



Reduced Conflict Intersections

Innovative corridor designs to reduce travel delays, improve safety and handle heavier traffic volumes



REDUCED CONFLICT INTERSECTION: THE RIGHT WAY TO GO LEFT

As urban areas grow and traffic congestion increases, the N.C. Department of Transportation continues to look for creative solutions for improving mobility and safety. Corridors with growing traffic volumes and high-crash rates are good candidates for a Reduced Conflict Intersection (RCI).

A Reduced conflict intersection is a general term used to describe several types of designs that may be used to improve safety and traffic flow on a highway. While there are variations to the designs, they all function the same at reducing conflicts for drivers and pedestrians – hence the term Reduced Conflict Intersection.

REDUCED CONFLICT INTERSECTIONS SIMPLIFY HOW TRAFFIC MOVES

With the most common type of RCI design, drivers on the main road follow their usual paths, but raised medians redirect drivers from the side road into turning right. When there is a safe opening in traffic, drivers turn right to easily enter the flow of traffic on the main route. To go the other direction, or cross the highway, they pull into a dedicated lane, typically less than 1,000 feet away, to make a U-turn. There may be a traffic signal at this location.



U-TURN AREA



SIDE STREET RIGHT TURN

FACTS ABOUT REDUCED CONFLICT INTERSECTIONS

46%

Reduction in crashes at unsignalized RCI intersections, compared to conventional intersections
(N.C. State final report to NCDOT in 2010)

15%

Reduction in crashes at signalized RCI intersections, compared to conventional intersections
(Federal Highway Administration report, Nov. 2017)

N.C. Department of Transportation
*Connecting people, products and places safely and efficiently
with customer focus, accountability and environmental sensitivity
to enhance the economy and vitality of North Carolina*

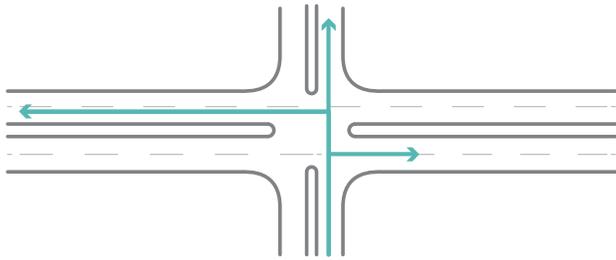
ncdot.gov

REDUCED CONFLICT INTERSECTIONS REDUCE RISK OF CRASHES

A traditional four-way intersection has many conflict points where a crash can occur. Because drivers can go in any direction from all four approaches, the likelihood of a crash is increased at a traditional intersection. If it has a traffic signal, several signal phases are required to move vehicles through the intersection, which increases the time it takes drivers to go through the intersection.

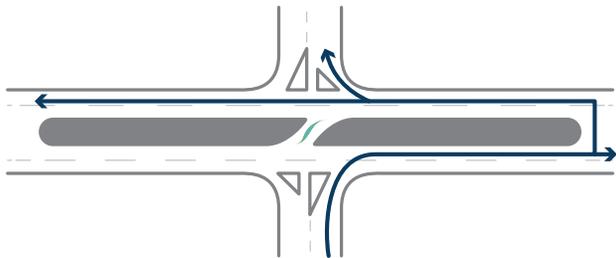
32
Points of conflict where vehicles can collide

CONVENTIONAL INTERSECTION
8 - Diverging 8 - Merging 16 - Crossing



14
Points of conflict where vehicles can collide

REDUCED CONFLICT INTERSECTION
6 - Diverging 6 - Merging 2 - Crossing



Diverging - When one traffic stream splits to form two

Merging - When traffic streams join to form one

Crossing - When two vehicles cross paths

20%

Travel time savings on a signalized RCI corridor, compared to conventional corridors with traffic signals

(N.C. State University final report to NCDOT in 2010)

BENEFITS OF A REDUCED CONFLICT INTERSECTION:

- ▶ Improves safety for motorists and pedestrians
- ▶ Can accommodate more traffic without increased delays
- ▶ Allows for the city or NCDOT to adjust the timing of the traffic signals to control the speed at which drivers move through the corridor
- ▶ Requires less right of way or property impacts than adding travel lanes or building interchanges and overpasses

BUSINESS ACCESS AND REDUCED CONFLICT INTERSECTIONS

- ▶ According to the Federal Highway Administration, studies of businesses along highways in Florida, Iowa, Minnesota and Texas found a majority did as well or better than traditional intersections when medians were built. The design concept goes by different terms in different states.
- ▶ Customers will go to a business if they feel safe using the highway and accessing the business.
- ▶ Customers will come to the kind of business they desire regardless of a median.
- ▶ Convenience-type businesses may experience more traffic with a median because drivers are making a U-turn to reach their destinations.
- ▶ Many factors determine the success of a business, including competition.
- ▶ RCI corridors across North Carolina serve many thriving businesses.