

Spot Safety Project Evaluation

Project Information

Order ID: 41000028038

Project ID: 05-07-210

Location: SR 1647 (Ebenezer Church Road) at Marvino Lane

County: Wake

City: Raleigh

Division: 5

Signal ID: 05-2313

Countermeasure: Install traffic signal with provisions for pedestrians and interconnection to the closed loop signal system on US 70 (Glenwood Avenue).

Project Completion: Between December 1, 2008 and February 28, 2009

Project Cost: \$80,500.00

Map and Aerial (from Google Maps – Coordinates are 35.887312,-78.740902)



Naive Before and After Analysis

Before Period: December 1, 2003 through November 30, 2008 (5 years)

Const. Period: December 1, 2008 through February 28, 2009 (3 months)

After Period: March 1, 2009 through February 28, 2014 (5 years)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1647 (Ebenezer Church Road) and Marvino Lane approaches.

Target Crashes: Frontal impact crashes including:

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

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	36	19	-47.2%
Total Severity Index	3.67	3.73	+1.5%
Target Crashes	33	14	-57.6%
Target Crash Severity Index	3.92	3.64	-7.0%
Volume (2006, 2010)	9,600	10,100	+5.2%

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	0	0	N/A
Class B injury Crashes	3	2	-33.3%
Class C Injury Crashes	10	5	-50.0%
Property Damage Only	23	12	-47.8%

Overall Summary Results

Total Crashes:	-47.2 %	(reduction)
Total Crash Severity:	+1.5 %	(reduction)
Target Crashes:	-57.6 %	(reduction)
Target Crash Severity:	-7.0 %	(reduction)
Volume:	5.2 %	(increase)

Items for Discussion/Concerns

The number of Total Crashes and Frontal Impact target Crashes both decreased between the before and after periods. The severity of Total Crashes and Frontal Impact Target Crashes also experienced a reduction between the before and after periods.

Data Prepared For

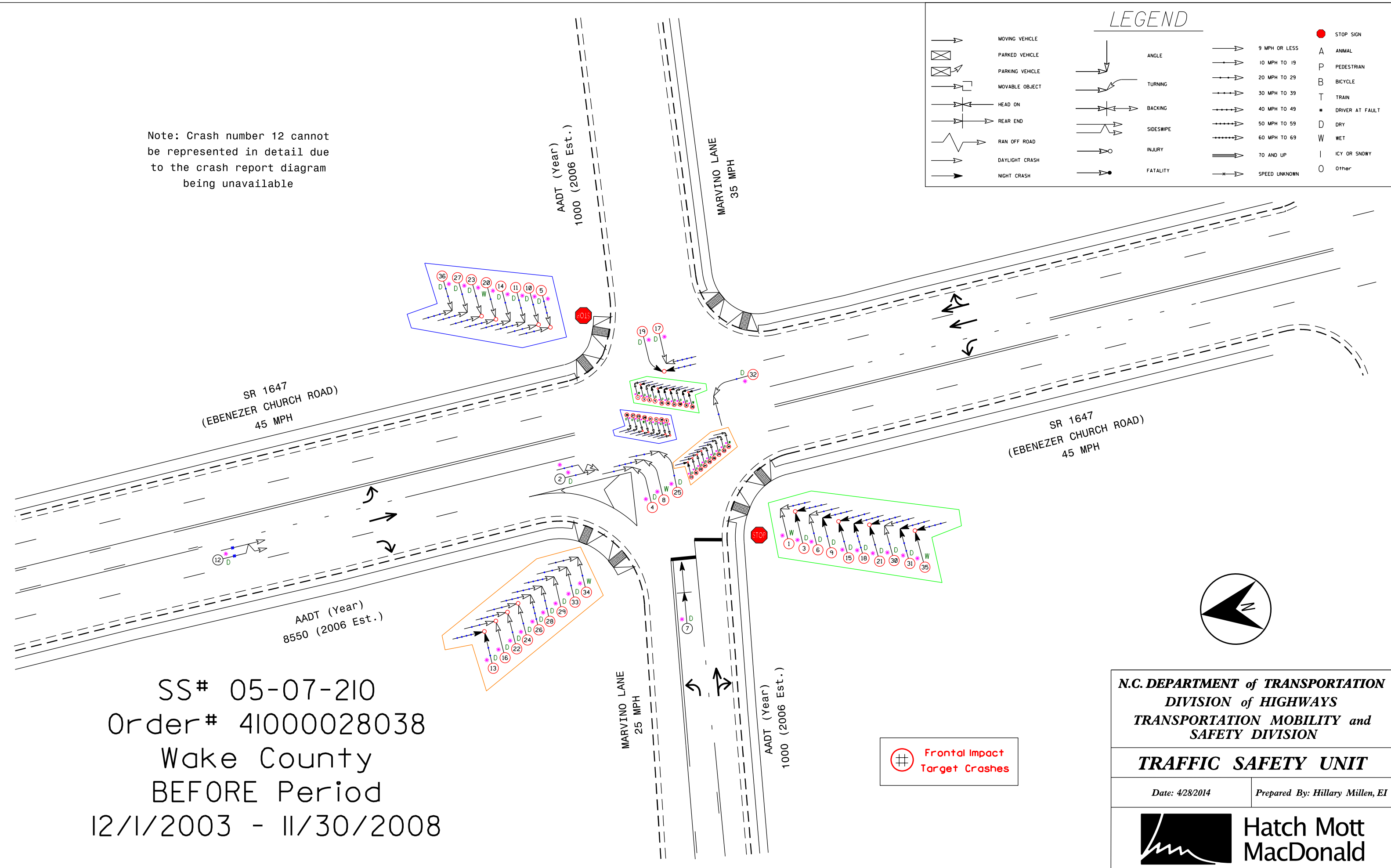
The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

Principal Investigator: Hillary Millen, EI
Work Group/Consultant: Hatch Mott MacDonald
Date: May 5, 2014

Note: Crash number 12 cannot be represented in detail due to the crash report diagram being unavailable

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



SS# 05-07-210
 Order# 41000028038
 Wake County
 BEFORE Period
 12/1/2003 - 11/30/2008

Frontal Impact
 Target Crashes

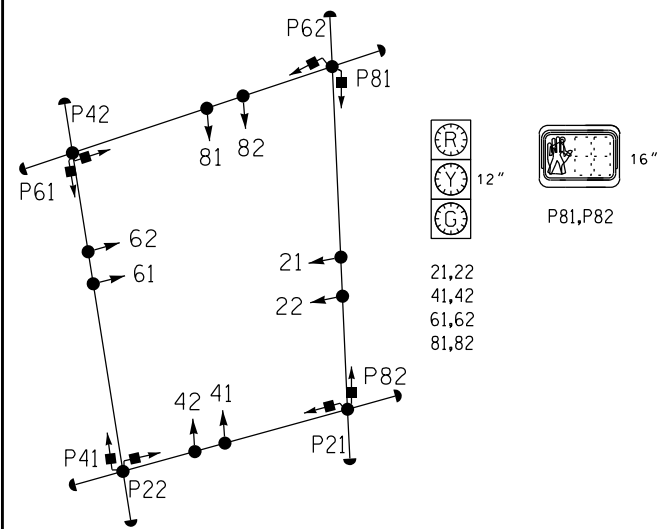
N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 TRANSPORTATION MOBILITY and SAFETY DIVISION

TRAFFIC SAFETY UNIT

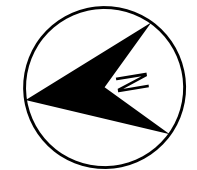
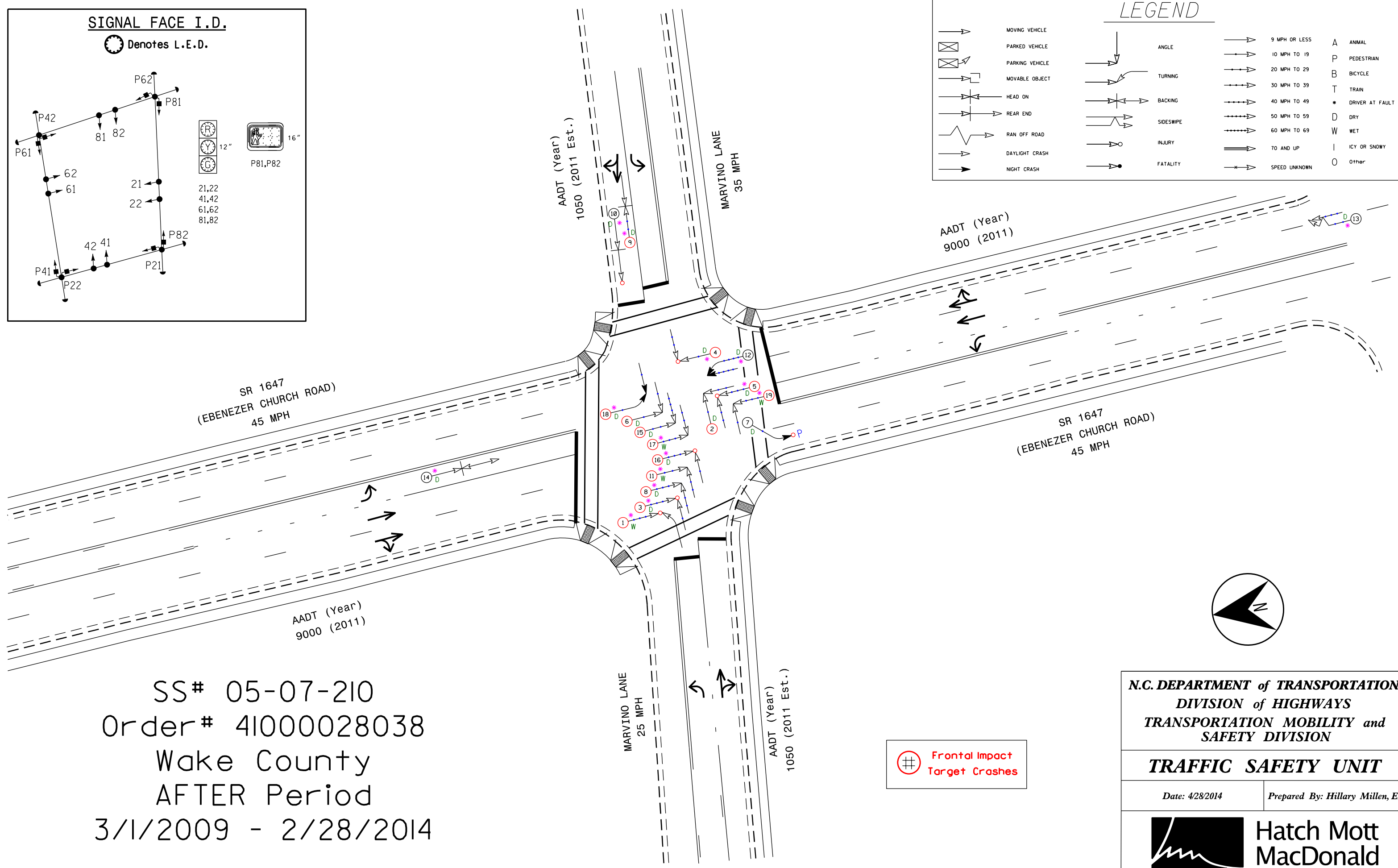
Date: 4/28/2014 Prepared By: Hillary Millen, EI

SIGNAL FACE I.D.

Denotes L.E.D.



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



⊕ Frontal Impact
Target Crashes

SS# 05-07-210
Order# 41000028038
Wake County
AFTER Period
3/1/2009 - 2/28/2014

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

TRAFFIC SAFETY UNIT

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