Diverging Diamond Intersections

FACT SHEET

Diverging Diamond Intersections

A diverging diamond intersection, or DDI, is a new, innovative design that addresses congestion by allowing vehicles to travel more quickly through an intersection. DDIs are particularly effective at locations that have a high volume of left-turn traffic. A DDI increases traffic flow by temporarily shifting traffic to the left side of the road, allowing through-traffic and left-turning traffic to proceed through the intersection simultaneously. This eliminates the need for left-turn arrows. The intersection design increases safety by reducing the number of potential conflict points between cross-traffic and left-turn movements.

Driving in a Diverging Diamond Intersection

While driving through a diverging diamond intersection is different, it is not difficult to understand and navigate once you get used to it. Also, it's proven to have reduced crashes by 50 percent in some areas. A DDI creates a diamond-shaped pattern in the intersection and temporarily shifts traffic to the left side of the roadway prior to entering the intersection.

How it works:

- Two phase traffic signals are installed at the roadway crossover points.
- Once on the left side of the road, drivers can freely turn left, rather than waiting for oncoming traffic to clear or for a left-turn signal. Or, drivers can continue straight and will switch back to the right side of the roadway once they've cleared the intersection.
- U-turn lanes are also included in a DDI, making left-turns from the cross-streets safer and more efficient.
- Through-traffic on the frontage road bypasses the intersection via a collector-distributor lane, or intersection bypass lane, and proceeds straight through the cross-street intersection, allowing drivers to avoid the traffic signal.

1st Diverging Diamond Interchange in the USA. Opened June 21, 2009 at I-44 & Hwy 13, Springfield, Missouri. Photo courtesy of MoDOT.

Advantages of a Diverging Diamond Intersection

A DDI enhances safety and mobility by reducing potential crash points at intersections and by allowing more cars to move through an intersection. This means a reduction in delays and travel time. Other benefits include:

- Motorists are able to bypass the intersection without stopping at a traffic signal
- Improved travel time because additional "green time" at traffic signals allow more vehicles to pass through the intersection
- Additional sidewalks will increase safety and better accommodate pedestrians and bicyclists
- Relatively low cost improvement

For additional information, please contact TxDOT Austin District Public Information Officer Diann Hodges at (512) 832-7060 or Diann.Hodges@txdot.gov. Watch YouTube video: https://youtu.be/GnukMEsezJU