

# The Diverging Diamond Interchange (DDI)



*The First DDI in the U.S. located in Springfield, MO at the interchange of I-44 and Route 13*

## Project Discription

Diverging Diamond Interchange (DDI) Introduction: The main difference between a DDI and a conventional diamond interchange is in the way left and through movements navigate between the cross street intersections with ramps. The DDI design accommodates left-turning movements onto the cross streets and highway while eliminating the need for a left-turn signal phase at signalized ramp terminal intersections. On the cross streets, the traffic moves to the left side of the roadway between the signalized ramp intersections. This allows drivers of vehicles on the cross streets who want to turn left onto the highway ramps the chance to continue to the ramps without conflicting with opposing through traffic and without stopping.

### Benefits Realized by the Client

- Overall better performance with higher traffic volumes (increased throughputs and reduced delays)
- The DDI is safer. A DDI has only 14 conflict points and two crossing points compared to a conventional diamond interchange which has 26 conflict points. The DDI has traffic calming features that reduce speeds while maintaining capacity. This results in fewer and less severe crashes than a conventional intersection.
- Wrong way movements onto ramps are eliminated.
- Reduced impacts to the environment.
- Less infrastructure to construct, maintain and replace. This leads to reduced construction and maintenance costs. This includes the time of construction and the delays created while maintaining traffic during construction.
- Pedestrian access is easily accommodated by using signals at the ramp terminals to provide safe crossings phases.