



District Department of Transportation

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

### Southwest Freeway SW at Exit 4 W/B

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
1	105	6	6D	Proposed	Southwest Freeway Southwest at Exit 4 Westbound



The *proposed* speed camera is located in Ward 6 on Southwest Freeway Southwest at Exit 4 in the westbound direction. Southwest Freeway Southwest, also known as I-395, runs between the 3<sup>rd</sup> Street Tunnel to the east and the 14<sup>th</sup> Street Bridge to the west. The posted speed limit is 40 MPH.

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District Department of Transportation

55 M Street, SE, Suite 400

Washington, DC 20003



District Department of Transportation

## Southwest Freeway SW at Exit 4 W/B

### Field Assessment Summary

The Southwest Freeway is assumed to run in an east-west direction, and is classified as an interstate (I-395). The Southwest Freeway has three travel lanes westbound and two exiting lanes at Exit 4. There are three travel lanes eastbound. This site has the following characteristics:

- L'Enfant Plaza Metro Station is in the area.
- There are several bus stops in the surrounding area.
- There is a concrete barrier separating eastbound and westbound traffic and concrete barriers at the edge of the road.
- The pavement is in good condition and there are drainage inlets in the concrete barriers.
- There is construction work zone in this area.



Looking Westbound

### Speed Data Analysis

Posted Speed Limit (MPH)	40
Mean Speed (MPH)	36
85th Percentile Speed (MPH)	51
10 MPH Pace Speed	42-51
ADT	49,455

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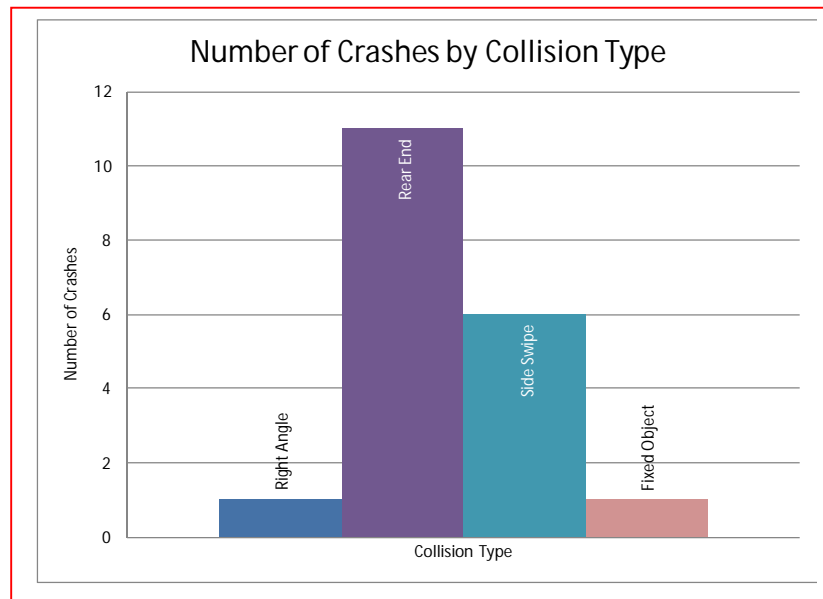
## Southwest Freeway SW at Exit 4 W/B

The mean speed is lower than the posted speed limit by 4 MPH and the 85<sup>th</sup> percentile speed is higher than the posted speed by 11 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 19 crashes at this location. A breakdown of number of crashes by collisions type can be found in the chart below. The most common types of crashes at this location were Rear End (11) and Side Swiped (6).

Severity			Weather			Surface Condition			Light Condition		
Total	19										
Fatal	0	0.0%	Clear	17	89.5%	Dry	16	84.2%	Day	14	73.7%
Injury	6	31.6%	Rain	1	5.3%	Wet	2	10.5%	Night	4	21.1%
Bus	1	5.3%	Fog/Mist	0	0.0%	Snow/Ice:	0	0.0%			
Truck	2	10.5%									



### Safety Nexus

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



District Department of Transportation

## Southwest Freeway SW at Exit 4 W/B

1. Speed Data – The 85<sup>th</sup> percentile speed is much higher than the posted speed limit at this location.
2. Crash Data – There were six injury-related crashes at this location.
3. Field Assessment – The following site characteristics suggest a need for a safer travel environment:
  - a. There is a construction work zone present in the area.
  - b. There are several bus stops and one Metrorail station in the area which generate pedestrian activity above the freeway.

Due to a construction work zone in the area, the speed limits in the zone are lower than the posted speed limit, and lower speed limits are desired to create a safe environment for construction workers. Further speed analysis is recommended once the freeway construction has been completed.

Due to the elevated 85<sup>th</sup> percentile speeds, the number of injury-related crashes, and the presence of a work zone, 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

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## Southwest Fwy SW at Exit 4 WB Speed

WB															
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
12/05/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	5	1	0	0	1	5	33	67	69	26	7	1	1	0	216
03:00	14	0	0	1	3	5	58	106	144	102	60	15	8	0	516
04:00	93	1	0	0	0	20	78	201	302	252	108	39	7	3	1104
05:00	349	1	0	0	0	26	190	651	864	430	106	18	5	1	2641
06:00	511	11	1	0	12	143	704	1194	618	144	26	3	1	0	3368
07:00	490	11	22	35	122	438	1115	585	133	14	0	1	1	0	2967
08:00	530	5	1	1	48	477	1188	820	218	38	4	1	0	0	3331
09:00	602	5	1	4	25	174	815	1169	497	122	20	5	0	0	3439
10:00	528	2	1	0	4	110	596	1043	707	165	29	3	1	0	3189
11:00	552	5	4	1	20	127	662	1054	626	155	21	3	0	0	3230
12 PM	527	9	0	5	22	135	629	1193	538	125	13	4	0	1	3201
13:00	597	4	0	1	8	138	655	1270	542	108	22	3	1	0	3349
14:00	515	19	42	19	54	334	803	674	247	50	6	0	1	0	2764
15:00	282	133	203	42	1	0	0	0	0	0	0	0	0	0	661
16:00	314	132	91	9	1	0	0	0	0	0	0	0	0	0	547
17:00	328	112	64	2	0	0	0	0	0	0	0	0	0	0	506
18:00	300	158	103	12	0	0	0	0	0	0	0	0	0	0	573
19:00	445	13	39	37	74	387	914	666	184	28	5	0	0	0	2792
20:00	486	1	0	0	10	220	950	934	305	47	3	0	0	0	2956
21:00	426	1	0	0	19	242	802	721	272	48	3	2	0	0	2536
22:00	333	0	0	0	6	108	521	771	324	78	11	1	0	0	2153
23:00	275	0	0	0	3	68	333	607	288	78	10	1	0	0	1663
Total	8502	624	572	169	433	3157	11046	13726	6878	2010	454	100	26	5	47702

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## Southwest Fwy SW at Exit 4 WB Speed

WB															
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
12/06/13	164	0	0	0	7	57	223	328	175	44	4	1	0	0	1003
01:00	122	1	0	1	3	38	145	169	92	33	7	1	0	0	612
02:00	38	1	0	0	1	7	37	35	16	3	0	0	0	0	138
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	324	2	0	1	11	102	405	532	283	80	11	2	0	0	1753
Grand Total	8826	626	572	170	444	3259	11451	14258	7161	2090	465	102	26	5	49455

15th Percentile : 8 MPH  
 50th Percentile : 43 MPH  
 85th Percentile : 51 MPH  
 95th Percentile : 55 MPH

Stats  
 Mean Speed(Average) : 36 MPH  
 10 MPH Pace Speed : 42-51 MPH  
 Number in Pace : 21098  
 Percent in Pace : 42.7%  
 Number of Vehicles > 40 MPH : 30080  
 Percent of Vehicles > 40 MPH : 60.8%

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## Southwest Fwy SW at Exit 4 WB Volume

Start Time	05-Dec-13		06-Dec-13		07-Dec-13		Daily Average	
	Thu A.M.	P.M.	Fri A.M.	P.M.	Sat A.M.	P.M.	A.M.	P.M.
12:00	*	765	306	*	*	*	306	765
12:15	*	823	292	*	*	*	292	823
12:30	*	800	216	*	*	*	216	800
12:45	*	813	189	*	*	*	189	813
01:00	*	846	190	*	*	*	190	846
01:15	*	813	129	*	*	*	129	813
01:30	*	852	163	*	*	*	163	852
01:45	*	838	130	*	*	*	130	838
02:00	*	889	138	*	*	*	138	889
02:15	92	824	*	*	*	*	92	824
02:30	62	844	*	*	*	*	62	844
02:45	62	207	*	*	*	*	62	207
03:00	82	166	*	*	*	*	82	166
03:15	108	164	*	*	*	*	108	164
03:30	154	163	*	*	*	*	154	163
03:45	172	168	*	*	*	*	172	168
04:00	195	147	*	*	*	*	195	147
04:15	221	137	*	*	*	*	221	137
04:30	293	147	*	*	*	*	293	147
04:45	395	116	*	*	*	*	395	116
05:00	494	136	*	*	*	*	494	136
05:15	606	130	*	*	*	*	606	130
05:30	785	122	*	*	*	*	785	122
05:45	756	118	*	*	*	*	756	118
06:00	807	165	*	*	*	*	807	165
06:15	860	168	*	*	*	*	860	168
06:30	889	129	*	*	*	*	889	129
06:45	812	111	*	*	*	*	812	111
07:00	904	464	*	*	*	*	904	464
07:15	786	792	*	*	*	*	786	792
07:30	494	772	*	*	*	*	494	772
07:45	783	764	*	*	*	*	783	764
08:00	780	805	*	*	*	*	780	805
08:15	809	772	*	*	*	*	809	772
08:30	861	712	*	*	*	*	861	712
08:45	881	667	*	*	*	*	881	667
09:00	846	619	*	*	*	*	846	619
09:15	831	635	*	*	*	*	831	635
09:30	877	678	*	*	*	*	877	678
09:45	885	604	*	*	*	*	885	604
10:00	809	623	*	*	*	*	809	623
10:15	810	551	*	*	*	*	810	551
10:30	789	483	*	*	*	*	789	483
10:45	781	496	*	*	*	*	781	496
11:00	774	456	*	*	*	*	774	456
11:15	795	450	*	*	*	*	795	450
11:30	875	408	*	*	*	*	875	408
11:45	786	349	*	*	*	*	786	349
Total	24001	23701	1753	0	0	0	25754	23701
Combined Total	47702		1753		0		49455	
Peak	06:15	01:30	12:00				06:15	01:30
Vol.	3465	3403	1003				3465	3403
P.H.F.	0.958	0.957	0.819				0.958	0.957
ADT	ADT 49,455		AADT 49,455					

DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** INTERSTATE 395,BN From INTERSTATE 695 INTERSTATE,BN TO 12TH ST EXPWY,SW

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

**Prepared By:** Rahul Jain

**Prepared Date:** 12/27/2012

Total Number of Accident:	19	<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:	1	5.3%	Fixed Object:	1	5.3%
Total Number of Injuries:	8	Left Turn:	0	0.0%	Ran Off Road:	0	0.0%
Total Number of Disabling Injuries:	0	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of NonDisabling Injuries:	1	Rear End:	11	57.9%	Backing:	0	0.0%
Total Number of Pedestrians Involved:	0	Side Swiped:	6	31.6%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	0	Head On:	0	0.0%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	0	Parked:	0	0.0%	Unspecified:	0	0.0%
<b>Time of Day</b>				<b>#ACC</b>	<b>%</b>	<b>Day o fweek</b>	
07:30 ~ 09:30:				4	21.1%	Sunday:	
09:30 ~ 11:30:				4	21.1%	Monday:	
11:30 ~ 13:30:				0	0.0%	Tuesday:	
13:30 ~ 16:00:				4	21.1%	Wednesday:	
16:00 ~18:30:				2	10.5%	Thursday:	
18:30 ~ 07:30:				5	26.3%	Friday:	
Unspecified:				0	0.0%	Saturday:	
<b>Weather Condition</b>				<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	
Clear:				17	89.5%	Dry:	
Rain:				1	5.3%	Wet:	
Snow:				0	0.0%	Snow/Ice:	
Sleet/Hail:				0	0.0%	Slush:	
Fog/Mist:				0	0.0%	Water/Sand:	
Crosswind/Blowing Sand:				0	0.0%	Repairing:	
Unspecified:				1	5.3%	Unspecified:	
<b>Type of Vehicle</b>				<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	
Passenger Car:				33	80.5%	Fatal Collision:	
Bus:				1	2.4%	Injury Collision:	
Truck:				2	4.9%	PDO Collision:	
Taxi:				1	2.4%	<b>Light Condition</b>	
Minivan:				0	0.0%	Daylight:	
Police/Emergency Vehicle:				0	0.0%	Dawn/Dusk:	
Motorcycle/Moped:				0	0.0%	Dark(Lighted):	
Bicycle:				0	0.0%	Dark(Not Lighted):	
Fixed Object:				0	0.0%	Dark(Unknown Lighting):	
Unspecified:				4	9.8%	Unspecified:	
<b>Contributing Factor</b>				<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	
Driver: Speed:				0	0.0%	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:				7	17.1%	In Unmarked Crosswalk:	
Vehicle:				1	2.4%	Not in Crosswalk:	
Roadway:				0	0.0%	From Between Parked Cars:	
Unspecified:				33	80.5%	Unspecified:	

8 Records are not approved as of 12/27/2013 6:56:25 PM