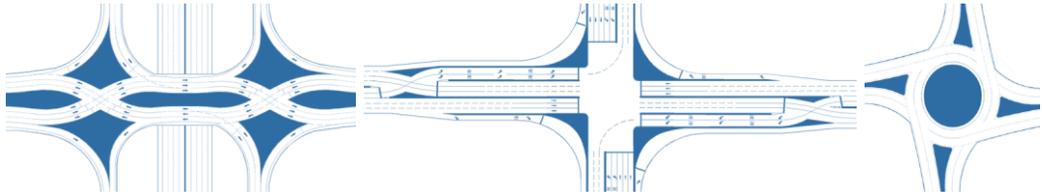


VJuST

VDOT Junction Screening Tool



1 Conformity with *Highway Capacity Manual (HCM), 6th Edition*

Updated Roundabout Coefficients

The coefficients for the roundabout lane capacity equation were updated based on the changes in the *HCM, 6th Edition*.

Corrected Two-Way Stop Control (TWSC) Equations

Capacity equations for the TWSC worksheet were corrected to conform with *HCM, 6th Edition* methodology. Calculations are based on vehicles per hour instead of passenger cars per hour.

TWSC Lane Restrictions

VJuST prevents the user from entering lane configurations that violate the limitations of *HCM* methodology. Examples include:

- No more than three through lanes on the major street
- No more than three total lanes on the minor street
- No more than one exclusive lane for each minor street movement

2 Consideration of Unsignalized Zones at Innovative Intersections

Which Innovative Intersections Can VJuST Screen as Unsignalized?

In addition to the original unsignalized intersections and interchanges (TWSC, Roundabout, Single Roundabout, Double Roundabout), VJuST can now consider unsignalized zones at the Restricted Crossing U-Turn (RCUT), Median U-Turn (MUT), Partial Median U-Turn (PMUT), and Quadrant Roadway (QR).

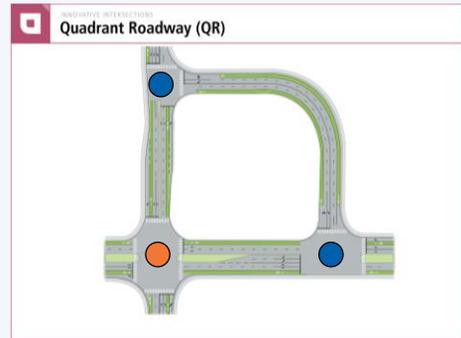
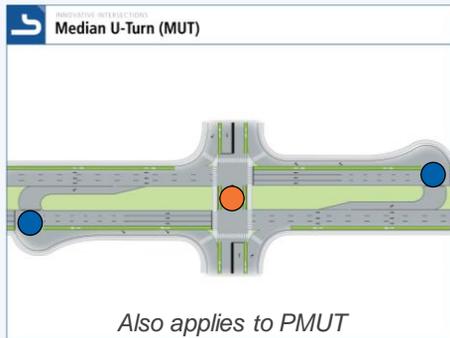
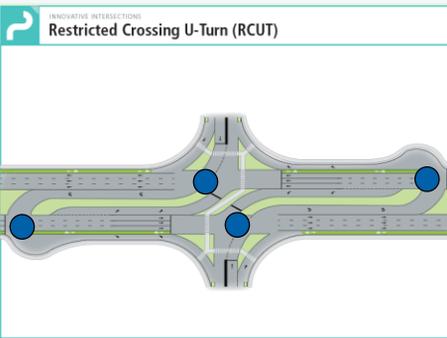
Can All Zones be Considered as Unsignalized?

No. The main intersection (Zone 5) at an MUT, PMUT, and QR is always considered to be signalized. The diagrams below illustrate which zones can be signalized or unsignalized.

How Do I Screen an Unsignalized Innovative Intersection?

- In the *Data Input and Configuration* section of the lane configuration worksheet, select the control type for each zone from the drop down box.
- For an unsignalized Quadrant Roadway zone, select 1- or 2-stage side street left turns from the drop down box.
- A critical lane volume will no longer be calculated for an unsignalized zone. The volume to capacity (V/C) ratio will be calculated based on *HCM, 6th Edition* methodology.

Legend: ● Signalized Zone ● Signalized or Unsignalized Zone



2A

| | |
|-----------------------|--------------|
| Control Type (Zone 2) | Signalized |
| Signalized | Signalized |
| Unsignalized | Unsignalized |

pcph 15

Zone 2
87

| | | |
|---------|---|---------|
| 30 pcph | 2 | 15 pcph |
| ← | ↑ | → |

NB

2B

| | |
|-----------------------|--------------------------|
| Control Type (Zone 1) | 1- or 2-stage movements? |
| Unsignalized | 1 |
| | 2 |

2C

| | |
|------|-----|
| -- | |
| 0.19 | V/C |

