INNOVATIVE INTERSECTIONS

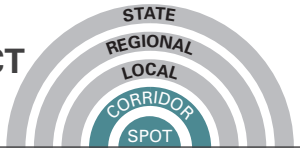
More Information: tti.tamu.edu/policy/how-to-fix-congestion

COST

TIME

MODERATE/LONG

IMPACT



WHO

CITY/STATE

HURDLES

RIGHT-OF-WAY

Description

Traditional left-turn lanes are not always practical or able to adequately address congestion problems at an intersection. How turns are allowed and indicated at intersections significantly impacts the intersection's safety and efficiency.

Innovative intersection designs provide alternative ways to accommodate left-turning movements. These include:

- Dutch Junction
- Continuous Flow Intersections.
- Median U-Turn (Michigan U or ThrUturn).
- Quadrant Roadway Intersections.
- Modern Roundabouts.

Many of these designs incorporate elements that seem similar to interchanges, but they are all at ground level, saving the cost of constructing overpasses. Some designs may deliberately reduce average vehicle speeds, but they also serve more vehicles, making the travel time shorter through the intersection and through a corridor.

Target Market

Innovative intersection designs work on streets in suburban and exurban areas that frequently have higher speeds and are located in corridors of recent and/or impending development with increasing left-turn movements and traffic volumes.

How Will This Help?

- **Reduces delay and improves capacity** through shorter waiting times and simplified signal timing.
- **Increases safety** by reducing the number of conflict points.
- **Improves efficiency** of major-road turning movements.

Implementation Issues

The additional right-of-way and paved surfaces needed to construct an innovative intersection design impact cost, though these intersections are still less expensive than traditional interchange designs. A comprehensive education plan on the new design for road users helps operational success.

SUCCESS STORIES

Continuous flow intersections along the Oak Hill Parkway **in Austin, Texas:**

30–50%
expected reduction in travel times

Take considerably less time to construct and **delay more costly improvements for close to a decade.**

An NCHRP study showed **reducing skew angles lowered crash frequency between**

4–20%