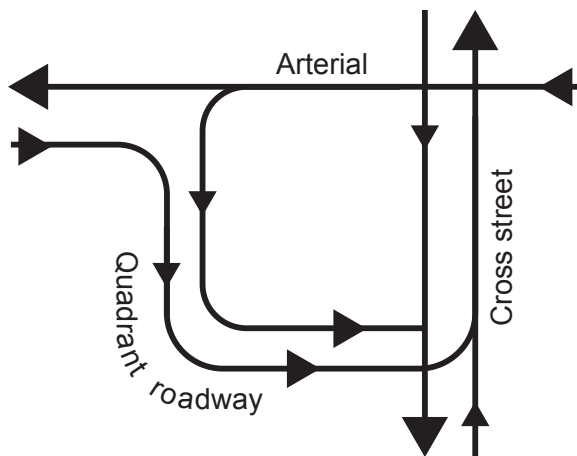




## QUADRANT INTERSECTIONS



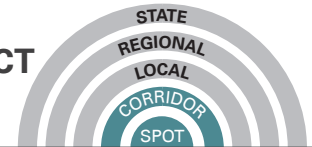
### COST



### TIME



### IMPACT



### WHO



CITY/STATE

### HURDLES



RIGHT-OF-WAY

**More Information:** [tti.tamu.edu/policy/how-to-fix-congestion](http://tti.tamu.edu/policy/how-to-fix-congestion)

### Description

Quadrant intersections ease congestion at four-approach intersections, specifically those with either heavy through movements or heavy left-turn movements. One (single-quadrant) or all (multiple-quadrant) left-turn movements are guided to connector roads, shifting these movements away from the main intersection. This arrangement provides enough green time to the movement with the highest traffic volume.

By using new or underused side streets, quadrant roadways can be changed, allowing planners to adapt to the changing needs of the corridor and intersection over time to include additional transit, bicycle, pedestrian, or automobile options.

### Target Market

Quadrant intersections work best on major streets or corridors with:

- Large through volumes.
- Intersections with at least one approach with high left-turn movements.
- Intersections with available right-of-way.

### How Will This Help?

- **Provides safer, less intimidating, and easier-to-navigate places** for pedestrians than other innovative designs or typical intersections.
- **Eliminates left-turn movements** from the main intersection.
- **Reduces delay and crashes.**
- **Provides greater network connectivity, land access, and travel options** by incorporating grid-like attributes to the existing road network.

### Implementation Issues

Quadrant roadways are more expensive than other designs due to the additional right-of-way needed for the connector roads and new intersection. Additionally, multiple-quadrant intersections (or their overuse) create several T-intersections, which can result in more signals and timing complexity for the network.

Planners should carefully design these intersections and engage the public to ensure understanding and acceptance.

### SUCCESS STORIES



#### Charlotte, North Carolina

A post-project analysis of the **NC 73 and US 21 intersection** concluded that this quadrant intersection **reduced total network delay by 11%**.



#### Saratoga Springs, Utah

The installation of a quadrant intersection at **SR 73 and SR 68** is expected to **save time and money in implementation** because neither the city nor Utah DOT will have to acquire right-of-way or build new alignments.

