



District Department of Transportation

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

1800 Block Rhode Island Avenue NE

Study Area and Location

| District | PSA | Ward | ANC | Phase | Description |
|----------|-----|------|-------|----------|---|
| 5 | 504 | 5 | 5A/5B | Proposed | 1800 Block Rhode Island Avenue Northeast Southwest-bound |



This *proposed* speed camera will be located in Ward 5 at the 1800 block of Rhode Island Avenue Northeast in the southwest-bound direction. Rhode Island Avenue Northeast runs between North Capitol Street Northeast to the west and to Eastern Avenue Northeast where it becomes US 1 to the east. The posted speed limit is 30 MPH.

W5 - 448



District Department of Transportation

55 M Street, SE, Suite 400

Washington, DC 20003



District Department of Transportation

1800 Block Rhode Island Avenue NE

Field Assessment Summary

Rhode Island Avenue Northeast is assumed to run in the east-west direction, and is classified as a principal arterial. Rhode Island Avenue Northeast has three travel lanes in each direction. This site has the following characteristics:

- The site is in a residential and commercial area with houses, stores, and driveways on both sides of the street.
- There are two schools in this area: Langdon Education Campus and Center City Public Charter School. The Woodridge Regional Public Library and Langdon Park are also in the area.
- There are sidewalks with curb and gutter on both sides of the street, and a grassy median with curb and gutter in the center of the street.
- There is an existing traffic signal and crosswalks with pedestrian signals at the intersection of 18th Street Northeast.
- One existing bus stop is located on the south end of the block as well as others in the surrounding area.



Looking Northeast-bound

W5 - 449



District Department of Transportation

1800 Block Rhode Island Avenue NE



Looking Southwest-bound

Speed Data Analysis

| | |
|-----------------------------|--------|
| Posted Speed Limit (MPH) | 30 |
| Mean Speed (MPH) | 30 |
| 85th Percentile Speed (MPH) | 52 |
| 10 MPH Pace Speed (MPH) | 4-13 |
| ADT | 10,635 |

The mean speed is the same as the posted speed limit and the 85th percentile speed is 22 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 63 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 Rear End (16 crashes), Side Swipe (12 crashes), Right Angle (9 crashes), Left Turn (7 crashes) and Pedestrian Involved (6 crashes). Furthermore, this site experienced a high frequency (28 crashes) of injury-related crashes.

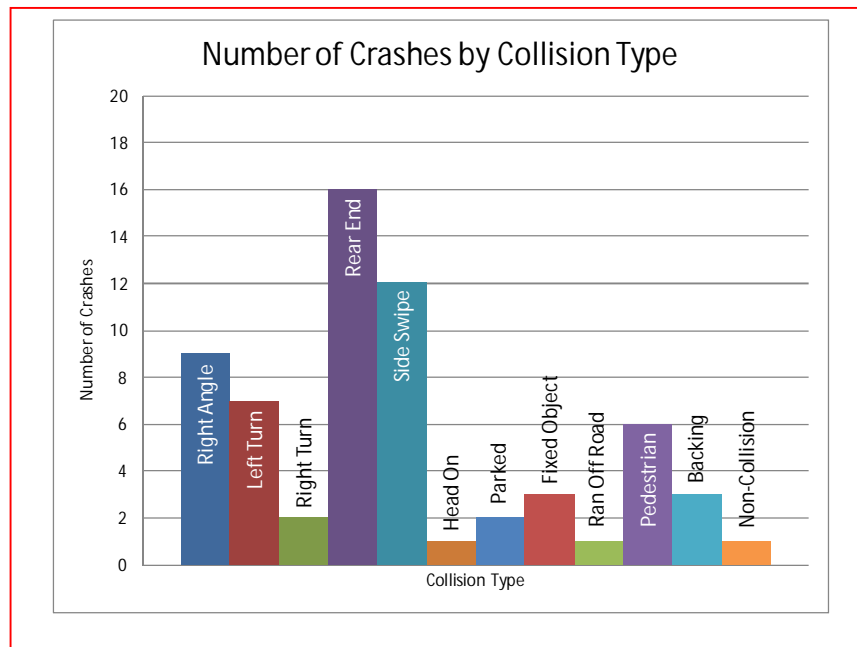
W5 - 450



District Department of Transportation

1800 Block Rhode Island Avenue NE

| Severity | | | Weather | | | Surface Condition | | | Light Condition | | |
|------------|----|-------|---------|----|-------|-------------------|----|-------|-----------------|----|-------|
| Total | 63 | | | | | | | | | | |
| Fatal | 0 | 0.0% | Clear | 46 | 73.0% | Dry | 47 | 74.6% | Day | 47 | 74.6% |
| Injury | 28 | 44.4% | Rain | 10 | 15.9% | Wet | 12 | 19.0% | Night | 16 | 25.4% |
| Truck | 5 | 7.9% | Snow | 1 | 1.6% | Snow/Ice | 1 | 1.6% | | | |
| Police/EMS | 13 | 20.6% | | | | | | | | | |



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”¹ 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.”²

¹ AASHTO Highway Safety Manual, 1st Edition, 2010; Volume 1, page 2-13

² AASHTO Highway Safety Manual, 1st Edition, 2010; Volume 1, page 2-14



District Department of Transportation

1800 Block Rhode Island Avenue NE

The Rhode Island Avenue 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)*³.

Safety Nexus

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

1. Speed Data – The 85th 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, right angle, and side swipe collisions, as well as a high frequency (28 crashes) of injury-related crashes. There were also a high number in pedestrian crashes at this location. The Rhode Island Avenue 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 in a residential and commercial area with houses, stores, and driveways on both sides of the street.
 - b. There are two schools in this area: Langdon Education Campus and Center City Public Charter School.
 - c. The Woodbridge Regional Public Library and Langdon Park are also in the area which generates pedestrian activity.
 - d. 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 and pedestrian-involved 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.

³ *DDOT, TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011), pg. 80.*

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

1800 block of Rhode Island Ave NE SWB 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 |
|------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-------|
| 11/13/13 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 01:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 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 | 16 | 0 | 1 | 7 | 20 | 51 | 57 | 56 | 51 | 23 | 12 | 7 | 0 | 0 | 301 |
| 22:00 | 7 | 0 | 0 | 5 | 18 | 33 | 37 | 51 | 37 | 21 | 11 | 5 | 2 | 2 | 229 |
| 23:00 | 2 | 0 | 2 | 6 | 13 | 15 | 22 | 27 | 14 | 11 | 13 | 4 | 2 | 1 | 132 |
| Total | 25 | 0 | 3 | 18 | 51 | 99 | 116 | 134 | 102 | 55 | 36 | 16 | 4 | 3 | 662 |

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

1800 block of Rhode Island Ave NE SWB 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 |
|-------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-------|
| 11/14/13 | 1 | 0 | 2 | 2 | 7 | 7 | 15 | 26 | 7 | 9 | 4 | 1 | 0 | 0 | 81 |
| 01:00 | 0 | 0 | 1 | 4 | 5 | 5 | 5 | 5 | 7 | 8 | 5 | 0 | 0 | 1 | 46 |
| 02:00 | 0 | 1 | 2 | 3 | 6 | 8 | 13 | 6 | 8 | 7 | 2 | 1 | 0 | 0 | 57 |
| 03:00 | 0 | 0 | 0 | 1 | 10 | 6 | 9 | 17 | 13 | 4 | 0 | 2 | 0 | 0 | 62 |
| 04:00 | 4 | 0 | 0 | 2 | 14 | 7 | 13 | 19 | 37 | 13 | 12 | 2 | 3 | 0 | 126 |
| 05:00 | 41 | 0 | 0 | 6 | 10 | 28 | 46 | 75 | 65 | 56 | 39 | 25 | 9 | 30 | 430 |
| 06:00 | 146 | 2 | 4 | 16 | 15 | 49 | 82 | 126 | 153 | 114 | 82 | 66 | 42 | 102 | 999 |
| 07:00 | 253 | 5 | 10 | 38 | 67 | 164 | 200 | 254 | 181 | 109 | 92 | 61 | 32 | 69 | 1535 |
| 08:00 | 206 | 2 | 17 | 31 | 86 | 143 | 218 | 225 | 175 | 143 | 85 | 53 | 37 | 46 | 1467 |
| 09:00 | 90 | 4 | 6 | 29 | 61 | 126 | 128 | 150 | 132 | 85 | 72 | 37 | 16 | 32 | 968 |
| 10:00 | 79 | 6 | 12 | 54 | 90 | 144 | 94 | 67 | 39 | 17 | 7 | 6 | 3 | 0 | 618 |
| 11:00 | 105 | 11 | 20 | 50 | 88 | 89 | 77 | 51 | 30 | 15 | 11 | 4 | 3 | 4 | 558 |
| 12 PM | 216 | 3 | 8 | 22 | 70 | 67 | 65 | 48 | 16 | 8 | 3 | 4 | 2 | 5 | 537 |
| 13:00 | 255 | 5 | 11 | 12 | 53 | 62 | 44 | 26 | 18 | 3 | 1 | 2 | 0 | 0 | 492 |
| 14:00 | 344 | 5 | 10 | 19 | 41 | 47 | 37 | 34 | 11 | 8 | 2 | 1 | 2 | 4 | 565 |
| 15:00 | 432 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 433 |
| 16:00 | 482 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 482 |
| 17:00 | 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 425 |
| 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:00 | 92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 92 |
| 21:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 22:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 23:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Total | 3171 | 44 | 103 | 289 | 623 | 953 | 1046 | 1129 | 892 | 599 | 417 | 265 | 149 | 293 | 9973 |
| Grand Total | 3196 | 44 | 106 | 307 | 674 | 1052 | 1162 | 1263 | 994 | 654 | 453 | 281 | 153 | 296 | 10635 |

15th Percentile : 6 MPH
 50th Percentile : 31 MPH
 85th Percentile : 52 MPH
 95th Percentile : 62 MPH

Stats
 Mean Speed(Average) : 30 MPH
 10 MPH Pace Speed : 4-13 MPH
 Number in Pace : 3737
 Percent in Pace : 36.1%
 Number of Vehicles > 30 MPH : 5292
 Percent of Vehicles > 30 MPH : 51.2%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

1800 block of Rhode Island Ave NE SWB 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 | * | * | | 19 | 150 | | * | * | 19 | 150 | |
| 12:15 | * | * | | 25 | 164 | | * | * | 25 | 164 | |
| 12:30 | * | * | | 18 | 137 | | * | * | 18 | 137 | |
| 12:45 | * | * | | 19 | 86 | | * | * | 19 | 86 | |
| 01:00 | * | * | | 12 | 133 | | * | * | 12 | 133 | |
| 01:15 | * | * | | 10 | 114 | | * | * | 10 | 114 | |
| 01:30 | * | * | | 14 | 122 | | * | * | 14 | 122 | |
| 01:45 | * | * | | 10 | 123 | | * | * | 10 | 123 | |
| 02:00 | * | * | | 13 | 128 | | * | * | 13 | 128 | |
| 02:15 | * | * | | 11 | 151 | | * | * | 11 | 151 | |
| 02:30 | * | * | | 19 | 169 | | * | * | 19 | 169 | |
| 02:45 | * | * | | 14 | 117 | | * | * | 14 | 117 | |
| 03:00 | * | * | | 19 | 100 | | * | * | 19 | 100 | |
| 03:15 | * | * | | 19 | 86 | | * | * | 19 | 86 | |
| 03:30 | * | * | | 14 | 137 | | * | * | 14 | 137 | |
| 03:45 | * | * | | 10 | 110 | | * | * | 10 | 110 | |
| 04:00 | * | * | | 23 | 120 | | * | * | 23 | 120 | |
| 04:15 | * | * | | 23 | 125 | | * | * | 23 | 125 | |
| 04:30 | * | * | | 35 | 126 | | * | * | 35 | 126 | |
| 04:45 | * | * | | 45 | 111 | | * | * | 45 | 111 | |
| 05:00 | * | * | | 57 | 119 | | * | * | 57 | 119 | |
| 05:15 | * | * | | 97 | 126 | | * | * | 97 | 126 | |
| 05:30 | * | * | | 147 | 124 | | * | * | 147 | 124 | |
| 05:45 | * | * | | 129 | 56 | | * | * | 129 | 56 | |
| 06:00 | * | * | | 168 | 0 | | * | * | 168 | 0 | |
| 06:15 | * | * | | 219 | 0 | | * | * | 219 | 0 | |
| 06:30 | * | * | | 288 | 0 | | * | * | 288 | 0 | |
| 06:45 | * | * | | 324 | 0 | | * | * | 324 | 0 | |
| 07:00 | * | * | | 337 | 0 | | * | * | 337 | 0 | |
| 07:15 | * | * | | 399 | 0 | | * | * | 399 | 0 | |
| 07:30 | * | * | | 410 | 0 | | * | * | 410 | 0 | |
| 07:45 | * | * | | 389 | 0 | | * | * | 389 | 0 | |
| 08:00 | * | * | | 425 | 0 | | * | * | 425 | 0 | |
| 08:15 | * | * | | 386 | 0 | | * | * | 386 | 0 | |
| 08:30 | * | * | | 357 | 30 | | * | * | 357 | 30 | |
| 08:45 | * | * | | 299 | 62 | | * | * | 299 | 62 | |
| 09:00 | * | 59 | | 278 | * | | * | * | 278 | 59 | |
| 09:15 | * | 85 | | 255 | * | | * | * | 255 | 85 | |
| 09:30 | * | 84 | | 229 | * | | * | * | 229 | 84 | |
| 09:45 | * | 73 | | 206 | * | | * | * | 206 | 73 | |
| 10:00 | * | 62 | | 174 | * | | * | * | 174 | 62 | |
| 10:15 | * | 64 | | 178 | * | | * | * | 178 | 64 | |
| 10:30 | * | 54 | | 134 | * | | * | * | 134 | 54 | |
| 10:45 | * | 49 | | 132 | * | | * | * | 132 | 49 | |
| 11:00 | * | 33 | | 146 | * | | * | * | 146 | 33 | |
| 11:15 | * | 35 | | 124 | * | | * | * | 124 | 35 | |
| 11:30 | * | 40 | | 137 | * | | * | * | 137 | 40 | |
| 11:45 | * | 24 | | 151 | * | | * | * | 151 | 24 | |
| Total | 0 | 662 | | 6947 | 3026 | | 0 | 0 | 6947 | 3688 | |
| Combined Total | 662 | | | 9973 | | | 0 | | 10635 | | |
| Peak | | 09:15 | | 07:15 | 01:45 | | | | 07:15 | 01:45 | |
| Vol. | | 304 | | 1623 | 571 | | | | 1623 | 571 | |
| P.H.F. | | 0.894 | | 0.955 | 0.845 | | | | 0.955 | 0.845 | |
| ADT | | ADT 10,635 | | AADT 10,635 | | | | | | | |

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: RHODE ISLAND AVE,NW,NE From IRVING ST,NE TO GIRARD ST,NE

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

Prepared Date: 11/25/2012

| | | Collision Type | #ACC | % | Collision Type | #ACC | % |
|--|----|-----------------------|-------------|----------|-----------------------|-------------|----------|
| Total Number of Accident: | 63 | Right Angle: | 9 | 14.3% | Fixed Object: | 3 | 4.8% |
| Total Number of Fatalities: | 0 | Left Turn: | 7 | 11.1% | Ran Off Road: | 1 | 1.6% |
| Total Number of Injuries: | 34 | Right Turn: | 2 | 3.2% | Ped. Involved: | 6 | 9.5% |
| Total Number of Disabling Injuries: | 1 | Rear End: | 16 | 25.4% | Backing: | 3 | 4.8% |
| Total Number of NonDisabling Injuries: | 9 | Side Swiped: | 12 | 19.0% | Non Collision: | 1 | 1.6% |
| Total Number of Pedestrians Involved: | 4 | Head On: | 1 | 1.6% | Under/Over Ride: | 0 | 0.0% |
| Total Number of Bicycles Involved: | 2 | Parked: | 2 | 3.2% | Unspecified: | 0 | 0.0% |
| Total Number of Motorcycles Involved: | 2 | | | | | | |

| Time of Day | #ACC | % | Day of week | #ACC | % |
|--------------------|-------------|----------|--------------------|-------------|----------|
| 07:30 ~ 09:30: | 9 | 14.3% | Sunday: | 7 | 11.1% |
| 09:30 ~ 11:30: | 6 | 9.5% | Monday: | 4 | 6.3% |
| 11:30 ~ 13:30: | 9 | 14.3% | Tuesday: | 11 | 17.5% |
| 13:30 ~ 16:00: | 7 | 11.1% | Wednesday: | 16 | 25.4% |
| 16:00 ~ 18:30: | 12 | 19.0% | Thursday: | 7 | 11.1% |
| 18:30 ~ 07:30: | 20 | 31.7% | Friday: | 12 | 19.0% |
| Unspecified: | 0 | 0.0% | Saturday: | 6 | 9.5% |

| Weather Condition | #ACC | % | Surface Condition | #ACC | % |
|--------------------------|-------------|----------|--------------------------|-------------|----------|
| Clear: | 46 | 73.0% | Dry: | 47 | 74.6% |
| Rain: | 10 | 15.9% | Wet: | 12 | 19.0% |
| Snow: | 1 | 1.6% | Snow/Ice: | 1 | 1.6% |
| Sleet/Hail: | 0 | 0.0% | Slush: | 1 | 1.6% |
| Fog/Mist: | 1 | 1.6% | Water/Sand: | 0 | 0.0% |
| Crosswind/Blowing Sand: | 0 | 0.0% | Repairing: | 0 | 0.0% |
| Unspecified: | 5 | 7.9% | Unspecified: | 2 | 3.2% |

| Type of Vehicle | #VEH | % | Accident Severity Type | #ACC | % |
|---------------------------|-------------|----------|-------------------------------|-------------|----------|
| Passenger Car: | 88 | 71.0% | Fatal Collision: | 0 | 0.0% |
| Bus: | 2 | 1.6% | Injury Collision: | 28 | 44.4% |
| Truck: | 5 | 4.0% | PDO Collision: | 35 | 55.6% |
| Taxi: | 5 | 4.0% | | | |
| Minivan: | 0 | 0.0% | Light Condition | #ACC | % |
| Police/Emergency Vehicle: | 13 | 10.5% | Daylight: | 47 | 74.6% |
| Motorcycle/Moped: | 2 | 1.6% | Dawn/Dusk: | 0 | 0.0% |
| Bicycle: | 2 | 1.6% | Dark(Lighted): | 15 | 23.8% |
| Fixed Object: | 0 | 0.0% | Dark(Not Lighted): | 1 | 1.6% |
| Unspecified: | 7 | 5.6% | Dark(Unknown Lighting): | 0 | 0.0% |
| | | | Unspecified: | 0 | 0.0% |

| Contributing Factor | #VEH | % | Pedestrian Actions | #ACC | % |
|----------------------------|-------------|----------|------------------------------|-------------|----------|
| Driver: Speed: | 1 | 0.8% | In Crosswalk with Signal: | 1 | 25.0% |
| Driver: Alcohol/Drug: | 2 | 1.6% | In Crosswalk against Signal: | 0 | 0.0% |
| Driver: Electronic Device: | 0 | 0.0% | In Crosswalk no Signal: | 0 | 0.0% |
| Driver: Others: | 26 | 21.0% | In Unmarked Crosswalk: | 1 | 25.0% |
| Vehicle: | 0 | 0.0% | Not in Crosswalk: | 1 | 25.0% |
| Roadway: | 1 | 0.8% | From Between Parked Cars: | 0 | 0.0% |
| Unspecified: | 94 | 75.8% | Unspecified: | 1 | 25.0% |

37 Records are not approved as of 11/25/2013 5:25:16 PM