



District Department of Transportation

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

East Capitol Street at Texas Avenue SE

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
6	603/604/608	7	7A/7D/7E	Planned	East Capitol Street at Texas Avenue Southeast, Eastbound



This *planned* speed camera will be located in Ward 7 at the intersection of East Capitol Street at Texas Avenue Southeast in the eastbound direction. East Capitol Street runs between Southern Avenue Southeast to the east and C Street Northeast to the west. The posted speed limit is 35 MPH.

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District Department of Transportation

East Capitol Street at Texas Avenue SE

Field Assessment Summary

East Capitol Street is assumed to run in an east-west direction, and is classified as principal arterial. East Capitol Street has three travel lanes in each direction and a left turn bay eastbound on the east leg of the intersection. Texas Avenue has one lane in each direction and ends at East Capitol Street. This site has the following characteristics:

- This is a residential and commercial area with apartments and businesses.
- There are six schools in the area: Kelly Miller Middle School, Boys and Girls Club of America, DC Prep, Richard Wright Public Charter School, The Seed School, and Plummer Elementary School.
- The Benning Road Metro Station and Fort Chaplin Park are also in the area.
- There is sidewalk on both sides of all three legs of the intersection.
- There are grass medians on all three legs as well.
- Northbound traffic from Texas Avenue may only turn right.
- There is a crosswalk on the south leg of the intersection. The intersection has a traffic signal and pedestrian signals.
- There is a bus stop westbound on the east leg.
- There is a slope downgrade eastbound.
- There is on-street parking on the east side of the south leg and the west side of the south leg south of the median.



Looking Eastbound

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District Department of Transportation

East Capitol Street at Texas Avenue SE



Looking Westbound

Speed Data Analysis

Posted Speed Limit (MPH)	35
Mean Speed (MPH)	23
85th Percentile Speed (MPH)	32
10 MPH Pace Speed	23-32 MPH
ADT	7852

Both the mean speed and the 85th percentile speeds are lower than the posted speed limit. The 85th percentile speed is 3 MPH lower 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 73 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 crashes at this location were Rear End (23 crashes), Side Swipe (11 crashes), Right Angle (10 crashes), Right Turn (7 crashes) and Pedestrian Involved (6 crashes). Furthermore, this location experienced a high frequency (32 crashes) of injury-related crashes.

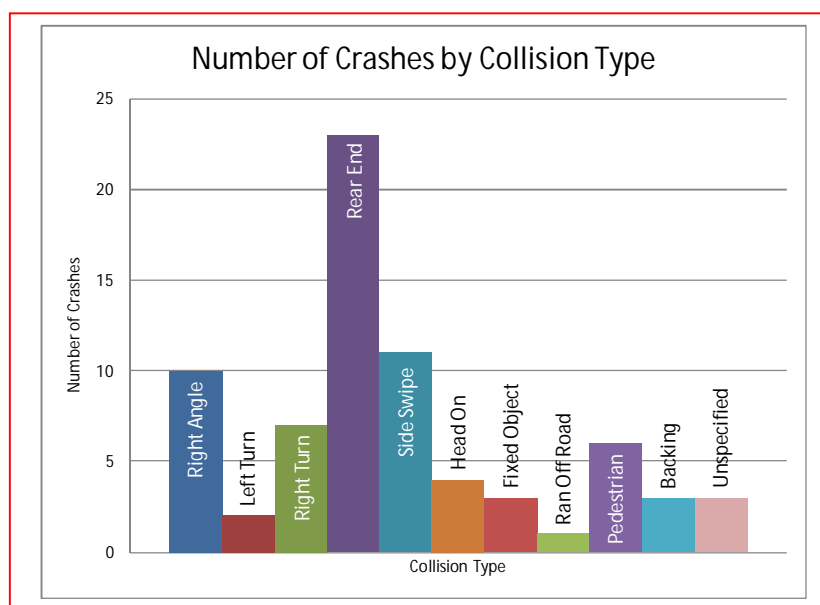
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District Department of Transportation

East Capitol Street at Texas Avenue SE

Severity			Weather			Surface condition			Light Condition		
Total	73										
Fatal	0	0.0%	Clear	60	82.2%	Dry	61	83.6%	Day	40	54.8%
Injury	32	43.8%	Rain	9	12.3%	Wet	10	13.7%	Night	28	38.4%
Truck	12	16.4%	Snow	1	1.4%	Slush	0	0.0%			
Bus	6	8.2%									



There were an elevated number of speed-related crashes at this location, including rear end 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 crashes. Both of these errors can be decreased with a decrease in travel speed.¹

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 speed data analysis shows travel speeds being lower than the posted speed limit.
2. Crash Data – There was an elevated number of speed-related crashes, including Rear End collisions, as well as a high frequency (32 crashes) of injury-related crashes.

¹ AASHTO, *Highway Safety Manual*, 1st Edition, 2010; Volume 1, pages 2-13.



District Department of Transportation

East Capitol Street at Texas Avenue SE

3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
 - a. This is a residential and commercial area with apartments and businesses.
 - b. There are six schools in the area: Kelly Miller Middle School, Boys and Girls Club of America, DC Prep, Richard Wright Public Charter School, The Seed School, and Plummer Elementary School.
 - c. Fort Chaplin Park is in the area and has a bike trail which generates pedestrian and bicycle activity.
 - d. There are several bus stops and one Metrorail station in the area which generate pedestrian activity.
 - e. There is on-street parking on both sides of the south leg of the intersection.

Although the speed data analysis showed the mean and 85th percentile speeds to be lower than the posted speed limit, due to the elevated number of speed-related crashes and injury-related crashes, the 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.

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SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

East Capitol St EB at Texas Ave SE Speed

EB

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	0	0	11	8	9	2	1	0	0	0	0	0	0	0	31
05:00	0	1	6	9	4	3	1	0	0	0	0	0	0	0	24
06:00	1	3	13	19	25	9	3	1	0	0	0	0	0	0	74
07:00	1	2	42	66	54	17	4	4	1	0	0	0	0	0	191
08:00	25	43	87	113	60	11	4	0	0	0	0	0	0	0	343
09:00	50	68	114	100	53	4	1	2	0	0	0	0	0	0	392
10:00	12	27	89	135	68	23	6	0	0	0	0	0	0	0	360
11:00	7	12	66	121	77	28	4	1	1	0	0	0	0	0	317
12 PM	9	17	88	145	78	32	12	4	1	0	0	0	0	0	386
13:00	4	17	76	132	113	24	15	1	1	0	0	0	0	0	383
14:00	14	34	118	157	83	39	14	2	0	1	0	0	0	0	462
15:00	44	60	137	175	81	40	11	7	0	0	1	1	0	0	557
16:00	231	91	162	157	105	58	9	0	0	0	0	0	0	0	813
17:00	262	42	56	37	28	4	1	0	0	0	0	0	0	0	430
18:00	224	8	2	0	0	0	0	0	0	0	0	0	0	0	234
19:00	214	131	172	129	82	19	3	0	0	0	0	0	0	0	750
20:00	62	67	135	167	123	54	8	1	0	0	0	0	0	0	617
21:00	24	35	126	166	89	31	6	2	0	0	0	0	0	0	479
22:00	8	26	73	123	83	28	6	4	0	0	0	0	0	0	351
23:00	2	5	38	97	69	29	6	2	1	0	0	0	0	0	249
Total	1194	689	1611	2056	1284	455	115	31	5	1	1	1	0	0	7443

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

East Capitol St EB at Texas Ave SE Speed

EB

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
11/21/13	1	5	32	51	61	15	5	2	1	0	0	0	0	0	173
01:00	0	2	22	50	38	13	7	1	0	1	0	0	0	0	134
02:00	0	0	14	24	11	6	2	0	0	0	0	0	0	0	57
03:00	0	1	11	11	14	4	3	0	1	0	0	0	0	0	45
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	1	8	79	136	124	38	17	3	2	1	0	0	0	0	409
Grand Total	1195	697	1690	2192	1408	493	132	34	7	2	1	1	0	0	7852

15th Percentile : 9 MPH
50th Percentile : 24 MPH
85th Percentile : 32 MPH
95th Percentile : 37 MPH

Stats
Mean Speed(Average) : 23 MPH
10 MPH Pace Speed : 23-32 MPH
Number in Pace : 3232
Percent in Pace : 41.2%
Number of Vehicles > 35 MPH : 669
Percent of Vehicles > 35 MPH : 8.5%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

East Capitol St EB at Texas Ave SE 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.	P.M.
12:00	*	88	58	*	*	*	58	88
12:15	*	91	47	*	*	*	47	91
12:30	*	107	34	*	*	*	34	107
12:45	*	100	34	*	*	*	34	100
01:00	*	104	34	*	*	*	34	104
01:15	*	82	38	*	*	*	38	82
01:30	*	97	30	*	*	*	30	97
01:45	*	100	32	*	*	*	32	100
02:00	*	95	17	*	*	*	17	95
02:15	*	119	14	*	*	*	14	119
02:30	*	121	12	*	*	*	12	121
02:45	*	127	14	*	*	*	14	127
03:00	*	126	11	*	*	*	11	126
03:15	*	138	13	*	*	*	13	138
03:30	*	151	14	*	*	*	14	151
03:45	*	142	7	*	*	*	7	142
04:00	8	178	*	*	*	*	8	178
04:15	8	213	*	*	*	*	8	213
04:30	9	235	*	*	*	*	9	235
04:45	6	187	*	*	*	*	6	187
05:00	6	183	*	*	*	*	6	183
05:15	6	125	*	*	*	*	6	125
05:30	6	61	*	*	*	*	6	61
05:45	6	61	*	*	*	*	6	61
06:00	8	55	*	*	*	*	8	55
06:15	14	58	*	*	*	*	14	58
06:30	24	51	*	*	*	*	24	51
06:45	28	70	*	*	*	*	28	70
07:00	33	123	*	*	*	*	33	123
07:15	47	217	*	*	*	*	47	217
07:30	53	220	*	*	*	*	53	220
07:45	58	190	*	*	*	*	58	190
08:00	72	172	*	*	*	*	72	172
08:15	84	176	*	*	*	*	84	176
08:30	92	141	*	*	*	*	92	141
08:45	95	128	*	*	*	*	95	128
09:00	110	141	*	*	*	*	110	141
09:15	95	111	*	*	*	*	95	111
09:30	106	110	*	*	*	*	106	110
09:45	81	117	*	*	*	*	81	117
10:00	112	93	*	*	*	*	112	93
10:15	82	78	*	*	*	*	82	78
10:30	83	98	*	*	*	*	83	98
10:45	83	82	*	*	*	*	83	82
11:00	65	85	*	*	*	*	65	85
11:15	77	59	*	*	*	*	77	59
11:30	83	55	*	*	*	*	83	55
11:45	92	50	*	*	*	*	92	50
Total	1732	5711	409	0	0	0	2141	5711
Combined Total	7443		409		0		7852	
Peak	08:45	04:15	12:00				08:45	04:15
Vol.	406	818	173				406	818
P.H.F.	0.923	0.870	0.746				0.923	0.870
ADT	ADT 7,852		AADT 7,852					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-8)

Corridor: EAST CAPITOL ST,BN From TEXAS AVE,BN TO BENNING RD,BN

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

Prepared By: Rahul Jain

Prepared Date: 10/6/2013

Total Number of Accident:	73	Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Fatalities:	0	Right Angle:	10	13.7%	Fixed Object:	3	4.1%
Total Number of Injuries:	47	Left Turn:	2	2.7%	Ran Off Road:	1	1.4%
Total Number of Disabling Injuries:	0	Right Turn:	7	9.6%	Ped. Involved:	6	8.2%
Total Number of NonDisabling Injuries:	10	Rear End:	23	31.5%	Backing:	3	4.1%
Total Number of Pedestrians Involved:	5	Side Swiped:	11	15.1%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	2	Head On:	4	5.5%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	1	Parked:	0	0.0%	Unspecified:	3	4.1%

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	10	13.7%	Sunday:	10	13.7%
09:30 ~ 11:30:	1	1.4%	Monday:	7	9.6%
11:30 ~ 13:30:	5	6.8%	Tuesday:	13	17.8%
13:30 ~ 16:00:	7	9.6%	Wednesday:	8	11.0%
16:00 ~18:30:	18	24.7%	Thursday:	9	12.3%
18:30 ~ 07:30:	32	43.8%	Friday:	11	15.1%
Unspecified:	0	0.0%	Saturday:	15	20.5%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	60	82.2%	Dry:	61	83.6%
Rain:	9	12.3%	Wet:	10	13.7%
Snow:	1	1.4%	Snow/Ice:	0	0.0%
Sleet/Hail:	0	0.0%	Slush:	0	0.0%
Fog/Mist:	0	0.0%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	0	0.0%	Repairing:	0	0.0%
Unspecified:	3	4.1%	Unspecified:	2	2.7%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	102	71.8%	Fatal Collision:	0	0.0%
Bus:	6	4.2%	Injury Collision:	32	43.8%
Truck:	12	8.5%	PDO Collision:	41	56.2%
Taxi:	2	1.4%	Light Condition	#ACC	%
Minivan:	0	0.0%	Daylight:	40	54.8%
Police/Emergency Vehicle:	5	3.5%	Dawn/Dusk:	2	2.7%
Motorcycle/Moped:	1	0.7%	Dark(Lighted):	28	38.4%
Bicycle:	2	1.4%	Dark(Not Lighted):	0	0.0%
Fixed Object:	0	0.0%	Dark(Unknown Lighting):	0	0.0%
Unspecified:	12	8.5%	Unspecified:	3	4.1%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	3	2.1%	In Crosswalk with Signal:	3	60.0%
Driver: Alcohol/Drug:	3	2.1%	In Crosswalk against Signal:	2	40.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	28	19.7%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	1	0.7%	Not in Crosswalk:	0	0.0%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	107	75.4%	Unspecified:	0	0.0%

47 Records are not approved as of 10/6/2013 7:35:26 PM