



District Department of Transportation

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

5400 Block 16th Street NW

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
4	403	4	4A	Existing	5400 Block 16 th Street Northwest Southbound



The existing speed camera is located in Ward 4 at the 5400 Block of 16th Street Northwest in the southbound direction. This site is located between the intersections of Colorado Avenue Northwest and Morrow Drive Northwest/Kennedy Street Northwest. Sixteenth Street runs from Eastern Avenue Northwest in the north to H Street Northwest to the south. The posted speed limit is 30 MPH. This speed camera was installed on January 2005.

W4 - 59





District Department of Transportation

5400 Block 16th Street NW

Field Assessment Summary

Sixteenth Street Northwest is assumed to run in the North-South direction, and is classified as a principal arterial. Sixteenth Street Northwest is a bi-directional roadway with two travel lanes in each direction with a center concrete median. It intersects Colorado Avenue Northwest and Morrow Drive Northwest/Kennedy Street Northwest which are both under signal-control. The speed camera is 260 feet south of Morrow Drive Northwest. This site has the following characteristics:

- This site is a residential area with houses, driveways, and churches.
- There is one pedestrian generator in the area: Brightwood Recreational Facility to the west.
- There is a posted blind pedestrian warning sign at the location.
- There are concrete sidewalks on both sides of the street.
- There are bus stops at end of block, one in each direction, and multiple bus stops in the area.
- The pavement conditions are fair and the drainage type is curb and gutter with catch basins.



Looking Northbound



District Department of Transportation

5400 Block 16th Street NW



Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	40
85th Percentile Speed (MPH)	53
10 MPH Pace Speed	38-47 MPH
ADT	13,694

The mean speed is 10 MPH higher than the posted speed limit and the 85th percentile speed is 13 MPH higher than the posted speed limit. 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 26 crashes at this location. A breakdown of collision type can be found in the chart on the next page.

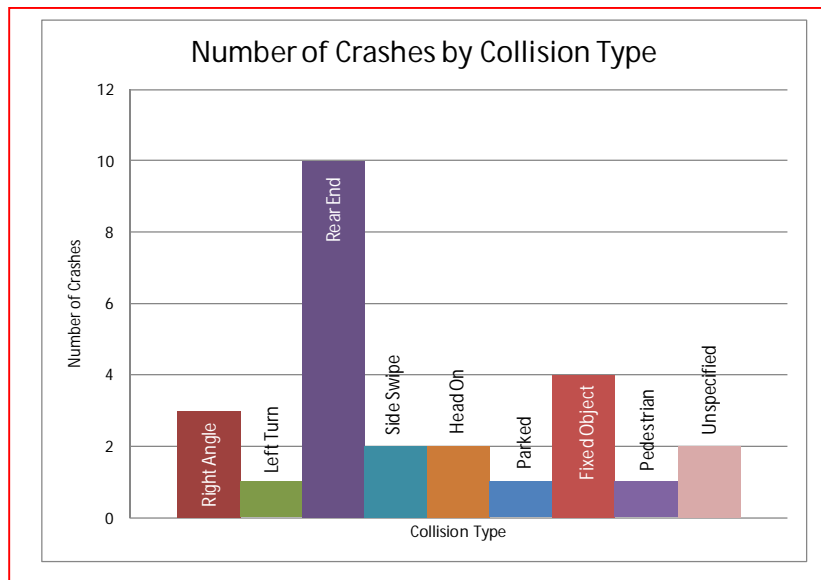
The most common type of crashes at this location was Rear End with 10 crashes. The other collision types recorded four crashes or less. There were 10 injury-related crashes at this location.



District Department of Transportation

5400 Block 16th Street NW

Severity			Weather			Surface condition			Light Condition		
Total	26										
Fatal	1	3.8%	Clear	20	76.9%	Dry	19	73.1%	Day	16	61.5%
Injury	10	38.5%	Rain	5	19.2%	Wet	6	23.1%	Night	8	30.8%
Bus	2	7.7%	Snow	0	0.0%	Snow/Ice	0	0.0%			
Truck	1	3.8%									

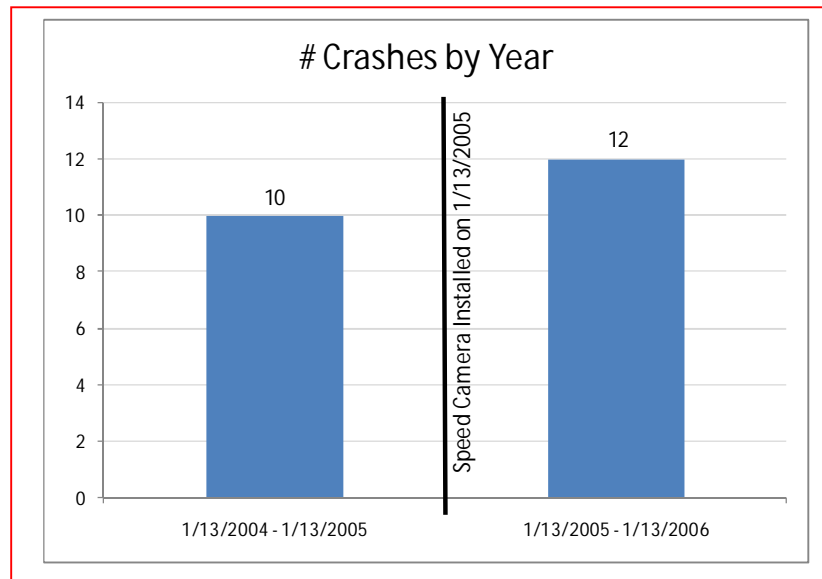


The speed camera was installed on 1-13-2005. The graph on the next page shows the number of crashes in the year prior to the speed camera's installation (10 crashes) and the year after the speed camera was installed (12 crashes). There was a slight increase in the number of crashes but no major change after the installation of the camera. There were three injuries in the year before the camera was installed and 14 injuries after installing the speed camera. There was a notable increase in injuries following the installation. A more detailed crash data analysis should be conducted to determine if the increase is due to a particular traffic situation or is an outlier.



District Department of Transportation

5400 Block 16th Street NW



Safety Nexus

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

1. Speed Data – The mean speed and the 85th percentile speed are much higher than the posted speed limit. This location may benefit from additional speed enforcement.
2. Crash Data – The most common type of crashes at this location was Rear End. There was a slight increase in the number of crashes after the installation of the camera. There were 10 injury-related crashes at this location.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
 - a. This site is located in a recreational and residential area with driveways on both sides of the street.
 - b. The Brightwood Recreational Facility is in the area which generates pedestrians.
 - c. There are multiple bus stops in the area which generate pedestrian activity.
 - d. There is a posted blind pedestrian warning sign at the location.

Given the site characteristics, the current speed data where the 85th percentile speed is higher than the posted speed limit, and that injury crashes have increased since installation of the speed camera, this site may benefit from additional speed enforcement. Also, the presence of a blind pedestrian in the area necessitates a slower traffic environment in the area. Due to all of these factors along with the site specific characteristics of a residential area with pedestrian generation, there is a nexus between traffic safety and the speed camera at this location.

W4 - 63

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

5400 Block of 16th Street NW SB Speed

SB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/12/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	0	1	0	0	2	2	3	7	2	0	3	0	0	0	20
02:00	0	0	1	1	5	6	6	4	4	1	1	0	0	0	29
03:00	1	0	0	2	10	16	13	10	7	5	3	1	1	0	69
04:00	8	0	1	2	15	43	37	27	26	16	8	7	3	4	197
05:00	43	0	0	5	18	69	86	99	60	46	34	25	5	13	503
06:00	82	0	0	4	27	132	262	194	131	93	45	33	15	8	1026
07:00	151	0	8	63	252	324	298	194	86	41	21	10	5	5	1458
08:00	201	24	39	132	229	279	191	135	57	30	18	6	4	3	1348
09:00	80	1	4	14	81	233	238	218	126	61	30	18	15	9	1128
10:00	51	0	0	4	32	110	177	167	106	65	25	27	16	15	795
11:00	27	0	1	7	45	128	121	99	84	45	29	14	7	8	615
12 PM	24	0	0	9	29	79	124	102	79	45	46	17	11	15	580
13:00	25	0	1	8	29	92	112	110	75	53	33	22	10	18	588
14:00	28	1	1	7	36	92	125	112	55	46	29	19	9	13	573
15:00	41	3	3	15	67	118	165	106	79	53	26	19	8	16	719
16:00	42	0	2	17	62	127	133	136	83	50	32	19	9	17	729
17:00	53	0	2	16	95	158	175	124	95	51	19	12	10	15	825
18:00	49	2	0	31	94	145	175	143	74	36	34	21	9	11	824
19:00	23	0	5	22	47	117	118	76	36	25	11	3	3	2	488
20:00	16	0	3	12	29	55	75	58	29	23	12	3	5	4	324
21:00	16	0	2	10	35	71	69	50	40	18	8	6	4	6	335
22:00	9	0	1	7	39	48	56	39	31	21	10	8	2	5	276
23:00	6	0	0	6	11	19	19	31	17	16	3	7	4	5	144
Total	976	32	74	394	1289	2463	2778	2241	1382	840	480	297	155	192	13593

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

5400 Block of 16th Street NW SB Speed

SB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/13/13	4	0	2	3	11	6	10	14	5	9	3	2	2	3	74
01:00	8	0	1	0	3	2	3	5	1	2	1	0	0	1	27
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	12	0	3	3	14	8	13	19	6	11	4	2	2	4	101
Grand Total	988	32	77	397	1303	2471	2791	2260	1388	851	484	299	157	196	13694

15th Percentile : 27 MPH
 50th Percentile : 41 MPH
 85th Percentile : 53 MPH
 95th Percentile : 61 MPH

Stats
 Mean Speed(Average) : 40 MPH
 10 MPH Pace Speed : 38-47 MPH
 Number in Pace : 4907
 Percent in Pace : 36.4%
 Number of Vehicles > 30 MPH : 11215
 Percent of Vehicles > 30 MPH : 83.1%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

5400 Block of 16th Street NW SB Volume

Start Time	Tue 12-Nov-13		Wed 13-Nov-13		Thu 14-Nov-13		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	150	20	*	*	*	20	150
12:15	*	161	18	*	*	*	18	161
12:30	*	136	18	*	*	*	18	136
12:45	*	133	18	*	*	*	18	133
01:00	*	126	17	*	*	*	17	126
01:15	*	139	10	*	*	*	10	139
01:30	10	163	*	*	*	*	10	163
01:45	10	160	*	*	*	*	10	160
02:00	3	134	*	*	*	*	3	134
02:15	9	158	*	*	*	*	9	158
02:30	10	126	*	*	*	*	10	126
02:45	7	155	*	*	*	*	7	155
03:00	12	167	*	*	*	*	12	167
03:15	15	196	*	*	*	*	15	196
03:30	26	189	*	*	*	*	26	189
03:45	16	167	*	*	*	*	16	167
04:00	32	166	*	*	*	*	32	166
04:15	43	165	*	*	*	*	43	165
04:30	59	197	*	*	*	*	59	197
04:45	63	201	*	*	*	*	63	201
05:00	69	180	*	*	*	*	69	180
05:15	101	237	*	*	*	*	101	237
05:30	162	218	*	*	*	*	162	218
05:45	171	190	*	*	*	*	171	190
06:00	198	210	*	*	*	*	198	210
06:15	233	237	*	*	*	*	233	237
06:30	282	194	*	*	*	*	282	194
06:45	313	183	*	*	*	*	313	183
07:00	313	161	*	*	*	*	313	161
07:15	382	111	*	*	*	*	382	111
07:30	378	109	*	*	*	*	378	109
07:45	385	107	*	*	*	*	385	107
08:00	298	82	*	*	*	*	298	82
08:15	334	61	*	*	*	*	334	61
08:30	352	91	*	*	*	*	352	91
08:45	364	90	*	*	*	*	364	90
09:00	309	85	*	*	*	*	309	85
09:15	303	93	*	*	*	*	303	93
09:30	277	77	*	*	*	*	277	77
09:45	239	80	*	*	*	*	239	80
10:00	231	77	*	*	*	*	231	77
10:15	203	64	*	*	*	*	203	64
10:30	194	61	*	*	*	*	194	61
10:45	167	74	*	*	*	*	167	74
11:00	150	44	*	*	*	*	150	44
11:15	151	38	*	*	*	*	151	38
11:30	171	34	*	*	*	*	171	34
11:45	143	28	*	*	*	*	143	28
Total	7188	6405	101	0	0	0	7289	6405
Combined Total	13593		101		0		13694	
Peak	07:00	05:15	12:00				07:00	05:15
Vol.	1458	855	74				1458	855
P.H.F.	0.947	0.902	0.925				0.947	0.902
ADT	ADT 13,694		AADT 13,694					

Accident Summary Report (R-8)**Corridor:** 16TH ST,NW From LONGFELLOW ST,NW TO COLORADO AVE,NW**Time Period Covered:** From 01/01/2010 To 12/31/2012 **Prepared By:** Rahul Jain**Prepared Date:** 10/27/2012

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	26	Right Angle:	0	0.0%	Fixed Object:	4	15.4%
Total Number of Fatalities:	1	Left Turn:	3	11.5%	Ran Off Road:	0	0.0%
Total Number of Injuries:	10	Right Turn:	1	3.8%	Ped. Involved:	1	3.8%
Total Number of Disabling Injuries:	0	Rear End:	10	38.5%	Backing:	0	0.0%
Total Number of NonDisabling Injuries:	2	Side Swiped:	2	7.7%	Non Collision:	0	0.0%
Total Number of Pedestrians Involved:	0	Head On:	2	7.7%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	1	Parked:	1	3.8%	Unspecified:	2	7.7%
Total Number of Motorcycles Involved:	1						

Time of Day	#ACC	%	Day of week	#ACC	%
07:30 ~ 09:30:	2	7.7%	Sunday:	7	26.9%
09:30 ~ 11:30:	1	3.8%	Monday:	2	7.7%
11:30 ~ 13:30:	2	7.7%	Tuesday:	1	3.8%
13:30 ~ 16:00:	7	26.9%	Wednesday:	4	15.4%
16:00 ~18:30:	4	15.4%	Thursday:	2	7.7%
18:30 ~ 07:30:	10	38.5%	Friday:	4	15.4%
Unspecified:	0	0.0%	Saturday:	6	23.1%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	20	76.9%	Dry:	19	73.1%
Rain:	5	19.2%	Wet:	6	23.1%
Snow:	0	0.0%	Snow/Ice:	0	0.0%
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	3.8%	Unspecified:	1	3.8%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	40	83.3%	Fatal Collision:	1	3.8%
Bus:	2	4.2%	Injury Collision:	10	38.5%
Truck:	1	2.1%	PDO Collision:	15	57.7%
Taxi:	0	0.0%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	0	0.0%	Daylight:	16	61.5%
Motorcycle/Moped:	1	2.1%	Dawn/Dusk:	0	0.0%
Bicycle:	1	2.1%	Dark(Lighted):	8	30.8%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	3	6.3%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	2	7.7%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	1	2.1%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	2	4.2%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	15	31.3%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	0	0.0%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	30	62.5%	Unspecified:	0	0.0%

17 Records are not approved as of 10/27/2013 3:56:17 PM

Accident Summary Report (R-8)

Corridor: 16TH ST,NW From LONGFELLOW ST,NW TO COLORADO AVE,NW

Time Period Covered: From 01/01/2004 To 12/31/2004

Prepared By: Rahul Jain

Prepared Date: 11/19/2013

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	10	Right Angle:	2	20.0%	Fixed Object:	0	0.0%
Total Number of Fatalities:	0	Left Turn:	1	10.0%	Ran Off Road:	0	0.0%
Total Number of Injuries:	3	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	0	Rear End:	5	50.0%	Backing:	0	0.0%
Total Number of NonDisabling Injuries:	0	Side Swiped:	0	0.0%	Non Collision:	0	0.0%
Total Number of Pedestrians Involved:	0	Head On:	0	0.0%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	0	Parked:	1	10.0%	Unspecified:	1	10.0%
Total Number of Motorcycles Involved:	0						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	2	20.0%	Sunday:	2	20.0%
09:30 ~ 11:30:	1	10.0%	Monday:	1	10.0%
11:30 ~ 13:30:	3	30.0%	Tuesday:	2	20.0%
13:30 ~ 16:00:	1	10.0%	Wednesday:	1	10.0%
16:00 ~18:30:	0	0.0%	Thursday:	0	0.0%
18:30 ~ 07:30:	3	30.0%	Friday:	1	10.0%
Unspecified:	0	0.0%	Saturday:	3	30.0%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	9	90.0%	Dry:	8	80.0%
Rain:	1	10.0%	Wet:	1	10.0%
Snow:	0	0.0%	Snow/Ice:	0	0.0%
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:	0	0.0%	Unspecified:	1	10.0%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	19	95.0%	Fatal Collision:	0	0.0%
Bus:	1	5.0%	Injury Collision:	3	30.0%
Truck:	0	0.0%	PDO Collision:	7	70.0%
Taxi:	0	0.0%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	0	0.0%	Daylight:	7	70.0%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	1	10.0%
Bicycle:	0	0.0%	Dark(Lighted):	0	0.0%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	0	0.0%	Dark(Unknown Lighting):	2	20.0%
			Unspecified:	0	0.0%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	1	5.0%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	0	0.0%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	5	25.0%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	0	0.0%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	14	70.0%	Unspecified:	0	0.0%

10 Records are not approved as of 11/19/2013 2:37:06 PM

Accident Summary Report (R-8)

Corridor: 16TH ST,NW From LONGFELLOW ST,NW TO COLORADO AVE,NW

Time Period Covered: From 01/01/2006 To 12/31/2006 **Prepared By:** Rahul Jain

Prepared Date: 11/19/2013

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	12	Right Angle:	0	0.0%	Fixed Object:	1	8.3%
Total Number of Fatalities:	0	Left Turn:	3	25.0%	Ran Off Road:	0	0.0%
Total Number of Injuries:	14	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	0	Rear End:	8	66.7%	Backing:	0	0.0%
Total Number of NonDisabling Injuries:	2	Side Swiped:	0	0.0%	Non Collision:	0	0.0%
Total Number of Pedestrians Involved:	0	Head On:	0	0.0%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	0	Parked:	0	0.0%	Unspecified:	0	0.0%
Total Number of Motorcycles Involved:	0						

Time of Day	#ACC	%	Day of week	#ACC	%
07:30 ~ 09:30:	1	8.3%	Sunday:	3	25.0%
09:30 ~ 11:30:	0	0.0%	Monday:	0	0.0%
11:30 ~ 13:30:	1	8.3%	Tuesday:	2	16.7%
13:30 ~ 16:00:	2	16.7%	Wednesday:	1	8.3%
16:00 ~18:30:	4	33.3%	Thursday:	3	25.0%
18:30 ~ 07:30:	4	33.3%	Friday:	0	0.0%
Unspecified:	0	0.0%	Saturday:	3	25.0%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	10	83.3%	Dry:	10	83.3%
Rain:	1	8.3%	Wet:	2	16.7%
Snow:	0	0.0%	Snow/Ice:	0	0.0%
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	8.3%	Unspecified:	0	0.0%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	28	100.0%	Fatal Collision:	0	0.0%
Bus:	0	0.0%	Injury Collision:	7	58.3%
Truck:	0	0.0%	PDO Collision:	5	41.7%
Taxi:	0	0.0%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	0	0.0%	Daylight:	8	66.7%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	1	8.3%
Bicycle:	0	0.0%	Dark(Lighted):	0	0.0%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	0	0.0%	Dark(Unknown Lighting):	3	25.0%
			Unspecified:	0	0.0%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	0	0.0%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	0	0.0%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	5	17.9%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	0	0.0%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	23	82.1%	Unspecified:	0	0.0%

12 Records are not approved as of 11/19/2013 2:38:16 PM