

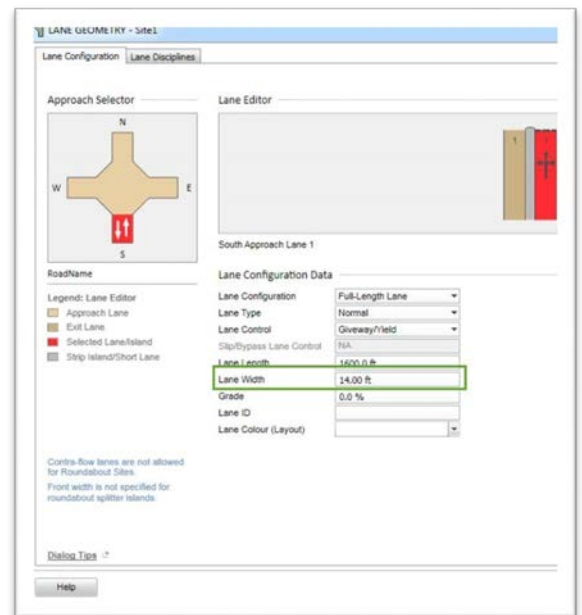
WSDOT Sidra Policy Settings

This is a reference guide for WSDOT policy settings for completing an analysis of roundabouts using **Sidra 8** 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 guide) should be documented in a “Method and Assumptions” document.

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:

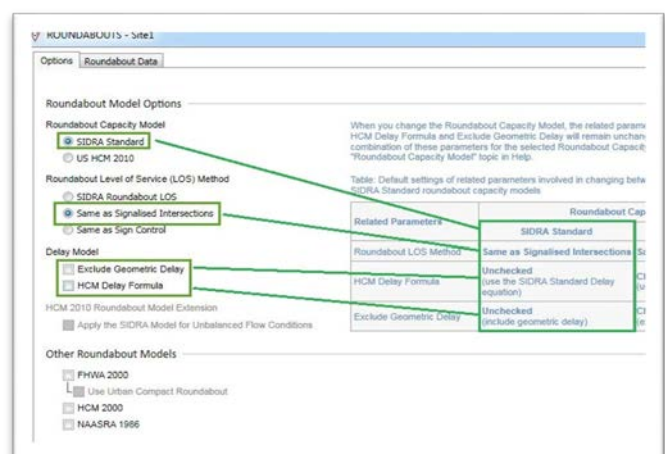
- Single lane approach: minimum 15 ft.
- Multi-lane approach: minimum 14 ft. (each lane)



Roundabouts Dialog

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

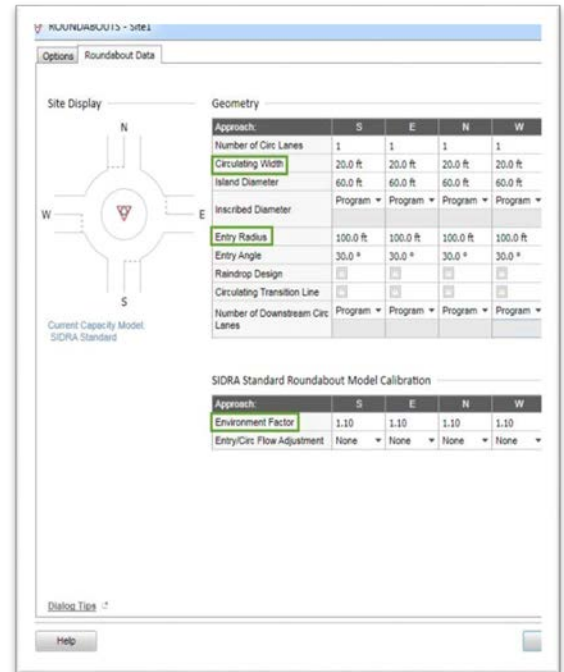
- Roundabout Capacity Model – Sidra Standard
- Roundabout LOS Method – Same as Signalized Intersections
- Delay Model – uncheck both exclude Geometric Delay and HCM Delay Formula



Roundabouts Dialog

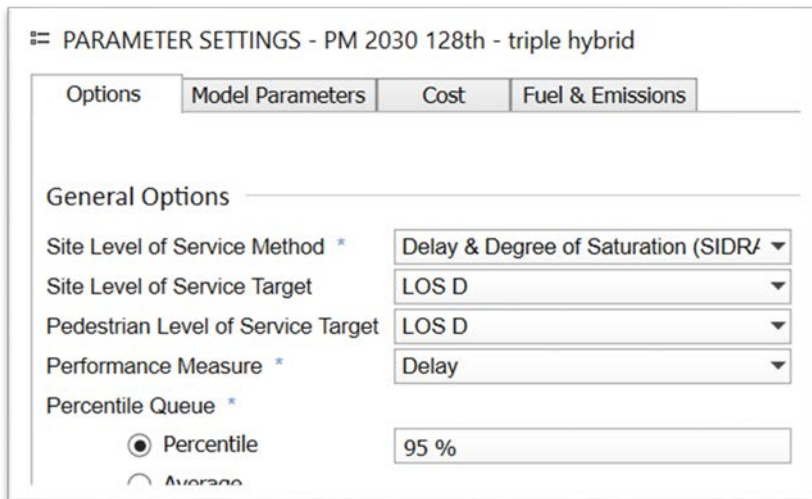
Roundabout Data Tab – Use the following settings:

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



Parameter Settings Dialog

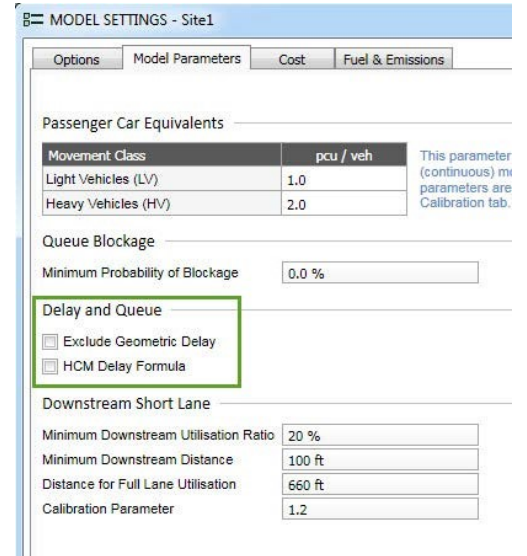
Options Tab – Use the following settings for Options Tab:



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



Additional considerations

Measures of Effectiveness (MOE): Unlike other intersection control types, the primary MOE for roundabouts is not LOS. Instead, it is a mix of MOEs. For operational modeling, first attempt to balance each lane group to less 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 to be as negative as static signal queues). MOE's in order of importance are v/c, delay, stop rate, queue, and then LOS. If LOS is reported as D or better while v/c or queues are unacceptable, consider LOS as failing. Conduct sensitivity analyses by adjusting volumes and geometrics. If $v/c \Rightarrow 0.9$, examine volume projections & consider microsimulation. In addition queues for 20 year analyses need not be considered and Peak Flow Factor should be set to 1.0. Consider practical solutions that may not last the entire 20 years.

Network Function: The network function allows users to evaluate how multiple, closely spaced intersections will interact. The control types can be any combination of roundabout, signal, two way stop, 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). WSDOT does not recommend using Sidra to produce MOE's for intersection control types other than roundabouts.

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