

Frequently Asked Questions

Q.) What is a Diverging Diamond Interchange (DDI)?

A.) DDI is a type of interchange that connects a freeway with a major highway. The DDI is based on a standard diamond interchange with a shift in the highway traffic, within the interchange, to safely and efficiently accommodate high volume left turn movements. Within the interchange, traffic on the highway briefly drives on the left side of the road to allow left turn movements to occur without crossing oncoming traffic or stopping. A DDI has fewer conflict points, reducing the opportunities for crashes, and there is greater capacity for vehicles at the interchange.

Q.) How does a DDI work?

A.) DDIs allow free-flow left turns for motorists, meaning vehicles taking a left turn don't cross opposing traffic. With the DDI design, opposing lanes of traffic crossover at traffic signals at the ends of the interchange. When crossing the bridge, oncoming traffic is on the right side of the road, accommodating free-flowing, left turn movements without conflict from oncoming traffic. This type of interchange works well in areas with significant traffic levels combined with a high volume of left turn movements. Traffic signals, signs, pavement markings and concrete barriers guide motorists through the interchange.

Q.) What are the advantages of a DDI?

A.) DDIs are an alternative to roundabouts, traffic signals and stop signs to control traffic, have many operational and safety benefits and are designed to meet the needs of all road users:

- ♦ **Safety** – Reduces the number of ways vehicles can collide by almost half (14 compared to 26 for a conventional diamond interchange).
- ♦ **Greater capacity and efficiency** – Accommodates more traffic than conventional designs. Drivers make free-flow, left turns onto the Interstate.
- ♦ **Reduces backup congestion** – At intersections where there is a high volume of left turns onto the Interstate, DDIs reduce traffic backups because the free-flowing, left turns mean vehicles do not have to stop to access the ramp.
- ♦ **Easy navigation** – Guides drivers with overhead signs, pavement marking and traffic signals.
- ♦ **Meets the needs of all road users** – Accommodates large trucks, vehicles, pedestrians and bicyclists.

Q.) Are DDIs common in Wisconsin or the United States?

A.) The WIS 11 (Avalon Road) interchange (Exit 177) will be Wisconsin's first DDI interchange and construction to be completed in November 2016. In addition, the interchanges at WIS 26 (Exit 171A) in Janesville and WIS 81 (Exit 185) in Beloit will be reconstructed incorporating the DDI design to improve traffic flow. DDIs are also being considered for other construction projects across Wisconsin. Several other states have installed DDIs and the design has proven to be very effective in reducing traffic congestion.

Q.) Why are DDIs not used at all interchange locations?

A.) DDIs are not a fix all solution for every interchange. DDIs work best if the volume of left turns onto the freeway is high when compared to other movements or if turn movements are unbalanced during peak hours.

Q.) Does the DDI accommodate pedestrians and bicyclists?

A.) Yes. The DDI has a designated shared use path and crosswalks that can be used for both pedestrians and bicyclists. Bicyclists can also choose to use the designated bicycle lane to navigate through the DDI.

Q.) Can vehicles safely travel through a DDI while driving near a semi or oversize/overweight truck?

A.) The design of the DDI allows motorists to safely navigate the intersection while driving alongside semis. In situations where it is an oversize/overweight semi, motorists should allow space for the semi to navigate the DDI as they may track into the adjacent lane to maneuver through the DDI. All drivers should avoid passing semis and oversize/overweight trucks when maneuvering through a DDI.

Q.) Can oversize/overweight trucks use DDI interchanges?

A.) Yes. The DDI design accommodates oversize/overweight (OSOW) trucks. As OSOW truck drivers navigate a DDI, their trailer may track into other lanes. Motorists must be aware of other vehicles at all times. Truck aprons are provided to accommodate OSOW vehicle off-tracking. It's important to follow the overhead signs and pavement markings to choose the appropriate lane to reach your destination.