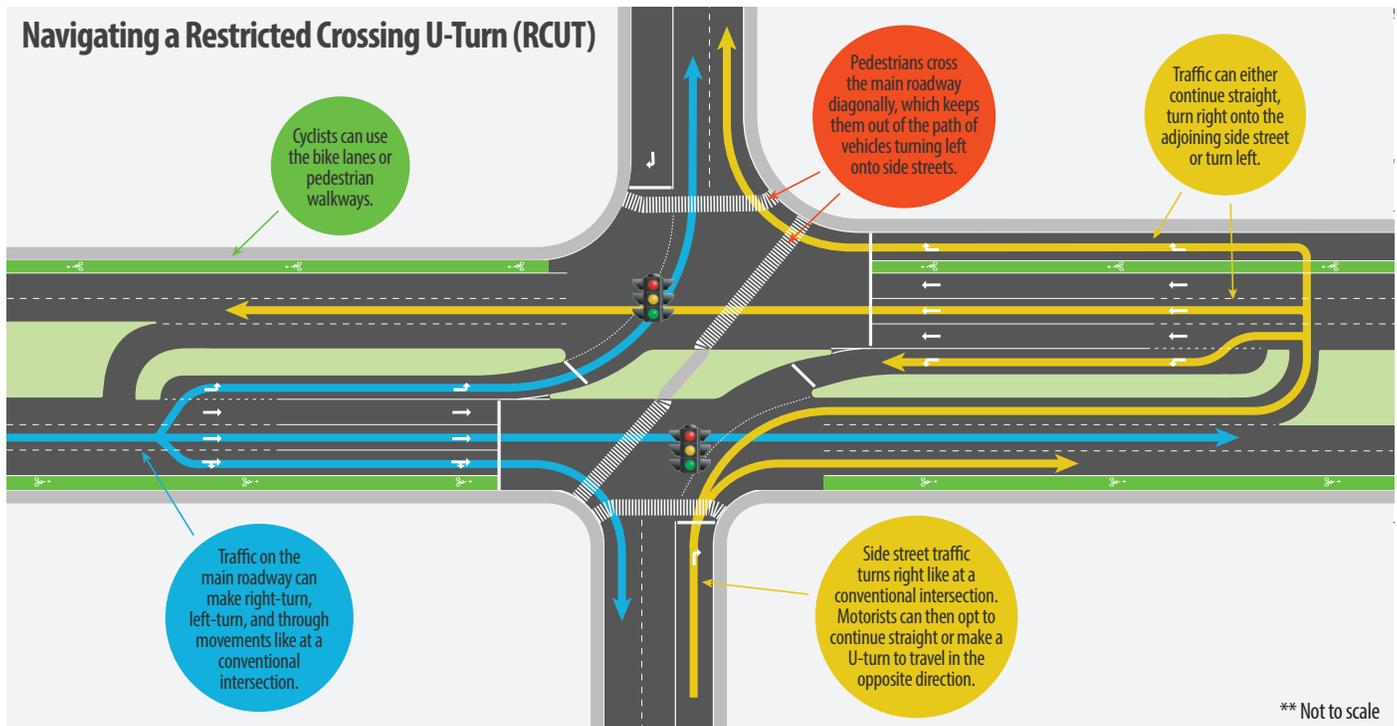




SIGNALIZED RESTRICTED CROSSING U-TURN INTERSECTIONS

The Florida Department of Transportation (FDOT) will be using an innovative intersection design to promote safety and improved mobility on state roadways. Signalized restricted crossing U-turn (RCUT) intersections require vehicles wanting to turn left or continue straight from a side street to first turn right and then make a U-turn at a designated median opening on either side of the intersection. Because the design also incorporates coordinated traffic signals, drivers using the U-turn are still able to move through the intersection quickly. This design has proven successful across the United States in reducing the most serious types of crashes and improving traffic flow through the intersections.



FOR MOTORISTS: DRIVING AN RCUT INTERSECTION

For traffic driving along the main roadway, the design operates the same way as a traditional intersection. Drivers are able to continue straight or turn right or left onto a side street.

For vehicles approaching the main roadway from a side street, they can only turn right. Drivers wanting to go left or straight through the intersection will instead turn right and then make a U-turn at the next median opening.

FOR PEDESTRIANS: CROSSING AN RCUT INTERSECTION

RCUT intersections can significantly reduce the potential for collisions involving vehicles and pedestrians. Pedestrians cross the main roadway diagonally, with the center median acting as an area away from traffic. This keeps pedestrians and bicyclists out of the path of vehicles turning left from the mainline onto side streets, as well as vehicles turning right from side streets. An example of how pedestrians would use this type of intersection is shown in the rendering to the right.



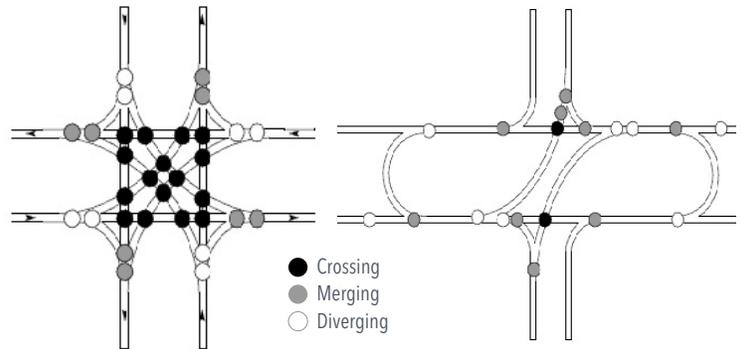
MAKING INTERSECTIONS SAFER

One of the most important goals in any roadway improvement project is safety for vehicles, pedestrians and bicyclists. Across Florida, FDOT has implemented solutions to improve safety at intersections by restricting certain movements. This effort is called access management, which uses medians or other devices to limit certain turning movements.

Restricting certain movements decreases the number of ways vehicles can legally cross paths (known as conflict points) and potentially collide. Most importantly, the signalized RCUT design restricts movements that can lead to right angle or T-bone accidents, which can often result in serious injury.

As shown in the diagram to the right, the number of conflict points is significantly reduced when side street traffic cannot turn left or cross lanes on the main road.

Pedestrian safety also is improved because the design reduces the potential points where people and vehicles could collide by 67 percent.



Conflict points before (left) and after (right) access management

40%
Less Travel Time
+
30%
More Vehicles

Source: Federal Highway Administration

MAKING INTERSECTIONS MORE EFFICIENT

Another important goal is to move vehicles through the intersection as quickly and efficiently as possible. The signalized RCUT design has proven to reduce travel time through the intersection and accommodate higher numbers of vehicles at the same time.

According to the Federal Highway Administration, travel time through this type of intersection can be reduced by as much as 40 percent compared with a traditional intersection. At the same time, the RCUT design can handle up to 30 percent more vehicles traveling through the intersection.

A traditional signalized intersection has four to eight signal phases in a cycle, with a cycle lasting between 120 and 270 seconds. Removing the side street left turn movement reduces the overall cycle time. The coordinated signals can also provide flexibility to accommodate varying traffic flow patterns.



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