

Spot Safety Project Evaluation

Project Information

Order ID: 41000028044

Project ID: 08-05-206

Location: US 421 and SR 1529 (Cox Mill Road)

County: Lee

City: Sanford

Division: 8

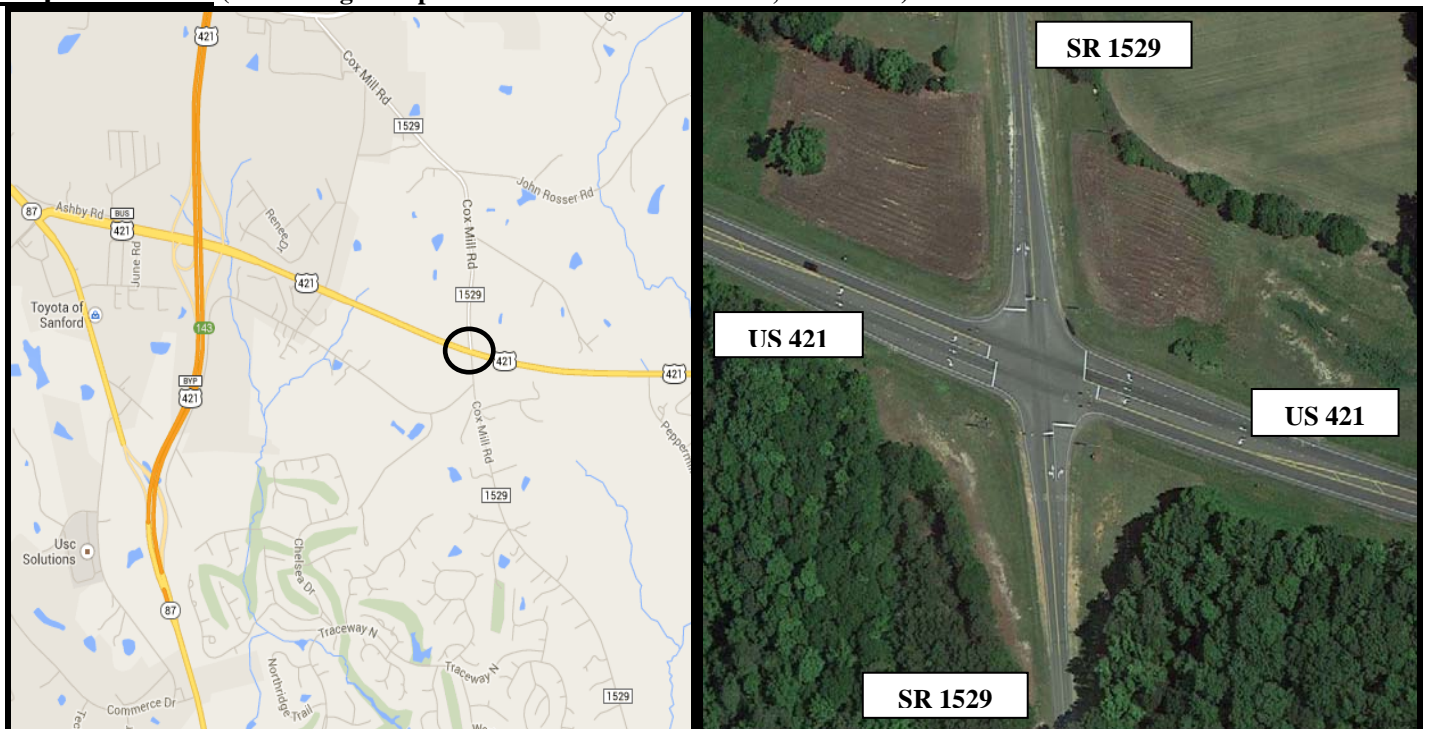
Signal ID: 08-1053

Countermeasure: Widen US 421 to install left turn lanes on both approaches. Remove concrete islands on SR 1529 and install 2 phase signal.

Project Completion: Between September 1, 2008 and September 30, 2008

Project Cost: \$194,000.00

Map and Aerial (from Google Maps – Coordinates are 35.440953,-79.098687)



Naive Before and After Analysis

Before Period: February 1, 2003 through August 31, 2008 (5 years, 7 months)

Const. Period: September 1, 2008 through September 30, 2008 (1 month)

After Period: October 1, 2008 through April 30, 2014(5 years, 7 months)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the US 421 and SR 1529 approaches.

Target Crashes: Frontal impact crashes including:

- Angle
- Left-turn, same roadway
- Left-turn different roadway
- Right-turn same roadway
- Right-turn different roadway
- Head-on

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	22	10	-54.5%
Total Severity Index	7.81	7.14	-8.6%
Target Crashes	15	7	-53.3%
Target Crash Severity Index	10.00	7.34	-26.6%
Volume (2006, 2010)	11200	9300	-17.0%

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	1.0	0.0	-100.0%
Class A injury Crashes	0.0	0.0	N/A
Class B injury Crashes	1.0	4.0	300.0%
Class C Injury Crashes	9.0	5.0	-44.4%
Property Damage Only	11.0	1.0	-90.9%

Overall Summary Results

Total Crashes:	-54.5 %	(reduction)
Total Crash Severity:	-8.6 %	(reduction)
Target Crashes:	-53.3 %	(reduction)
Target Crash Severity:	-26.6 %	(reduction)
Volume:	-17.0 %	(reduction)

Items for Discussion/Concerns

The installation of the two-phase signal and two left-turn lanes on US 421 resulted in a reduction of both total crashes and target crashes between the before and after periods. Also, the severity of total crashes experienced a reduction of over 8 percent and the severity of target crashes experienced a reduction of over 25 percent between the before and after periods.

Data Prepared For

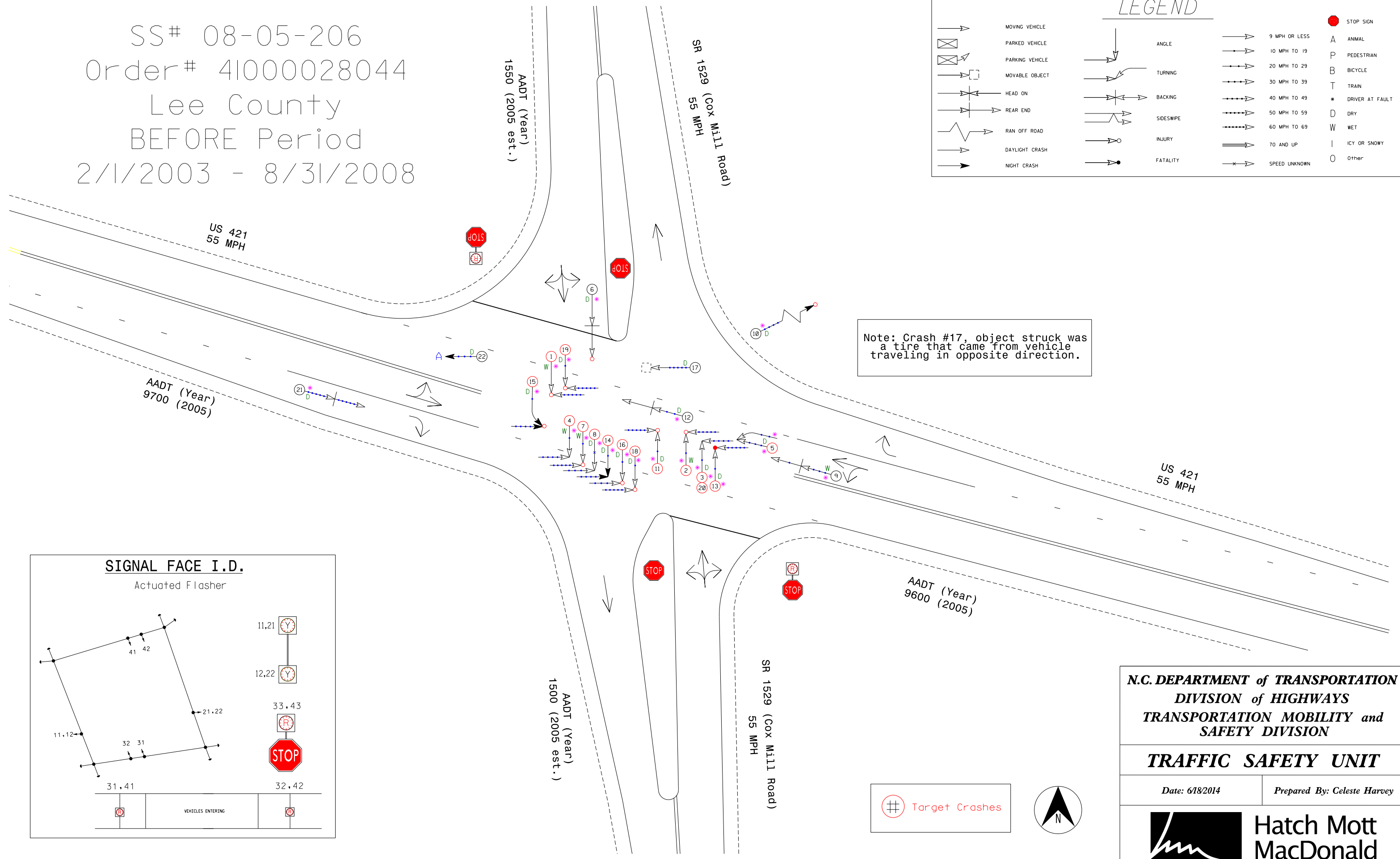
The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

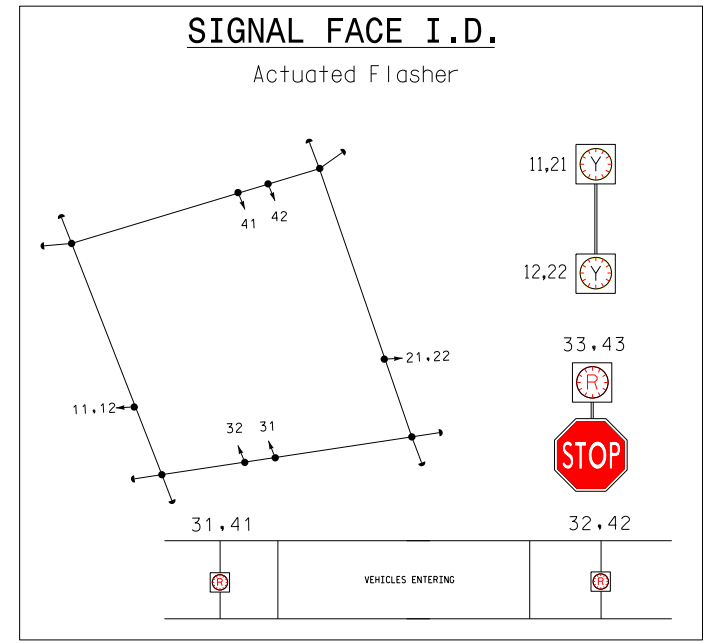
Principal Investigator: Celeste Harvey
Work Group/Consultant: Hatch Mott MacDonald
Date: June 20, 2014

SS# 08-05-206
 Order# 41000028044
 Lee County
 BEFORE Period
 2/1/2003 - 8/31/2008

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



Note: Crash #17, object struck was a tire that came from vehicle traveling in opposite direction.



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

TRAFFIC SAFETY UNIT

Date: 6/18/2014

Prepared By: Celeste Harvey

Target Crashes



SS# 08-05-206
 Order# 41000028044
 Lee County
 AFTER Period
 10/1/2008 - 4/30/2014

AADT (Year)
 3350 (2011 est.)

SR 1529 (Cox Mill Road)
 55 MPH

US 421
 55 MPH

AADT (Year)
 6000 (2011)

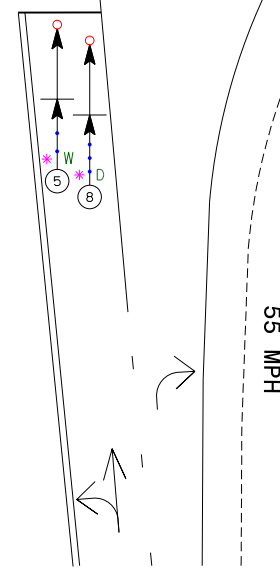
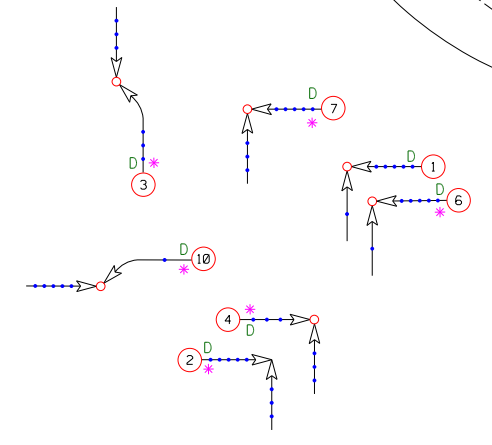
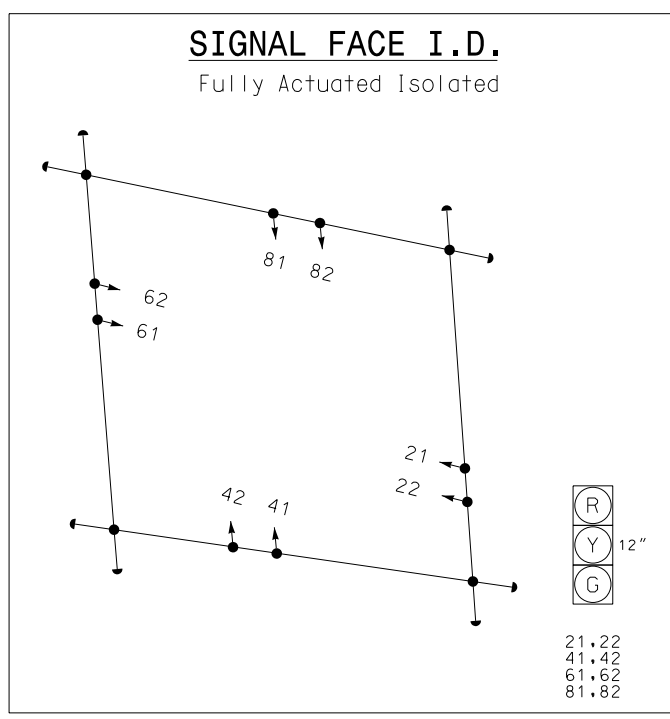
US 421
 55 MPH

AADT (Year)
 7600 (2011)

AADT (Year)
 1650 (2011 est.)

SR 1529 (Cox Mill Road)
 55 MPH

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



Target Crashes



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

TRAFFIC SAFETY UNIT

Date: 6/18/2014

Prepared By: Celeste Harvey

