



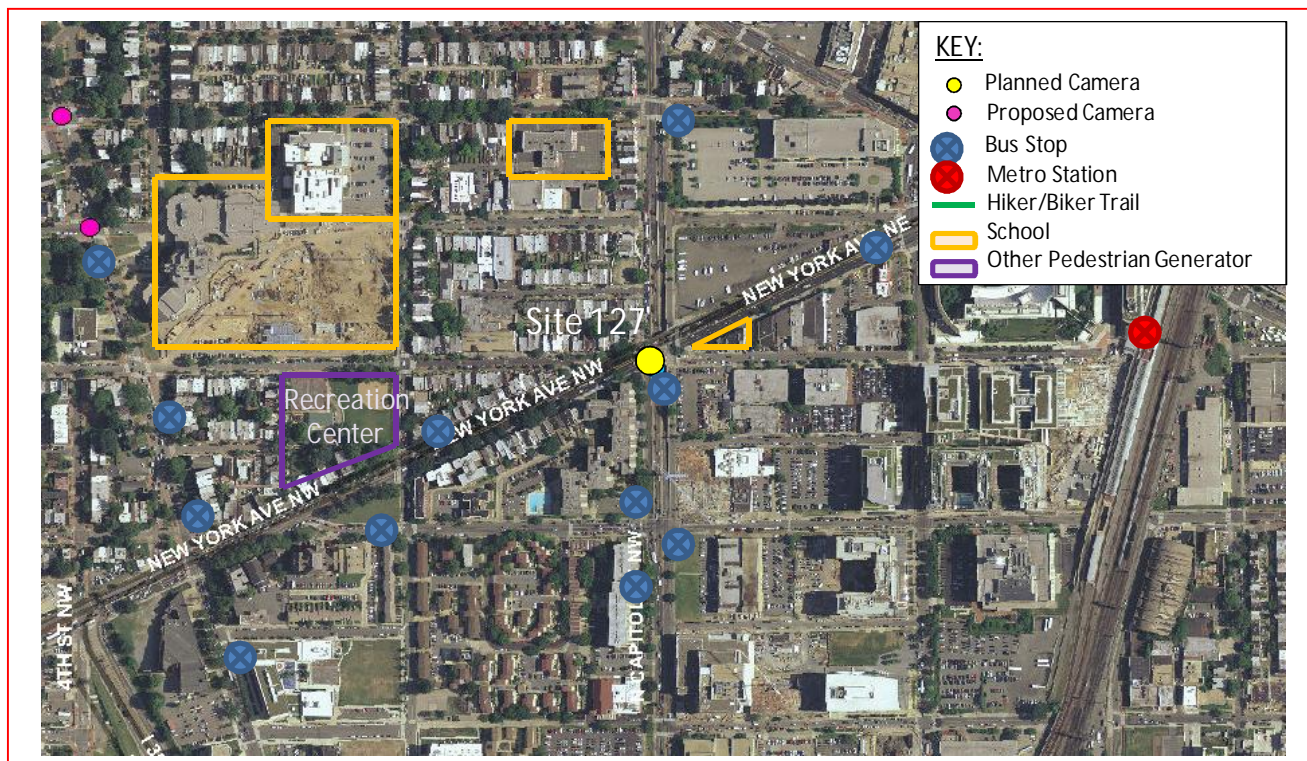
District Department of Transportation

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

### New York Avenue at North Capitol Street NE

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
5	501/502/506	5 & 6	5C/6C	Planned	New York Avenue Southwest-bound at North Capitol Street Northeast



This *planned* speed camera is located in Wards 5 & 6 at the intersection of New York Avenue Northeast and North Capitol Street Northeast. New York Avenue Northeast starts from the interchange of DC295 from the east and ends at North Capitol Street Northeast and continues to the west, where it becomes New York Avenue Northwest. The posted speed limit is 30 MPH.

WO - 52





District Department of Transportation

## New York Avenue at North Capitol Street NE

### Field Assessment Summary

New York Avenue Northeast is assumed to run in an east-west direction, and is classified as Principal Arterial. New York Avenue Northeast has three travel lanes in each direction with a left turn lane approaching North Capitol Street Northeast in the southwest bound direction. North Capitol Street Northeast has one shared left-through lane with a right turn lane on both directions. The existing speed camera is located at the northeast corner in the southwest bound direction. This site has the following characteristics:

- The site is in a residential and commercial area with businesses on both sides of the street.
- There are two schools, JF Cook Elementary School, Dunbar High School, that are located on the westerly side of the area. Also, the Center City Public Charter School is located on the south side of New York Avenue Northeast.
- Dunbar Recreational Center and New York Avenue playground are located also in the same vicinity.
- The site is an existing traffic signal with intersection lighting, pedestrian indications, ramps and hatched crosswalks.
- Concrete sidewalks are on both sides of the street.
- There is no on-street parking on both sides of the street.
- There is a posted "Photo Enforced" sign on the north end of the block.
- The drainage structure is curb-and-gutter with fair pavement condition.



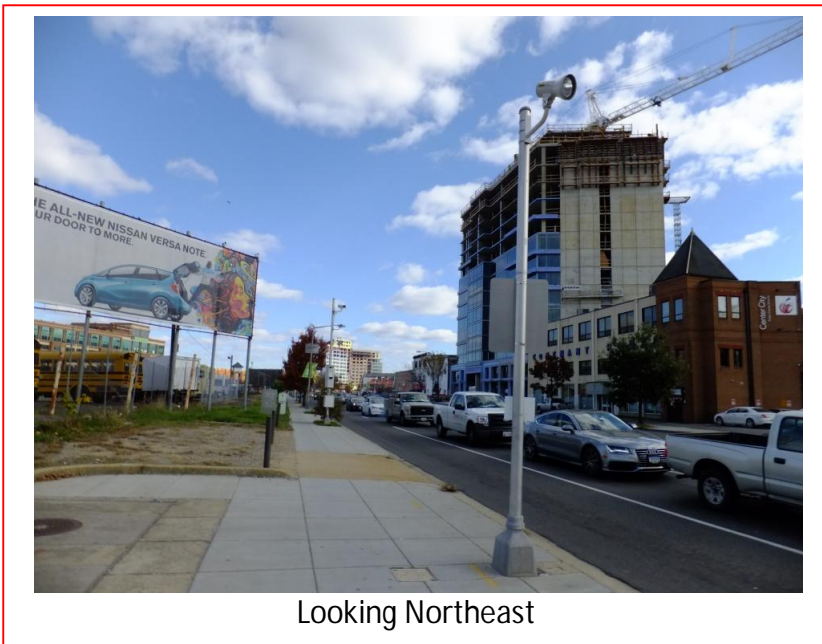
Looking Southwest





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## New York Avenue at North Capitol Street NE



Looking Northeast

### Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	18
85th Percentile Speed (MPH)	29
10 MPH Pace Speed	5-14
ADT	13,675

The mean speed and 85<sup>th</sup> percentile speed are both lower than the posted speed limit at this location. The 85<sup>th</sup> percentile speed is 1 MPH lower than the posted speed limit.

### Crash Data Analysis

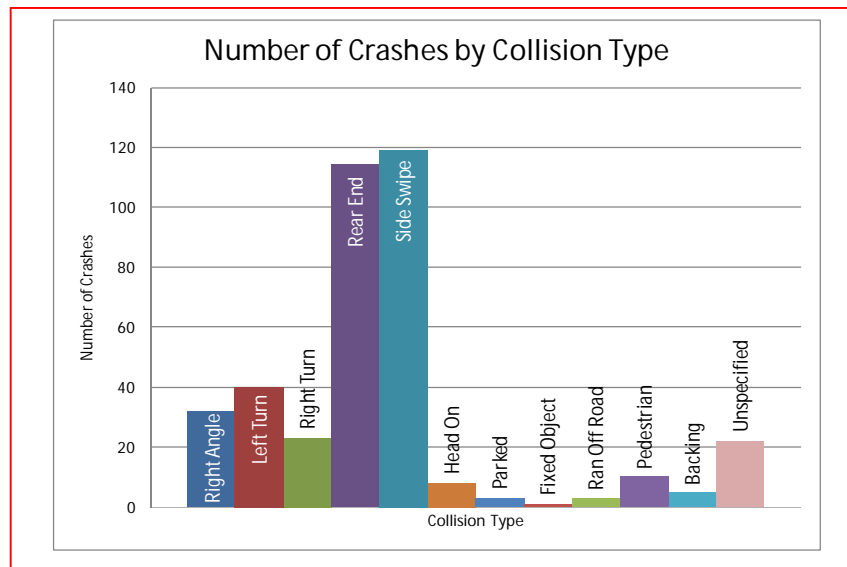
From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 380 crashes at this location. A breakdown of number of crashes by collision type can be found in the chart on the next page. The most common types of collision at this location were Side Swipe (119 crashes), Rear End (114 crashes), Left Turn (40 crashes), and Right Angle (32 crashes). Furthermore, this site experienced a high frequency (109 crashes) of injury-related crashes.



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## New York Avenue at North Capitol Street NE

Severity			Weather			Surface condition			Light Condition		
Total	380										
Fatal	1	0.3%	Clear	314	82.6%	Dry	315	82.9%	Day	249	65.5%
Injury	109	28.7%	Rain	36	9.5%	Wet	46	12.1%	Night	118	31.1%
Truck	58	15.3%	Snow	5	1.3%	Repairing	2	0.5%			
Bus	34	8.9%									



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. There were also a high number in pedestrian crashes at this location. “A pedestrian hit at 40 mph has an 85 percent chance of being killed; at 30 mph the risk is reduced to 45 percent; at 20 mph the risk is reduced to 5 percent.”<sup>2</sup>

This location is listed in the Top 20 Hazardous Intersections by Crash Frequency from 2009 to 2011, according to the report *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*<sup>3</sup>. The North Capitol St and New York Ave Corridors are listed as two 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*

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

<sup>2</sup> AASHTO Highway Safety Manual, 1<sup>st</sup> Edition, 2010; Volume 1, page 2-14

<sup>3</sup> DDOT, *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*, pg. 69.



District Department of Transportation

## New York Avenue at North Capitol Street NE

(2009-2011)<sup>4</sup>. This site is listed as one of the top five percent high accident locations in the District from 2010 to 2012.<sup>5</sup>

### 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 speed data analysis shows travel speeds being lower than the posted speed limit.
2. Crash Data – There was an elevated number of speed related crashes at this location, including Rear End and Side Swipe collisions, as well as a high frequency (109 crashes) of injury related crashes. This location is listed in the Top 20 Hazardous Intersections by Crash Frequency from 2009 to 2011. The North Capitol St and New York Ave Corridors are listed as two of the top ten high frequency crash corridors from 2009 to 2011. This site is listed as one of the top five percent high accident locations in the District from 2010 to 2012.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
  - a. The site is in a residential and commercial area with businesses on both sides of the street.
  - b. There are three schools in the area; JF Cook Elementary School, Dunbar High School, and the Center City Public Charter School that generates pedestrian activities.
  - c. This is the Dunbar Recreational Center and New York Avenue Northeast playground which generates pedestrian and bicycle activities

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, the specific site characteristics, the proximity of schools to the site, and other pedestrian generators, there is a nexus between traffic safety and the speed camera at this location.

<sup>4</sup> DDOT, *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*, pg 80.

<sup>5</sup> DDOT, Top 5% High Accident Locations Map for 2010-2012

# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

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

## New York Ave SWB at North Capitol St NE Speed

SWB	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
11/20/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	11	8	24	66	54	21	5	4	0	0	0	0	0	0	193
04:00	24	18	79	103	102	44	19	6	2	0	0	0	0	0	397
05:00	113	23	172	234	174	41	8	2	0	0	0	0	0	0	767
06:00	116	42	245	267	135	36	3	0	0	0	0	0	0	0	844
07:00	373	47	30	23	7	0	0	0	0	0	0	0	0	0	480
08:00	297	96	118	74	14	2	0	0	0	0	0	0	0	0	601
09:00	436	41	33	9	3	0	0	0	0	0	0	0	0	0	522
10:00	173	105	243	250	91	14	4	2	0	0	0	0	0	0	882
11:00	178	98	251	199	79	16	2	0	0	0	0	0	0	0	823
12 PM	306	129	216	122	42	7	0	0	0	0	0	0	0	0	822
13:00	322	97	170	105	38	5	2	1	0	0	0	0	0	0	740
14:00	403	93	70	55	16	1	0	0	0	0	0	0	0	0	638
15:00	329	0	0	0	1	0	0	0	0	0	0	0	0	0	330
16:00	319	142	158	79	19	3	0	0	0	0	0	0	0	0	720
17:00	246	165	224	161	69	11	1	0	0	0	0	0	0	0	877
18:00	181	138	232	222	91	17	1	0	0	0	0	0	0	0	882
19:00	144	118	190	215	68	15	4	1	0	0	0	0	0	0	755
20:00	42	46	155	135	102	26	5	0	0	0	0	0	0	0	511
21:00	24	37	137	208	98	22	4	2	0	0	0	0	0	0	532
22:00	46	35	100	187	109	38	10	0	1	0	0	0	0	0	526
23:00	28	24	83	129	69	27	8	1	0	0	0	0	0	0	369
Total	4111	1502	2930	2843	1381	346	76	19	3	0	0	0	0	0	13211

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## New York Ave SWB at North Capitol St NE Speed

### SWB

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
11/21/13	5	3	40	80	73	20	6	0	0	1	0	0	0	0	228
01:00	3	2	19	53	40	11	1	2	0	2	0	0	0	0	133
02:00	1	4	23	38	26	7	3	1	0	0	0	0	0	0	103
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	9	9	82	171	139	38	10	3	0	3	0	0	0	0	464
Grand Total	4120	1511	3012	3014	1520	384	86	22	3	3	0	0	0	0	13675

15th Percentile : 6 MPH  
 50th Percentile : 17 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 33 MPH

Stats  
 Mean Speed(Average) : 18 MPH  
 10 MPH Pace Speed : 5-14 MPH  
 Number in Pace : 5035  
 Percent in Pace : 36.8%  
 Number of Vehicles > 30 MPH : 1695  
 Percent of Vehicles > 30 MPH : 12.4%

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## New York Ave SWB at North Capitol St NE Volume

Start Time	20-Nov-13		21-Nov-13		22-Nov-13		Daily Average	
	Wed A.M.	P.M.	Thu A.M.	P.M.	Fri A.M.	P.M.	A.M.	P.M.
12:00	*	252	94	*	*	*	94	252
12:15	*	198	59	*	*	*	59	198
12:30	*	186	34	*	*	*	34	186
12:45	*	186	41	*	*	*	41	186
01:00	*	184	39	*	*	*	39	184
01:15	*	154	40	*	*	*	40	154
01:30	*	196	25	*	*	*	25	196
01:45	*	206	29	*	*	*	29	206
02:00	*	172	30	*	*	*	30	172
02:15	*	196	21	*	*	*	21	196
02:30	*	183	24	*	*	*	24	183
02:45	*	87	28	*	*	*	28	87
03:00	44	79	*	*	*	*	44	79
03:15	33	73	*	*	*	*	33	73
03:30	61	89	*	*	*	*	61	89
03:45	55	89	*	*	*	*	55	89
04:00	70	172	*	*	*	*	70	172
04:15	74	176	*	*	*	*	74	176
04:30	130	169	*	*	*	*	130	169
04:45	123	203	*	*	*	*	123	203
05:00	164	242	*	*	*	*	164	242
05:15	154	217	*	*	*	*	154	217
05:30	211	223	*	*	*	*	211	223
05:45	238	195	*	*	*	*	238	195
06:00	217	225	*	*	*	*	217	225
06:15	208	224	*	*	*	*	208	224
06:30	228	207	*	*	*	*	228	207
06:45	191	226	*	*	*	*	191	226
07:00	158	209	*	*	*	*	158	209
07:15	107	173	*	*	*	*	107	173
07:30	126	192	*	*	*	*	126	192
07:45	89	181	*	*	*	*	89	181
08:00	112	133	*	*	*	*	112	133
08:15	163	142	*	*	*	*	163	142
08:30	155	115	*	*	*	*	155	115
08:45	171	121	*	*	*	*	171	121
09:00	129	133	*	*	*	*	129	133
09:15	119	140	*	*	*	*	119	140
09:30	136	125	*	*	*	*	136	125
09:45	138	134	*	*	*	*	138	134
10:00	208	106	*	*	*	*	208	106
10:15	233	131	*	*	*	*	233	131
10:30	254	139	*	*	*	*	254	139
10:45	187	150	*	*	*	*	187	150
11:00	218	112	*	*	*	*	218	112
11:15	157	93	*	*	*	*	157	93
11:30	265	92	*	*	*	*	265	92
11:45	183	72	*	*	*	*	183	72
Total	5509	7702	464	0	0	0	5973	7702
Combined Total	13211		464		0		13675	
Peak	10:15	04:45	12:00				10:15	04:45
Vol.	892	885	228				892	885
P.H.F.	0.878	0.914	0.606				0.878	0.914
ADT	ADT 13,675		AADT 13,675					



DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** NEW YORK AVE,NW,NE From FIRST ST,NE TO FIRST ST,NW

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

**Prepared Date:** 10/8/2013

Total Number of Accident:	380	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Fatalities:	1	Right Angle:	32	8.4%	Fixed Object:	1	0.3%
Total Number of Injuries:	161	Left Turn:	40	10.5%	Ran Off Road:	3	0.8%
Total Number of Disabling Injuries:	7	Right Turn:	23	6.1%	Ped. Involved:	10	2.6%
Total Number of NonDisabling Injuries:	24	Rear End:	114	30.0%	Backing:	5	1.3%
Total Number of Pedestrians Involved:	10	Side Swiped:	119	31.3%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	3	Head On:	8	2.1%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	5	Parked:	3	0.8%	Unspecified:	22	5.8%
<b>Time of Day</b>				<b>Day of week</b>			
	<b>#ACC</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
07:30 ~ 09:30:	42	11.1%		Sunday:	50	13.2%	
09:30 ~ 11:30:	25	6.6%		Monday:	46	12.1%	
11:30 ~ 13:30:	46	12.1%		Tuesday:	40	10.5%	
13:30 ~ 16:00:	77	20.3%		Wednesday:	52	13.7%	
16:00 ~ 18:30:	57	15.0%		Thursday:	56	14.7%	
18:30 ~ 07:30:	133	35.0%		Friday:	63	16.6%	
Unspecified:	0	0.0%		Saturday:	73	19.2%	
<b>Weather Condition</b>				<b>Surface Condition</b>			
	<b>#ACC</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
Clear:	314	82.6%		Dry:	315	82.9%	
Rain:	36	9.5%		Wet:	46	12.1%	
Snow:	5	1.3%		Snow/Ice:	0	0.0%	
Sleet/Hail:	1	0.3%		Slush:	0	0.0%	
Fog/Mist:	2	0.5%		Water/Sand:	0	0.0%	
Crosswind/Blowing Sand:	3	0.8%		Repairing:	2	0.5%	
Unspecified:	19	5.0%		Unspecified:	17	4.5%	
<b>Type of Vehicle</b>				<b>Accident Severity Type</b>			
	<b>#VEH</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
Passenger Car:	548	71.7%		Fatal Collision:	1	0.3%	
Bus:	34	4.5%		Injury Collision:	109	28.7%	
Truck:	58	7.6%		PDO Collision:	270	71.1%	
Taxi:	33	4.3%		<b>Light Condition</b>			
Minivan:	0	0.0%			<b>#ACC</b>	<b>%</b>	
Police/Emergency Vehicle:	12	1.6%		Daylight:	249	65.5%	
Motorcycle/Moped:	5	0.7%		Dawn/Dusk:	0	0.0%	
Bicycle:	3	0.4%		Dark(Lighted):	116	30.5%	
Fixed Object:	0	0.0%		Dark(Not Lighted):	2	0.5%	
Unspecified:	71	9.3%		Dark(Unknown Lighting):	0	0.0%	
				Unspecified:	13	3.4%	
<b>Contributing Factor</b>				<b>Pedestrian Actions</b>			
	<b>#VEH</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
Driver: Speed:	8	1.0%		In Crosswalk with Signal:	0	0.0%	
Driver: Alcohol/Drug:	8	1.0%		In Crosswalk against Signal:	1	10.0%	
Driver: Electronic Device:	0	0.0%		In Crosswalk no Signal:	0	0.0%	
Driver: Others:	144	18.8%		In Unmarked Crosswalk:	0	0.0%	
Vehicle:	3	0.4%		Not in Crosswalk:	4	40.0%	
Roadway:	7	0.9%		From Between Parked Cars:	0	0.0%	
Unspecified:	594	77.7%		Unspecified:	5	50.0%	

258 Records are not approved as of 10/8/2013 3:27:26 PM