



Reduced Conflict Intersections

A safe, efficient alternative to traditional intersections for divided highways

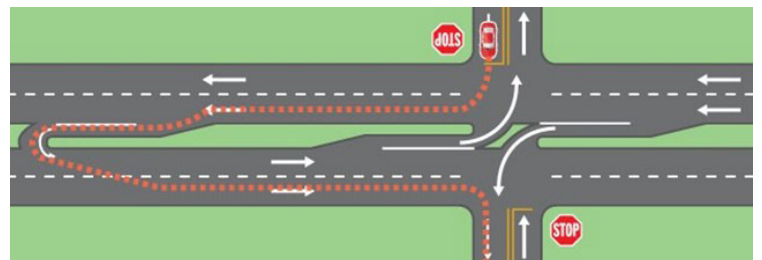
Reduced Conflict Intersections improve safety for you!

Standard intersections on divided highways have a great risk of fatal and serious injury right-angle crashes. From 2015-2019, there were 125 Fatal and Serious Injury crashes at these high-speed expressway intersections, resulting in 40 fatalities.

Reduced Conflict Intersections (also known as J-turns or RCUTS) are alternative intersections for four-lane divided highways. Drivers on the minor-road no longer expose themselves to the most common and severest crash type: the right-angle crash (also called the T-bone, broadside, or perpendicular). Minor road drivers now complete a series of maneuvers that decrease the probability of a severe crash and reduce the risk of death or serious injury.

RCIs can be designed and built in approximately one year. Interchanges typically take three years or more.

- SAFETY**
Reduced Conflict Intersections improve safety by reducing the number of intersection conflict points by 56%¹
See backside for more detail.
- ACCESS**
The median u-turns help to accommodate all movements, maintaining access to local businesses
- TRAVEL TIME**
Typically, less time is required to cross this type of intersection compared to a standard traffic signal. The latest designs have reduced the distance from the side road to the u-turn from 1 mile to 1000 feet or less, improving travel times as well
- COST**
Construction costs are equivalent to a large traffic signal system but with fewer ongoing power and maintenance costs.
Compared to constructing grade-separated interchanges, Reduced Conflict Intersections offer substantial cost savings and reduced construction time.



Frequently Asked Questions

Why not install a traffic signal?

Previous studies show an increase in the number of crashes on highspeed rural intersections after the installation of traffic signals.

How will customers get to my business?

Customers traveling on the divided highway have no change in accessibility to the side streets. Right-turning traffic is unchanged. Left-turning traffic - make a U-turn at a designated location then turns right onto the desired side street.

How will this new intersection impact my travel time?

Most of the time, this type of intersection takes less time to cross than a standard signalized intersection. This is because you will only have to wait for one direction of traffic to clear. The total distance from the side road to the U turn point is typically less than one mile.

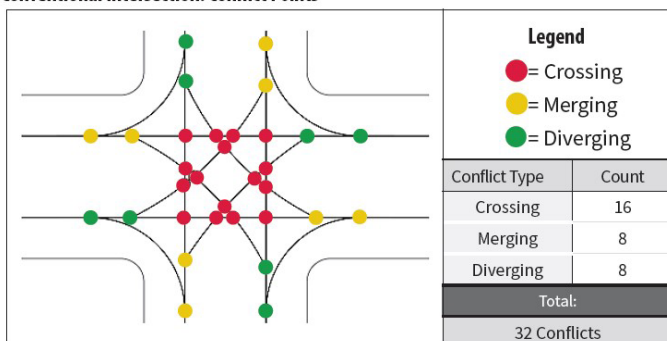
Won't this increase police/fire/EMT response times?

MnDOT works with public safety and emergency response divisions to ensure Reduced Conflict Intersections can be traversable by emergency vehicles to help maintain response times.

CRASH FACTS:

- The most recent crash analysis by MnDOT shows an 84% reduction in fatal crashes, an 80% reduction in fatal and serious injury crashes, and a 40% reduction in injury crashes.²
- Research of 93 RCIs in North Carolina showed a 59% reduction in total crashes that remained consistent over a range of traffic volumes.³
- An FHWA study showed a 70 percent reduction in fatal crashes and a 42 percent reduction in injury crashes.⁴

Conventional Intersection: Conflict Points



RCUT Intersection: Conflict Points

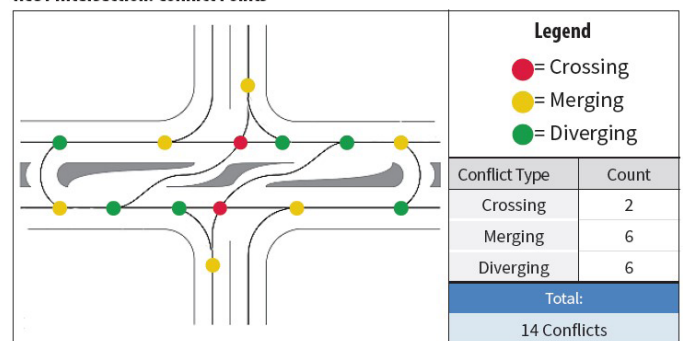


Image source: <https://safety.fhwa.dot.gov/intersection/innovative/uturn/fhwasa18048/>

MORE INFORMATION

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mndot.gov/roadwork/rci/

Sources:

1. <https://safety.fhwa.dot.gov/intersection/innovative/uturn/fhwasa18048/>
2. MnDOT Office of Traffic Engineering internal analysis
3. Simpson, C., Safety Effectiveness of Un-Signalized Synchronized Street Intersections. North Carolina: North Carolina Department of Transportation, July 2016
4. https://safety.fhwa.dot.gov/intersection/innovative/uturn/brochures/rcut_brochure/rcut_brochure.pdf

