District Department of Transportation

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

1500 Block Alabama Avenue SE

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
7	705	8	8E	Proposed	1500 Block Alabama Avenue Southeast, Southwest-bound

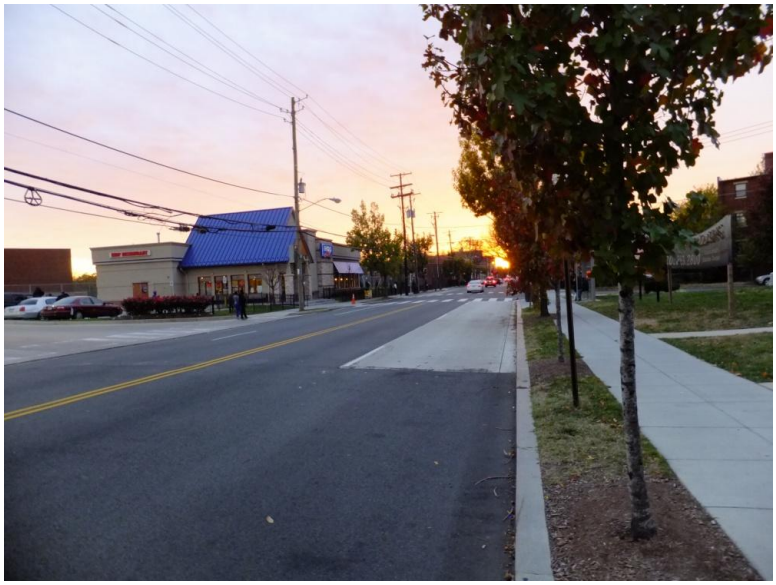
The *proposed* speed camera will be located in Ward 8 at the 1500 block of Alabama Avenue Southeast in the southwest-bound direction. Alabama Avenue Southeast runs between E Street Southeast to the north and Martin Luther King, Jr. Avenue Southeast to the south. The posted speed limit is 25 MPH.

Field Assessment Summary

Alabama Avenue Southeast is assumed to run in a northeast-southwest direction and is classified as a minor arterial. Alabama Avenue Southeast has two travel lanes in each direction. This site has the following characteristics:

- This is a residential and commercial area with houses and shopping centers.
- There is one school in the area: Turner Elementary School.
- There are sidewalks on both sides of the street and crosswalks at 15th Street and Stanton Road.
- There is a traffic signal with pedestrian signals at Stanton Road.
- The pavement is like new and there is curb and gutter with drainage inlets.
- There are two bus stops southwest-bound and one bus stop northeast-bound.

Looking Northeast-bound



Looking Southwest-bound

Speed Data Analysis

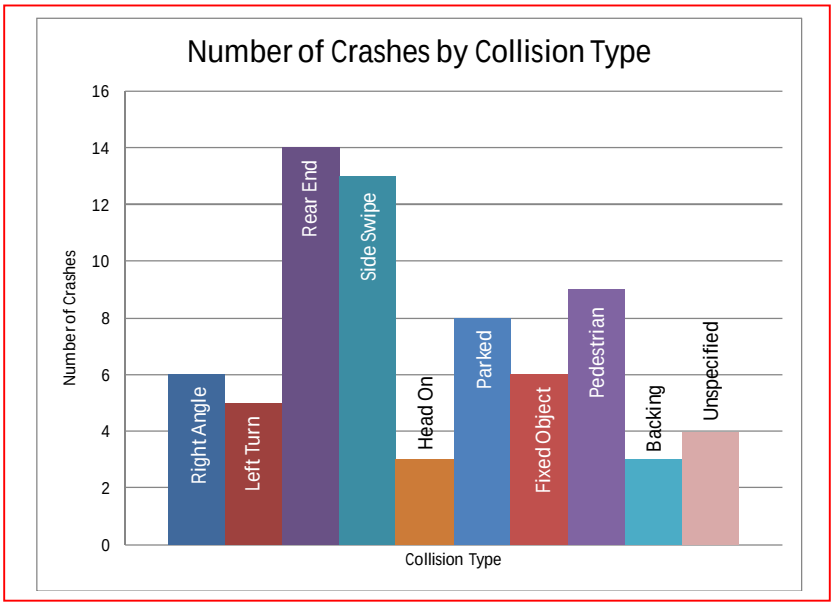
Posted Speed Limit (MPH)	25
Mean Speed (MPH)	23
85th Percentile Speed (MPH)	29
10 MPH Pace Speed	21-30
ADT	7,223

The mean speed is 2 MPH lower than the posted speed limit, and the 85th percentile speed is 4 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 71 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 (14 crashes), Side Swipe (13 crashes), Pedestrian Involved (9 crashes), and Parked (8 crashes). The other collision types had 6 crashes or less each. There were 4 crashes where vehicular speeding was the contributing factor. Furthermore, the site experienced a high frequency (31 crashes) of injury-related crashes.

Severity			Weather			Surface condition			Light Condition		
Total	71										
Fatal	0	0.0%	Clear	59	83.1%	Dry	60	84.5%	Day	40	56.3%
Injury	31	43.7%	Rain	9	12.7%	Wet	9	12.7%	Night	26	36.6%
Bus	10	14.1%	Snow	1	1.4%	Snow/Ice	0	0.0%			
Police/EMS	5	7.0%									



There was an elevated number of speed-related crashes at this location, including Rear End and Side Swipe crashes. The *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" as two errors leading to Rear End and Side Swipe crashes.[1] Both of these errors can be reduced with a decrease in travel speed. There was 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, pages 2-13.
[2] AASHTO, *Highway Safety Manual*, 1st Edition, 2010; Volume 1, pages 2-14.

Safety Nexus

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

1. Speed Data – The 85th percentile speed is 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 (31 crashes) of injury-related crashes. There was also a high number of pedestrian 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 and commercial area with houses and shopping centers in the surrounding area to the east.
    b. There is one school in this area: Turner Elementary 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 crashes, injury-related crashes, and pedestrian-involved 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

1500 Block of Alabama Ave SE 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
11/20/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	16	0	5	6	0	0	0	0	0	0	0	0	0	0	27
02:00	1	1	6	9	10	2	0	0	0	0	0	0	0	0	29
03:00	1	3	4	17	3	1	0	0	0	0	0	0	0	0	29
04:00	2	6	23	44	17	2	1	0	0	0	0	0	0	0	95
05:00	10	8	39	137	70	11	2	0	0	0	0	0	0	0	277
06:00	20	52	192	221	67	11	3	0	0	0	0	0	0	0	566
07:00	71	93	227	251	46	3	0	0	0	0	0	0	0	0	691
08:00	13	23	149	147	27	1	0	0	0	0	0	0	0	0	360
09:00	14	20	82	128	42	3	0	0	0	0	0	0	0	0	289
10:00	18	37	116	147	35	0	1	0	0	0	0	0	0	0	354
11:00	16	41	140	181	29	4	0	0	0	0	0	0	0	0	411
12 PM	25	38	139	156	34	3	1	0	0	0	0	0	0	0	396
13:00	18	45	121	159	28	3	1	0	0	0	0	0	0	0	375
14:00	25	53	203	167	14	2	0	0	0	0	0	0	0	0	464
15:00	52	83	208	169	13	0	0	0	0	0	0	0	0	0	525
16:00	42	71	189	153	21	1	0	0	0	0	0	0	0	0	477
17:00	40	59	190	156	20	2	0	0	0	0	0	0	0	0	467
18:00	25	43	120	106	32	3	0	0	0	0	0	0	0	0	329
19:00	16	21	98	124	21	1	1	0	0	0	0	0	0	0	282
20:00	8	19	94	127	21	3	1	0	0	0	0	0	0	0	273
21:00	8	8	53	85	24	2	0	0	0	0	0	0	0	0	180
22:00	1	6	52	75	24	6	1	0	0	0	0	0	0	0	165
23:00	2	2	30	46	5	1	0	0	0	0	0	0	0	0	86
Total	444	732	2480	2811	603	65	12	0	0	0	0	0	0	0	7147

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

1500 Block of Alabama Ave SE 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
11/21/13	0	4	14	28	10	0	0	0	0	0	0	0	0	0	56
01:00	2	1	6	10	0	0	1	0	0	0	0	0	0	0	20
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	5	20	38	10	0	1	0	0	0	0	0	0	0	76
Grand Total	446	737	2500	2849	613	65	13	0	0	0	0	0	0	0	7223

15th Percentile :	15 MPH
50th Percentile :	24 MPH
85th Percentile :	29 MPH
95th Percentile :	32 MPH

Stats

Mean Speed(Average) :	23 MPH
10 MPH Pace Speed :	21-30 MPH
Number in Pace :	4425
Percent in Pace :	61.3%
Number of Vehicles > 25 MPH :	3179
Percent of Vehicles > 25 MPH :	44.0%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

1500 Block of Alabama Ave SE SWB Volume

Start Time	Wed A.M.	20-Nov-13 P.M.	Thu A.M.	21-Nov-13 P.M.	Fri A.M.	22-Nov-13 P.M.	Daily Average A.M.	Daily Average P.M.
12:00	*	119	**14**	*	*	*	14	119
12:15	*	88	**15**	*	*	*	15	88
12:30	*	112	**12**	*	*	*	12	112
12:45	*	77	**15**	*	*	*	15	77
01:00	*	90	14	*	*	*	14	90
01:15	*	96	6	*	*	*	6	96
01:30	20	84	*	*	*	*	20	84
01:45	7	105	*	*	*	*	7	105
02:00	12	82	*	*	*	*	12	82
02:15	7	101	*	*	*	*	7	101
02:30	6	**128**	*	*	*	*	6	**128**
02:45	4	**153**	*	*	*	*	4	**153**
03:00	2	**146**	*	*	*	*	2	**146**
03:15	6	**147**	*	*	*	*	6	**147**
03:30	10	126	*	*	*	*	10	126
03:45	11	106	*	*	*	*	11	106
04:00	18	129	*	*	*	*	18	129
04:15	24	118	*	*	*	*	24	118
04:30	20	130	*	*	*	*	20	130
04:45	33	100	*	*	*	*	33	100
05:00	48	116	*	*	*	*	48	116
05:15	61	120	*	*	*	*	61	120
05:30	74	120	*	*	*	*	74	120
05:45	94	111	*	*	*	*	94	111
06:00	94	99	*	*	*	*	94	99
06:15	130	79	*	*	*	*	130	79
06:30	145	74	*	*	*	*	145	74
06:45	**197**	77	*	*	*	*	**197**	77
07:00	**200**	71	*	*	*	*	**200**	71
07:15	**156**	61	*	*	*	*	**156**	61
07:30	**172**	90	*	*	*	*	**172**	90
07:45	163	60	*	*	*	*	163	60
08:00	120	63	*	*	*	*	120	63
08:15	81	59	*	*	*	*	81	59
08:30	83	76	*	*	*	*	83	76
08:45	76	75	*	*	*	*	76	75
09:00	76	44	*	*	*	*	76	44
09:15	66	45	*	*	*	*	66	45
09:30	78	50	*	*	*	*	78	50
09:45	69	41	*	*	*	*	69	41
10:00	84	54	*	*	*	*	84	54
10:15	76	39	*	*	*	*	76	39
10:30	98	33	*	*	*	*	98	33
10:45	96	39	*	*	*	*	96	39
11:00	91	25	*	*	*	*	91	25
11:15	98	27	*	*	*	*	98	27
11:30	117	18	*	*	*	*	117	18
11:45	105	16	*	*	*	*	105	16
Total	3128	4019	76	0	0	0	3204	4019
Combined Total	7147		76		0		7223	
Peak	06:45	02:30	12:00				06:45	02:30
Vol.	725	574	56				725	574
P.H.F.	0.906	0.938	0.933				0.906	0.938
ADT		ADT 7,223	AADT 7,223					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: ALABAMA AVE,SE From STANTON RD,SE TO FIFTEENTH ST,SE

Time Period Covered: From 01/01/2010 To 12/31/2012 **Prepared By:** Rahul Jain **Prepared Date:** 9/16/2013

Total Number of Accident:	71
Total Number of Fatalities:	0
Total Number of Injuries:	40
Total Number of Disabling Injuries:	6
Total Number of NonDisabling Injuries:	4
Total Number of Pedestrians Involved:	12
Total Number of Bicycles Involved:	2
Total Number of Motorcycles Involved:	2

Collision Type	#ACC	%
Right Angle:	6	8.5%
Left Turn:	5	7.0%
Right Turn:	0	0.0%
Rear End:	14	19.7%
Side Swiped:	13	18.3%
Head On:	3	4.2%
Parked:	8	11.3%

Collision Type	#ACC	%
Fixed Object:	6	8.5%
Ran Off Road:	0	0.0%
Ped. Involved:	9	12.7%
Backing:	3	4.2%
Non Collision:	0	0.0%
Under/Over Ride:	0	0.0%
Unspecified:	4	5.6%

Time of Day	#ACC	%
07:30 ~ 09:30:	7	9.9%
09:30 ~ 11:30:	6	8.5%
11:30 ~ 13:30:	6	8.5%
13:30 ~ 16:00:	8	11.3%
16:00 ~18:30:	15	21.1%
18:30 ~ 07:30:	29	40.8%
Unspecified:	0	0.0%

Day o fweek	#ACC	%
Sunday:	1	1.4%
Monday:	8	11.3%
Tuesday:	11	15.5%
Wednesday:	8	11.3%
Thursday:	11	15.5%
Friday:	16	22.5%
Saturday:	16	22.5%

Weather Condition	#ACC	%
Clear:	59	83.1%
Rain:	9	12.7%
Snow:	1	1.4%
Sleet/Hail:	0	0.0%
Fog/Mist:	0	0.0%
Crosswind/Blowing Sand:	0	0.0%
Unspecified:	2	2.8%

Surface Condition	#ACC	%
Dry:	60	84.5%
Wet:	9	12.7%
Snow/Ice:	0	0.0%
Slush:	1	1.4%
Water/Sand:	0	0.0%
Repairing:	0	0.0%
Unspecified:	1	1.4%

Type of Vehicle	#VEH	%
Passenger Car:	99	76.2%
Bus:	10	7.7%
Truck:	3	2.3%
Taxi:	0	0.0%
Minivan:	0	0.0%
Police/Emergency Vehicle:	5	3.8%
Motorcycle/Moped:	3	2.3%
Bicycle:	2	1.5%
Fixed Object:	0	0.0%
Unspecified:	8	6.2%

Accident Severity Type	#ACC	%
Fatal Collision:	0	0.0%
Injury Collision:	31	43.7%
PDO Collision:	40	56.3%

Light Condition	#ACC	%
Daylight:	40	56.3%
Dawn/Dusk:	3	4.2%
Dark(Lighted):	24	33.8%
Dark(Not Lighted):	2	2.8%
Dark(Unknown Lighting):	0	0.0%
Unspecified:	2	2.8%

Contributing Factor	#VEH	%
Driver: Speed:	4	3.1%
Driver: Alcohol/Drug:	1	0.8%
Driver: Electronic Device:	1	0.8%
Driver: Others:	28	21.5%
Vehicle:	0	0.0%
Roadway:	2	1.5%
Unspecified:	94	72.3%

Pedestrian Actions	#ACC	%
In Crosswalk with Signal:	6	50.0%
In Crosswalk against Signal:	0	0.0%
In Crosswalk no Signal:	1	8.3%
In Unmarked Crosswalk:	0	0.0%
Not in Crosswalk:	0	0.0%
From Between Parked Cars:	0	0.0%
Unspecified:	5	41.7%

50 Records are not approved as of 9/16/2013 12:53:25 PM