

Alternatives Process



	<i>Roundabout</i>	<i>Signal</i>	<i>Notes</i>
Footprint Size			How much space is needed for the intersection and the roadway approaches?
Peak Hour Queue Lengths			Generally how far does traffic back up at the intersection during the afternoon peak commute?
Total Daily Delay			How many hours of delay per day combined for all vehicles moving through the intersection?
Safety			How do differing intersection configurations generally compare with regards to safety?
Construction Cost			How much does it cost to build the different types of intersections?
Maintenance Cost			How much does it cost to maintain the different types of intersections?



Intersection Options



Roundabout Overview

Signal Overview

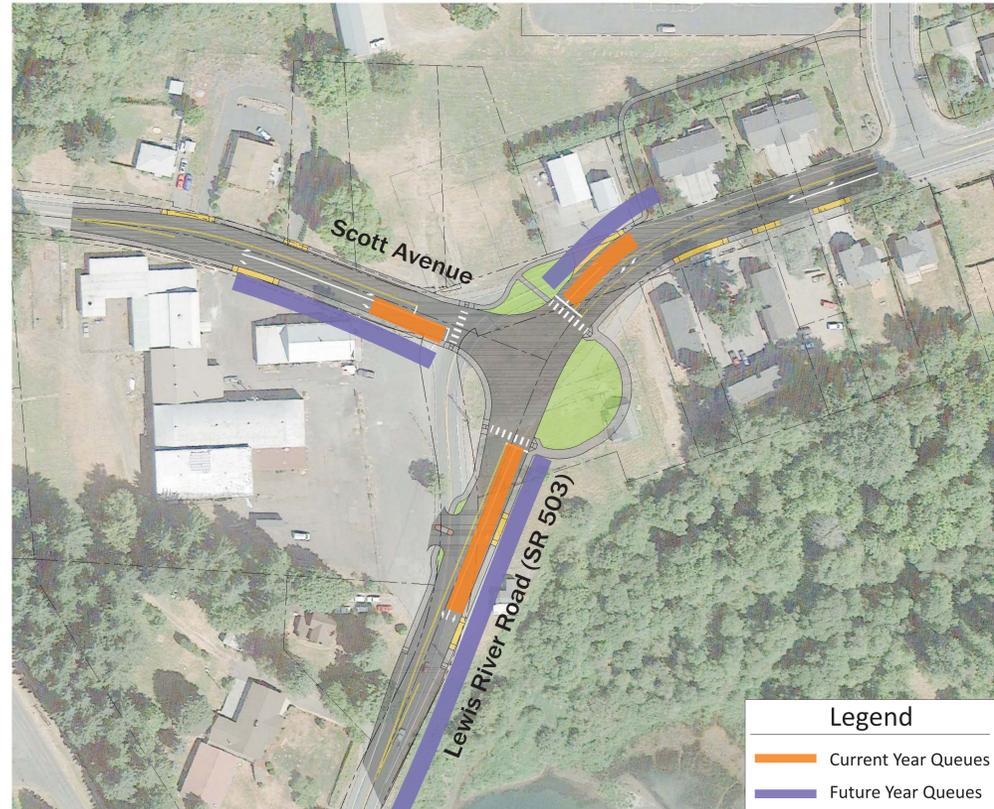
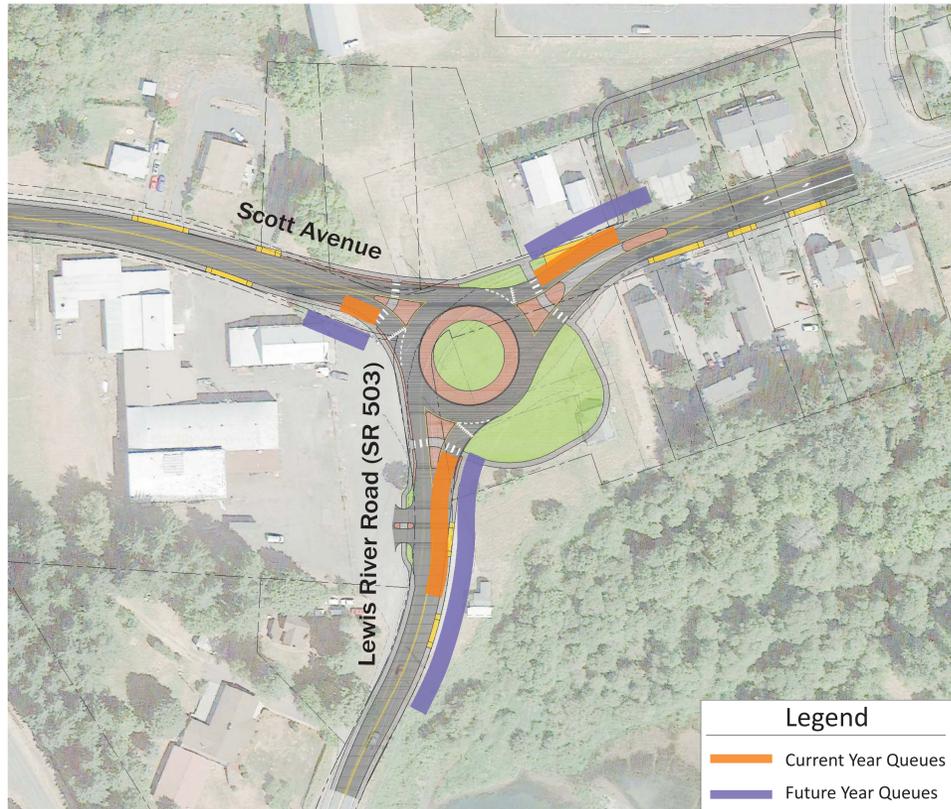




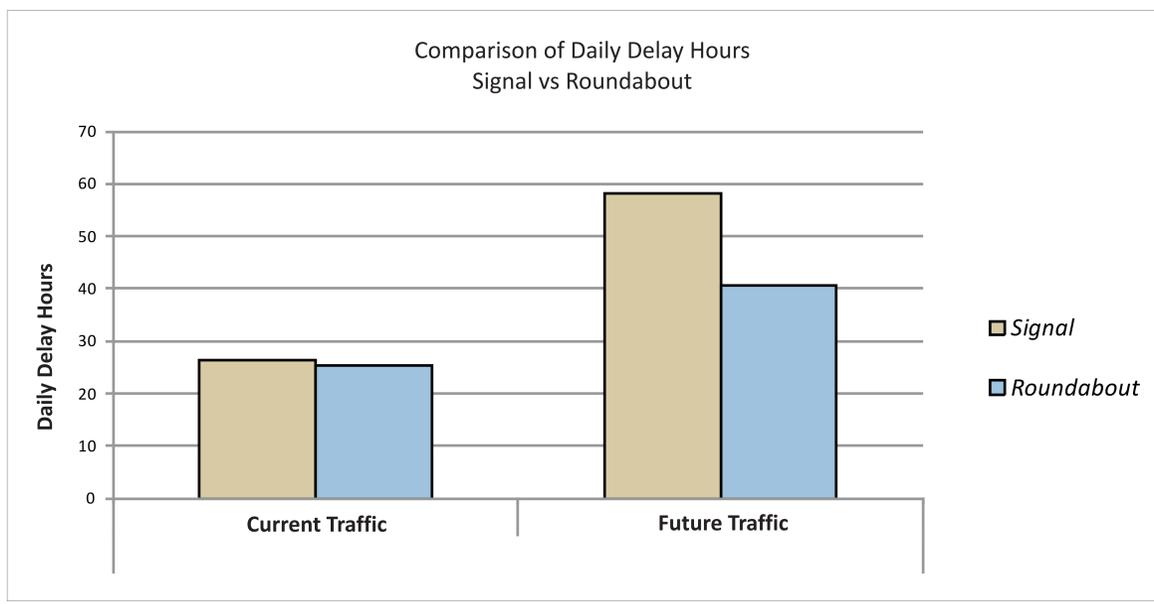
Peak Hour Queuing

Roundabout Queue Results

Traffic Signal Queue Results

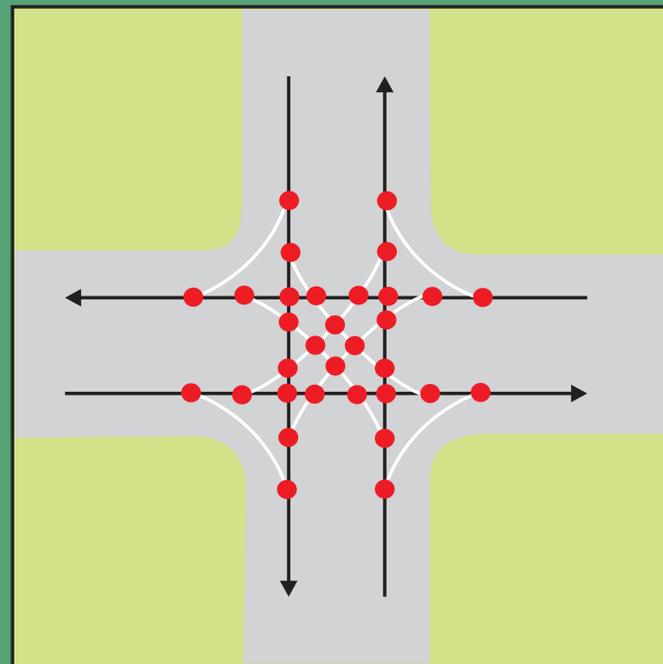


Daily Intersection Delay

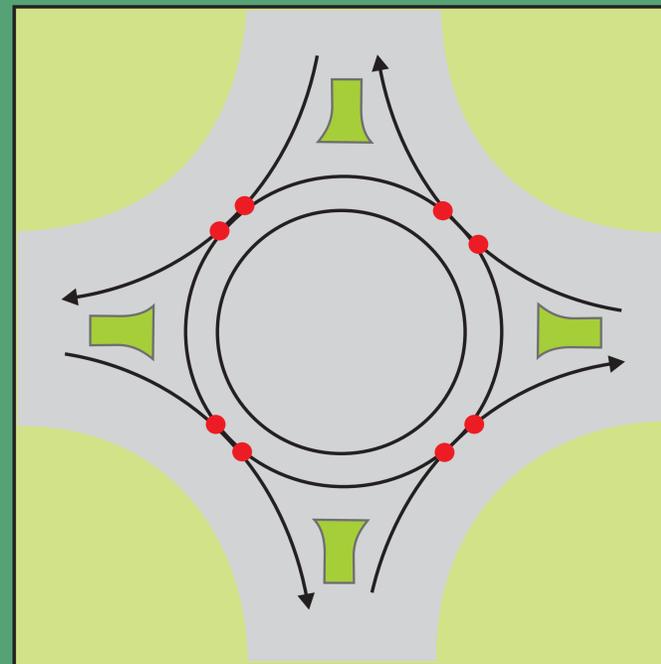




With roundabouts, head-on and high-speed right angle collisions are virtually eliminated.



Traffic Signal



Roundabout

 Potential vehicles conflict point

Roundabout Benefits

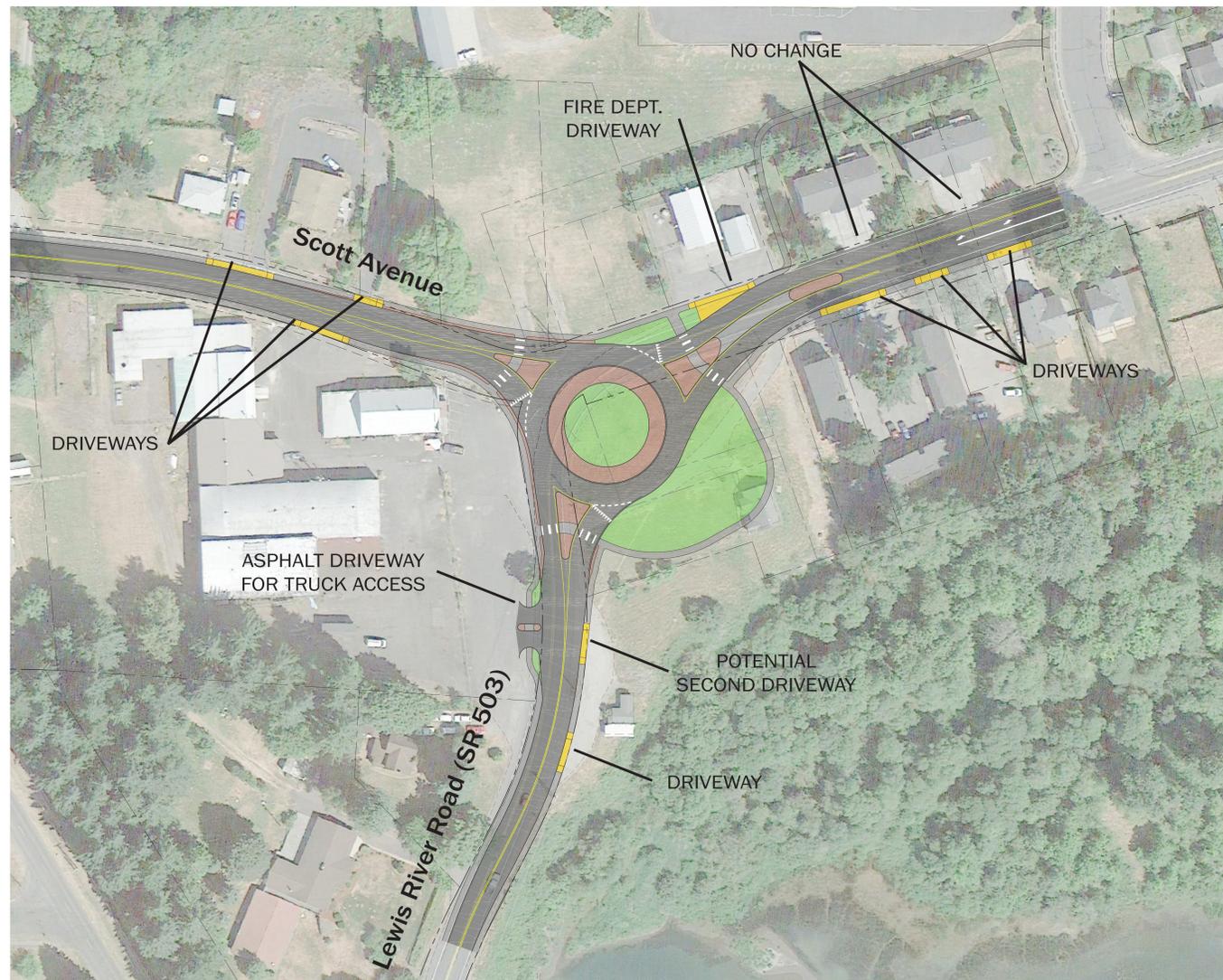
- More than 90% reduction in fatalities¹
- 76% reduction in injuries²
- 35% reduction in all crashes²
- Slower speeds are generally safer for pedestrians

1. "Safety Effect of Roundabout Conversions in the United States: Empirical Bayes Observational Before-After Study." Transportation Research Record 1751, Transportation Research Board (TRB), National Academy of Sciences (NAS), Washington, D.C., 2001.
2. NCHRP Report 572: Roundabouts in the United States. National Cooperative Highway Research Program, TRB, NAS, Washington, D.C., 2007.

Access for Area Properties



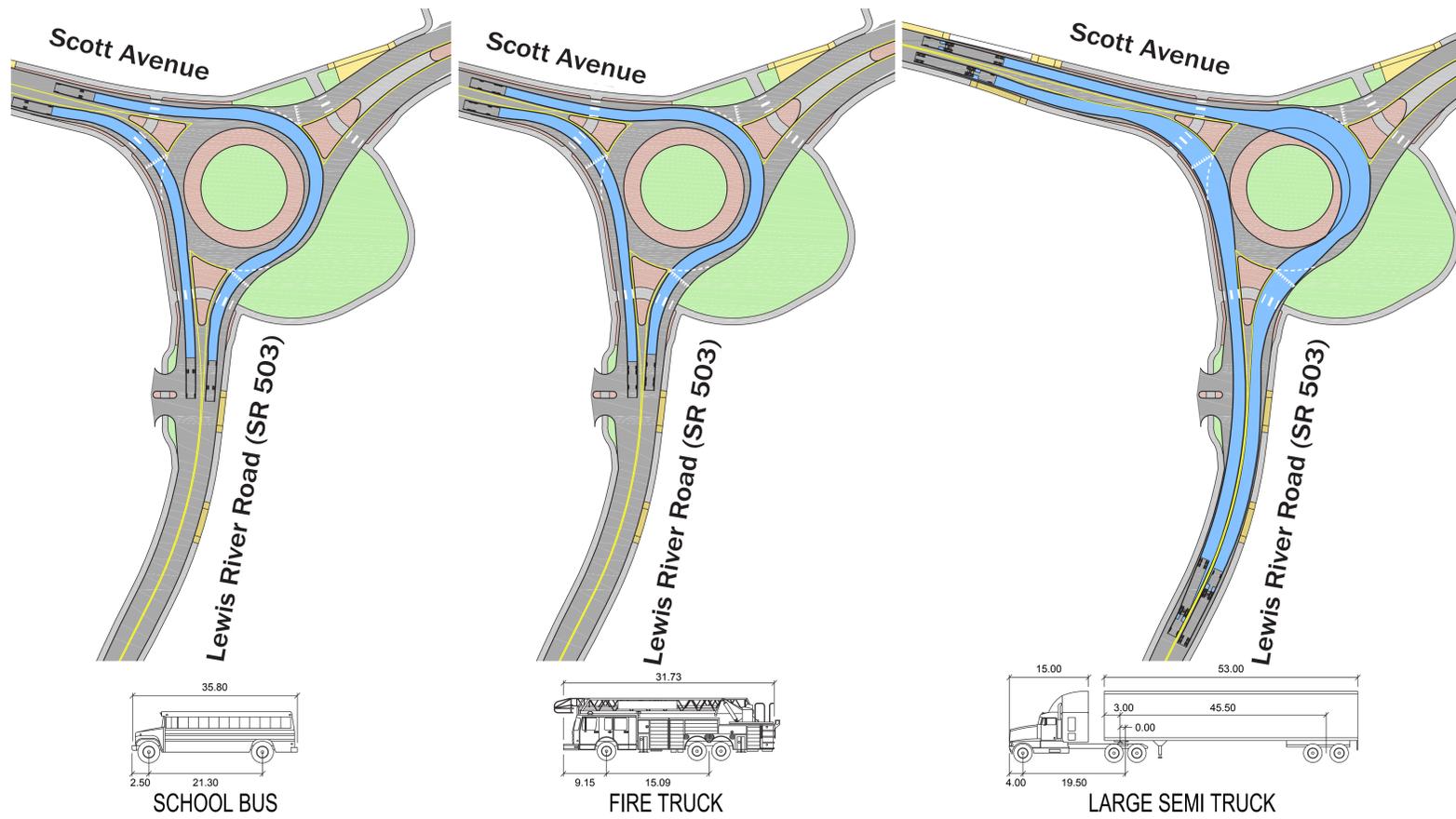
Roundabout Option



Signal Option

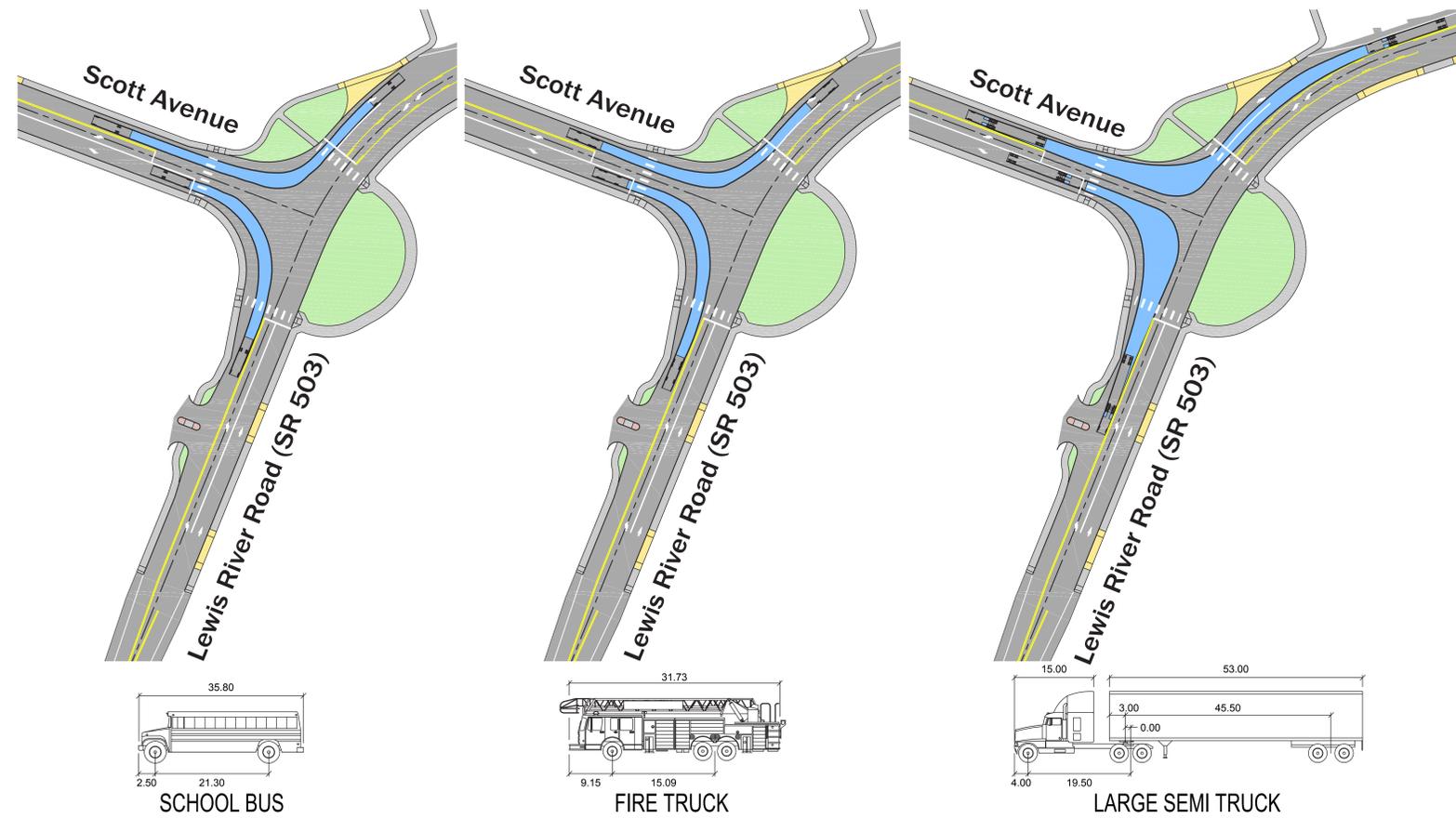


Turning for Emergency Vehicles, Trucks, and Buses



Roundabout Options

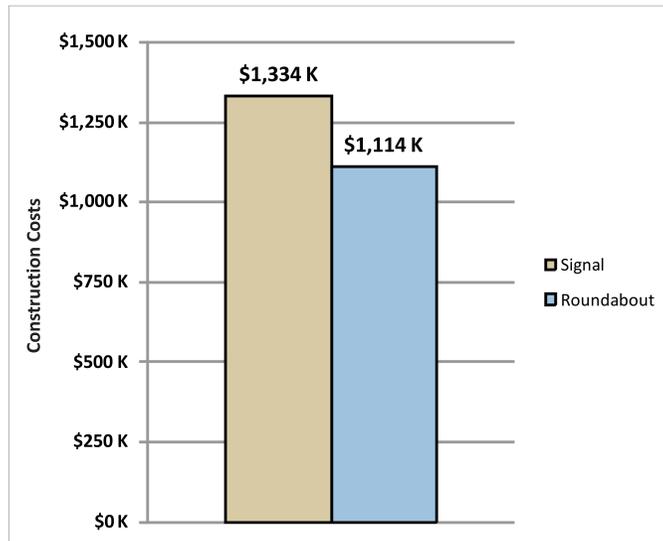
Signal Options



Cost and Right of Way



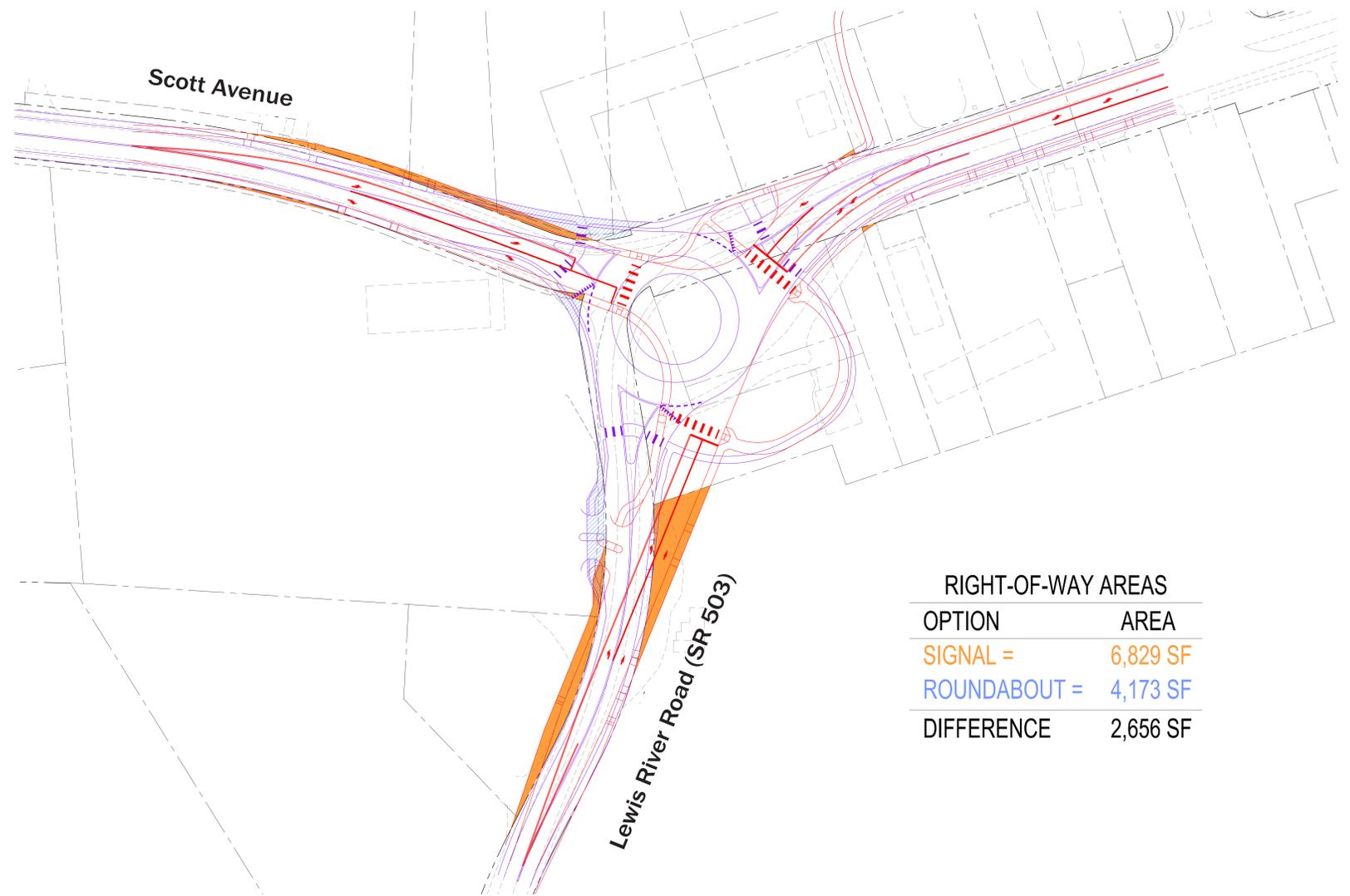
Construction Costs



Roundabout Savings = \$220k

Primary Factors for Added Cost

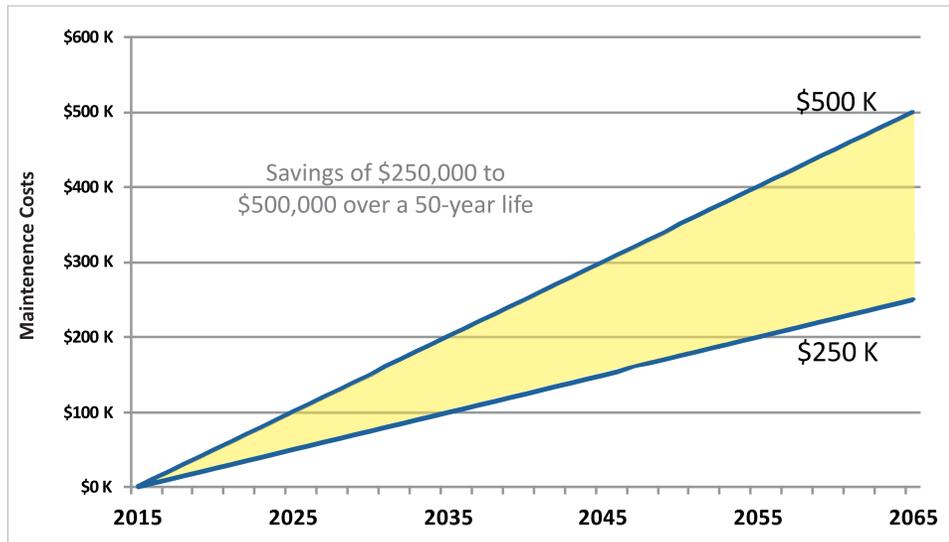
More Asphalt	\$106k
Traffic Signal Equipment	\$150k



RIGHT-OF-WAY AREAS	
OPTION	AREA
SIGNAL =	6,829 SF
ROUNDAOBT =	4,173 SF
DIFFERENCE	2,656 SF

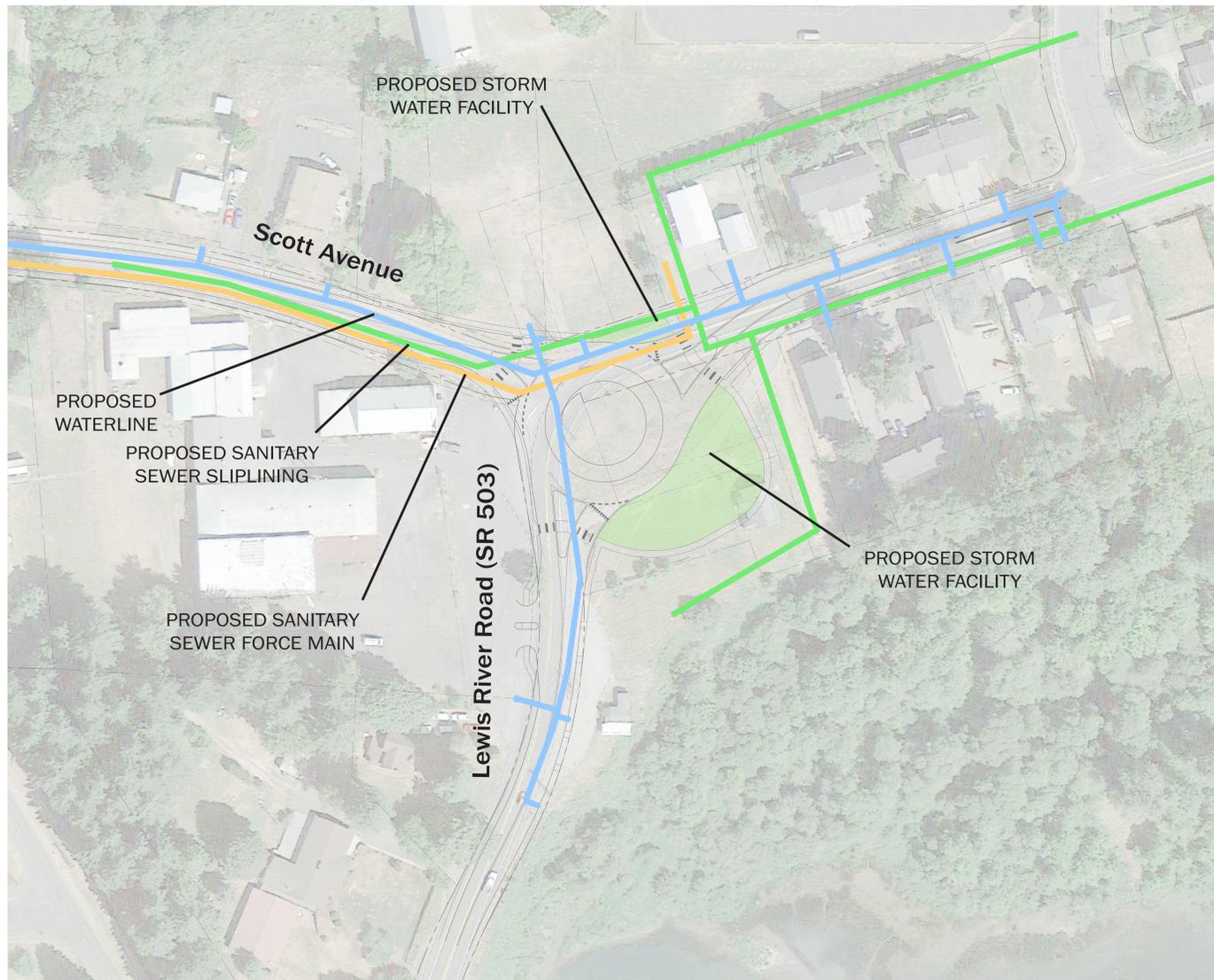
Long-term Maintenance Costs

Annual maintenance savings for a roundabout are about \$5,000 to 10,000 per year¹



¹ <http://www.wsdot.wa.gov/safety/roundabouts/benefits.htm>

Storm Water, Sewer, and Water Upgrades



Roundabout Option

Signal Option

