



District Department of Transportation

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

6600 Block 16th Street NW

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
4	401	4	4A	Proposed	6600 Block 16 th Street Northwest



This *proposed* speed camera will be located in Ward 4 at the 6600 block of 16th Street Northwest. 16th Street runs from Eastern Avenue Northwest in the North to H Street Northwest in the south. The posted speed limit is 30 MPH.

W4 - 185





District Department of Transportation

6600 Block 16th Street NW

Field Assessment Summary

16th Street is assumed to run in the North-South direction and is classified as a principal arterial. 16th Street has two travel lanes in each direction with a left turn lane southbound at the intersection with Van Buren Street. This site has the following characteristics:

- This site is located in a residential area with houses on both sides of the street.
- The Fort Stevens Recreational Center is in the area.
- There is sidewalk with curb and gutter on both sides of the street and a brick median island.
- There is an existing traffic signal and crosswalks with pedestrian signals across the north and east legs at the intersection with Van Buren Street NW. The intersection with Whittier Street NW is stop controlled with a crosswalk along the east leg.
- There is a downgrade slope in the northbound direction.
- The existing pavement is in fair condition.



Looking Northbound



District Department of Transportation

6600 Block 16th Street NW



Looking Southbound

Speed Data Analysis

	Northbound	Southbound
Posted Speed Limit (MPH)	30	30
Mean Speed (MPH)	42	29
85th Percentile Speed (MPH)	63	36
10 MPH Pace Speed	51-60	27-36
Sample Size	15,181	15,392
ADT	30,573	

The mean speed and 85th percentile speed are both higher than the posted speed limit in the northbound direction. The 85th percentile speed in the northbound direction is 33 MPH higher than the posted speed limit. In the southbound direction, the mean speed is 1 MPH lower than the posted speed limit, and the 85th percentile speed is 6 MPH higher than the posted speed limit. Due to the residential nature, this location may benefit from additional speed enforcement.

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 11 crashes at this location. A breakdown of number of crashes by collision type can be

W4 - 187

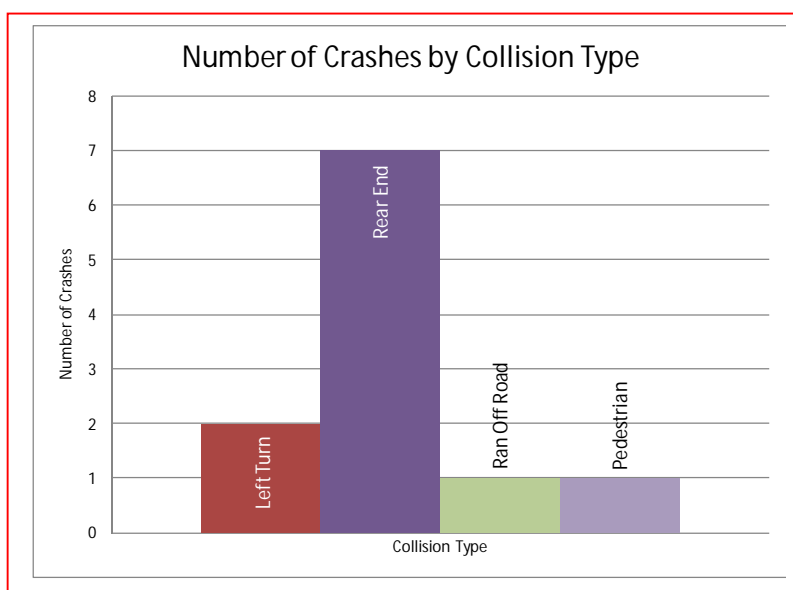


District Department of Transportation

6600 Block 16th Street NW

found in the chart below. The most common types of collision at this location were Rear End (7 crashes), Left Turn (2 crashes). The other collision types had 1 crashes or less each. Furthermore, this site experienced a high frequency (4 crashes) of injury-related crashes.

Severity			Weather			Surface condition			Light Condition		
Total	11										
Fatal	0	0.0%	Clear	8	72.7%	Dry	9	81.8%	Day	8	72.7%
Injury	4	36.4%	Rain	2	18.2%	Wet	2	18.2%	Night	3	27.3%
Taxi	1	9.1%	Snow	0	0.0%	Snow/Ice	0	0.0%			
Bus	0	0.0%									



The 16th Street Corridor is listed as one of the top ten high frequency crash corridors from 2009 to 2011, according to the report *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*¹.

Safety Nexus

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

¹ DDOT, *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*, pg. 80.



District Department of Transportation

6600 Block 16th Street NW

1. Speed Data – The mean and 85th percentile speeds are much higher than the posted speed limit in the northbound direction. The 85th percentile speed is much higher than the posted speed limit in the southbound direction.
2. Crash Data – This site experienced four injury-related crashes. The 16th Street Corridor is listed as one of the top ten 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 site is located in a residential area with houses on both sides of the street.
 - b. The Fort Stevens Recreational Center is in the area.
 - c. There are multiple bus stops in the area which generate pedestrian activity.

Due to the speed data analysis, the number of injury-related crashes, the specific site characteristics of a residential, and the nearby pedestrian generators of the recreational center, 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

6600 block of 16th St NW NB Speed

NB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/13/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	5	0	1	0	1	2	3	8	7	9	13	10	5	29	93
03:00	13	0	0	0	0	0	4	4	5	2	4	5	2	19	58
04:00	15	0	0	0	0	2	2	3	6	2	3	7	3	25	68
05:00	24	0	0	1	2	1	3	5	8	15	13	17	21	97	207
06:00	50	0	1	0	2	7	8	8	6	34	33	27	36	200	412
07:00	60	1	0	4	6	16	28	41	58	70	71	78	62	215	710
08:00	83	2	3	15	20	32	52	61	110	83	78	77	75	223	914
09:00	44	0	1	0	6	14	27	44	52	56	63	69	66	207	649
10:00	38	0	1	2	5	9	18	33	47	54	52	53	47	181	540
11:00	35	1	1	1	1	16	25	37	50	61	60	73	43	178	582
12 PM	21	0	1	7	6	24	53	82	86	96	68	62	51	147	704
13:00	38	1	1	4	4	10	37	60	79	111	112	74	48	166	745
14:00	62	0	4	4	9	61	98	111	116	134	114	94	62	139	1008
15:00	114	7	15	25	23	62	68	100	103	115	129	104	98	209	1172
16:00	203	51	46	51	100	148	188	122	113	73	51	44	16	26	1232
17:00	310	89	91	96	128	104	41	31	27	10	2	3	3	7	942
18:00	318	62	52	49	60	48	44	40	32	22	16	8	8	6	765
19:00	59	1	6	8	38	106	156	205	134	113	76	55	51	96	1104
20:00	30	0	1	0	9	44	86	120	108	121	89	59	44	94	805
21:00	34	1	1	13	24	43	82	140	132	112	105	58	50	88	883
22:00	27	0	0	2	4	19	44	72	78	90	74	60	63	129	662
23:00	18	0	1	4	2	10	24	52	59	68	78	57	40	111	524
Total	1601	216	227	286	450	778	1091	1379	1416	1451	1304	1094	894	2592	14779

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

6600 block of 16th St NW NB Speed

NB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/14/13	9	0	0	1	1	2	8	16	22	35	25	28	23	87	257
01:00	11	0	0	0	0	0	2	8	5	9	14	17	8	71	145
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	20	0	0	1	1	2	10	24	27	44	39	45	31	158	402
Grand Total	1621	216	227	287	451	780	1101	1403	1443	1495	1343	1139	925	2750	15181

15th Percentile : 9 MPH
 50th Percentile : 47 MPH
 85th Percentile : 63 MPH
 95th Percentile : 69 MPH

Stats
 Mean Speed(Average) : 42 MPH
 10 MPH Pace Speed : 51-60 MPH
 Number in Pace : 2691
 Percent in Pace : 21.6%
 Number of Vehicles > 30 MPH : 8946
 Percent of Vehicles > 30 MPH : 72.0%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

6600 block of 16th St NW NB Volume

Start Time	Wed 13-Nov-13		Thu 14-Nov-13		Fri 15-Nov-13		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	146	80	*	*	*	80	146
12:15	*	182	74	*	*	*	74	182
12:30	*	175	51	*	*	*	51	175
12:45	*	201	52	*	*	*	52	201
01:00	*	169	44	*	*	*	44	169
01:15	*	172	38	*	*	*	38	172
01:30	*	189	30	*	*	*	30	189
01:45	*	215	33	*	*	*	33	215
02:00	29	233	*	*	*	*	29	233
02:15	30	225	*	*	*	*	30	225
02:30	20	278	*	*	*	*	20	278
02:45	14	272	*	*	*	*	14	272
03:00	17	267	*	*	*	*	17	267
03:15	16	289	*	*	*	*	16	289
03:30	19	287	*	*	*	*	19	287
03:45	6	329	*	*	*	*	6	329
04:00	11	350	*	*	*	*	11	350
04:15	13	182	*	*	*	*	13	182
04:30	19	360	*	*	*	*	19	360
04:45	25	340	*	*	*	*	25	340
05:00	39	345	*	*	*	*	39	345
05:15	48	279	*	*	*	*	48	279
05:30	52	167	*	*	*	*	52	167
05:45	68	151	*	*	*	*	68	151
06:00	65	144	*	*	*	*	65	144
06:15	116	121	*	*	*	*	116	121
06:30	109	205	*	*	*	*	109	205
06:45	122	295	*	*	*	*	122	295
07:00	125	292	*	*	*	*	125	292
07:15	183	294	*	*	*	*	183	294
07:30	186	275	*	*	*	*	186	275
07:45	216	243	*	*	*	*	216	243
08:00	246	227	*	*	*	*	246	227
08:15	222	210	*	*	*	*	222	210
08:30	237	191	*	*	*	*	237	191
08:45	209	177	*	*	*	*	209	177
09:00	170	221	*	*	*	*	170	221
09:15	193	243	*	*	*	*	193	243
09:30	137	208	*	*	*	*	137	208
09:45	149	211	*	*	*	*	149	211
10:00	136	197	*	*	*	*	136	197
10:15	134	179	*	*	*	*	134	179
10:30	116	150	*	*	*	*	116	150
10:45	154	136	*	*	*	*	154	136
11:00	148	136	*	*	*	*	148	136
11:15	136	155	*	*	*	*	136	155
11:30	146	130	*	*	*	*	146	130
11:45	152	103	*	*	*	*	152	103
Total	4233	10546	402	0	0	0	4635	10546
Combined Total	14779		402		0		15181	
Peak	07:45	04:30	12:00				07:45	04:30
Vol.	921	1324	257				921	1324
P.H.F.	0.936	0.919	0.803				0.936	0.919
ADT	ADT 15,181		AADT 15,181					

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

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6600 block of 16th St NW SB Speed

SB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/11/13	9	0	3	11	15	10	1	1	0	0	0	0	0	0	50
01:00	0	0	2	12	33	10	2	1	0	0	0	0	0	0	60
02:00	0	1	0	11	22	13	4	0	0	0	0	0	0	0	51
03:00	0	0	3	14	22	17	8	1	0	0	0	0	0	0	65
04:00	3	1	5	30	62	49	21	7	1	1	0	0	0	0	180
05:00	9	0	3	37	175	150	65	7	2	1	1	0	0	0	450
06:00	59	21	47	201	455	161	48	12	2	0	0	0	0	0	1006
07:00	93	26	107	607	550	100	11	1	0	0	0	0	0	0	1495
08:00	65	40	96	400	572	108	12	2	0	0	0	0	0	0	1295
09:00	54	7	41	262	516	165	31	2	0	0	0	0	0	0	1078
10:00	66	22	64	215	310	127	34	7	3	0	0	0	0	0	848
11:00	49	18	31	196	298	120	27	7	1	0	0	0	0	0	747
12 PM	59	17	50	153	289	138	37	4	0	0	0	0	0	0	747
13:00	52	16	40	184	292	137	23	3	0	0	0	0	0	0	747
14:00	48	15	54	225	273	123	51	9	0	0	0	0	0	0	798
15:00	33	11	47	268	331	138	31	8	4	0	0	0	0	0	871
16:00	53	21	59	277	311	131	45	8	1	0	0	0	0	0	906
17:00	37	12	79	400	328	100	26	3	0	0	0	0	0	0	985
18:00	43	7	71	320	323	122	24	5	0	0	0	0	0	0	915
19:00	79	32	48	175	230	76	16	2	1	1	0	0	0	0	660
20:00	27	7	22	103	194	94	17	3	0	0	0	0	0	0	467
21:00	27	17	20	92	154	52	18	1	1	0	0	0	0	0	382
22:00	10	5	12	83	125	73	24	5	0	0	0	0	0	0	337
23:00	0	2	10	50	70	45	22	2	2	0	0	0	0	0	203
Total	875	298	914	4326	5950	2259	598	101	18	3	1	0	0	0	15343

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

6600 block of 16th St NW SB Speed

SB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/12/13	0	0	3	9	22	10	5	0	0	0	0	0	0	0	49
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
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	0	0	3	9	22	10	5	0	0	0	0	0	0	0	49
Grand Total	875	298	917	4335	5972	2269	603	101	18	3	1	0	0	0	15392

15th Percentile : 22 MPH
 50th Percentile : 30 MPH
 85th Percentile : 36 MPH
 95th Percentile : 40 MPH

Stats
 Mean Speed(Average) : 29 MPH
 10 MPH Pace Speed : 27-36 MPH
 Number in Pace : 9107
 Percent in Pace : 59.2%
 Number of Vehicles > 30 MPH : 8312
 Percent of Vehicles > 30 MPH : 54.0%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

6600 block of 16th St NW SB Volume

Start Time	11-Nov-13		12-Nov-13		13-Nov-13		Daily Average	
	Mon A.M.	P.M.	Tue A.M.	P.M.	Wed A.M.	P.M.	A.M.	P.M.
12:00	*	171	27	*	*	*	27	171
12:15	*	199	22	*	*	*	22	199
12:30	30	172	*	*	*	*	30	172
12:45	20	205	*	*	*	*	20	205
01:00	19	172	*	*	*	*	19	172
01:15	13	196	*	*	*	*	13	196
01:30	15	189	*	*	*	*	15	189
01:45	13	190	*	*	*	*	13	190
02:00	11	169	*	*	*	*	11	169
02:15	17	207	*	*	*	*	17	207
02:30	12	222	*	*	*	*	12	222
02:45	11	200	*	*	*	*	11	200
03:00	18	190	*	*	*	*	18	190
03:15	16	235	*	*	*	*	16	235
03:30	14	218	*	*	*	*	14	218
03:45	17	228	*	*	*	*	17	228
04:00	22	209	*	*	*	*	22	209
04:15	43	222	*	*	*	*	43	222
04:30	55	215	*	*	*	*	55	215
04:45	60	260	*	*	*	*	60	260
05:00	76	238	*	*	*	*	76	238
05:15	106	239	*	*	*	*	106	239
05:30	123	272	*	*	*	*	123	272
05:45	145	236	*	*	*	*	145	236
06:00	190	260	*	*	*	*	190	260
06:15	233	246	*	*	*	*	233	246
06:30	288	217	*	*	*	*	288	217
06:45	295	192	*	*	*	*	295	192
07:00	353	185	*	*	*	*	353	185
07:15	400	202	*	*	*	*	400	202
07:30	360	150	*	*	*	*	360	150
07:45	382	123	*	*	*	*	382	123
08:00	349	125	*	*	*	*	349	125
08:15	356	130	*	*	*	*	356	130
08:30	329	109	*	*	*	*	329	109
08:45	261	103	*	*	*	*	261	103
09:00	299	105	*	*	*	*	299	105
09:15	280	100	*	*	*	*	280	100
09:30	251	93	*	*	*	*	251	93
09:45	248	84	*	*	*	*	248	84
10:00	220	90	*	*	*	*	220	90
10:15	223	102	*	*	*	*	223	102
10:30	188	82	*	*	*	*	188	82
10:45	217	63	*	*	*	*	217	63
11:00	188	50	*	*	*	*	188	50
11:15	196	60	*	*	*	*	196	60
11:30	193	43	*	*	*	*	193	43
11:45	170	50	*	*	*	*	170	50
Total	7325	8018	49	0	0	0	7374	8018
Combined Total	15343		49		0		15392	
Peak	07:00	05:30					07:00	05:30
Vol.	1495	1014					1495	1014
P.H.F.	0.934	0.932					0.934	0.932
ADT	ADT 15,392		AADT 15,392					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: 16TH ST,NW From WHITTIER PL,NW TO VAN BUREN ST,NW

Time Period Covered: From 01/01/2010 To 12/31/2012 **Prepared By:** Rahul Jain

Prepared Date: 9/15/2013

Total Number of Accident:	11	Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Fatalities:	0	Right Angle:	0	0.0%	Fixed Object:	0	0.0%
Total Number of Injuries:	4	Left Turn:	2	18.2%	Ran Off Road:	1	9.1%
Total Number of Disabling Injuries:	0	Right Turn:	0	0.0%	Ped. Involved:	1	9.1%
Total Number of NonDisabling Injuries:	0	Rear End:	7	63.6%	Backing:	0	0.0%
Total Number of Pedestrians Involved:	0	Side Swiped:	0	0.0%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	0	Head On:	0	0.0%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	0	Parked:	0	0.0%	Unspecified:	0	0.0%
Time of Day				#ACC	%	Day o fweek	
07:30 ~ 09:30:				3	27.3%	Sunday:	
09:30 ~ 11:30:				1	9.1%	Monday:	
11:30 ~ 13:30:				1	9.1%	Tuesday:	
13:30 ~ 16:00:				0	0.0%	Wednesday:	
16:00 ~18:30:				3	27.3%	Thursday:	
18:30 ~ 07:30:				3	27.3%	Friday:	
Unspecified:				0	0.0%	Saturday:	
Weather Condition				#ACC	%	Surface Condition	
Clear:				8	72.7%	Dry:	
Rain:				2	18.2%	Wet:	
Snow:				0	0.0%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				0	0.0%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				1	9.1%	Unspecified:	
Type of Vehicle				#VEH	%	Accident Severity Type	
Passenger Car:				17	85.0%	Fatal Collision:	
Bus:				0	0.0%	Injury Collision:	
Truck:				2	10.0%	PDO Collision:	
Taxi:				1	5.0%	Light Condition	
Minivan:				0	0.0%	Daylight:	
Police/Emergency Vehicle:				0	0.0%	Dawn/Dusk:	
Motorcycle/Moped:				0	0.0%	Dark(Lighted):	
Bicycle:				0	0.0%	Dark(Not Lighted):	
Fixed Object:				0	0.0%	Dark(Unknown Lighting):	
Unspecified:				0	0.0%	Unspecified:	
Contributing Factor				#VEH	%	Pedestrian Actions	
Driver: Speed:				1	5.0%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				0	0.0%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				6	30.0%	In Unmarked Crosswalk:	
Vehicle:				0	0.0%	Not in Crosswalk:	
Roadway:				0	0.0%	From Between Parked Cars:	
Unspecified:				13	65.0%	Unspecified:	

6 Records are not approved as of 9/15/2013 10:29:53 PM