



INNOVATIVE INTERCHANGES

Single-Point Urban Interchange (SPUI)



US 50 (Arlington Boulevard) at Gallows Road, Falls Church, VA

A SPUI IS ALSO KNOWN AS:

- Urban Interchange
- Single-Point Interchange (SPI)
- Single-Point Diamond Interchange (SPDI)

What is a SPUI?

- A grade-separated interchange design where all freeway ramps begin or end at a single signalized intersection on the arterial
- Right-turn movements onto and off the freeway ramps are made at unsignalized intersections separate from the main intersection
- Interchange can be designed as an overpass or underpass

When should a SPUI be considered?

- In areas with limited right-of-way
- At locations with heavy left-turn traffic volumes onto and off the freeway ramps
- At locations where wider intersection and structure widths can be accommodated

What are the benefits of a SPUI?

- **Improved safety:** With only one signalized intersection rather than two at a conventional diamond interchange, vehicles only cross paths at one location
- **Increased efficiency:** Main intersection operates with three traffic signal phases rather than four phases in a conventional diamond interchange, which reduces overall interchange delay
- **Increased capacity:** Design allows left turns to be made at higher speeds, which increases the capacity of the main intersection
- **Fewer traffic signals:** A single signalized intersection, rather than two intersections at a conventional diamond interchange, improves travel times on the arterial

What are innovative interchanges?

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

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



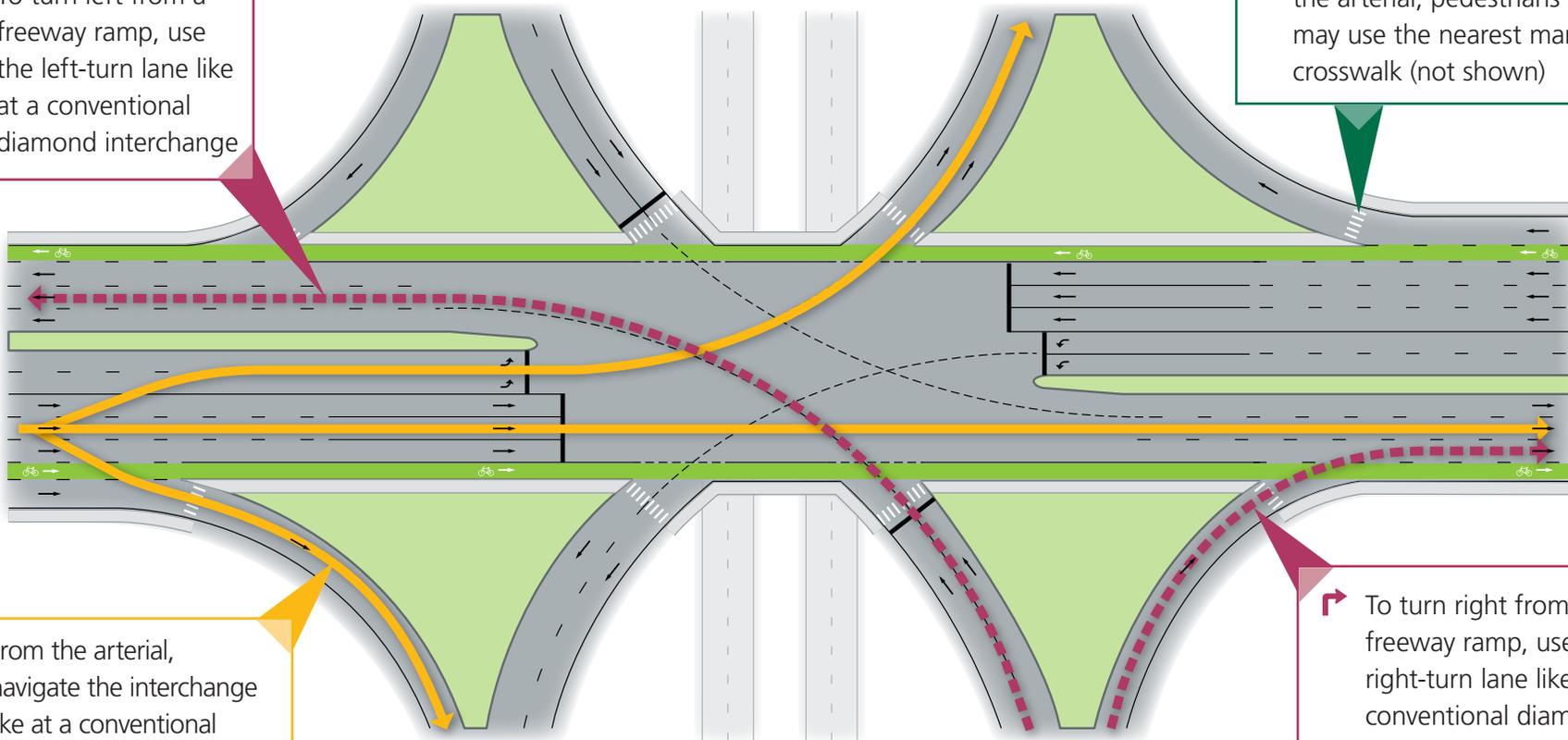


Navigating a Single-Point Urban Interchange (SPUI)

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

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

 Pedestrians use marked crosswalks to safely cross the freeway ramps. At SPUIs, crosswalks are not provided across the arterial. To cross the arterial, pedestrians may use the nearest marked crosswalk (not shown)



 From the arterial, navigate the interchange like at a conventional diamond 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.