



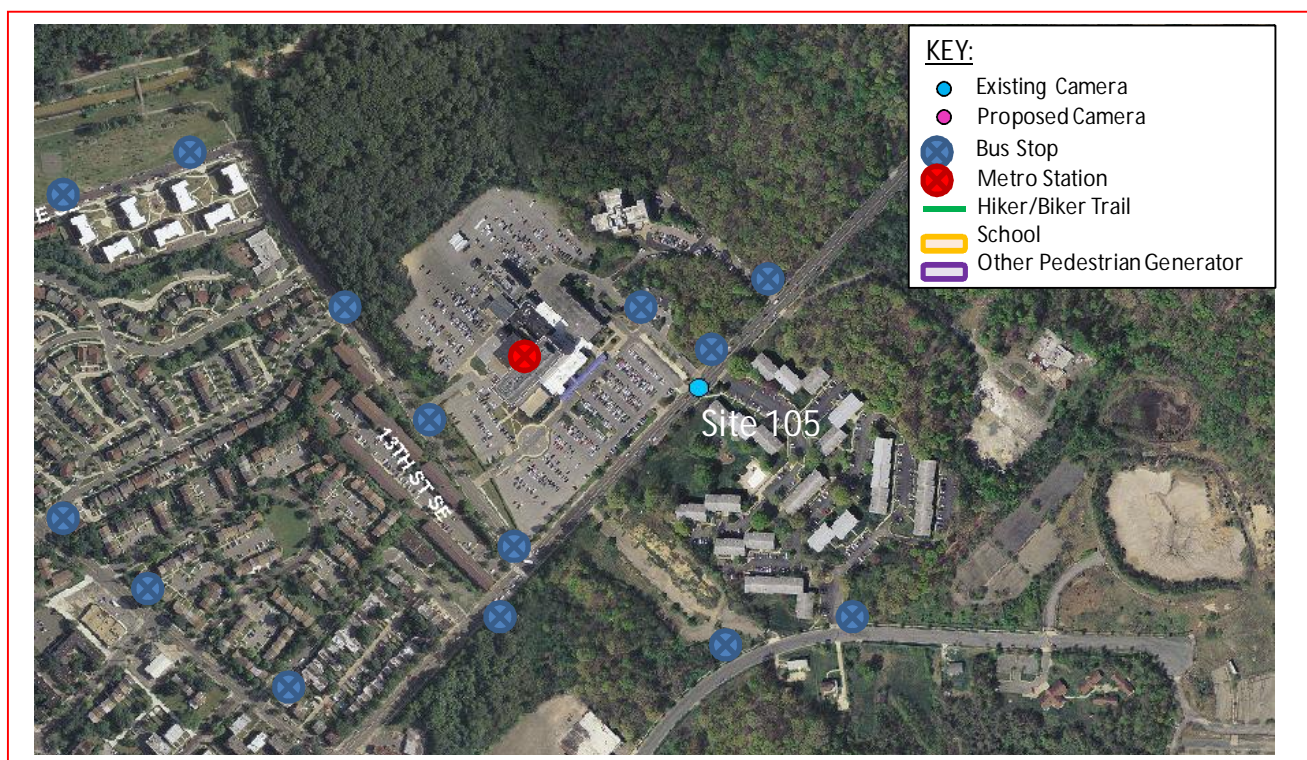
District Department of Transportation

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

### 1400 Block Southern Avenue SE

#### Study Area and Location

District	PSA	Ward	ANC	Phase	Description
6	608	7	7C	Existing	1400 Block Southern Avenue Southeast Southwest-bound



The existing speed camera is located in Ward 7 at the 1400 block of Southern Avenue Southeast in the southwest-bound direction. Southern Avenue runs between 63<sup>rd</sup> Street Northeast to the north and South Capitol Street Southeast to the south. The posted speed limit is 30 MPH. This speed camera was installed on September 2011.

W7 - 208





District Department of Transportation

1400 Block Southern Avenue SE

## Field Assessment Summary

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

- This is a residential area with houses on the northwest side of the street and the Southern Avenue Metro Station on the southeast side of the street.
- There is a concrete median and traffic signals with pedestrian signals and crosswalks at Mississippi Avenue and Valley Terrace.
- There is sidewalk on both sides of the street and a downgrade slope southwest-bound.
- The pavement is in good condition and there is curb and gutter with drainage inlets.
- There are bus stops in both directions midblock and another bus stop southwest-bound at Mississippi Avenue.



Looking Northeast-bound

W7 - 209





District Department of Transportation

1400 Block Southern Avenue SE



Looking Southwest-bound

## Speed Data Analysis

Posted Speed Limit (MPH)	30
Mean Speed (MPH)	44
85th Percentile Speed (MPH)	63
10 MPH Pace Speed	46-55 MPH
ADT	6,981

The mean speeds exceed the speed limit by 14 MPH and the 85<sup>th</sup> percentile speed exceeds the speed limit by 33 MPH. More speed enforcement is suggested 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 62 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 (13 crashes), Side Swipe (12 crashes) and Left Turns (8 crashes). The other collision types had 6 crashes or less each. Furthermore, this site experienced a high frequency (23 crashes) of injury-related crashes.

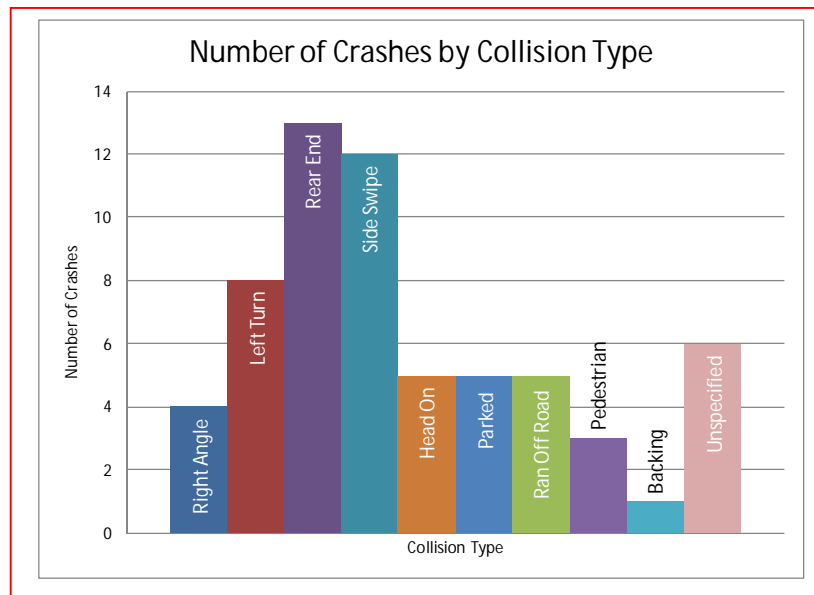
W7 - 210



District Department of Transportation

1400 Block Southern Avenue SE

Severity			Weather			Surface condition			Light Condition		
Total	62										
Fatal	2	3.2%	Clear	50	80.6%	Dry	50	80.6%	Day	25	40.3%
Injury	23	37.1%	Rain	6	9.7%	Wet	6	9.7%	Night	33	53.2%
Police/EMS	8	12.9%	Snow	1	1.6%	Snow/Ice	2	3.2%			
Bus	4	6.5%									



There was an elevated number of speed related crashes at this location, including side rear end and 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”<sup>1</sup> as two errors leading to rear end and side swipe crashes. Both of these errors can be decreased with a decrease in travel speed.

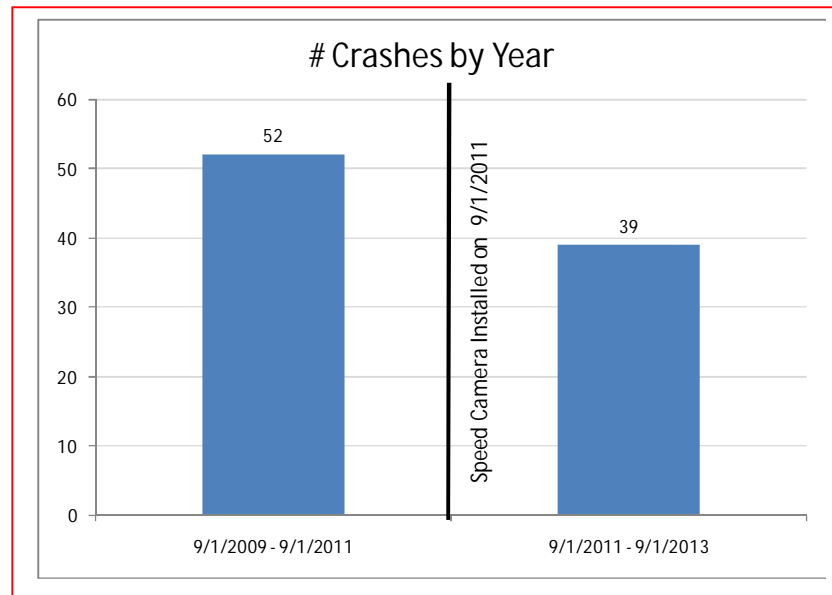
This speed camera was installed on 9/1/2011. A chart showing a breakdown of number of crashes by year for the two years before installation and the two years after installation can be found on the next page. There were 52 crashes in the two years prior to installation, and 39 crashes in the two years after the installation. There were 33 property damage only crashes and 17 crashes that involved an injury in the two years before installation, and there were 22 property damage only crashes and 17 crashes that involved an injury in the two years after installation.

<sup>1</sup> AASHTO Highway Safety Manual, 1<sup>st</sup> Edition, 2010; Volume 1, page 2-13



District Department of Transportation

1400 Block Southern Avenue SE



The Southern Avenue Corridor is listed as one of the top ten high frequency crash corridors from 2009 to 2011, according to the report *TRAFFIC SAFETY STATISTICS REPORT FOR THE DISTRICT OF COLUMBIA (2009-2011)*<sup>2</sup>.

## 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 mean speed and 85th percentile speed are much 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 (23 crashes) of injury-related crashes. There was a reduction in the number of crashes since the installation of the speed camera. The Southern Avenue corridor is listed as one of the top ten high frequency crash corridors from 2009 to 2011.
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.
  - b. There are several bus stops and one Metrorail station in the area which generate pedestrian activity.

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



District Department of Transportation

1400 Block Southern Avenue SE

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

W7 - 213

# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

[www.sammateng.com](http://www.sammateng.com)

## 1400 block of Southern Ave SE SWB Speed

Start Time	1	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	
11/22/13	2	0	0	3	3	7	7	10	11	8	9	9	10	31	110
01:00	2	0	0	1	1	3	6	5	7	4	6	8	4	16	63
02:00	1	0	0	1	1	0	6	4	4	0	5	4	7	12	45
03:00	6	0	1	0	0	2	1	5	4	2	3	3	4	11	42
04:00	5	0	0	0	1	4	4	4	4	4	4	2	4	11	47
05:00	9	0	0	1	2	3	5	5	8	6	13	3	4	30	89
06:00	20	0	1	4	6	7	24	14	15	19	12	8	13	68	211
07:00	34	2	11	10	20	21	28	26	23	28	26	27	21	98	375
08:00	40	6	8	11	24	21	25	35	24	39	33	26	20	126	438
09:00	22	3	5	3	15	16	15	20	31	28	30	18	16	82	304
10:00	23	9	9	13	32	26	34	34	32	28	25	16	11	30	322
11:00	28	7	9	16	24	26	22	36	36	21	14	14	10	28	291
12 PM	20	7	15	17	19	31	29	44	30	23	23	15	13	44	330
13:00	21	5	8	24	29	25	47	35	31	17	20	11	9	29	311
14:00	28	2	1	6	12	17	25	29	29	28	29	28	17	82	333
15:00	24	0	1	4	14	13	21	26	33	42	37	46	40	154	455
16:00	41	0	7	7	12	17	23	39	35	34	46	41	33	175	510
17:00	25	1	7	6	16	18	23	49	40	36	52	43	32	173	521
18:00	39	0	3	10	15	20	35	37	43	54	44	34	39	163	536
19:00	36	8	12	25	39	41	37	56	36	37	30	28	18	42	445
20:00	18	1	2	10	23	37	43	48	39	32	28	22	11	46	360
21:00	14	2	4	8	19	38	33	37	37	32	29	17	24	36	330
22:00	6	0	1	8	13	22	34	27	34	24	26	20	20	61	296
23:00	14	1	0	4	8	16	13	26	28	14	24	12	9	48	217
<b>Total</b>	<b>478</b>	<b>54</b>	<b>105</b>	<b>192</b>	<b>348</b>	<b>431</b>	<b>540</b>	<b>651</b>	<b>614</b>	<b>560</b>	<b>568</b>	<b>455</b>	<b>389</b>	<b>1596</b>	<b>6981</b>
<b>Grand Total</b>	<b>478</b>	<b>54</b>	<b>105</b>	<b>192</b>	<b>348</b>	<b>431</b>	<b>540</b>	<b>651</b>	<b>614</b>	<b>560</b>	<b>568</b>	<b>455</b>	<b>389</b>	<b>1596</b>	<b>6981</b>

15th Percentile : 14 MPH  
 50th Percentile : 47 MPH  
 85th Percentile : 63 MPH  
 95th Percentile : 69 MPH

Stats  
 Mean Speed(Average) : 44 MPH  
 10 MPH Pace Speed : 46-55 MPH  
 Number in Pace : 1189  
 Percent in Pace : 22.1%  
 Number of Vehicles > 30 MPH : 4184  
 Percent of Vehicles > 30 MPH : 77.7%

# SAMMAT ENGINEERING SERVICES, LLC

1515 RISING RIDGE ROAD  
MOUNT AIRY, MD 21771

[www.sammateng.com](http://www.sammateng.com)

## 1400 block of Southern Ave SE SWB Volume

Start Time	22-Nov-13		23-Nov-13		24-Nov-13		Daily Average	
	Fri A.M.	P.M.	Sat A.M.	P.M.	Sun A.M.	P.M.	A.M.	P.M.
12:00	34	82	*	*	*	*	34	82
12:15	25	76	*	*	*	*	25	76
12:30	23	80	*	*	*	*	23	80
12:45	28	92	*	*	*	*	28	92
01:00	18	75	*	*	*	*	18	75
01:15	21	72	*	*	*	*	21	72
01:30	13	87	*	*	*	*	13	87
01:45	11	77	*	*	*	*	11	77
02:00	17	82	*	*	*	*	17	82
02:15	8	60	*	*	*	*	8	60
02:30	12	89	*	*	*	*	12	89
02:45	8	102	*	*	*	*	8	102
03:00	5	93	*	*	*	*	5	93
03:15	17	109	*	*	*	*	17	109
03:30	7	138	*	*	*	*	7	138
03:45	13	115	*	*	*	*	13	115
04:00	9	137	*	*	*	*	9	137
04:15	8	136	*	*	*	*	8	136
04:30	18	109	*	*	*	*	18	109
04:45	12	128	*	*	*	*	12	128
05:00	16	130	*	*	*	*	16	130
05:15	12	140	*	*	*	*	12	140
05:30	28	127	*	*	*	*	28	127
05:45	33	124	*	*	*	*	33	124
06:00	42	<b>140</b>	*	*	*	*	42	<b>140</b>
06:15	37	<b>127</b>	*	*	*	*	37	<b>127</b>
06:30	62	<b>124</b>	*	*	*	*	62	<b>124</b>
06:45	70	<b>145</b>	*	*	*	*	70	<b>145</b>
07:00	74	116	*	*	*	*	74	116
07:15	88	117	*	*	*	*	88	117
07:30	100	111	*	*	*	*	100	111
07:45	<b>113</b>	101	*	*	*	*	<b>113</b>	101
08:00	<b>101</b>	107	*	*	*	*	<b>101</b>	107
08:15	<b>110</b>	106	*	*	*	*	<b>110</b>	106
08:30	<b>121</b>	75	*	*	*	*	<b>121</b>	75
08:45	106	72	*	*	*	*	106	72
09:00	80	85	*	*	*	*	80	85
09:15	75	89	*	*	*	*	75	89
09:30	65	89	*	*	*	*	65	89
09:45	84	67	*	*	*	*	84	67
10:00	77	65	*	*	*	*	77	65
10:15	77	74	*	*	*	*	77	74
10:30	88	70	*	*	*	*	88	70
10:45	80	87	*	*	*	*	80	87
11:00	67	70	*	*	*	*	67	70
11:15	83	66	*	*	*	*	83	66
11:30	70	69	*	*	*	*	70	69
11:45	71	12	*	*	*	*	71	12
Total	2337	4644	0	0	0	0	2337	4644
Combined Total	6981		0		0		6981	
Peak	07:45	06:00					07:45	06:00
Vol.	445	536					445	536
P.H.F.	0.919	0.924					0.919	0.924
ADT	ADT 6,981		AADT 6,981					



DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** SOUTHERN AVE,NE,SE From THIRTEENTH ST,SE TO VALLEY TERR,SE

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

**Prepared By:** Rahul Jain

**Prepared Date:** 9/17/2013

Total Number of Accident:	62	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Fatalities:	3	Right Angle:	4	6.5%	Fixed Object:	0	0.0%
Total Number of Injuries:	47	Left Turn:	8	12.9%	Ran Off Road:	5	8.1%
Total Number of Disabling Injuries:	3	Right Turn:	0	0.0%	Ped. Involved:	3	4.8%
Total Number of NonDisabling Injuries:	6	Rear End:	13	21.0%	Backing:	1	1.6%
Total Number of Pedestrians Involved:	3	Side Swiped:	12	19.4%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	1	Head On:	5	8.1%	Under/Over Ride:	0	0.0%
Total Number of Motorcycles Involved:	0	Parked:	5	8.1%	Unspecified:	6	9.7%
<b>Time of Day</b>				<b>#ACC</b>	<b>%</b>	<b>Day o fweek</b>	
07:30 ~ 09:30:				2	3.2%	Sunday:	
09:30 ~ 11:30:				3	4.8%	Monday:	
11:30 ~ 13:30:				4	6.5%	Tuesday:	
13:30 ~ 16:00:				10	16.1%	Wednesday:	
16:00 ~18:30:				10	16.1%	Thursday:	
18:30 ~ 07:30:				33	53.2%	Friday:	
Unspecified:				0	0.0%	Saturday:	
<b>Weather Condition</b>				<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	
Clear:				50	80.6%	Dry:	
Rain:				6	9.7%	Wet:	
Snow:				1	1.6%	Snow/Ice:	
Sleet/Hail:				1	1.6%	Slush:	
Fog/Mist:				0	0.0%	Water/Sand:	
Crosswind/Blowing Sand:				1	1.6%	Repairing:	
Unspecified:				3	4.8%	Unspecified:	
<b>Type of Vehicle</b>				<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	
Passenger Car:				89	78.1%	Fatal Collision:	
Bus:				4	3.5%	Injury Collision:	
Truck:				3	2.6%	PDO Collision:	
Taxi:				1	0.9%	<b>Light Condition</b>	
Minivan:				0	0.0%	Daylight:	
Police/Emergency Vehicle:				8	7.0%	Dawn/Dusk:	
Motorcycle/Moped:				0	0.0%	Dark(Lighted):	
Bicycle:				1	0.9%	Dark(Not Lighted):	
Fixed Object:				0	0.0%	Dark(Unknown Lighting):	
Unspecified:				8	7.0%	Unspecified:	
<b>Contributing Factor</b>				<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	
Driver: Speed:				11	9.6%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				4	3.5%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				18	15.8%	In Unmarked Crosswalk:	
Vehicle:				1	0.9%	Not in Crosswalk:	
Roadway:				0	0.0%	From Between Parked Cars:	
Unspecified:				80	70.2%	Unspecified:	

36 Records are not approved as of 9/17/2013 1:55:22 PM

DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** SOUTHERN AVE,NE,SE From THIRTEENTH ST,SE TO VALLEY TERR,SE

**Time Period Covered:** From 08/31/2009 To 08/21/2011

**Prepared By:** Rahul Jain

**Prepared Date:** 11/18/2011

		<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>	<b>Collision Type</b>	<b>#ACC</b>	<b>%</b>
Total Number of Accident:	52	Right Angle:	6	11.5%	Fixed Object:	0	0.0%
Total Number of Fatalities:	3	Left Turn:	6	11.5%	Ran Off Road:	3	5.8%
Total Number of Injuries:	37	Right Turn:	0	0.0%	Ped. Involved:	3	5.8%
Total Number of Disabling Injuries:	2	Rear End:	14	26.9%	Backing:	3	5.8%
Total Number of NonDisabling Injuries:	4	Side Swiped:	8	15.4%	Non Collision:	1	1.9%
Total Number of Pedestrians Involved:	2	Head On:	4	7.7%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	1	Parked:	3	5.8%	Unspecified:	1	1.9%
Total Number of Motorcycles Involved:	0						

<b>Time of Day</b>	<b>#ACC</b>	<b>%</b>	<b>Day of week</b>	<b>#ACC</b>	<b>%</b>
07:30 ~ 09:30:	4	7.7%	Sunday:	8	15.4%
09:30 ~ 11:30:	4	7.7%	Monday:	2	3.8%
11:30 ~ 13:30:	3	5.8%	Tuesday:	7	13.5%
13:30 ~ 16:00:	10	19.2%	Wednesday:	8	15.4%
16:00 ~ 18:30:	6	11.5%	Thursday:	5	9.6%
18:30 ~ 07:30:	25	48.1%	Friday:	13	25.0%
Unspecified:	0	0.0%	Saturday:	9	17.3%

<b>Weather Condition</b>	<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	<b>#ACC</b>	<b>%</b>
Clear:	42	80.8%	Dry:	41	78.8%
Rain:	5	9.6%	Wet:	6	11.5%
Snow:	2	3.8%	Snow/Ice:	3	5.8%
Sleet/Hail:	1	1.9%	Slush:	1	1.9%
Fog/Mist:	1	1.9%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	1	1.9%	Repairing:	0	0.0%
Unspecified:	0	0.0%	Unspecified:	1	1.9%

<b>Type of Vehicle</b>	<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	<b>#ACC</b>	<b>%</b>
Passenger Car:	75	76.5%	Fatal Collision:	2	3.8%
Bus:	5	5.1%	Injury Collision:	17	32.7%
Truck:	3	3.1%	PDO Collision:	33	63.5%
Taxi:	0	0.0%			
Minivan:	0	0.0%	<b>Light Condition</b>	<b>#ACC</b>	<b>%</b>
Police/Emergency Vehicle:	5	5.1%	Daylight:	26	50.0%
Motorcycle/Moped:	0	0.0%	Dawn/Dusk:	0	0.0%
Bicycle:	1	1.0%	Dark(Lighted):	23	44.2%
Fixed Object:	0	0.0%	Dark(Not Lighted):	3	5.8%
Unspecified:	9	9.2%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	0	0.0%

<b>Contributing Factor</b>	<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	<b>#ACC</b>	<b>%</b>
Driver: Speed:	10	10.2%	In Crosswalk with Signal:	0	0.0%
Driver: Alcohol/Drug:	3	3.1%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	18	18.4%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	2	100.0%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	67	68.4%	Unspecified:	0	0.0%

26 Records are not approved as of 11/18/2013 2:22:42 PM

DC Department of Transportation - Traffic Accident Reporting and Analysis System

## Accident Summary Report (R-8)

**Corridor:** SOUTHERN AVE,NE,SE From THIRTEENTH ST,SE TO VALLEY TERR,SE

**Time Period Covered:** From 09/01/2011 To 09/01/2013

**Prepared By:** Rahul Jain

**Prepared Date:** 11/18/2013

Total Number of Accident:	39	<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:	0	0.0%	Fixed Object:	1	2.6%
Total Number of Injuries:	32	Left Turn:	3	7.7%	Ran Off Road:	5	12.8%
Total Number of Disabling Injuries:	1	Right Turn:	0	0.0%	Ped. Involved:	0	0.0%
Total Number of NonDisabling Injuries:	5	Rear End:	9	23.1%	Backing:	1	2.6%
Total Number of Pedestrians Involved:	1	Side Swiped:	7	17.9%	Non Collision:	0	0.0%
Total Number of Bicycles Involved:	0	Head On:	3	7.7%	Under/Over Ride:	1	2.6%
Total Number of Motorcycles Involved:	0	Parked:	2	5.1%	Unspecified:	7	17.9%
<b>Time of Day</b>				<b>#ACC</b>	<b>%</b>	<b>Day of week</b>	
07:30 ~ 09:30:				2	5.1%	Sunday:	
09:30 ~ 11:30:				1	2.6%	Monday:	
11:30 ~ 13:30:				6	15.4%	Tuesday:	
13:30 ~ 16:00:				4	10.3%	Wednesday:	
16:00 ~ 18:30:				6	15.4%	Thursday:	
18:30 ~ 07:30:				20	51.3%	Friday:	
Unspecified:				0	0.0%	Saturday:	
<b>Weather Condition</b>				<b>#ACC</b>	<b>%</b>	<b>Surface Condition</b>	
Clear:				28	71.8%	Dry:	
Rain:				5	12.8%	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:				6	15.4%	Unspecified:	
<b>Type of Vehicle</b>				<b>#VEH</b>	<b>%</b>	<b>Accident Severity Type</b>	
Passenger Car:				51	72.9%	Fatal Collision:	
Bus:				3	4.3%	Injury Collision:	
Truck:				2	2.9%	PDO Collision:	
Taxi:				1	1.4%	<b>Light Condition</b>	
Minivan:				0	0.0%	Daylight:	
Police/Emergency Vehicle:				3	4.3%	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:				10	14.3%	Unspecified:	
<b>Contributing Factor</b>				<b>#VEH</b>	<b>%</b>	<b>Pedestrian Actions</b>	
Driver: Speed:				2	2.9%	In Crosswalk with Signal:	
Driver: Alcohol/Drug:				2	2.9%	In Crosswalk against Signal:	
Driver: Electronic Device:				0	0.0%	In Crosswalk no Signal:	
Driver: Others:				13	18.6%	In Unmarked Crosswalk:	
Vehicle:				1	1.4%	Not in Crosswalk:	
Roadway:				0	0.0%	From Between Parked Cars:	
Unspecified:				52	74.3%	Unspecified:	

23 Records are not approved as of 11/18/2013 2:23:46 PM