

PRACTICAL DESIGN AT WORK — DESIGN



Washington State
Department of Transportation

SR 243/Mattawa Vicinity Intersection Improvements

Background

In 2010, the State Route 243/Mattawa intersection, which is the main entrance to the city of Mattawa, was identified as a high-collision location. Most of these collisions involved vehicles traveling east/west on County Road 24 SW not coming to a complete stop before entering or crossing SR 243. The intersection has been the site of multiple fatal collisions as well as many injury collisions.

Original plan

WSDOT's design team identified multiple alternatives to reduce collisions at this intersection. These included features such as a diamond interchange, a Road 24 SW overpass and other variations of an overpass with acceleration and deceleration lanes for trucks to get up to speed with SR 243 traffic. A roundabout was also presented as an option.

Practical design solution

In early 2011, the design team presented these options to civic leaders including the Mayor of Mattawa, Port of Mattawa, Grant County Commissioners, fire and police and the local school district. Based on benefit/cost ratios and overall construction costs of the options, the roundabout was the preferred option. The team held several follow up open houses and meetings with larger freight shippers to gain their support. The team also produced several flyers in English and Spanish to engage the full demographic of the area's population.



Mattawa vicinity intersection



Collision history

When constructed in 2014, this will be the first roundabout on a 60 mph highway in the state of Washington.

Results

Safety: A Roundabout at this intersection will significantly reduce the risk of collisions for travelers in and out of Mattawa, as well as vehicles on SR 243.

Community coordination: The design team has put significant time and resources into presenting this project to the community and explaining the benefits to them. Multiple options were shown to the public through open houses and one-on-one meetings. Close coordination with the city of Mattawa, the port, local businesses, and adjacent land owners has resulted in a common vision in the community for this project.

Economic Vitality: A concern that often came up at open houses was how truck traffic – the lifeblood of the community – would be able to navigate the roundabout while hauling fruit and other agricultural products. The team showed attendees how the design of the roundabout could accommodate the large trucks with ease and would not slow down their progress through the intersection.

Cost: Compared to the other design alternatives, the roundabout can be installed for less while providing the same or better safety performance. The cost of the roundabout is about \$2M compared to \$6M+ for an overpass.