

Spot Safety Project Evaluation

Project Information

Order ID: 41000030180

Project ID: 02-08-205

Location: US 17 at SR 1221 (Rocky Run Rd)/Pirates Rd & US 17 at Efirnd Blvd/Barbara Dr

County: Craven

City: N/A

Division: 2

Signal ID: N/A

Countermeasure: Construct a directional crossover at Rocky Run Rd, close the median opening at Efirnd Blvd, and add U-turn openings on either side of Rocky Run Rd

Project Completion: March 31, 2010

Project Cost: \$250,000

Map and Aerial (from Google Maps – Coordinates: 35.085439,-77.148866)



Naive Before and After Analysis

Before Period: December 1, 2005 through December 31, 2009 (4.08 years)

Const. Period: January 1, 2010 through April 30, 2010

After Period: May 1, 2010 through May 31, 2014 (4.08 years)

Analysis Criteria: Treatment data consists of all crashes within 150 feet of the subject intersections.

Target Crashes: For the directional crossover, target crashes include Left Turn and Angle Crashes from the side streets (these movements restricted in the after period). For the median closing, target crashes include Left Turn and Angle Crashes from all approaches (these movements restricted in the after period). For the U-turn openings, target crashes include all U-turn crashes.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	14	11	- 21.4%
Total Severity Index	14.47	18.15	+ 25.4%
Target Crashes	7	0	- 100.0 %
Target Crash Severity Index	16.06	0	- 100.0 %
Volume (2007, 2012)	19,000	18,000	- 5.3%

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	1	1	0.0 %
Class A injury Crashes	1	1	0.0 %
Class B injury Crashes	3	0	- 100.0%
Class C Injury Crashes	2	5	+ 150.0%
Property Damage Only	7	4	- 42.9 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
US 17 at Rocky Run (Directional X-over) - Total Crashes	13	6	- 53.8%
US 17 at Rocky Run (Directional X-over) - Target Crashes	6	0	- 100.0%
US 17 at Efird (X-over Closure) - Total Crashes	1	2	+ 100.0%
US 17 at Efird (X-over Closure) - Target Crashes	1	0	- 100.0%
US 17 at U-turn Openings – Total Crashes	0	3	N/A
US 17 at U-turn Openings – Target Crashes	0	0	N/A

Additional Information Area of Influence: US 17 at SR 1222	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	9	13	+ 44.4 %
Total Severity Index	14.36	6.69	- 53.4 %
Southbound US 17 U-turn Crashes	0	2	N/A
Southbound US 17 Left Turn-Same Roadway Crashes	4	8	+ 100.0 %

Overall Summary Results

Total Crashes:	- 21 %	(reduction)
Total Crash Severity:	+ 25 %	(increase)
Target Crashes:	- 100 %	(reduction)
Target Crash Severity:	- 100 %	(reduction)
Volume:	- 5 %	(reduction)

Items for Discussion/Concerns

- Overall there was a decrease in total crashes and an elimination of target crashes at the treatment intersections.
- When we evaluate median crossovers, we typically analyze a potential area of influence due to the changes in traffic flow caused by the restricted movements. U-turn locations were installed as a part of this project to handle u-turns on either side of the directional crossover and are included as part of the overall treatment results. However, to be complete, we also studied crashes at the nearest full movement intersection south of the closed crossover, SR 1222 (Eastchurch Rd/Shoreline Dr). Vehicles wanting to access Efird Blvd from SB US 17 may now do so via this signalized intersection. Vehicles can make a U-turn onto NB US 17 or a left turn onto Shoreline Dr to connect with Efird Blvd. Crash data at this intersection was evaluated to check for potential crash migration.
 - Total crashes increased by 44% from 9 to 13 crashes.
 - Southbound US 17 U-turn crashes increased from 0 to 2 crashes.
 - Southbound US 17 LTSR crashes increased by 100% from 4 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: Carrie L. Simpson, PE

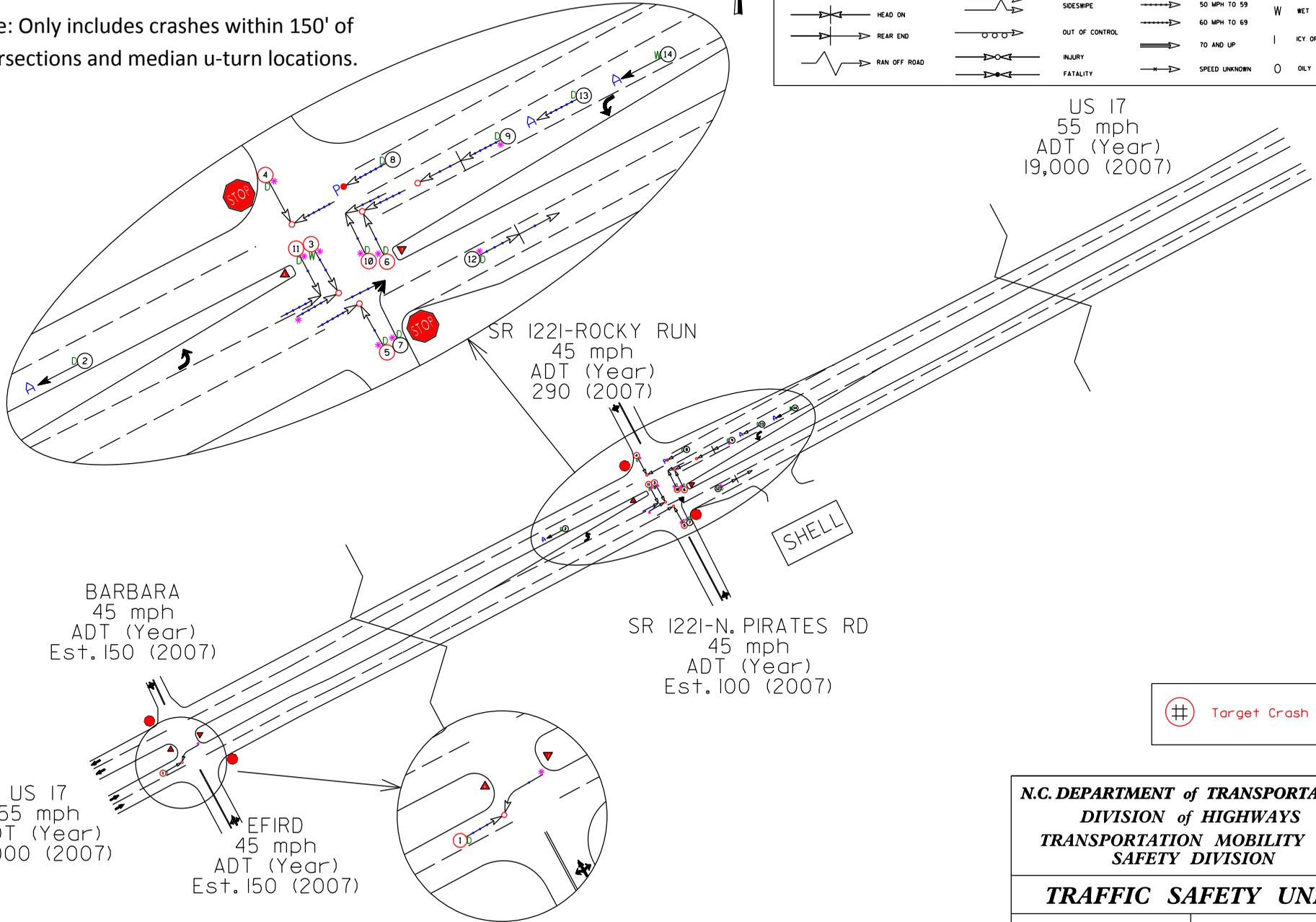
Work Group/Consultant: NCDOT - Safety Evaluation Group

Date: November 5, 2014

SS #02-08-205
 Order # 41000030180
 CRAVEN County
 Before Period
 12/1/2005 - 12/31/2009

Note: Only includes crashes within 150' of intersections and median u-turn locations.

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



Target Crash

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

TRAFFIC SAFETY UNIT

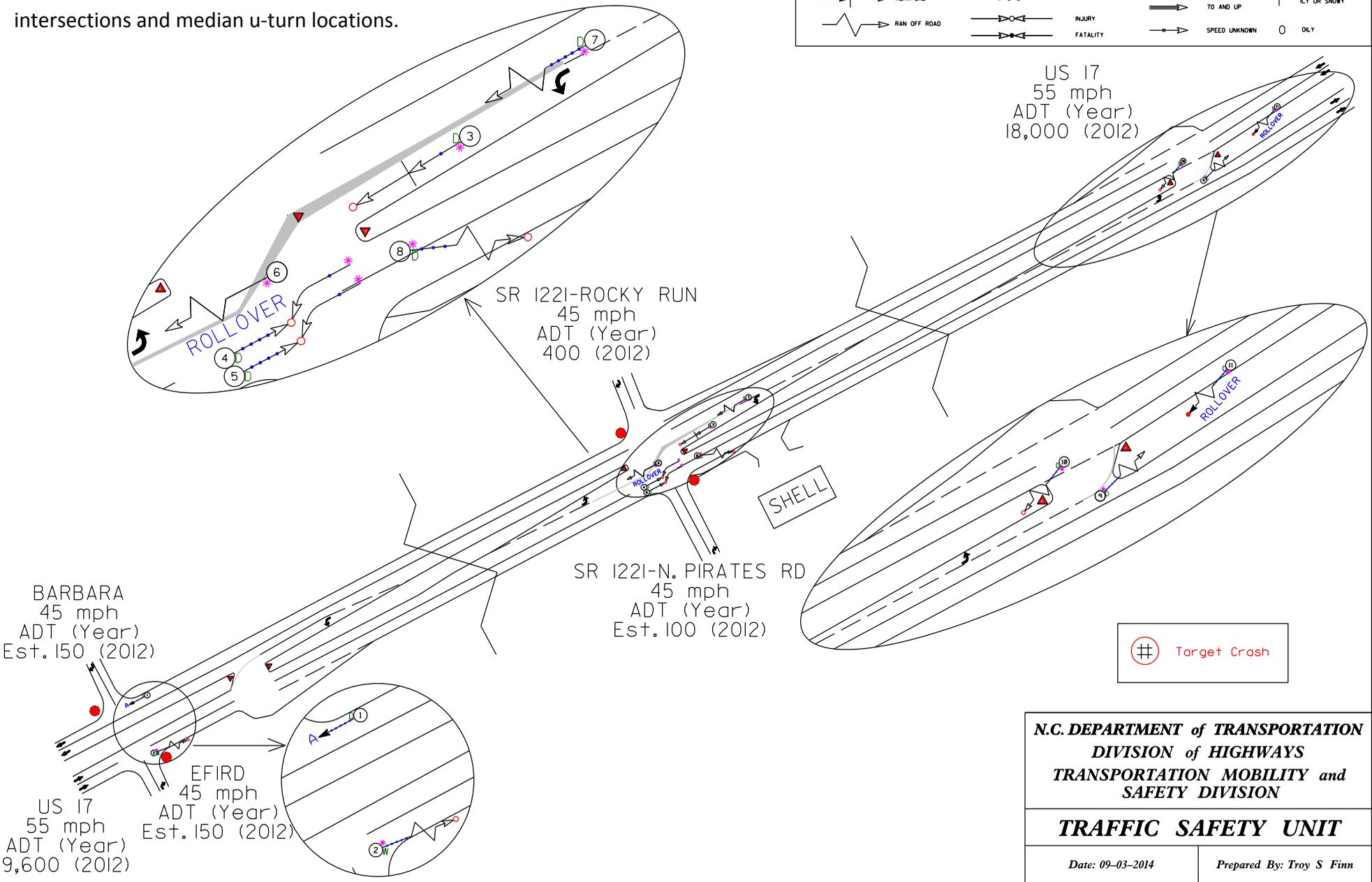
Date: 09-11-2014 Prepared By: Troy S Finn

SS #02-08-205
 Order # 41000030180
 CRAVEN County
 AFTER Period
 5/1/2010 - 5/31/2014

Note: Only includes crashes within 150' of intersections and median u-turn locations.



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



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

TRAFFIC SAFETY UNIT

Date: 09-03-2014 Prepared By: Troy S Fimm