



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

DC-295 NE 0.1 Mile S/O Eastern Avenue NE N/B

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
6	602	7	7C/7D	Existing	DC-295 Northeast 0.1 Mile South of Eastern
					Avenue Northbound



This existing speed camera is located in Ward 7 on DC 295 Southeast 0.1 miles south of Eastern Avenue Northeast in the northbound direction. DC 295 runs between the Baltimore-Washington Parkway to the north and I-295 to the south. The posted speed limit is 45 MPH. This speed camera was installed on July 12, 2010.





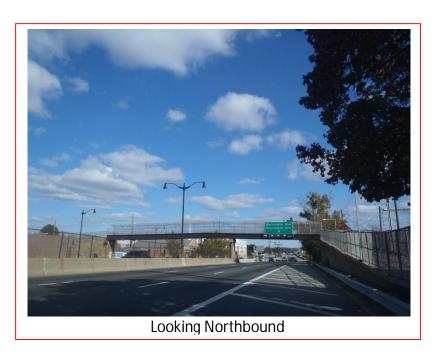
Field Assessment Summary

DC 295 is assumed to run in the north-south direction, and is classified as a freeway. DC 295 has three travel lanes in each direction. This site has the following characteristics:

- There are residential and commercial areas off of the freeway.
- The Minnesota Avenue Metro Station is on the east side of the freeway. The Aquatic Gardens is also in the area.
- There is a concrete barrier separating northbound and southbound traffic.
- There is a pedestrian bridge over DC 295 near the metro station.
- The pavement is in good condition and there is curb and gutter with drainage inlets.







Speed Data Analysis

Posted Speed Limit (MPH)	45
Mean Speed (MPH)	37
85th Percentile Speed (MPH)	45
10 MPH Pace Speed (MPH)	36-45
ADT	45,384

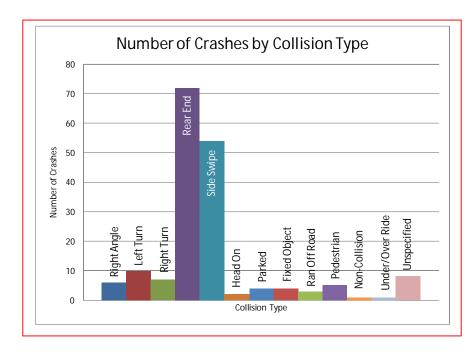
The mean speed is lower than the posted speed limit by 8 MPH and the 85th percentile speed is equal to the posted at this location.

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 177 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 (72 crashes) and Side Swipe (54 crashes). Furthermore, this site experienced a high frequency (59 crashes) of injury related crashes.



Se	Severity			ather		Surface	conditi	on	Light Condition			
Total	177											
Fatal	1	0.6%	Clear	151	85.3%	Dry	153	86.4%	Day	109	61.6%	
Injury	59	33.3%	Rain	14	7.9%	Wet	16	9.0%	Night	54	30.5%	
Truck	31	17.5%	Fog/Mist	2	1.1%	Snow/Ice	2	1.1%				
Bus	11	6.2%										



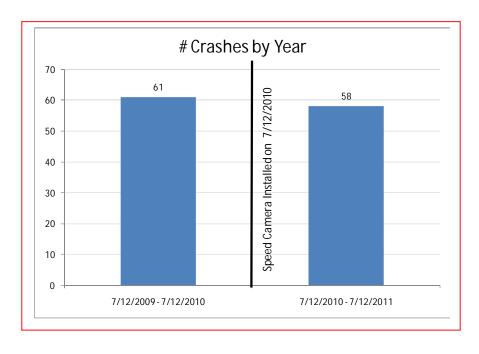
There were an elevated number of speed-related crashes at this location, including rear end and side swipe crashes. The AASHTO Highway Safety Manual lists "assuming the lead driver will go through a green or yellow light, but the lead driver stops" and "changing lanes to avoid a slowing or stopped vehicle" as two errors leading to rear-end and sideswipe crashes. Both of these errors can be decreased with a decrease in travel speed.

The speed camera was installed on 7-12-2010. The graph below shows the number of crashes in the year prior to the speed camera's installation (61 crashes) and the year after the speed camera's installation (58 crashes). There was a slight decrease in the number of crashes after the installation of the camera.

W7 - 53

¹ AASHTO Highway Safety Manual, 1st Edition, 2010; Volume 1, page 2-13





Safety Nexus

This site presents the following safety considerations which may establish a nexus between safety and the speed camera:

- 1. Speed Data The travel speeds are lower than or equal to the posted speed limit at this location.
- 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 (59 crashes) of injury-related crashes.
- 3. Field Assessment The following site characteristics suggest a need for a safer travel environment:
 - a. There are residential and commercial areas nearby and a pedestrian bridge.
 - b. The Minnesota Avenue Metro Station and the Aquatic Gardens is in the area which generates pedestrian and bicycle activity off of the freeway.

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, and the specific site characteristics, 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

DC 295 NE .1mile South of Eastern Ave NB Speed

NB															
Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76	
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
12/02/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	2	0	0	0	1	15	59	37	10	1	1	0	0	0	126
04:00	12	0	0	0	9	87	334	285	74	10	0	1	0	0	812
05:00	94	0	0	0	26	265	931	511	78	10	3	1	0	0	1919
06:00	137	0	0	12	94	489	1279	469	68	2	0	0	0	0	2550
07:00	209	1	0	18	213	838	1149	360	48	0	2	0	0	0	2838
08:00	179	0	4	10	126	734	1171	381	50	4	1	0	0	0	2660
09:00	157	0	0	12	132	727	1066	291	30	1	1	0	0	0	2417
10:00	87	0	0	7	78	490	834	312	51	8	1	0	0	0	1868
11:00	190	0	5	13	228	868	895	202	21	4	2	0	0	0	2428
12 PM	187	0	0	10	172	837	1062	274	23	3	0	0	0	0	2568
13:00	190	0	0	13	241	978	1106	222	18	3	0	0	0	0	2771
14:00	291	5	2	70	415	1037	761	97	12	0	0	0	0	0	2690
15:00	313	0	11	108	547	1215	438	43	5	0	0	0	0	0	2680
16:00	286	9	33	235	902	785	76	5	1	0	0	0	0	0	2332
17:00	341	49	53	182	272	230	23	2	0	0	0	0	0	0	1152
18:00	243	0	23	117	600	1153	481	46	7	2	0	0	0	0	2672
19:00	152	0	1	28	238	930	966	169	20	2	0	0	0	0	2506
20:00	85	0	0	1	102	637	957	238	24	1	3	0	0	0	2048
21:00	69	0	0	2	79	509	797	279	46	2	1	0	0	0	1784
22:00	58	0	0	6	55	381	713	334	49	6	6	1	0	0	1609
23:00	41	1	0	2	42	293	580	227	43	11	11	1	0	0	1242
Total	3323	65	132	846	4572	13498	15678	4784	678	70	22	4	0	0	43672

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD MOUNT AIRY, MD 21771

www.sammateng.com

DC 295 NE .1mile South of Eastern Ave NB Speed

NB															
Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76	
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
12/03/13	10	0	0	0	28	153	364	163	29	6	0	0	0	0	753
01:00	3	0	0	5	19	90	180	72	20	7	2	0	0	0	398
02:00	4	0	0	0	16	64	138	85	16	3	0	0	0	0	326
03:00	11	1	0	0	5	47	103	54	13	1	0	0	0	0	235
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	28	1	0	5	68	354	785	374	78	17	2	0	0	0	1712
Grand Total	3351	66	132	851	4640	13852	16463	5158	756	87	24	4	0	0	45384

 15th Percentile:
 29 MPH

 50th Percentile:
 39 MPH

 85th Percentile:
 45 MPH

 95th Percentile:
 48 MPH

 Stats
 Mean Speed(Average):
 37 MPH

 10 MPH Pace Speed:
 36-45 MPH

Number in Pace : 26281
Percent in Pace : 57.9%
Number of Vehicles > 45 MPH : 6969
Percent of Vehicles > 45 MPH : 15.4%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD MOUNT AIRY, MD 21771

www.sammateng.com

DC 295 NE .1mile South of Eastern Ave NB Volume

Start	Mon	02-Dec-13	Tue	03-Dec-13	Wed	04-Dec-13	Daily A	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	595	252	*	*	*	252	59
12:15	*	676	197	*	*	*	197	67
12:30	*	648	180	*	*	*	180	64
12:45	*	649	124	*	*	*	124	64
01:00	*	624	105	*	*	*	105	62
01:15	*	698	95	*	*	*	95	69
01:30	*	702	103	*	*	*	103	70
01:45	*	747	95	*	*	*	95	74
02:00	*	668	94	*	*	*	94	66
02:15	*	601	71	*	*	*	71	60
02:13	*	702	69	*	*	*	69	70
02:45	*	719	92	*	*	*	92	71
03:00	*	668	91	*	*	*	91	66
	*			*	*	*		
03:15	*	741	67	*	*	*	67	74
03:30		678	77	*	*	*	77	678
03:45	126	593					126	59:
04:00	128	616	*	*	*	*	128	61
04:15	170	639	*	*	*	*	170	63
04:30	222	649	*	*	*	*	222	64
04:45	292	428	*	*	*	*	292	428
05:00	355	253	*	*	*	*	355	25
05:15	465	175	*	*	*	*	465	17.
05:30	531	151	*	*	*	*	531	15
05:45	568	573	*	*	*	*	568	57
06:00	604	645	*	*	*	*	604	64
06:15	614	714	*	*	*	*	614	71
06:30	645	643	*	*	*	*	645	64
06:45	687	670	*	*	*	*	687	67
07:00	714	670	*	*	*	*	714	67
07:15	719	653	*	*	*	*	719	65
	671	619	*	*	*	*	671	
07:30	734		*	*	*	*	734	61
07:45		564	*	*	*	*		56
08:00	684	539	*	*	*	*	684	53
08:15	658	534					658	53
08:30	669	489	*	*	*	*	669	48
08:45	649	486	*	*	*	*	649	48
09:00	596	438	*	*	*	*	596	43
09:15	602	472	*	*	*	*	602	47
09:30	625	435	*	*	*	*	625	43
09:45	594	439	*	*	*	*	594	43
10:00	490	417	*	*	*	*	490	41
10:15	418	458	*	*	*	*	418	45
10:30	467	390	*	*	*	*	467	39
10:45	493	344	*	*	*	*	493	34
11:00	478	356	*	*	*	*	478	35
11:15	667	318	*	*	*	*	667	31
11:30	717	277	*	*	*	*	717	27
			*	*	*	*		
11:45	566	291					566	29
Total	17618	26054	1712	0	0	0	19330	2605
Combined Total	436	572	17	12	()	45384	4
Peak	07:00	02:30	12:00				07:00	02:30
Vol.	2838	2830	753				2838	2830
P.H.F.	0.967	0.947	0.747				0.967	0.947

Accident Summary Report (R-8)

Time Period Covered: F	From 01/01/20	110 To 12/31	2012 Prepare	d By:	Rahul Jain	Prepared Da	te: 1	2/31/20
Total Number of Accident:		177	Collision Type	#ACC	%	Collision Type	#ACC	9
Total Number of Fatalities:		1	Right Angle:	6	3.4%	Fixed Object:	4	2.3%
Total Number of Injuries:		95	Left Turn:	10	5.6%	Ran Off Road:	3	1.7%
Total Number of Disabling I	Injuries:	8	Right Turn:	7	4.0%	Ped. Involved:	5	2.8%
Total Number of NonDisabl	ing Injuries:	26	Rear End:	72	40.7%	Backing:	0	0.0%
Total Number of Pedestrian	ns Involved:	7	Side Swiped:	54	30.5%	Non Collision:	1	0.6%
Total Number of Bicycles In	nvolved:	0	Head On:	2	1.1%	Under/Over Ride:	1	0.6%
Total Number of Motorcycle	es Involved:	3	Parked:	4	2.3%	Jnspecified:	8	4.5%
Time of Day	#ACC	%			Day o fweek	#AC	c	9/
07:30 ~ 09:30:	20	11.3%			Sunday:	15		8.5%
09:30 ~ 11:30:	9	5.1%			Monday:	23		13.0%
11:30 ~ 13:30:	15	8.5%			Tuesday:	27		15.3%
13:30 ~ 16:00:	32	18.1%			Wednesday:	28		15.8%
16:00 ~18:30:	30	16.9%			Thursday:	21		11.9%
18:30 ~ 07:30:	71	40.1%			Friday:	24		13.6%
Unspecified:	0	0.0%			Saturday:	39		22.0%
Weather Condition	#ACC	%			Surface Condition	#AC	C	%
Clear:	151	85.3%			Dry:	153		86.4%
Rain:	14	7.9%			Wet:	16		9.0%
Snow:	1	0.6%			Snow/Ice:	2		1.1%
Sleet/Hail:	0	0.0%			Slush:	0		0.0%
Fog/Mist:	2	1.1%			Water/Sand:	1		0.6%
Crosswind/Blowing Sand:	2	1.1%			Repairing:	1		0.6%
Unspecified:	7	4.0%			Unspecified:	4		2.3%
Type of Vehicle	#VEH	%			Accident Severity	Type #AC	c	%
Passenger Car:	266	73.3%			Fatal Collision:	1		0.6%
Bus:	11	3.0%			Injury Collision:	59		33.3%
Truck:	31	8.5%			PDO Collision:	117		66.1%
Taxi:	7	1.9%						
Minivan:	0	0.0%			Light Condition	#AC	C	%
Police/Emergency Vehicle:	1	0.3%			Daylight:	109		61.6%
Motorcycle/Moped:	4	1.1%			Dawn/Dusk:	7		4.0%
Bicycle:	0	0.0%			Dark(Lighted):	49		27.7%
Fixed Object:	0	0.0%			Dark(Not Lighted):	5		2.8%
Unspecified:	43	11.8%			Dark(Unknown Ligh	•		0.0%
•					Unspecified:	7		4.0%
Contributing Factor	#VEH	%			Pedestrian Action	s #AC	C	%
Driver: Speed:	14	3.9%			In Crosswalk with S	ignal: 1		16.7%
Driver: Alcohol/Drug:	6	1.7%			In Crosswalk agains	st Signal: 0		0.0%
Driver: Electronic Device:	2	0.6%			In Crosswalk no Sig	ınal: 1		16.7%
Driver: Others:	62	17.1%			In Unmarked Cross	walk: 0		0.0%
Vehicle:	1	0.3%			Not in Crosswalk:	2		33.3%
Roadway:	2	0.6%			From Between Park	ked Cars: 0		0.0%
Unspecified:	276	76.0%			Unspecified:	2		33.3%

¹¹⁰ Records are not approved as of 12/31/2013 2:53:56 PM

Accident Summary Report (R-8)

Time Period Covered: F	From 07/12/20	09 To 07/12	/2010 Prepare	ed By:	Rahul Jain	Prepared Da	te: 1	12/31/20
Total Number of Accident:		61	Collision Type	#ACC	%	Collision Type	#ACC	; 9
Total Number of Fatalities:		0	Right Angle:	3	4.9%	Fixed Object:	2	3.3%
Total Number of Injuries:		33	Left Turn:	1	1.6%	Ran Off Road:	1	1.6%
Total Number of Disabling I	Injuries:	1	Right Turn:	1	1.6%	Ped. Involved:	2	3.3%
Total Number of NonDisabl	ing Injuries:	5	Rear End:	27	44.3%	Backing:	3	4.9%
Total Number of Pedestrian	ns Involved:	2	Side Swiped:	16	26.2%	Non Collision:	1	1.6%
Total Number of Bicycles Ir	nvolved:	0	Head On:	0	0.0%	Under/Over Ride:	1	1.6%
Total Number of Motorcycle	es Involved:	0	Parked:	1	1.6%	Unspecified:	2	3.3%
Time of Day	#ACC	%			Day o fweek	#AC	C	9/
07:30 ~ 09:30:	10	16.4%			Sunday:	4		6.6%
09:30 ~ 11:30:	4	6.6%			Monday:	11		18.0%
11:30 ~ 13:30:	5	8.2%			Tuesday:	10		16.4%
13:30 ~ 16:00:	8	13.1%			Wednesday:	12		19.7%
16:00 ~18:30:	10	16.4%			Thursday:	6		9.8%
18:30 ~ 07:30:	24	39.3%			Friday:	7		11.5%
Unspecified:	0	0.0%			Saturday:	11		18.0%
Weather Condition	#ACC	%			Surface Condition	#AC	c	%
Clear:	51	83.6%			Dry:	52		85.2%
Rain:	5	8.2%			Wet:	6		9.8%
Snow:	0	0.0%			Snow/Ice:	0		0.0%
Sleet/Hail:	0	0.0%			Slush:	0		0.0%
Fog/Mist:	1	1.6%			Water/Sand:	0		0.0%
Crosswind/Blowing Sand:	1	1.6%			Repairing:	2		3.3%
Unspecified:	3	4.9%			Unspecified:	1		1.6%
Type of Vehicle	#VEH	%			Accident Severity	Type #AC	c	%
Passenger Car:	94	77.0%			Fatal Collision:	0		0.0%
Bus:	2	1.6%			Injury Collision:	20		32.8%
Truck:	_ 16	13.1%			PDO Collision:	41		67.2%
Taxi:	3	2.5%			. 20 00			
Minivan:	0	0.0%			Light Condition	#AC	C	%
Police/Emergency Vehicle:	2	1.6%			Daylight:	37		60.7%
Motorcycle/Moped:	0	0.0%			Dawn/Dusk:	1		1.6%
Bicycle:	0	0.0%			Dark(Lighted):	21		34.4%
Fixed Object:	0	0.0%			Dark(Not Lighted):	1		1.6%
Unspecified:	5	4.1%			Dark(Unknown Ligh	nting): 0		0.0%
C	· ·	,			Unspecified:	1		1.6%
Contributing Factor	#VEH	%			Pedestrian Action	s #AC	c	%
Driver: Speed:	5	4.1%			In Crosswalk with S	Signal: 0		0.0%
Driver: Alcohol/Drug:	2	1.6%			In Crosswalk agains	st Signal: 0		0.0%
Driver: Electronic Device:	0	0.0%			In Crosswalk no Sig	gnal: 1		50.0%
Driver: Others:	21	17.2%			In Unmarked Cross	walk: 0		0.0%
Vehicle:	0	0.0%			Not in Crosswalk:	1		50.0%
Roadway:	1	0.8%			From Between Park	ked Cars: 0		0.0%
Unspecified:	93	76.2%			Unspecified:	0		0.0%

Accident Summary Report (R-8)

Time Period Covered: F	rom 07/12/20	10 To 07/12	/2011 Prepare	ed By:	Rahul Jain	Prepared Da	te: 1	2/31/20
Total Number of Accident:		58	Collision Type	#ACC	%	Collision Type	#ACC	9/
Total Number of Fatalities:		0	Right Angle:	2	3.4%	Fixed Object:	3	5.2%
Total Number of Injuries:		27	Left Turn:	2	3.4%	Ran Off Road:	0	0.0%
Total Number of Disabling I	njuries:	3	Right Turn:	3	5.2%	Ped. Involved:	2	3.4%
Total Number of NonDisabl	ing Injuries:	6	Rear End:	22	37.9%	Backing:	0	0.0%
Total Number of Pedestrian	s Involved:	3	Side Swiped:	21	36.2%	Non Collision:	0	0.0%
Total Number of Bicycles In	volved:	0	Head On:	1	1.7%	Under/Over Ride:	0	0.0%
Total Number of Motorcycle	es Involved:	0	Parked:	1	1.7%	Unspecified:	1	1.7%
Time of Day	#ACC	%			Day o fweek	#AC	c	%
07:30 ~ 09:30:	9	15.5%			Sunday:	4		6.9%
09:30 ~ 11:30:	3	5.2%			Monday:	9		15.5%
11:30 ~ 13:30:	3	5.2%			Tuesday:	7		12.1%
13:30 ~ 16:00:	11	19.0%			Wednesday:	8		13.8%
16:00 ~18:30:	13	22.4%			Thursday:	10		17.2%
18:30 ~ 07:30:	19	32.8%			Friday:	9		15.5%
Unspecified:	0	0.0%			Saturday:	11		19.0%
Weather Condition	#ACC	%			Surface Condition	# A C	c	%
Clear:	53	91.4%			Dry:	53		91.4%
Rain:	2	3.4%			Wet:	2		3.4%
Snow:	1	1.7%			Snow/Ice:	2		3.4%
Sleet/Hail:	0	0.0%			Slush:	0		0.0%
Fog/Mist:	1	1.7%			Water/Sand:	1		1.7%
Crosswind/Blowing Sand:	1	1.7%			Repairing:	0		0.0%
Unspecified:	0	0.0%			Unspecified:	0		0.0%
Type of Vehicle	#VEH	%			Accident Severity	Type #AC	c	%
Passenger Car:	87	71.9%			Fatal Collision:	0		0.0%
Bus:	5	4.1%			Injury Collision:	20		34.5%
Truck:	14	11.6%			PDO Collision:	38		65.5%
Taxi:	4	3.3%						
Minivan:	0	0.0%			Light Condition	#AC	C	%
Police/Emergency Vehicle:	1	0.8%			Daylight:	38		65.5%
Motorcycle/Moped:	0	0.0%			Dawn/Dusk:	2		3.4%
Bicycle:	0	0.0%			Dark(Lighted):	15		25.9%
Fixed Object:	0	0.0%			Dark(Not Lighted):	2		3.4%
Unspecified:	10	8.3%			Dark(Unknown Ligh	nting): 0		0.0%
		0.070			Unspecified:	1		1.7%
Contributing Factor	#VEH	%			Pedestrian Action	s #AC	С	%
Driver: Speed:	4	3.3%			In Crosswalk with S	Signal: 0		0.0%
Driver: Alcohol/Drug:	2	1.7%			In Crosswalk again	st Signal: 0		0.0%
Driver: Electronic Device:	1	0.8%			In Crosswalk no Sig	gnal: 1		50.0%
Driver: Others:	25	20.7%			In Unmarked Cross	walk: 0		0.0%
Vehicle:	0	0.0%			Not in Crosswalk:	1		50.0%
Roadway:	0	0.0%			From Between Parl	ked Cars: 0		0.0%
Unspecified:	89	73.6%			Unspecified:	0		0.0%

³⁵ Records are not approved as of 12/31/2013 4:34:11 PM