

SR 105, South Boone Street, West Harriman Street Intersection Pre-design Study – Common Questions

Why Roundabouts?

- **Improved safety:** In Washington State 35% of all fatal and serious crashes involving bicyclists and pedestrians were reported at traffic signals. Meanwhile roundabouts have been found to reduce severe crashes by 78% when converting a signalized intersection to a roundabout. Nationally there are around 7,000 roundabouts but only handful of severe bicyclist or pedestrian crashes have been reported at them.
- **Less overall intersection delay and improved traffic flow all hours of the day:** Studies by Kansas State University measured traffic flow at intersections before and after conversion to roundabouts. In each case, installing a roundabout led to a 20% reduction in delays during peak hours. Additional studies by the IIHS (Insurance Institute for Highway Safety) of problem intersections that were converted to roundabouts in three states, including Washington, found that roundabouts contributed to an 89% reduction in delays and 56% reduction in vehicle stops.
- **Less expensive:** The cost difference between building a roundabout and a traffic signal is comparable. Therefore, one of our biggest considerations for roundabouts is financial stewardship. If a roundabout is installed, WSDOT may not need to come and repeat this process in say 20, 30, or 40 years, at a cost saving to the state of millions of dollars.
- **Less overall space needed in the area for asphalt:** A roundabout often take up less space on the streets approaching the roundabout. Because roundabouts can handle greater volumes of traffic more efficiently than signals, where drivers may need to line up to wait for a green light, roundabouts usually require fewer lanes approaching the intersection. This results in fewer lanes for people who are walking and biking to cross.
- **Improved reliability:** Roundabouts are also more effective during power outages. Unlike traditional signalized intersections, which must be treated as a four-way stop or require police to direct traffic, roundabouts continue to work like normal.
- **Less delay to walkers and bikers:** Research has found that walkers and bikers have short waiting times to cross at roundabout crosswalks. Signalized intersections prioritize vehicle movements, roundabouts prioritize pedestrian movements.

How do emergency vehicles, transit buses, semi-truck and trailer combinations negotiate the roundabout?

- All WSDOT roundabouts are designed to accommodate vehicles of all sizes, including emergency vehicles, buses, and truck and trailer combinations. The flexible design provides mountable curbing and fully traversable center island that large vehicles can drive over. There are over 40 modern roundabouts in Washington State.

Are roundabouts better for people walking and biking than a signalized intersection?

Yes, roundabouts are designed to be safer than traditional intersections for people walking or using mobility equipment by:

- Reducing speeds: Roundabouts are designed with lower vehicle speeds – typically between 15 and 20 miles per hour. Lower speeds are associated with better yielding rates, and reduced vehicle stopping distances.
- Reducing conflict points: Roundabouts have 50% fewer conflict points than a signalized intersection. Fewer conflict points translate to reduced risk to all users of the intersections. Whereas a person crossing at a traffic signal needs to contend with vehicles turning right or left on green, vehicles turning right on red, and vehicles running the red light. The latter of these potential conflicts may occur at higher vehicle speeds and motorist distracted by traffic signal indications rather than pedestrians increasing the risk to those walking or biking the intersection.
- **If I ride a bike, what are my options at a roundabout?**

Bicyclists can choose, depending upon their comfort level, whether to:

- Ride with traffic through the roundabout.
- Walk their bicycles through the pedestrian crosswalk. Please see WSDOT's [walking and biking through roundabouts website](#) for additional information.

Roundabouts and Business

Will drivers avoid roundabouts thereby decreasing traffic and potentially having a negative effect on nearby businesses? A brochure from MTJ Engineering in Wisconsin, a leading national consultant on roundabouts broke down myth and facts regarding the effect of roundabouts on local business.

<p>Myth: Drivers will avoid roundabouts, thereby reducing traffic volumes and business activity.</p>	<p>Fact: The reality is that roundabouts process traffic efficiently and this has a positive effect on traffic flow. Multiple research studies have shown that drivers will actively avoid commonly congested or unsafe intersections due to delays and associated lack of convenience.</p>
<p>Myth: Roundabouts prevent traffic from stopping which decreases the impact of business signage</p>	<p>Fact: Roundabouts can improve visibility as all vehicles move at a slower, consistent speed, in addition, the removal of signal heads, posts, and unnecessary signing can improve visibility of business signing.</p>
<p>Myth: Roundabouts will confuse potential customers making them less likely to stop at a business.</p>	<p>Fact: This perception is unfounded. In fact, documented research indicates the opposite. Results of a survey conducted by Kansas Transportation Research and New Development Program¹ show the overall feeling of business owners about the roundabouts near the location to be positive.</p>

In Golden Colorado, four roundabouts in a strip-mall type business district became fully functional in 1999. The situation in Golden fits a business study better than most locations. The city has a local sales tax, and a population of about 18,000 residents. Golden is home to the Colorado School of Mines, the headquarters for Coors Brewery, and is known for its museums. The city has a robust tourist industry. The study looked at the roundabout area for three years before and five years after the roundabout construction. The study found significant reductions in traffic delays at the entrances to business sites in the roundabout area. The study also documented a 60% increase in sales tax revenues in the 5 years following the roundabout installation. The study states that this was the only area in the city with a continued sales tax revenue increase over that period.

¹ *A study of the impact of Roundabouts on traffic flows and Business – Kansas Transportation Research and New Development Program, Dec. 2011*