

# Hazard Elimination Project Evaluation

## Project Information

Order ID: 41000033138

Project ID: W-5208E

Location: US 74 from SR 1846 westward for 0.9 miles

County: Richmond

City: Hamlet

Division: 8

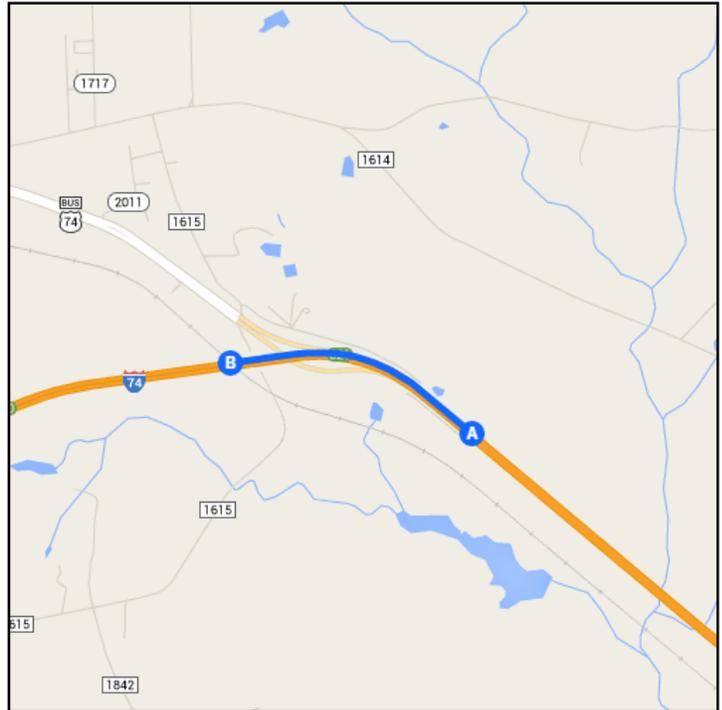
Signal ID: N/A

Countermeasure: Install cable median barrier.

Project Completion: September 16, 2010

Project Cost: \$52,800

## Map and Aerial (from Google Maps – Coordinates are 34.865690, -79.639506)



## Naive Before and After Analysis

Before Period: June 1, 2006 through June 30, 2010 (4.08 yrs)

Construction Period: July 1, 2010 through November 31, 2010

After Period: December 1, 2010 through December 31, 2014 (4.08 yrs)

Analysis Criteria: Treatment data consisted of all crashes along the US 74 mainline from SR 1846 westward for 0.9 miles

Target Crashes: The target crashes for this project are Lane Departure crashes including Ran Off Road – Right, Ran Off Road – Left, Ran Off Road – Straight, Fixed Object, Head-on, Parked Motor Vehicle, and Overturn/Rollover.

| <u>Treatment Information</u>        | <b>Before</b> | <b>After</b> | <b>Percent Reduction (-)<br/>Percent Increase (+)</b> |
|-------------------------------------|---------------|--------------|---|
| Total Crashes                       | 4             | 6            | 50.0 %  |
| Total Severity Index                | 6.55          | 1.00         | - 84.7 %  |
| Lane Departure Crashes              | 3             | 5            | 66.7 %  |
| Lane Departure Crash Severity Index | 5.93          | 1.00         | - 83.1 %  |
| Barrier Hit Crashes                 | 0             | 2            | 200.0 %   |
| Barrier Hit Severity Index          | 0.00          | 1.00         | 100.0 %   |
| Cross Median Crashes                | 1             | 0            | - 100.0 %   |
| Cross Median Crash Severity Index   | 8.40          | 0.00         | - 100.0 %   |
| Volume (2008, 2012)                 | 13,300        | 13,300       | 0.0 %   |

| <u>Injury Crash Summary</u> | <b>Before</b> | <b>After</b> | <b>Percent Reduction (-)<br/>Percent Increase (+)</b> |
|-----------------------------|---------------|--------------|---|
| Fatal injury Crashes        | 0             | 0            | N/A   |
| Class A injury Crashes      | 0             | 0            | N/A   |
| Class B injury Crashes      | 2             | 0            | - 100.0 %   |
| Class C Injury Crashes      | 1             | 0            | - 100.0 %   |
| Property Damage Only        | 1             | 6            | 500.0 %   |

| <u>Additional Information</u> | <b>Before</b> | <b>After</b> | <b>Percent Reduction (-)<br/>Percent Increase (+)</b> |
|-------------------------------|---------------|--------------|---|
| Animal Crashes                | 0             | 1            | 100.0 %   |
| Night Crashes                 | 2             | 3            | 50.0 %  |
| Wet Crashes                   | 1             | 0            | - 100 %   |
| Alcohol/Drug Related Crashes  | 0             | 0            | N/A   |

## **Overall Summary Results**

|                                |         |             |
|--------------------------------|---------|-------------|
| Total Crashes:                 | + 50 %  | (increase)  |
| Total Crash Severity:          | - 85 %  | (reduction) |
| Lane Departure Crashes:        | + 67 %  | (increase)  |
| Lane Departure Crash Severity: | - 83 %  | (reduction) |
| Barrier Hit Crashes:           | + 200 % | (increase)  |
| Barrier Hit Crash Severity:    | + 100 % | (increase)  |
| Cross Median Crashes:          | - 100 % | (reduction) |
| Cross Median Crash Severity:   | - 100 % | (reduction) |
| Volume:                        | 0 %     | (no change) |

## **Items for Discussion/Concerns**

None.

## **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: Ian Pike, Engineering Assistant  
Checked by: Brad Robinson, PE  
Work Group/Consultant: NCDOT - Safety Evaluation Group  
Date: January 6, 2015

W-5208E  
 Order# 41000033138  
 Richmond County  
 BEFORE Period  
 6/1/06 - 6/30/10

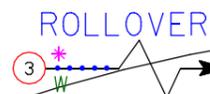
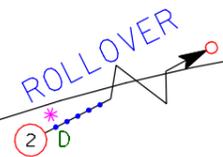
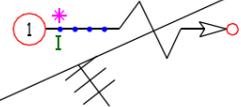


| LEGEND |                 |  |           |  |               |  |                   |
|--------|-----------------|--|-----------|--|---------------|--|-------------------|
|        | MOVING VEHICLE  |  | ANGLE     |  | 9 MPH OR LESS |  | A ANIMAL          |
|        | PARKED VEHICLE  |  | TURNING   |  | 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    |  |           |  | 60 MPH TO 69  |  | W WET             |
|        | DAYLIGHT CRASH  |  |           |  | 70 AND UP     |  | I ICY OR SNOWY    |
|        | NIGHT CRASH     |  |           |  | SPEED UNKNOWN |  | O Other           |

**US 74**

**55 mph**

**ADT (year)  
 13,300 (2008)**



Target Crashes

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

**TRAFFIC SAFETY UNIT**

Date: January 2015

Prepared By: Ian Pike

W-5208E  
 Order# 41000033138  
 Richmond County  
 AFTER Period  
 12/1/10 - 12/31/14

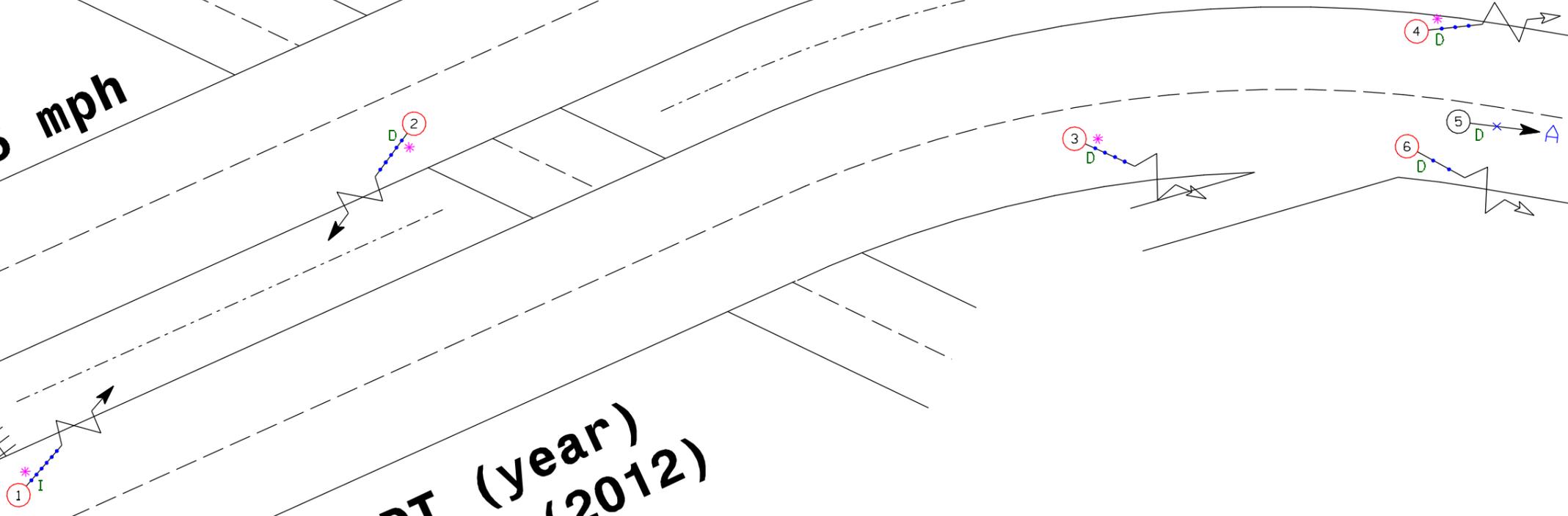


| LEGEND |                 |  |               |  |               |  |                 |
|--------|-----------------|--|---------------|--|---------------|--|-----------------|
|        | MOVING VEHICLE  |  | ANGLE         |  | 9 MPH OR LESS |  | ANIMAL          |
|        | PARKED VEHICLE  |  | TURNING       |  | 10 MPH TO 19  |  | PEDESTRIAN      |
|        | PARKING VEHICLE |  | BACKING       |  | 20 MPH TO 29  |  | BICYCLE         |
|        | MOVABLE OBJECT  |  | SIDESWIPE     |  | 30 MPH TO 39  |  | TRAIN           |
|        | HEAD ON         |  | INJURY        |  | 40 MPH TO 49  |  | DRIVER AT FAULT |
|        | REAR END        |  | FATALITY      |  | 50 MPH TO 59  |  | DRY             |
|        | RAN OFF ROAD    |  | ICY OR SNOWY  |  | 60 MPH TO 69  |  | WET             |
|        | DAYLIGHT CRASH  |  | SPEED UNKNOWN |  | 70 AND UP     |  | ICY OR SNOWY    |
|        | NIGHT CRASH     |  |               |  | SPEED UNKNOWN |  | Other           |

**US 74**

**55 mph**

**ADT (year)  
 13,300 (2012)**



Target Crashes

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

**TRAFFIC SAFETY UNIT**

Date: January 2015 Prepared By: Ian Pike