

# Spot Safety Project Evaluation

## Project Information

Order ID: 41000023256

Project ID: SS# 03-03-213

Location: SR 1406 (Piney Green Road) between SR 1453 (N. Carole Drive) and SR 1455 (West Thomas Avenue)

County: Onslow

City: Jacksonville

Division: 3

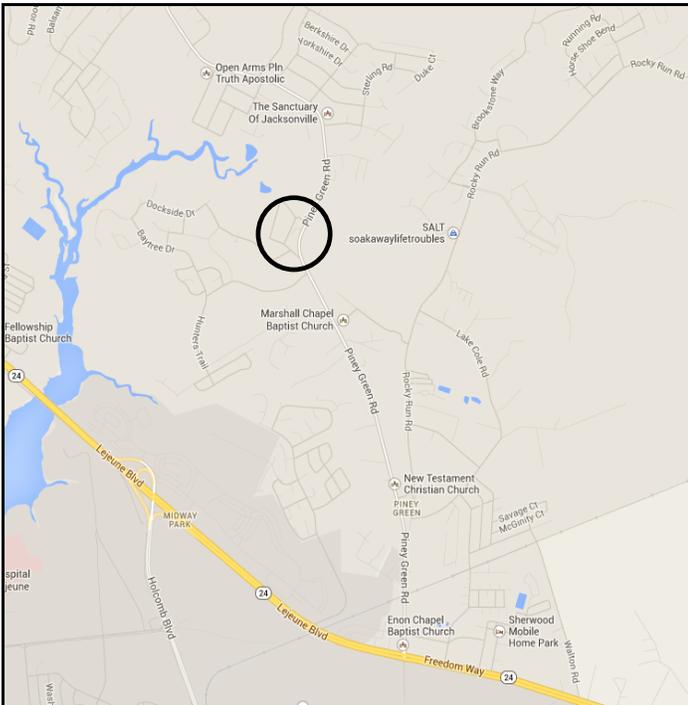
Signal ID: N/A

Countermeasure: 2-Foot Paved Shoulders and Viberline

Project Completion: 4/29/2008

Project Cost: \$160,000

## Map and Aerial (from Google Maps)



**Naive Before and After Analysis**

Before Period: August 1, 2003 through February 29, 2008 (4 years, 7 months)

Const. Period: March 1, 2008 through May 31, 2008

After Period: June 1, 2008 through December 31, 2012 (4 years, 7 months)

*Note: After period was limited by the construction of TIP U-3810 which is widening SR 1406 to a four-lane divided facility, roadway segment is currently under construction*

Analysis Criteria: Treatment data consisted of all crashes within a 0-foot y-line of the subject roadway from 150’ north/west of SR 1453 (West Carole Drive) to 150’ south/east of SR 1455 (West Thomas Ave) – SR 1406 Milepost 4.279 to 4.535.

Target Crashes: Lane Departure Crashes including Ran-Off Roadway (Left, Right, Straight); Fixed Object; Sideswipe (Same or Opposite Direction); or Head-On – each Lane Departure Target Crash was verified during analysis.

<b><u>Treatment Information</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-) Percent Increase (+)</b>
Total Crashes	35	37	5.7 %
Total Severity Index	6.13	3.60	- 41.3 %
Target Crashes	5	13	160.0 %
Target Crash Severity Index	2.48	3.28	32.3 %
Volume (2005, 2010)	16,000	17,500	9.4 %

<b><u>Injury Crash Summary</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-) Percent Increase (+)</b>
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	1	0	- 100.0 %
Class B injury Crashes	1	3	200.0 %
Class C Injury Crashes	13	10	- 23.1 %
Property Damage Only	20	24	20.0 %

<b><u>Additional Information</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-) Percent Increase (+)</b>
Night Crashes	12	8	- 33.3 %
Wet Crashes	6	6	0.0 %
Alcohol/Drugs Involvement Crashes	1	3	200.0 %
Frontal Impact Crashes	6	8	33.3 %
Northbound SR 1406 Rear-End Crashes	23	14	- 39.1 %

### **Overall Summary Results**

Total Crashes:	6 %	(Increase)
Total Crash Severity:	- 41 %	(Reduction)
Target Crashes:	160 %	(Increase)
Target Crash Severity:	32 %	(Increase)
Volume:	9 %	(Increase)

### **Additional Summary Results**

Wet Total Crashes:	0 %	(No Change)
Northbound SR 1406 Rear-End Crashes:	- 39 %	(Reduction)

### **Items for Discussion/Concerns**

The initial project called for left turn lanes on SR 1406 (Piney Green Road) for the intersections of SR 1453 and SR 1455 with a 2-foot paved shoulders. However, the project was revised to simply add the paved shoulders and include a Viberline installation.

Lane departure crashes increased dramatically in the curve and seem to be concentrated north of the SR 1455 (West Thomas Ave) intersection and the southernmost Webb Apartment driveway. However, wet crashes did not increase throughout the study.

As previously mentioned, this roadway segment is currently under construction as part of the U-3810 widening project of SR 1406 (Piney Green Road).

### **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: Jason B. Schronce, EI  
Work Group/Consultant: NCDOT - Safety Evaluation Group  
Date: January 16, 2014



SR 1453  
North Carole Drive  
MP: 4.307

SR 1406  
Piney Green Road  
55-MPH

BEGIN STUDY  
MP 4.279

Webb Apartment  
Driveways

SS# 03-03-213  
Order# 41000023256  
Onslow County  
BEFORE Period  
8/1/03-2/29/08  
4.58 Years

SR 1455  
West Thomas Ave  
MP: 4.507

ADT (YEAR)  
16,000 (2005)

END STUDY  
MP 4.535

⊕ Lane Departure  
Target Crashes

LEGEND

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

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

TRAFFIC SAFETY UNIT

Date: 1-8-2014

Prepared By: J. Schronce



SR 1453  
North Carole Drive  
MP: 4.307

SR 1406  
Piney Green Road  
55-MPH

BEGIN STUDY  
MP 4.279

Webb Apartment  
Driveways

SS# 03-03-213  
Order# 41000023256  
Onslow County  
AFTER Period  
6/1/08-12/31/12  
4.58 Years

SR 1455  
West Thomas Ave  
MP: 4.507

ADT (YEAR)  
17,500 (2010)

COUNTERMEASURE:  
Install 2' Paved Shoulders  
and Vibraline along both  
sides of SR 1406 through curve

END STUDY  
MP 4.535

Lane Departure  
Target Crashes

LEGEND

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

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

TRAFFIC SAFETY UNIT

Date: 1-8-2014

Prepared By: J. Schronce