



Corridor Applications, Detroit, MI

MEDIAN U-TURN INTERSECTION

THE PROBLEM

A series of wide medians on several corridors in the Detroit metro area caused congestion and conflicts among vehicles attempting to make opposing left turns.

THE SOLUTION

Application of the Median U-Turn intersection design on a corridor-wide basis throughout the Detroit area.

THE OUTCOME

- Near elimination of congestion on main arterial roads.
- Fewer accidents occur because there are no direct left turns or areas where opposing traffic can meet in a head-on collision.
- Pedestrians only have to cross one direction at a time and only have to look one way at a time, making their crossing safer.

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INTERSECTION LOCATIONS

- 42°33'54.4"N 83°02'57.2"W
- 42°32'48.4"N 83°12'40.7"W
- 42°31'08.2"N 83°20'24.2"W

Background

The state of Michigan has been demonstrating the effectiveness of Median U-Turn intersections, also called MUTs or Michigan Lefts, for over 30 years. The Detroit area in particular hosts several busy arterial corridors where the MUT treatment has been widely applied to achieve improved safety and throughput.

Challenges

Many of the greater Detroit area's roads have wide medians, which can contribute to congestion. With a median that is too wide, the left turning traffic coming into the intersection often meets an opposing vehicle at the median. This leads to drivers not being sure what to do, sometimes getting in each other's way, sometimes colliding or sideswiping as the drivers attempt to cross each other's path.

Approach

Michigan has pioneered the use of the MUT as a mechanism to reduce conflicts, crashes, and congestion on mainline corridors. The MUT treatment turns these wide medians into a workable, easily understood design that promotes traffic flow and eliminates potential vehicle conflicts. Michigan DOT quickly realized that the more MUTs on a corridor, the better they work together to reduce congestion and improve throughput, enabling drivers to pass through a series of green lights. This makes the MUT a popular treatment among drivers who feel like they can traverse the corridor more quickly.

“The Median U-Turn is a proven safety winner. There will be fewer collisions—especially fewer severe collisions.”

— Joseph Hummer, Ph.D., P.E.
Chair, Civil and Environmental Engineering
Wayne State University



MUT Intersection, Metropolitan Parkway, Clinton Township, MI
Source: MUT Case Study Video FHWA-SA-14-053

Results

Some of the greater Detroit area's most heavily travelled roads – Woodward Avenue, Northwestern Parkway, Stephenson Highway, and Metropolitan Highway – are miles-long corridors of MUT intersections working together to improve throughput. In addition, these MUT corridors increase safety and reduce accidents because there is no opportunity for direct left turn or head-on collisions. Furthermore, the design improves pedestrian safety and walkability because pedestrians only have to cross one direction of traffic at a time and only have to look one way at a time.

