

# Spot Safety Project Evaluation

## Project Information

Order ID: 41000030272

Project ID: 01-08-210

Location: US 13-17-64 and US 64-64A

County: Martin

City: Williamston

Division: 1

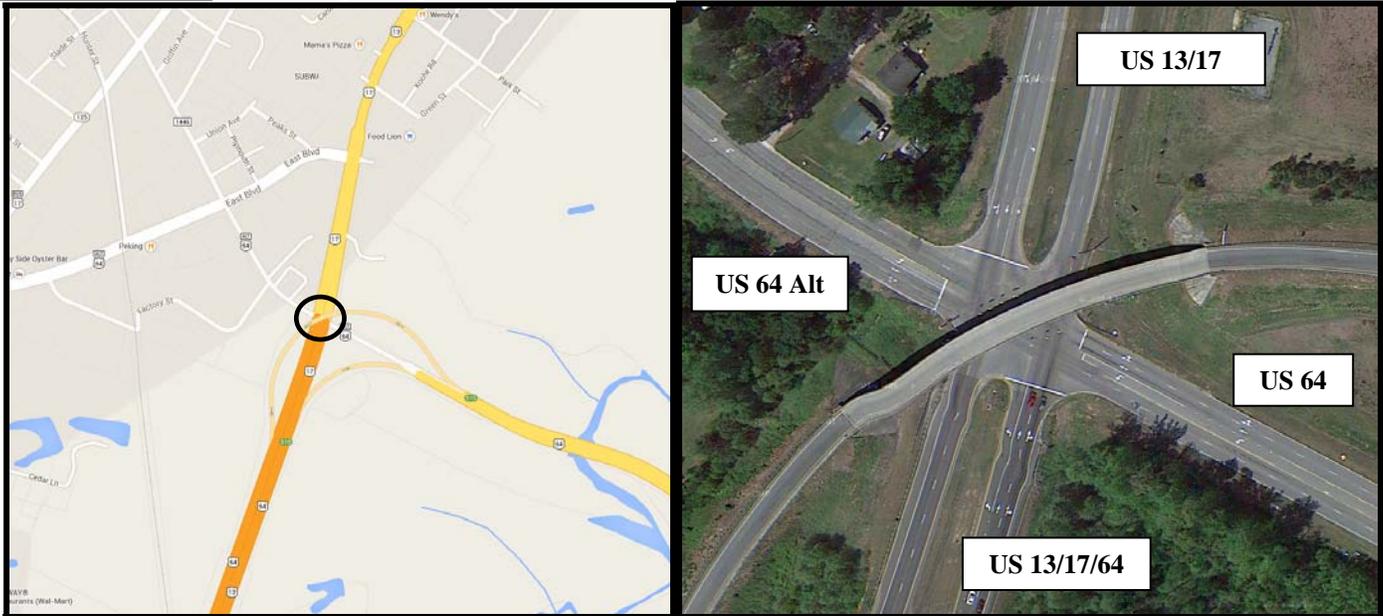
Signal ID: 01-0711

Countermeasure: Install dual stacked red indicators. Add far side heads for phase 4+8 on both eastbound and westbound approaches.

Project Completion: December 03, 2009

Project Cost: \$25,000.00

## Map and Aerial (from Google Maps – Coordinates are 35.840951,-77.052548)



## Naive Before and After Analysis

- Before Period: February 1, 2005 through August 31, 2009 (4 years, 7 months)
- Const. Period: September 1, 2009 through November 30, 2009 (3 months)
- After Period: December 1, 2009 through June 30, 2014 (4 years, 7 months)
- Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the US 13-US 17-US 64 and US 64-US 64 Alternate 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. The frontal impact crashes that were red light run crashes were also evaluated as a subset of these target crashes.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	29	11	-62.1%
Total Severity Index	6.7	4.4	-34.7%
Frontal Impact Target Crashes	19	6	-68.4%
Frontal Impact Target Crash Severity Index	8.9	7.2	-19.1%
Red Light Run Target Crashes	15	5	-66.7%
Red Light Run Target Crash Severity Index	9.5	8.4	-11.7%
Volume (2007, 2012)	16,800	16,100	-4.2%

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	0.0%
Class A injury Crashes	1	0	-100.0%
Class B injury Crashes	3	1	-66.7%
Class C Injury Crashes	9	4	-55.6%
Property Damage Only	16	6	-62.5%

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Northbound Red Light Run (Target)	3	2	-33.3%
Southbound Red Light Run (Target)	5	1	-80.0%
Eastbound Red Light Run (Target)	1	0	-100.0%
Westbound Red Light Run (Target)	6	2	-66.7%
Rear-end Crashes	6	3	-50.0%

## **Overall Summary Results**

Total Crashes:	-62.1 %	(reduction)
Total Crash Severity:	-34.7 %	(reduction)
Frontal Impact Target Crashes:	-68.4 %	(reduction)
Frontal Impact Target Crash Severity:	-19.1 %	(reduction)
Red Light Run Target Crashes:	-66.7%	(reduction)
Red Light Run Target Crash Severity:	-11.7%	(reduction)
Volume:	-4.2 %	(reduction)

## **Additional Information Results**

Northbound US 13/US 17/ US 64 Red Light Run (Target):	-33.3%	(reduction)
Southbound US 13/US 17 Red Light Run (Target):	-80.0%	(reduction)
Eastbound US 64Alternate Red Light Run (Target):	-100.0%	(reduction)
Westbound US 64 Red Light Run (Target):	-66.7%	(reduction)
Rear End Crashes:	-50.0%	(reduction)

## **Items for Discussion/Concerns**

The total crashes experienced a decrease of 62.1% (29 to 11 crashes) between the before and after periods. The frontal impact target crashes experienced a decrease of 68.4% (19 to 6 crashes) and the red light run target crashes experienced a decrease of 66.7% (15 to 5 crashes) between the before and after periods. The total crash severity experienced a reduction of 34.7% while the frontal impact target crash severity experienced a decrease of 19.1% and the red light run target crash severity experienced a decrease of 11.7% between the before and after periods.

Of the red light run target crashes, each approach to the intersection experienced a reduction between the before and after periods, with red light run crashes on the eastbound US 64 Alternate approach being eliminated completely. As an additional benefit to the traffic signal countermeasures, rear-end crashes also saw a reduction of 50.0% between the before and after periods.

## **Data Prepared For**

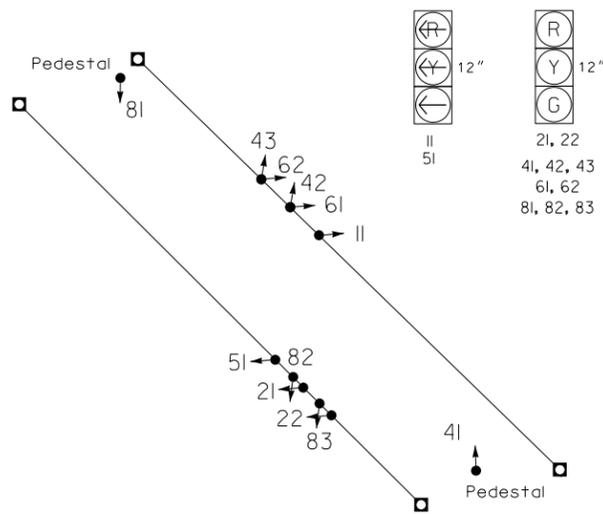
The Traffic Safety Unit *of the*  
Transportation Mobility and Safety Division *of the*  
Division of Highways *of the*  
North Carolina Department of Transportation

## **Data Prepared By**

Principal Investigator: Celeste M. Harvey  
Work Group/Consultant: Hatch Mott MacDonald  
Date: September 8, 2014

**SIGNAL FACE I.D.**

Denotes L.E.D.



US 13-64  
55 Mph

US 64 Alternate  
45 Mph

AADT (Year)  
4600 (2007)

US 13-US 17  
55 Mph

AADT (Year)  
9700 (2007)

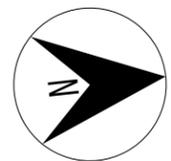
AADT (Year)  
12000(2007 est.)

US 64  
45 Mph

AADT (Year)  
7300 (2007)

**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						ICY OR SNOWY
							Other



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

**TRAFFIC SAFETY UNIT**

Date: 8/27/2014

Prepared By: Celeste Harvey

Frontal Impact  
Target Crashes

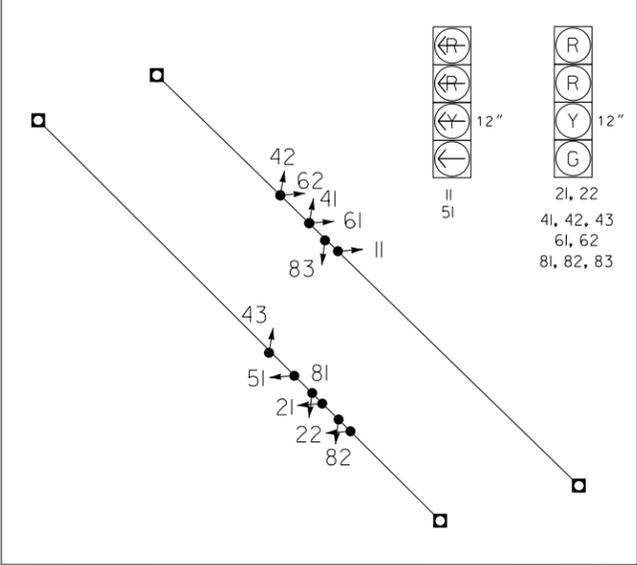
Red Light Run  
Frontal Impact  
Target Crashes

SS# 01-08-210  
Order# 41000030272  
Martin County  
BEFORE Period  
2/1/2005 - 8/31/2009



**SIGNAL FACE I.D.**

Denotes L.E.D.



US 64 Alternate  
45 Mph

AADT (Year)  
4900 (2012)

**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						ICY OR SNOWY
							Other

Westbound US 64 Flyover

US 13-US 17  
55 Mph

US 13-64  
55 Mph

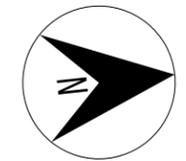
AADT (Year)  
8800 (2012)

AADT (Year)  
11000 (2012)

US 64  
45 Mph

AADT (Year)  
7500 (2012)

Westbound US 64 Flyover



SS# 01-08-210  
Order# 41000030272  
Martin County  
AFTER Period  
12/1/2009 - 6/30/2014

Frontal Impact  
Target Crashes

Red Light Run  
Frontal Impact  
Target Crashes

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

**TRAFFIC SAFETY UNIT**

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