City of Duvall
Public Works Department
14525 Main Street NE
Duvall, WA 98019
www.duvallwa.gov

We have received some calls, emails & inquiries along with seeing some conversation about the construction of the new roundabout on Big Rock Road. With as much interest as there seems to be we wanted to take a moment to go over some of the details and considerations used during the design and review of this intersection.

Who designs this stuff?

First thing to know is – this is a robust process. Nobody just makes stuff up and hope it works. In this case the developer designs a road or intersection that meets all of the applicable standards, while also integrating with their overall aesthetic. Designs are reviewed and revised by the developer's engineers as well as the City and our consultants. A good deal of effort is made to consider the nature of the roadway, surroundings, and current & future uses.

It looks so narrow…

In this case, there have been questions about the lane width, "looks too narrow" has been a common theme. Driving by, it does look narrow; and, though it is our standard lane width of 11', it feels narrow too – but it's on purpose. Road narrowing is an effective traffic calming feature that slows speeds and increases safety.

But what about the trucks / buses / trailers / firetrucks?

During the design process multiple vehicles were "modeled" going through the roundabout with the design adjusted to suit some of the largest semitrailer combinations around. With rolled curbs and reinforced concrete much of the central island is designed as a truck apron specifically for the purpose of accommodating the tracking of a trailer. Buses and emergency vehicles were also modeled at the roundabout to ensure their passage. With a speed of 15 mph, your typical vehicle will have absolutely no problem in this roundabout.

Is it safe to walk there?

Low speeds, good sight lines, grade separated sidewalks, and island protected crossings will help to ensure that our pedestrians and bicyclists are safe as they navigate these intersections as well.

Why a roundabout?

Contrary to many peoples' perceptions, roundabouts actually move traffic through an intersection more quickly, and with less congestion on approaching roads. Roundabouts promote a continuous flow of traffic. Unlike intersections with traffic signals, drivers don't have to wait for a green light at a roundabout to get through the intersection. Traffic is not required to stop – only yield – so the intersection can handle more traffic in the same amount of time.

There is a boat load of information on this topic. A great site we'd recommend is right here: https://www.wsdot.wa.gov/Safety/roundabouts/BasicFacts.htm

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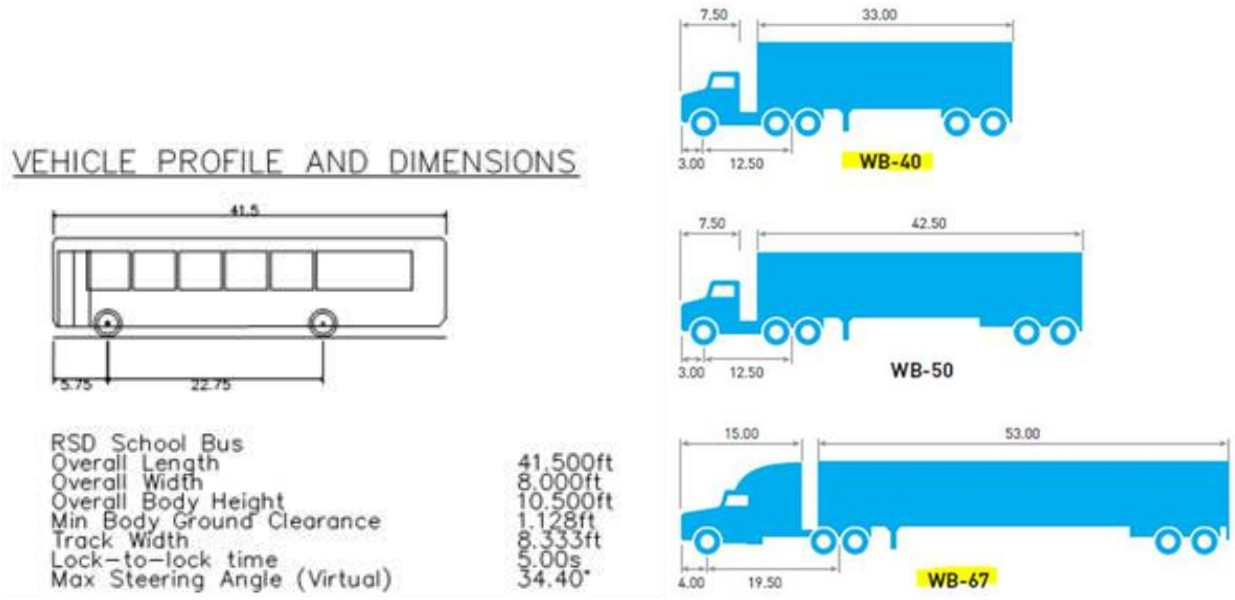
Examples of "Typical Design Vehicle Dimensions" including some modeled here

Typical Design Vehicle Dimensions

Design Vehicle	Height (ft)	Width (ft)	Length (ft)
Passenger Car	4.25	7.0	19.0
Single-Unit Truck (UPS, FEDEX, etc.)	11-13.5	8.0	30.0
Large School Bus	10.5	8.0	40.0
City Bus	10.5-12.0	8.5	40-45.0
Intermediate Semitrailer (WB-40)	13.5	8.0	45.5
Interstate Semitrailer (WB-67)	13.5	8.5	73.5
Recreational Vehicles			
Motor Home	12.0	8.0	30.0
Motor Home and Boat Trailer	12.0	8.0	53.0
Car and Camper Trailer	10.0	8.0	48.7
Car and Boat Trailer	-	8.0	42



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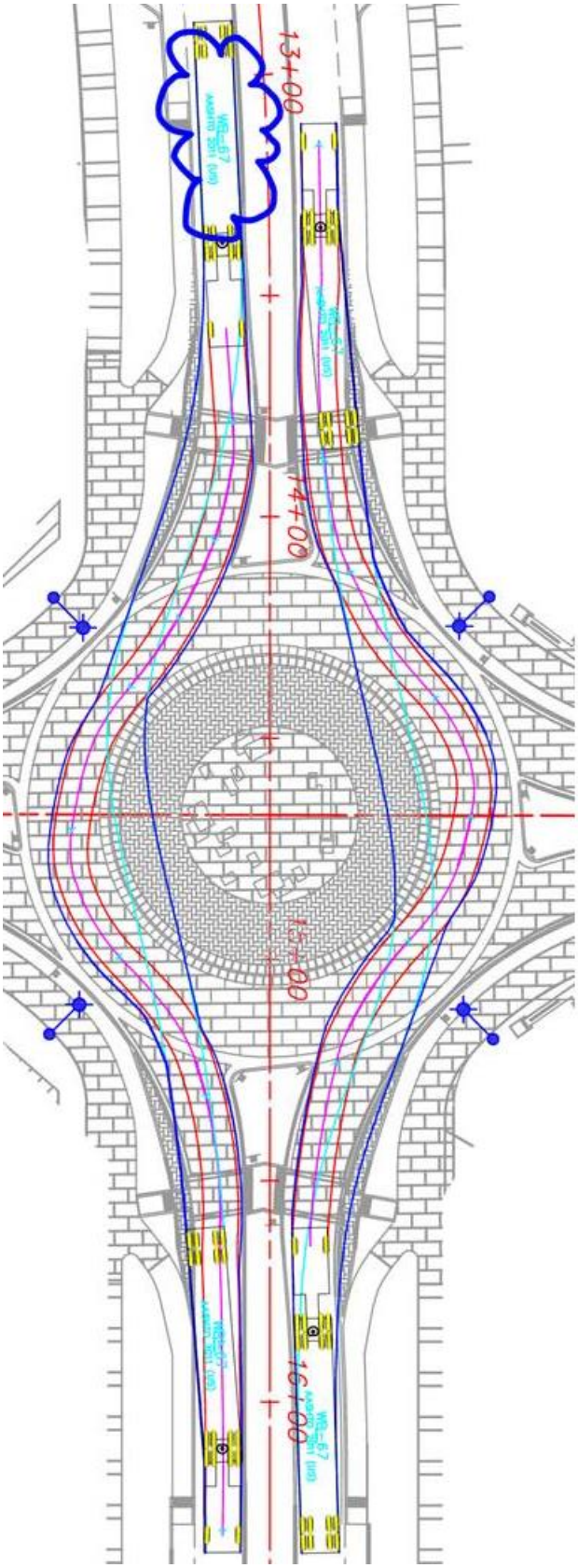

Example of the modeled turn movement for the design vehicle - Interstate Semitrailer (WB-67). Note the trailer tracking onto the concrete apron near the center.

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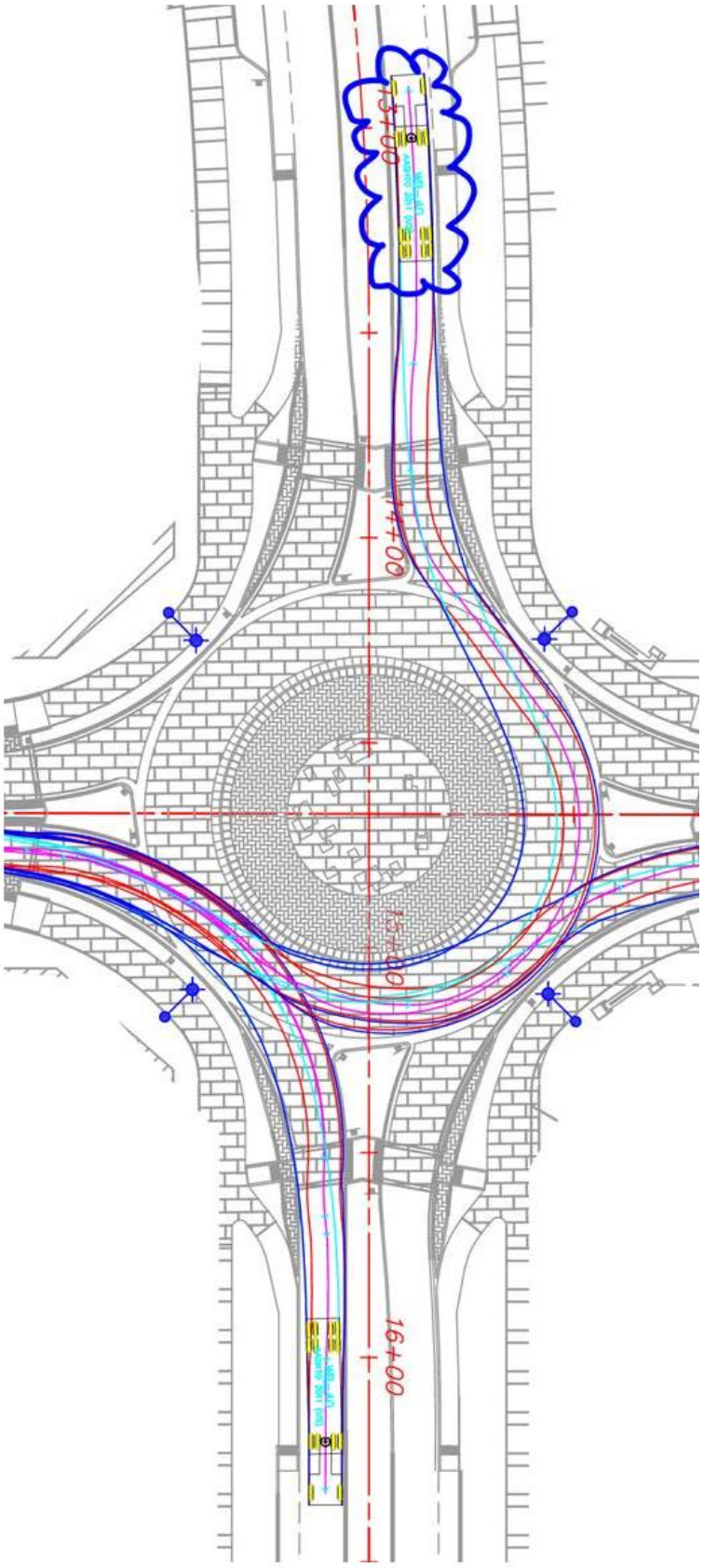

Example of the modeled turn movement for the design vehicle - Interstate Semitrailer (WB-40). Note the trailer tracks along the outer edge of the center circle.