Lower Snake River Dams Transportation Study

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Background

The Snake River from Clarkston to Pasco contains four dams (Ice Harbor, Lower Monumental, Little Goose, and Lower Granite). The 2025 Transportation Budget (ESSB 5161, Section 217 (5)) directed the Washington State Department of Transportation (WSDOT) to study highway, local road, and freight rail transportation needs if the dams were removed. The study is evaluating scenarios for changes in infrastructure and operations that will be necessary to address the redistribution of shipments via barges to alternate modes such as road and rail, if the dams are removed. The assessment includes data-driven analysis based on information available in terms of both financial and carbon emission costs. The analysis also includes a robust and inclusive public engagement process to solicit feedback from interested community members.

Overall Progress

During the second quarter of 2025, WSDOT conducted activities on the following items:

- Scenario identification and modeling
- Total logistics cost model calibration
- Engagement activities
- Geologic impacts analysis
- Utility impacts analysis
- Roadway Impacts analysis
- Rail impacts analysis
- Transportation safety Impacts analysis

Scenario Identification and modeling

The consultant team continues to refine the eight future scenarios that will be used as possible options to mitigate the transportation impacts of dam removal. To date the project team has identified the specific improvements that make up seven of these scenarios. The enhancements that make up the remaining scenarios will be determined based on the modeling results of the first seven scenarios. The scenarios are:

- Scenario 1: Base year (2020) model with dams in place.
- Scenario 2: Base year (2020) model with dam breaches.
- Scenario 3: Future year (2045) model with dams in place.
- Scenario 4: Future year (2045) model with dam breaches.
- Scenario 5 (see Figure 1): New unit train terminals in the Lewiston/Clarkston and Central Ferry area.
- Scenario 6 (see Figure 2): Shortline rail to barge.
    - Add a unit train terminal in the Lewiston/Clarkston area.
    - Wallula: Add a direct connection between the rail line to Walla Walla and the Wallula barge terminal.
    - Columbia Plateau Trail: Reestablish the old rail line that runs from Washtucna to Pasco along what is currently the Columbia Plateau Trail. It is understood the trail is railbanked with the Washington State Parks and this is being confirmed.

- Rosalia: Constructing a new rail line from Rosalia to Thornton allows connection between the Spokane, Spangle, & Palouse (SS&P) line (which runs from Pullman north to Spokane) and the Hooper line (which runs from Thornton to Washtucna).

- Scenario 7: All solutions from Scenarios 5 and 6, plus a rail facility in the Washtucna area.
- Scenario 8: To be determined based on results from Scenarios 5, 6 and 7.

Figure 1: Scenario #5

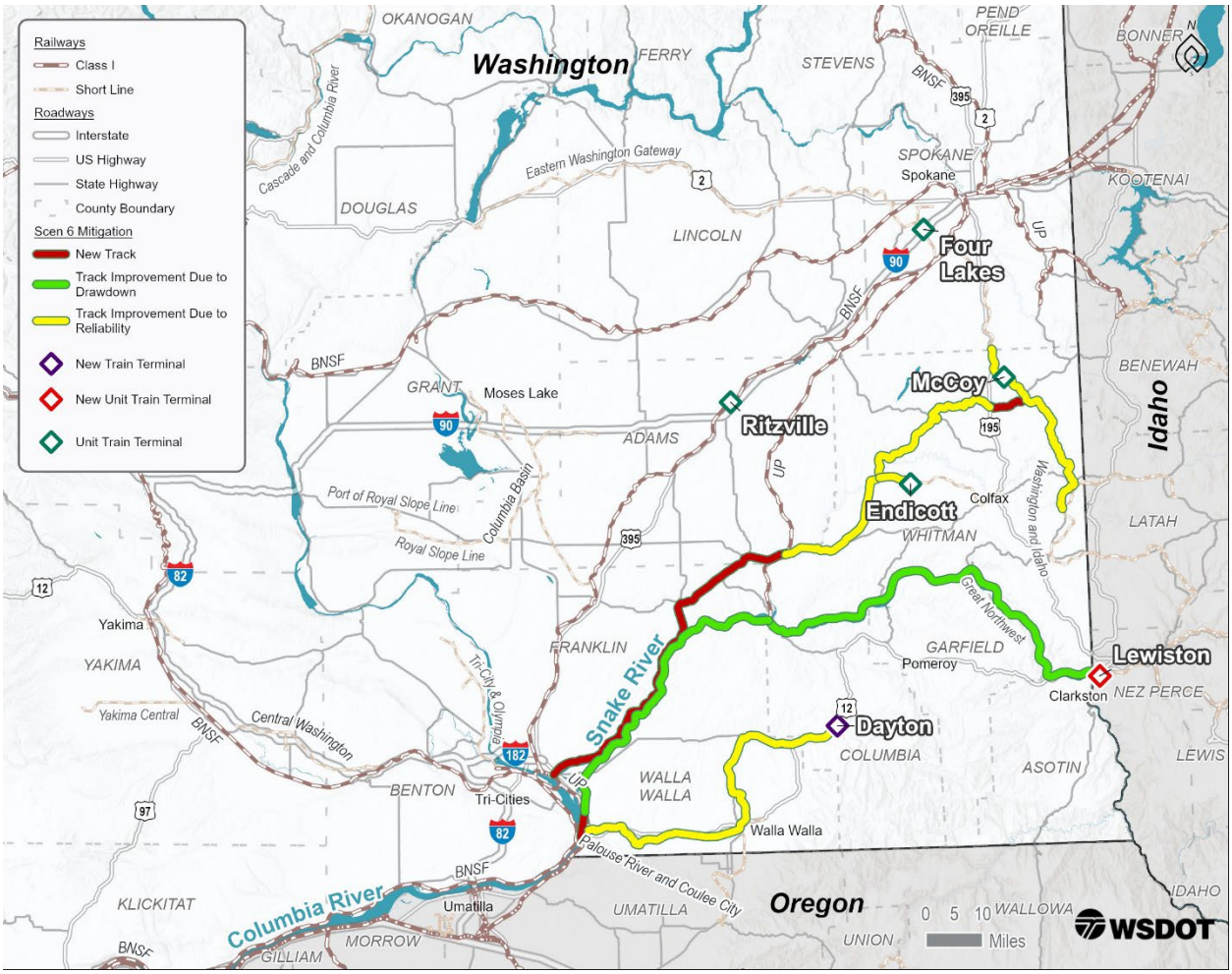

Figure 2: Scenario #6

Total Logistics Cost Model Calibration and Model Runs

The study team continues to improve and calibrate the model based on feedback received from the Joint Transportation Committee's consultant, Washington State University.

Initial model runs are under development for Scenarios 1, 2, 3 and 5. Preliminary results of forecasted wheat tonnage by transport mode, change in truck volumes and change in transportation cost are available. These scenarios will need to be rerun with the improved model.

Engagement activities

The consultant team continues with targeted and thoughtful outreach for this study. The following activities were completed related to the formal advisory committees for this study:

- Facilitating Technical Advisory Committee meetings in May and June to discuss the future scenarios and post-processing of model results.

- Facilitating a Community Advisory Committee meeting in June to discuss the future scenarios and post-processing of model results, as well as the June in-person open houses.

The Study Team Lead continued to conduct meetings with stakeholders as requested on an as-needed basis.

Three in-person open house meetings were held at the end of June. These meetings and the approximate number of attendees were as follows:

- Colfax – 35 attendees
- Pasco – 50 attendees
- Clarkston – 50 attendees

A general overview of the project was provided and information about the scenarios was presented for feedback. The consultant team is analyzing the results of these meetings and in the process of developing an open house summary document.

Geologic impacts analysis

The consultant team's analysis includes potential geologic impacts of river drawdown to the study area. Work performed by the Jacobs team under these tasks included:

- A boat tour of the Lower Snake River to observe locations of potential slope failure and any easily observable locations of potential scour
    - Boat tour participants included three Jacobs subject matter experts in geology-related fields and the WSDOT Study Lead.
    - Tour consisted of two days travel by boat (from Clarkston to Lower Monumental Dam) and a third day travel by car to inspect the Ice Harbor Dam pool as high wind conditions made boat travel untenable.
- Jacobs is combining results from the boat tour with information from previous studies to fully consider potential locations of slope failure and scour along the river.
- The geology team began working with the highway and rail engineers to determine how to share results from the boat tour and existing documents relative to the likelihood of slope failure at locations where highway and rail infrastructure is located close to the river.

Utility impacts analysis

The consultant team is analyzing potential impacts to utility infrastructure that cross the Lower Snake River or is adjacent to it and would be affected by a drawdown. The consultant team compiled existing information on the types and location of utilities in proximity to the river. The study team is evaluating the drawdown impacts on these utilities. Drawings or permits for

these utilities were not available, so engineers will utilize in-house utility subject matter experts to estimate the depth and size of these utilities.

Roadway impacts analysis

The consultant team is estimating two types of roadway impacts:

1) The impacts on the physical conditions of the roadway from the drawdown of the Lower Snake River; and
2) The traffic impacts of freight being diverted from barge to truck.

Highway engineers on the study team have started working with the geologists to develop a methodology for presenting results from boat tour and existing documents relative to the likelihood of slope failure at locations where highway infrastructure is located close to the river. The highway engineers have developed a cost template that will be populated with information from the geologists to develop final cost estimates.

The consultant team developed factors to convert from annual tonnages to number of trucks during the average day during a peak month. These values are used to feed into developing volume-to-capacity ratios. The study team used this information to develop a list of locations where truck traffic increases by over 500 trucks per day or where volume-to-capacity ratios are over 0.2 and trucks increase by over 300 trucks per day. These are locations where the changes in truck traffic are expected to have the most significant impacts in terms of traffic flow, safety and emissions. The consultant team will collect traffic data at these locations and will develop a model to determine the traffic impacts of the changes in truck traffic.

Rail impacts analysis

The consultant team is analyzing potential impacts to rail infrastructure in the event of a drawdown of the Lower Snake River dam removal. Work performed by the Jacobs team under this task included:

- Developed initial cost estimates for rail terminals.
- Developed model to estimate costs for installing riprap to support locations where slope failure is a high possibility.
- Identify locations where slope failure is a low, medium and high possibility.
- Rail conversion factors under development to convert from annual tons to average daily volumes during the peak month.
- Developed maps to illustrate the rail volumes and volume to capacity values on the rail network.

Transportation safety impacts analysis

The consultant team has developed an initial set of crash rates for all crashes, crashes with injuries and fatal crashes using three years of WSDOT crash data. We are reviewing these results and developing a methodology memo for review by WSDOT.

Next Steps

During the next quarter, the study team will conduct work on the following major activities:

- Completing the Total Logistics Cost model, including responding to comments from the Joint Transportation Committee.
- Refining future year model runs with and without a drawdown of the dams.
- Finalizing the definition of alternative mitigation scenarios and conducting model runs to reflect these scenarios.
- Continue with Phase two work on infrastructure impacts from shifting goods from barge on the Lower Snake River to other modes.
- Continue conducting outreach through an online open house.
- Complete contracting for Phase three of the study focused on regulatory and competitive impacts.

Below is a high-level timeline for the study.

TIMELINE