



District Department of Transportation

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

### North Capitol Street at Riggs Road NE

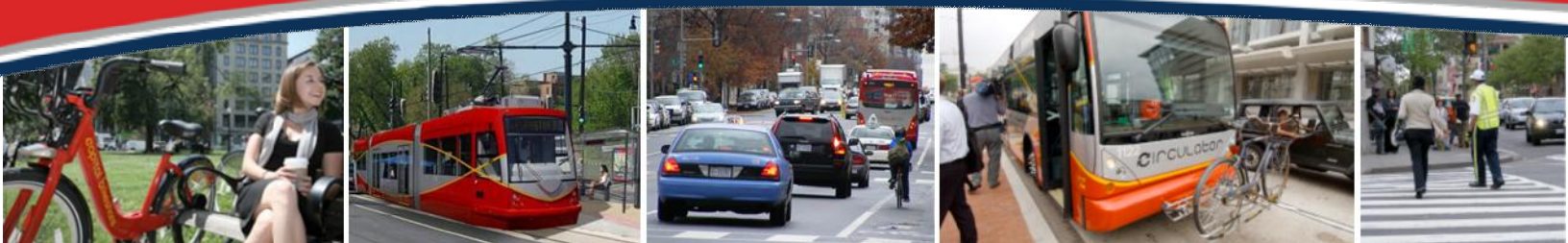
#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
4	403/405/406	4 & 5	4D/5A	Planned	North Capitol Street Northbound at Riggs Road Northeast



This *planned* speed camera is located in Wards 4 & 5 at the intersection of North Capitol Street Northeast and Riggs Road Northeast/ Missouri Avenue Northwest. North Capitol Street runs between Eastern Avenue Northwest to the north and D Street Northeast to the south. The posted speed limit is 30 MPH.

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District Department of Transportation

## North Capitol Street at Riggs Road NE

### Field Assessment Summary

North Capitol Street is assumed to run in a north-south direction, and is classified as Principal Arterial. North Capitol Street on both the northbound and southbound approach at this intersection has an exclusive left turn with two through lanes with a shared right turn. Riggs Road Northeast/ Missouri Avenue Northwest have two travel lanes in each direction. The existing speed camera is located at the southeast corner in the northbound direction. This site has the following characteristics:

- The site is in a residential area with single family homes and apartments on both sides of the street.
- There are three schools: Mamie D. Lee School, Keene Elementary School, and Dorothy I Height Community Academy Public Charter School that are located on the easterly side of the area.
- The Plymouth Congregational Church is at the northeast corner of the intersection. The Keene Recreational Facility is also located in the area.
- There are two existing bus stop that are located on Riggs Road Northeast, on the eastern side of the North Capitol Street Northeast, as well as others in the surrounding area.
- The site is an existing traffic signal with intersection lighting, pedestrian indications, ramps and crosswalks.
- Concrete sidewalks are on both sides of the street. There is no on-street parking on both sides of the street.
- There are posted "Photo Enforced" signs and a Speed Limit 30 sign on the south end of the block.
- The drainage structure is curb-and -gutter with fair pavement condition.



Looking Northbound

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## North Capitol Street at Riggs Road NE



Looking Southbound

### Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	22
85th Percentile Speed (MPH)	38
10 MPH Pace Speed	5-14
ADT	11,825

The mean speed is 8 MPH lower than the posted speed limit, and the 85<sup>th</sup> percentile speed is 8 MPH higher than the posted speed limit at this location.

### Crash Data Analysis

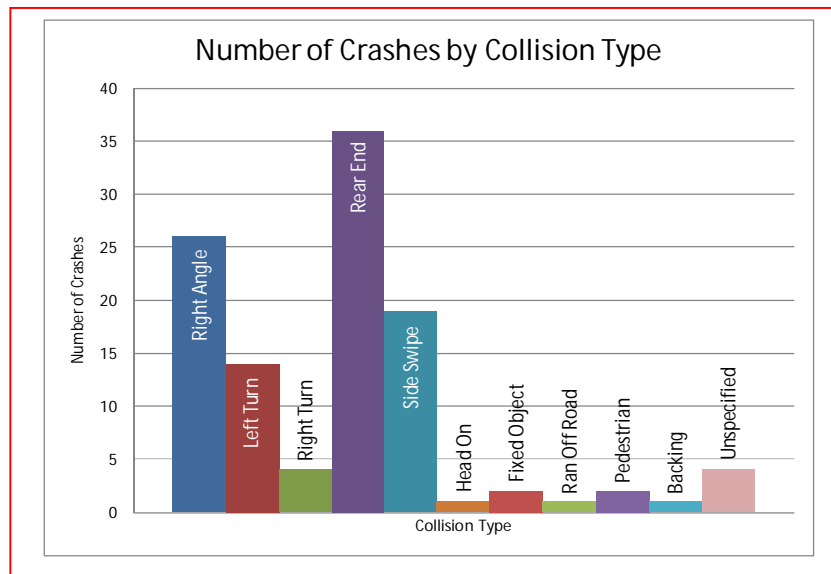
From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 110 crashes at this location. A breakdown of number of crashes by collision type can be found in the chart on the next page. The most common types of collision at this location were Rear End (36 crashes), Right Angle (26 crashes), Side Swipe (19 crashes), and Left Turn (14 crashes). The other crash types had four or less. There were 10 crashes with speeding as a contributing factor. Furthermore, this site experienced a high frequency (35 crashes) of injury-related crashes.



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## North Capitol Street at Riggs Road NE

Severity		Weather			Surface condition			Light Condition		
Total	110									
Fatal	0 0.0%	Clear	93	84.5%	Dry	90	81.8%	Day	69	62.7%
Injury	35 31.8%	Rain	11	10.0%	Wet	14	12.7%	Night	30	27.3%
Truck	15 13.6%	Fog/Mist	3	2.7%	Snow/Ice	1	0.9%			
Bus	13 11.8%									



There were an elevated number of speed-related crashes at this location, including rear end 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 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>. This site is listed as one of the top five percent high accident locations in the District from 2010 to 2012.<sup>3</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.

<sup>3</sup> DDOT, Top 5% High Accident Locations Map for 2010-2012



District Department of Transportation

## North Capitol Street at Riggs 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 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 collisions, as well as a high frequency (35 crashes) of injury-related crashes. The North Capitol Street Corridor is listed as one 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. This is a residential area with single family homes and apartment buildings.
  - b. There are three schools in the area: Mamie D. Lee School, Keene Elementary School, and Dorothy I. Height Community Academy Public Charter School
  - c. There is one church in the area: Plymouth Congregational Church
  - d. Keene Recreation Center is also in the area which generates pedestrian and bicycle activities.

Due to the speed data analysis, 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.

# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

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

## North Capitol St NB at Riggs Rd NE Speed

NB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/22/13	20	1	9	24	73	88	65	45	14	16	8	3	1	1	368
01:00	2	0	3	14	13	40	34	22	11	9	3	7	0	2	160
02:00	6	0	0	6	20	28	21	10	4	5	1	0	2	3	106
03:00	3	0	1	5	16	24	20	15	12	8	4	0	1	0	109
04:00	4	0	1	5	13	25	22	13	15	8	2	3	1	4	116
05:00	17	5	6	10	28	56	50	34	26	16	5	6	7	11	277
06:00	50	11	22	36	41	75	63	57	38	22	14	10	8	10	457
07:00	219	65	68	71	74	61	37	27	10	5	4	2	1	1	645
08:00	293	69	59	65	65	38	28	7	4	2	0	0	0	0	630
09:00	224	35	50	69	80	59	49	32	22	14	9	7	1	1	652
10:00	180	45	74	68	60	54	45	19	15	15	8	2	4	2	591
11:00	164	72	62	92	83	61	41	29	25	13	9	2	2	5	660
12 PM	242	94	75	62	64	38	32	17	10	9	2	1	1	1	648
13:00	297	89	106	80	55	25	20	8	4	2	5	1	0	0	692
14:00	336	91	100	78	50	29	9	4	2	1	0	0	0	0	700
15:00	300	70	55	29	12	8	0	0	0	0	0	0	0	0	474
16:00	245	39	29	9	0	0	0	0	0	0	0	0	0	0	322
17:00	263	34	27	3	1	0	0	0	0	0	0	0	0	0	328
18:00	274	81	95	67	41	22	25	12	6	2	0	3	0	0	628
19:00	262	91	115	88	70	34	16	11	1	0	0	0	1	0	689
20:00	89	70	90	125	129	103	61	21	12	8	2	1	1	1	713
21:00	62	21	58	104	118	101	71	39	22	12	9	4	2	8	631
22:00	98	42	67	119	95	95	68	25	16	14	4	1	0	0	644
23:00	63	25	63	96	111	69	61	43	27	10	7	1	3	6	585
Total	3713	1050	1235	1325	1312	1133	838	490	296	191	96	54	36	56	11825
Grand Total	3713	1050	1235	1325	1312	1133	838	490	296	191	96	54	36	56	11825

15th Percentile : 6 MPH  
 50th Percentile : 16 MPH  
 85th Percentile : 38 MPH  
 95th Percentile : 49 MPH

Stats  
 Mean Speed(Average) : 22 MPH  
 10 MPH Pace Speed : 5-14 MPH  
 Number in Pace : 4438  
 Percent in Pace : 37.7%  
 Number of Vehicles > 30 MPH : 3421  
 Percent of Vehicles > 30 MPH : 29.1%

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## North Capitol St NB at Riggs Rd NE Volume

Start Time	22-Nov-13		23-Nov-13		24-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	145	164	*	*	*	*	145	164
12:15	88	139	*	*	*	*	88	139
12:30	72	169	*	*	*	*	72	169
12:45	63	176	*	*	*	*	63	176
01:00	49	189	*	*	*	*	49	189
01:15	38	162	*	*	*	*	38	162
01:30	39	167	*	*	*	*	39	167
01:45	34	174	*	*	*	*	34	174
02:00	25	199	*	*	*	*	25	199
02:15	23	165	*	*	*	*	23	165
02:30	32	163	*	*	*	*	32	163
02:45	26	173	*	*	*	*	26	173
03:00	30	135	*	*	*	*	30	135
03:15	36	131	*	*	*	*	36	131
03:30	23	124	*	*	*	*	23	124
03:45	20	84	*	*	*	*	20	84
04:00	16	108	*	*	*	*	16	108
04:15	26	74	*	*	*	*	26	74
04:30	31	64	*	*	*	*	31	64
04:45	43	76	*	*	*	*	43	76
05:00	59	66	*	*	*	*	59	66
05:15	63	95	*	*	*	*	63	95
05:30	72	90	*	*	*	*	72	90
05:45	83	77	*	*	*	*	83	77
06:00	93	109	*	*	*	*	93	109
06:15	95	142	*	*	*	*	95	142
06:30	130	<b>201</b>	*	*	*	*	130	<b>201</b>
06:45	139	<b>176</b>	*	*	*	*	139	<b>176</b>
07:00	146	<b>183</b>	*	*	*	*	146	<b>183</b>
07:15	182	<b>179</b>	*	*	*	*	182	<b>179</b>
07:30	141	167	*	*	*	*	141	167
07:45	176	160	*	*	*	*	176	160
08:00	176	205	*	*	*	*	176	205
08:15	160	166	*	*	*	*	160	166
08:30	155	171	*	*	*	*	155	171
08:45	139	171	*	*	*	*	139	171
09:00	154	157	*	*	*	*	154	157
09:15	173	161	*	*	*	*	173	161
09:30	166	147	*	*	*	*	166	147
09:45	159	166	*	*	*	*	159	166
10:00	134	160	*	*	*	*	134	160
10:15	161	175	*	*	*	*	161	175
10:30	137	169	*	*	*	*	137	169
10:45	<b>159</b>	140	*	*	*	*	<b>159</b>	140
11:00	<b>165</b>	139	*	*	*	*	<b>165</b>	139
11:15	<b>183</b>	150	*	*	*	*	<b>183</b>	150
11:30	<b>178</b>	167	*	*	*	*	<b>178</b>	167
11:45	134	129	*	*	*	*	134	129
Total	4771	7054	0	0	0	0	4771	7054
Combined Total	11825		0		0		11825	
Peak	10:45	06:30					10:45	06:30
Vol.	685	739					685	739
P.H.F.	0.936	0.919					0.936	0.919
ADT	ADT 11,825		AADT 11,825					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** NORTH CAPITOL ST,BN From HAMILTON ST,BN TO JEFFERSON ST,BN

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

**Prepared By:** Rahul Jain

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

Total Number of Accident:	110	<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:	26	23.6%	Fixed Object:	2	1.8%
Total Number of Injuries:	48	Left Turn:	14	12.7%	Ran Off Road:	1	0.9%
Total Number of Disabling Injuries:	2	Right Turn:	4	3.6%	Ped. Involved:	2	1.8%
Total Number of NonDisabling Injuries:	7	Rear End:	36	32.7%	Backing:	1	0.9%
Total Number of Pedestrians Involved:	1	Side Swiped:	19	17.3%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	0	Head On:	1	0.9%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	1	Parked:	0	0.0%	Unspecified:	4	3.6%
<b>Time of Day</b>				<b>#ACC</b>	<b>%</b>	<b>Day o fweek</b>	
07:30 ~ 09:30:				11	10.0%	Sunday:	
09:30 ~ 11:30:				8	7.3%	Monday:	
11:30 ~ 13:30:				13	11.8%	Tuesday:	
13:30 ~ 16:00:				16	14.5%	Wednesday:	
16:00 ~18:30:				26	23.6%	Thursday:	
18:30 ~ 07:30:				36	32.7%	Friday:	
Unspecified:				0	0.0%	Saturday:	
<b>Weather Condition</b>				<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	
Clear:				93	84.5%	Dry:	
Rain:				11	10.0%	Wet:	
Snow:				3	2.7%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				0	0.0%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				3	2.7%	Unspecified:	
<b>Type of Vehicle</b>				<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	
Passenger Car:				165	72.7%	Fatal Collision:	
Bus:				13	5.7%	Injury Collision:	
Truck:				15	6.6%	PDO Collision:	
Taxi:				12	5.3%	<b>Light Condition</b>	
Minivan:				0	0.0%	Daylight:	
Police/Emergency Vehicle:				4	1.8%	Dawn/Dusk:	
Motorcycle/Moped:				1	0.4%	Dark(Lighted):	
Bicycle:				0	0.0%	Dark(Not Lighted):	
Fixed Object:				0	0.0%	Dark(Unknown Lighting):	
Unspecified:				17	7.5%	Unspecified:	
<b>Contributing Factor</b>				<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	
Driver: Speed:				10	4.4%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				1	0.4%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				58	25.6%	In Unmarked Crosswalk:	
Vehicle:				1	0.4%	Not in Crosswalk:	
Roadway:				0	0.0%	From Between Parked Cars:	
Unspecified:				157	69.2%	Unspecified:	

71 Records are not approved as of 10/8/2013 3:24:23 PM