



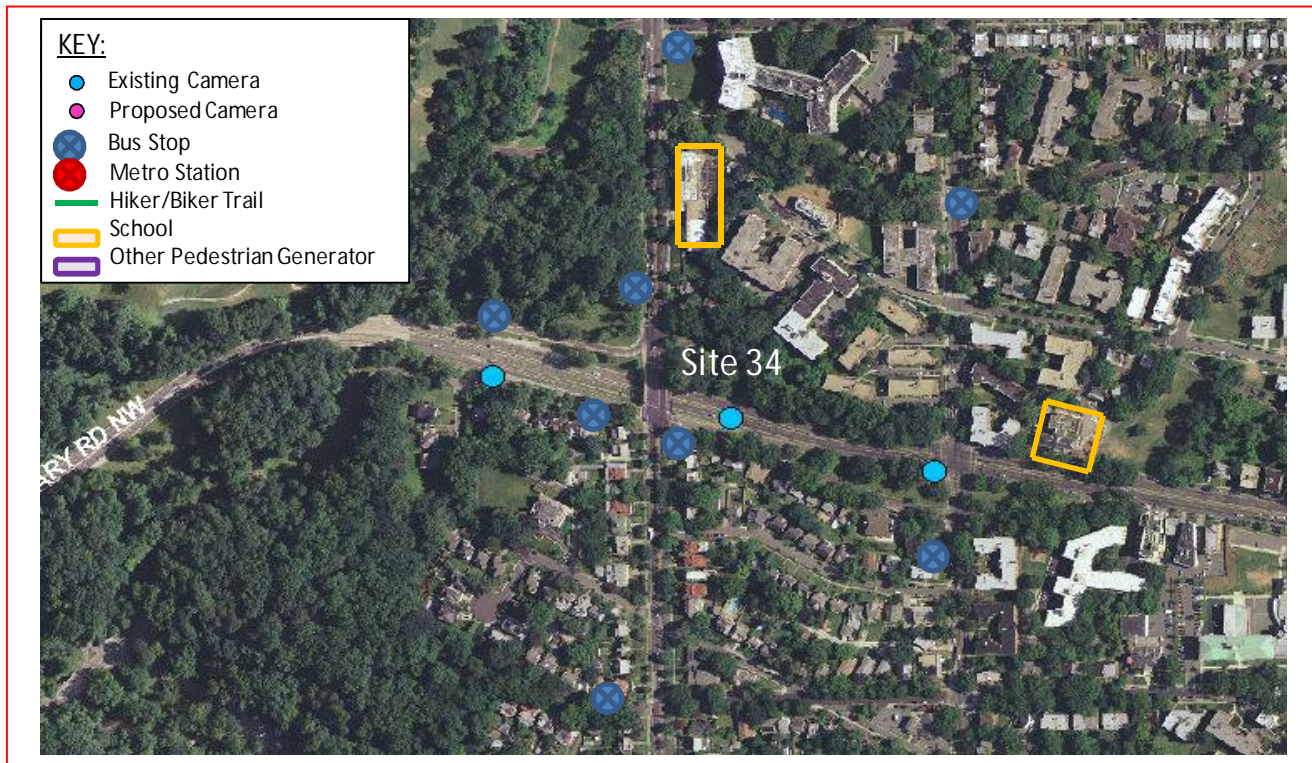
District Department of Transportation

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

Military Rd 0.2 Miles West of 16th Street Ramp NW

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
4	403	4	4A	Existing	Military Road 0.2 Miles West of 16 th Street Ramp Northwest Southwest-bound



This existing speed camera is located in Ward 4 on Military Road 0.2 miles west of the 16th Street Ramp Northwest in the Southwest-bound direction. Military Road runs between Wisconsin Avenue Northwest to the west and Georgia Avenue Northwest to the east. The posted speed limit is 35 MPH. The speed camera was installed on September 2011.

W4 - 81





Military Rd 0.2 Miles West of 16th Street Ramp NW

Field Assessment Summary

Military Road is assumed to run in the east-west direction, and is classified as a principal arterial. Military Road has two travel lanes in each direction. This site has the following characteristics:

- This site is located in a residential area with houses and apartments in the surrounding area.
- There are two schools in the area: Jewish Primary Day School of the Nation's Capital and Latin American Montessori Bilingual Public Charter School.
- There is a grassy median with guardrail on both sides.
- The drainage type is curb and gutter with drainage inlets. The existing pavement is in fair condition.



Looking Eastbound



District Department of Transportation

Military Rd 0.2 Miles West of 16th Street Ramp NW



Looking Westbound

Speed Data Analysis

Posted Speed Limit (MPH)	35
Mean Speed (MPH)	30
85th Percentile Speed (MPH)	36
10 MPH Pace Speed	26-35
ADT	11,370

The mean speed is 5 MPH lower than the posted speed limit, and the 85th percentile speed is 1 MPH higher than the posted speed limit.

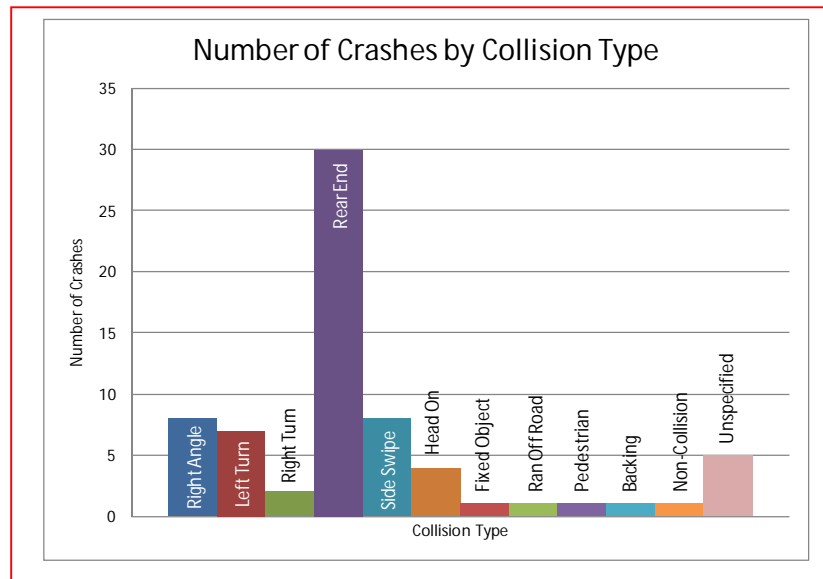
Crash Data Analysis

From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 69 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 were Rear End (30 crashes), Right Angle (8 crashes), and Side Swiped (8 crashes). The other collision types had less than five crashes or less.



Military Rd 0.2 Miles West of 16th Street Ramp NW

Severity			Weather			Surface condition			Light Condition		
Total	69										
Fatal	0	0.0%	Clear	45	65.2%	Dry	45	65.2%	Day	50	72.5%
Injury	28	40.6%	Rain	12	17.4%	Wet	17	24.6%	Night	11	15.9%
Truck	9	13.0%	Snow	4	5.8%	Snow/Ice	6	8.7%			
Bus	5	7.2%									



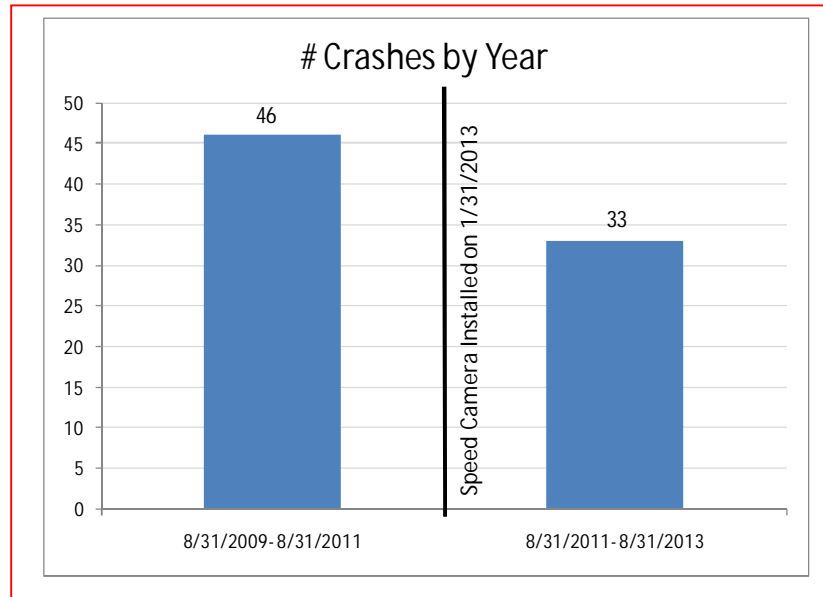
There were an elevated number of speed-related crashes at this location, including rear end and side swipe crashes. The AASHTO Highway Safety Manual lists “assuming the lead driver will go through a green or yellow light, but the lead driver stops” and “changing lanes to avoid a slowing or stopped vehicle”¹ as two errors leading to rear-end and sideswipe crashes. Both of these errors can be decreased with a decrease in travel speed.

The speed camera was installed on 9-1-2011. The graph on the next page shows the number of crashes in the two years prior to the speed camera’s installation (46 crashes) and the two years after the speed camera’s installation (33 crashes). There was a decrease in the number of crashes after the installation of the camera. There were 26 injuries in the two years prior to installing the speed camera and 16 injuries after the camera was installed. No fatal crashes occurred before or after the installation of the camera.

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



Military Rd 0.2 Miles West of 16th Street Ramp 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 higher 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. There was a high frequency of injury-related crashes at this location. There was a decrease in the number of crashes after the installation of the speed camera, including a decrease in injury-related crashes.
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 apartments in the surrounding area.
 - b. There are two schools in the area: Jewish Primary Day School of the Nation's Capital and Latin American Montessori Bilingual Public Charter School.
 - c. There are multiple bus stops in the area which generate pedestrian activity.

Due to the speed data analysis, the elevated number of speed-related and injury-related crashes, the reduction in the number of crashes since installation of the speed camera and the specific site characteristics of residential area 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

Military Rd .2m w/o 16th St Ramp NW SWB Speed

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/08/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	2	1	14	49	55	29	16	2	0	0	0	0	0	0	168
Total	2	1	14	49	55	29	16	2	0	0	0	0	0	0	168

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

Military Rd .2m w/o 16th St Ramp NW SWB Speed

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/09/13	0	0	19	47	33	7	1	1	0	0	0	0	0	0	108
01:00	1	2	8	23	24	2	1	0	0	0	0	0	0	0	61
02:00	1	0	10	16	10	5	1	0	0	0	0	0	0	0	43
03:00	0	0	8	26	12	4	0	0	0	0	0	0	0	0	50
04:00	0	0	8	32	18	1	1	1	0	0	0	0	0	0	61
05:00	2	0	6	18	35	36	19	3	3	1	0	0	0	0	123
06:00	8	0	1	19	95	152	90	33	19	2	1	0	0	0	420
07:00	13	3	59	196	176	39	13	4	2	0	0	0	0	0	505
08:00	30	1	68	310	201	34	3	0	0	0	0	0	0	0	647
09:00	24	2	65	331	306	36	5	0	0	0	0	0	0	0	769
10:00	25	2	57	349	327	71	5	0	0	0	0	0	0	0	836
11:00	23	1	49	356	360	70	10	3	0	0	0	0	0	0	872
12 PM	28	1	76	380	319	62	7	0	0	0	0	0	0	0	873
13:00	29	0	5	83	349	293	102	32	3	1	0	0	0	0	897
14:00	34	2	14	89	319	269	102	30	3	0	0	0	0	0	862
15:00	27	4	51	257	230	131	29	9	2	0	0	0	0	0	740
16:00	20	2	72	342	220	41	1	0	0	0	0	0	0	0	698
17:00	15	2	72	329	220	25	5	0	0	0	0	0	0	0	668
18:00	12	9	75	262	182	33	3	0	0	0	0	0	0	0	576
19:00	9	10	48	237	136	27	4	0	0	0	0	0	0	0	471
20:00	1	2	40	155	91	14	1	0	0	0	0	0	0	0	304
21:00	2	0	5	55	108	95	31	4	2	0	0	0	0	0	302
22:00	4	0	8	52	105	91	42	10	3	1	0	0	0	0	316
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	308	43	824	3964	3876	1538	476	130	37	5	1	0	0	0	11202
Grand Total	310	44	838	4013	3931	1567	492	132	37	5	1	0	0	0	11370

15th Percentile : 24 MPH
 50th Percentile : 30 MPH
 85th Percentile : 36 MPH
 95th Percentile : 41 MPH

Stats
 Mean Speed(Average) : 31 MPH
 10 MPH Pace Speed : 26-35 MPH
 Number in Pace : 7110
 Percent in Pace : 62.5%
 Number of Vehicles > 35 MPH : 2459
 Percent of Vehicles > 35 MPH : 21.6%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

Military Rd .2m w/o 16th St Ramp NW SWB Volume

Start Time	08-Nov-13		09-Nov-13		10-Nov-13		Daily Average	
	Fri A.M.	P.M.	Sat A.M.	P.M.	Sun A.M.	P.M.	A.M.	P.M.
12:00	*	*	39	193	*	*	39	193
12:15	*	*	21	253	*	*	21	253
12:30	*	*	30	230	*	*	30	230
12:45	*	*	18	197	*	*	18	197
01:00	*	*	18	217	*	*	18	217
01:15	*	*	11	273	*	*	11	273
01:30	*	*	23	203	*	*	23	203
01:45	*	*	9	204	*	*	9	204
02:00	*	*	11	174	*	*	11	174
02:15	*	*	17	235	*	*	17	235
02:30	*	*	3	240	*	*	3	240
02:45	*	*	12	213	*	*	12	213
03:00	*	*	17	187	*	*	17	187
03:15	*	*	9	188	*	*	9	188
03:30	*	*	8	181	*	*	8	181
03:45	*	*	16	184	*	*	16	184
04:00	*	*	9	175	*	*	9	175
04:15	*	*	16	172	*	*	16	172
04:30	*	*	17	181	*	*	17	181
04:45	*	*	19	170	*	*	19	170
05:00	*	*	20	164	*	*	20	164
05:15	*	*	23	181	*	*	23	181
05:30	*	*	37	153	*	*	37	153
05:45	*	*	43	170	*	*	43	170
06:00	*	*	59	146	*	*	59	146
06:15	*	*	65	157	*	*	65	157
06:30	*	*	138	140	*	*	138	140
06:45	*	*	158	133	*	*	158	133
07:00	*	*	107	133	*	*	107	133
07:15	*	*	98	117	*	*	98	117
07:30	*	*	151	120	*	*	151	120
07:45	*	*	149	101	*	*	149	101
08:00	*	*	124	79	*	*	124	79
08:15	*	*	164	78	*	*	164	78
08:30	*	*	161	80	*	*	161	80
08:45	*	*	198	67	*	*	198	67
09:00	*	*	176	69	*	*	176	69
09:15	*	*	208	88	*	*	208	88
09:30	*	*	201	76	*	*	201	76
09:45	*	*	184	69	*	*	184	69
10:00	*	*	160	71	*	*	160	71
10:15	*	*	249	69	*	*	249	69
10:30	*	*	231	81	*	*	231	81
10:45	*	*	196	95	*	*	196	95
11:00	*	48	205	*	*	*	205	48
11:15	*	38	267	*	*	*	267	38
11:30	*	51	210	*	*	*	210	51
11:45	*	31	190	*	*	*	190	31
Total	0	168	4495	6707	0	0	4495	6875
Combined Total	168		11202		0		11370	
Peak	11:00		10:30	00:30			10:30	00:30
Vol.	168		899	917			899	917
P.H.F.	0.824		0.842	0.840			0.842	0.840
ADT	ADT 11,370		AADT 11,370					

Accident Summary Report (R-8)

Corridor: MILITARY RD,NW From GLOVER RD,NW TO FOURTEENTH ST,NW
Time Period Covered: From 01/01/2010 To 12/31/2012 **Prepared By:** Rahul Jain **Prepared Date:** 9/17/2013

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	69	Right Angle:	8	11.6%	Fixed Object:	1	1.4%
Total Number of Fatalities:	0	Left Turn:	7	10.1%	Ran Off Road:	1	1.4%
Total Number of Injuries:	41	Right Turn:	2	2.9%	Ped. Involved:	1	1.4%
Total Number of Disabling Injuries:	2	Rear End:	30	43.5%	Backing:	1	1.4%
Total Number of NonDisabling Injuries:	9	Side Swiped:	8	11.6%	Non Collision:	1	1.4%
Total Number of Pedestrians Involved:	1	Head On:	4	5.8%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	0	Parked:	0	0.0%	Unspecified:	5	7.2%
Total Number of Motorcycles Involved:	1						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	9	13.0%	Sunday:	11	15.9%
09:30 ~ 11:30:	5	7.2%	Monday:	11	15.9%
11:30 ~ 13:30:	11	15.9%	Tuesday:	11	15.9%
13:30 ~ 16:00:	11	15.9%	Wednesday:	13	18.8%
16:00 ~18:30:	12	17.4%	Thursday:	5	7.2%
18:30 ~ 07:30:	21	30.4%	Friday:	13	18.8%
Unspecified:	0	0.0%	Saturday:	5	7.2%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	45	65.2%	Dry:	45	65.2%
Rain:	12	17.4%	Wet:	17	24.6%
Snow:	4	5.8%	Snow/Ice:	6	8.7%
Sleet/Hail:	0	0.0%	Slush:	0	0.0%
Fog/Mist:	1	1.4%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	1	1.4%	Repairing:	0	0.0%
Unspecified:	6	8.7%	Unspecified:	1	1.4%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	107	83.6%	Fatal Collision:	0	0.0%
Bus:	5	3.9%	Injury Collision:	28	40.6%
Truck:	9	7.0%	PDO Collision:	41	59.4%
Taxi:	5	3.9%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	0	0.0%	Daylight:	50	72.5%
Motorcycle/Moped:	1	0.8%	Dawn/Dusk:	5	7.2%
Bicycle:	0	0.0%	Dark(Lighted):	9	13.0%
Fixed Object:	0	0.0%	Dark(Not Lighted):	2	2.9%
Unspecified:	1	0.8%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	3	4.3%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	7	5.5%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	0	0.0%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	1	0.8%	In Crosswalk no Signal:	1	100.0%
Driver: Others:	22	17.2%	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:	98	76.6%	Unspecified:	0	0.0%

43 Records are not approved as of 9/17/2013 12:54:57 PM

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: MILITARY RD,NW From GLOVER RD,NW TO FOURTEENTH ST,NW

Time Period Covered: From 08/31/2009 To 08/31/2011

Prepared By: Rahul Jain

Prepared Date: 11/18/2011

Total Number of Accident:	46	Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Fatalities:	0	Right Angle:	5	10.9%	Fixed Object:	2	4.3%
Total Number of Injuries:	26	Left Turn:	3	6.5%	Ran Off Road:	1	2.2%
Total Number of Disabling Injuries:	2	Right Turn:	1	2.2%	Ped. Involved:	1	2.2%
Total Number of NonDisabling Injuries:	7	Rear End:	21	45.7%	Backing:	0	0.0%
Total Number of Pedestrians Involved:	1	Side Swiped:	6	13.0%	Non Collision:	1	2.2%
Total Number of Bicycles Involved:	0	Head On:	2	4.3%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	1	Parked:	0	0.0%	Unspecified:	3	6.5%
Time of Day				#ACC	%	Day of week	
07:30 ~ 09:30:				5	10.9%	Sunday:	
09:30 ~ 11:30:				4	8.7%	Monday:	
11:30 ~ 13:30:				7	15.2%	Tuesday:	
13:30 ~ 16:00:				10	21.7%	Wednesday:	
16:00 ~ 18:30:				6	13.0%	Thursday:	
18:30 ~ 07:30:				14	30.4%	Friday:	
Unspecified:				0	0.0%	Saturday:	
Weather Condition				#ACC	%	Surface Condition	
Clear:				31	67.4%	Dry:	
Rain:				6	13.0%	Wet:	
Snow:				4	8.7%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				0	0.0%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				5	10.9%	Unspecified:	
Type of Vehicle				#VEH	%	Accident Severity Type	
Passenger Car:				71	83.5%	Fatal Collision:	
Bus:				5	5.9%	Injury Collision:	
Truck:				5	5.9%	PDO Collision:	
Taxi:				3	3.5%		
Minivan:				0	0.0%	Light Condition	
Police/Emergency Vehicle:				0	0.0%	Daylight:	
Motorcycle/Moped:				1	1.2%	Dawn/Dusk:	
Bicycle:				0	0.0%	Dark(Lighted):	
Fixed Object:				0	0.0%	Dark(Not Lighted):	
Unspecified:				0	0.0%	Dark(Unknown Lighting):	
						Unspecified:	
Contributing Factor				#VEH	%	Pedestrian Actions	
Driver: Speed:				4	4.7%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				0	0.0%	In Crosswalk against Signal:	
Driver: Electronic Device:				1	1.2%	In Crosswalk no Signal:	
Driver: Others:				12	14.1%	In Unmarked Crosswalk:	
Vehicle:				0	0.0%	Not in Crosswalk:	
Roadway:				0	0.0%	From Between Parked Cars:	
Unspecified:				68	80.0%	Unspecified:	

22 Records are not approved as of 11/18/2013 2:02:40 PM

Accident Summary Report (R-8)

Corridor: MILITARY RD,NW From GLOVER RD,NW TO FOURTEENTH ST,NW
Time Period Covered: From 09/01/2011 To 09/01/2013 **Prepared By:** Rahul Jain **Prepared Date:** 11/18/2013

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	33	Right Angle:	4	12.1%	Fixed Object:	0	0.0%
Total Number of Fatalities:	0	Left Turn:	4	12.1%	Ran Off Road:	0	0.0%
Total Number of Injuries:	16	Right Turn:	1	3.0%	Ped. Involved:	0	0.0%
Total Number of Disabling Injuries:	0	Rear End:	13	39.4%	Backing:	2	6.1%
Total Number of NonDisabling Injuries:	2	Side Swiped:	5	15.2%	Non Collision:	0	0.0%
Total Number of Pedestrians Involved:	0	Head On:	2	6.1%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	0	Parked:	0	0.0%	Unspecified:	2	6.1%
Total Number of Motorcycles Involved:	0						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	4	12.1%	Sunday:	5	15.2%
09:30 ~ 11:30:	1	3.0%	Monday:	6	18.2%
11:30 ~ 13:30:	4	12.1%	Tuesday:	4	12.1%
13:30 ~ 16:00:	2	6.1%	Wednesday:	8	24.2%
16:00 ~18:30:	9	27.3%	Thursday:	1	3.0%
18:30 ~ 07:30:	13	39.4%	Friday:	6	18.2%
Unspecified:	0	0.0%	Saturday:	3	9.1%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	20	60.6%	Dry:	20	60.6%
Rain:	10	30.3%	Wet:	12	36.4%
Snow:	0	0.0%	Snow/Ice:	0	0.0%
Sleet/Hail:	0	0.0%	Slush:	0	0.0%
Fog/Mist:	1	3.0%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	1	3.0%	Repairing:	0	0.0%
Unspecified:	1	3.0%	Unspecified:	1	3.0%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	52	77.6%	Fatal Collision:	0	0.0%
Bus:	1	1.5%	Injury Collision:	11	33.3%
Truck:	4	6.0%	PDO Collision:	22	66.7%
Taxi:	4	6.0%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	1	1.5%	Daylight:	25	75.8%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	0	0.0%
Bicycle:	0	0.0%	Dark(Lighted):	7	21.2%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	5	7.5%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	1	3.0%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	3	4.5%	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:	14	20.9%	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:	50	74.6%	Unspecified:	0	0.0%

22 Records are not approved as of 11/18/2013 2:05:16 PM