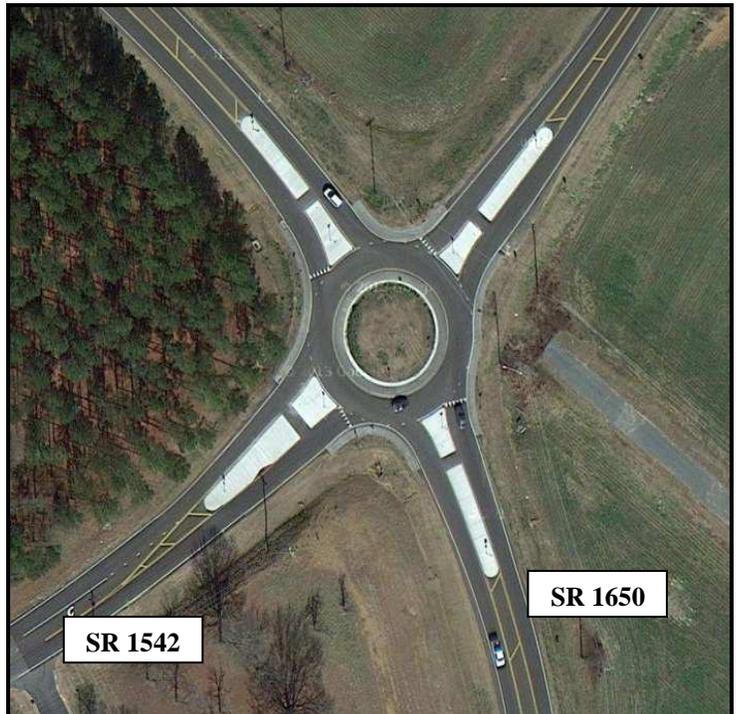
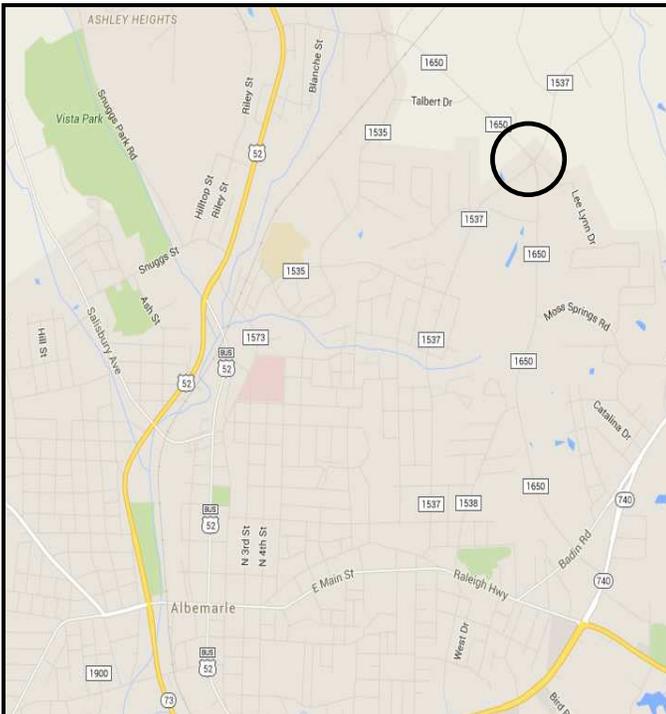


Hazard Elimination Project Evaluation

Project Information

Order ID: 41000037266 (Former Monitoring 41000030797)
Project ID: W-5210D
Location: SR 1650 (Northeast Connector) at SR 1542 (Ridge Street)
County: Stanly
City: Albemarle
Division: 10
Signal ID: N/A
Countermeasure: Intersection Roundabout
Project Completion: August 8, 2012 Project Cost: \$577,500

Map and Aerial (from Google Maps) – Coordinates: 35.377298, -80.170378



Naive Before and After Analysis

Before Period: June 1, 2009 through May 31, 2012 (3 years)

Const. Period: June 1, 2012 through August 31, 2012

After Period: September 1, 2012 through August 31, 2015 (3 years)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1650 (Northeast Connector) and SR 1542 (Ridge Street) approaches.

Target Crashes: Frontal Impact Crashes were the selected target crashes, which includes the following: Angle; Left Turn (Same and Different Roadway); and Right Turn (Different Roadway).

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	8	5	- 37.5 %
Total Severity Index	2.85	2.48	- 13.0 %
Target Crashes – Frontal Impact	3	3	0.0 %
Target Crash Severity Index	5.93	1.00	- 83.1 %
Volume (2010, 2014)	9,800	8,900	- 9.2 %

<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	2	0	- 100.0 %
Class C Injury Crashes	0	1	100.0 %
Property Damage Only	6	4	- 33.3 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Night Crashes	2	1	- 50.0 %
Wet Roadway Crashes	0	2	100.0 %
Alcohol/Drugs Involvement Crashes	0	0	N/A
Animal Crashes	2	0	- 100.0 %

Overall Summary Results

Total Crashes:	- 38 %	(reduction)
Total Crash Severity:	- 13 %	(reduction)
Target Crashes:	0 %	(no change)
Target Crash Severity:	- 83 %	(reduction)
Volume:	- 9 %	(reduction)

Additional Summary Results

Night Crashes:	- 50 %	(reduction)
Wet Roadway Crashes:	100 %	(increase)

Items for Discussion/Concerns

The after period roundabout experienced three (3) right turn different roadway crashes as vehicles approaching the intersection failed to yield to motorists already in the roundabout. All of these after period frontal impact crashes were low-speed and had no resulting injuries.

Please note that the before period crash data in this evaluation is not representative of the crash data this project was investigated, developed, justified, funded, and constructed with originally. Crash data counts can have random fluctuations from any given year to the next. The original crash data was analyzed for the time period of October 1, 2005 through September 30, 2010. Over this five year time frame there were 13 total crashes; of which there were 9 frontal impact crashes and 4 animal crashes. There was 1 fatal crash, 1 a-injury crash, 1 b-injury crash, 3 c-injury crashes, and 7 property damage only 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: Jason B. Schronce, PE
Work Group/Consultant: NCDOT - Safety Evaluation Group
Date: December 30, 2015

LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		PEDESTRIAN
	10 MPH TO 19		TURNING		20 MPH TO 29		TRAIN
	30 MPH TO 39		BACKING		40 MPH TO 49		DRY
	50 MPH TO 59		SIDEWIPE		60 MPH TO 69		WET
	70 MPH TO 79		REARITY		80 MPH TO 89		ICY OR SNOWY
	90 MPH TO 99		FATALITY		100 MPH TO 109		OTHER
	110 MPH TO 119				120 MPH TO 129		
	130 MPH TO 139				140 MPH TO 149		
	150 MPH TO 159				160 MPH TO 169		
	170 MPH TO 179				180 MPH TO 189		
	190 MPH TO 199				200 MPH TO 209		
	210 MPH TO 219				220 MPH TO 229		
	230 MPH TO 239				240 MPH TO 249		
	250 MPH TO 259				260 MPH TO 269		
	270 MPH TO 279				280 MPH TO 289		
	290 MPH TO 299				300 MPH TO 309		
	310 MPH TO 319				320 MPH TO 329		
	330 MPH TO 339				340 MPH TO 349		
	350 MPH TO 359				360 MPH TO 369		
	370 MPH TO 379				380 MPH TO 389		
	390 MPH TO 399				400 MPH TO 409		
	410 MPH TO 419				420 MPH TO 429		
	430 MPH TO 439				440 MPH TO 449		
	450 MPH TO 459				460 MPH TO 469		
	470 MPH TO 479				480 MPH TO 489		
	490 MPH TO 499				500 MPH TO 509		
	510 MPH TO 519				520 MPH TO 529		
	530 MPH TO 539				540 MPH TO 549		
	550 MPH TO 559				560 MPH TO 569		
	570 MPH TO 579				580 MPH TO 589		
	590 MPH TO 599				600 MPH TO 609		
	610 MPH TO 619				620 MPH TO 629		
	630 MPH TO 639				640 MPH TO 649		
	650 MPH TO 659				660 MPH TO 669		
	670 MPH TO 679				680 MPH TO 689		
	690 MPH TO 699				700 MPH TO 709		
	710 MPH TO 719				720 MPH TO 729		
	730 MPH TO 739				740 MPH TO 749		
	750 MPH TO 759				760 MPH TO 769		
	770 MPH TO 779				780 MPH TO 789		
	790 MPH TO 799				800 MPH TO 809		
	810 MPH TO 819				820 MPH TO 829		
	830 MPH TO 839				840 MPH TO 849		
	850 MPH TO 859				860 MPH TO 869		
	870 MPH TO 879				880 MPH TO 889		
	890 MPH TO 899				900 MPH TO 909		
	910 MPH TO 919				920 MPH TO 929		
	930 MPH TO 939				940 MPH TO 949		
	950 MPH TO 959				960 MPH TO 969		
	970 MPH TO 979				980 MPH TO 989		
	990 MPH TO 999				1000 MPH TO 1009		
	1010 MPH TO 1019				1020 MPH TO 1029		
	1030 MPH TO 1039				1040 MPH TO 1049		
	1050 MPH TO 1059				1060 MPH TO 1069		
	1070 MPH TO 1079				1080 MPH TO 1089		
	1090 MPH TO 1099				1100 MPH TO 1109		
	1110 MPH TO 1119				1120 MPH TO 1129		
	1130 MPH TO 1139				1140 MPH TO 1149		
	1150 MPH TO 1159				1160 MPH TO 1169		
	1170 MPH TO 1179				1180 MPH TO 1189		
	1190 MPH TO 1199				1200 MPH TO 1209		
	1210 MPH TO 1219				1220 MPH TO 1229		
	1230 MPH TO 1239				1240 MPH TO 1249		
	1250 MPH TO 1259				1260 MPH TO 1269		
	1270 MPH TO 1279				1280 MPH TO 1289		
	1290 MPH TO 1299				1300 MPH TO 1309		
	1310 MPH TO 1319				1320 MPH TO 1329		
	1330 MPH TO 1339				1340 MPH TO 1349		
	1350 MPH TO 1359				1360 MPH TO 1369		
	1370 MPH TO 1379				1380 MPH TO 1389		
	1390 MPH TO 1399				1400 MPH TO 1409		
	1410 MPH TO 1419				1420 MPH TO 1429		
	1430 MPH TO 1439				1440 MPH TO 1449		
	1450 MPH TO 1459				1460 MPH TO 1469		
	1470 MPH TO 1479				1480 MPH TO 1489		
	1490 MPH TO 1499				1500 MPH TO 1509		
	1510 MPH TO 1519				1520 MPH TO 1529		
	1530 MPH TO 1539				1540 MPH TO 1549		
	1550 MPH TO 1559				1560 MPH TO 1569		
	1570 MPH TO 1579				1580 MPH TO 1589		
	1590 MPH TO 1599				1600 MPH TO 1609		
	1610 MPH TO 1619				1620 MPH TO 1629		
	1630 MPH TO 1639				1640 MPH TO 1649		
	1650 MPH TO 1659				1660 MPH TO 1669		
	1670 MPH TO 1679				1680 MPH TO 1689		
	1690 MPH TO 1699				1700 MPH TO 1709		
	1710 MPH TO 1719				1720 MPH TO 1729		
	1730 MPH TO 1739				1740 MPH TO 1749		
	1750 MPH TO 1759				1760 MPH TO 1769		
	1770 MPH TO 1779				1780 MPH TO 1789		
	1790 MPH TO 1799				1800 MPH TO 1809		
	1810 MPH TO 1819				1820 MPH TO 1829		
	1830 MPH TO 1839				1840 MPH TO 1849		
	1850 MPH TO 1859				1860 MPH TO 1869		
	1870 MPH TO 1879				1880 MPH TO 1889		
	1890 MPH TO 1899				1900 MPH TO 1909		
	1910 MPH TO 1919				1920 MPH TO 1929		
	1930 MPH TO 1939				1940 MPH TO 1949		
	1950 MPH TO 1959				1960 MPH TO 1969		
	1970 MPH TO 1979				1980 MPH TO 1989		
	1990 MPH TO 1999				2000 MPH TO 2009		
	2010 MPH TO 2019				2020 MPH TO 2029		
	2030 MPH TO 2039				2040 MPH TO 2049		
	2050 MPH TO 2059				2060 MPH TO 2069		
	2070 MPH TO 2079				2080 MPH TO 2089		
	2090 MPH TO 2099				2100 MPH TO 2109		
	2110 MPH TO 2119				2120 MPH TO 2129		
	2130 MPH TO 2139				2140 MPH TO 2149		
	2150 MPH TO 2159				2160 MPH TO 2169		
	2170 MPH TO 2179				2180 MPH TO 2189		
	2190 MPH TO 2199				2200 MPH TO 2209		
	2210 MPH TO 2219				2220 MPH TO 2229		
	2230 MPH TO 2239				2240 MPH TO 2249		
	2250 MPH TO 2259				2260 MPH TO 2269		
	2270 MPH TO 2279				2280 MPH TO 2289		
	2290 MPH TO 2299				2300 MPH TO 2309		
	2310 MPH TO 2319				2320 MPH TO 2329		
	2330 MPH TO 2339				2340 MPH TO 2349		
	2350 MPH TO 2359				2360 MPH TO 2369		
	2370 MPH TO 2379				2380 MPH TO 2389		
	2390 MPH TO 2399				2400 MPH TO 2409		
	2410 MPH TO 2419				2420 MPH TO 2429		
	2430 MPH TO 2439				2440 MPH TO 2449		
	2450 MPH TO 2459				2460 MPH TO 2469		
	2470 MPH TO 2479				2480 MPH TO 2489		
	2490 MPH TO 2499				2500 MPH TO 2509		
	2510 MPH TO 2519				2520 MPH TO 2529		
	2530 MPH TO 2539				2540 MPH TO 2549		
	2550 MPH TO 2559				2560 MPH TO 2569		
	2570 MPH						

LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		PEDESTRIAN
	PARKED VEHICLE		TURNING		10 MPH TO 19		TRAIN
	PARKING VEHICLE		TURNING		20 MPH TO 29		DRIVER AT FAULT
	FIXED OBJECT		BACKING		30 MPH TO 39		DRY
	HEAD ON		SIDEWIPES		40 MPH TO 49		WET
	REAR END		REAR		50 MPH TO 59		ICY OR SNOWY
	RAN OFF ROAD		FATALITY		60 MPH TO 69		ICY OR SNOWY
					70 AND UP		OTHER
					SPEED UNKNOWN		

ADT (YEAR)
1,800 (2013)

SR 1542
Ridge Rd
35-MPH

Hazard W-5210D
Order# 41000037266
Stanly County
AFTER Period
9/1/12 - 8/31/15
3.0 Years

ADT (YEAR)
6,900 (2013)

ADT (YEAR)
6,900 (2013)

SR 1650
NE Connector
45-MPH

ADT (YEAR)
2,100 (2013)

Frontal Impact
Target Crashes

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

TRAFFIC SAFETY UNIT

Date: 9-25-2015 Prepared By: J. Schronce

