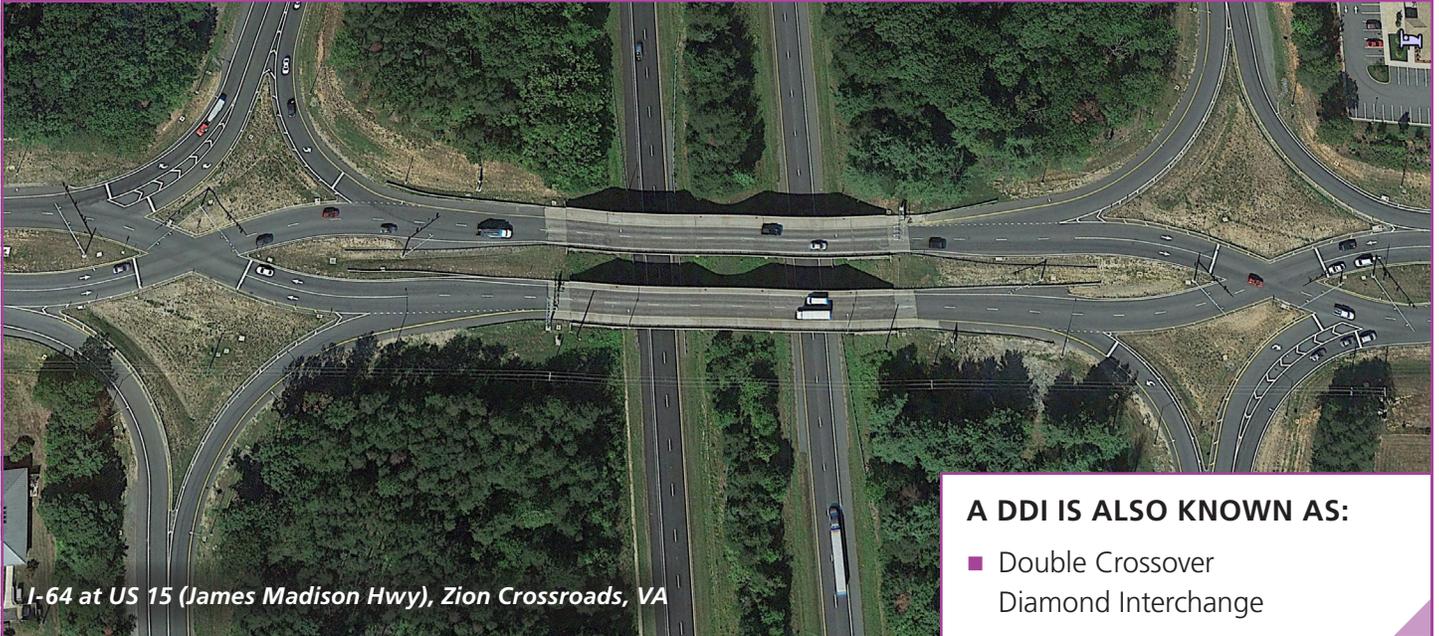




INNOVATIVE INTERCHANGES

Diverging Diamond Interchange (DDI)



A DDI IS ALSO KNOWN AS:

- Double Crossover
- Diamond Interchange

What is a DDI?

- A grade-separated interchange design where arterial traffic crosses to the other side of the roadway between the freeway ramps
- Vehicles can turn left onto and off freeway ramps without stopping or crossing opposing lanes of traffic
- Right turns onto and off the freeway ramps occur either before or after the crossover intersections, when traffic is on the “correct” side of the road
- Both crossover intersections are signalized
- Interchange can be designed as an overpass or underpass

When should a DDI be considered?

- At locations with heavy left-turn traffic volumes onto and off the freeway ramps
- At locations without adjacent traffic signals or nearby driveways
- At locations where there is limited roadway width for left-turn lanes between ramp intersections and limited right-of-way to expand

What are the benefits of a DDI?

- **Improved safety:** Reduces the number of points where vehicles may cross paths
- **Increased efficiency:** Crossovers can operate with only two traffic signal phases, which allows the interchange to handle a greater volume of traffic and operate with less delay
- **Easier access to freeway:** Design allows traffic to enter and exit the freeway without crossing opposing lanes of traffic
- **Cost effective:** Since there are no left-turn lanes on the arterial, a DDI can have a narrower cross section and may be more cost effective than a retrofit or new interchange construction

What are innovative interchanges?

Interchange designs where traffic movements are modified to improve safety, reduce delay, and increase efficiency.

Visit www.virginiaodt.org/innovativeintersections to learn more.





Navigating a Diverging Diamond Interchange (DDI)

🚲 Depending on their level of comfort, cyclists may navigate the intersection using vehicle or pedestrian paths

🚶 Pedestrians use marked crosswalks to safely navigate the interchange

↑ To continue straight on the arterial, follow lane markings and traffic signals to cross to the left side of the arterial, and then cross to the right side after passing through the interchange

↶ To turn left onto a freeway ramp from the arterial, follow lane markings and traffic signals to cross to the left side of the arterial, and then turn left onto the ramp

↷ To turn right onto a freeway ramp from the arterial, use the right-turn lane like at a conventional diamond interchange

↶ To turn left from a freeway ramp, follow lane markings and traffic signals to stay on the left side of the arterial, and then cross to the right side after passing through the interchange

↷ To turn right from a freeway ramp, use the right-turn lane like at a conventional diamond interchange

NOT TO SCALE

Note: For simplicity, only two directions of traffic are shown. Opposing traffic follows similar routes.