



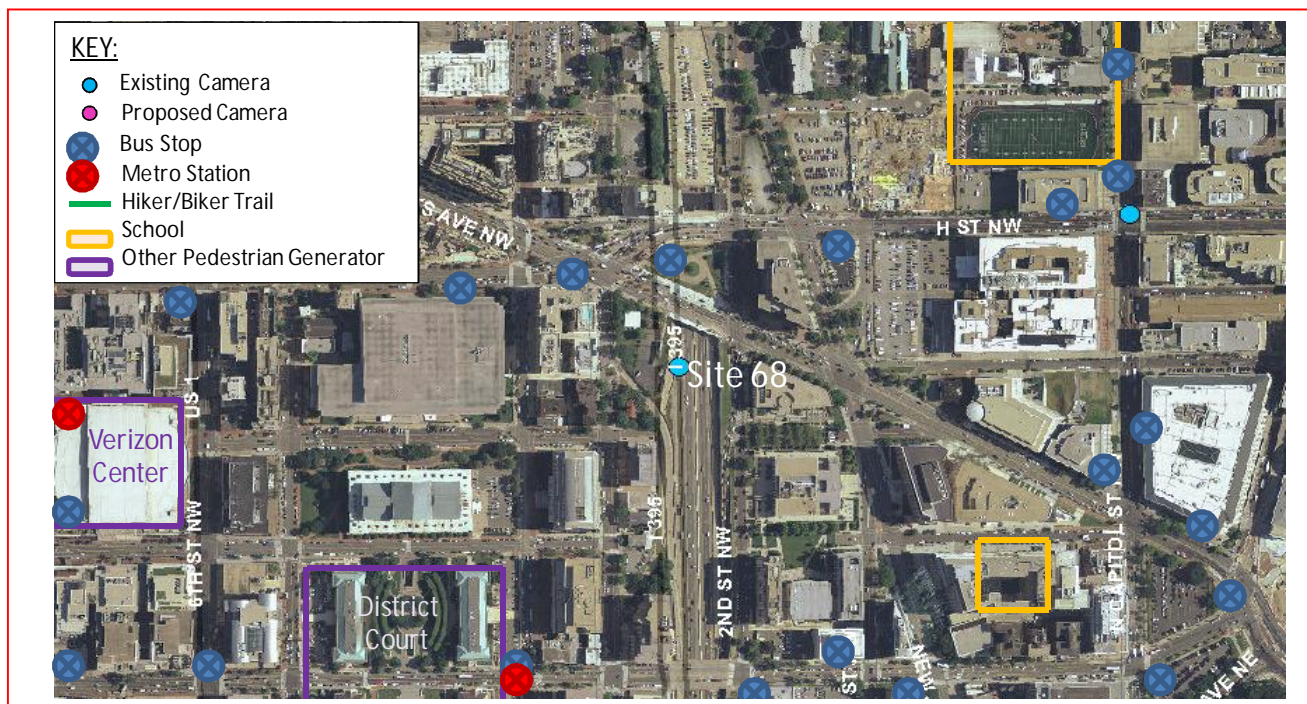
District Department of Transportation

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

3rd Street Tunnel at Massachusetts Avenue Exit

Study Area and Location

District	PSA	Ward	ANC	Phase	Description
1	103	6	6C	Existing	3 rd Street Tunnel Northwest Northbound at Massachusetts Avenue Exit



The existing speed camera is located in Ward 6 at the ramp junction of 3rd Street Tunnel Northwest Northbound at Massachusetts Avenue Exit in the northbound direction. Third Street Tunnel Northwest runs between New York Avenue Northwest to the north and I-695 to the south. The posted speed limit is 45 MPH. This speed camera was installed on June 1, 2005.

W6 - 1





District Department of Transportation

3rd Street Tunnel at Massachusetts Avenue Exit

Field Assessment Summary

The 3rd Street Tunnel Northwest, also known as I-395, is assumed to run in a north-south direction, and is classified as a Interstate. Third Street Tunnel Northwest has three travel lanes in the northbound direction. There is a full shoulder on the right side of the roadway. This site has the following characteristics:

1. This site is located in a residential and commercial area with businesses and apartments in the surrounding area.
2. There are three lanes inside the tunnel. After the tunnel, two lanes continue on to I-395 and two lanes exit off on to Massachusetts Avenue NW.
3. There is curb and gutter and concrete barriers on both sides of the freeway.
4. The existing pavement is in good condition and there is a median with concrete barrier separating the four lanes of traffic.



Looking Northbound



District Department of Transportation

3rd Street Tunnel at Massachusetts Avenue Exit



Looking Southbound

Speed Data Analysis

Posted Speed Limit (MPH)	45
Mean Speed (MPH)	47
85th Percentile Speed (MPH)	67
10 MPH Pace Speed (MPH)	60-69
ADT	13,959

The mean speed is higher than the posted speed limit by 2 MPH and the 85th percentile speed is higher than the posted speed by 22 MPH at this location.

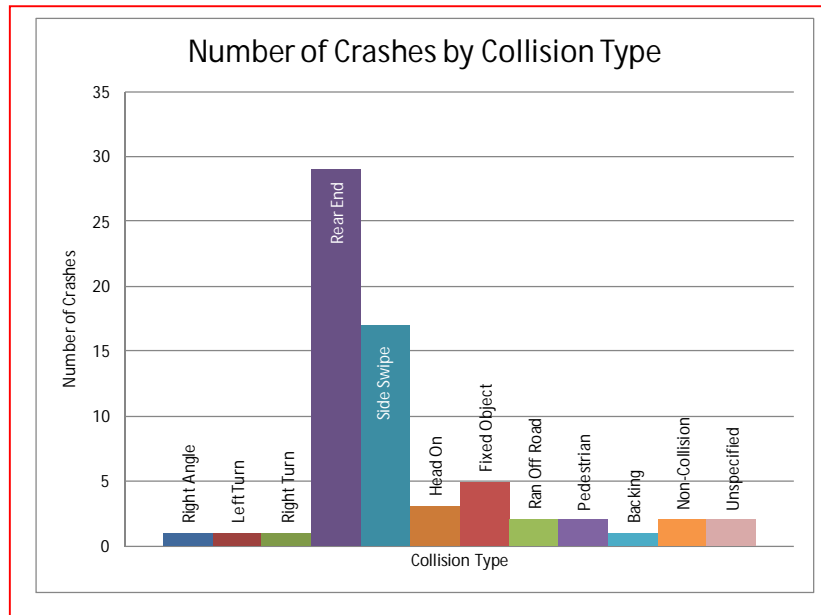
Crash Data Analysis

From the Accident Summary Report provided for the dates between January 1, 2010 and December 31, 2012 there were a total of 66 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 (29 crashes) and Side Swipe (17 crashes). Furthermore, this site experienced a high frequency (25 crashes) of injury-related crashes.



3rd Street Tunnel at Massachusetts Avenue Exit

Severity			Weather			Surface condition			Light Condition		
Total	66										
Fatal	0	0.0%	Clear	55	83.3%	Dry	53	80.3%	Day	38	57.6%
Injury	25	37.9%	Rain	7	10.6%	Wet	9	13.6%	Night	24	36.4%
Truck	13	19.7%	Snow	2	3.0%	Slush	2	3.0%			
Bus	6	9.1%									



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 06-01-2005. There were no accidents prior to installation of the speed camera, and no accidents after the installation of the speed camera.

This site is located within a half mile radius from four of the Top 20 Hazardous Intersections by Crash Frequency (K St at N. Capitol St, 4th St at New York Ave, 1st St at New York Ave, and H St at N. Capitol St) from

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



District Department of Transportation

3rd Street Tunnel at Massachusetts Avenue Exit

2009 to 2011, according to the report *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*².

Safety Nexus

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

1. Speed Data – The 85th percentile speeds are much higher than the posted speed limit at this location.
2. Crash Data – There were an elevated number of speed-related crashes at this location, including rear end and side swipe crashes, as well as a high frequency (25 crashes) of injury-related crashes.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
 - o This site is located in a residential and commercial area with businesses and apartments in the surrounding area.

Due to the speed data analysis, the elevated number of speed-related crashes and injury-related crashes, and the specific site characteristics, there is a nexus between traffic safety and the speed camera at this location.

² DDOT, *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*, pg. 80.

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

3rd Street Tunnel NW NB at MA AVE Exit Speed

NB

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
11/26/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	4	0	0	0	0	0	1	4	6	7	5	8	11	36	82
03:00	1	0	0	0	0	0	1	0	2	3	7	12	6	35	67
04:00	5	0	0	0	0	1	0	1	2	6	5	6	10	45	81
05:00	13	0	0	0	0	1	0	3	6	12	24	35	29	133	256
06:00	65	0	0	0	0	0	2	8	29	64	90	138	134	280	810
07:00	119	0	0	0	0	0	4	8	42	80	149	209	165	334	1110
08:00	137	2	0	0	1	0	5	17	37	97	144	180	173	319	1112
09:00	135	1	1	0	0	2	4	23	40	99	155	139	100	189	888
10:00	103	0	0	0	1	1	11	42	71	103	138	155	112	253	990
11:00	186	0	0	0	0	1	2	19	40	75	81	70	55	355	884
12 PM	154	2	0	0	3	7	9	32	54	67	67	76	45	274	790
13:00	159	0	0	0	0	2	9	24	63	59	69	68	52	217	722
14:00	60	5	3	0	2	12	54	94	129	130	89	48	48	96	770
15:00	72	7	5	0	3	24	58	130	136	124	61	43	14	22	699
16:00	76	12	2	0	4	31	91	137	132	108	58	26	7	18	702
17:00	90	10	3	0	1	16	71	96	104	81	49	23	8	16	568
18:00	59	10	0	3	0	0	13	40	63	78	71	57	48	49	491
19:00	20	0	0	0	1	3	9	45	90	106	123	88	58	84	627
20:00	16	0	0	0	0	0	5	23	62	82	81	83	71	120	543
21:00	14	0	0	0	0	3	12	15	32	67	71	68	55	120	457
22:00	10	0	0	0	2	4	4	31	40	46	67	57	57	113	431
23:00	11	0	0	0	1	0	5	18	19	50	68	58	46	121	397
Total	1509	49	14	3	19	108	370	810	1199	1544	1672	1647	1304	3229	13477

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

3rd Street Tunnel NW NB at MA AVE Exit Speed

NB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
11/27/13	4	0	0	0	1	0	5	15	31	45	40	42	34	85	302
01:00	1	0	0	0	0	1	2	7	15	9	20	28	21	73	177
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
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	8	0	0	0	1	1	7	22	46	54	60	70	55	158	482
Grand Total	1517	49	14	3	20	109	377	832	1245	1598	1732	1717	1359	3387	13959

15th Percentile : 9 MPH
 50th Percentile : 55 MPH
 85th Percentile : 67 MPH
 95th Percentile : 70 MPH

Stats
 Mean Speed(Average) : 47 MPH
 10 MPH Pace Speed : 60-69 MPH
 Number in Pace : 3196
 Percent in Pace : 30.2%
 Number of Vehicles > 45 MPH : 7399
 Percent of Vehicles > 45 MPH : 70.0%

SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD
MOUNT AIRY, MD 21771

www.sammateng.com

3rd Street Tunnel NW NB at MA AVE Exit

Start Time	26-Nov-13		27-Nov-13		28-Nov-13		Daily Average	
	Tue A.M.	P.M.	Wed A.M.	P.M.	Thu A.M.	P.M.	A.M.	P.M.
12:00	*	203	93	*	*	*	93	203
12:15	*	189	86	*	*	*	86	189
12:30	*	217	68	*	*	*	68	217
12:45	*	181	55	*	*	*	55	181
01:00	*	188	46	*	*	*	46	188
01:15	*	180	51	*	*	*	51	180
01:30	*	174	38	*	*	*	38	174
01:45	*	180	42	*	*	*	42	180
02:00	*	213	3	*	*	*	3	213
02:15	33	198	*	*	*	*	33	198
02:30	31	176	*	*	*	*	31	176
02:45	18	183	*	*	*	*	18	183
03:00	18	167	*	*	*	*	18	167
03:15	18	185	*	*	*	*	18	185
03:30	16	159	*	*	*	*	16	159
03:45	15	188	*	*	*	*	15	188
04:00	11	192	*	*	*	*	11	192
04:15	19	172	*	*	*	*	19	172
04:30	25	186	*	*	*	*	25	186
04:45	26	152	*	*	*	*	26	152
05:00	32	208	*	*	*	*	32	208
05:15	45	140	*	*	*	*	45	140
05:30	69	171	*	*	*	*	69	171
05:45	110	49	*	*	*	*	110	49
06:00	109	49	*	*	*	*	109	49
06:15	185	138	*	*	*	*	185	138
06:30	253	162	*	*	*	*	253	162
06:45	263	142	*	*	*	*	263	142
07:00	238	167	*	*	*	*	238	167
07:15	290	190	*	*	*	*	290	190
07:30	318	132	*	*	*	*	318	132
07:45	264	138	*	*	*	*	264	138
08:00	259	155	*	*	*	*	259	155
08:15	292	138	*	*	*	*	292	138
08:30	295	120	*	*	*	*	295	120
08:45	266	130	*	*	*	*	266	130
09:00	242	137	*	*	*	*	242	137
09:15	233	114	*	*	*	*	233	114
09:30	219	89	*	*	*	*	219	89
09:45	194	117	*	*	*	*	194	117
10:00	215	108	*	*	*	*	215	108
10:15	239	112	*	*	*	*	239	112
10:30	261	109	*	*	*	*	261	109
10:45	275	102	*	*	*	*	275	102
11:00	221	97	*	*	*	*	221	97
11:15	226	109	*	*	*	*	226	109
11:30	230	87	*	*	*	*	230	87
11:45	207	104	*	*	*	*	207	104
Total	6280	7197	482	0	0	0	6762	7197
Combined Total	13477		482		0		13959	
Peak	07:30	12:00	12:00				07:30	12:00
Vol.	1133	790	302				1133	790
P.H.F.	0.891	0.910	0.812				0.891	0.910
ADT		ADT 13,959	AADT 13,959					

Accident Summary Report (R-8)

Corridor: INTERSTATE 395,BN From FOURTH ST,NW TO INTERSTATE 695 INTERSTATE,BN

Time Period Covered: From 01/01/2010 To 12/31/2012 **Prepared By:** admin TARAS **Prepared Date:** 1/2/2014

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	66	Right Angle:	1	1.5%	Fixed Object:	5	7.6%
Total Number of Fatalities:	0	Left Turn:	1	1.5%	Ran Off Road:	2	3.0%
Total Number of Injuries:	40	Right Turn:	1	1.5%	Ped. Involved:	2	3.0%
Total Number of Disabling Injuries:	1	Rear End:	29	43.9%	Backing:	1	1.5%
Total Number of NonDisabling Injuries:	5	Side Swiped:	17	25.8%	Non Collision:	2	3.0%
Total Number of Pedestrians Involved:	4	Head On:	3	4.5%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	1	Parked:	0	0.0%	Unspecified:	2	3.0%
Total Number of Motorcycles Involved:	1						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	6	9.1%	Sunday:	10	15.2%
09:30 ~ 11:30:	7	10.6%	Monday:	9	13.6%
11:30 ~ 13:30:	13	19.7%	Tuesday:	9	13.6%
13:30 ~ 16:00:	8	12.1%	Wednesday:	9	13.6%
16:00 ~18:30:	8	12.1%	Thursday:	9	13.6%
18:30 ~ 07:30:	24	36.4%	Friday:	11	16.7%
Unspecified:	0	0.0%	Saturday:	9	13.6%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	55	83.3%	Dry:	53	80.3%
Rain:	7	10.6%	Wet:	9	13.6%
Snow:	2	3.0%	Snow/Ice:	1	1.5%
Sleet/Hail:	1	1.5%	Slush:	2	3.0%
Fog/Mist:	0	0.0%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	0	0.0%	Repairing:	1	1.5%
Unspecified:	1	1.5%	Unspecified:	0	0.0%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	101	78.3%	Fatal Collision:	0	0.0%
Bus:	6	4.7%	Injury Collision:	25	37.9%
Truck:	13	10.1%	PDO Collision:	41	62.1%
Taxi:	6	4.7%			
Minivan:	0	0.0%	Light Condition	#ACC	%
Police/Emergency Vehicle:	1	0.8%	Daylight:	38	57.6%
Motorcycle/Moped:	1	0.8%	Dawn/Dusk:	2	3.0%
Bicycle:	1	0.8%	Dark(Lighted):	23	34.8%
Fixed Object:	0	0.0%	Dark(Not Lighted):	1	1.5%
Unspecified:	0	0.0%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	2	3.0%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	0	0.0%	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:	26	20.2%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	1	0.8%	Not in Crosswalk:	0	0.0%
Roadway:	1	0.8%	From Between Parked Cars:	1	50.0%
Unspecified:	101	78.3%	Unspecified:	1	50.0%

Year	Accidents	Fatalities	Injuries	Disabling Injuries	Pedestrians	Bicycles	Motorcycles
2010	44	0	26	4	4	1	0
2011	16	0	10	1	0	0	1
2012	6	0	4	0	0	0	0

38 Records are not approved as of 1/2/2014 3:43:53 PM