

Safety Project Evaluation

Order ID:	41000065673
Project ID:	SS-4914BP / 14-13-209
Location:	NC 141 from 1000 ft south of SR 1554 (Rowland Hill Road) to 1000 ft north of SR 1554 (Rowland Hill Road)
Length:	2000 feet
GPS Coordinates:	35.129480, -83.937918 to 35.134215, -83.935008
County:	Cherokee
City:	Murphy Township
Division:	14

Countermeasure(s):	Construct a left turn lane at SR 1554 (Rowland Hill Road) and resurface NC 141 to the north and south of the intersection to improve the superelevation.
Estimated Project Cost:	\$300,000
Completion Date:	9/6/2016

	Start Date	End Date	Length
Before Period	2/1/2011	3/31/2016	5y, 2m
Construction Period	4/1/2016	9/30/2016	0y, 6m
After Period	10/1/2016	11/30/2021	5y, 2m

Analysis Criteria:	All crashes on NC 141 between 1000 ft south of SR 1554 to 1000 ft north of SR 1554 in Cherokee County (2000 feet total), with a 150' y-line
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Target-1 Crashes:	Lane Departure Crashes (Type 1 for Two Lane Facilities) = Ran Off Road (Left, Right or Straight), Overturn/Rollover, Fixed Object, Head On, Sideswipe Opposite Direction.
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Target-2 Crashes:	Rear End Crashes Approaching Intersection on NB NC 141
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Project Development Comparison

Crashes Per Year by Project Time Period	Project Development	Before Period	After Period
Years	5.00 years	5.17 years	5.17 years
Start Date	7/1/2008	2/1/2011	10/1/2016
End Date	6/30/2013	3/31/2016	11/30/2021
Total	2.00	1.94	2.13
Fatal Injury	0.20	0.19	0.00
Class A Injury	0.20	0.19	0.00
Class B Injury	0.40	0.19	0.19
Class C Injury	0.00	0.39	0.00
Property Damage Only	1.20	0.97	1.94

Items for Discussion

- An extended y-line was used to account for crashes along the constructed left turn lane at SR 1554 (Rowland Hill Road).
- NC 141 was widened to accommodate the northbound left turn lane. In addition, pavement markings were updated to accommodate transitions into the left turn lane.
- The injury crash in the after period occurred in 2020 and was a Class B injury.
- The crash frequency was highest during each of the last two years of the after period (3 in 2020 and 3 in 2021), including one target-1 crash in each year.
- There were 5 Target-1 crashes with wet road surface conditions in the before period and 3 Target-1 crashes with wet road surface conditions in the after period.
- 5 of the 11 crashes in the after period involved animals. Excluding animal crashes, the remaining crashes decreased by 40% from the before to the after periods.
- There were no "Left Turn Same Roadway" crashes in the before period. The one "Left Turn Same Roadway" crash in after period occurred as a vehicle completed a u-turn movement 200' downstream of SR 1554 (Rowland Hill Road).

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

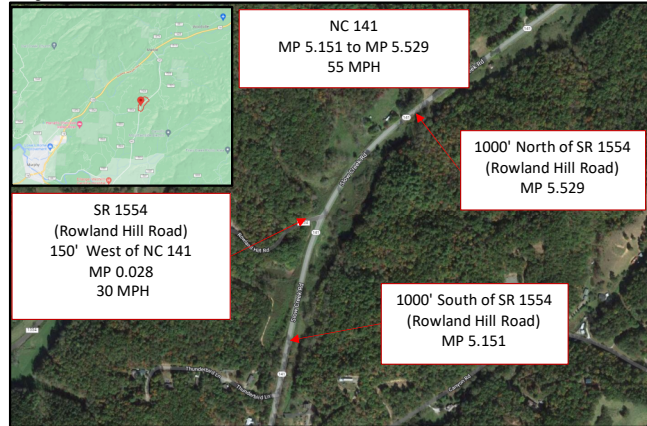
Treatment Information	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	10	11	10.00%
Total Severity Index	18.38	1.67	-90.90%
All Target Crashes	9	4	-55.56%
All Target Crash Severity Index	19.49	1.00	-94.87%
Target-1 Crashes	8	4	-50.00%
Target-1 Crash Severity Index	21.80	1.00	-95.41%
Target-2 Crashes	1	0	-100.00%
Target-2 Crash Severity Index	1.00	0.00	-100.00%
Volume (2015, 2018)	4,100	4,300	4.88%

Injury Crash Summary	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal Injury Crashes	1	0	-100.00%
Class A Injury Crashes	1	0	-100.00%
Class B Injury Crashes	1	1	0.00%
Class C Injury Crashes	2	0	-100.00%
Property Damage Only	5	10	100.00%

All Target Injury Crash Summary	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal Injury Crashes	1	0	-100.00%
Class A Injury Crashes	1	0	-100.00%
Class B Injury Crashes	0	0	0.00%
Class C Injury Crashes	2	0	-100.00%
Property Damage Only	5	4	-20.00%

Additional Information	Before	After	Percent Reduction (-) Percent Increase (+)
Frontal Impact Crashes at Intersection	1	1	0.00%
Northbound Lane Departures	2	1	-50.00%
Southbound Lane Departures	6	3	-50.00%
Dark Crashes	0	4	100%+
Intersection-Related Crashes	2	1	-50.00%

Map/Satellite Views



Data Prepared By:

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Work Group/Consultant:	Kittelson & Associates, Inc.
Date:	3/15/2022