



District Department of Transportation

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

### DC 295 SE 0.75 Miles South of Pennsylvania Avenue SE NE/B

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
7	605/607	7/8	7A/8A	Proposed	DC 295 SE 0.75 miles south of Pennsylvania Avenue Southeast, Northeast-bound



This *proposed* speed camera is located in Ward /87 on DC 295 Southeast 0.75 miles south of Pennsylvania Avenue Southeast in the northeast-bound direction. DC 295 runs between the Baltimore-Washington Parkway to the north and I-295 to the south. The posted speed limit is 50 MPH.

WO - 90





District Department of Transportation

## DC 295 SE 0.75 Miles South of Pennsylvania Avenue SE NE/B

### Field Assessment Summary

DC 295 is assumed to run in the northeast-southwest direction, and is classified as a freeway. DC 295 has three travel lanes southwest-bound and four travel lanes northeast-bound. This site has the following characteristics:

- There are residential areas nearby.
- There is guardrail separating the southwest-bound and northeast-bound traffic.
- There is a pedestrian bridge over DC 295 in this area.
- The lanes on DC-295 NB merge with exiting two-lane ramp from I-695/11<sup>th</sup> Street Bridge.
- The pavement condition is new and there is open ditch drainage.



Looking Southwest-bound



District Department of Transportation

DC 295 SE 0.75 Miles South of Pennsylvania Avenue SE NE/B



Looking East

## Speed Data Analysis

Posted Speed Limit (MPH)	50
Mean Speed (MPH)	40
85th Percentile Speed (MPH)	59
10 MPH Pace Speed	51-60
ADT	31,923

The mean speed is lower than the posted speed limit in both directions and the 85<sup>th</sup> percentile speed is 9 MPH higher than the posted speed limit.

## Crash Data Analysis

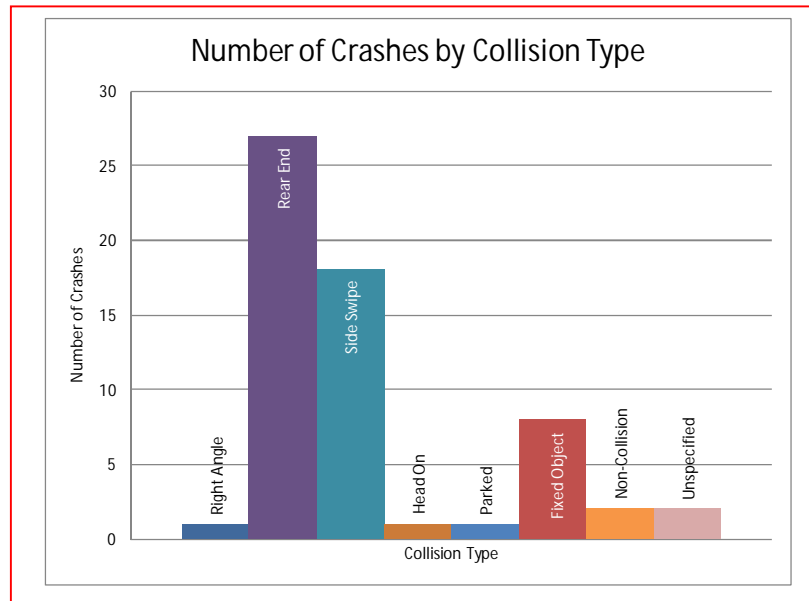
From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012 there were a total of 60 crashes at this location. A breakdown of number of crashes by collision type can be found in the chart on the next page. The most common types of crashes at this location were Rear End (27 crashes) and Side Swipe (18 crashes). There were 8 crashes with speeding as a contributing factor. Furthermore, this site experienced a high frequency (22 crashes) of injury-related crashes.

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## DC 295 SE 0.75 Miles South of Pennsylvania Avenue SE NE/B

Severity			Weather			Surface condition			Light Condition		
Total	60										
Fatal	0	0.0%	Clear	49	81.7%	Dry	45	75.0%	Day	38	63.3%
Injury	22	36.7%	Rain	8	13.3%	Wet	9	15.0%	Night	15	25.0%
Truck	13	21.7%	Fog/Mist	2	3.3%	Slush	1	1.7%			
Bus	2	3.3%									



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 establish a safety nexus between the speed camera and safety.

1. Speed Data – The 85<sup>th</sup> percentile speed is much higher than the posted speed limit.

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



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## DC 295 SE 0.75 Miles South of Pennsylvania Avenue SE NE/B

2. Crash Data – There were an elevated number of speed-related crashes at this location, including rear end and side swipe crashes, as well as a high frequency (22 crashes) of injury-related crashes.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
  - a. The lanes on DC-295 NB merge with exiting two-lane ramp from I-695/11<sup>th</sup> Street Bridge. It is desired to have slower speeds in this section of the freeway so vehicles can execute safer weaves and merges and thus minimize potential freeway vehicle-to-vehicle conflicts.

Due to elevated 85<sup>th</sup> percentile speed, the elevated number of speed-related crashes and injury-related crashes, pedestrian generators, and the weaving and merging operations, there is a nexus between traffic safety and the speed camera at this location.

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# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

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

## DC295 SE .75 MILE S/O PA Avenue SE NEB Speed

NB

Start Time	1 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
12/02/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	17	0	0	0	2	1	14	47	108	94	66	39	18	12	418
04:00	55	1	0	0	1	1	10	55	179	216	148	97	47	34	844
05:00	133	1	0	0	1	1	21	54	301	522	409	171	41	33	1688
06:00	262	0	0	3	10	84	117	133	340	437	288	118	24	7	1823
07:00	343	0	0	3	39	104	88	96	198	204	128	34	11	2	1250
08:00	329	1	0	6	24	70	56	49	75	100	45	19	3	0	777
09:00	278	0	0	6	65	158	102	166	295	311	156	42	10	9	1598
10:00	329	24	47	94	184	225	147	144	186	168	77	14	2	4	1645
11:00	300	25	22	34	74	141	70	107	177	189	100	24	5	2	1270
12 PM	270	1	0	10	126	210	111	203	409	428	213	57	14	4	2056
13:00	308	0	0	9	149	160	96	189	425	407	176	63	16	5	2003
14:00	342	0	1	16	128	141	64	186	431	376	176	48	9	3	1921
15:00	409	24	30	32	28	32	34	71	94	57	17	3	0	1	832
16:00	420	45	18	9	5	0	0	0	0	0	0	0	0	0	497
17:00	395	40	51	50	49	57	56	68	57	7	6	0	0	0	836
18:00	304	0	0	28	140	134	108	339	542	362	99	26	6	2	2090
19:00	240	0	0	27	146	146	89	215	537	402	184	49	9	8	2052
20:00	186	0	0	16	131	152	105	191	414	432	184	42	12	3	1868
21:00	161	0	1	10	122	138	105	168	385	407	205	81	14	10	1807
22:00	141	1	1	11	94	142	83	167	348	373	191	93	21	10	1676
23:00	91	0	0	17	93	106	85	120	277	302	135	68	9	11	1314
Total	5313	163	171	381	1611	2203	1561	2768	5778	5794	3003	1088	271	160	30265

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## DC295 SE .75 MILE S/O PA Avenue SE NEB Speed

NB

Start Time	1 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
12/03/13	68	0	0	9	42	81	53	84	167	146	109	52	13	7	831
01:00	32	0	0	6	28	53	35	48	93	82	48	16	5	9	455
02:00	22	0	0	4	26	34	36	35	73	72	41	16	8	5	372
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	122	0	0	19	96	168	124	167	333	300	198	84	26	21	1658
Grand Total	5435	163	171	400	1707	2371	1685	2935	6111	6094	3201	1172	297	181	31923

15th Percentile : 8 MPH  
 50th Percentile : 47 MPH  
 85th Percentile : 59 MPH  
 95th Percentile : 64 MPH

Stats  
 Mean Speed(Average) : 40 MPH  
 10 MPH Pace Speed : 51-60 MPH  
 Number in Pace : 10104  
 Percent in Pace : 31.8%  
 Number of Vehicles > 50 MPH : 17056  
 Percent of Vehicles > 50 MPH : 53.7%

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## DC295 SE .75 MILE S/O PA Avenue SE NEB Volume

Start Time	Mon	02-Dec-1	Tue	03-Dec-1	Wed	04-Dec-1	Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	487	249	*	*	*	249	487
12:15	*	523	209	*	*	*	209	523
12:30	*	516	210	*	*	*	210	516
12:45	*	530	163	*	*	*	163	530
01:00	*	522	124	*	*	*	124	522
01:15	*	483	118	*	*	*	118	483
01:30	*	503	103	*	*	*	103	503
01:45	*	495	110	*	*	*	110	495
02:00	*	493	110	*	*	*	110	493
02:15	*	483	90	*	*	*	90	483
02:30	*	473	77	*	*	*	77	473
02:45	*	472	95	*	*	*	95	472
03:00	109	445	*	*	*	*	109	445
03:15	77	131	*	*	*	*	77	131
03:30	122	140	*	*	*	*	122	140
03:45	110	116	*	*	*	*	110	116
04:00	154	120	*	*	*	*	154	120
04:15	178	138	*	*	*	*	178	138
04:30	258	119	*	*	*	*	258	119
04:45	254	120	*	*	*	*	254	120
05:00	380	151	*	*	*	*	380	151
05:15	444	155	*	*	*	*	444	155
05:30	404	134	*	*	*	*	404	134
05:45	460	396	*	*	*	*	460	396
06:00	441	542	*	*	*	*	441	542
06:15	448	524	*	*	*	*	448	524
06:30	462	501	*	*	*	*	462	501
06:45	472	523	*	*	*	*	472	523
07:00	445	531	*	*	*	*	445	531
07:15	252	525	*	*	*	*	252	525
07:30	229	511	*	*	*	*	229	511
07:45	324	485	*	*	*	*	324	485
08:00	236	498	*	*	*	*	236	498
08:15	203	461	*	*	*	*	203	461
08:30	166	469	*	*	*	*	166	469
08:45	172	440	*	*	*	*	172	440
09:00	265	469	*	*	*	*	265	469
09:15	360	444	*	*	*	*	360	444
09:30	501	453	*	*	*	*	501	453
09:45	472	441	*	*	*	*	472	441
10:00	452	441	*	*	*	*	452	441
10:15	475	440	*	*	*	*	475	440
10:30	393	405	*	*	*	*	393	405
10:45	325	390	*	*	*	*	325	390
11:00	192	331	*	*	*	*	192	331
11:15	166	338	*	*	*	*	166	338
11:30	489	326	*	*	*	*	489	326
11:45	423	319	*	*	*	*	423	319
Total	11313	18952	1658	0	0	0	12971	18952
Combined Total	30265		1658		0		31923	
Peak Vol.	09:30 1900	00:15 2091	12:00 831	-	-	-	09:30 1900	00:15 2091
P.H.F.	0.948	0.986	0.834				0.948	0.986
ADT	ADT 31,923		AADT 31,923					



DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** INTERSTATE 295,BN From PENNSYLVANIA AVE,SE TO OVERLOOK AVE,SW

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

**Prepared By:** Rahul Jain

**Prepared Date:** 1/9/2014

Total Number of Accident:	60	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Fatalities:	0	Right Angle:	1	1.7%	Fixed Object:	8	13.3%
Total Number of Injuries:	25	Left Turn:	0	0.0%	Ran Off Road:	0	0.0%
Total Number of Disabling Injuries:	2	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of NonDisabling Injuries:	3	Rear End:	27	45.0%	Backing:	0	0.0%
Total Number of Pedestrians Involved:	0	Side Swiped:	18	30.0%	Non Collision:	2	3.3%
Total Number of Bicycles Involved:	0	Head On:	1	1.7%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	1	Parked:	1	1.7%	Unspecified:	2	3.3%
<b>Time of Day</b>				<b>#ACC</b>	<b>%</b>	<b>Day o fweek</b>	
07:30 ~ 09:30:				7	11.7%	Sunday:	
09:30 ~ 11:30:				6	10.0%	Monday:	
11:30 ~ 13:30:				3	5.0%	Tuesday:	
13:30 ~ 16:00:				10	16.7%	Wednesday:	
16:00 ~18:30:				9	15.0%	Thursday:	
18:30 ~ 07:30:				25	41.7%	Friday:	
Unspecified:				0	0.0%	Saturday:	
07:30 ~ 09:30:				7	11.7%	Sunday:	
09:30 ~ 11:30:				6	10.0%	Monday:	
11:30 ~ 13:30:				3	5.0%	Tuesday:	
13:30 ~ 16:00:				10	16.7%	Wednesday:	
16:00 ~18:30:				9	15.0%	Thursday:	
18:30 ~ 07:30:				25	41.7%	Friday:	
Unspecified:				0	0.0%	Saturday:	
<b>Weather Condition</b>				<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	
Clear:				49	81.7%	Dry:	
Rain:				8	13.3%	Wet:	
Snow:				0	0.0%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				2	3.3%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				1	1.7%	Unspecified:	
Clear:				49	81.7%	Dry:	
Rain:				8	13.3%	Wet:	
Snow:				0	0.0%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				2	3.3%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				1	1.7%	Unspecified:	
<b>Type of Vehicle</b>				<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	
Passenger Car:				83	73.5%	Fatal Collision:	
Bus:				2	1.8%	Injury Collision:	
Truck:				13	11.5%	PDO Collision:	
Taxi:				2	1.8%		
Minivan:				0	0.0%	<b>Light Condition</b>	
Police/Emergency Vehicle:				2	1.8%	Daylight:	
Motorcycle/Moped:				1	0.9%	Dawn/Dusk:	
Bicycle:				0	0.0%	Dark(Lighted):	
Fixed Object:				0	0.0%	Dark(Not Lighted):	
Unspecified:				10	8.8%	Dark(Unknown Lighting):	
Passenger Car:				83	73.5%	Unspecified:	
Bus:				2	1.8%		
Truck:				13	11.5%		
Taxi:				2	1.8%		
Minivan:				0	0.0%		
Police/Emergency Vehicle:				2	1.8%		
Motorcycle/Moped:				1	0.9%		
Bicycle:				0	0.0%		
Fixed Object:				0	0.0%		
Unspecified:				10	8.8%		
<b>Contributing Factor</b>				<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	
Driver: Speed:				8	7.1%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				3	2.7%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				17	15.0%	In Unmarked Crosswalk:	
Vehicle:				0	0.0%	Not in Crosswalk:	
Roadway:				1	0.9%	From Between Parked Cars:	
Unspecified:				84	74.3%	Unspecified:	
Driver: Speed:				8	7.1%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				3	2.7%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				17	15.0%	In Unmarked Crosswalk:	
Vehicle:				0	0.0%	Not in Crosswalk:	
Roadway:				1	0.9%	From Between Parked Cars:	
Unspecified:				84	74.3%	Unspecified:	

39 Records are not approved as of 1/9/2014 6:34:02 PM