



District Department of Transportation

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

### South Dakota Avenue NE Prior to V Street

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
5	503	5	5A/5B	Proposed	South Dakota Avenue Northeast Westbound prior to V St



This *proposed* speed camera will be located in Ward 5 on South Dakota Avenue Northeast prior to V Street in the westbound direction. South Dakota Avenue runs between Riggs Road Northeast to the North and New York Avenue Northeast to the south. The posted speed limit is 25 MPH.

W5 - 430





District Department of Transportation

## South Dakota Avenue NE Prior to V Street

### Field Assessment Summary

South Dakota Avenue is assumed to run in the east-west direction, and is classified as a principal arterial. South Dakota Avenue has two travel lanes in each direction and a right turn lane westbound at 33<sup>rd</sup> Place. This site has the following characteristics:

- This site is located in a light industrial area with new construction on the north side of the street.
- Fort Lincoln Park is in the area.
- There is a grassy median and a steep bank on the westbound side of the street.
- The pavement is in fair condition and there is curb and gutter with drainage inlets.



Looking Eastbound

W5 - 431





District Department of Transportation

## South Dakota Avenue NE Prior to V Street



Looking Westbound

### Speed Data Analysis

Posted Speed Limit (MPH)	25
Mean Speed (MPH)	29
85th Percentile Speed (MPH)	37
10 MPH Pace Speed (MPH)	28-37
ADT	15,440

The mean speed and 85<sup>th</sup> percentile speed were both higher than the posted speed limit. The mean speed was 4 MPH higher than the posted speed and the 85<sup>th</sup> percentile speed was 12 MPH higher 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 46 crashes at this location. A breakdown of number of crashes by collision type can be found on the next page. The most common types of collision at this location were Rear End (17 crashes), Right Angle (8 crashes), Left Turn (6 crashes), and Fixed Object (6 crashes). Furthermore, this site experienced a high frequency (18 crashes) of injury-related crashes.

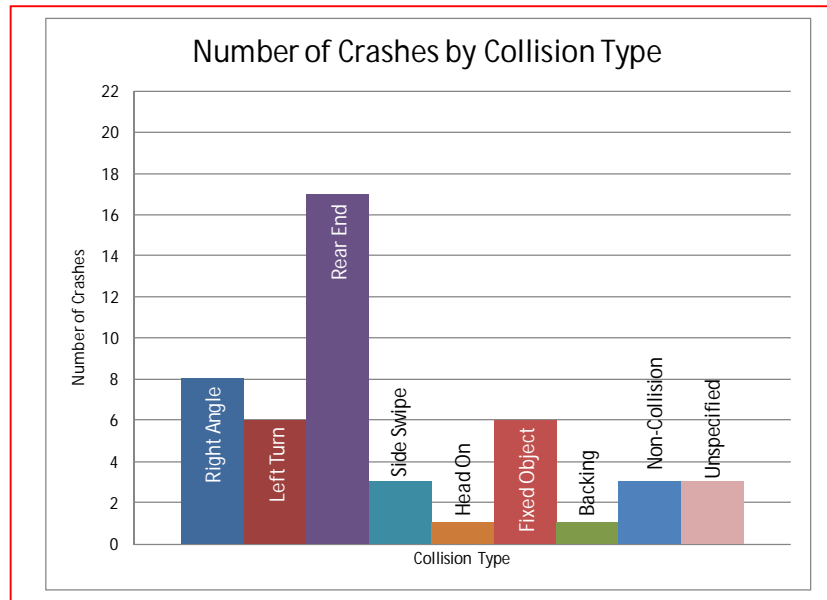
W5 - 432



District Department of Transportation

## South Dakota Avenue NE Prior to V Street

Severity			Weather			Surface condition			Light Condition		
Total	46										
Fatal	0	0.0%	Clear	41	89.1%	Dry	39	84.8%	Day	26	56.5%
Injury	18	39.1%	Rain	4	8.7%	Wet	5	10.9%	Night	18	39.1%
Truck	4	8.7%	Snow	0	0.0%	Snow/Ice	1	2.2%			
Bus	3	6.5%									



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”<sup>1</sup> 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 support the nexus between the speed camera and traffic safety:

1. Speed Data – The 85th percentile speed is much higher than the posted speed limit at this location.

<sup>1</sup> AASHTO Highway Safety Manual, 1<sup>st</sup> Edition, 2010; Volume 1, page 2-13



District Department of Transportation

## South Dakota Avenue NE Prior to V Street

2. Crash Data – There was an elevated number of speed related crashes at this location, including rear end collisions, as well as a high frequency (18 crashes) of injury-related crashes.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
  - a. Fort Lincoln Park is in the area which generates pedestrian and bicycle activity.
  - b. There are several bus stops in the area which generate pedestrian activity.

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.

W5 - 434

# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

[www.sammateng.com](http://www.sammateng.com)

## South Dakota Ave NE prior to V Street WB Speed

### Direction 1

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	999	Total
11/13/13	1	0	3	19	34	14	7	1	0	0	0	0	0	0	0	79
01:00	0	0	4	15	23	24	9	2	0	0	0	0	0	0	0	77
02:00	0	0	4	22	30	28	15	2	0	0	0	0	0	0	0	101
03:00	2	1	5	20	55	53	35	8	0	0	0	0	0	0	0	179
04:00	16	4	16	62	180	148	67	29	4	0	0	0	0	0	0	526
05:00	116	36	89	218	339	176	58	11	1	0	0	0	0	0	0	1044
06:00	157	59	123	281	379	184	41	4	0	0	0	0	0	0	0	1228
07:00	129	45	129	259	390	191	41	6	2	0	0	0	0	0	0	1192
08:00	118	56	163	270	347	145	18	4	0	0	0	0	0	0	0	1121
09:00	96	51	102	230	275	159	37	2	0	0	0	0	0	0	0	952
10:00	36	28	58	188	320	150	16	4	1	0	0	0	0	0	0	801
11:00	63	20	53	176	293	166	26	3	0	0	0	0	0	0	0	800
12 PM	38	8	45	156	317	171	40	7	1	0	0	0	0	0	0	783
13:00	63	16	59	141	289	204	58	9	0	0	0	0	0	0	0	839
14:00	47	21	69	194	313	180	34	4	1	0	0	0	0	0	0	863
15:00	33	16	52	154	261	204	28	4	0	0	0	0	0	0	0	752
16:00	41	19	61	226	277	117	18	2	0	0	0	0	0	0	0	761
17:00	46	25	99	228	286	111	11	1	0	0	0	0	0	0	0	807
18:00	27	28	81	198	230	100	10	4	0	0	0	0	0	0	0	678
19:00	8	1	11	86	195	107	27	7	1	0	0	0	0	0	0	443
20:00	11	8	26	122	209	125	37	2	1	0	0	0	0	0	0	541
21:00	9	0	9	87	176	124	37	6	1	0	0	0	0	0	0	449
22:00	4	7	12	39	102	78	32	3	0	0	0	0	0	0	0	277
23:00	10	1	4	24	58	36	12	2	0	0	0	0	0	0	0	147
Total	1071	450	1277	3415	5378	2995	714	127	13	0	0	0	0	0	0	15440
Grand Total	1071	450	1277	3415	5378	2995	714	127	13	0	0	0	0	0	0	15440

15th Percentile : 18 MPH  
 50th Percentile : 30 MPH  
 85th Percentile : 37 MPH  
 95th Percentile : 40 MPH

Stats  
 Mean Speed(Average) : 29 MPH  
 10 MPH Pace Speed : 28-37 MPH  
 Number in Pace : 8060  
 Percent in Pace : 52.2%  
 Number of Vehicles > 25 MPH : 12642  
 Percent of Vehicles > 25 MPH : 81.9%

# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

[www.sammateng.com](http://www.sammateng.com)

Site Code: 155  
Station ID:

## South Dakota Ave NE prior to V Street WB Volume

Latitude: 0' 0.0000 South

Start Time	11-Nov-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Da	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	22	179	*	*	*	*	*	*	*	*	22	179
12:15	*	*	*	*	22	199	*	*	*	*	*	*	*	*	22	199
12:30	*	*	*	*	13	199	*	*	*	*	*	*	*	*	13	199
12:45	*	*	*	*	22	206	*	*	*	*	*	*	*	*	22	206
01:00	*	*	*	*	27	191	*	*	*	*	*	*	*	*	27	191
01:15	*	*	*	*	18	<b>214</b>	*	*	*	*	*	*	*	*	18	<b>214</b>
01:30	*	*	*	*	14	<b>204</b>	*	*	*	*	*	*	*	*	14	<b>204</b>
01:45	*	*	*	*	18	<b>230</b>	*	*	*	*	*	*	*	*	18	<b>230</b>
02:00	*	*	*	*	19	<b>240</b>	*	*	*	*	*	*	*	*	19	<b>240</b>
02:15	*	*	*	*	22	199	*	*	*	*	*	*	*	*	22	199
02:30	*	*	*	*	27	217	*	*	*	*	*	*	*	*	27	217
02:45	*	*	*	*	33	207	*	*	*	*	*	*	*	*	33	207
03:00	*	*	*	*	34	187	*	*	*	*	*	*	*	*	34	187
03:15	*	*	*	*	35	181	*	*	*	*	*	*	*	*	35	181
03:30	*	*	*	*	46	187	*	*	*	*	*	*	*	*	46	187
03:45	*	*	*	*	64	197	*	*	*	*	*	*	*	*	64	197
04:00	*	*	*	*	70	174	*	*	*	*	*	*	*	*	70	174
04:15	*	*	*	*	105	194	*	*	*	*	*	*	*	*	105	194
04:30	*	*	*	*	145	209	*	*	*	*	*	*	*	*	145	209
04:45	*	*	*	*	206	184	*	*	*	*	*	*	*	*	206	184
05:00	*	*	*	*	246	193	*	*	*	*	*	*	*	*	246	193
05:15	*	*	*	*	226	184	*	*	*	*	*	*	*	*	226	184
05:30	*	*	*	*	292	228	*	*	*	*	*	*	*	*	292	228
05:45	*	*	*	*	280	202	*	*	*	*	*	*	*	*	280	202
06:00	*	*	*	*	<b>308</b>	193	*	*	*	*	*	*	*	*	<b>308</b>	193
06:15	*	*	*	*	<b>291</b>	183	*	*	*	*	*	*	*	*	<b>291</b>	183
06:30	*	*	*	*	<b>303</b>	170	*	*	*	*	*	*	*	*	<b>303</b>	170
06:45	*	*	*	*	<b>326</b>	132	*	*	*	*	*	*	*	*	<b>326</b>	132
07:00	*	*	*	*	303	119	*	*	*	*	*	*	*	*	303	119
07:15	*	*	*	*	296	119	*	*	*	*	*	*	*	*	296	119
07:30	*	*	*	*	287	110	*	*	*	*	*	*	*	*	287	110
07:45	*	*	*	*	306	95	*	*	*	*	*	*	*	*	306	95
08:00	*	*	*	*	301	119	*	*	*	*	*	*	*	*	301	119
08:15	*	*	*	*	284	136	*	*	*	*	*	*	*	*	284	136
08:30	*	*	*	*	282	162	*	*	*	*	*	*	*	*	282	162
08:45	*	*	*	*	254	124	*	*	*	*	*	*	*	*	254	124
09:00	*	*	*	*	275	121	*	*	*	*	*	*	*	*	275	121
09:15	*	*	*	*	221	97	*	*	*	*	*	*	*	*	221	97
09:30	*	*	*	*	230	124	*	*	*	*	*	*	*	*	230	124
09:45	*	*	*	*	226	107	*	*	*	*	*	*	*	*	226	107
10:00	*	*	*	*	206	78	*	*	*	*	*	*	*	*	206	78
10:15	*	*	*	*	192	67	*	*	*	*	*	*	*	*	192	67
10:30	*	*	*	*	217	68	*	*	*	*	*	*	*	*	217	68
10:45	*	*	*	*	186	64	*	*	*	*	*	*	*	*	186	64
11:00	*	*	*	*	190	41	*	*	*	*	*	*	*	*	190	41
11:15	*	*	*	*	193	47	*	*	*	*	*	*	*	*	193	47
11:30	*	*	*	*	220	35	*	*	*	*	*	*	*	*	220	35
11:45	*	*	*	*	197	24	*	*	*	*	*	*	*	*	197	24
Total	0	0	0	0	8100	7340	0	0	0	0	0	0	0	0	8100	7340
Day Total	0	0	0	0	15440		0	0	0	0	0	0	0	0	15440	
% Splits	0.0%	0.0%	0.0%	0.0%	52.5%	47.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	52.5%	47.5%
Peak	-	-	-	-	06:00	01:15	-	-	-	-	-	-	-	-	06:00	01:15
Vol.	-	-	-	-	1228	888	-	-	-	-	-	-	-	-	1228	888
P.H.F.					0.942	0.925									0.942	0.925

ADT ADT 15,440 AADT 15,440



**Accident Summary Report (R-8)****Corridor:** SOUTH DAKOTA AVE,NE From V ST,NE TO THIRTY THIRD PL,NE**Time Period Covered:** From 01/01/2010 To 12/31/2012**Prepared By:** Rahul Jain**Prepared Date:** 9/15/2013

		<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Accident:	46	Right Angle:	8	17.4%	Fixed Object:	6	13.0%
Total Number of Fatalities:	0	Left Turn:	6	13.0%	Ran Off Road:	0	0.0%
Total Number of Injuries:	24	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	1	Rear End:	17	37.0%	Backing:	1	2.2%
Total Number of NonDisabling Injuries:	2	Side Swiped:	3	6.5%	Non Collision:	1	2.2%
Total Number of Pedestrians Involved:	0	Head On:	1	2.2%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	0	Parked:	0	0.0%	Unspecified:	3	6.5%
Total Number of Motorcycles Involved:	0						

<b>Time of Day</b>	<b>#ACC</b>	<b>%</b>	<b>Day of week</b>	<b>#ACC</b>	<b>%</b>
07:30 ~ 09:30:	5	10.9%	Sunday:	3	6.5%
09:30 ~ 11:30:	5	10.9%	Monday:	7	15.2%
11:30 ~ 13:30:	4	8.7%	Tuesday:	4	8.7%
13:30 ~ 16:00:	6	13.0%	Wednesday:	7	15.2%
16:00 ~ 18:30:	5	10.9%	Thursday:	9	19.6%
18:30 ~ 07:30:	21	45.7%	Friday:	3	6.5%
Unspecified:	0	0.0%	Saturday:	13	28.3%

<b>Weather Condition</b>	<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	<b>#ACC</b>	<b>%</b>
Clear:	41	89.1%	Dry:	39	84.8%
Rain:	4	8.7%	Wet:	5	10.9%
Snow:	0	0.0%	Snow/Ice:	1	2.2%
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:	1	2.2%	Unspecified:	1	2.2%

<b>Type of Vehicle</b>	<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	<b>#ACC</b>	<b>%</b>
Passenger Car:	73	86.9%	Fatal Collision:	0	0.0%
Bus:	3	3.6%	Injury Collision:	18	39.1%
Truck:	4	4.8%	PDO Collision:	28	60.9%
Taxi:	0	0.0%			
Minivan:	0	0.0%	<b>Light Condition</b>	<b>#ACC</b>	<b>%</b>
Police/Emergency Vehicle:	3	3.6%	Daylight:	26	56.5%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	1	2.2%
Bicycle:	0	0.0%	Dark(Lighted):	17	37.0%
Fixed Object:	0	0.0%	Dark(Not Lighted):	1	2.2%
Unspecified:	1	1.2%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	1	2.2%

<b>Contributing Factor</b>	<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	<b>#ACC</b>	<b>%</b>
Driver: Speed:	3	3.6%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	1	1.2%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	16	19.0%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	0	0.0%
Roadway:	1	1.2%	From Between Parked Cars:	0	0.0%
Unspecified:	63	75.0%	Unspecified:	0	0.0%

28 Records are not approved as of 9/15/2013 2:05:04 PM