

Spot Safety Project Evaluation

Project Information

Order ID: 41000027763

Project ID: 03-06-213

Location: US 17 (Ocean Blvd) at SR 1130 (Mt. Pisgah Rd)/SR 1344 (Sellars Rd)

County: Brunswick

City: East of Shallotte

Division: 3

Signal ID: N/A

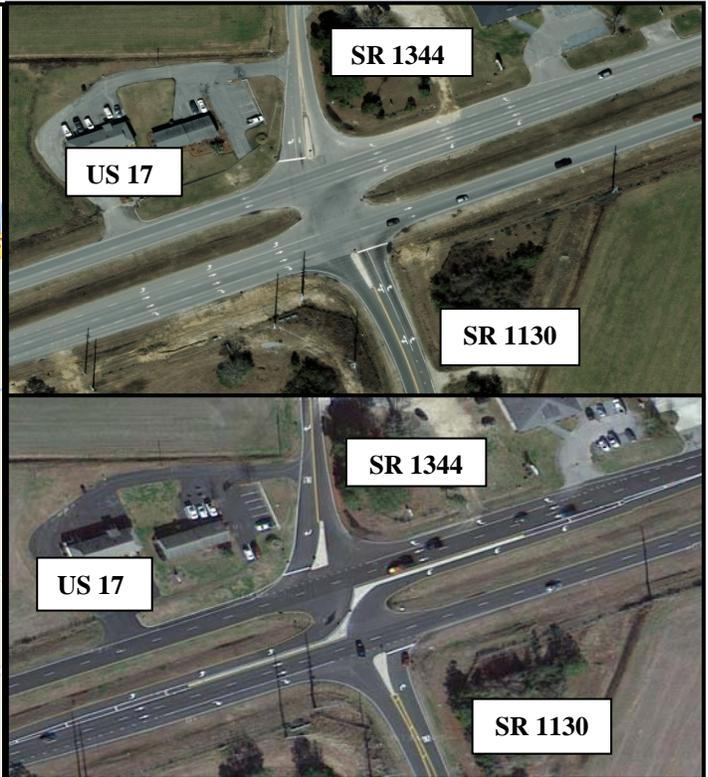
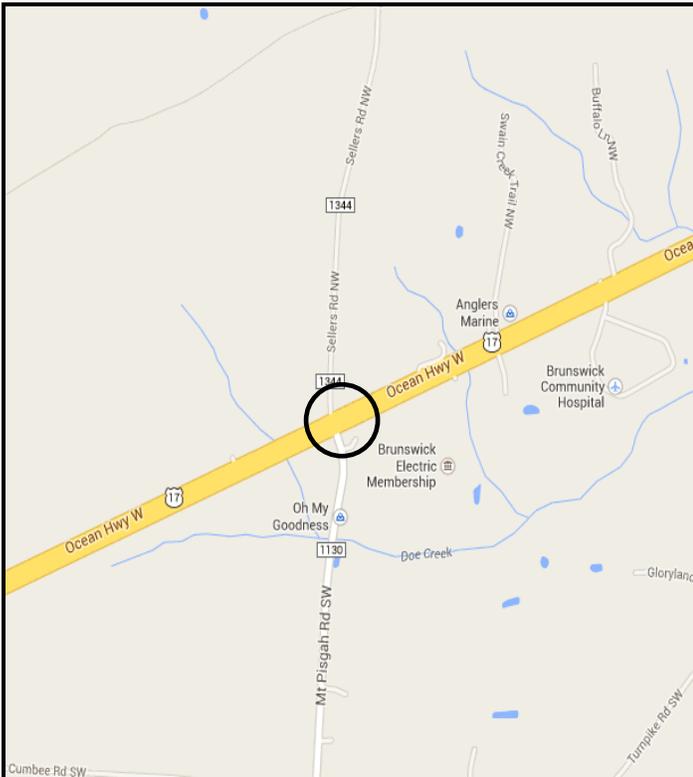
Countermeasure: Directional Crossover

Project Completion: September 23, 2008

Project Cost: \$165,000

Map and Aerial (from Google Maps & Brunswick Co. GIS)

Before Period (Top) & After Period (Bottom)



Naive Before and After Analysis

- Before Period: April 1, 2003 through May 31, 2008 (5 years, 2 Months)
- Const. Period: June 1, 2008 through September 30, 2008
- After Period: October 1, 2008 through November 30, 2013 (5 years, 2 Months)
- Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection and crashes occurring between MP 19.567 and MP 20.069 of US 17
- Target Crashes: Crossover Crashes (Left-Turn, Different Roadways & Angle) were the target crashes for the applied countermeasure.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	74	49	- 33.8 %
Total Severity Index	6.05	5.91	- 2.3 %
Target Crashes	30	0	- 100.0 %
Target Crash Severity Index	7.97	0	- 100.0 %
Volume (2005, 2011)	28,400	28,400	N/A

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	1	1	N/A
Class A injury Crashes	1	1	N/A
Class B injury Crashes	10	3	- 70.0 %
Class C Injury Crashes	20	9	- 55.0 %
Property Damage Only	42	35	- 16.7 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Crashes at Crossover Location	55	18	- 67.3 %
Severity Index at Crossover Location	5.74	3.47	- 39.5 %
Target Crashes at Crossover Location	30	0	- 100.0 %
Target Crashes Severity Index at Crossover Location	7.97	0	- 100.0 %
Crashes at Northern U-turn Location	2	7	+ 250.0 %
Severity Index at Northern U-turn Location	4.70	12.89	+ 174.3 %

Overall Summary Results

Total Crashes:	- 34 %	(reduction)
Total Crash Severity:	- 2 %	(reduction)
Target Crashes:	- 100 %	(reduction)
Target Crash Severity:	- 100 %	(reduction)
Volume:	N/A	(no change)

Items for Discussion/Concerns

- Typically, crossover installations occur on median divided roadways and the Safety Evaluation Group evaluates the closest U-turn locations for crash migration. A general search analyzing for U-turn crashes upstream and downstream from the crossover location was completed for the before and after periods.
- For the before period two (2) crashes were found at the northernmost U-turn location on US 17. None of these crashes were U-turn related.
- For the after period seven (7) crashes were found at the northernmost U-turn location on US 17. One (1) of these crashes (Crash No. 49) resulted in a fatal collision. A fatal investigation was completed on 3/17/2002 with no recommendations due to no apparent roadway fault. One (1) of these crashes (Crash No. 48) involved a U-turn collision. All other crashes at this location involved vehicles entering or exiting the PVA for Brunswick Electric.

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

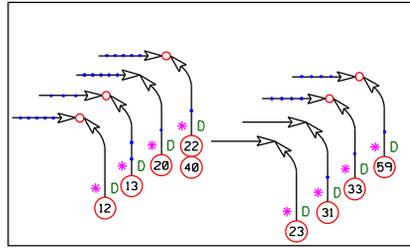
Data Prepared By

Principal Investigator: Justin Green, EI
Work Group/Consultant: NCDOT - Safety Evaluation Group
Date: March 11, 2014

SS# 03-06-213
 Order# 41000027763
 Brunswick County
 BEFORE Period
 4/1/03 - 5/31/08



SR 1344 (Sellars Rd)
 ADT (Year)
 585 (2005)



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

US 17
 ADT (Year)
 26,000 (2005)

US 17
 ADT (Year)
 26,000 (2005)

SR 1130 (Mt. Pisgah Rd)
 ADT (Year)
 4,300 (2005)

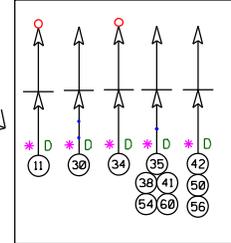
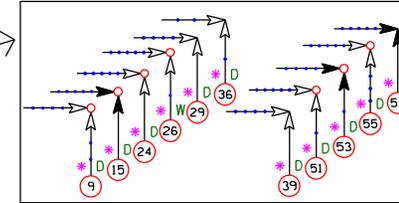
Note: Crash #8: Vehicle was struck by debris from vehicle ahead

Note: Crashes #68 & #69: Vehicle was struck by debris from vehicle ahead

Note: Crash #64: Vehicle 1 struck vehicle 2 which was overturned in roadway from a previous collision

Note: Crash #15: Vehicle 1 was parked in roadway and struck by Vehicle 2 travelling EB on US 17

Note: Crash #58: Vehicle burned on the side of the road



Crossover Target Crashes

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

TRAFFIC SAFETY UNIT

Date: March 2014 Prepared By: J. Green

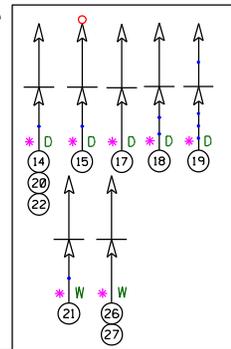
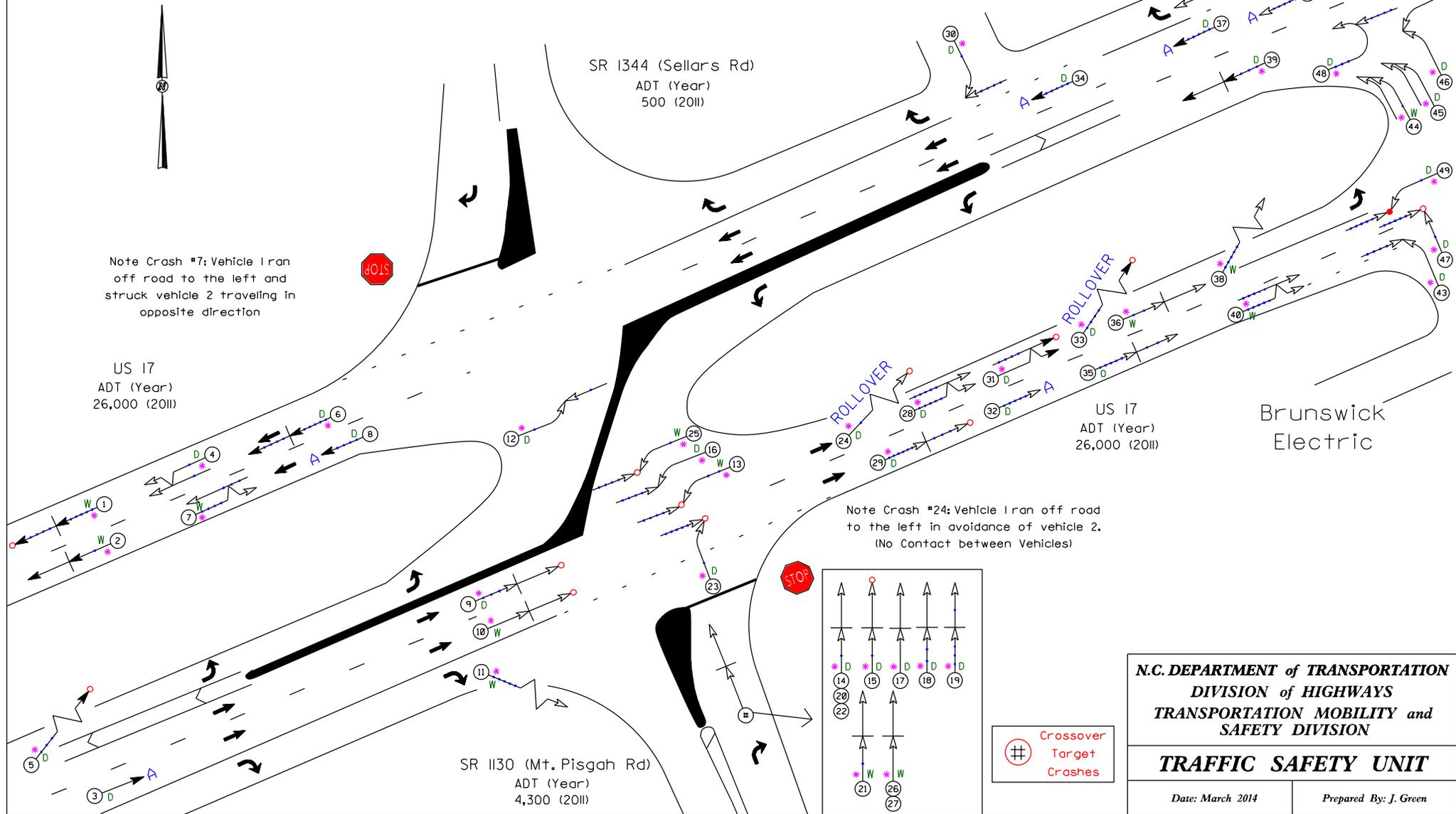
SS# 03-06-213
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 Brunswick County
 AFTER Period
 10/1/08 - 11/30/13

LEGEND							
	MOVING VEHICLE		ANGLE		5 MPH OR LESS		PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		TRAIN
	PAKED VEHICLE		TURNING		20 MPH TO 29		DRIVER AT FAULT
	PAKED VEHICLE		TURNING		30 MPH TO 39		DRY
	FIXED OBJECT		TURNING		40 MPH TO 49		WET
	HEAD ON		TURNING		50 MPH TO 59		ICY OR SNOWY
	REAR END		TURNING		60 MPH TO 69		ONLY
	RAN OFF ROAD		TURNING		TO AND UP		
	RAN OFF ROAD		TURNING		TO AND UP		
	RAN OFF ROAD		TURNING		SPEED UNKNOWN		
	RAN OFF ROAD		TURNING		SPEED UNKNOWN		

Note Crash #48: Vehicle 1 was attempting a u-turn and was struck by vehicle 2 traveling SB on US 17

Note Crash #7: Vehicle 1 ran off road to the left and struck vehicle 2 traveling in opposite direction

Note Crash #24: Vehicle 1 ran off road to the left in avoidance of vehicle 2. (No Contact between Vehicles)



Crossover
 Target
 Crashes

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