3	1	0	2	19	105
06:00	112	0	0	0	4	12	5	11	8	6	5	4	3	35	205
07:00	168	1	1	7	16	27	25	33	30	19	15	10	9	100	461
08:00	177	1	1	4	16	24	29	22	9	9	9	7	5	100	413
09:00	96	1	0	7	13	21	24	15	5	11	9	10	5	84	301
10:00	65	0	4	7	14	25	15	12	15	6	7	10	7	77	264
11:00	66	0	2	7	17	20	23	18	15	8	10	7	7	96	296
12 PM	40	1	3	16	26	30	26	24	21	12	17	26	15	96	353
13:00	39	0	1	6	26	35	21	24	14	20	21	20	16	134	377
14:00	55	9	17	24	40	36	22	19	22	11	14	17	15	78	379
15:00	92	29	50	52	51	45	34	18	13	14	13	11	7	15	444
16:00	132	46	63	69	70	25	25	25	11	5	9	4	3	12	499
17:00	132	37	57	57	38	39	31	26	23	10	10	9	5	17	491
18:00	102	28	54	66	53	55	29	20	20	14	10	4	11	27	493
19:00	66	6	23	37	52	37	26	29	19	14	18	14	16	62	419
20:00	36	4	14	27	31	31	38	32	23	20	14	18	15	77	380
21:00	42	0	4	13	29	26	27	26	14	19	11	10	13	86	320
22:00	39	0	4	15	14	33	27	20	22	21	19	9	11	73	307
23:00	28	0	3	16	14	13	19	16	6	12	13	6	7	39	192
Total	1647	163	306	440	546	568	476	412	318	252	238	204	182	1275	7027
Grand Total	1647	163	306	440	546	568	476	412	318	252	238	204	182	1275	7027

15th Percentile : 6 MPH
 50th Percentile : 25 MPH
 85th Percentile : 51 MPH
 95th Percentile : 64 MPH

Stats
 Mean Speed(Average) : 28 MPH
 10 MPH Pace Speed : 4-13 MPH
 Number in Pace : 1980
 Percent in Pace : 34.4%
 Number of Vehicles > 25 MPH : 2882
 Percent of Vehicles > 25 MPH : 50.1%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

2200 Block of Southern Ave SE NEB 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	29	91	*	*	*	*	29	91
12:15	26	73	*	*	*	*	26	73
12:30	24	106	*	*	*	*	24	106
12:45	32	83	*	*	*	*	32	83
01:00	18	80	*	*	*	*	18	80
01:15	16	93	*	*	*	*	16	93
01:30	19	113	*	*	*	*	19	113
01:45	15	91	*	*	*	*	15	91
02:00	16	102	*	*	*	*	16	102
02:15	9	83	*	*	*	*	9	83
02:30	15	101	*	*	*	*	15	101
02:45	9	93	*	*	*	*	9	93
03:00	12	88	*	*	*	*	12	88
03:15	16	125	*	*	*	*	16	125
03:30	9	118	*	*	*	*	9	118
03:45	2	113	*	*	*	*	2	113
04:00	9	127	*	*	*	*	9	127
04:15	18	114	*	*	*	*	18	114
04:30	18	129	*	*	*	*	18	129
04:45	16	129	*	*	*	*	16	129
05:00	21	97	*	*	*	*	21	97
05:15	22	112	*	*	*	*	22	112
05:30	19	146	*	*	*	*	19	146
05:45	43	136	*	*	*	*	43	136
06:00	37	131	*	*	*	*	37	131
06:15	28	123	*	*	*	*	28	123
06:30	63	122	*	*	*	*	63	122
06:45	77	117	*	*	*	*	77	117
07:00	84	95	*	*	*	*	84	95
07:15	116	121	*	*	*	*	116	121
07:30	129	98	*	*	*	*	129	98
07:45	132	105	*	*	*	*	132	105
08:00	121	101	*	*	*	*	121	101
08:15	112	106	*	*	*	*	112	106
08:30	90	91	*	*	*	*	90	91
08:45	90	82	*	*	*	*	90	82
09:00	84	89	*	*	*	*	84	89
09:15	64	78	*	*	*	*	64	78
09:30	75	77	*	*	*	*	75	77
09:45	78	76	*	*	*	*	78	76
10:00	75	77	*	*	*	*	75	77
10:15	64	72	*	*	*	*	64	72
10:30	64	85	*	*	*	*	64	85
10:45	61	73	*	*	*	*	61	73
11:00	84	67	*	*	*	*	84	67
11:15	71	65	*	*	*	*	71	65
11:30	75	59	*	*	*	*	75	59
11:45	66	1	*	*	*	*	66	1
Total	2373	4654	0	0	0	0	2373	4654
Combined Total	7027		0		0		7027	
Peak	07:15	05:30					07:15	05:30
Vol.	498	536					498	536
P.H.F.	0.943	0.918					0.943	0.918
ADT	ADT 7,027		AADT 7,027					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: SOUTHERN AVE,NE,SE From TWENTY THIRD PKWY,SE TO MISSISSIPPI AVE,SE

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

Prepared By: Rahul Jain

Prepared Date: 9/16/2013

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	50	Right Angle:	1	2.0%	Fixed Object:	1	2.0%
Total Number of Fatalities:	0	Left Turn:	7	14.0%	Ran Off Road:	0	0.0%
Total Number of Injuries:	19	Right Turn:	3	6.0%	Ped. Involved:	1	2.0%
Total Number of Disabling Injuries:	1	Rear End:	24	48.0%	Backing:	3	6.0%
Total Number of NonDisabling Injuries:	4	Side Swiped:	7	14.0%	Non Collision:	0	0.0%
Total Number of Pedestrians Involved:	2	Head On:	2	4.0%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	0	Parked:	0	0.0%	Unspecified:	1	2.0%
Total Number of Motorcycles Involved:	2						

Time of Day	#ACC	%
07:30 ~ 09:30:	7	14.0%
09:30 ~ 11:30:	2	4.0%
11:30 ~ 13:30:	2	4.0%
13:30 ~ 16:00:	7	14.0%
16:00 ~18:30:	9	18.0%
18:30 ~ 07:30:	23	46.0%
Unspecified:	0	0.0%

Day o fweek	#ACC	%
Sunday:	7	14.0%
Monday:	3	6.0%
Tuesday:	7	14.0%
Wednesday:	7	14.0%
Thursday:	11	22.0%
Friday:	7	14.0%
Saturday:	8	16.0%

Weather Condition	#ACC	%
Clear:	43	86.0%
Rain:	4	8.0%
Snow:	0	0.0%
Sleet/Hail:	0	0.0%
Fog/Mist:	1	2.0%
Crosswind/Blowing Sand:	0	0.0%
Unspecified:	2	4.0%

Surface Condition	#ACC	%
Dry:	42	84.0%
Wet:	5	10.0%
Snow/Ice:	0	0.0%
Slush:	0	0.0%
Water/Sand:	0	0.0%
Repairing:	1	2.0%
Unspecified:	2	4.0%

Type of Vehicle	#VEH	%
Passenger Car:	79	84.0%
Bus:	3	3.2%
Truck:	0	0.0%
Taxi:	2	2.1%
Minivan:	0	0.0%
Police/Emergency Vehicle:	1	1.1%
Motorcycle/Moped:	2	2.1%
Bicycle:	0	0.0%
Fixed Object:	0	0.0%
Unspecified:	7	7.4%

Accident Severity Type	#ACC	%
Fatal Collision:	0	0.0%
Injury Collision:	15	30.0%
PDO Collision:	35	70.0%

Light Condition	#ACC	%
Daylight:	24	48.0%
Dawn/Dusk:	2	4.0%
Dark(Lighted):	20	40.0%
Dark(Not Lighted):	0	0.0%
Dark(Unknown Lighting):	0	0.0%
Unspecified:	4	8.0%

Contributing Factor	#VEH	%
Driver: Speed:	2	2.1%
Driver: Alcohol/Drug:	1	1.1%
Driver: Electronic Device:	0	0.0%
Driver: Others:	18	19.1%
Vehicle:	0	0.0%
Roadway:	1	1.1%
Unspecified:	72	76.6%

Pedestrian Actions	#ACC	%
In Crosswalk with Signal:	1	100.0%
In Crosswalk against Signal:	0	0.0%
In Crosswalk no Signal:	0	0.0%
In Unmarked Crosswalk:	0	0.0%
Not in Crosswalk:	0	0.0%
From Between Parked Cars:	0	0.0%
Unspecified:	0	0.0%

34 Records are not approved as of 9/16/2013 12:47:10 PM