



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

December 30, 2013

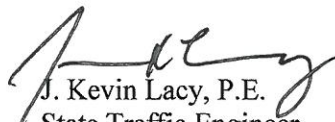
Joint Legislative Transportation Oversight Committee
North Carolina General Assembly
Legislative Building
16 West Jones Street
Raleigh, North Carolina 27601

Subject: Pedestrian Crashes related to Right Turn on Red Movements

Dear Committee Members:

In accordance with General Statute 20-158 (b, 2, d), I am submitting our update on pedestrian crashes related to right turn on red (RTOR) maneuvers. If you have any questions, please contact me at (919)707-2550 or jlacy@ncdot.gov.

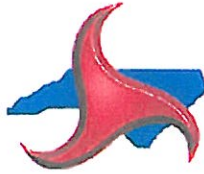
Sincerely,


J. Kevin Lacy, P.E.
State Traffic Engineer

JKL

Attachment

cc: Anthony J. Tata, Secretary of Transportation
La Nica Allison, Deputy Secretary for Intergovernmental Affairs and Budget Coordination
Terry R. Gibson, P.E., Chief Engineer
Terry Hopkins, P.E., State Traffic Safety Engineer
Jason Soper, Legislative Director
Andrew Bell, Legislative Liason



Update on Pedestrian Crashes Related to Right Turn on Red Movements

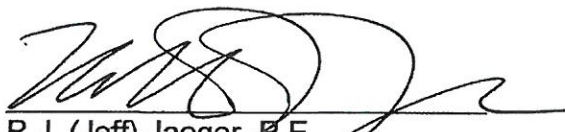
Prepared By:

Mobility and Safety Information Section
Traffic Safety Unit
Transportation Mobility and Safety Division
Division of Highways
North Carolina Department of Transportation


Prepared For:

Joint Legislative Transportation Oversight Committee
North Carolina General Assembly

December 11, 2013


R.J. (Jeff) Jaeger, P.E.
Mobility and Safety Information Engineer

12-12-13
Date


J. Kevin Lacy, P.E.
State Traffic Engineer

12/11/2013
Date

1.0 Purpose

This report provides an update on pedestrian crash information related to right turn on red (RTOR) movements by motorists and has been prepared for the Joint Legislative Transportation Oversight Committee of the North Carolina General Assembly (NCGA), pursuant to General Statute §20-158(b), 2d.

2.0 Information Restrictions

The crash information provided does not address fault (which is not the purview of the reporting officer) and is based solely on whether or not the reporting officer (RO) concluded that a RTOR movement was contributory to the resulting crash. The information presented herein is based on crash data contained in the North Carolina Crash Database (NCCD) maintained by the Division of Motor Vehicles (DMV), which provides an inventory of reported crashes on record that have occurred in the state. Please note that many traffic crashes go unreported for a variety of reasons, and the information in this update simply provides a summary of all crashes on record that occurred within the described parameters.

Also, there are currently 146 locations in North Carolina on the State Highway System, and an unknown number of locations on municipal streets, where RTOR is prohibited. Because RTOR prohibitions are not coded within crash reports, the following totals may include some RTOR movements that occurred at locations where RTOR movements are prohibited. Further, it has been estimated by some researchers that pedestrian crashes may be underreported by as much as 30 to 50 percent.

3.0 Reported Crashes

Between September 1, 2012 and August 31, 2013 there were 296,394 crashes reported in North Carolina, 265 involved a RTOR movement, 3,273 involved a pedestrian, and six (6) involved a RTOR movement and a pedestrian. Therefore, crashes involving a RTOR movement accounted for less than one tenth of one percent of all reported crashes (0.09%), and RTOR crashes involving a pedestrian accounted for less than two tenths of one percent (0.18%) of all pedestrian crashes.

4.0 Equivalent Property Damage and Severity Index

An equivalent property damage only (EPDO) calculation is a means of normalizing severity over all crash types (fatal, non-fatal injury, and property damage only crashes). Property damage only crashes (no injuries) have an EPDO rating of 1 and fatal crashes have an EPDO rating of 76.8 (meaning a fatal crash is approximately 77 times more costly to society than a crash with no injury). The severity index (SI) normalizes the EPDO across all crashes of a given sample.

Between September 1, 2012 and August 31, 2013, RTOR crashes had an SI of 3.28 and all reported crashes had an SI of 3.56, which indicates that RTOR crashes tend to be less severe than most crashes. Pedestrian crashes had an SI of 15.82, which indicates that pedestrian crashes tend

to be much more severe than most crashes. This is historically true due to the absence of physical protection from injury when struck by a vehicle. However, the SI of the six (6) RTOR crash involving a pedestrian can not be compared to other SI values because no conclusions can be drawn from such a small sample of crashes.

5.0 Comprehensive Crash Costs

Comprehensive crash costs include estimates of medical costs, emergency services, loss of productivity, employer costs, property damage, and change in quality of life. Between September 1, 2012 and August 31, 2013, all reported crashes resulted in approximately \$10.73 billion dollars in comprehensive crash costs. In contrast, RTOR crashes involving pedestrians during the same time period resulted in approximately \$4,875,000 in comprehensive crash costs (primarily due to one fatality).

6.0 Crash Summary

The following is a summary of the pedestrian crashes involving a RTOR movement that occurred between September 1, 2012 and August 31, 2013:

Crash ID: 103615974

Date, Time: Friday, November 9, 2012, 11:55
Location: Carteret County, Atlantic Beach, NC 58 at SR 1182
Injury Type: K (fatality)
Pedestrian: 57-year-old female
Motorist: 22-year-old male
Description: The pedestrian was crossing SR1182 in a marked crosswalk when a vehicle attempting a RTOR movement from NC 58 on to SR 1182 struck the pedestrian. This crash occurred during daylight on a dry roadway. No citations were issued.

Crash ID: 103620182

Date, Time: Saturday, December 1, 2012, 13:39
Location: Wake County, Raleigh, Dixie Trail at Wade Avenue
Injury Type: B (moderate injury)
Pedestrian: 43-year-old female
Motorist: 24-year-old male
Description: The pedestrian was crossing Dixie Trail when a vehicle attempting a RTOR movement from Dixie Trail on to Wade Avenue struck the pedestrian. This crash occurred during daylight on a dry roadway. A "No Right Turn on Red" sign was posted at this location. No citations were issued.

Crash ID: 103706264

Date, Time: Tuesday, March 19, 2013, 11:24
Location: Guilford County, Greensboro, Elm Street at Elm-Eugene Street
Injury Type: C (minor injury)
Pedestrian: 50-year-old female
Motorist: 55-year-old female
Description: The pedestrian was crossing Elm Street when a vehicle attempting a RTOR movement from Elm Street on to Elm-Eugene Street struck the pedestrian. This crash occurred during daylight on a dry roadway. No citations were issued.

Crash ID: 103792982

Date, Time: Friday, July 5, 2013, 10:05
Location: Mecklenburg County, Charlotte, Nations Crossing Road at Woodlawn Road
Injury Type: C (minor injury)
Pedestrian: 47-year-old male
Motorist: 42-year-old male
Description: The pedestrian was crossing Nations Crossing Road when a vehicle attempting a RTOR movement from Nations Crossing Road on to Woodlawn Road struck the pedestrian. This crash occurred during daylight on a wet roadway. No citations were issued.

Crash ID: 103797015

Date, Time: Wednesday, July 10, 2013, 10:32
Location: Wake County, Raleigh, Lake Boone Trail at Blue Ridge Road
Injury Type: C (minor injury)
Pedestrian: 70-year-old male (wheelchair)
Motorist: 48-year-old female
Description: The pedestrian was crossing Blue Ridge Road when a vehicle attempting a RTOR movement from Lake Boone Trail on to Blue Ridge Road struck the pedestrian. This crash occurred during daylight on a dry roadway. No citations were issued.

Crash ID: 103808270

Date, Time: Wednesday, July 24, 2013, 16:52
Location: Guilford County, Greensboro, Davie Street at Washington Street
Injury Type: B (moderate injury)
Pedestrian: 27-year-old male
Motorist: 47-year-old male
Description: The pedestrian was crossing Davie Street when a vehicle attempting a RTOR movement from Davie Street on to Washington Street struck the pedestrian. This crash occurred during daylight on a dry roadway. A "safe movement violation" citation was issued to the motorist.