

Spot Safety Project Evaluation

Project Information

Order ID: 41000028042

Project ID: 06-99-217

Location: SR 1437 (Santa Fe Drive) and SR 1415 (Yadkin Road)

County: Cumberland

City: Fayetteville

Division: 6

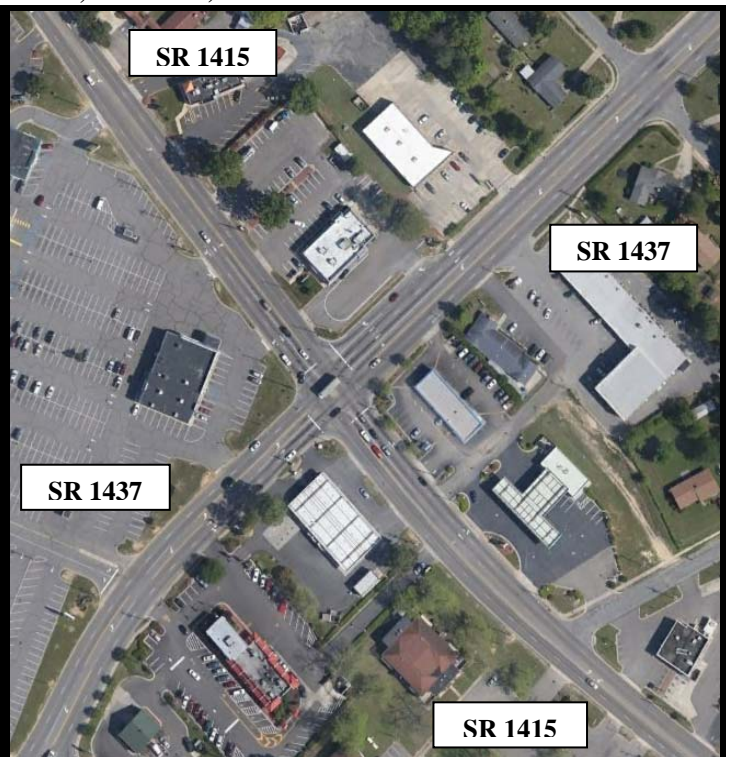
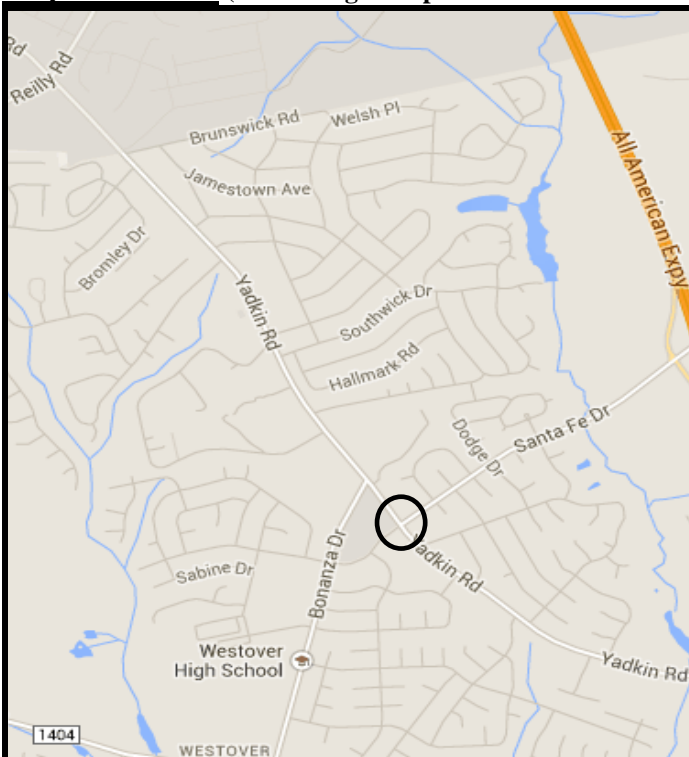
Signal ID: 06-0247

Countermeasure: Construct right turn lane from southwest bound SR 1437 (Santa Fe Drive) to northwest bound SR 1415 (Yadkin Road)

Project Completion: February 4, 2009

Project Cost: \$225,000.00

Map and Aerial (from Google Maps – Coordinates are 35.089969,-78.982767)



Naive Before and After Analysis

Before Period: October 1, 2003 through October 31, 2008 (5 years, 1 month)

Const. Period: November 1, 2008 through February 28, 2009

After Period: March 1, 2009 through March 31, 2014 (5 years, 1 month)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1437 and SR 1415 approaches.

Target Crashes: Target crashes were considered to be rear end slow or stop, and sideswipe same direction crashes on the following approaches:

- Southwest bound SR 1437 (Santa Fe Drive)

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	132	97	-26.5%
Total Severity Index	3.3	3.4	+2.6%
Target Crashes	14	11	-21.4%
Target Crash Severity Index	3.1	3.0	-3.1%
Volume (2006, 2010) (vpd)	47,500	44,500	-6.3%

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	0	1	N/A
Class B injury Crashes	3	2	-33.3%
Class C Injury Crashes	34	18	-47.1%
Property Damage Only	95	76	-20.0%

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Frontal Impact Crashes	61	34	-44.3%
Hardees Driveway Crashes	20	8	-60.0%
Rear End Slow or Stop Crashes (All Approaches)	52	42	-19.2%
Side Swipe Same Direction Crashes (All Approaches)	8	10	+25.0%

Overall Summary Results

Total Crashes:	-26.5 %	(reduction)
Total Crash Severity:	+2.6 %	(increase)
Target Crashes:	-21.4 %	(reduction)
Target Crash Severity:	-3.1 %	(reduction)
Volume:	-6.3 %	(reduction)

Additional Summary Results

Frontal Impact Crashes:	-44.3 %	(reduction)
Hardees Driveway Crashes:	-60.0 %	(reduction)
All Rear End Slow or Stop Crashes	-20.8%	(reduction)
All Side Swipe Same Direction Crashes	+42.9%	(increase)

Items for Discussion/Concerns

The total crashes at the study intersection experienced a reduction from 132 crashes in the before period to 97 crashes in the after period. The severity of all crashes increased from 3.3 to 3.4. Due to the large amount of crashes in both periods, collision diagrams were not created for this evaluation.

All of the Target crashes at the study intersection also experienced a decline from 14 crashes in the before period to 11 crashes in the after period. Of these target crashes, there were 14 rear end slow or stop crashes in the before period and eight (8) in the after period. Also, there were zero (0) target side swipe same direction crashes in the before period and three (3) in the after period.

All rear end type crashes, for all approaches, decreased from 53 in the before period to 42 in the after period. However, all side swipe same direction crashes experienced an increase from seven (7) in the before period to 10 in the after period.

Frontal impact crashes for all approaches declined from 61 in the before period to 34 in the after period. Of these frontal impact crashes, there were 34 out of 61 (56%) that involved one of the driveways in the study area in the before period and 18 out of 34 (53%) in the after period.

For the Hardees driveways specifically, there was a reduction in crashes from 20 in the before period to just eight (8) in the after period. This statistic includes both driveways on SR 1437 (Santa Fe Drive) and SR 1415 (Yadkin Road).

Data Prepared For

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

Data Prepared By

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