

Naive Before and After Analysis

- Before Period: May 1, 2005 through June 30, 2010 (5 years, 2 months)
- Const. Period: July 1, 2010 through August 31, 2010
- After Period: September 1, 2010 through October 31, 2015 (5 years, 2 years)
- Analysis Criteria: Treatment data consisted of all crashes with a 0-foot yline along the SR 3097 (Aviation Parkway) segment from 0.1 mile east of SR 1644 (Globe Road) to the SR 1642 (Nelson Road) overpass (Milepost 0.10 to 1.429).
- Target Crashes: Median Lane Departure crashes were the target crashes for the applied countermeasure. Median Lane Departure crashes include: Ran-Off Road (Left, Straight); Fixed Object; Head-on; Parked Motor Vehicle; and Overturn/Rollover where the first event was the vehicle leaving the left shoulder of the roadway segment.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	17	17	0.0 %
Total Severity Index	5.89	3.18	- 46.0 %
Target Crashes – Median Lane Dep	3	6	100.0 %
Target Crash Severity Index	26.27	3.47	- 86.8 %
Struck Cable Median Guardrail	1	6	100+ %
Struck W-Beam Median Guardrail	2	1	- 50.0 %
Volume (2007, 2012)	12,000	13,000	8.3 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	1	0	- 100.0 %
Class A injury Crashes	0	0	N/A
Class B injury Crashes	0	0	N/A
Class C Injury Crashes	1	5	100+ %
Property Damage Only	15	12	- 20.0 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Animal Crashes	2	5	100+ %
Night Crashes	5	9	80.0 %
Wet Roadway Crashes (Codes 2-3)	5	3	- 40.0 %
Alcohol/Drugs Involvement Crashes	0	1	100.0 %

Overall Summary Results

Total Crashes:	0 %	(no change)
Total Crash Severity:	- 46 %	(reduction)
Target Crashes:	100 %	(increase)
Target Crash Severity:	- 87 %	(reduction)
Volume:	8 %	(increase)

Additional Summary Results

Night Crashes:	80 %	(increase)
Wet Roadway Crashes:	- 40 %	(reduction)

Items for Discussion/Concerns

Typically, one would expect guardrail installation projects to result in an increased number of lane departure crash types and a decrease in the severity of lane departure crash types. The increase is expected due to the placement of a fixed object (guardrail) near the travel way. The decrease in the severity of lane departure crash types is expected due to the guardrail being more forgiving than the object or drop-off it is protecting. The results from this project seem to be in concurrence with the above-mentioned expectations except for the slight increase in the crash severity.

The before period fatal crash involved a motorcyclist striking w-beam guardrail located near the bridge crossing I-540 on Aviation Parkway.

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

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Date: March 23, 2016

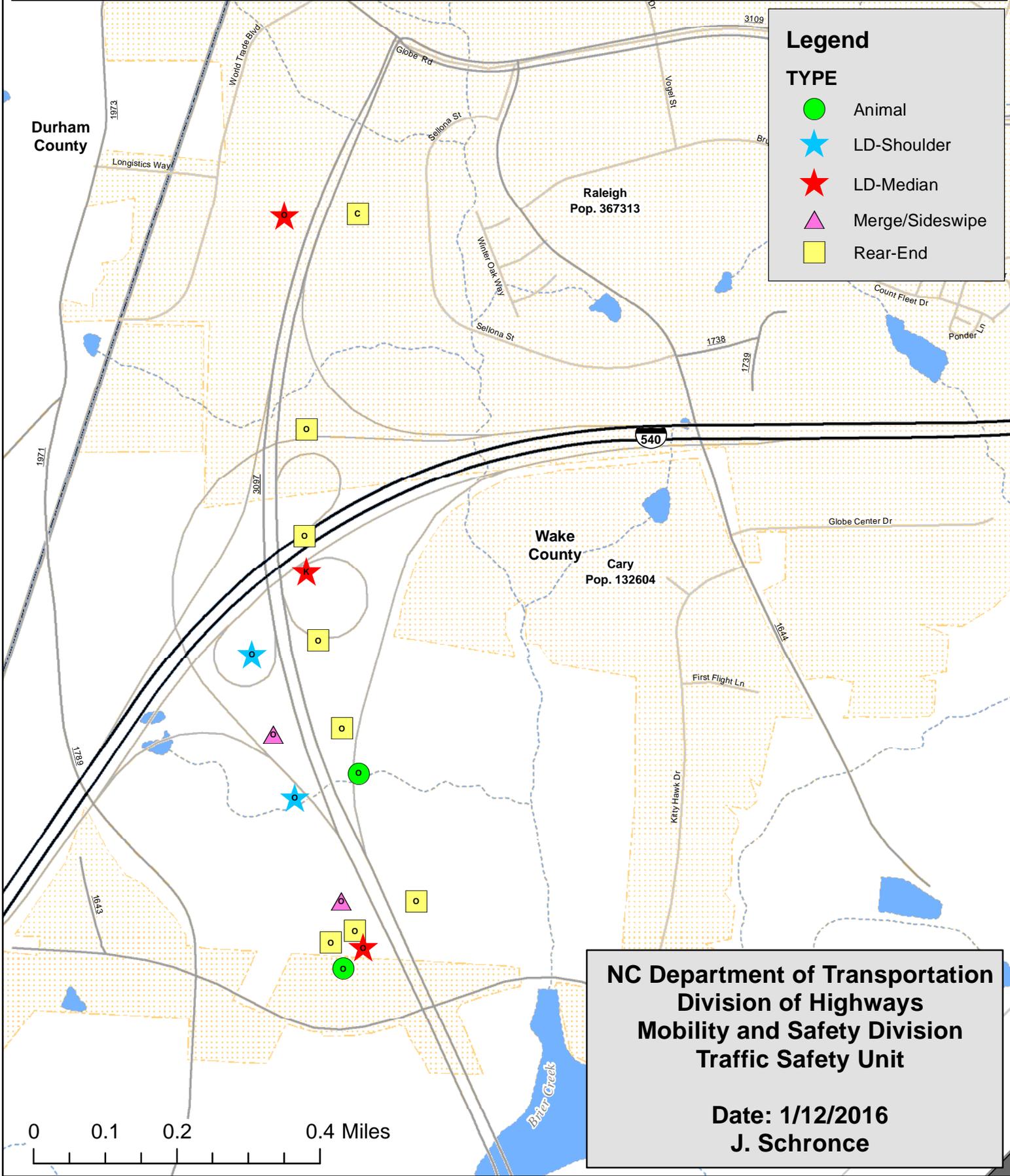
W-5127 - Wake County
SR 3097 (Aviation Parkway) - 0.1 mile south of Globe to SR 1642 Overpass
Milepost 0.100 -1.429
BEFORE PERIOD - 5/1/2005 to 6/30/2010 (5.17 Yrs)



Legend

TYPE

- Animal
- ★ LD-Shoulder
- ★ LD-Median
- ▲ Merge/Sideswipe
- Rear-End



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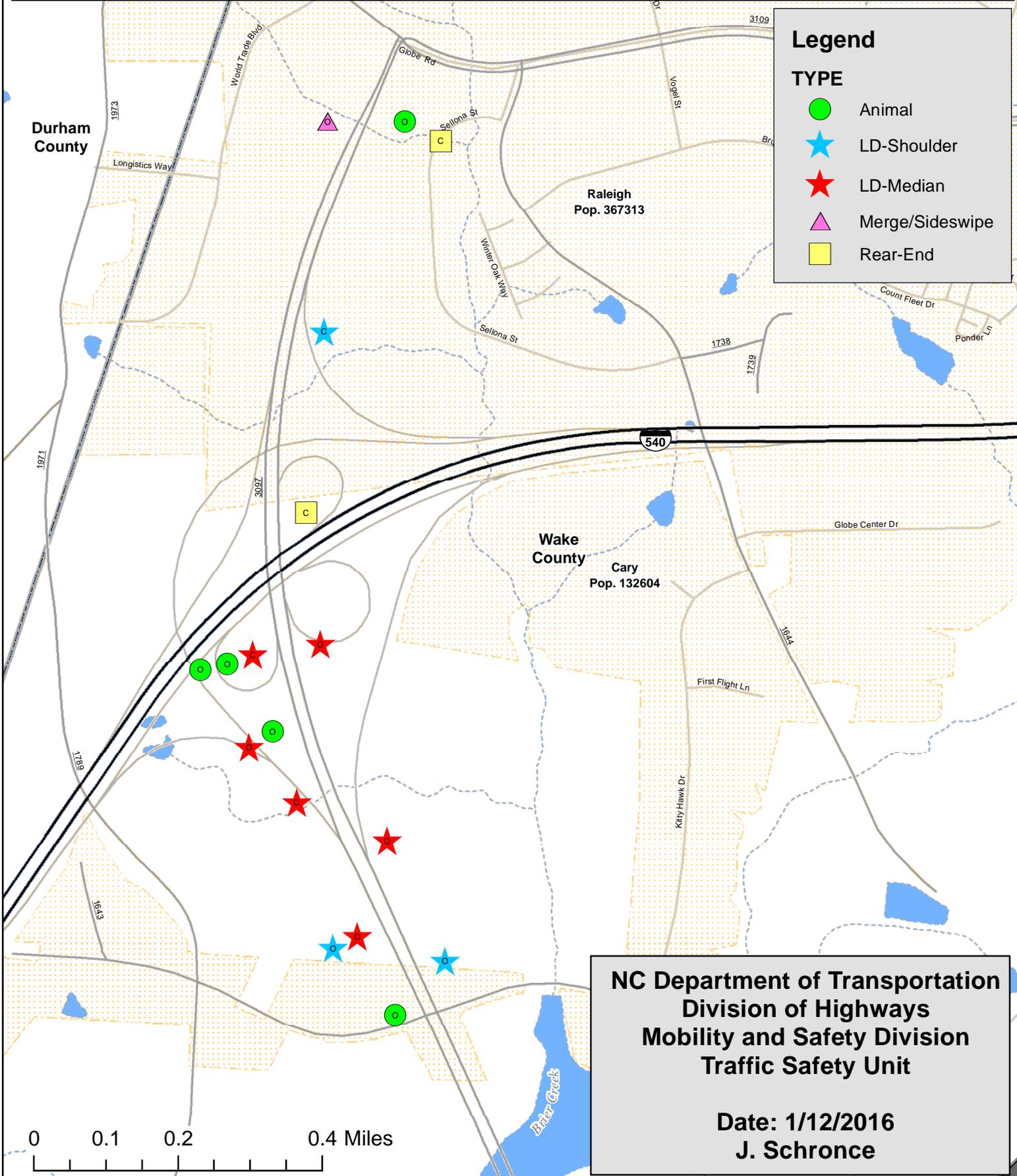
AFTER PERIOD - 9/1/2010 to 10/31/2015 (5.17 Yrs)



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