



District Department of Transportation

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

Nebraska Avenue at Fessenden Street NW

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
2	201/203	3	3F/3G	Planned	Nebraska Avenue Northeast-Bound at Fessenden Street Northwest



The *planned* speed camera will be located in Ward 3 at the intersection of Nebraska Avenue and Fessenden Street Northwest in the northeast-bound direction. Nebraska Avenue runs from Oregon Avenue Northwest in the northeast to Foxhall Road Northwest in the southwest. The posted speed limit is 30 MPH.

W3 - 178





Nebraska Avenue at Fessenden Street NW

Field Assessment Summary

Nebraska Avenue is assumed to run in the North-South direction and is classified as principal arterial in this segment of roadway. Nebraska Avenue has two travel lanes in each direction, and Fessenden Street has one travel lane in each direction at this intersection. This site has the following characteristics:

- This site is located in a residential area with houses and driveways on all four legs of the intersection.
- There are three schools in the area: Alice Deal Middle School, Murch Elementary School, and Auguste Montessori School.
- There is sidewalk on all sides of the intersection, and on-street parking on the east and west legs of the intersection.
- There is an existing traffic signal and crosswalks with pedestrian signals.
- There are multiple bus stops in the area.



Looking North



Nebraska Avenue at Fessenden Street NW



Looking South

Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	21
85th Percentile Speed (MPH)	30
10 MPH Pace Speed	22-31
ADT	7,680

The mean speed is 9 MPH lower than the posted speed limit, and the 85th percentile speed is the same as the posted speed limit at this location.

Crash Data Analysis

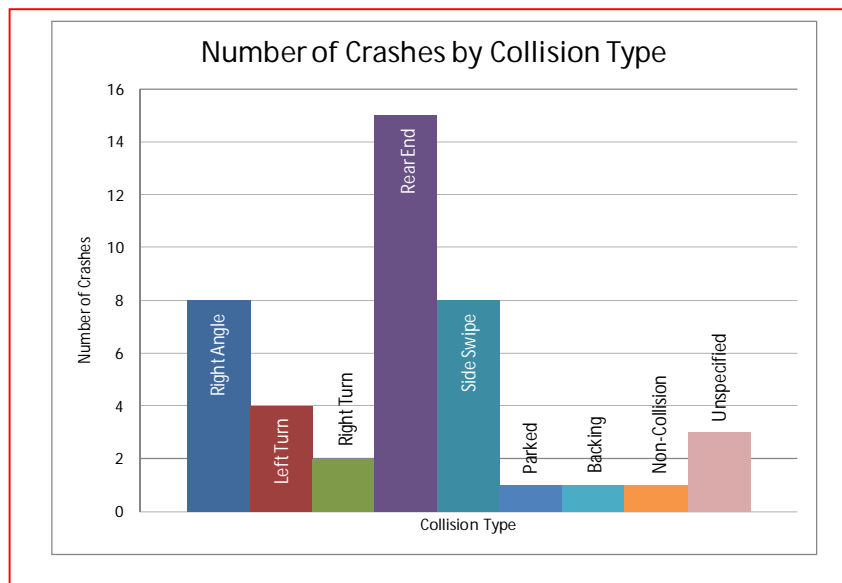
From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012, there were a total of 43 crashes at this location. A breakdown of collision type can be found in the chart on the next page. The most common type of crashes at this location were Rear End (15 crashes), Right Angle (8 crashes), and Side Swiped (8 crashes). The other collision types had less than four crashes or less.



Nebraska Avenue at Fessenden Street NW

Severity		Weather			Surface condition			Light Condition		
Total	43									
Fatal	0 0.0%	Clear	35	81.4%	Dry	35	81.4%	Day	23	53.5%
Injury	15 34.9%	Rain	5	11.6%	Wet	7	16.3%	Night	16	37.2%
Taxi	10 23.3%	Snow	1	2.3%	Snow/Ice	0	0.0%			
Truck	9 20.9%									

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”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 number of injury-related crashes at this location.



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 the same as or lower than the posted speed limit.

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



Nebraska Avenue at Fessenden Street NW

2. Crash Data – There was an elevated number of speed-related crashes at this location, including rear end and side swipe collisions. There were also a number of injury-related crashes at this location.
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 driveways on all four legs of the intersection.
 - b. There are three schools in the area: Alice Deal Middle School, Murch Elementary School, and Auguste Montessori School.
 - c. There is on-street parking at this location.
 - d. There are multiple bus stops in the area which generate pedestrian activity.

Although the speed data analysis showed the 85th percentile speed the same as the posted speed limit, due to the elevated number of speed-related and injury-related crashes, the specific site characteristics, and the 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

Nebraska Avenue NEB at Fessenden Street NW Speed

NEB															
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
11/07/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	21	31	134	186	19	6	1	1	0	0	0	0	0	0	399
08:00	33	65	178	221	22	5	1	0	0	0	0	0	0	0	525
09:00	28	43	121	118	26	8	1	0	0	0	0	0	0	0	345
10:00	12	28	76	113	66	22	2	0	0	0	0	0	0	0	319
11:00	23	54	129	123	70	16	3	0	0	0	0	0	0	0	418
12 PM	18	52	145	181	50	12	1	0	0	0	0	0	0	0	459
13:00	20	28	127	168	84	20	3	0	0	0	0	0	0	0	450
14:00	22	51	154	210	79	14	1	0	0	0	0	0	0	0	531
15:00	199	90	125	81	42	1	0	0	0	0	0	0	0	0	538
16:00	320	122	84	23	3	0	0	0	0	0	0	0	0	0	552
17:00	341	78	27	2	0	0	0	0	0	0	0	0	0	0	448
18:00	229	85	106	88	14	4	0	0	0	0	0	0	0	0	526
19:00	27	41	119	260	94	18	2	0	0	0	0	0	0	0	561
20:00	9	18	61	203	116	24	1	0	0	0	0	0	0	0	432
21:00	20	35	56	179	97	9	1	0	0	0	0	0	0	0	397
22:00	6	18	34	120	113	23	3	1	1	0	0	0	0	0	319
23:00	3	8	12	58	47	25	2	2	0	0	0	0	0	0	157
Total	1331	847	1688	2334	942	207	22	4	1	0	0	0	0	0	7376

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

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Nebraska Avenue NEB at Fessenden Street NW Speed

NEB															
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
11/08/13	2	1	6	18	23	13	2	2	0	0	0	0	0	0	67
01:00	0	0	3	10	10	6	1	0	0	0	0	0	0	0	30
02:00	1	0	6	10	15	2	1	0	0	0	0	0	0	0	35
03:00	0	1	2	7	3	1	1	0	0	0	0	0	0	0	15
04:00	0	1	3	4	3	1	1	1	0	0	0	0	0	0	14
05:00	4	4	8	9	12	4	0	0	0	0	0	0	0	0	41
06:00	7	3	25	50	34	12	2	1	0	0	0	0	0	0	134
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	14	10	53	108	100	39	8	4	0	0	0	0	0	0	336
Grand Total	1345	857	1741	2442	1042	246	30	8	1	0	0	0	0	0	7712

15th Percentile : 8 MPH
 50th Percentile : 22 MPH
 85th Percentile : 30 MPH
 95th Percentile : 34 MPH

Stats
 Mean Speed(Average) : 21 MPH
 10 MPH Pace Speed : 22-31 MPH
 Number in Pace : 3307
 Percent in Pace : 42.9%
 Number of Vehicles > 30 MPH : 1251
 Percent of Vehicles > 30 MPH : 16.2%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

Nebraska Avenue NEB at Fessenden Street NW Volume

Start Time	Thu 07-Nov-13		Fri 08-Nov-13		Sat 09-Nov-13		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	128	29	*	*	*	29	128
12:15	*	122	17	*	*	*	17	122
12:30	*	95	13	*	*	*	13	95
12:45	*	114	8	*	*	*	8	114
01:00	*	100	10	*	*	*	10	100
01:15	*	122	10	*	*	*	10	122
01:30	*	125	5	*	*	*	5	125
01:45	*	103	5	*	*	*	5	103
02:00	*	119	10	*	*	*	10	119
02:15	*	128	9	*	*	*	9	128
02:30	*	130	9	*	*	*	9	130
02:45	*	154	7	*	*	*	7	154
03:00	*	135	3	*	*	*	3	135
03:15	*	148	4	*	*	*	4	148
03:30	*	131	3	*	*	*	3	131
03:45	*	124	5	*	*	*	5	124
04:00	*	107	3	*	*	*	3	107
04:15	*	138	5	*	*	*	5	138
04:30	*	167	0	*	*	*	0	167
04:45	*	140	6	*	*	*	6	140
05:00	*	120	6	*	*	*	6	120
05:15	*	103	9	*	*	*	9	103
05:30	*	138	14	*	*	*	14	138
05:45	*	87	12	*	*	*	12	87
06:00	*	93	24	*	*	*	24	93
06:15	*	120	22	*	*	*	22	120
06:30	*	166	35	*	*	*	35	166
06:45	*	147	53	*	*	*	53	147
07:00	64	140	0	*	*	*	32	140
07:15	88	153	*	*	*	*	88	153
07:30	105	152	*	*	*	*	105	152
07:45	142	116	*	*	*	*	142	116
08:00	141	138	*	*	*	*	141	138
08:15	141	107	*	*	*	*	141	107
08:30	130	107	*	*	*	*	130	107
08:45	113	80	*	*	*	*	113	80
09:00	96	112	*	*	*	*	96	112
09:15	82	114	*	*	*	*	82	114
09:30	81	88	*	*	*	*	81	88
09:45	86	83	*	*	*	*	86	83
10:00	72	104	*	*	*	*	72	104
10:15	85	74	*	*	*	*	85	74
10:30	88	79	*	*	*	*	88	79
10:45	74	62	*	*	*	*	74	62
11:00	98	53	*	*	*	*	98	53
11:15	102	29	*	*	*	*	102	29
11:30	106	36	*	*	*	*	106	36
11:45	112	39	*	*	*	*	112	39
Total	2066	5370	336	0	0	0	2310	5370
Combined Total	7376		336		0		7680	
Peak	07:45	06:30	06:00				07:45	06:30
Vol.	554	606	134				554	606
P.H.F.	0.975	0.913	0.632				0.975	0.913
ADT	ADT 7,680		AADT 7,680					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: NEBRASKA AVE,NW From CONNECTICUT AVE,NW TO EVERETT ST,NW

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

Prepared By: Rahul Jain

Prepared Date: 10/6/2013

Total Number of Accident:	43	Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Fatalities:	0	Right Angle:	8	18.6%	Fixed Object:	0	0.0%
Total Number of Injuries:	17	Left Turn:	4	9.3%	Ran Off Road:	0	0.0%
Total Number of Disabling Injuries:	0	Right Turn:	2	4.7%	Ped. Involved:	0	0.0%
Total Number of NonDisabling Injuries:	2	Rear End:	15	34.9%	Backing:	1	2.3%
Total Number of Pedestrians Involved:	0	Side Swiped:	8	18.6%	Non Collision:	1	2.3%
Total Number of Bicycles Involved:	1	Head On:	0	0.0%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	1	Parked:	1	2.3%	Unspecified:	3	7.0%
Time of Day				#ACC	%	Day of week	
07:30 ~ 09:30:				2	4.7%	Sunday:	
09:30 ~ 11:30:				1	2.3%	Monday:	
11:30 ~ 13:30:				5	11.6%	Tuesday:	
13:30 ~ 16:00:				7	16.3%	Wednesday:	
16:00 ~ 18:30:				9	20.9%	Thursday:	
18:30 ~ 07:30:				19	44.2%	Friday:	
Unspecified:				0	0.0%	Saturday:	
07:30 ~ 09:30:				2	4.7%	Sunday:	
09:30 ~ 11:30:				1	2.3%	Monday:	
11:30 ~ 13:30:				5	11.6%	Tuesday:	
13:30 ~ 16:00:				7	16.3%	Wednesday:	
16:00 ~ 18:30:				9	20.9%	Thursday:	
18:30 ~ 07:30:				19	44.2%	Friday:	
Unspecified:				0	0.0%	Saturday:	
Weather Condition				#ACC	%	Surface Condition	
Clear:				35	81.4%	Dry:	
Rain:				5	11.6%	Wet:	
Snow:				1	2.3%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				1	2.3%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				1	2.3%	Unspecified:	
Clear:				35	81.4%	Dry:	
Rain:				5	11.6%	Wet:	
Snow:				1	2.3%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				1	2.3%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				1	2.3%	Unspecified:	
Type of Vehicle				#VEH	%	Accident Severity Type	
Passenger Car:				58	65.9%	Fatal Collision:	
Bus:				4	4.5%	Injury Collision:	
Truck:				9	10.2%	PDO Collision:	
Taxi:				10	11.4%		
Minivan:				0	0.0%	Light Condition	
Police/Emergency Vehicle:				0	0.0%	Daylight:	
Motorcycle/Moped:				1	1.1%	Dawn/Dusk:	
Bicycle:				1	1.1%	Dark(Lighted):	
Fixed Object:				0	0.0%	Dark(Not Lighted):	
Unspecified:				5	5.7%	Dark(Unknown Lighting):	
Passenger Car:				58	65.9%	Unspecified:	
Bus:				4	4.5%		
Truck:				9	10.2%		
Taxi:				10	11.4%		
Minivan:				0	0.0%		
Police/Emergency Vehicle:				0	0.0%		
Motorcycle/Moped:				1	1.1%		
Bicycle:				1	1.1%		
Fixed Object:				0	0.0%		
Unspecified:				5	5.7%		
Contributing Factor				#VEH	%	Pedestrian Actions	
Driver: Speed:				1	1.1%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				0	0.0%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				21	23.9%	In Unmarked Crosswalk:	
Vehicle:				1	1.1%	Not in Crosswalk:	
Roadway:				1	1.1%	From Between Parked Cars:	
Unspecified:				64	72.7%	Unspecified:	
Driver: Speed:				1	1.1%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				0	0.0%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				21	23.9%	In Unmarked Crosswalk:	
Vehicle:				1	1.1%	Not in Crosswalk:	
Roadway:				1	1.1%	From Between Parked Cars:	
Unspecified:				64	72.7%	Unspecified:	

21 Records are not approved as of 10/6/2013 1:35:50 PM