



WSDOT Sidra Policy Settings

Model Settings Dialog

Model Parameters Tab – Use the following settings for the Delay and Queue parameters (if the recommended parameters for the Roundabouts dialog were followed, these parameters should already be unchecked):

- Exclude Geometry Delay: uncheck
- HCM Delay Formula: uncheck

| Movement Class | pcu / veh |
|---------------------|-----------|
| Light Vehicles (LV) | 1.0 |
| Heavy Vehicles (HV) | 2.0 |

Queue Blockage

Minimum Probability of Blockage: 0.0 %

Delay and Queue

Exclude Geometric Delay

HCM Delay Formula

Downstream Short Lane

Minimum Downstream Utilisation Ratio: 20 %

Minimum Downstream Distance: 100 ft

Distance for Full Lane Utilisation: 660 ft

Calibration Parameter: 1.2

Additional considerations

- **MOE:** Unlike other intersection control types, the MOE for roundabouts is not primarily LOS. Instead, it is a mix of MOEs. For operational modeling, first ensure each lane group generates no more than about 0.85 - 0.9 v/c with reasonable queues given local conditions (keeping in mind RAB queues are moving queues, which are not perceived by drivers to be as negative as signal queues). MOE's in order of importance are v/c, percent stopped, queues, and then LOS. Ensure that you conduct sensitivity analysis by adjusting volumes and geometrics. If $v/c \Rightarrow 0.9$, consider microsimulation and closely examine volumes. In addition, 20 year analyses need not consider queues.
- **Network Function:** The network function allows a user to evaluate how multiple, closely spaced intersections will interact. The control types can be any combination of roundabout, signal, two way stop control, and pedestrian midblock crossing. Sidra is a good tool for evaluating closely spaced intersections containing one or more roundabouts if it is determined that microsimulation is not warranted (based on the complexity of the project, scope, or budget). Although as of Sidra version 6.1, WSDOT does not recommend using Sidra to produce MOE's for intersection control types other than roundabouts.

This Brochure provides a reference guide for WSDOT policy settings needed to complete an analysis of a roundabout using **Sidra 6.1** for WSDOT projects or projects affecting state owned or state interest facilities. Any adjustments to either the settings or Sidra defaults (remaining parameters not discussed in this Brochure) should be documented in a Method and Assumptions type document.

If you have questions about the content in this Brochure, please contact:

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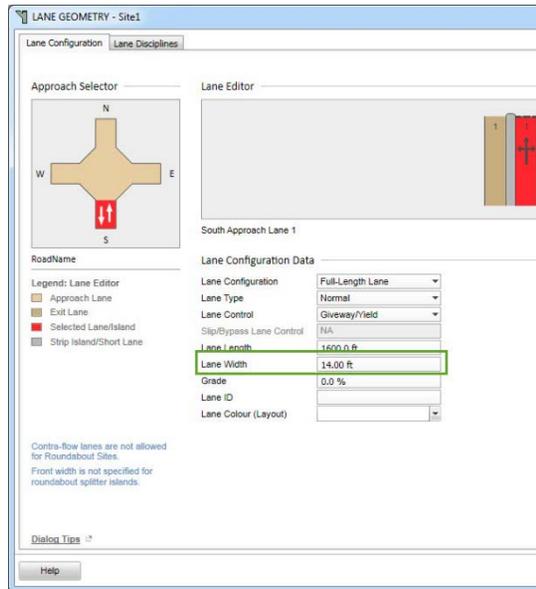
The latest version of this Brochure is located on the WSDOT Traffic Analysis website
[\(http://www.wsdot.wa.gov/Design/Traffic/Analysis/\)](http://www.wsdot.wa.gov/Design/Traffic/Analysis/).

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Lane Geometry Dialog

Lane Configuration Tab - Unless the roundabout being analyzed already exists or there is a detailed drawing available, use the following Lane Widths:

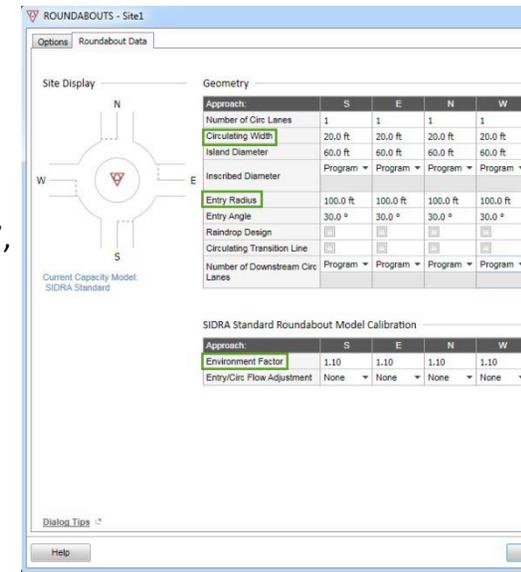
- Single lane approach: minimum 15 ft
- Multi-lane approach: minimum 14 ft (each lane)



Roundabouts Dialog

Roundabout Data Tab – Use the following settings:

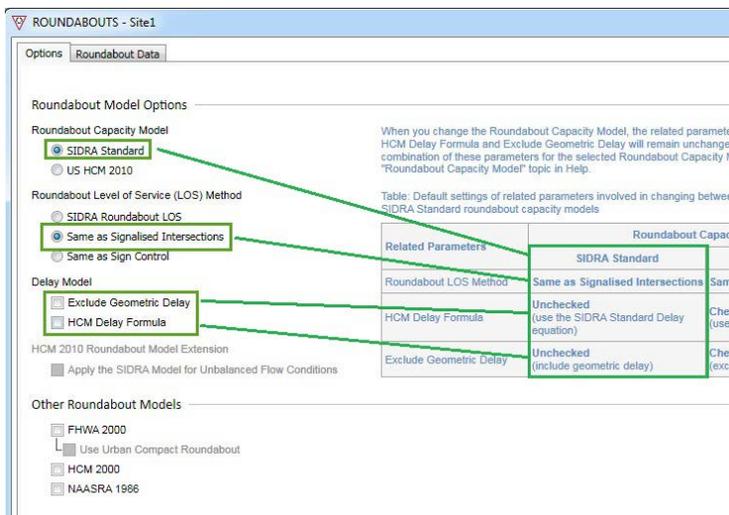
- Circulating width: single lane RB minimum 18'-20', multi-lane 15' ea
- Entry Radius: 90' – 110' (unless a site specific design is available)
- Environment Factor: 1.1 for opening year and 1.0 for horizon year.



Roundabouts Dialog

Options Tab – Use the following settings for Roundabout Model Options parameters:

- Roundabout Capacity Model – Sidra Standard
- Roundabout LOS Method – Same as Signalized Intersections
- Delay Model – uncheck both Exclude Geometric Delay and HCM Delay Formula



Model Settings Dialog

Options Tab – Use the following settings for the General Options parameters:

- Level of Service Method: Delay (HCM 2000)

