

Median U-Turn (MUT) Intersection PennDOT Districts 11-0 and 12-0

Problem/Challenge Addressed

Severe bottlenecks and congestion-related safety concerns often occur at major arterial junctions, but improvement options in busy urban commercial areas can be limited due to right-of-way, access needs, or other significant constraints. One example includes US-30 at SR-48 in Allegheny County.

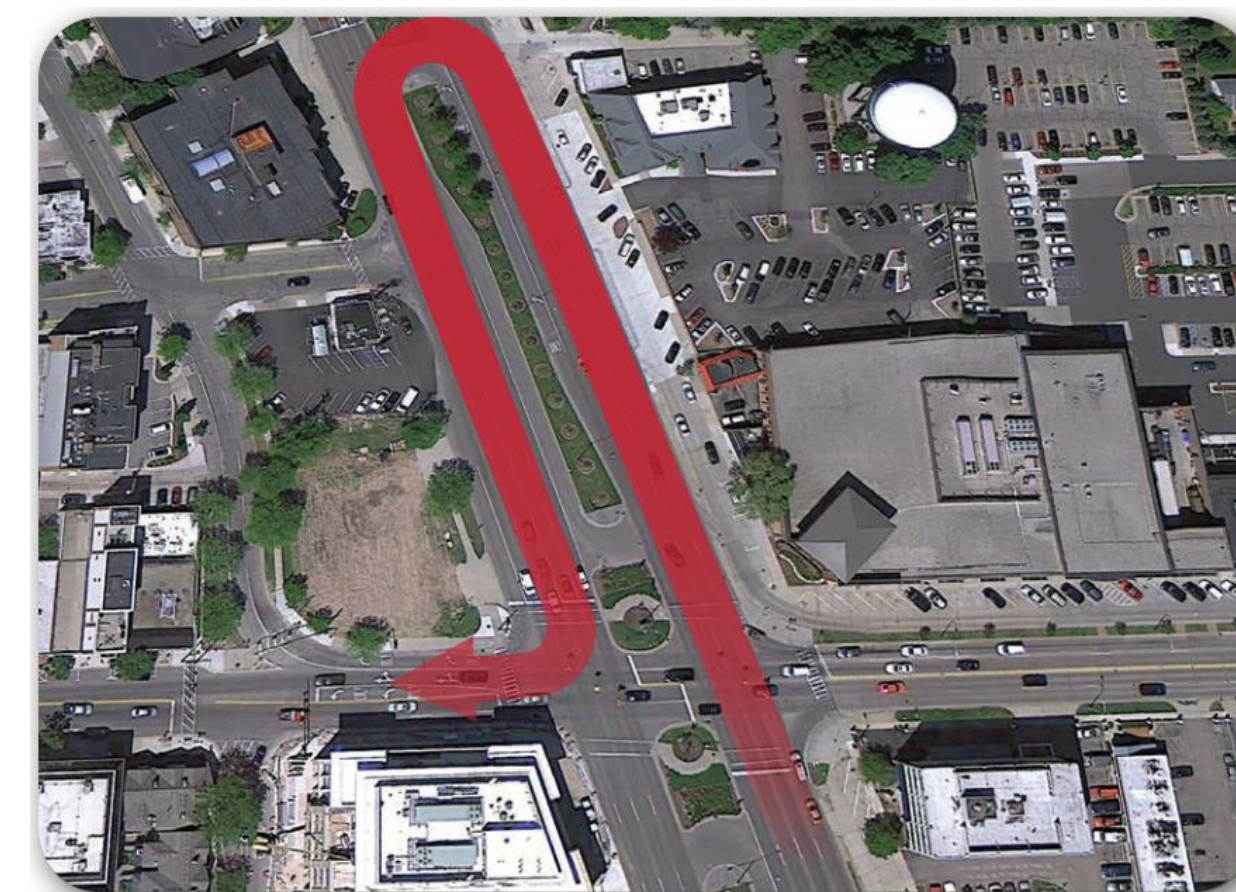
Method/Process/Product to Resolve Challenge

Median U-Turn (MUT) Intersections (sometimes referred to as Michigan Lefts or Median U-Turn Crossovers) are a type of Reduced Left-Turn Conflict Intersection that can enhance operations and safety while tailoring the design to fit within a variety of site conditions.

MUT Intersections prohibit left-turns at a crossing and re-route drivers to proceed straight through the main intersection to a median opening where the driver makes a U-turn followed by a right-turn.



Existing Intersection of US-30 and SR-48, Allegheny County, PA
Source: Route 30 Projects Existing Conditions Video



Sample MUT Left-Turn Maneuver from a Major Road, Birmingham, MI
Source: MUT Video FHWA-SA-14-018

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Results/Key Takeaways

The *Route 30 Projects* effort in PennDOT Districts 11-0 and 12-0 proposed an MUT Intersection to resolve major bottleneck issues at the junction of US-30 and SR-48 in Allegheny County. Specific benefits include:

- Increased through-capacity on the mainline
- Resolution of future operational failures
- Reduced number and complexity of conflicts
- Better management of left-turn queue storage
- Corresponding congestion and crash reductions

Relative to traditional widening options, design flexibility with the MUT Intersection concept also:

- Reduced widening, ROW, and utility impacts
- Managed pedestrian crossing distances
- Accommodated large trucks at the U-turns
- Enhanced circulation opportunities area-wide
- Avoided false capacity issues from dual turn lanes



Proposed MUT Intersection concept at US-30 and SR-48, Allegheny County, PA
Source: US-30 Projects, Western Section Design

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Proposed MUT Intersection simulation at US-30 and SR-48, Allegheny County, PA
[Click here to view the video on YouTube.](#)

Contact Information

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Additional Information

Route 30 Projects Website,
<https://www.route30projects.com>

Route 30 Projects Existing Conditions Video,
<https://vimeo.com/236961143>

FHWA, Intersection Safety: Reduced Left-Turn Conflict Intersections (Website), Last Updated August 2021,
<https://safety.fhwa.dot.gov/intersection/rltci/index.cfm>

FHWA-SA-18-048, Reduced Left-Turn Conflict Intersections, July 2020,
<https://safety.fhwa.dot.gov/intersection/rltci/fhwasa18048.pdf>

FHWA-SA-14-069, Median U-Turn Informational Guide, August 2014,
<https://safety.fhwa.dot.gov/intersection/rltci/fhwasa14069.pdf>

FHWA-SA-14-018, Alternative Intersections: Median U-Turns Video, March 2014,
https://www.youtube.com/watch?v=fshW_O_Xggl