

Spot Safety Project Evaluation

Project Information

Order ID: 41000030279

Project ID: 06-04-208S

Location: NC 217 at SR 1779 (Bunnlevel Erwin Road/ Beaver Dam Road)

County: Harnett

City: Erwin

Division: 6

Signal ID: 06-1269

Countermeasure: Signal Installation and intersection improvements and realignment.

Project Completion: Between February 1, 2010 – April 30, 2010

Project Cost: \$475,000.00

Map and Aerial (from Google maps – Coordinates are 35.311168,-78.697)



Naive Before and After Analysis

- Before Period: October 1, 2005 through January 31, 2010 (4 years, 4 months)
- Const. Period: February 1, 2010 through April 30, 2010 (3 months)
- After Period: May 1, 2010 through August 31, 2014 (4 years, 4 months)
- Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the NC 217 and SR 1779 approaches.
- Target Crashes: Target crashes were considered to be all Frontal Impact crashes including angle; left-turn, same roadway; left-turn, different roadways; right-turn, different roadways; right-turn, same roadway; and head-on.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	9	14	55.6%
Total Severity Index	5.1	2.1	-58.8%
Target Crashes	7	7	0.0%
Target Crash Severity Index	6.3	3.1	-50.8%
Volume (2007, 2012)	8,800	7,600	-13.6%

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	-
Class A injury Crashes	0	0	-
Class B injury Crashes	0	0	-
Class C Injury Crashes	5	2	-60.0%
Property Damage Only	4	12	200.0%

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Left Turn Same Roadway Crashes (Target)	0	7	700.0%
Rear-end Crashes	0	4	400.0%

Overall Summary Results

Total Crashes:	55.6 %	(Increase)
Total Crash Severity:	-58.8 %	(Reduction)
Target Crashes:	0.0 %	(No Change)
Target Crash Severity:	-50.8 %	(Reduction)
Volume:	-13.6 %	(Reduction)

Additional Information Results

Left Turn Same Roadway Crashes:	700.0 %	(Increase)
Rear End Crashes:	400.0 %	(Increase)

Items for Discussion/Concerns

The total crashes experienced an increase of 55.6% (9 to 14 crashes) between the before and after periods. The amount of target crashes did not change between the before and after periods. The total crash severity decreased by 64.4% and the target crash severity decreased by 50.8%.

Left turn, same roadway type crashes increased by 700% (0 to 7) between the before and after periods. Five of these crashes occurred while turning from the SR 1779 Southbound approach onto NC 217 Eastbound. Rear end type crashes increased by 400% (0 to 4) between the before and after periods. All four of these crashes occurred on the NC 217 westbound approach.

Data Prepared For

The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

Principal Investigator: Ross Oliver
Work Group/Consultant: Hatch Mott MacDonald
Date: October 31, 2014

SR 1779
(Bunnlevel Erwin Rd.)
55 MPH

AADT (Year)
4750 (2007 est.)

NC 217
45 MPH

AADT (Year)
7300 (2007)

NC 217
55 MPH

AADT (Year)
5100 (2007)

SR 1779
(Beaver Dam Rd.)
55 MPH

AADT (Year)
400 (2007 est.)

SS# 06-04-208S
Order# 41000030279
Harnett County
BEFORE Period
10/1/2005 to 1/31/2010

LEGEND							
	MOVING VEHICLE		ANGLE		9 MPH OR LESS		STOP SIGN
	PARKED VEHICLE		TURNING		10 MPH TO 19		ANIMAL
	PARKING VEHICLE		BACKING		20 MPH TO 29		PEDESTRIAN
	MOVABLE OBJECT		SIDESWIPE		30 MPH TO 39		BICYCLE
	HEAD ON		INJURY		40 MPH TO 49		TRAIN
	REAR END		FATALITY		50 MPH TO 59		DRIVER AT FAULT
	RAN OFF ROAD		SPEED UNKNOWN		60 MPH TO 69		DRY
	DAYLIGHT CRASH				70 AND UP		WET
	NIGHT CRASH				SPEED UNKNOWN		ICY OR SNOWY
							Other



Frontal Impact
Target Crashes

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

TRAFFIC SAFETY UNIT

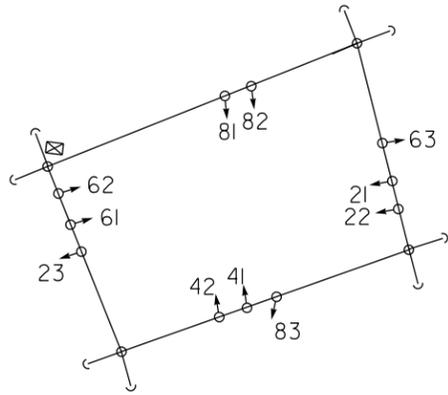
Date: 10/22/2014

Prepared By: R. Oliver



SIGNAL FACE I.D.

Denotes L.E.D.



12"
R
Y
G

AAADT (Year)
4200 (2012)

SR 1779
(Bunnlevel Erwin Rd.)
55 MPH

LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		STOP SIGN
	PARKED VEHICLE		TURNING		10 MPH TO 19		ANIMAL
	PARKING VEHICLE		BACKING		20 MPH TO 29		PEDESTRIAN
	MOVABLE OBJECT		SIDESWIPE		30 MPH TO 39		BICYCLE
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	RAN OFF ROAD		SPEED UNKNOWN		60 MPH TO 69		DRY
	DAYLIGHT CRASH				70 AND UP		WET
	NIGHT CRASH				ICY OR SNOWY		ICY OR SNOWY
					Other		Other

NC 217
45 MPH

AAADT (Year)
6000 (2012 est.)

NC 217
55 MPH

AAADT (Year)
4500 (2012)

SR 1779
(Beaver Dam Rd.)
55 MPH

AAADT (Year)
400 (2012 est.)

Frontal Impact
Target Crashes

SS# 06-04-208S
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AFTER Period
5/1/2010 to 8/31/2014



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

TRAFFIC SAFETY UNIT

Date: 10/22/2014

Prepared By: R. Oliver

Hatch Mott
MacDonald