

Safety Project Evaluation

Order ID:	41000061154/41000071752
Project ID:	W-5710Q (10-17-264)
Signal ID:	n/a
Location:	NC 218 at NC 205
GPS Coordinates:	35.131175, -80.369143
County:	Union
City:	New Salem
Division:	10

Countermeasure(s):	Install Roundabout
Estimated Project Cost:	\$1,100,000
Completion Date:	11/7/2019

	Start Date	End Date	Length
Before Period	8/1/2016	7/31/2019	3y, 0m
Construction Period	8/1/2019	11/30/2019	0y, 4m
After Period	12/1/2019	11/30/2022	3y, 0m

Analysis Criteria:	Treatment data consisted of all crashes within 150 feet of the subject intersection for the NC 218 and NC 205 approaches
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Target Crashes:	Frontal Impact Crashes: left-turn, same roadway; left-turn different roadways, right-turn, same roadway, right-turn, different roadways, head-on and angle crashes
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Project Development Comparison

Crashes Per Year by Project Time Period	Project Development	Before Period	After Period
Years	5.00 years	3.00 years	3.00 years
Start Date	5/1/2012	8/1/2016	12/1/2019
End Date	4/30/2017	7/31/2019	11/30/2022
Total	2.60	4.33	2.33
Fatal Injury	0.20	0.33	0.00
Class A Injury	0.00	0.00	0.00
Class B Injury	0.00	0.00	0.33
Class C Injury	0.60	0.67	0.33
Property Damage Only	1.80	3.33	1.67

Items for Discussion

- During the evaluation before period, non-actuated flashers were mounted to the intersection ahead warning signs located on the NC 218 approaches on July 21, 2017. The additional information table above breaks down the before period crash data for two distinct time periods to measure the impact of the advance flashers: Before-1 (8/1/2016-7/20/2017) and Before 2 (7/22/2017-7/31/2019). Crashes in the before period were not reduced after the additional advance flashers were installed.
- 4 lane departure crashes occurred at the roundabout during the after period. All crashes occurred during dry road conditions and two of the crashes occurred during nighttime conditions. 1 of the 4 lane departure crashes was a runoff road – straight crash (SB direction on NC 205 – fleeing police and ran through roundabout). There were 2 run off road – right crashes one of which involved a motorcycle traveling WB on NC 218 exiting the roundabout and the other involving a vehicle traveling westbound on NC 218 approaching the roundabout. The other lane departure involved a motorcycle traveling WB on NC 218 and overturning after entering the roundabout.
- There were 5 crashes in the before period involving a truck and 0 in the after period.

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

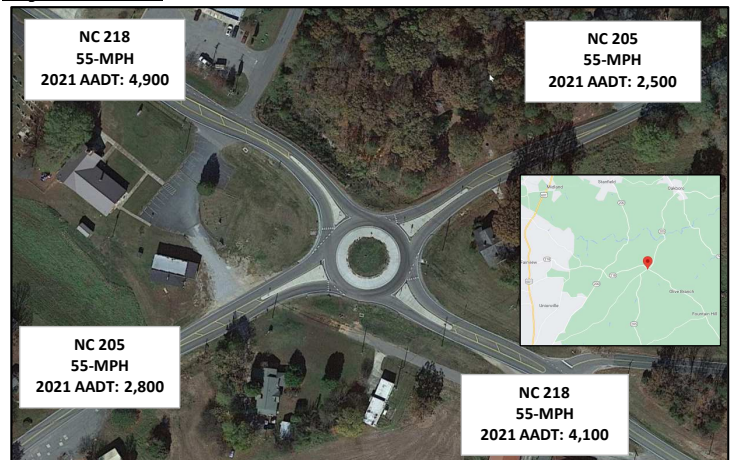
Treatment Information	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	13	7	-46.15%
Total Severity Index	7.97	3.11	-60.92%
Target Crashes	7	3	-57.14%
Target Crash Severity Index	13.94	1.00	-92.83%
Volume (2018, 2021)	9,600	7,200	-25.00%

Injury Crash Summary	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal Injury Crashes	1	0	-100.00%
Class A Injury Crashes	0	0	n/a
Class B Injury Crashes	0	1	n/a
Class C Injury Crashes	2	1	-50.00%
Property Damage Only	10	5	-50.00%

Target Injury Crash Summary	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal Injury Crashes	1	0	-100.00%
Class A Injury Crashes	0	0	n/a
Class B Injury Crashes	0	0	n/a
Class C Injury Crashes	2	0	-100.00%
Property Damage Only	7	3	-57.14%

Additional Information	Before 1 (0.97 Years)	Before 2 (2.02 Years)	Percent Reduction (-) Percent Increase (+)
Non-Actuated Flasher Total Crashes	3 (3.09 CPY)	10 (4.95 CPY)	n/a
Non-Actuated Flasher Target Crashes	2 (2.06 CPY)	5 (2.48 CPY)	n/a
n/a			n/a
n/a			n/a

Map/Satellite Views



Data Prepared By:

Principal Investigator:	Daniell L. Bagley
Work Group/Consultant:	Traffic Safety Unit
Date:	August 2023

DISCLAIMER FOR 2020 DATA:

Reductions in typical roadway volumes were experienced Statewide in 2020 due to the COVID-19 pandemic. In addition, the frequency of total crashes in 2020 was found to have decreased from prior years, but the frequency of fatal crashes in 2020 was found to have increased from prior years. The potential impact of the COVID-19 pandemic and shift in data trends should be kept in mind when reviewing traffic safety analyses and/or data reports that incorporate 2020 volume and/or crash data. The analyses and reports that include this data may not represent typical conditions of the areas and locations being reviewed.