

Spot Safety Project Evaluation

Project Log # 200408197

Spot Safety Project # 08-97-009

**Spot Safety Project Evaluation, of the Widening and Turn Lane Construction,
At the Intersection of SR 1525-Hamletts Chapel Road and SR 1532-Manns Chapel Road-
River Forest Road, near Pittsboro, Chatham County**

Documents Prepared By:

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Traffic Safety Systems Management Section
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Principal Investigator

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04/04/2005
Date

Traffic Safety Project Engineer

Spot Safety Project Evaluation Documentation

Subject Location

Evaluation of Spot Safety Project Number 08-97-009 – The Intersection of SR 1525-Hamletts Chapel Road and SR 1532-Manns Chapel Road-River Forest Road, near Pittsboro, Chatham County

Introduction

In an attempt to assess the safety of our roads, the Safety Evaluation Group of the Traffic Safety Systems Management Section has evaluated the above project. A naive before and after analysis has been completed to measure the effectiveness of the spot safety improvement. This information is provided to you so the benefit or lack of benefit for this type of project can be recognized and utilized for future projects.

Project Information and Background from the Project File Folder

The spot safety project improvement countermeasure chosen for the subject location was the widening of SR 1525-Hamletts Chapel Road to provide turn lanes on both approaches to SR 1532-Manns Chapel Road-River Forest Road. Larry R. Goode P.E., State Highway Administrator, originally requested the improvement. SR 1525-Hamletts Chapel Road is currently a two-lane facility with left-turn lanes at the intersection with SR 1532-Manns Chapel Road-River Forest Road. Prior to the improvement, SR 1525-Hamletts Chapel Road was a two-lane facility at the intersection. Both approaches have a speed limit of 55 mph (except a 35 mph school zone is in effect from 7:30 a.m. to 8:30 a.m. and 2:30 p.m. to 3:30 p.m.).

Perry Harrison Elementary School opened in the fall of 1997. It was felt that the lack of turn lanes at the intersection would be detrimental to school safety. The left lanes extend west of the intersection on SR 1525-Hamletts Chapel Road in order to provide turn lanes for the school. The final completion date for the improvement at the subject intersection was on January 21, 1998.

Naive Before and After Analysis

After reviewing the spot safety project file folder along with all the crashes at the subject location, the crash data omitted from this analysis to consider for an adequate construction period was from November 1, 1997 through April 30, 1998. The before period consisted of reported crashes from March 1, 1992 through October 31, 1997 (5 Years, 8 Months) and the after period consisted of reported crashes from May 1, 1998 through December 31, 2003 (5 Years, 8 Months). The ending date for this analysis was determined by the available crash data at the time the crash analysis was completed. Please see attached *Location Map* for further detail.

The following table depicts the Naive Before and After Analysis for the Treatment Intersection. Before period crash data, after period crash data, and the percent change in crashes from the before to the after period are included. The treatment data consisted of all crashes within 150 feet of the subject intersection.

Treatment Information

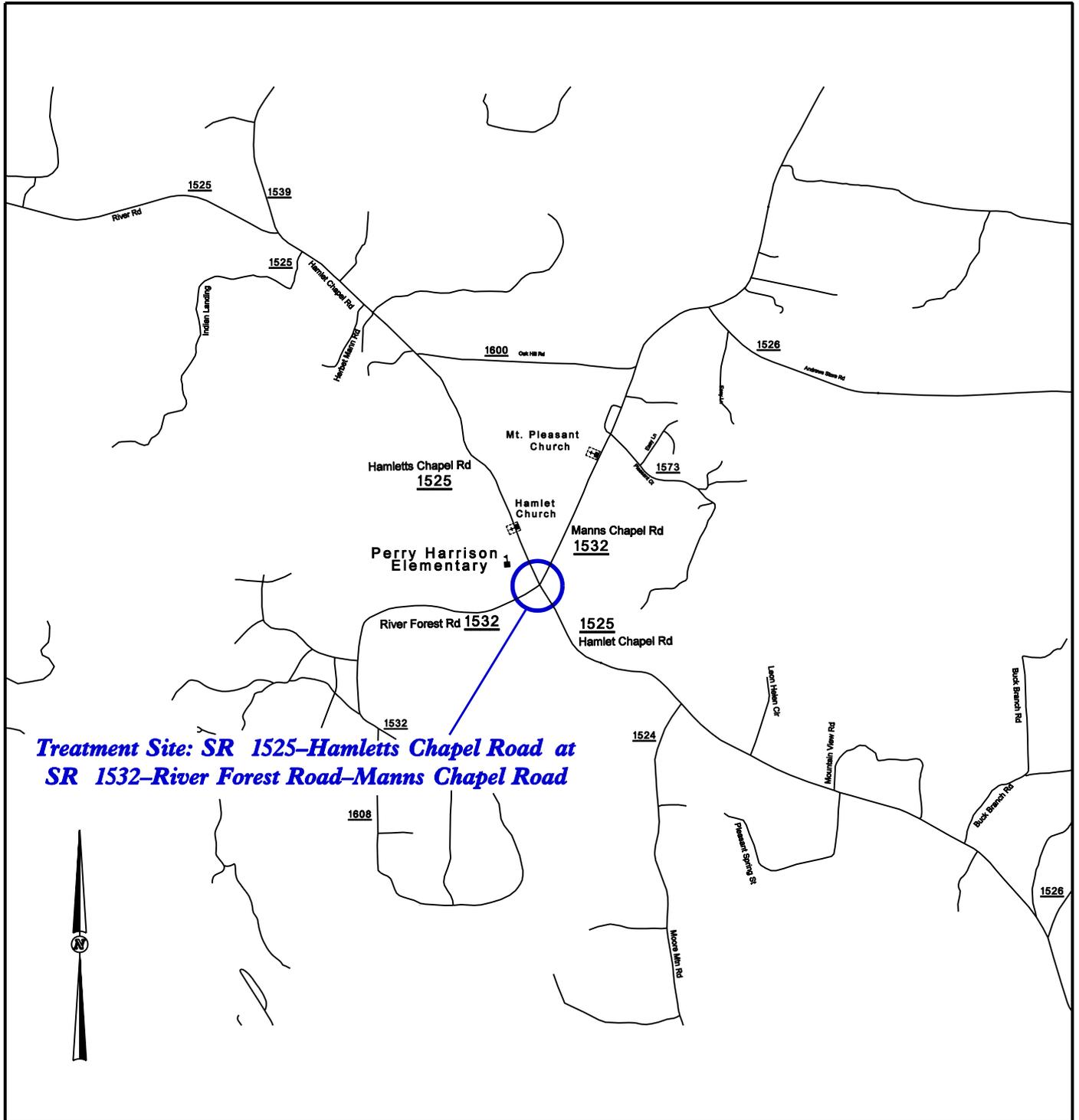
	Before	After	Percent Reduction (-)/ Percent Increase (+)
Total Crashes	4	7	75.0
Total Crash Rate	175.58	225.33	28.3
Total Severity Index	25.50	2.06	- 91.9
Volume	1100	1500	36.4

Results and Discussion

The naive before and after analysis at the Treatment Intersection resulted in a 75.0 percent increase in Total crashes. There was also a 28.3 percent increase in the Total Crash Rate and a 91.9 percent decrease in the Total Severity Index. As the Safety Evaluation Group completes additional spot safety reviews for this type of countermeasure, we will be able to provide objective and definite information regarding actual crash reduction factors.

Please see the attached *Treatment Site Location Photos*. Photos are provided for each leg of the treatment intersection. Also, a photo is attached showing the Stop sign located on the north leg of the intersection. It is in very poor condition. In the after period, two night-time crashes occurred where the vehicle ran through this Stop sign. In addition, a photo is attached which shows the need to repaint the left turn pavement markings at the intersection.

***Location Map, Near Pittsboro, Chatham County
Evaluation of Spot Safety Project Number 08-97-009***



Treatment Site Location Photos (Taken on August 25, 2004)



Looking North on SR 1532-Manns Chapel Road-River Forest Road



Looking South on SR 1532-Manns Chapel Road-River Forest Road

Treatment Site Location Photos (Taken on August 25, 2004)



Looking East on SR 1525-Hamletts Chapel Road



Looking West on SR 1525-Hamletts Chapel Road

Treatment Site Location Photos (Taken on August 25, 2004)



Stop sign located on north leg of intersection is in poor condition. It was installed on 11/6/1996.

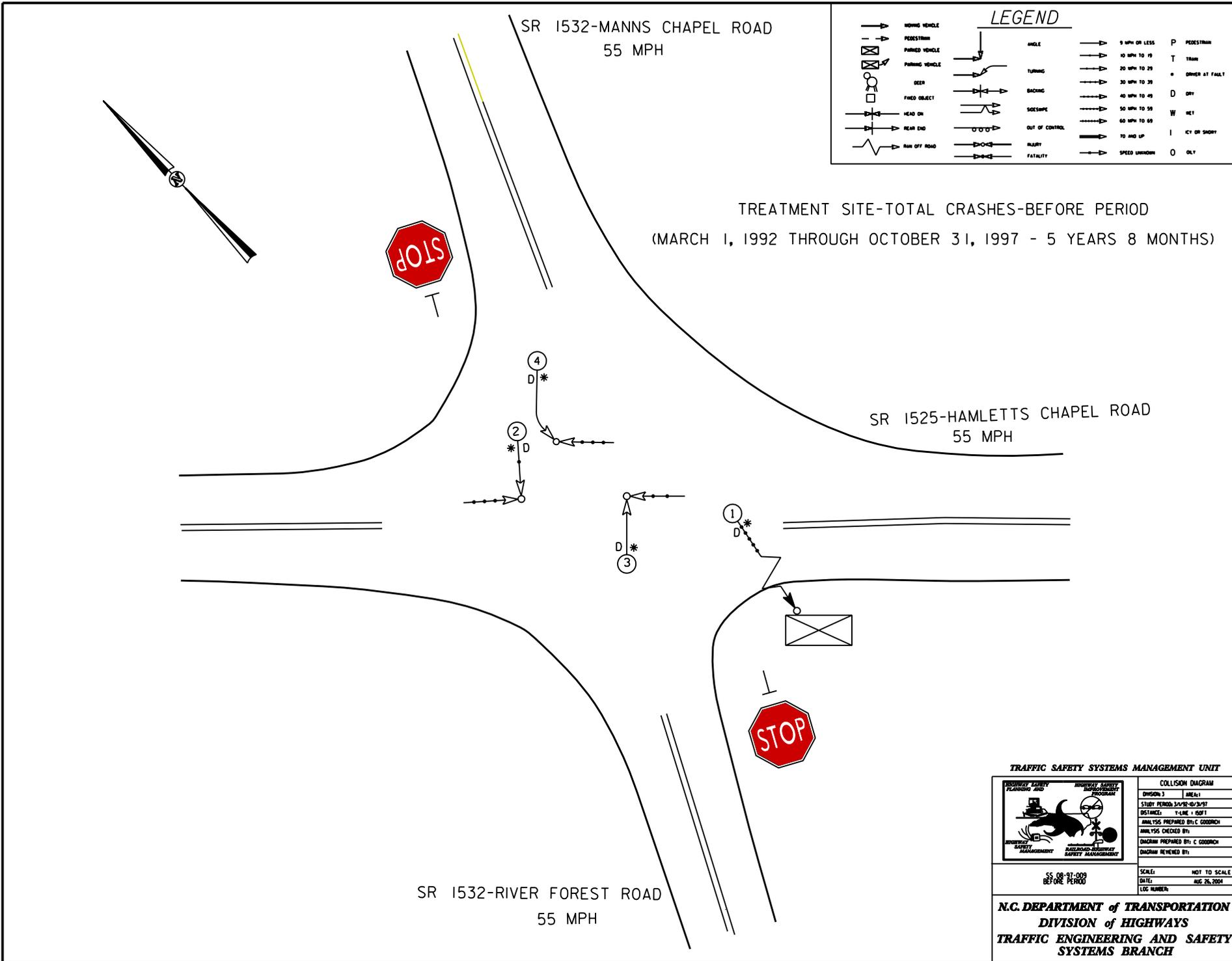


Left turn pavement markings are no longer visible.

LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS	P	PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19	T	TRAIN
	PAKED VEHICLE		BACKING		20 MPH TO 29	*	DRIVER AT FAULT
	DEER		30 MPH TO 39		40 MPH TO 49	D	DRY
	FIXED OBJECT		50 MPH TO 59		60 MPH TO 69	W	WET
	HEAD ON		OUT OF CONTROL		TO AND UP	I	ICY OR SHOTY
	REAR END		REAR END		SPEED UNKNOWN	O	ONLY
	RAN OFF ROAD		FATALITY				

TREATMENT SITE-TOTAL CRASHES-BEFORE PERIOD
(MARCH 1, 1992 THROUGH OCTOBER 31, 1997 - 5 YEARS 8 MONTHS)



TRAFFIC SAFETY SYSTEMS MANAGEMENT UNIT

	COLLISION DIAGRAM	
	DIVISION 3	AREA 1
	STUDY PERIOD: 3/1/92-10/31/97	
	DISTANCE: T-LINE + LOOP	
ANALYSIS PREPARED BY: C. GOODRICH		
ANALYSIS CHECKED BY:		
DIAGRAM PREPARED BY: C. GOODRICH		
DIAGRAM REVIEWED BY:		
SCALE: NOT TO SCALE		
DATE: AUG. 26, 2004		
LOC NUMBER:		
N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH		

