

# Spot Safety Project Evaluation

## Project Information

Order ID: 41000030194

Project ID: 11-05-201

Location: SR 1143 (New Brown's Ford Rd) at curve located just north of SR 1144

County: Wilkes

City: West of Wilkesboro

Division: 11

Signal ID: N/A

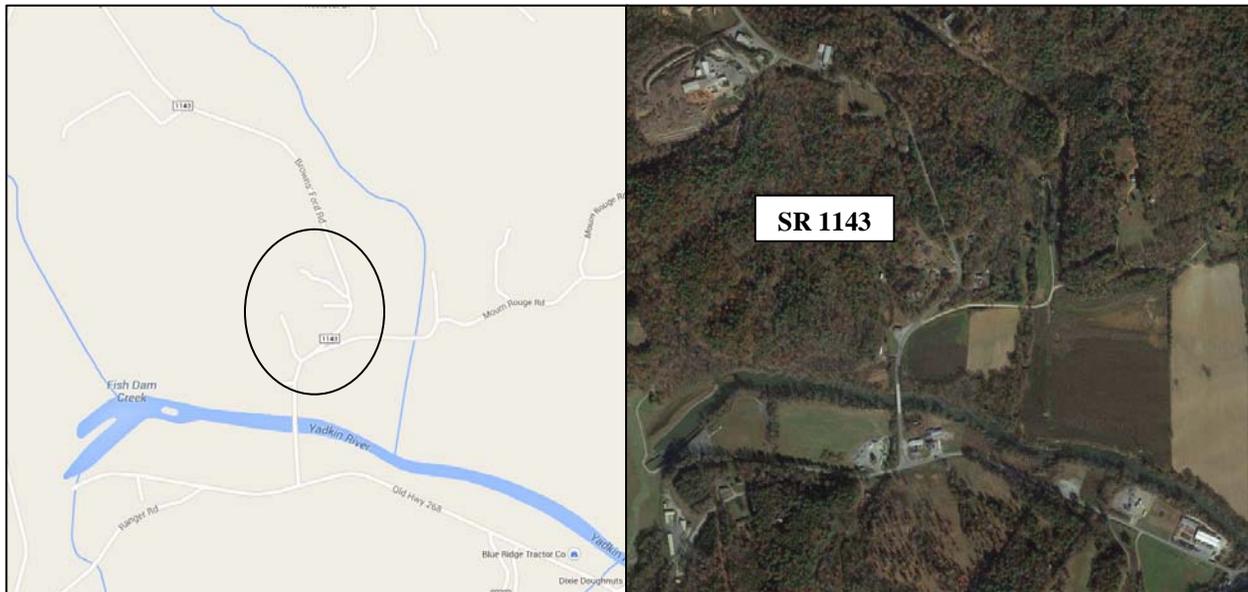
Countermeasure 1: Add superelevation to the curve, overlay with friction course pavement, and lower the embankment on the inside of the curve.

Countermeasure 2: Installation of snowplowable pavement markers for the entire length of road.

Project Completion: August 19, 2009

Project Cost: \$125,000

## Map and Aerial (from Google Maps)



**Naive Before and After Analysis**

Before Period: August 1, 2004 through June 30, 2009 (4 years 11 months)

Const. Period: July 1, 2009 through September 30, 2009

After Period: October 1, 2009 through August 31, 2014 (4 years 11 months)

Analysis Criteria: Countermeasure 1: Treatment data consisted of all crashes on SR 1143 (New Brown’s Ford Rd) within 500-feet north of the beginning of the guardrail to 500 feet south of SR 1144, Milepost 1.068 to 1.375, with a zero-foot y-line.

Countermeasure 2: Treatment data consisted of all crashes on SR 1143 (New Brown’s Ford Rd) from 150 feet south of NC 16 to 150 feet north of SR 1176 (Old NC 268) excluding study area of Countermeasure 1.

Target Crashes: Lane Departure Crashes – Run-Off Road (Left, Right, Straight), Fixed Object, Head-On, and Sideswipe (Opposite Direction). Sidestreet intersection run through crashes are not considered as lane Departure Target Crashes.

<b><u>Treatment Information</u></b> <b><u>Countermeasure 1</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-)</b> <b>Percent Increase (+)</b>
Total Crashes	13	2	- 84.6 %
Total Severity Index	14.37	8.4	- 41.5 %
Target Crashes – Lane Departure	12	2	- 83.3 %
Target Crash Severity Index	15.48	8.4	- 45.7 %
Volume (2007, 2012)	4,800	3,700	- 22.9 %

<b><u>Injury Crash Summary</u></b> <b><u>Countermeasure 1</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-)</b> <b>Percent Increase (+)</b>
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	2	0	- 100.0 %
Class B injury Crashes	1	0	- 100.0 %
Class C Injury Crashes	2	2	0.0 %
Property Damage Only	8	0	- 100.0 %

<b><u>Additional Information</u></b> <b><u>Countermeasure 1</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-)</b> <b>Percent Increase (+)</b>
Night Crashes	5	0	- 100.0 %
Wet Roadway Crashes	4	2	- 50.0 %
Alcohol/Drugs Involvement Crashes	1	0	- 100.0 %
Animal Crashes	0	0	N/A
Total Crash Rate (100MVM)	491.47	98.04	- 80.0 %
Fatal Crash Rate (100MVM)	0.00	0.00	N/A

<b><u>Treatment Information</u></b> <b><u>Countermeasure 2</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-)</b> <b>Percent Increase (+)</b>
Total Crashes	13	7	- 46.2 %
Total Severity Index	14.94	15.00	+ 0.4 %
Target Crashes – Lane Departure	8	6	- 25.0 %
Target Crash Severity Index	22.73	17.33	- 23.8 %
Volume (2007, 2012)	4,800	3,700	- 22.9 %

<b><u>Injury Crash Summary</u></b> <b><u>Countermeasure 2</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-)</b> <b>Percent Increase (+)</b>
Fatal injury Crashes	1	1	0.0 %
Class A injury Crashes	1	0	- 100.0 %
Class B injury Crashes	1	1	0.0 %
Class C Injury Crashes	3	2	- 33.3 %
Property Damage Only	7	3	- 57.1 %

### **Overall Summary Results (Countermeasure 1)**

Total Crashes:	- 85 %	(reduction)
Total Crash Severity:	- 42 %	(reduction)
Target Crashes:	- 83 %	(reduction)
Target Crash Severity:	- 46 %	(reduction)
Volume:	- 23 %	(reduction)

### **Additional Summary Results (Countermeasure 1)**

Total Crash Rate (100MVM)	- 80 %	(reduction)
Fatal Crash Rate (100MVM):	N/A	(not applicable)

### **Overall Summary Results (Countermeasure 2)**

Total Crashes:	- 46 %	(reduction)
Total Crash Severity:	+ 0.4 %	(increase)
Target Crashes:	- 25 %	(reduction)
Target Crash Severity:	- 24 %	(reduction)
Volume:	- 23 %	(reduction)

### **Items for Discussion/Concerns**

Countermeasure 1 experienced an 85 % reduction in total crashes (13 to 2 crashes).

The target crashes for Countermeasure 1 (Lane Departure Crashes) experienced an 84 % reduction (12 to 2 crashes).

Countermeasure 2 experienced a 46 % reduction in total crashes (13 to 7 crashes).

The target crashes for Countermeasure 1 (Lane Departure Crashes) experienced a 25 % reduction (8 to 6 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: October 24, 2014

**LEGEND**

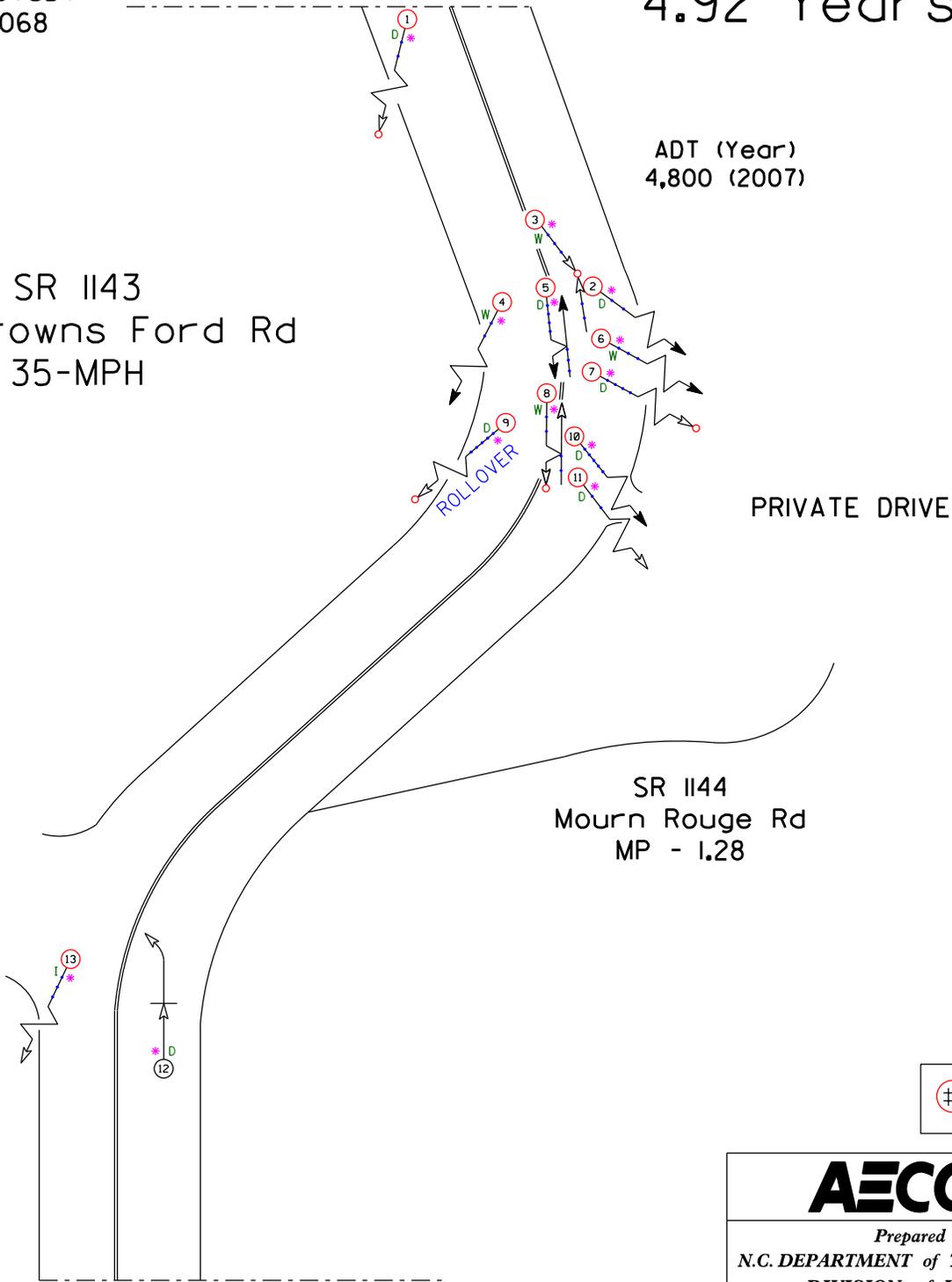
	MOVING VEHICLE		ANGLE		9 MPH OR LESS		A ANIMAL
	PARKED VEHICLE		TURNING		10 MPH TO 19		P PEDESTRIAN
	PARKING VEHICLE		BACKING		20 MPH TO 29		B BICYCLE
	MOVABLE OBJECT		SIDESWIPE		30 MPH TO 39		T TRAIN
	HEAD ON		INJURY		40 MPH TO 49		• DRIVER AT FAULT
	REAR END		FATALITY		50 MPH TO 59		D DRY
	RAN OFF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

SS# 11-05-201  
 Order# 41000030194  
 Wilkes County  
 BEFORE Period  
 8/1/2004 - 6/30/2009  
 4.92 Years

BEGIN STUDY  
 MP-1.068

SR 1143  
 New Browns Ford Rd  
 35-MPH

ADT (Year)  
 4,800 (2007)



PRIVATE DRIVE

SR 1144  
 Mourn Rouge Rd  
 MP - 1.28

END STUDY  
 MP-1.375

Lane Departure  
 Target Crashes

**AECOM**

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

**TRAFFIC SAFETY UNIT**

Date: 10-24-2014

Prepared By: Andrew Covington, E.I.

**LEGEND**

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		A ANIMAL
	PARKED VEHICLE		TURNING		10 MPH TO 19		P PEDESTRIAN
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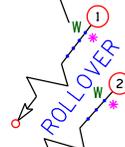
SS# 11-05-201  
 Order# 41000030194  
 Wilkes County  
 AFTER Period  
 10/1/2009 - 8/31/2014  
 4.92 Years

BEGIN STUDY  
 MP-1.068

SR 1143  
 New Browns Ford Rd  
 35-MPH

**COUNTERMEASURE:**  
 Superelevation added to  
 the curve, overlay with  
 friction course pavement,  
 and lowered embankment on  
 the inside of the curve

ADT (Year)  
 3,700 (2012)



PRIVATE DRIVE

SR 1144  
 Mourn Rouge Rd  
 MP - 1.28

Lane Departure  
 Target Crashes

END STUDY  
 MP-1.375

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