

# Spot Safety Project Evaluation

## Project Information

Order ID: 41000023230

Project ID: 03-03-212

Location: SR 1406 (Piney Green Road) from 0.1 mile east of SR 1480 (Victoria Road) to 300 feet south/east of SR 1465 (Swains Loop Road)

County: Onslow

City: Jacksonville

Division: 3

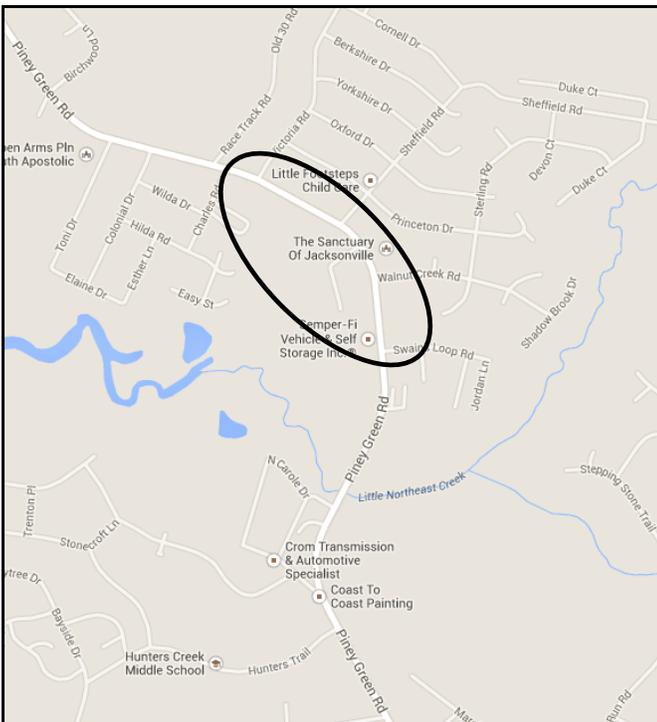
Signal ID: N/A

Countermeasure: Install a 2-Way Center Turn Lane (TWCTL) and 2-Foot Paved Shoulders

Project Completion: 4/29/2008

Project Cost: \$281,000

## 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 30, 2008

After Period: June 1, 2008 through December 30, 2012 (4 years, 7 months)  
*After Period limited by the construction of TIP U-3810*

Analysis Criteria: Treatment data consisted of all crashes within 0 foot y-line of the subject roadway of SR 1406 (Piney Green Road) from milepost 3.54 to 4.00 – curve (study) length of 0.46 mile.

Target Crashes: 1 – Lane Departure (Paved Shoulders) – Ran-Off Roadway, Fixed Object, Sideswipe (Opposite Direction)  
 2 – Center Turn Lane Related – Segment Rear-End, Left Turn Same Direction

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	45	21	- 53.3 %
Total Severity Index	4.99	3.11	- 37.7 %
Lane Departure Target-1 Crashes	3	5	66.7 %
LD Target-1 Crash Severity Index	26.27	1.00	- 96.2 %
Center Turn Lane Target-2 Crashes	31	7	- 77.4 %
TWCTL Target-2 Crash Severity Index	3.86	4.17	8.0 %
Volume (2006, 2010)	16,000	18,000	12.5 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	1	0	- 100.0 %
Class B injury Crashes	3	0	- 100.0 %
Class C Injury Crashes	11	6	- 45.4 %
Property Damage Only	30	15	- 50.0 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Night Crashes	11	4	- 63.6 %
Wet Roadway Crashes	6	3	- 50.0 %
Alcohol/Drug Involvement Crashes	6	2	- 66.7 %

### **Overall Summary Results**

Total Crashes:	- 53 %	(reduction)
Total Crash Severity:	- 38 %	(reduction)
Lane Departure Target-1 Crashes:	67 %	(increase)
Lane Departure Target-1 Crash Severity:	- 96 %	(reduction)
TWCTL Target-2 Crashes:	- 77 %	(reduction)
TWCTL Target-2 Crash Severity:	8 %	(increase)
Volume:	13 %	(increase)

### **Additional Summary Results**

Night Crashes:	- 64 %	(reduction)
Wet Roadway Crashes:	- 50 %	(reduction)

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

From the collision diagrams, the installation of the two-way center turn lane was successful in eliminating southbound rear-end crash patterns at the three intersections within the study segment. However, lane departure crashes increased slightly (from 2 to 5) near the intersection of Sheffield Road in the curve. There was one additional head-on “A-injury” collision in the before period.

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

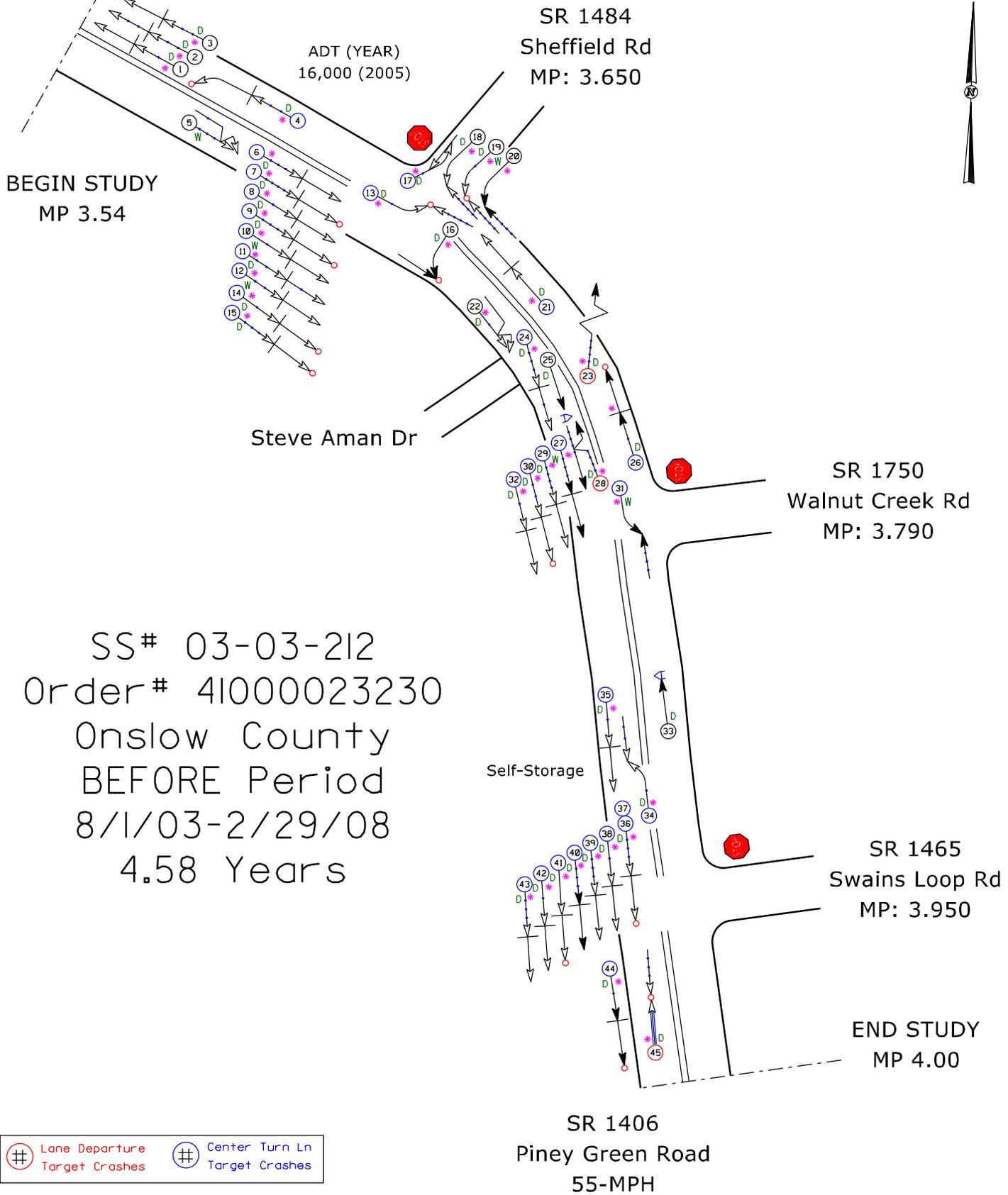
### **Data Prepared For**

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: February 4, 2014

Note: Crashes 1-3 occurred where TWCTL ends, therefore not Target Crashes



⊕ Lane Departure Target Crashes    ⊕ Center Turn Ln Target Crashes

LEGEND

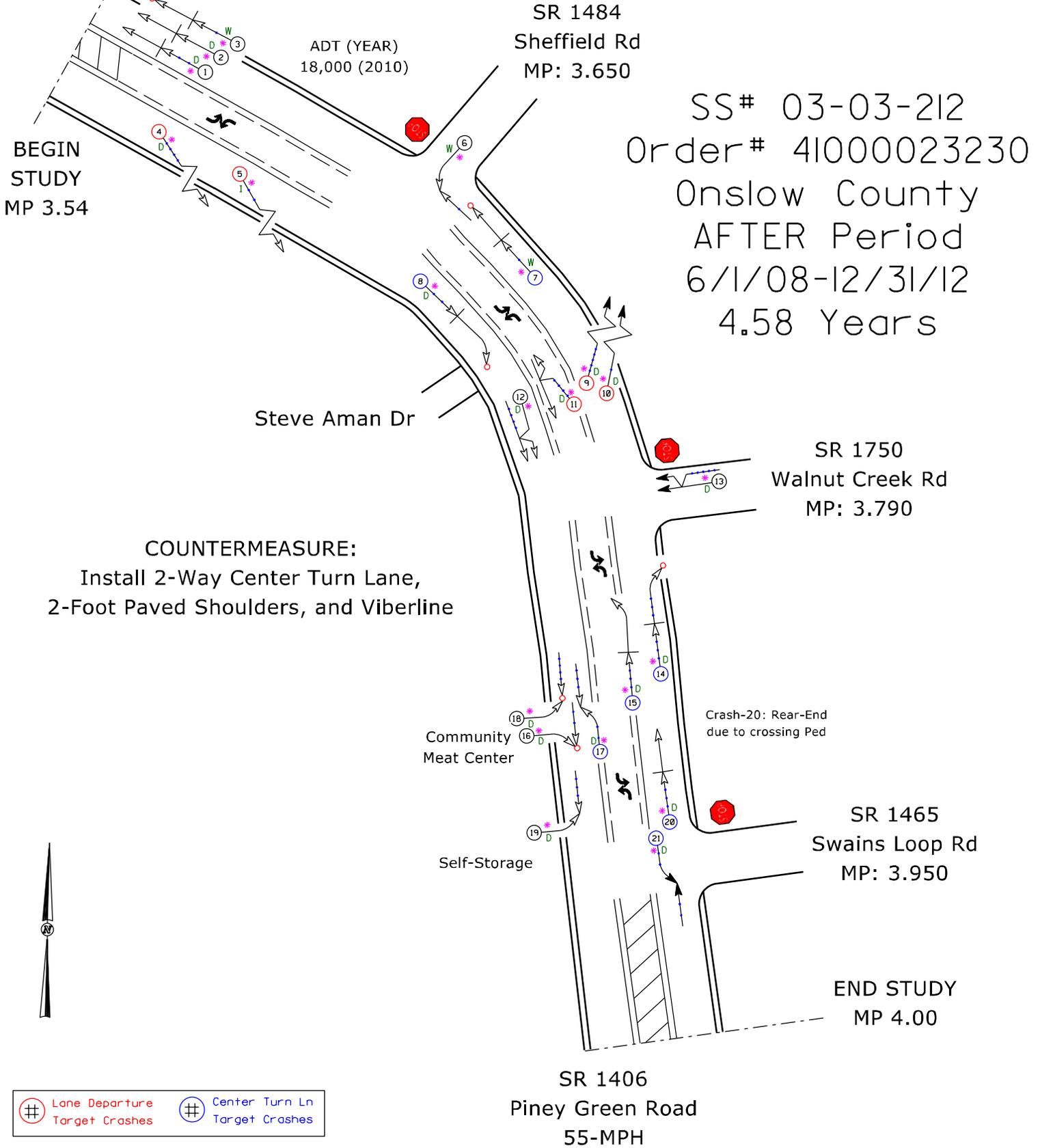
	MOVING VEHICLE		ANGLE		9 MPH OR LESS		PEDESTRIAN
	PAKED VEHICLE		TURNING		10 MPH TO 19		TRAIN
	PARKING VEHICLE		BACKING		20 MPH TO 29		DRIVER AT FAULT
	HEAD ON		SIDESWIPE		30 MPH TO 39		DRY
	REAR END		INJURY		40 MPH TO 49		WET
	RAN OFF ROAD		FATALITY		50 MPH TO 59		ICY OR SNOWY
					60 MPH TO 69		ONLY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

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

**TRAFFIC SAFETY UNIT**

Date: 1-16-2014      Prepared By: J. Schronce

Note: Crashes 1-3 occurred where TWCTL ends, therefore not Target Crashes



SS# 03-03-212  
 Order# 41000023230  
 Onslow County  
 AFTER Period  
 6/1/08-12/31/12  
 4.58 Years

ADT (YEAR)  
 18,000 (2010)

SR 1484  
 Sheffield Rd  
 MP: 3.650

SR 1750  
 Walnut Creek Rd  
 MP: 3.790

SR 1465  
 Swains Loop Rd  
 MP: 3.950

SR 1406  
 Piney Green Road  
 55-MPH

COUNTERMEASURE:  
 Install 2-Way Center Turn Lane,  
 2-Foot Paved Shoulders, and Viberline

Crash-20: Rear-End  
 due to crossing Ped

⊕ Lane Departure Target Crashes    ⊕ Center Turn Ln Target Crashes

**LEGEND**

	MOVING VEHICLE		ANGLE		10 MPH TO 15		PEDESTRIAN
	PAIRED VEHICLE		TURNING		20 MPH TO 29		TRAIN
	PARKING VEHICLE		BACKING		30 MPH TO 39		DRIVER AT FAULT
	HEAD ON		SEDSLOPE		40 MPH TO 49		DRY
	REAR END		INJURY		50 MPH TO 59		WET
	RAN OFF ROAD		FATALITY		60 MPH TO 69		ICY OR SNOWY
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