

Hazard Elimination Project Evaluation

Project Information

Order ID: 41000037458

Project ID: W-5120

Location: NC-215 (Parkway Road) from US-64 to the Haywood County Line – 17.1 miles

County: Transylvania

City: Rosman / Balsam Grove

Division: 14

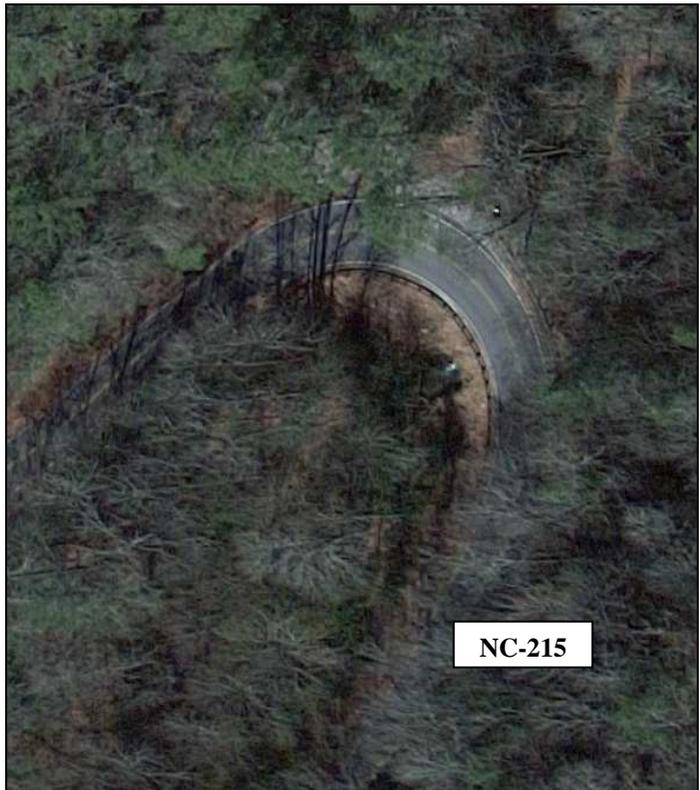
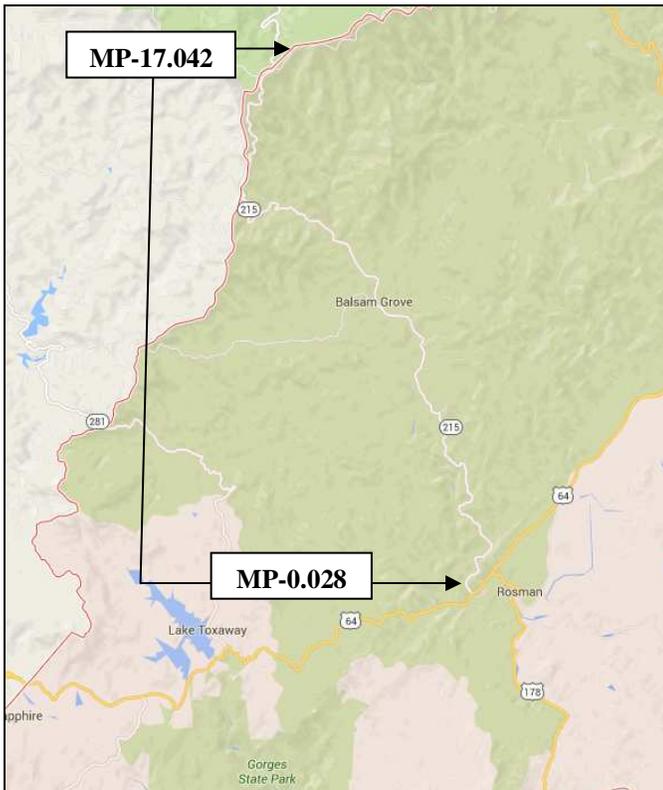
Signal ID: N/A

Countermeasure: Install New (19,414 LF) and Replace Existing (46,330 LF) Shoulder Guardrail

Project Completion: August 1, 2010

Project Cost: \$1,770,000

Map and Aerial (from Google Maps) – Coordinates: 35.143931, -82.839290



Naive Before and After Analysis

- Before Period: May 1, 2005 through April 30, 2010 (5 years)
- Const. Period: May 1, 2010 through August 31, 2010
- After Period: September 1, 2010 through August 31, 2015 (5 years)
- Analysis Criteria: Treatment data consisted of all crashes along NC-215 (Parkway Road) from 150-foot north of US-64 to the Haywood County Line (Milepost Range 0.028 to 17.042).
- Target Crashes: Lane Departure Crashes were the selected countermeasure, which includes the following: Ran-Off Road (Left, Right, Straight); Fixed Object; Rollover; Sideswipe (Opposite Direction); and Head-On. Specific collisions that struck guardrail are also highlighted in the tables below.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	71	83	16.9 %
Total Severity Index	6.99	7.11	1.7 %
Target Crashes – Lane Departure	64	76	18.8 %
Target Crash Severity Index	7.18	7.38	2.8 %
Guardrail Strike Crashes	6	20	100+ %
Guardrail Severity Index	17.33	7.75	- 55.3 %
Volume (2006, 2010)	760	670	- 11.8 %

<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	19	20	5.3 %
Class C Injury Crashes	18	28	55.5 %
Property Damage Only	32	33	3.1 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Night Crashes	14	16	14.3 %
Wet Roadway Crashes (Codes 2 & 3)	13	12	- 7.7 %
Alcohol / Drugs Involvement Crashes	2	6	100+ %
Animal Crashes	0	0	0.0 %

Overall Summary Results

Total Crashes:	17 %	(increase)
Total Crash Severity:	2 %	(increase)
LD Target Crashes:	19 %	(increase)
LD Target Crash Severity:	3 %	(increase)
Volume:	- 12 %	(reduction)

Additional Summary Results

Guardrail Strike Crashes:	100+ %	(increase)
Alcohol/Drugs Involvement Crashes:	100+ %	(increase)

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.

There was an after period fatal crash that reported a medical condition as a contributing factor.

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

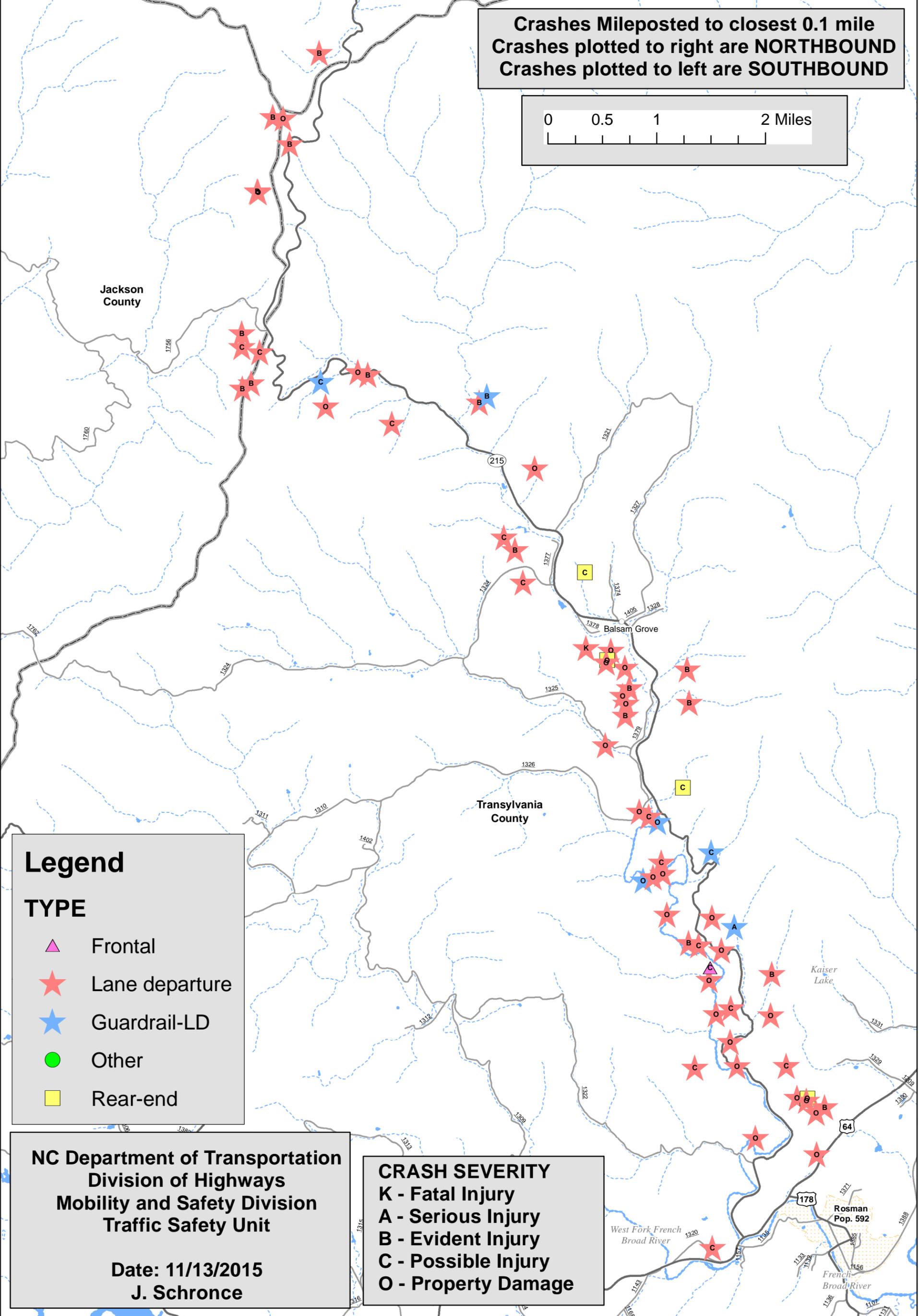
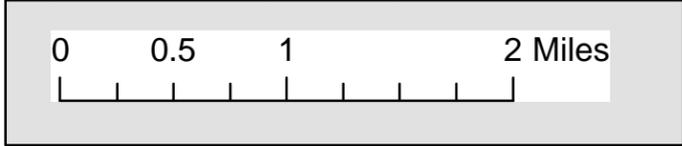
Data Prepared By

Principal Investigator: Jason B. Schronce, PE
Work Group/Consultant: NCDOT - Safety Evaluation Group
Date: November 13, 2015

TRANSYLVANIA COUNTY
NC-215 (Parkway Road) - US-64 to Haywood County Line
Study Milepost Range 0.028 - 14.042
BEFORE PERIOD - 5/1/2005 to 4/30/2010 (5.0 Yrs)



Crashes Mileposted to closest 0.1 mile
Crashes plotted to right are NORTHBOUND
Crashes plotted to left are SOUTHBOUND



Legend

TYPE

- Frontal
- Lane departure
- Guardrail-LD
- Other
- Rear-end

NC Department of Transportation
Division of Highways
Mobility and Safety Division
Traffic Safety Unit

Date: 11/13/2015
J. Schronce

CRASH SEVERITY
K - Fatal Injury
A - Serious Injury
B - Evident Injury
C - Possible Injury
O - Property Damage

