



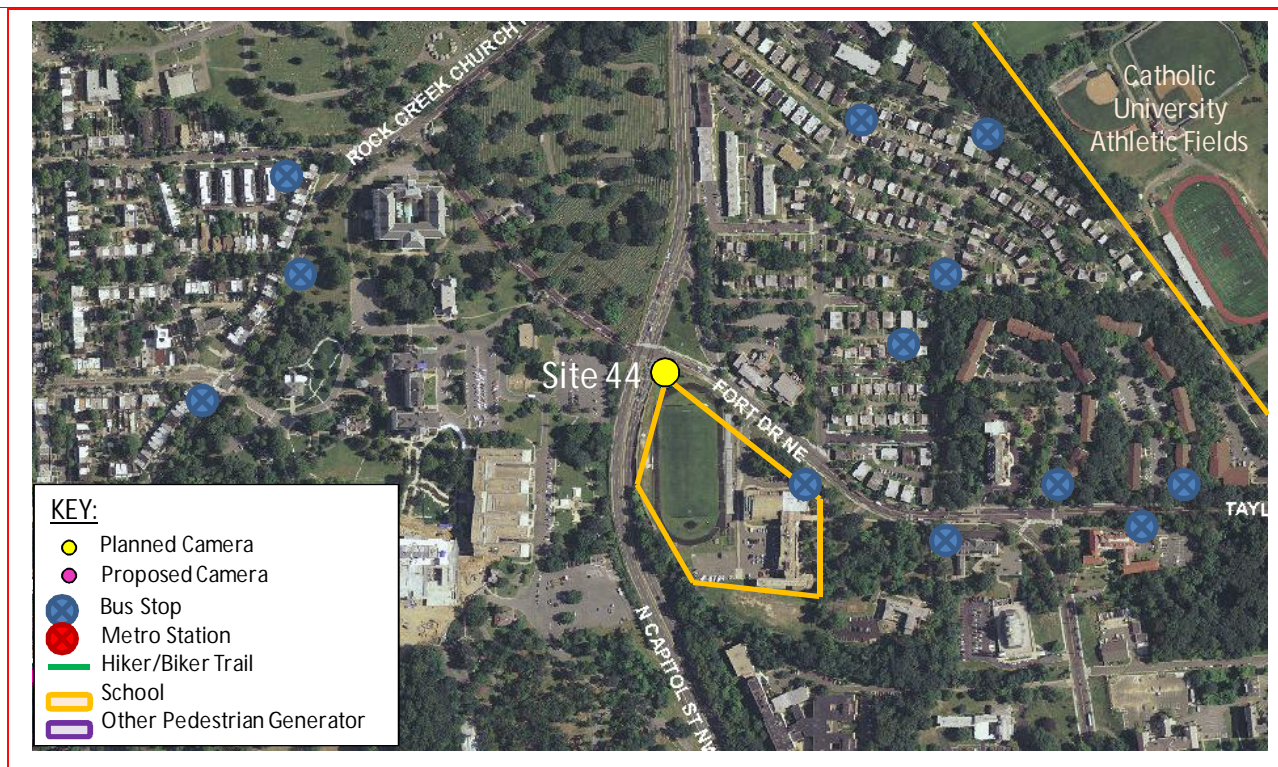
District Department of Transportation

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

### North Capitol Street at Harewood Road NE

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
4	405	5	5C	Planned	North Capitol Street Northbound at Harewood Road Northeast



This *planned* speed camera will be located in Ward 5 at the intersection of North Capitol Street and Harewood Road Northeast and is for the northbound traffic. North Capitol Street runs between Harewood Road to the north and Louisiana Avenue to the south. The posted speed limit is 35 MPH.

W5 - 187





District Department of Transportation

## North Capitol Street at Harewood Road NE

### Field Assessment Summary

North Capitol Street is assumed to run in the North-South direction, and is classified as a principle arterial. North Capitol Street has two travel lanes in each direction. This site has the following characteristics:

- This is a residential area with apartments near the site.
- The roadway pavement is in good condition with curb and gutter drainage features.
- There is a curbed median that has grass.
- There are no sidewalks along North Capitol Street but there is a sidewalk on one side of Harewood Road.
- There is a free right turn movement from NB North Capitol Street to EB Harewood Road and a left turn lane from SB North Capitol Street to EB Harewood Road.
- There are two schools in the area: Archbishop Carroll High School and Catholic University.
- The speed camera is located just south of the intersection for the northbound traffic.



N. Capitol St. @ Harewood Road



District Department of Transportation

## North Capitol Street at Harewood Road NE



Looking Southbound

### Speed Data Analysis

Posted Speed Limit (MPH)	35
Mean Speed (MPH)	37
85th Percentile Speed (MPH)	44
10 MPH Pace Speed (MPH)	34-43
ADT	16,649

The mean speed is 2 MPH higher than the posted speed limit and the 85<sup>th</sup> percentile speed is 9 MPH higher than the posted speed limit.

### Crash Data Analysis

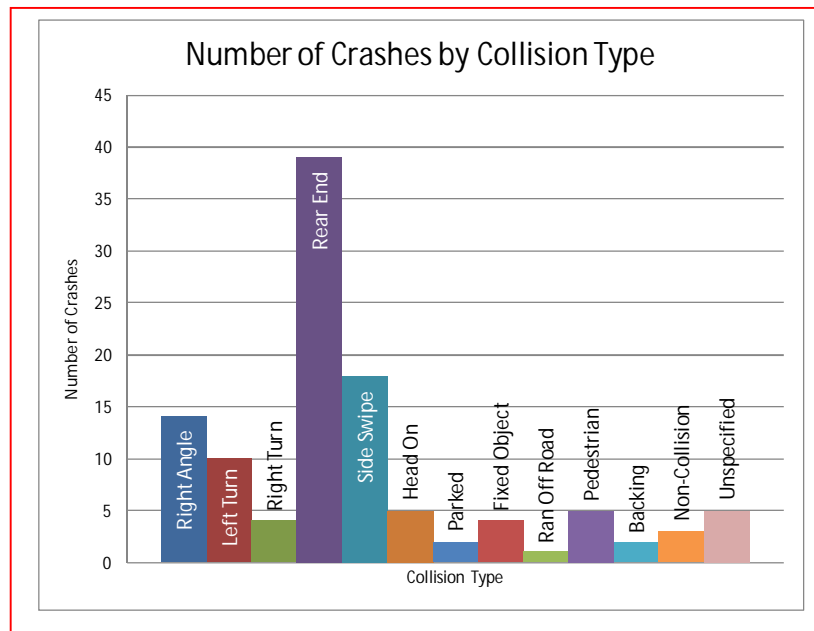
From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 112 crashes at this location. A breakdown of number of crashes by collision type can be found in the chart on the next page. This location also experienced a high frequency (46 crashes) of injury-related crashes. Furthermore, the crash data shows that there were seven (7) crashes where vehicular speeding was the contributing factor.

W5 - 189



## North Capitol Street at Harewood Road NE

Severity			Weather			Surface condition			Light Condition		
Total	112										
Fatal	0	0.0%	Clear	85	75.9%	Dry	86	76.8%	Day	69	61.6%
Injury	46	41.1%	Rain	17	15.2%	Wet	18	16.1%	Night	32	28.6%
Truck	13	11.6%	Snow	2	1.8%	Snow/Ice	1	0.9%			
Taxi	8	7.1%									



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.

The North Capitol 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)*<sup>2</sup>.

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

<sup>2</sup> DDOT, TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011), pg.80.



District Department of Transportation

## North Capitol Street at Harewood Road NE

### 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 85<sup>th</sup> percentile speed is much higher than the posted speed limit at this location.
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 (46 crashes) of injury related crashes. There were also seven (7) crashes where vehicular speeding was the contributing factor. The North Capitol 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. There are two schools in the area: Catholic University and Archbishop Carroll High School.
  - b. There are multiple bus stops in the area which generate pedestrian activity.

Due to the speed data analysis, the elevated number of speed-related crashes and injury-related crashes, the specific site characteristics, and pedestrian generators, 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](http://www.sammateng.com)

## North Capitol St NB at Harewood Rd NE 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
11/11/13	10	0	0	10	54	80	42	11	5	3	0	0	0	0	215
01:00	6	1	1	17	47	59	32	14	3	3	1	0	0	0	184
02:00	3	0	0	6	38	48	30	10	5	0	0	0	0	0	140
03:00	1	0	1	11	27	37	21	9	4	1	0	1	1	1	115
04:00	8	0	0	7	18	37	32	13	5	2	1	1	0	0	124
05:00	9	0	0	15	48	87	60	26	10	2	0	1	0	0	258
06:00	17	0	3	11	72	149	129	48	21	4	3	1	0	0	458
07:00	35	0	2	14	93	333	253	103	24	3	0	0	0	0	860
08:00	48	0	1	10	105	328	224	97	17	3	0	0	0	0	833
09:00	23	0	6	8	88	231	184	91	20	2	1	1	0	0	655
10:00	30	0	1	12	112	252	204	66	23	2	1	0	0	0	703
11:00	34	0	4	17	114	322	215	76	20	2	1	1	0	0	806
12 PM	43	1	1	10	147	306	242	96	22	2	0	0	0	0	870
13:00	38	1	0	12	129	347	229	82	25	9	3	2	0	0	877
14:00	69	1	4	21	165	385	296	124	33	7	1	2	0	0	1108
15:00	79	0	1	41	288	528	288	76	26	4	2	0	2	0	1335
16:00	90	6	16	46	311	503	265	84	23	6	0	0	0	0	1350
17:00	65	0	7	100	426	429	221	61	9	5	0	1	0	0	1324
18:00	44	0	5	48	336	369	182	43	11	1	0	1	0	0	1040
19:00	41	0	4	40	233	326	167	46	14	1	4	0	0	0	876
20:00	29	0	1	42	156	260	143	34	11	2	0	0	0	0	678
21:00	22	0	2	29	146	228	126	46	15	2	0	1	0	0	617
22:00	19	0	1	39	124	202	120	43	5	2	0	1	0	1	557
23:00	18	0	3	26	116	211	137	37	9	3	0	1	0	0	561
Total	781	10	64	592	3393	6057	3842	1336	360	71	18	15	3	2	16544

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1515 RISING RIDGE ROAD  
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## North Capitol St NB at Harewood Rd NE Speed

NB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/12/13	2	0	0	5	35	36	15	8	3	1	0	0	0	0	105
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	2	0	0	5	35	36	15	8	3	1	0	0	0	0	105
Grand Total	783	10	64	597	3428	6093	3857	1344	363	72	18	15	3	2	16649

15th Percentile : 30 MPH  
 50th Percentile : 37 MPH  
 85th Percentile : 44 MPH  
 95th Percentile : 48 MPH

Stats  
 Mean Speed(Average) : 37 MPH  
 10 MPH Pace Speed : 34-43 MPH  
 Number in Pace : 9422  
 Percent in Pace : 56.6%  
 Number of Vehicles > 35 MPH : 11027  
 Percent of Vehicles > 35 MPH : 66.2%

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## North Capitol St NB at Harewood Rd NE 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	*	205	105	*	*	*	105	205
12:15	90	229	*	*	*	*	90	229
12:30	74	198	*	*	*	*	74	198
12:45	51	238	*	*	*	*	51	238
01:00	44	210	*	*	*	*	44	210
01:15	55	213	*	*	*	*	55	213
01:30	41	221	*	*	*	*	41	221
01:45	44	233	*	*	*	*	44	233
02:00	34	273	*	*	*	*	34	273
02:15	32	253	*	*	*	*	32	253
02:30	38	283	*	*	*	*	38	283
02:45	36	299	*	*	*	*	36	299
03:00	27	319	*	*	*	*	27	319
03:15	25	329	*	*	*	*	25	329
03:30	33	364	*	*	*	*	33	364
03:45	30	323	*	*	*	*	30	323
04:00	32	354	*	*	*	*	32	354
04:15	31	317	*	*	*	*	31	317
04:30	25	<b>337</b>	*	*	*	*	25	<b>337</b>
04:45	36	<b>342</b>	*	*	*	*	36	<b>342</b>
05:00	42	<b>358</b>	*	*	*	*	42	<b>358</b>
05:15	53	<b>349</b>	*	*	*	*	53	<b>349</b>
05:30	76	333	*	*	*	*	76	333
05:45	87	284	*	*	*	*	87	284
06:00	92	256	*	*	*	*	92	256
06:15	109	288	*	*	*	*	109	288
06:30	117	248	*	*	*	*	117	248
06:45	140	248	*	*	*	*	140	248
07:00	177	219	*	*	*	*	177	219
07:15	206	218	*	*	*	*	206	218
07:30	<b>251</b>	222	*	*	*	*	<b>251</b>	222
07:45	<b>226</b>	217	*	*	*	*	<b>226</b>	217
08:00	<b>223</b>	185	*	*	*	*	<b>223</b>	185
08:15	<b>223</b>	192	*	*	*	*	<b>223</b>	192
08:30	186	170	*	*	*	*	186	170
08:45	201	131	*	*	*	*	201	131
09:00	164	157	*	*	*	*	164	157
09:15	153	167	*	*	*	*	153	167
09:30	173	177	*	*	*	*	173	177
09:45	165	116	*	*	*	*	165	116
10:00	161	151	*	*	*	*	161	151
10:15	188	176	*	*	*	*	188	176
10:30	200	132	*	*	*	*	200	132
10:45	154	98	*	*	*	*	154	98
11:00	197	141	*	*	*	*	197	141
11:15	177	149	*	*	*	*	177	149
11:30	230	156	*	*	*	*	230	156
11:45	202	115	*	*	*	*	202	115
Total	5351	11193	105	0	0	0	5456	11193
Combined Total	16544		105		0		16649	
Peak	07:30	04:30					07:30	04:30
Vol.	923	1386					923	1386
P.H.F.	0.919	0.952					0.919	0.952
ADT	ADT 16,649		AADT 16,649					



**Accident Summary Report (R-8)****Corridor:** CLERMONT DR,NE From FORT DR,BN TO WEBSTER ST,NE**Time Period Covered:** From 01/01/2010 To 12/31/2012**Prepared By:** Rahul Jain**Prepared Date:** 10/6/2013

		<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Accident:	20	Right Angle:	7	35.0%	Fixed Object:	0	0.0%
Total Number of Fatalities:	0	Left Turn:	1	5.0%	Ran Off Road:	0	0.0%
Total Number of Injuries:	4	Right Turn:	1	5.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	0	Rear End:	7	35.0%	Backing:	0	0.0%
Total Number of NonDisabling Injuries:	0	Side Swiped:	1	5.0%	Non Collision:	1	5.0%
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:	2	10.0%
Total Number of Motorcycles Involved:	0						

<b>Time of Day</b>	<b>#ACC</b>	<b>%</b>	<b>Day o fweek</b>	<b>#ACC</b>	<b>%</b>
07:30 ~ 09:30:	1	5.0%	Sunday:	1	5.0%
09:30 ~ 11:30:	1	5.0%	Monday:	3	15.0%
11:30 ~ 13:30:	3	15.0%	Tuesday:	3	15.0%
13:30 ~ 16:00:	6	30.0%	Wednesday:	3	15.0%
16:00 ~18:30:	2	10.0%	Thursday:	2	10.0%
18:30 ~ 07:30:	7	35.0%	Friday:	5	25.0%
Unspecified:	0	0.0%	Saturday:	3	15.0%

<b>Weather Condition</b>	<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	<b>#ACC</b>	<b>%</b>
Clear:	14	70.0%	Dry:	14	70.0%
Rain:	3	15.0%	Wet:	3	15.0%
Snow:	1	5.0%	Snow/Ice:	1	5.0%
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:	2	10.0%	Unspecified:	2	10.0%

<b>Type of Vehicle</b>	<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	<b>#ACC</b>	<b>%</b>
Passenger Car:	36	83.7%	Fatal Collision:	0	0.0%
Bus:	0	0.0%	Injury Collision:	3	15.0%
Truck:	0	0.0%	PDO Collision:	17	85.0%
Taxi:	3	7.0%			
Minivan:	0	0.0%	<b>Light Condition</b>	<b>#ACC</b>	<b>%</b>
Police/Emergency Vehicle:	0	0.0%	Daylight:	11	55.0%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	2	10.0%
Bicycle:	0	0.0%	Dark(Lighted):	5	25.0%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	4	9.3%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	2	10.0%

<b>Contributing Factor</b>	<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	<b>#ACC</b>	<b>%</b>
Driver: Speed:	1	2.3%	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:	11	25.6%	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:	31	72.1%	Unspecified:	0	0.0%

12 Records are not approved as of 10/6/2013 4:27:57 PM

DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** NORTH CAPITOL ST,BN From CLERMONT DR,BN TO MICHIGAN AVE,BN

**Time Period Covered:** From 01/01/2010 To 12/31/2012

**Prepared By:** Rahul Jain

**Prepared Date:** 10/6/2013

Total Number of Accident:	92	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Fatalities:	0	Right Angle:	7	7.6%	Fixed Object:	4	4.3%
Total Number of Injuries:	60	Left Turn:	9	9.8%	Ran Off Road:	1	1.1%
Total Number of Disabling Injuries:	6	Right Turn:	3	3.3%	Ped. Involved:	5	5.4%
Total Number of NonDisabling Injuries:	9	Rear End:	32	34.8%	Backing:	2	2.2%
Total Number of Pedestrians Involved:	3	Side Swiped:	17	18.5%	Non Collision:	2	2.2%
Total Number of Bicycles Involved:	2	Head On:	5	5.4%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	3	Parked:	2	2.2%	Unspecified:	3	3.3%
<b>Time of Day</b>				<b>Day of week</b>			
	<b>#ACC</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
07:30 ~ 09:30:	9	9.8%		Sunday:	6	6.5%	
09:30 ~ 11:30:	11	12.0%		Monday:	15	16.3%	
11:30 ~ 13:30:	7	7.6%		Tuesday:	13	14.1%	
13:30 ~ 16:00:	12	13.0%		Wednesday:	21	22.8%	
16:00 ~ 18:30:	20	21.7%		Thursday:	11	12.0%	
18:30 ~ 07:30:	33	35.9%		Friday:	15	16.3%	
Unspecified:	0	0.0%		Saturday:	11	12.0%	
<b>Weather Condition</b>				<b>Surface Condition</b>			
	<b>#ACC</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
Clear:	71	77.2%		Dry:	72	78.3%	
Rain:	14	15.2%		Wet:	15	16.3%	
Snow:	1	1.1%		Snow/Ice:	0	0.0%	
Sleet/Hail:	0	0.0%		Slush:	0	0.0%	
Fog/Mist:	1	1.1%		Water/Sand:	0	0.0%	
Crosswind/Blowing Sand:	0	0.0%		Repairing:	0	0.0%	
Unspecified:	5	5.4%		Unspecified:	5	5.4%	
<b>Type of Vehicle</b>				<b>Accident Severity Type</b>			
	<b>#VEH</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
Passenger Car:	144	80.4%		Fatal Collision:	0	0.0%	
Bus:	3	1.7%		Injury Collision:	43	46.7%	
Truck:	13	7.3%		PDO Collision:	49	53.3%	
Taxi:	5	2.8%		<b>Light Condition</b>			
Minivan:	0	0.0%			<b>#ACC</b>	<b>%</b>	
Police/Emergency Vehicle:	1	0.6%		Daylight:	58	63.0%	
Motorcycle/Moped:	3	1.7%		Dawn/Dusk:	3	3.3%	
Bicycle:	2	1.1%		Dark(Lighted):	26	28.3%	
Fixed Object:	0	0.0%		Dark(Not Lighted):	1	1.1%	
Unspecified:	8	4.5%		Dark(Unknown Lighting):	0	0.0%	
				Unspecified:	4	4.3%	
<b>Contributing Factor</b>				<b>Pedestrian Actions</b>			
	<b>#VEH</b>	<b>%</b>			<b>#ACC</b>	<b>%</b>	
Driver: Speed:	7	3.9%		In Crosswalk with Signal:	1	50.0%	
Driver: Alcohol/Drug:	1	0.6%		In Crosswalk against Signal:	0	0.0%	
Driver: Electronic Device:	0	0.0%		In Crosswalk no Signal:	0	0.0%	
Driver: Others:	34	19.0%		In Unmarked Crosswalk:	0	0.0%	
Vehicle:	1	0.6%		Not in Crosswalk:	0	0.0%	
Roadway:	0	0.0%		From Between Parked Cars:	0	0.0%	
Unspecified:	136	76.0%		Unspecified:	1	50.0%	

63 Records are not approved as of 10/6/2013 4:31:37 PM