

# Spot Safety Project Evaluation

Project Log # 200812041

Spot Safety Project # 12-99-202

## Spot Safety Project Evaluation of the Traffic Signal Installation at The Intersection of US 70 and 3<sup>rd</sup> St SE in Conover Catawba County

Documents Prepared By:

Safety Evaluation Group  
Traffic Safety Systems Management Section  
Transportation Mobility and Safety Division  
North Carolina Department of Transportation

Principal Investigator



Brad Robinson, PE

4/29/2009

Date

Traffic Safety Project Engineer

## ***Spot Safety Project Evaluation Documentation***

### **Subject Location**

Evaluation of Spot Safety Project Number 12-99-202 – The Intersection of US 70 and 3<sup>rd</sup> St SE in Conover, Catawba County

The Signal ID is 12-1675 for the subject location.

### **Project Information and Background from the Project File Folder**

The spot safety project improvement countermeasure chosen for the subject location was the installation of a traffic signal at the intersection.

The subject location is a four-leg intersection which was controlled by stop signs on 3<sup>rd</sup> St SE in the before period. The US 70 approaches to the intersections have a through and a left turn lane and a speed limit of 45 mph. The 3<sup>rd</sup> St SE approaches to the intersection are single lane and have a speed limit of 20 mph.

The original statement of problem was that vehicles on 3<sup>rd</sup> St SE were experiencing delay. The signal was requested by a private citizen.

The initial crash analysis was completed from December 30, 1995 to December 31, 1998 with a total of seven reported crashes, one of which was considered correctable by the chosen countermeasure. The final completion date for the improvement at the subject intersection was on January 27, 2003 with a total cost of \$40,000.00.

### **Naive Before and After Analysis**

After reviewing the spot safety project file folder along with all the crashes at the subject location, the crash data omitted from this analysis to consider for an adequate construction period was from December 1, 2002 to March 31, 2003. The before period consisted of reported crashes from April 1, 1997 through November 30, 2002 (5 years and 8 months); and the after period consisted of reported crashes from April 1, 2003 through November 30, 2008 (5 years and 8 months). The ending date for this analysis was determined by the available crash data at the time of analysis.

The treatment data consisted of all reported crashes within 150 feet of the subject intersection. The following data table depicts the Naive Before and After Analysis for the treatment location. Please note that Frontal Impact crash types were the Target Crashes for the applied countermeasure. These crash types considered are as follows: Left Turn, same roadway; Left Turn, different roadway; Right Turn, same roadway; Right Turn, different roadway; Head On and Angle. The target crashes are clearly identified in the before and after period collision diagrams.

<b>Treatment Information</b>			
	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-) Percent Increase (+)</b>
Total Crashes	8	16	100.0
Total Severity Index	2.85	3.77	32.3
Target Crashes	4	7	75.0
Target Crash Severity Index	2.85	5.23	83.5
Volume	11,500	11,500	0.0
<b>Crash Severity Summary</b>			
Fatal Crashes	0	0	N/A
Class A Crashes	0	0	N/A
Class B Crashes	1	4	300.0
Class C Crashes	1	2	100.0
PDO Crashes	6	10	66.7

The naive before and after analysis at the treatment location resulted in a 100 percent increase in Total Crashes, a 75 percent increase in Target Crashes, and no change in Average Daily Traffic (ADT). The before period ADT year was 2000 and the after period ADT year was 2006.

## Results and Discussion

The naive before and after analysis involving the comparison of treatment actual before data versus treatment actual after data resulted in a 100 percent increase in Total Crashes and a 75 percent increase in Target Crashes. The Total Severity Index increased by 32 percent and the Target Crash Severity Index increased by 84 percent. The summary results above demonstrate that both Total Crashes and Target Crashes appear to have increased at the treatment location from the before to the after period.

The calculated benefit to cost ratio for this project is -1.93 considering total crashes. The benefit to cost ratio considering only target crashes is -1.19. The benefits are calculated using the change in annual crash costs from the before to the after period. Operational and other benefits related to the project are not considered in this analysis. The costs of the project include the actual construction costs as well as the increase in annual maintenance and utility costs.

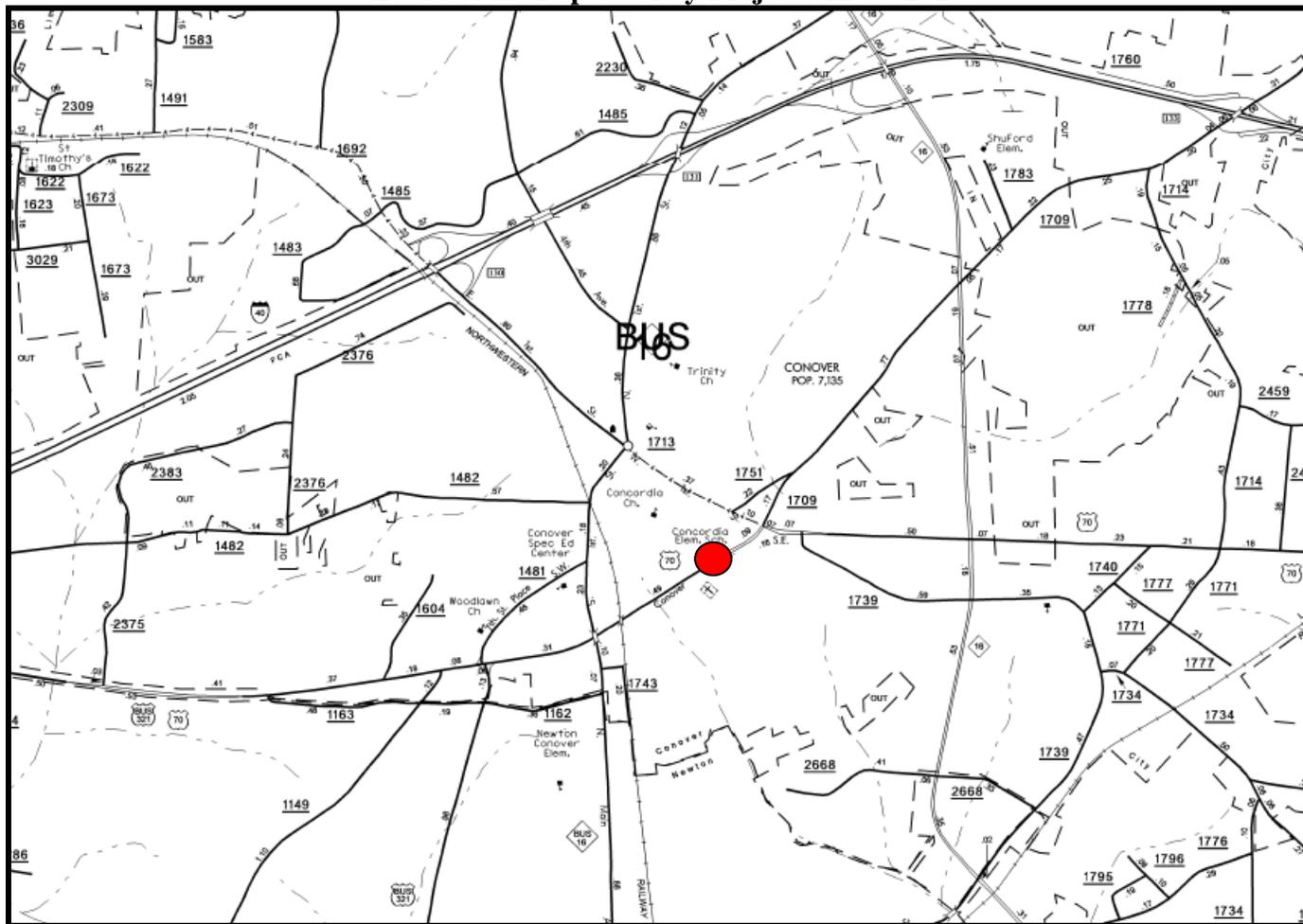
It appears that the signal installation was not effective in reducing the number of Target Crashes at the intersection from the before to the after period. As stated in the *Project Background* section the primary reason for the signal was to alleviate delay rather than for safety reasons. The naive before and after analysis only takes into account crash data and can not measure any operational benefits that the signal installation might have resulted in.

Of the seven after period Target Crashes, five involved a vehicle running the red light on US 70. One involved a left turning vehicle on US 70 failing to yield the right of way. The seventh crash

involved a vehicle on 3<sup>rd</sup> St SE attempting to turn right on red and pulling in front of a through vehicle on US 70.

As the Safety Evaluation Group completes additional spot safety reviews for this type of countermeasure, we will be able to provide objective and definite information regarding actual crash reduction factors for this type of intersection.

**Location Map**  
**Catawba County, NC**  
**Evaluation of Spot Safety Project #12-99-202**



Treatment Location: US 70 at 3<sup>rd</sup> St SE in Conover



Looking West on US 70 (Conover)



Looking East on US 70 (Conover)



Looking South on 3<sup>rd</sup> St SE

**BENEFIT-COST ANALYSIS WORKSHEET**

LOCATION: US 70 at 3rd St SE in Conover  
 COUNTY: Catawba  
 FILE NO.: SS 12-99-202

BY: BDR  
 DATE: 4/14/2009

DETAILED COST: TYPE IMPROVEMENT - Signal

ITEMS	TOTAL	SERVICE	CRF	ANNUAL COST
Construction	\$0	0	0.000	\$0
	\$40,000	10	0.149	\$5,961
Right-of-Way	\$0	0	0.000	\$0
<b>TOTALS</b>	<b>\$40,000</b>	<b>10</b>	<b>0.149</b>	<b>\$5,961</b>

ESTIMATED INCREASE IN ANNUAL MAINT. COST =	\$2,000
ESTIMATED INCREASE IN ANNUAL UTILITY COST =	\$900
<b>TOTAL ANNUAL COST=</b>	<b>\$8,861</b>
<b>TOTAL COST OF PROJECT=</b>	<b>\$40,000</b>

COMPREHENSIVE COST REDUCTION:

TIME PERIOD	YEARS	ESTIMATED NUMBER OF ANNUAL ACCIDENT DECREASES						ANNUAL COSTS
		K & A CRASHES	K & A CRASHES PER YR	B & C CRASHES	B & C CRASHES PER YR	PDO CRASHES	PDO CRASHES PER YR	
BEFORE	5.67	0	0.00	2	0.35	6	1.06	\$11,499
AFTER	5.67	0	0.00	6	1.06	10	1.76	\$28,571

Annual Benefits from Crash Cost Savings (\$17,072)

NET AVG. ANNUAL BENEFITS = AVG. ANNUAL BENEFITS - TOTAL ANNUAL COST = (\$25,933)

BENEFIT-COST RATIO = AVG ANNUAL BENEFITS/TOTAL ANNUAL COST = -1.93

TOTAL COST OF PROJECT - \$40,000 COMPREHENSIVE B/C RATIO - -1.93

**BENEFIT-COST ANALYSIS WORKSHEET**

LOCATION: US 70 at 3rd St SE in Conover  
 COUNTY: Catawba  
 FILE NO.: SS 12-99-202 Target Crash

BY: BDR  
 DATE: 4/14/2009

DETAILED COST: TYPE IMPROVEMENT - Signal

ITEMS	TOTAL	SERVICE	CRF	ANNUAL COST
Construction	\$0	0	0.000	\$0
	\$40,000	10	0.149	\$5,961
Right-of-Way	\$0	0	0.000	\$0
<b>TOTALS</b>	<b>\$40,000</b>	<b>10</b>	<b>0.149</b>	<b>\$5,961</b>

ESTIMATED INCREASE IN ANNUAL MAINT. COST = \$2,000  
 ESTIMATED INCREASE IN ANNUAL UTILITY COST = \$900  
 TOTAL ANNUAL COST= \$8,861  
 TOTAL COST OF PROJECT= \$40,000

COMPREHENSIVE COST REDUCTION:

ESTIMATED NUMBER OF ANNUAL ACCIDENT DECREASES

TIME PERIOD	YEARS	ESTIMATED NUMBER OF ANNUAL ACCIDENT DECREASES				PDO		ANNUAL COSTS
		K & A CRASHES	K & A CRASHES PER YR	B & C CRASHES	B & C CRASHES PER YR	CRASHES	CRASHES PER YR	
BEFORE	5.67	0	0.00	1	0.18	3	0.53	\$5,750
AFTER	5.67	0	0.00	4	0.71	3	0.53	\$16,332

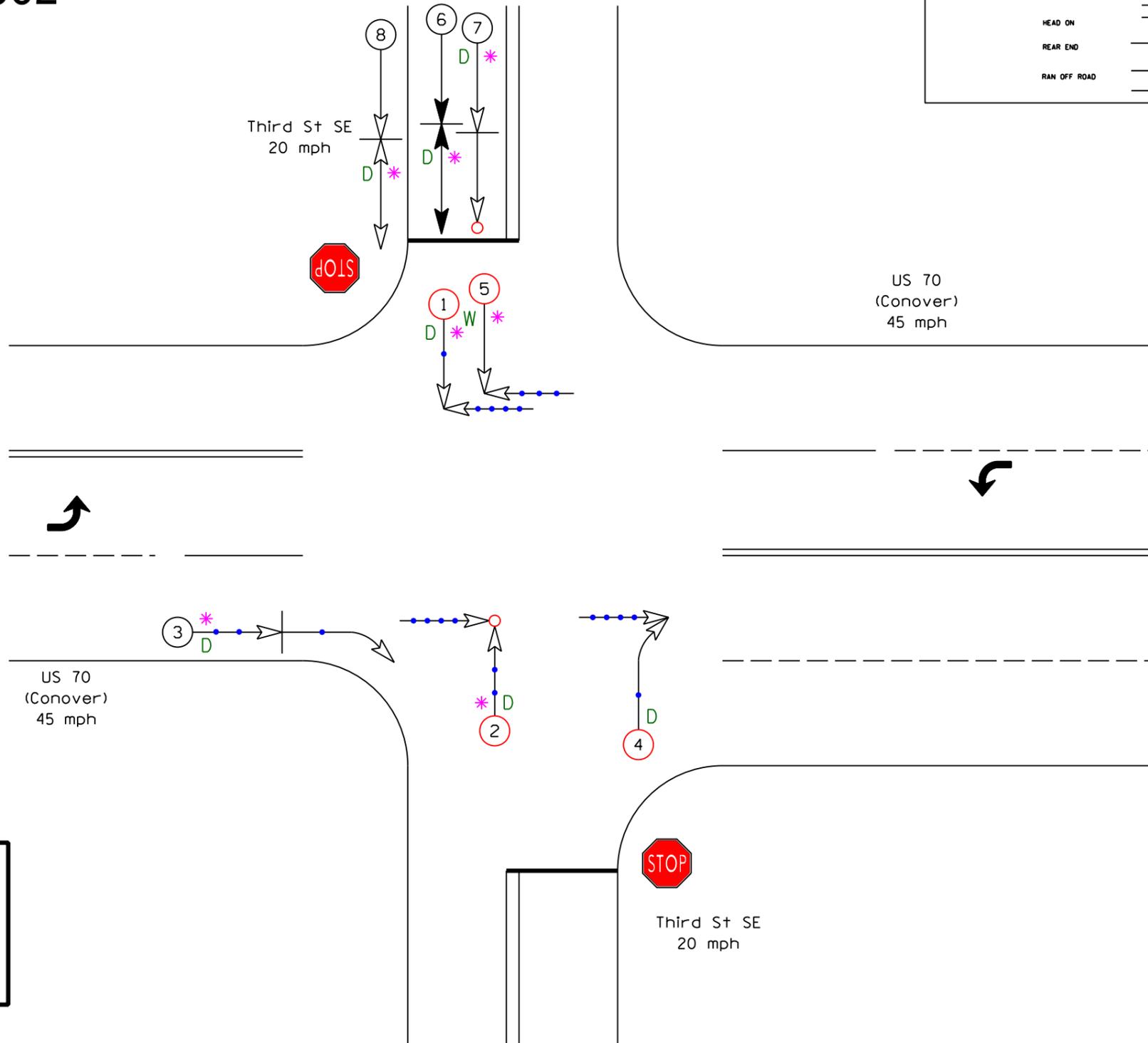
Annual Benefits from Crash Cost Savings (\$10,582)

NET AVG. ANNUAL BENEFITS = AVG. ANNUAL BENEFITS - TOTAL ANNUAL COST = (\$19,443)

BENEFIT-COST RATIO = AVG ANNUAL BENEFITS/TOTAL ANNUAL COST = -1.19

TOTAL COST OF PROJECT - \$40,000 COMPREHENSIVE B/C RATIO - -1.19

Catawba County  
 US 70 at 3rd St SE  
 BEFORE Period  
 4/1/1997-11/30/2002



LEGEND

MOVING VEHICLE	ANGLE	9 MPH OR LESS	P PEDESTRIAN
PEDESTRIAN	TURNING	10 MPH TO 19	T TRAIN
PARKED VEHICLE	BACKING	20 MPH TO 29	* DRIVER AT FAULT
PARKING VEHICLE	SIDESWIPE	30 MPH TO 39	D DRY
FIXED OBJECT	OUT OF CONTROL	40 MPH TO 49	W WET
HEAD ON	INJURY	50 MPH TO 59	I ICY OR SNOWY
REAR END	FATALITY	60 MPH TO 69	O OILY
RAN OFF ROAD		70 AND UP	
		SPEED UNKNOWN	

#  
 Target Crash

TRAFFIC SAFETY SYSTEMS MANAGEMENT UNIT

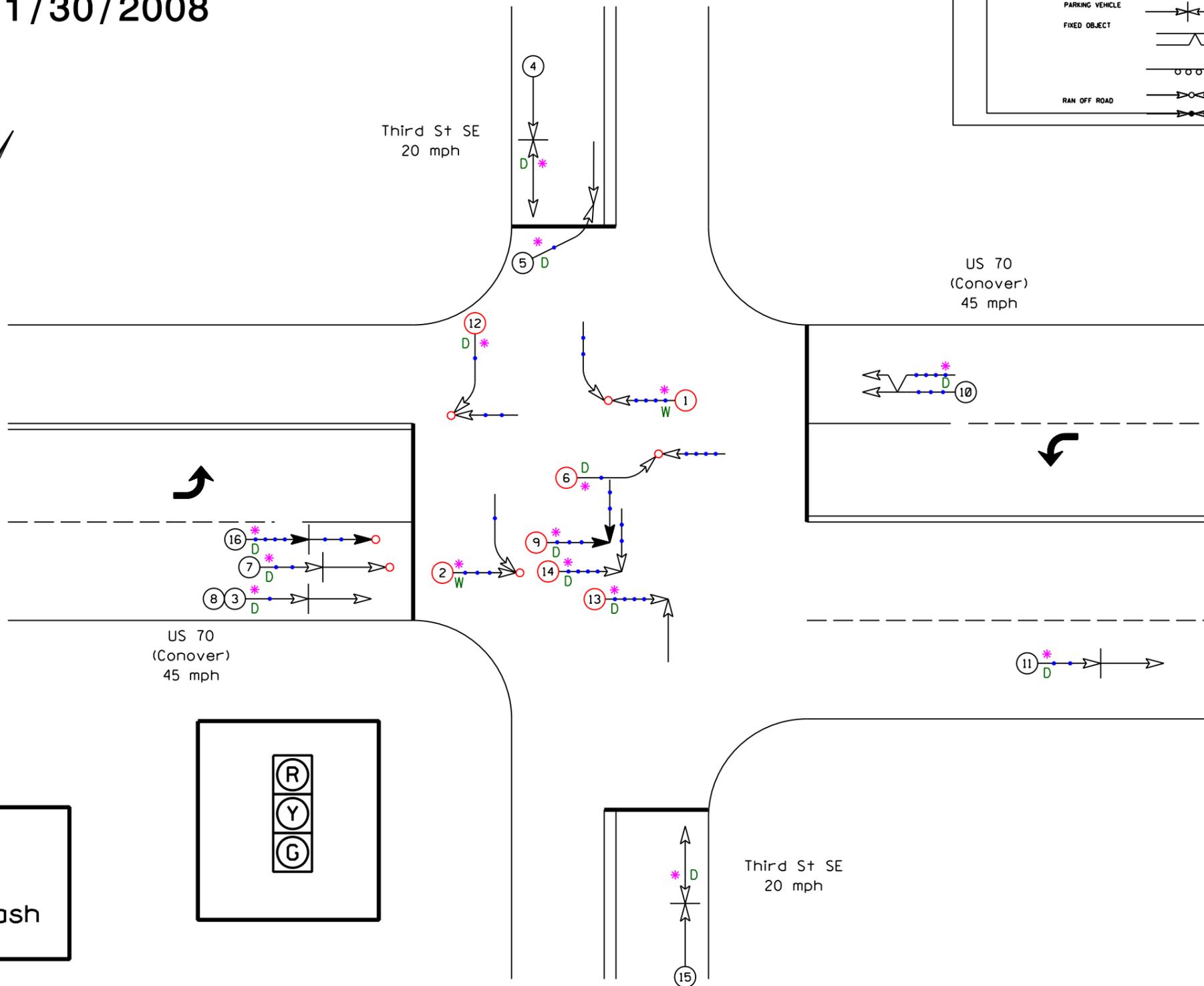
	COLLISION DIAGRAM	
	DIVISION: 12	AREA:
	STUDY PERIOD: 4/1/97-11/30/02	
	DISTANCE: Y-LINE + 150 FT	
	ANALYSIS PREPARED BY: BDR	
ANALYSIS CHECKED BY:		
DIAGRAM PREPARED BY: BDR		
DIAGRAM REVIEWED BY:		
SCALE: NOT TO SCALE		
DATE: March 2009		
LOG NUMBER: 20082041		

N.C. DEPARTMENT of TRANSPORTATION  
 DIVISION of HIGHWAYS  
 TRANSPORTATION MOBILITY AND  
 SAFETY DIVISION

Catawba County  
 US 70 at 3rd St SE  
 AFTER Period  
 4/1/2003-11/30/2008



MOVING VEHICLE		ANGLE		9 MPH OR LESS		P PEDESTRIAN	
PARKED VEHICLE		TURNING		10 MPH TO 19		T TRAIN	
PARKING VEHICLE		BACKING		20 MPH TO 29		• DRIVER AT FAULT	D DRY
FIXED OBJECT		SIDESWIPE		30 MPH TO 39			W WET
RAN OFF ROAD		OUT OF CONTROL		40 MPH TO 49			I ICY OR SNOWY
		INJURY		50 MPH TO 59			O OILY
		FATALITY		60 MPH TO 69			
				70 AND UP			
				SPEED UNKNOWN			



#  
Target Crash

R  
Y  
G

TRAFFIC SAFETY SYSTEMS MANAGEMENT UNIT

COLLISION DIAGRAM	
DIVISION: 12	AREA:
STUDY PERIOD: 4/1/2003-11/30/2008	
DISTANCE: Y-LINE = 150 FT	
ANALYSIS PREPARED BY: BDR	
ANALYSIS CHECKED BY:	
DIAGRAM PREPARED BY: BDR	
DIAGRAM REVIEWED BY:	
SCALE: NOT TO SCALE	
DATE: March 2009	
LOG NUMBER: 20082041	

N.C. DEPARTMENT of TRANSPORTATION  
 DIVISION of HIGHWAYS  
 TRANSPORTATION MOBILITY AND  
 SAFETY DIVISION



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Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
					F	A	B	C	R	L	W	Ch	Ci	Dv	Op

**Legend for Report Details:**

Acc No - Accident Number  
 Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
 Condition: R - Road Surface, L - Ambient Light, W - Weather  
 Rd Ch - Road Character  
 Rd Ci - Roadway Contributing Circumstances  
 Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
 Alchl/Drgs - Alcohol Drugs Suspected  
 Veh Mnvrl/Ped Actn - Vehicle Maneuver/Pedestrian Action  
 Obj Strk - Object Struck

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**Summary Statistics**

**High Level Crash Summary**

<b>Crash Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Total Crashes	8	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	2	25.00
Total Injury Crashes	2	25.00
Property Damage Only Crashes	6	75.00
Night Crashes	1	12.50
Wet Crashes	1	12.50
Alcohol/Drugs Involvement Crashes	0	0.00

**Crash Severity Summary**

<b>Crash Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Total Crashes	8	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	1	12.50
Class C Crashes	1	12.50
Property Damage Only Crashes	6	75.00

**Vehicle Exposure Statistics**

**Annual ADT = 11500**

**Total Vehicle Exposure = 23.81 (MEV)**

<b>Crash Rate</b>	<b>Crashes Per 100 Million Vehicles Entered</b>
Total Crash Rate	33.61
Fatal Crash Rate	0.00
Non Fatal Crash Rate	8.40
Night Crash Rate	4.20
Wet Crash Rate	4.20
EPDO Rate	95.78

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**Miscellaneous Statistics**

Severity Index =	2.85
EPDO Crash Index =	22.80
Estimated Property Damage Total = \$	17465.00

**Accident Type Summary**

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<b>Accident Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
ANGLE	3	37.50
BACKING UP	2	25.00
REAR END, SLOW OR STOP	1	12.50
REAR END, TURN	1	12.50
RIGHT TURN, DIFFERENT ROADWAYS	1	12.50

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**Injury Summary**

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<b>Injury Type</b>	<b>Number of Injuries</b>	<b>Percent of Total</b>
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	1	50.00
Class C Injuries	1	50.00
Total Non-Fatal Injuries	2	100.00
Total Injuries	2	100.00

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**Monthly Summary**

<b>Month</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Jan	0	0.00
Feb	0	0.00
Mar	1	12.50
Apr	0	0.00
May	0	0.00
Jun	1	12.50
Jul	1	12.50
Aug	1	12.50
Sep	1	12.50
Oct	1	12.50
Nov	1	12.50
Dec	1	12.50

**Daily Summary**

<b>Day</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Mon	3	37.50
Tue	3	37.50
Wed	0	0.00
Thu	1	12.50
Fri	1	12.50
Sat	0	0.00
Sun	0	0.00

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**Hourly Summary**

<b>Hour</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	1	12.50
1300-1359	2	25.00
1400-1459	1	12.50
1500-1559	3	37.50
1600-1659	0	0.00
1700-1759	1	12.50
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

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**Light and Road Conditions Summary**

<b>Condition</b>	<b>Dry</b>	<b>Wet</b>	<b>Other</b>	<b>Total</b>
Day	6	1	0	7
Dark	1	0	0	1
Other	0	0	0	0
<b>Total</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>8</b>

**Object Struck Summary**

<b>Object Type</b>	<b>Times Struck</b>	<b>Percent of Total</b>
LUMINAIRE POLE NON-BREAKAWAY	2	100.00

**Vehicle Type Summary**

<b>Vehicle Type</b>	<b>Number Involved</b>	<b>Percent of Total</b>
PASSENGER CAR	8	50.00
PICKUP	2	12.50
SPORT UTILITY	4	25.00
TRUCK/TRAILER	1	6.25
VAN	1	6.25

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Intersection Analysis Report**

**Yearly Totals Summary**

**Accident Totals**

<b>Year</b>	<b>Total Accidents</b>	<b>Fatal Accidents</b>	<b>Injury Accidents</b>	<b>Property Damage Only Accidents</b>
1997	0	0	0	0
1998	3	0	1	2
1999	0	0	0	0
2000	2	0	0	2
2001	1	0	0	1
2002	2	0	1	1
<b>Total</b>	<b>8</b>	<b>0</b>	<b>2</b>	<b>6</b>

**Injury Totals**

<b>Year</b>	<b>Fatal Injuries</b>	<b>Class A, B, or C Injuries</b>
1997	0	0
1998	0	1
1999	0	0
2000	0	0
2001	0	0
2002	0	1
<b>Total</b>	<b>0</b>	<b>2</b>

**Miscellaneous Totals**

<b>Year</b>	<b>Property Damage</b>	<b>EPDO Index</b>
1997	\$ 0	0.00
1998	\$ 13000	10.40
1999	\$ 0	0.00
2000	\$ 1900	2.00
2001	\$ 15	1.00
2002	\$ 2550	9.40
<b>Total</b>	<b>\$ 17465</b>	<b>22.80</b>

**Type of Accident Totals**

<b>Year</b>	<b>Left Turn</b>	<b>Right Turn</b>	<b>Rear End</b>	<b>Run Off Road &amp;</b>			
				<b>Fixed Object</b>	<b>Angle</b>	<b>Side Swipe</b>	<b>Other</b>
1997	0	0	0	0	0	0	0
1998	0	0	1	0	2	0	0
1999	0	0	0	0	0	0	0

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Year	Run Off Road &						
	Left Turn	Right Turn	Rear End	Fixed Object	Angle	Side Swipe	Other
2000	0	1	0	0	1	0	0
2001	0	0	0	0	0	0	1
2002	0	0	1	0	0	0	1
Total	0	1	2	0	3	0	2

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**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
					F	A	B	C	R	L	W	Ch	Ci	Dv	Op
9	101416782	02/22/2005 19:30	ANGLE	\$ 3500	0	0	0	0	1	4	1	1	0	3	1
Unit 1	: 1	Alchl/Drgs: 0	Speed: 20 MPH Dir: E	Veh Mnvr / Ped Actn: 12		Obj Strk:									
Unit 2	: 5	Alchl/Drgs: 0	Speed: 45 MPH Dir: N	Veh Mnvr / Ped Actn: 4		Obj Strk:									
10	101462263	07/25/2005 20:41	SIDESWIPE, SAME DIRECTION	\$ 3800	0	0	0	0	1	1	1	1	0	3	1
Unit 1	: 14	Alchl/Drgs: 0	Speed: 35 MPH Dir: SW	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit 2	: 1	Alchl/Drgs: 1	Speed: 40 MPH Dir: SW	Veh Mnvr / Ped Actn: 5		Obj Strk: 59									
11	101841409	11/08/2006 14:15	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	1	2	1	0	0	
Unit 1	: 1	Alchl/Drgs: 0	Speed: 35 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit 2	: 1	Alchl/Drgs: 0	Speed: 35 MPH Dir: E	Veh Mnvr / Ped Actn: 11		Obj Strk:									
12	101867667	12/15/2006 08:01	RIGHT TURN, SAME ROADWAY	\$ 1500	0	0	1	0	1	1	1	1	0	3	1
Unit 1	: 2	Alchl/Drgs: 0	Speed: 15 MPH Dir: W	Veh Mnvr / Ped Actn: 7		Obj Strk:									
Unit 2	: 20	Alchl/Drgs: 0	Speed: 35 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk:									
13	101938935	03/24/2007 12:37	ANGLE	\$ 900	0	0	0	0	1	1	1	1	0	3	1
Unit 1	: 1	Alchl/Drgs: 0	Speed: 40 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit 2	: 1	Alchl/Drgs: 0	Speed: 35 MPH Dir: N	Veh Mnvr / Ped Actn: 4		Obj Strk:									
14	101944856	04/02/2007 07:40	ANGLE	\$ 15000	0	0	0	0	1	1	2	1	0	3	1
Unit 1	: 14	Alchl/Drgs: 0	Speed: 40 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit 2	: 10	Alchl/Drgs: 0	Speed: 20 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
15	102398199	09/19/2008 16:55	BACKING UP	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit 1	: 1	Alchl/Drgs: 0	Speed: 1 MPH Dir: W	Veh Mnvr / Ped Actn: 10		Obj Strk:									
Unit 2	: 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: W	Veh Mnvr / Ped Actn: 1		Obj Strk:									
16	102422760	10/16/2008 21:44	REAR END, SLOW OR STOP	\$ 7000	0	0	1	1	1	4	1	1	0	3	1
Unit 1	: 4	Alchl/Drgs: 0	Speed: 40 MPH Dir: NE	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit 2	: 2	Alchl/Drgs: 0	Speed: 20 MPH Dir: NE	Veh Mnvr / Ped Actn: 4		Obj Strk:									

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
					F	A	B	C	R	L	W	Ch	Ci	Dv	Op

**Legend for Report Details:**

Acc No - Accident Number  
 Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
 Condition: R - Road Surface, L - Ambient Light, W - Weather  
 Rd Ch - Road Character  
 Rd Ci - Roadway Contributing Circumstances  
 Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
 Alch/Drgs - Alcohol Drugs Suspected  
 Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
 Obj Strk - Object Struck

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Summary Statistics**

**High Level Crash Summary**

<b>Crash Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Total Crashes	16	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	6	37.50
Total Injury Crashes	6	37.50
Property Damage Only Crashes	10	62.50
Night Crashes	2	12.50
Wet Crashes	2	12.50
Alcohol/Drugs Involvement Crashes	1	6.25

**Crash Severity Summary**

<b>Crash Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Total Crashes	16	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	4	25.00
Class C Crashes	2	12.50
Property Damage Only Crashes	10	62.50

**Vehicle Exposure Statistics**

**Annual ADT = 11500**

**Total Vehicle Exposure = 23.82 (MEV)**

<b>Crash Rate</b>	<b>Crashes Per 100 Million Vehicles Entered</b>
Total Crash Rate	67.18
Fatal Crash Rate	0.00
Non Fatal Crash Rate	25.19
Night Crash Rate	8.40
Wet Crash Rate	8.40
EPDO Rate	253.61

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Miscellaneous Statistics**

Severity Index =	3.77
EPDO Crash Index =	60.40
Estimated Property Damage Total = \$	69350.00

**Accident Type Summary**

<b>Accident Type</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
ANGLE	5	31.25
BACKING UP	2	12.50
LEFT TURN, DIFFERENT ROADWAYS	1	6.25
LEFT TURN, SAME ROADWAY	1	6.25
REAR END, SLOW OR STOP	5	31.25
RIGHT TURN, SAME ROADWAY	1	6.25
SIDESWIPE, SAME DIRECTION	1	6.25

**Injury Summary**

<b>Injury Type</b>	<b>Number of Injuries</b>	<b>Percent of Total</b>
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	4	57.14
Class C Injuries	3	42.86
Total Non-Fatal Injuries	7	100.00
Total Injuries	7	100.00

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Monthly Summary**

<b>Month</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Jan	0	0.00
Feb	1	6.25
Mar	1	6.25
Apr	2	12.50
May	0	0.00
Jun	3	18.75
Jul	1	6.25
Aug	0	0.00
Sep	3	18.75
Oct	1	6.25
Nov	2	12.50
Dec	2	12.50

**Daily Summary**

<b>Day</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
Mon	4	25.00
Tue	3	18.75
Wed	1	6.25
Thu	1	6.25
Fri	3	18.75
Sat	4	25.00
Sun	0	0.00

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Hourly Summary**

<b>Hour</b>	<b>Number of Crashes</b>	<b>Percent of Total</b>
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	1	6.25
0800-0859	1	6.25
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	2	12.50
1200-1259	1	6.25
1300-1359	1	6.25
1400-1459	3	18.75
1500-1559	1	6.25
1600-1659	2	12.50
1700-1759	1	6.25
1800-1859	0	0.00
1900-1959	1	6.25
2000-2059	1	6.25
2100-2159	1	6.25
2200-2259	0	0.00
2300-2359	0	0.00

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Light and Road Conditions Summary**

<b>Condition</b>	<b>Dry</b>	<b>Wet</b>	<b>Other</b>	<b>Total</b>
Day	12	2	0	14
Dark	2	0	0	2
Other	0	0	0	0
<b>Total</b>	<b>14</b>	<b>2</b>	<b>0</b>	<b>16</b>

**Object Struck Summary**

<b>Object Type</b>	<b>Times Struck</b>	<b>Percent of Total</b>
EMBANKMENT	1	100.00

**Vehicle Type Summary**

<b>Vehicle Type</b>	<b>Number Involved</b>	<b>Percent of Total</b>
MOTORCYCLE	1	3.12
PASSENGER CAR	18	56.25
PICKUP	4	12.50
SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)	2	6.25
SPORT UTILITY	2	6.25
TRACTOR/SEMI-TRAILER	2	6.25
TRUCK/TRAILER	2	6.25
VAN	1	3.12

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Yearly Totals Summary**

**Accident Totals**

<b>Year</b>	<b>Total Accidents</b>	<b>Fatal Accidents</b>	<b>Injury Accidents</b>	<b>Property Damage Only Accidents</b>
2003	7	0	4	3
2004	1	0	0	1
2005	2	0	0	2
2006	2	0	1	1
2007	2	0	0	2
2008	2	0	1	1
<b>Total</b>	<b>16</b>	<b>0</b>	<b>6</b>	<b>10</b>

**Injury Totals**

<b>Year</b>	<b>Fatal Injuries</b>	<b>Class A, B, or C Injuries</b>
2003	0	4
2004	0	0
2005	0	0
2006	0	1
2007	0	0
2008	0	2
<b>Total</b>	<b>0</b>	<b>7</b>

**Miscellaneous Totals**

<b>Year</b>	<b>Property Damage</b>	<b>EPDO Index</b>
2003	\$ 28850	36.60
2004	\$ 1800	1.00
2005	\$ 7300	2.00
2006	\$ 6500	9.40
2007	\$ 15900	2.00
2008	\$ 9000	9.40
<b>Total</b>	<b>\$ 69350</b>	<b>60.40</b>

**Type of Accident Totals**

<b>Year</b>	<b>Left Turn</b>	<b>Right Turn</b>	<b>Rear End</b>	<b>Run Off Road &amp;</b>				<b>Other</b>
				<b>Fixed Object</b>	<b>Angle</b>	<b>Side Swipe</b>		
2003	2	0	2	0	2	0	1	
2004	0	0	1	0	0	0	0	
2005	0	0	0	0	1	1	0	

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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Year	Run Off Road &						
	Left Turn	Right Turn	Rear End	Fixed Object	Angle	Side Swipe	Other
2006	0	1	1	0	0	0	0
2007	0	0	0	0	2	0	0
2008	0	0	1	0	0	0	1
Total	2	1	5	0	5	1	2

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