



District Department of Transportation

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

7700 Block 16th Street NW

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
4	401	4	4A	Existing	7700 Block 16 th Street Northwest Northbound



The existing speed camera is located in Ward 4 at the 7700 Block of 16th Street Northwest in the northbound direction. This site is located between the intersections of Jonquil Street Northwest and Juniper 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. The speed camera was installed on August 2001.

W4 - 10





District Department of Transportation

7700 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 median. It intersects Jonquil Street Northwest under signal control and Juniper Street Northwest under stop control. The speed camera location was marked but the camera was not on site during the field investigation. This site has the following characteristics:

- This site is located in a residential area with houses and driveways on both sides of the street.
- There is one school in the area: Shepherd Elementary School.
- There is a synagogue and a temple located on 16th Street NW near the site.
- A bike trail, Valley Trail, is located west of the site, and there is a recreational facility in the area.
- There is on-street parking and concrete sidewalks on both sides of the street.
- One bus stop at the south end of the block, and several bus stops exist in the area.
- The existing pavement is in good condition, and the drainage type is curb-and-gutter with catch basins.



Looking Northbound



District Department of Transportation
7700 Block 16th Street NW



Looking Southbound

Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	17
85th Percentile Speed (MPH)	22
10 MPH Pace Speed	14-23 MPH
ADT	11,574

The mean speed is 7 MPH lower than the posted speed limit, and the 85th percentile speed is 2 MPH higher than the posted speed limit.

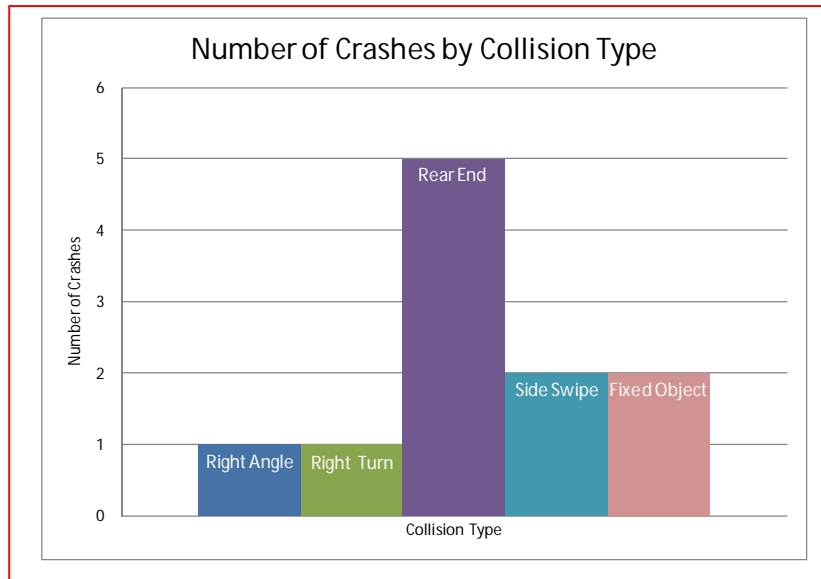
Crash Data Analysis

From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 11 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 (5 crashes). The other collision types had less than two crashes or less.



District Department of Transportation
7700 Block 16th Street NW

Severity			Weather			Surface condition			Light Condition		
Total	11										
Fatal	0	0.0%	Clear	10	90.9%	Dry	8	72.7%	Day	5	45.5%
Injury	3	27.3%	Rain	1	9.1%	Wet	1	9.1%	Night	4	36.4%
Truck	3	27.3%	Snow	0	0.0%	Slush	1	9.1%			
Police/EMS	1	9.1%									

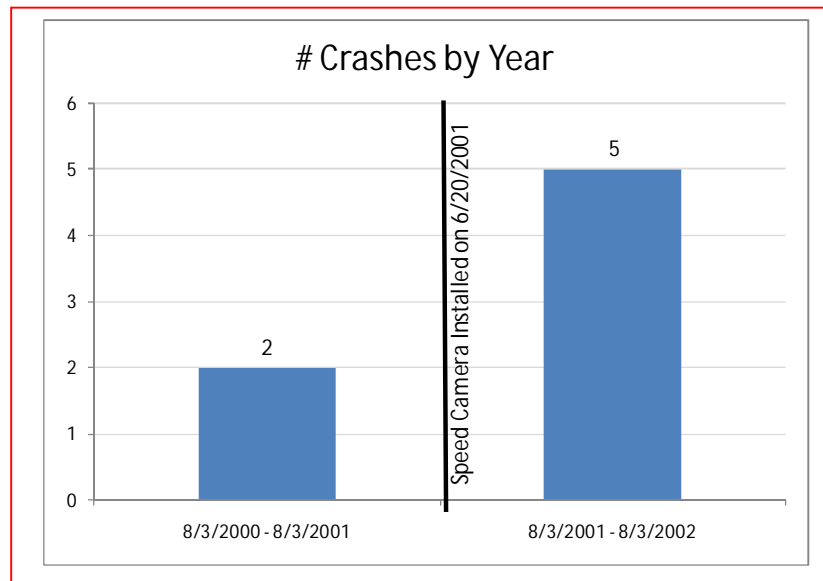


The speed camera was installed on 8-3-2001. The graph on the next page shows the number of crashes one year prior to the installation of the traffic camera (2 crashes) and one year after (5 crashes). There were one injury but no fatal crashes in the year prior to installing the camera while there were four injuries and no fatalities following the installation of the traffic camera. The number of crashes and injuries increased after the speed camera was installed.



District Department of Transportation

7700 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 85th percentile speed is 2 MPH higher than the posted speed limit.
2. Crash Data – There was a low number of crashes at this location, and there was an increase in the number of crashes since the installation of the speed camera. This may be an outlier and further analysis needs to be conducted.
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 and driveways on both sides of the street.
 - b. There is one school in the area: Shepherd Elementary School.
 - c. The Valley Trail is in the area which generates pedestrian and bicycle activity.
 - d. There are multiple bus stops in the area which generate pedestrian activity.
 - e. There are other buildings (a temple, a synagogue, and a recreational facility) in the area which generate pedestrian activity.

Although there were a low number of crashes at this location, and an increase in the number of crashes since the installation of the speed camera, this may be an outlier and further analysis needs to be conducted. However, due to the 85th percentile speeds, the specific site characteristic of a residential area, and the nearby pedestrian generator of a school, park, trail, bus stops and religious buildings, 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

7700 Block of 16th St NW NB 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
11/20/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	15	27	36	3	0	0	0	0	0	0	0	0	0	0	81
05:00	6	69	107	7	1	0	0	0	0	0	0	0	0	0	190
06:00	27	153	152	7	0	0	0	0	0	0	0	0	0	0	339
07:00	117	188	152	10	0	0	0	0	0	0	0	0	0	0	467
08:00	141	276	125	8	0	0	0	0	0	0	0	0	0	0	550
09:00	43	253	156	4	0	0	0	0	0	0	0	0	0	0	456
10:00	12	205	190	22	0	0	0	0	0	0	0	0	0	0	429
11:00	20	184	230	23	0	0	0	0	0	0	0	0	0	0	457
12 PM	66	215	257	21	0	0	0	0	0	0	0	0	0	0	559
13:00	48	215	256	35	0	0	0	0	0	0	0	0	0	0	554
14:00	37	248	374	23	2	0	0	0	0	0	0	0	0	0	684
15:00	84	292	370	12	0	0	0	0	0	0	0	0	0	0	758
16:00	126	341	335	11	0	0	0	0	0	0	0	0	0	0	813
17:00	475	284	46	2	0	0	0	0	0	0	0	0	0	0	807
18:00	454	305	93	1	0	0	0	0	0	0	0	0	0	0	853
19:00	152	455	99	0	0	0	0	0	0	0	0	0	0	0	706
20:00	57	501	143	0	0	0	0	0	0	0	0	0	0	0	701
21:00	57	478	117	1	0	0	0	0	0	0	0	0	0	0	653
22:00	11	224	315	8	0	0	0	0	0	0	0	0	0	0	558
23:00	8	137	276	7	3	0	0	0	0	0	0	0	0	0	431
Total	1956	5050	3829	205	6	0	0	0	0	0	0	0	0	0	11046

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

7700 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
11/21/13	3	39	163	6	0	0	0	0	0	0	0	0	0	0	211
01:00	1	25	97	8	2	0	0	0	0	0	0	0	0	0	133
02:00	2	12	89	8	0	0	0	0	0	0	0	0	0	0	111
03:00	15	8	43	4	3	0	0	0	0	0	0	0	0	0	73
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	21	84	392	26	5	0	0	0	0	0	0	0	0	0	528
Grand Total	1977	5134	4221	231	11	0	0	0	0	0	0	0	0	0	11574

15th Percentile : 9 MPH
 50th Percentile : 16 MPH
 85th Percentile : 22 MPH
 95th Percentile : 24 MPH

Stats
 Mean Speed(Average) : 17 MPH
 10 MPH Pace Speed : 14-23 MPH
 Number in Pace : 6691
 Percent in Pace : 57.8%
 Number of Vehicles > 30 MPH : 28
 Percent of Vehicles > 30 MPH : 0.2%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

7700 Block of 16th St NW NB Volume

Start Time	Wed 20-Nov-13		Thu 21-Nov-13		Fri 22-Nov-13		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	115	71	*	*	*	71	115
12:15	*	123	43	*	*	*	43	123
12:30	*	160	50	*	*	*	50	160
12:45	*	161	47	*	*	*	47	161
01:00	*	125	42	*	*	*	42	125
01:15	*	134	33	*	*	*	33	134
01:30	*	145	26	*	*	*	26	145
01:45	*	150	32	*	*	*	32	150
02:00	*	142	28	*	*	*	28	142
02:15	*	138	22	*	*	*	22	138
02:30	*	194	38	*	*	*	38	194
02:45	*	210	23	*	*	*	23	210
03:00	*	197	21	*	*	*	21	197
03:15	*	181	14	*	*	*	14	181
03:30	*	178	22	*	*	*	22	178
03:45	*	202	16	*	*	*	16	202
04:00	22	223	*	*	*	*	22	223
04:15	10	184	*	*	*	*	10	184
04:30	22	203	*	*	*	*	22	203
04:45	27	203	*	*	*	*	27	203
05:00	28	215	*	*	*	*	28	215
05:15	45	270	*	*	*	*	45	270
05:30	59	153	*	*	*	*	59	153
05:45	58	169	*	*	*	*	58	169
06:00	66	159	*	*	*	*	66	159
06:15	89	210	*	*	*	*	89	210
06:30	89	237	*	*	*	*	89	237
06:45	95	247	*	*	*	*	95	247
07:00	100	169	*	*	*	*	100	169
07:15	105	174	*	*	*	*	105	174
07:30	140	184	*	*	*	*	140	184
07:45	122	179	*	*	*	*	122	179
08:00	154	186	*	*	*	*	154	186
08:15	146	168	*	*	*	*	146	168
08:30	131	161	*	*	*	*	131	161
08:45	119	186	*	*	*	*	119	186
09:00	120	169	*	*	*	*	120	169
09:15	134	166	*	*	*	*	134	166
09:30	108	164	*	*	*	*	108	164
09:45	94	154	*	*	*	*	94	154
10:00	91	151	*	*	*	*	91	151
10:15	127	128	*	*	*	*	127	128
10:30	98	140	*	*	*	*	98	140
10:45	113	139	*	*	*	*	113	139
11:00	110	111	*	*	*	*	110	111
11:15	110	119	*	*	*	*	110	119
11:30	125	93	*	*	*	*	125	93
11:45	112	108	*	*	*	*	112	108
Total	2969	8077	528	0	0	0	3497	8077
Combined Total	11046		528		0		11574	
Peak	07:30	04:30	12:00				07:30	04:30
Vol.	562	891	211				562	891
P.H.F.	0.912	0.825	0.743				0.912	0.825
ADT	ADT 11,574		AADT 11,574					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: 16TH ST,NW From JONQUIL ST,NW TO IRIS 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:	1	9.1%	Fixed Object:	2	18.2%
Total Number of Injuries:	3	Left Turn:	0	0.0%	Ran Off Road:	0	0.0%
Total Number of Disabling Injuries:	0	Right Turn:	1	9.1%	Ped. Involved:	0	0.0%
Total Number of NonDisabling Injuries:	0	Rear End:	5	45.5%	Backing:	0	0.0%
Total Number of Pedestrians Involved:	0	Side Swiped:	2	18.2%	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:				0	0.0%	Sunday:	
09:30 ~ 11:30:				1	9.1%	Monday:	
11:30 ~ 13:30:				0	0.0%	Tuesday:	
13:30 ~ 16:00:				1	9.1%	Wednesday:	
16:00 ~18:30:				2	18.2%	Thursday:	
18:30 ~ 07:30:				7	63.6%	Friday:	
Unspecified:				0	0.0%	Saturday:	
Weather Condition				#ACC	%	Surface Condition	
Clear:				10	90.9%	Dry:	
Rain:				1	9.1%	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:				0	0.0%	Unspecified:	
Type of Vehicle				#VEH	%	Accident Severity Type	
Passenger Car:				15	71.4%	Fatal Collision:	
Bus:				0	0.0%	Injury Collision:	
Truck:				3	14.3%	PDO Collision:	
Taxi:				1	4.8%	Light Condition	
Minivan:				0	0.0%	Daylight:	
Police/Emergency Vehicle:				1	4.8%	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:				1	4.8%	Unspecified:	
Contributing Factor				#VEH	%	Pedestrian Actions	
Driver: Speed:				0	0.0%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				0	0.0%	In Crosswalk against Signal:	
Driver: Electronic Device:				1	4.8%	In Crosswalk no Signal:	
Driver: Others:				2	9.5%	In Unmarked Crosswalk:	
Vehicle:				0	0.0%	Not in Crosswalk:	
Roadway:				1	4.8%	From Between Parked Cars:	
Unspecified:				17	81.0%	Unspecified:	

7 Records are not approved as of 9/15/2013 12:46:09 PM

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: 16TH ST,NW From JONQUIL ST,NW TO IRIS ST,NW

Time Period Covered: From 08/02/2000 To 08/02/2001

Prepared By: Rahul Jain

Prepared Date: 11/19/201

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	2	Right Angle:	0	0.0%	Fixed Object:	1	50.0%
Total Number of Fatalities:	0	Left Turn:	0	0.0%	Ran Off Road:	0	0.0%
Total Number of Injuries:	0	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	0	Rear End:	0	0.0%	Backing:	0	0.0%
Total Number of NonDisabling Injuries:	1	Side Swiped:	1	50.0%	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	%
07:30 ~ 09:30:	0	0.0%
09:30 ~ 11:30:	1	50.0%
11:30 ~ 13:30:	0	0.0%
13:30 ~ 16:00:	0	0.0%
16:00 ~18:30:	0	0.0%
18:30 ~ 07:30:	1	50.0%
Unspecified:	0	0.0%

Day o fweek	#ACC	%
Sunday:	0	0.0%
Monday:	1	50.0%
Tuesday:	0	0.0%
Wednesday:	0	0.0%
Thursday:	0	0.0%
Friday:	1	50.0%
Saturday:	0	0.0%

Weather Condition	#ACC	%
Clear:	2	100.0%
Rain:	0	0.0%
Snow:	0	0.0%
Sleet/Hail:	0	0.0%
Fog/Mist:	0	0.0%
Crosswind/Blowing Sand:	0	0.0%
Unspecified:	0	0.0%

Surface Condition	#ACC	%
Dry:	2	100.0%
Wet:	0	0.0%
Snow/Ice:	0	0.0%
Slush:	0	0.0%
Water/Sand:	0	0.0%
Repairing:	0	0.0%
Unspecified:	0	0.0%

Type of Vehicle	#VEH	%
Passenger Car:	3	75.0%
Bus:	0	0.0%
Truck:	0	0.0%
Taxi:	0	0.0%
Minivan:	0	0.0%
Police/Emergency Vehicle:	0	0.0%
Motorcycle/Moped:	0	0.0%
Bicycle:	0	0.0%
Fixed Object:	1	25.0%
Unspecified:	0	0.0%

Accident Severity Type	#ACC	%
Fatal Collision:	0	0.0%
Injury Collision:	0	0.0%
PDO Collision:	2	100.0%

Light Condition	#ACC	%
Daylight:	1	50.0%
Dawn/Dusk:	0	0.0%
Dark(Lighted):	0	0.0%
Dark(Not Lighted):	0	0.0%
Dark(Unknown Lighting):	1	50.0%
Unspecified:	0	0.0%

Contributing Factor	#VEH	%
Driver: Speed:	0	0.0%
Driver: Alcohol/Drug:	0	0.0%
Driver: Electronic Device:	0	0.0%
Driver: Others:	2	50.0%
Vehicle:	0	0.0%
Roadway:	0	0.0%
Unspecified:	2	50.0%

Pedestrian Actions	#ACC	%
In Crosswalk with Signal:	0	0.0%
In Crosswalk against Signal:	0	0.0%
In Crosswalk no Signal:	0	0.0%
In Unmarked Crosswalk:	0	0.0%
Not in Crosswalk:	0	0.0%
From Between Parked Cars:	0	0.0%
Unspecified:	0	0.0%

2 Records are not approved as of 11/19/2013 1:25:18 PM

Accident Summary Report (R-8)

Corridor: 16TH ST,NW From JONQUIL ST,NW TO IRIS ST,NW

Time Period Covered: From 08/03/2001 To 08/03/2002

Prepared By: Rahul Jain

Prepared Date: 11/19/201

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	5	Right Angle:	1	20.0%	Fixed Object:	0	0.0%
Total Number of Fatalities:	0	Left Turn:	0	0.0%	Ran Off Road:	0	0.0%
Total Number of Injuries:	4	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	0	Rear End:	0	0.0%	Backing:	0	0.0%
Total Number of NonDisabling Injuries:	3	Side Swiped:	2	40.0%	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	20.0%	Unspecified:	1	20.0%
Total Number of Motorcycles Involved:	0						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	1	20.0%	Sunday:	0	0.0%
09:30 ~ 11:30:	1	20.0%	Monday:	0	0.0%
11:30 ~ 13:30:	0	0.0%	Tuesday:	1	20.0%
13:30 ~ 16:00:	0	0.0%	Wednesday:	2	40.0%
16:00 ~18:30:	0	0.0%	Thursday:	1	20.0%
18:30 ~ 07:30:	3	60.0%	Friday:	0	0.0%
Unspecified:	0	0.0%	Saturday:	1	20.0%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	5	100.0%	Dry:	5	100.0%
Rain:	0	0.0%	Wet:	0	0.0%
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:	0	0.0%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	6	60.0%	Fatal Collision:	0	0.0%
Bus:	1	10.0%	Injury Collision:	2	40.0%
Truck:	3	30.0%	PDO Collision:	3	60.0%
Taxi:	0	0.0%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	0	0.0%	Daylight:	2	40.0%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	1	20.0%
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	40.0%
			Unspecified:	0	0.0%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	1	10.0%	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:	2	20.0%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	0	0.0%
Roadway:	1	10.0%	From Between Parked Cars:	0	0.0%
Unspecified:	6	60.0%	Unspecified:	0	0.0%

5 Records are not approved as of 11/19/2013 1:26:32 PM