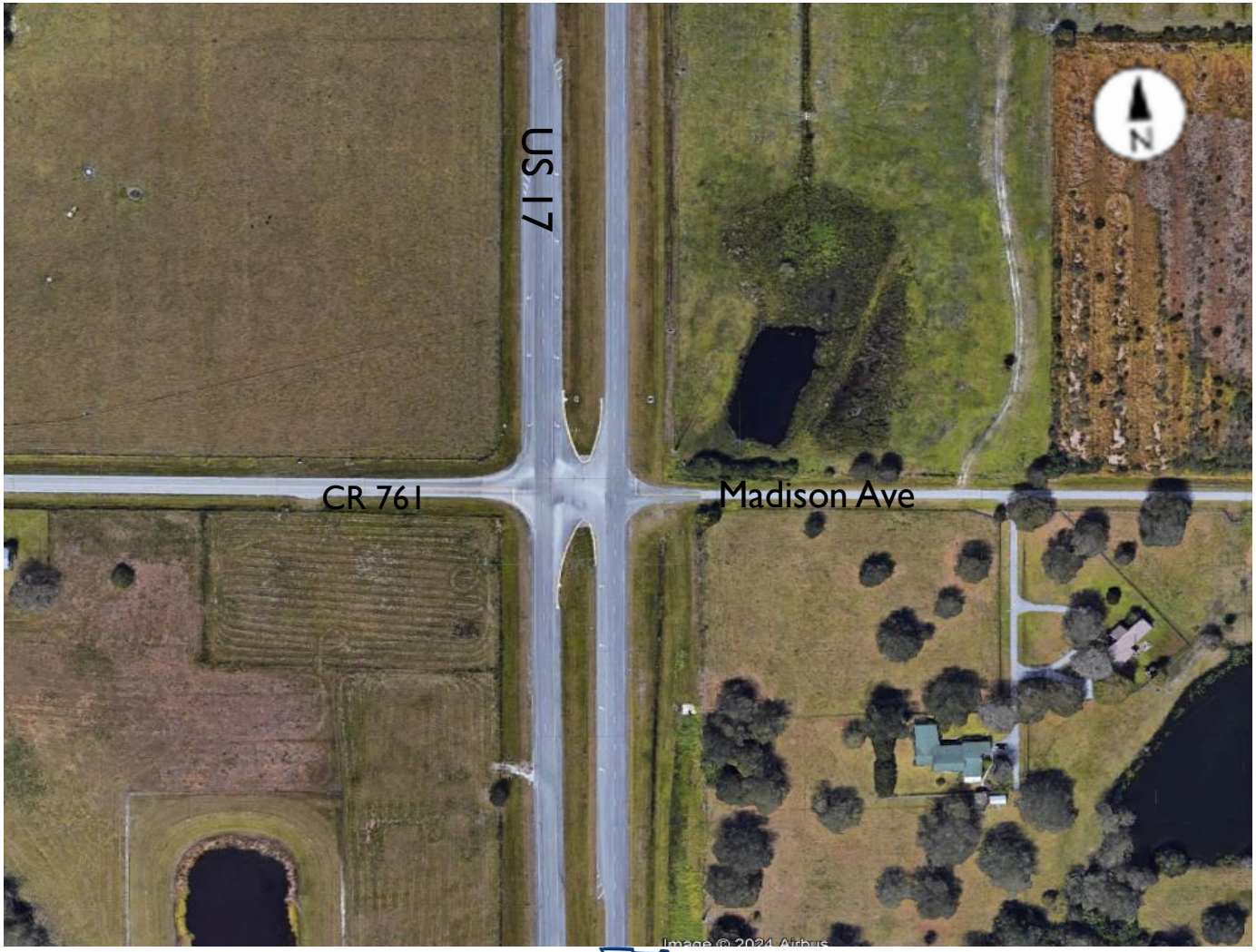
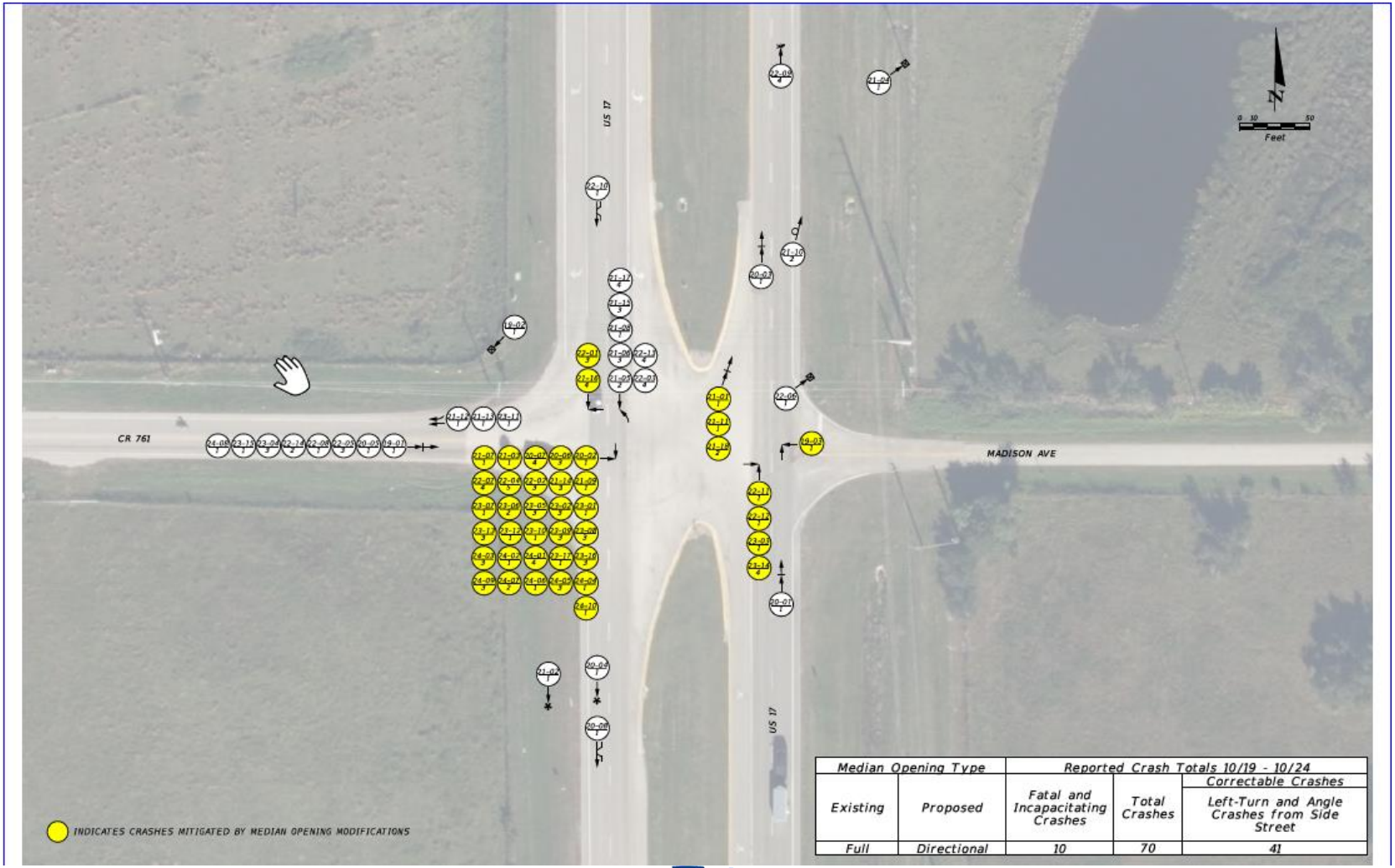
US 17 AT CR 761/MADISON AVE

DeSoto County

US 17 at CR 761

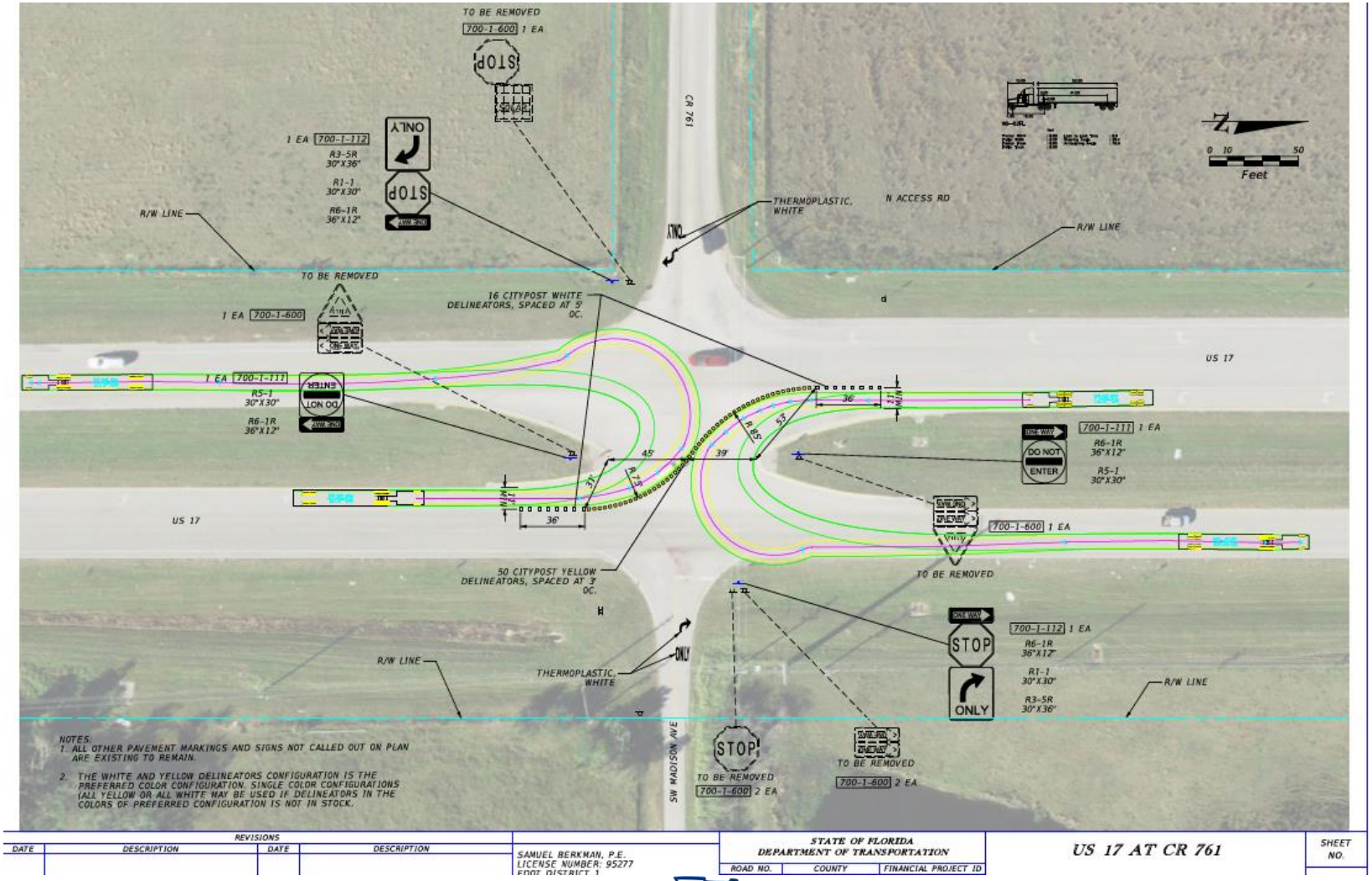


US 17 at CR 761
Crash Diagram October 1, 2019, through October 31, 2024



Median Opening Type		Reported Crash Totals 10/19 - 10/24		
				Correctable Crashes
Existing	Proposed	Fatal and Incapacitating Crashes	Total Crashes	Left-Turn and Angle Crashes from Side Street
Full	Directional	10	70	41

Interim Improvement - RCUT

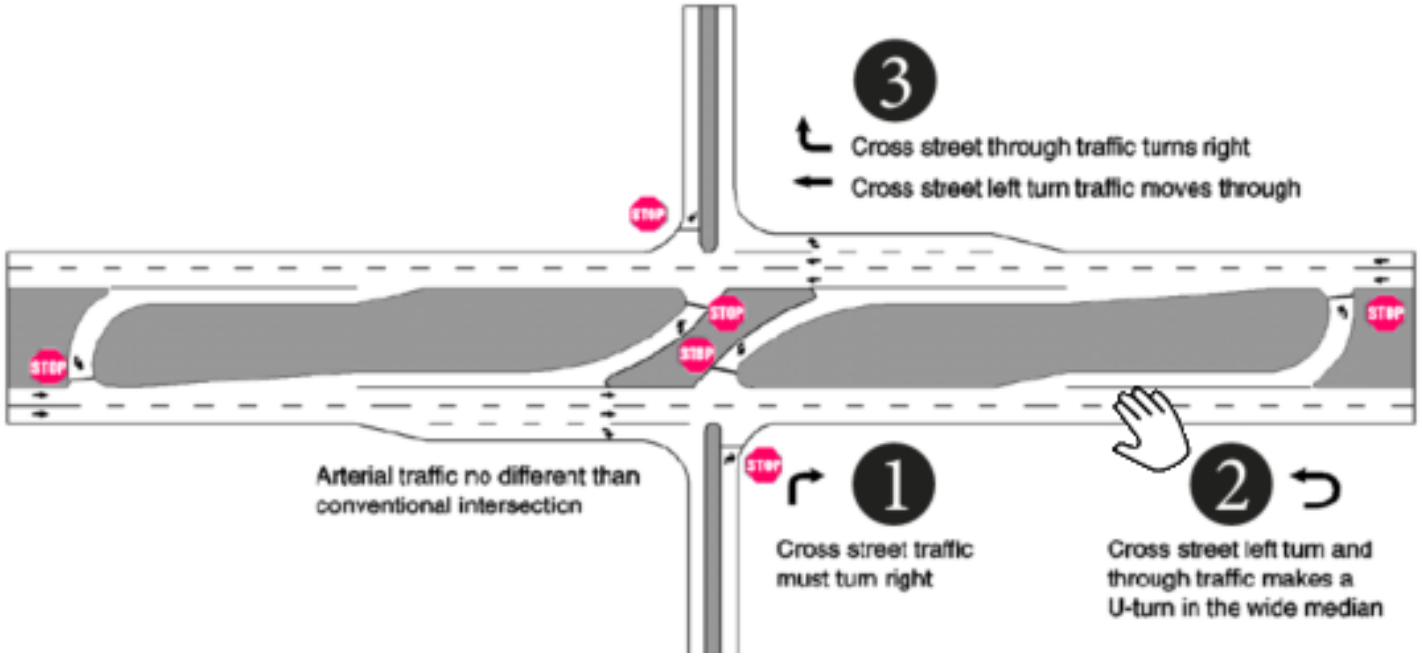


U-TURN LOCATIONS

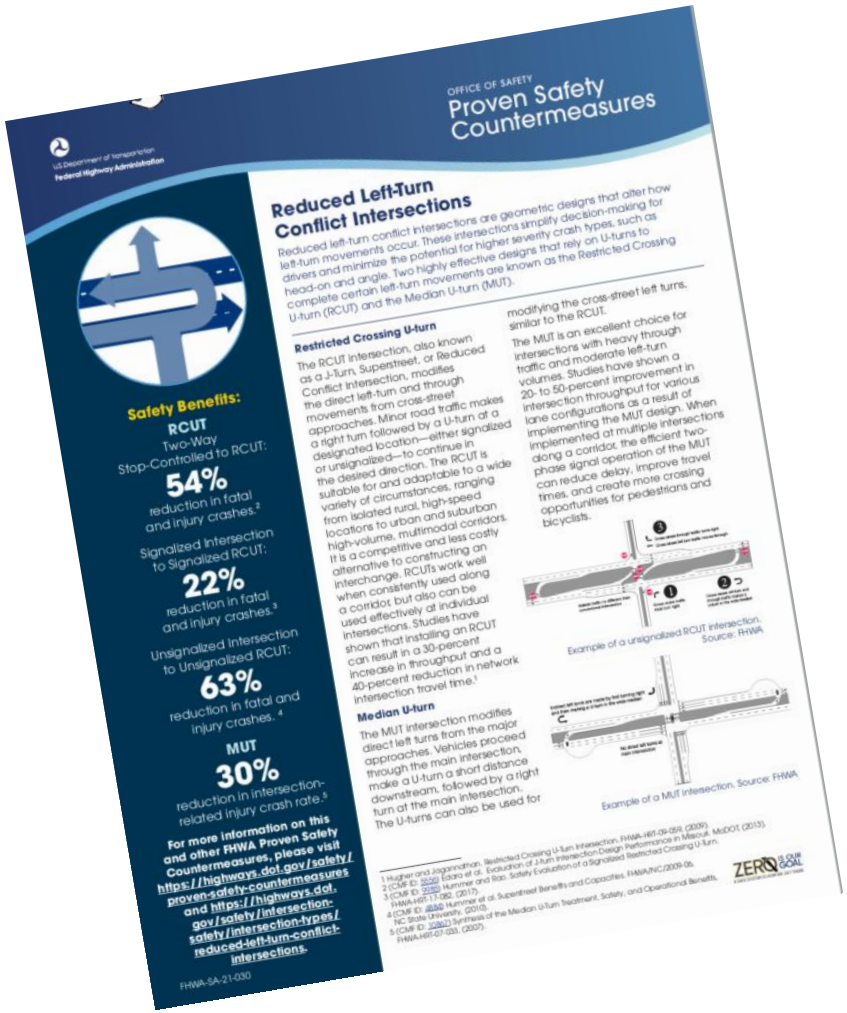
Semi-Truck Making U-Turn

Office of Safety
Proven Safety Countermeasures

- Restricted Crossing U-Turn)RCUT - These intersections simplify decision-making for drivers and minimize the potential for higher severity crash types, such as head-on and angle.



SAFETY BENEFITS OF AN RCUT



U.S. Department of Transportation
Federal Highway Administration

OFFICE OF SAFETY
Proven Safety Countermeasures

Reduced Left-Turn Conflict Intersections

Reduced left-turn conflict intersections are geometric designs that alter how left-turn movements occur. These intersections simplify decision-making for drivers and minimize the potential for higher severity crash types, such as head-on and angle. Two highly effective designs that rely on U-turns to complete certain left-turn movements are known as the Restricted Crossing U-turn (RCUT) and the Median U-turn (MUT).

Safety Benefits:

RCUT
Two-Way Stop-Controlled to RCUT:
54%
reduction in fatal and injury crashes.[2]

Signalized Intersection to Signalized RCUT:
22%
reduction in fatal and injury crashes.[3]

Unsignalized Intersection to Unsignalized RCUT:
63%
reduction in fatal and injury crashes.[4]

MUT
30%
reduction in intersection-related injury crash rate.[5]

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://highways.dot.gov/safety/proven-safety-countermeasures and https://highways.dot.gov/safety/intersection-safety/intersection-types/reduced-left-turn-conflict-intersections.

FHWA-SA-21-030

Restricted Crossing U-turn

The RCUT intersection, also known as a J-Turn, Superstreet, or Reduced Conflict Intersection, modifies the direct left-turn and through movements from cross-street approaches. Minor road traffic makes a right turn followed by a U-turn at a designated location—either signalized or unsignalized—to continue in the desired direction. The RCUT is suitable for and adaptable to a wide variety of circumstances, ranging from isolated rural, high-speed locations to urban and suburban high-volume, multimodal corridors. It is a competitive and less costly alternative to constructing an interchange. RCUTs work well when consistently used along a corridor but also can be used effectively at individual intersections. Studies have shown that installing an RCUT can result in a 30-percent increase in throughput and a 40-percent reduction in network intersection travel time.[1]

Median U-turn

The MUT intersection modifies direct left turns from the major approaches. Vehicles proceed through the main intersection, make a U-turn a short distance downstream, followed by a right turn at the main intersection. The U-turns can also be used for modifying the cross-street left turns, similar to the RCUT.

The MUT is an excellent choice for intersections with heavy through traffic and moderate left-turn volumes. Studies have shown a 20- to 50-percent improvement in intersection throughput for various lane configurations as a result of implementing the MUT design. When implemented at multiple intersections along a corridor, the efficient two-phase signal operation of the MUT can reduce delay, improve travel times, and create more crossing opportunities for pedestrians and bicyclists.

Example of a unsignalized RCUT intersection. Source: FHWA

Example of a MUT intersection. Source: FHWA

1 Hughes and Jagannathan. Restricted Crossing U-Turn Intersection. FHWA-HRT-09-059. (2009).
2 (CMF ID: 9500) Edara et al. Evaluation of J-Turn Intersection Design Performance in Missouri. MoDOT. (2013).
3 (CMF ID: 9598) Hummer and Rao. Safety Evaluation of a Signalized Restricted Crossing U-Turn. FHWA-HRT-17-092. (2017).
4 (CMF ID: 4858) Hummer et al. Superstreet Benefits and Capacities. FHWA/NC/2009-06.
5 (CMF ID: 30860) Synthesis of the Median U-Turn Treatment, Safety, and Operational Benefits. FHWA-HRT-07-033. (2007).

ZERO by 2050

- RCUTs simplify the intersection by allowing less movements.
- According to FHWA, unsignalized intersection to unsignalized RCUT result in 63% reduction in fatal and injury crashes.
- It is a less costly alternative to constructing other type of improvements.

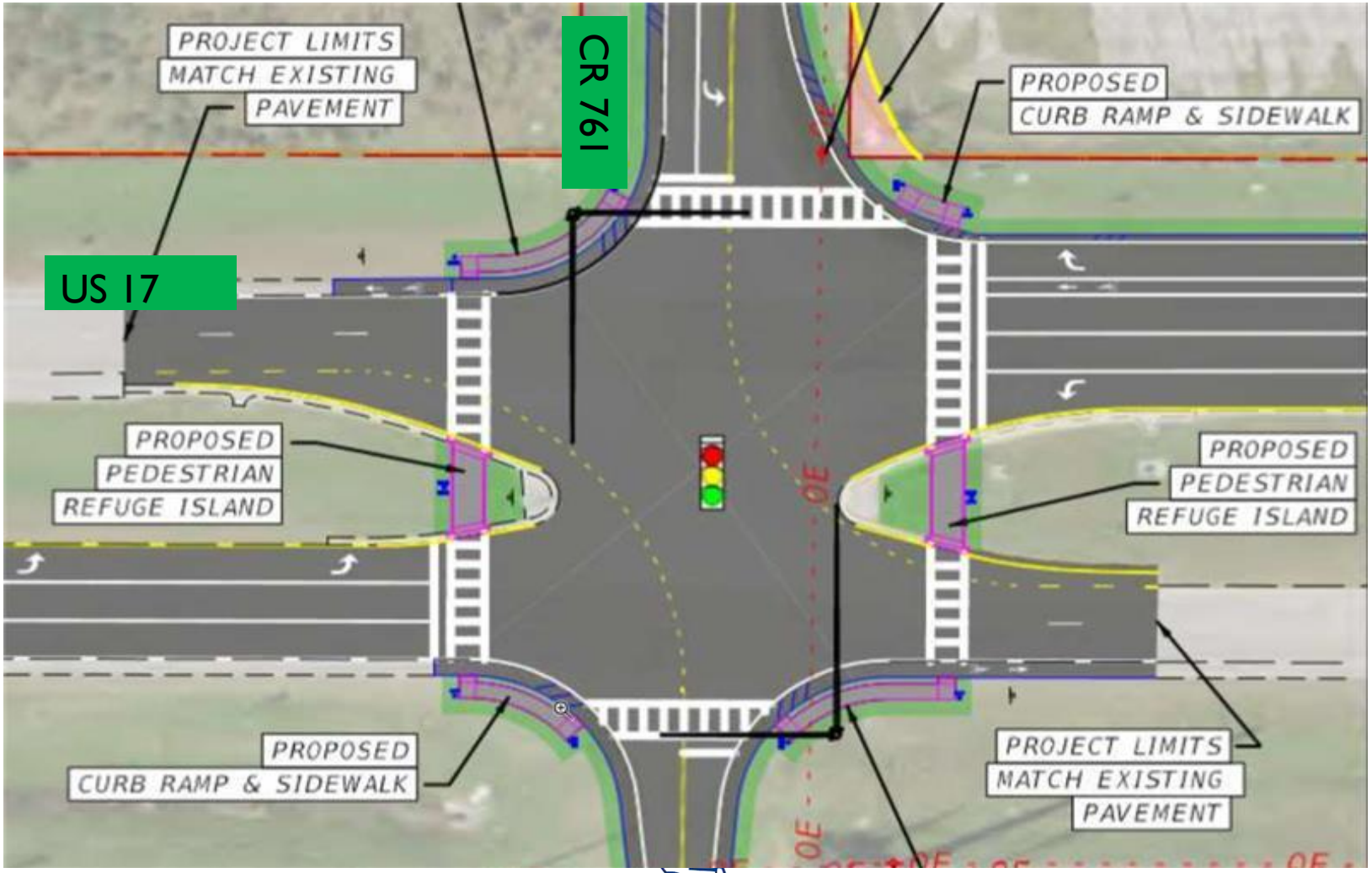
FDOT

Location where we installed RCUT and saw crash reduction - US 17 at NW Livingston Street

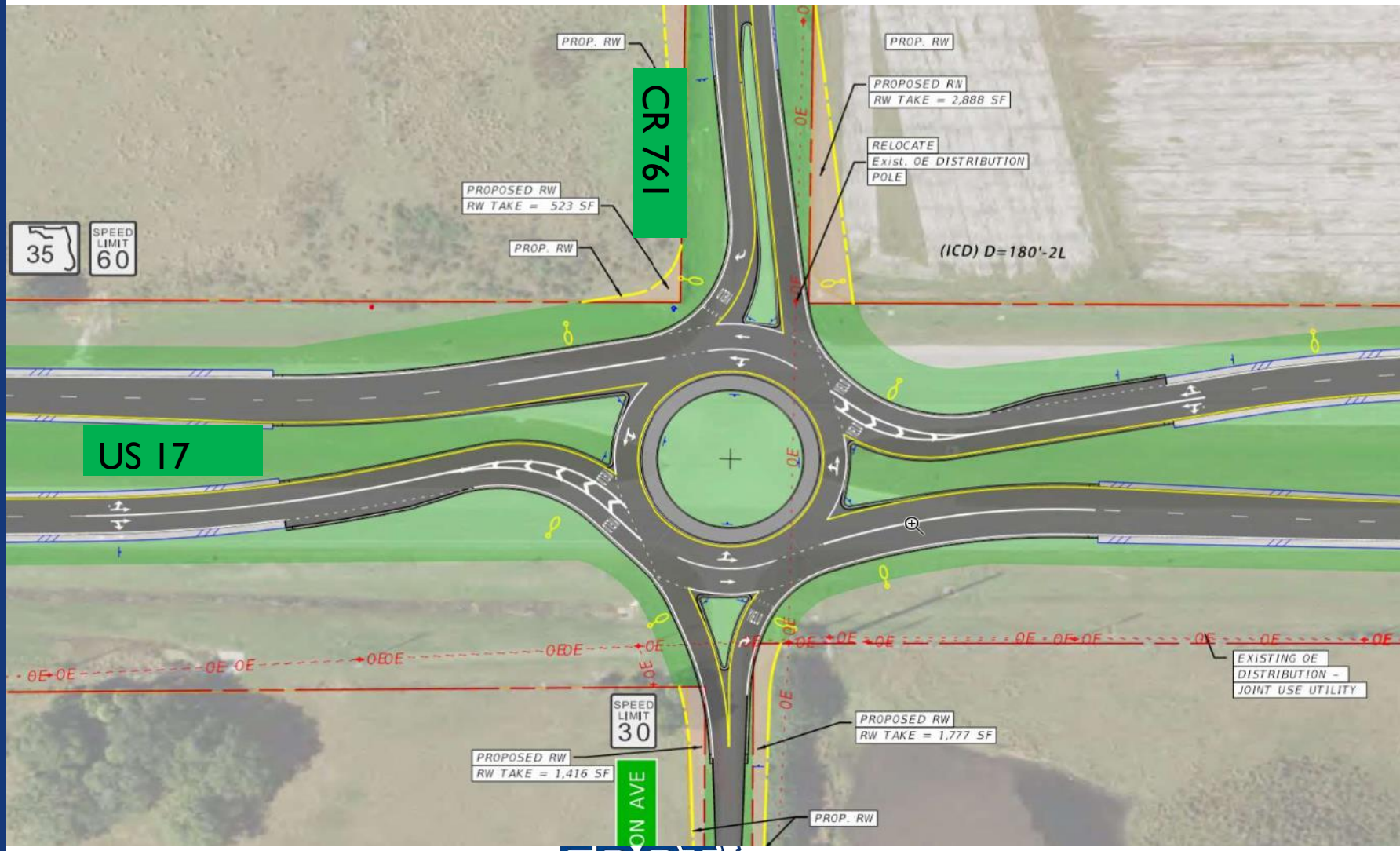
Date Range	Total Crashes	Crash Rate Per Year
4/20/2017 – 4/20/2022	10	2
4/20/2022 Installed Quick Curt		
4/20/22 – Current	0	0

* Crash History Includes U-turn locations: NE Wayne Road and northern U-turn

Concept 2 - Signal

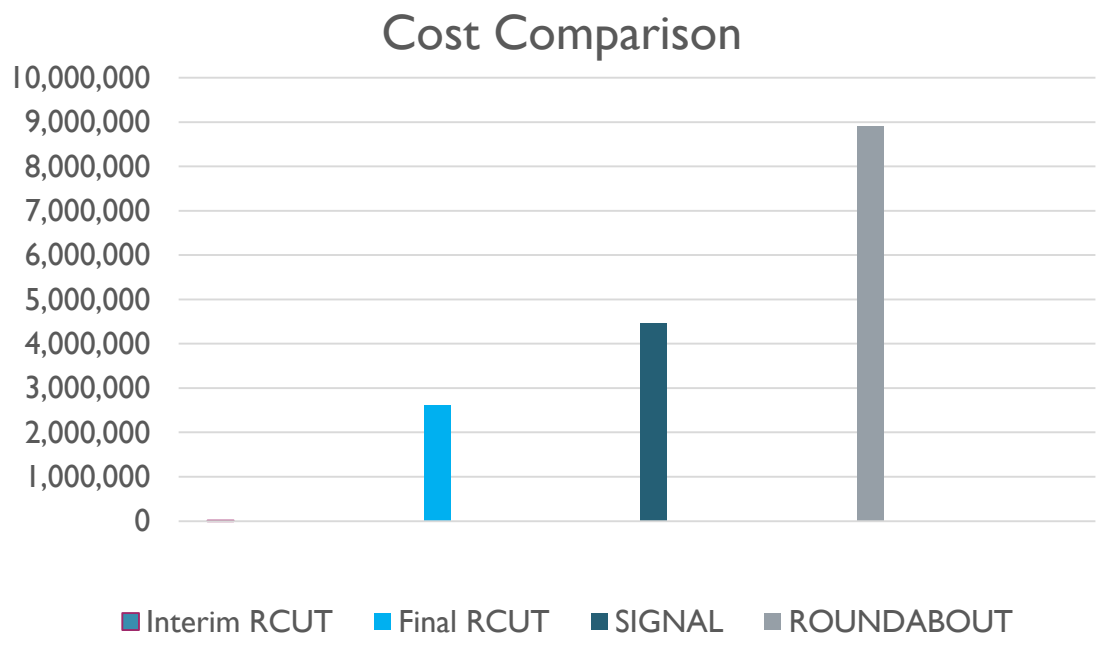


Concept 3 - Roundabout



US 17 at CR 761 COST COMPARISON

RCUT/Interim	SIGNAL	ROUNDABOUT
$10,000	$4,454,099	$8,900,000



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