

2011 Design Excellence Awards

Preservation less than \$2 million
North Central Region

US 97, S of Chelan Falls Passing lane and Seal
Eric Pierson's Project Office

Project Overview

This ARRA project constructed a mile long passing lane and sealed approximately 13 miles of US 97 in Douglas County. US 97 in this area is mostly flat to rolling while it borders the Columbia River on the west and agricultural land on the east. It is the main north corridor from Wenatchee to the Canadian Border and its traffic volumes fluctuate greatly in the summer due to tourist and farm to market traffic.

Programmed as two distinct projects, the seal and passing lane were combined during the PS&E phase on a short time table due to the inclusion of ARRA funds.





Preservation over \$2 million
Washington State Ferries
Port Townsend Dolphins
Charlie Torres' Project Team

Project Overview

The Port Townsend dolphins help to guide the ferry into the slip during landings and protect the ferry when it is moored. The existing dolphins were creosote treated timber and in substandard to poor state and due to be replaced. This project replaced 3 aging dolphins with three new steel dolphins.

The primary risks to this project revolved around permitting vibratory pile driving in the location of a known protected marine mammal gathering place. NOAA most recently developed a very conservative model to determine the effects of noise on endangered mammals. At this location, the model determined that vibratory pile driving could harm these marine mammals at a distance of 13 square miles. WSF had to propose a reasonable monitoring plan so that construction could be halted if the endangered marine mammals entered the area. WSF embarked on a test pile project to monitor actual noise from pile driving to reduce the monitoring zone and increase NOAA's comfort with the project. WSF was successful. During construction, the reduced monitoring zone allowed for uninterrupted pile vibratory installation.

The project went to ad prior to the information from the test pile project. The team felt the data from the test pile would greatly reduce the monitoring zone and subsequently the cost of monitors. We were successful and the monitoring cost was reduced by 75%.







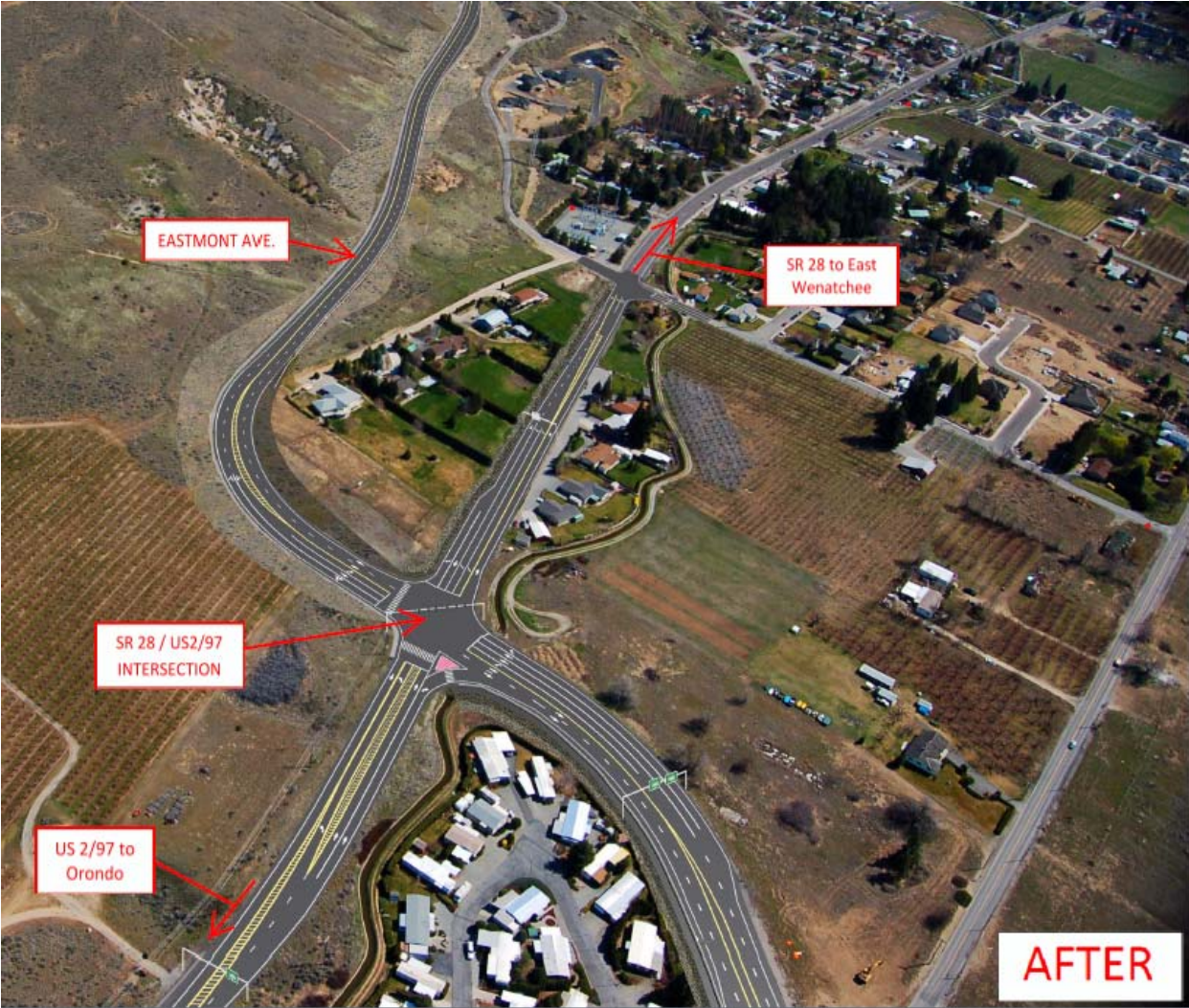
Safety/Mobility less than \$10 million
North Central Region
SR 28/US 2/97 Intersection Improvements
Kevin Waligorski's Project Office

Project Overview

This project is one of several contracts developed to deliver the SR 28/Jct. US 2 and US 97 to 9th St, Stage 1 improvements, which is a \$57 million project to reduce congestion on SR 28 in East Wenatchee by constructing a new county road to provide an alternative route to SR 28.

This particular piece constructs a 4th leg at the current US 2/97 & SR 28 intersection which will be tied into by a county road (Eastmont). Due to the large amount of truck traffic and history of rutting problems at this intersection it will also be converted to Portland cement concrete. This project involved right of way acquisition, utility relocation, coordination with the county and local irrigation district, heavy traffic impacts, and a public outreach campaign. The low bid for this project was just over \$3.8 million.





Safety/Mobility over \$10 million
Northwest Region
I-5, SR 161/SR18 Interchange Improvements
Bruce Nebbitt's Project Office

Project Overview

This project will improve safety and traffic operations by eliminating the weaving that occurs between the closely spaced loop ramps at the I-5/SR-18/SR-161 interchange. The project area contains multiple collision analysis locations (CALs) and collision analysis corridors (CACs) due to numerous short weaving segments and ramp geometrics. To address these concerns, the legislature programmed \$3 million of Nickel funds in 2003 and \$100 million in TPA funds in 2005.

Using this funding the design team developed a phasing plan that addressed the worst collision and congestion locations at the interchange. The initial phase of this plan reconstructs the I-5 & SR 18 interchange by eliminating two of the cloverleaf loop ramps with a westbound SR 18 to southbound I-5 "flyover" ramp and an eastbound SR 18 to northbound I-5 "flyover" ramp. The project also builds a new direct connection from westbound SR 18 to SR 161 in the vicinity of S. 359th. Additional features constructed by this project include a mitigation site to compensate for wetland impacts, wetland buffer impacts, and stream buffer impacts, a new stream channel for the Hylebos Creek, a storm water detention and treatment system, retaining walls, weigh in motion truck scales, illumination, signing and signal systems.





Safety/Mobility over \$10 million
South Central Region
I-90 Snoqualmie Pass East Phase 1B Hyak to Snowshed
Randy Giles/Scott Golbek's I-90 Project Office

Project Overview

The I-90 Snoqualmie Pass East project (I-90 Project) is a 15-mile corridor improvement project that will improve the safety and reliability of I-90 over Snoqualmie Pass from Hyak (milepost 55) to Easton (milepost 70). The 2005 Transportation Partnership Account provided funding for WSDOT to design and construct the first five miles (from Hyak to Keechelus Dam) of the project. WSDOT began construction on the I-90 Project in spring 2009 with the Phase 1A – Gold Creek Detour Bridge and Lake Storage Mitigation Project. In 2010, WSDOT awarded and broke ground on Phase 1B - Hyak to Snowshed Vicinity, or the second construction contract. During the 2010 construction season, WSDOT and crews began adding a new travel lane in each direction, blasted and stabilized rock slopes, and started rebuilding the Gold Creek and Rocky Run Bridges. This spring, WSDOT will advertise and begin constructing Phase 1C – Snowshed Vicinity to Keechelus Dam, concurrent to work on the Phase 1B contract. With average weekday traffic of over 30,000 vehicles, and weekend traffic of 60,000, WSDOT has committed to keeping two lanes of travel open in each direction during peak travel times, requiring advanced construction scheduling and staging operations.

Reaching these construction milestones required South Central Region project engineers to overcome challenging conditions when designing this project. Because of the enormity of project scope, project managers formed a large team in a new office location consisting of existing and new WSDOT staff, new hires, and a mix of on-call and General Engineering consultants (GEC). Management also used off-site consultants for specialty work such as geotechnical exploration, avalanche engineering, and hydraulics. The design team employed innovative and creative design strategies to overcome design challenges for the entire project, including stormwater treatment, meeting multiple objectives at one location (Fig. 3), reducing wetland impacts, determining rock profiles, surveying, slope monitoring, optimizing ground improvements, leveling the playing field, and designing a pre-contract to save a construction season. Project engineers also committed to an aggressive partnership and public involvement strategy to further advance project design and gain favorable public opinion.

In summary, South Central Region project engineers overcame countless obstacles when designing and constructing the \$551 million I-90 Project. But, their tireless efforts will guarantee the longevity, reliability, and safety of Washington's most important cross-state, east-west transportation corridor for decades to come.

