

Spot Safety Project Evaluation

Project Information

Order ID: 41000028025

Project ID: 05-07-027

Location: SR 1435 (Old Raleigh Road) at Apex Peakway

County: Wake

City: Apex

Division: 5

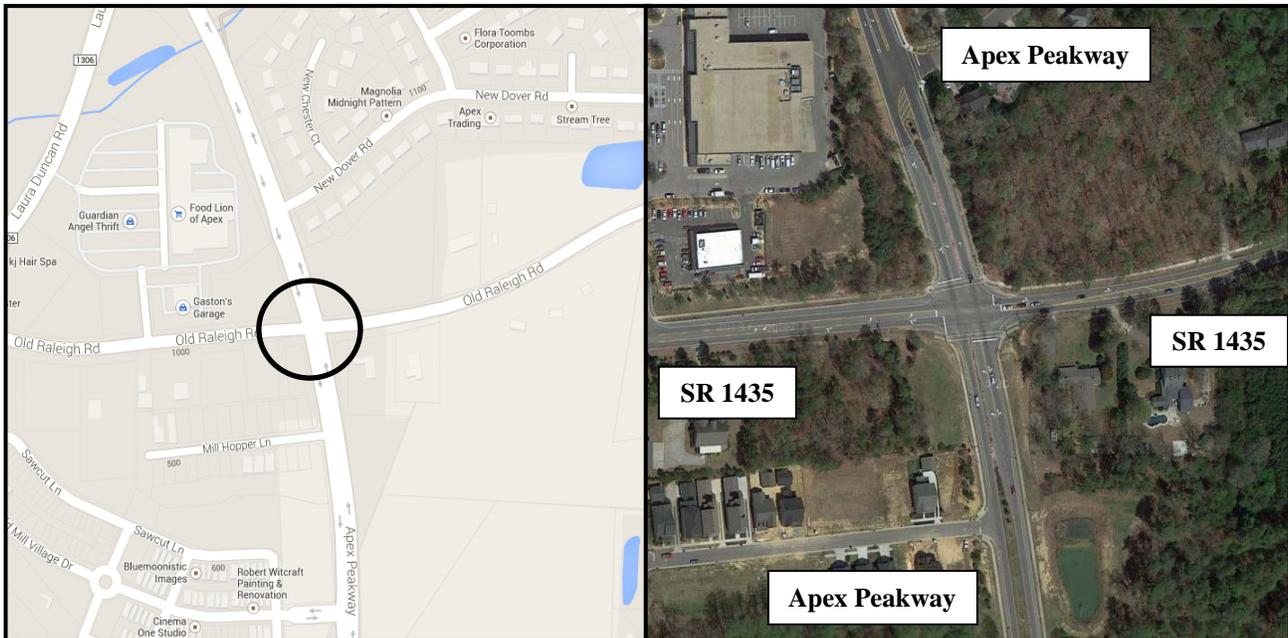
Signal ID: 05-2355

Countermeasure: Install a traffic signal

Project Completion: March 11, 2009

Project Cost: \$44,500

Map and Aerial (from Google Maps – Coordinates are 35.733948,-78.840056)



Naive Before and After Analysis

Before Period: May 1, 2004 through January 31, 2009 (4 years 9 months)

Const. Period: February, 2009 through April 31, 2009

After Period: May 1, 2009 through January 31, 2014 (4 years 9 months)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1435 and Apex Peakway 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)

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	21	14	- 33.3 %
Total Severity Index	12.10	2.59	- 78.6 %
Target Crashes	19	4	- 78.9 %
Target Crash Severity Index	13.26	2.85	- 78.5 %
Volume (2006, 2011)	11,000	12,800	+ 16.4 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	2	0	- 100.0 %
Class B injury Crashes	2	1	- 50.0 %
Class C Injury Crashes	9	2	- 77.8 %
Property Damage Only	8	11	+ 37.5 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Frontal Impact Crashes (Target)	19	4	- 78.9 %
Angle Crashes	12	3	- 75.0 %
Rear End Crashes	1	8	+ 700.0 %

Overall Summary Results

Total Crashes:	- 33 %	(reduction)
Total Crash Severity:	- 79 %	(reduction)
Target Crashes:	- 79 %	(reduction)
Target Crash Severity:	- 79 %	(reduction)
Volume:	+ 16 %	(increase)

Additional Summary Results

Frontal Impact Crashes (Target):	- 79 %	(reduction)
Angle Crashes:	- 75 %	(reduction)
Rear End Crashes:	+ 700 %	(increase)

Items for Discussion/Concerns

The study intersection experienced a 79 % reduction in target frontal impact crashes (19 to 4 crashes).

The intersection experienced a 75 % reduction in angle crashes (12 to 3 crashes).

The intersection experienced a 700 % increase in rear end crashes (1 to 8 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: Andrew Covington, EI
Work Group/Consultant: AECOM
Date: April 4, 2014

SS# 05-07-027
 Order# 41000028025
 Wake County
 BEFORE Period
 5/1/04 - 1/31/09

Apex Peakway
 35 MPH
 2007 ADT - 500 (Assumed)

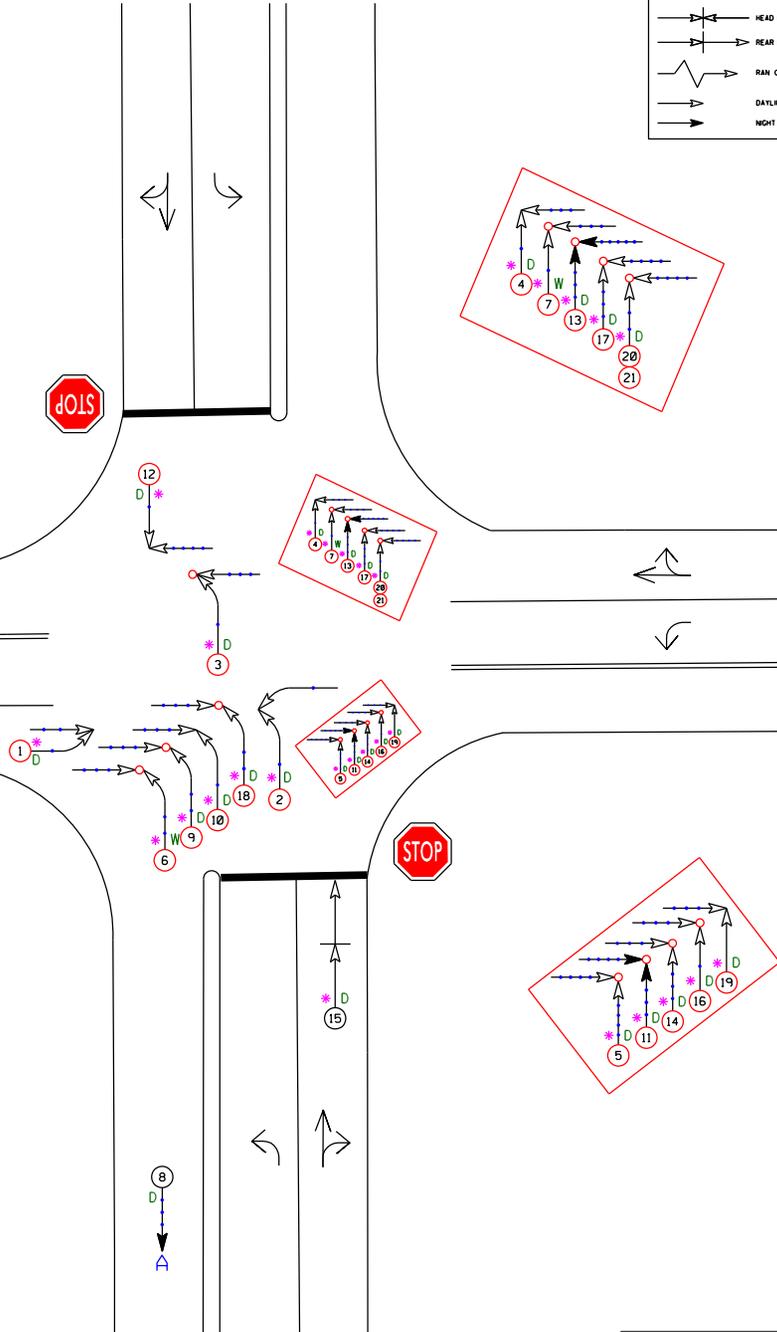
LEGEND							
	MOVING VEHICLE		ANGLE		9 MPH OR LESS		A ANIMAL
	PARKED VEHICLE		TURNING		10 MPH TO 19		P PEDESTRIAN
	PARKING VEHICLE		BACKING		20 MPH TO 29		B BICYCLE
	MOVABLE OBJECT		SIDESWIPE		30 MPH TO 39		T TRUCK
	HEAD ON		INJURY		40 MPH TO 49		D DRY
	REAR END		FATALITY		50 MPH TO 59		W WET
	RAN OFF ROAD		SPEED UNKNOWN		60 MPH TO 69		I ICY OR SNOWY
	DAYLIGHT CRASH				70 AND UP		O OTHER
	NIGHT CRASH						



SR 1435 (Old Raleigh Road)
 35 MPH
 2007 ADT - 9,200

SR 1435 (Old Raleigh Road)
 35 MPH
 2007 ADT - 9,200

Apex Peakway
 35 MPH
 2007 ADT - 3,050



Frontal Impact Crashes

AECOM

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

TRAFFIC SAFETY UNIT

Date: April 4, 2014	Prepared By: Andrew Covington, EI
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SS# 05-07-027
 Order# 41000028025
 Wake County
 AFTER Period
 5/1/09 - 1/31/14

Apex Peakway
 35 MPH
 2011 ADT - 3,200

LEGEND							
	MOVING VEHICLE		ANGLE		9 MPH OR LESS	A	ANIMAL
	PARKED VEHICLE		TURNING		10 MPH TO 19	P	PEDESTRIAN
	PARKING VEHICLE		BACKING		20 MPH TO 29	B	BICYCLE
	MOVABLE OBJECT		SIDESWIPE		30 MPH TO 39	T	TRAIN
	HEAD ON		INJURY		40 MPH TO 49	*	DRIVER AT FAULT
	REAR END		FATALITY		50 MPH TO 59	D	DRY
	RAN OFF ROAD		TO AND UP		60 MPH TO 69	W	WET
	DAYLIGHT CRASH		SPEED UNKNOWN		TO AND UP	I	ICY OR SNOWY
	NIGHT CRASH				TO AND UP	O	Other

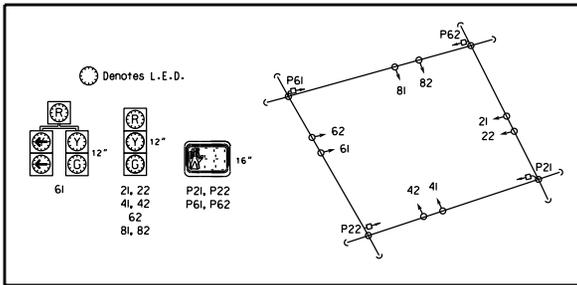


SR 1435 (Old Raleigh Road)
 35 MPH
 2011 ADT - 9,600

SR 1435 (Old Raleigh Road)
 35 MPH
 2011 ADT - 9,600

Apex Peakway
 35 MPH
 2011 ADT - 3,200

SIG ID 05-2355 (3 Phase Fully Actuated)



Frontal Impact Crashes

AECOM

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