

Spot Safety Project Evaluation

Project Information

Order ID: 41000033826

Project ID: 08-06-218

Location: NC 751 at SR 1731 (O'Kelly Chapel Road)

County: Chatham

City: Northeast of Pittsboro

Division: 8

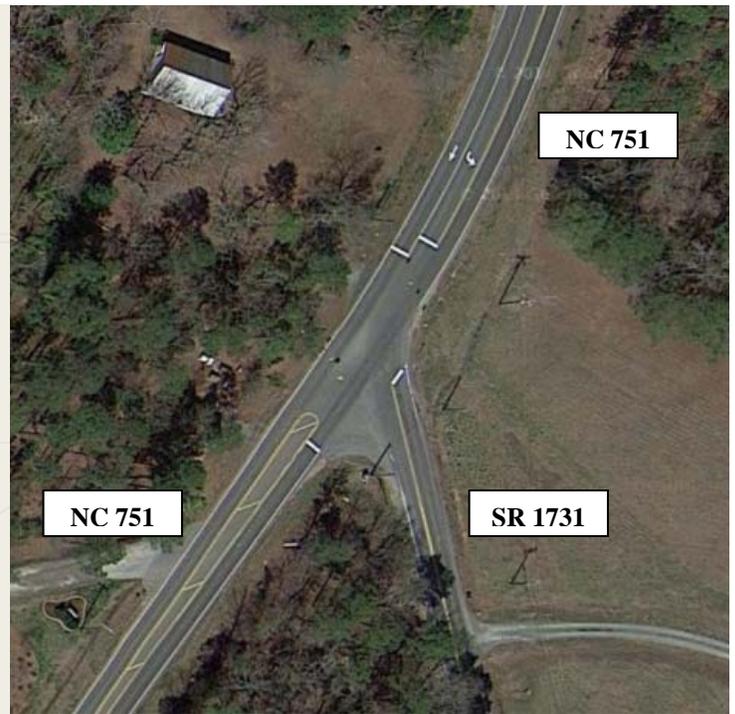
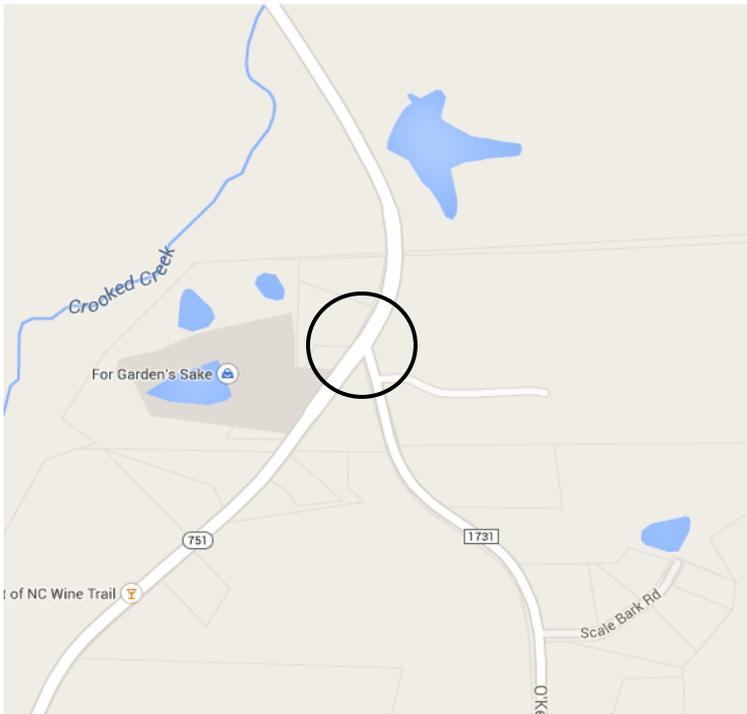
Signal ID: 08-1094

Countermeasure: Install protected-permitted traffic signal with wood poles and left-turn lane on northern leg of NC 751

Project Completion: October 2010

Project Cost: \$156,000

Map and Aerial (from Google Maps – Coordinates are 35.865204, -78.944157)



Naive Before and After Analysis

Before Period: June 1, 2006 through August 30, 2010 (4 years 3 months)

Const. Period: September 1, 2010 through November 30, 2010

After Period: December 1, 2010 through February 28, 2015 (4 years 3 months)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the NC 751 and SR 1731 approaches.

Target Crashes: Frontal Impact Crashes (left-turn, same roadway; left-turn, different roadway; right-turn, same roadway; right-turn, different roadway; head-on; and angle crashes) in the intersection

<u>Treatment Information – Countermeasure Signal Upgrade</u>			
<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	21	14	- 33.3 %
Total Severity Index	2.41	1.53	- 36.5 %
Target Crashes	4	4	0 %
Target Crash Severity Index	1.0	1.0	0 %
Volume (2008, 2013)	11,700	13,900	+ 18.8 %

<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	0	0	N/A
Class C Injury Crashes	4	1	- 75.0 %
Property Damage Only	17	13	- 23.5 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Frontal Impact Crashes (Target)	4	4	0 %
Rear End, Slow or Stop Crashes	4	8	+ 100.0 %
Rear End, Turn Crashes	9	0	- 100.0 %

Table 1 Summary Results

Total Crashes:	- 33 %	(reduction)
Total Crash Severity:	- 37 %	(reduction)
Target Crashes:	0 %	(no change)
Target Crash Severity:	0 %	(no change)
Volume:	+ 19 %	(increase)

Additional Summary Results

Frontal Impact Crashes (Target):	0 %	(no change)
Rear End, Slow or Stop Crashes:	+ 100 %	(increase)
Rear End, Turn Crashes:	- 100 %	(reduction)

Items for Discussion/Concerns

The study intersection experienced a 33 % reduction in total crashes (21 to 14 crashes).

The target crashes (Frontal Impact Crashes) experienced no change (4 to 4 crashes).

The intersection experienced an increase in Rear End, Slow or Stop Crashes (4 to 8 crashes) and a decrease in Rear End, Turn Crashes (9 to 0 crashes).

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: Austin Bell, EI

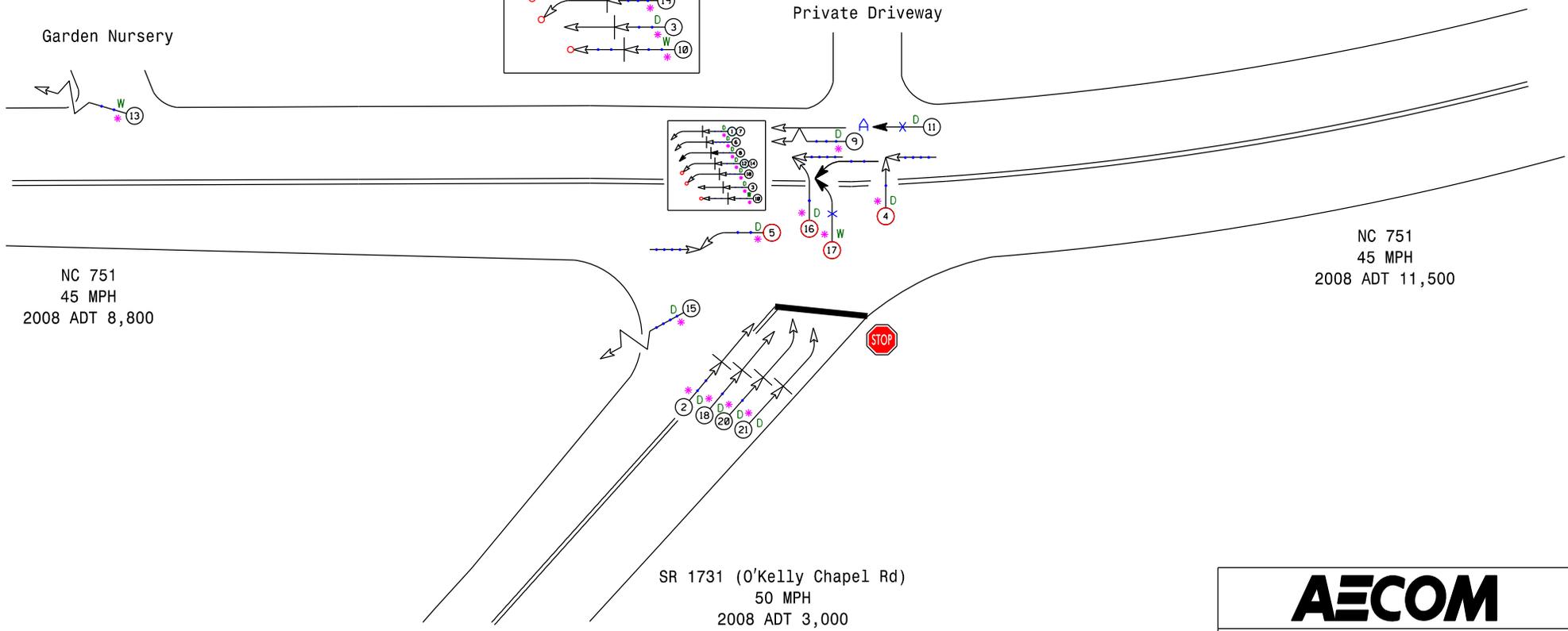
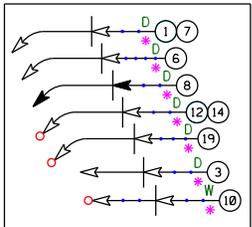
Work Group/Consultant: AECOM

Date: March 27, 2015

SS# 08-06-218
 Order # 41000033826
 Chatham County
 Before Period
 6/1/06 - 8/31/10

LEGEND

	MOVING VEHICLE		ANGLE		1 MPH OR LESS		PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		TRAIN
	PARKED VEHICLE		BACKING		20 MPH TO 29		DRIVER AT FAULT
	PARKING VEHICLE		SIDESWIPE		30 MPH TO 39		WET
	FIXED OBJECT		OUT OF CONTROL		40 MPH TO 49		ICY OR SMOOT
	HEAD ON		RAN OFF ROAD		50 MPH TO 59		ONLY
	REAR END		INJURY		60 MPH TO 69		
	FATALITY		TO AND UP		70 AND UP		
					SPEED UNKNOWN		



 Frontal Impact Crashes

AECOM

Prepared For:
 N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 TRANSPORTATION MOBILITY and SAFETY DIVISION

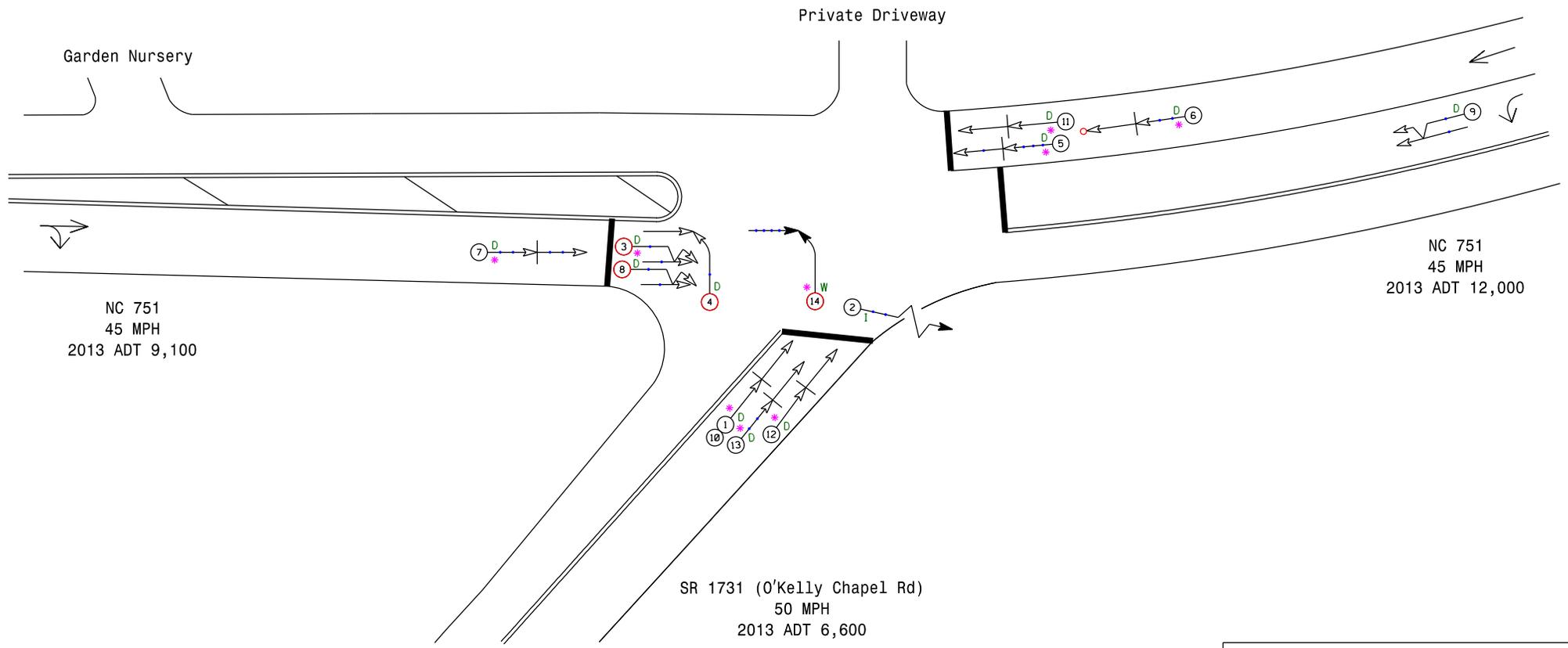
TRAFFIC SAFETY UNIT

Date: 3-27-2015 Prepared By: Austin Bell, EI

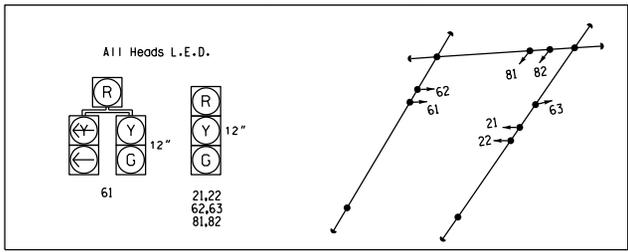
SS# 08-06-218
 Order # 41000033826
 Chatham County
 After Period
 12/1/10 - 2/28/15

LEGEND

	MOVING VEHICLE		ANGLE		1 MPH OR LESS		PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		TRAIN
	PAKED VEHICLE		BACKING		20 MPH TO 29		DRIVER AT FAULT
	FIXED OBJECT		SIDESWIPE		30 MPH TO 39		WET
	HEAD ON		OUT OF CONTROL		40 MPH TO 49		ICY OR SMOOT
	REAR END		INJURY		50 MPH TO 59		ONLY
	RAN OFF ROAD		FATALITY		60 MPH TO 69		
			TO AND UP		70 AND UP		
			SPEED UNKNOWN				



SIG ID 08-1094 (3 Phase Fully Actuated)



Frontal Impact Crashes

AECOM

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

TRAFFIC SAFETY UNIT

Date: 3-27-2015 Prepared By: Austin Bell, EI