

INNOVATIVE INTERSECTIONS

Description

How turns are allowed and indicated at intersections has a significant impact on their safety and efficiency, but traditional left-turn lanes are not always feasible or able to adequately resolve congestion problems.

A number of innovative intersection designs have been developed in recent years to provide alternative ways to accommodate left-turning movements. These include:

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

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

Innovative intersection designs are typically intended for 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?

- Reduce delay and improve capacity through shorter cycle lengths and simplified signal timing.
- Increase safety by reducing the number of conflict points.
- Improve efficiency of major-road turning movements.



Continuous Flow Intersection, UDOT

Cost:	●●●●○
Time:	Medium/Long
Impact:	Spot/Corridor
Who:	City/State
Hurdles:	Right-of-Way

Success Stories

- Continuous flow intersections along the Oak Hill Parkway in Austin, Texas, are expected to reduce travel times by 30 to 50 percent and delay more costly improvements for close to a decade.
- An NCHRP study showed reducing skew angles lowered crash frequency between 4 and 20 percent.

Implementation Issues

The additional right-of-way and paved surfaces needed to construct an innovative intersection design have a substantial influence on cost (though these intersections are still less expensive than traditional interchange designs). A comprehensive education plan to familiarize road users with the new design is important to its operational success.