

Hazard Elimination Project Evaluation

Project Information

Order ID: 41000038366

Project ID: W-5116

Location: SR 2459 (Eastfield Road) and SR 2442 (Asbury Chapel Road)/SR 2480 (Browne Road)

County: Mecklenburg

City: Charlotte

Division: 10

Signal ID: 10-1940

Countermeasures: Horizontal realignment of SR 2480 (Browne Road) to align with SR 2442(Asbury Chapel Road) on SR 2459 (Eastfield Road), install traffic signal, and install left turn lanes on all approaches

Project Completion: Between January 1, 2011- March 31, 2011

Project Cost: \$1,155,000.00

Map and Aerial (from Google maps – Coordinates are 36.37210,-80.80739)



Naive Before and After Analysis

Before Period: April 1, 2006 to December 31, 2010 (4 years, 9 months)

Const. Period: January 1, 2011 to March 31, 2011 (3 months)

After Period: April 1, 2011 to December 31, 2015 (4 years, 9 months)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 2459 and SR 2442 /SR 2480 approaches. The before period analysis consisted of two separate intersections and the after period analysis consisted of the new realigned intersection.

Target 1 Crashes: All frontal impact crashes, including left-turn, different roadways; left-turn, same roadways; right-turn, different roadways; right-turn, same roadway; head-on and angle crashes.

Target 2 Crashes: Rear-end type crashes on all approaches of SR 2459 and SR 2442/SR 2480.

<u>Treatment Information</u>	Before SR 2459/ SR 2480	Before SR 2459/ SR 2442	Combined Before	After	*Percent Reduction (-) Percent Increase (+)
Total Crashes	46	14	60	27	-55.0%
Total Severity Index	5.2	2.6	4.6	3.5	-23.9%
Target 1 (Frontal Impact) Crashes	28	3	31	3	-90.3%
Target 1 Crash Severity Index	3.6	3.5	3.6	3.5	-2.8%
Target 2 (Rear-End) Crashes	15	8	23	21	-8.7%
Target 2 Crash Severity Index	8.5	1.9	6.2	3.5	-43.5%
Volume (2008, 2013)	18,900	17,200	20,000	25,200	26.0%

*Note: The percent reduction/increase is a comparison of the Combined Before data and the After data.

<u>Injury Crash Summary</u>	Before SR 2459/SR 2480	Before SR 2459/SR 2442	Combined Before	After	*Percent Reduction (-) Percent Increase (+)
Fatal Injury Crashes	1	0	1	0	-100.0%
Class A Injury Crashes	0	0	0	0	N/A
Class B Injury Crashes	4	1	5	2	-60.0%
Class C Injury Crashes	11	2	13	7	-46.2%
Property Damage Only	30	11	41	18	-56.1%

*Note: The percent reduction/increase is a comparison of the Combined Before data and the After data.

Overall Summary Results

Total Crashes:	-55.0 %	(Reduction)
Total Crash Severity:	-23.9 %	(Reduction)
Target 1 Crashes:	-90.3 %	(Reduction)
Target 1 Crash Severity:	-2.8 %	(Reduction)
Target 2 Crashes:	-8.7 %	(Reduction)
Target 2 Crash Severity:	-43.5 %	(Reduction)
Volume:	26.0 %	(Increase)

Items for Discussion/Concerns

The total crashes saw a decrease of 55.0% (60 to 27 crashes) between the before and after periods. The total crash severity decreased slightly by 23.9%. Target 1 type crashes decreased significantly by 90.3% (30 to 3 crashes) between the before and after periods, while the severity for Target 1 crashes decreased by 2.8%. Target 2 type crashes decreased by 8.7% (23 to 21 crashes) between the before and after periods, while the severity for Target 2 crashes decreased by 43.5%.

Data Prepared For

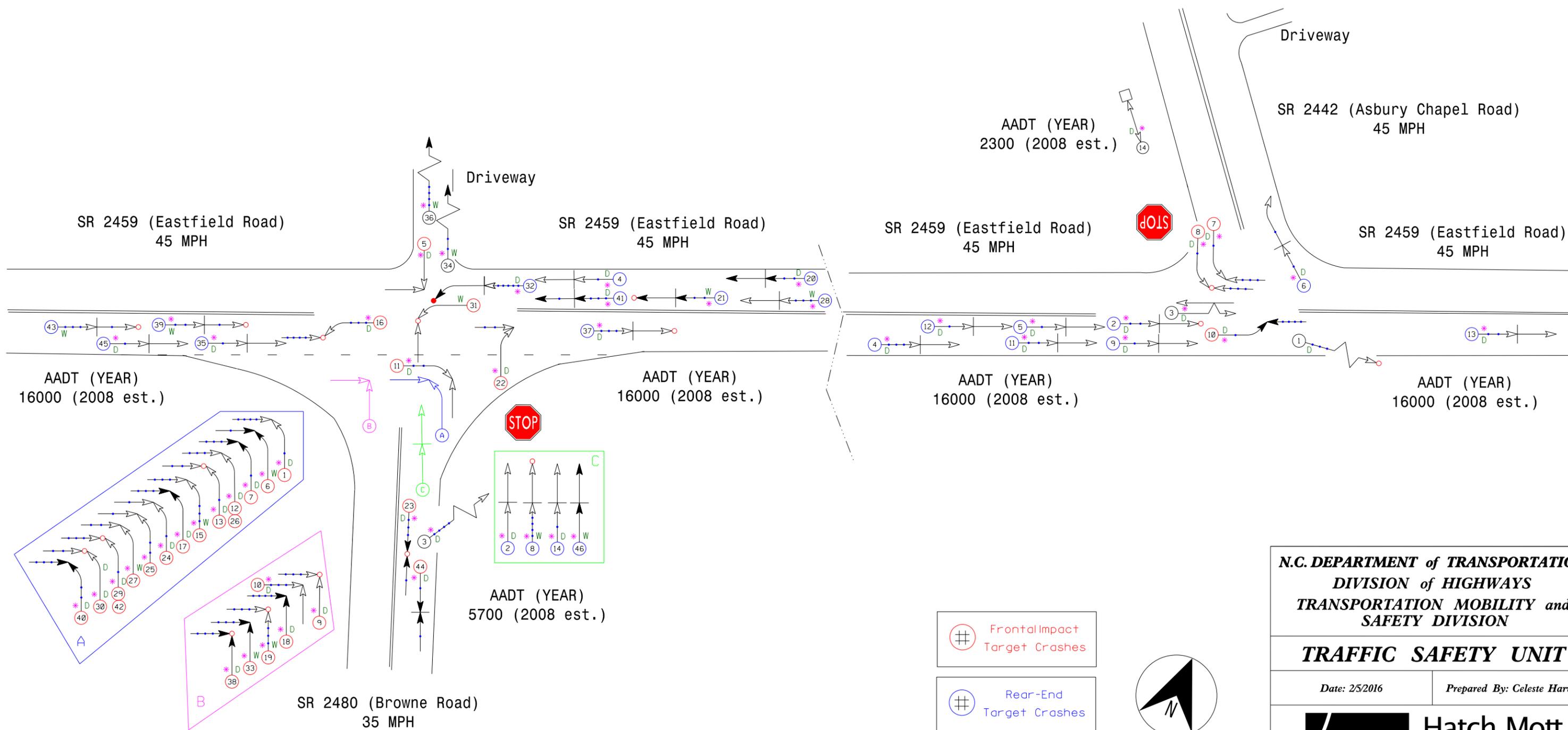
The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

Principal Investigator: Celeste M. Harvey
Work Group/Consultant: Hatch Mott MacDonald
Date: February 5, 2016

Hazard# W-5116
 Order# 41000038366
 Mecklenburg County
 BEFORE Period
 4/1/2006 - 12/31/2010

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



- Frontal Impact Target Crashes
- Rear-End Target Crashes

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

TRAFFIC SAFETY UNIT

Date: 2/5/2016 Prepared By: Celeste Harvey

Hazard# W-5116
 Order# 41000038366
 Mecklenburg County
 AFTER Period
 4/1/2011 - 12/31/2015

SR 2442 (Asbury Chapel Road)
 45 MPH

AADT (YEAR)
 2600 (2013 est.)

Driveway

Previous Alignment of
 SR 2442 (Asbury Chapel Road)

SR 2459 (Eastfield Road)
 45 MPH

SR 2459 (Eastfield Road)
 45 MPH

AADT (YEAR)
 21000 (2013 est.)

AADT (YEAR)
 21000 (2013 est.)

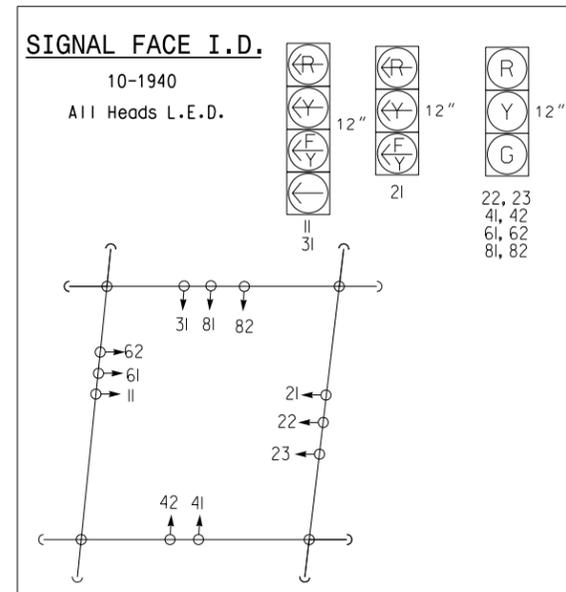
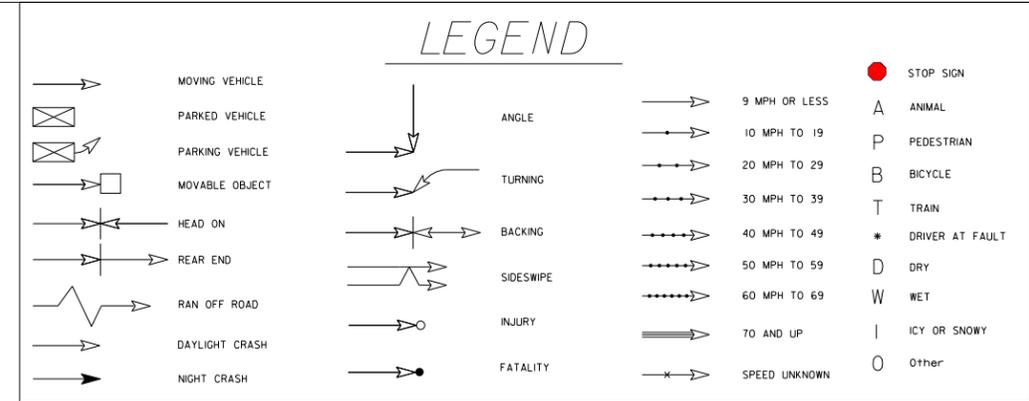
Previous Alignment of
 SR 2480 (Browne Road)

SR 2480 (Browne Road)
 35 MPH

AADT (YEAR)
 5800 (2013 est.)

⊕ Frontal Impact
 Target Crashes

⊕ Rear-End
 Target Crashes



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SAFETY DIVISION

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