INNOVATIVE INTERSECTIONS

Thru-cut

What are innovative intersections?
Intersection designs where traffic movements are modified to improve safety, reduce delay, and increase efficiency.

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

Proposed Thru-cut (2019), US 220 at Southern Lane and Valley Avenue, Roanoke, VA

What is a thru-cut?
- Intersection design where side street through movements are prohibited
- Side street motorists turn left or right and make another turn at an existing opening to cross the major street
- Side street left and right turn lanes may be channelized using physical barriers or pavement markings
- Main intersection may be controlled with a traffic signal, stop signs or yield signs

When should a thru-cut be considered?
- On median-divided highways
- At intersections with low side street through traffic volumes
- At intersections with heavy major street through and/or left-turn traffic volumes
- At intersections where side street through movements can be accommodated by rerouting to existing intersections or median openings
- At intersections with four legs

What are the benefits of a thru-cut?
- Improved safety: Reduces the number of points where vehicles cross paths
- Increased efficiency: Eliminates the side street through movements, allowing for fewer or shorter traffic signal phases, which reduces delay and increases capacity
- Shorter wait times: Fewer traffic signal phases means less time stopped at the intersection
- Cost-effective: A thru-cut may be more cost-effective than adding lanes to improve capacity

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Motorists on the side street may not go straight through the intersection. Depending on the location of the thru-cut, motorists will either:

1. turn right or left onto the major street and make a second turn at an adjacent side street OR
2. turn right onto the major street, make a U-turn at a median opening, and turn right onto the side street

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

Pedestrians use marked crosswalks to safely cross the intersection.

From the major street, navigate the intersection like at a conventional intersection.

From the side street, turn right and left like at a conventional intersection.

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

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