Lower Snake River Dams Transportation Study

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April 2025

Washington State
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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 2024 Supplemental Transportation Budget (ESHB 2134, Section 217 (9)) 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. The assessment includes quantitative analysis based on available data in terms of both financial and carbon emission costs. The analysis also includes a robust inclusive public engagement process to solicit feedback from interested community members.

Overall Progress

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

- Phase 2 task order
- Engagement activities
- Clarified barge data
- Total logistics cost model

Phase 2 Task Order

The graphic at the end of the report shows the four phases of the study. We worked in Phase 1 for the past year and recently started Phase 2 which includes impacts on highway infrastructure, roadway infrastructure, utilities, geology, and safety.

Phase 2 includes scenarios that will be analyzed in the transportation model. We will have the ability to create about four scenarios to run through the model. There will be more engagement with our Technical Advisory Committee and the public as we go through the scenario creation process. This increased engagement will happen over the next several months as we create these scenarios.

It is important to note that a single scenario will include multiple improvements. The scenario with the multiple improvements will be loaded into the model to determine how trips may change. The change in trips will lead us to the changes in road infrastructure that may be needed.

Engagement Activities

The consultant team conducted the following activities related to the formal advisory committees for this study:

- Facilitating Technical Advisory Committee (TAC) meetings in January and March to discuss the status of the TLC model, future scenarios, and post-processing of model results.

- Facilitating Community Advisory Committee (CAC) meetings in March to discuss the results of the online open house and the engagement to be conducted during Phase 2 of the study.

The study team lead continued to conduct meetings with stakeholders as requested on an as-needed basis.

The final summary document for the Online Open House was distributed to TAC and CAC members and posted to the project website.
Planning for engagement to support Phase 2 of the work is underway. This will include hosting three in-person open houses, attending community events throughout the spring and summer and hosting an online open house. The study team has developed a Phase 2 engagement plan and is finalizing it.

Clarified Barge Data

The study team also worked with the US Army Corps of Engineers (USACE) to confirm the accuracy of the uses of different types of waterway data. In particular, USACE provided details on how the Waterborne Commerce Statistics data and Lock Performance Monitoring System data are collected and analyzed. Additionally, the strengths and weaknesses of each data set were discussed and the study team reviewed the graphics included in the December Status Report to confirm that the data was used appropriately. This activity was conducted in response to feedback from the waterway data sources and in preparation for model calibration and validation activities. The table below provides a summary of the two data sources.

Data Item	Waterborne Commerce Statistics	Lock Performance Monitoring System (LPMS) Data
Monthly data available	**No (annual only).** Used to analyze historical and full year activity.	**Yes.** Used to identify seasonal peaks.
Lock/pool-specific data available	**No.** This data reports out for the entire Snake River including the ports on the Snake River that are in the McNary pool. Used to calibrate model for total river volume.	**Yes.** Used to calibrate model for each pool.
Commodity information	**Yes.** Data is available in finer detail than LPMS data.	**Yes.** However, data is more aggregated.

Total Logistics Cost (TLC) Model

The consultant team has continued to refine the TLC model as it moves through the calibration and validation process. The team has had frequent communication and meetings with the Joint Transportation Committee and their consultants to ensure that model structure adequately reflects real world activities. Recent refinements include updating the truck cost per mile curve and updating the capacities of key facilities to calibrate the model.

In preparation for the first full set of model runs, the consultant team is conducting the following activities:

- Conflation – developing the coding to combine the model road network with the roadway network to provide a singular and aligned source of roadway information for model results.
- Developing factors to convert the annual truck tonnage outputs of the model to peak daily and time-of-day truck volumes for development of metrics.
- Developing algorithms to automate the estimation of road capacity for each roadway link.
- Developing a spreadsheet to convert annual rail tonnage to daily values during the peak rail month.
- Developing environmental factors to convert truck and rail vehicle miles traveled to emissions factors for key pollutants and greenhouse gases.
- Developing crash rates for the region for truck-involved incidents.
- Identifying key locations for intersection level analysis.

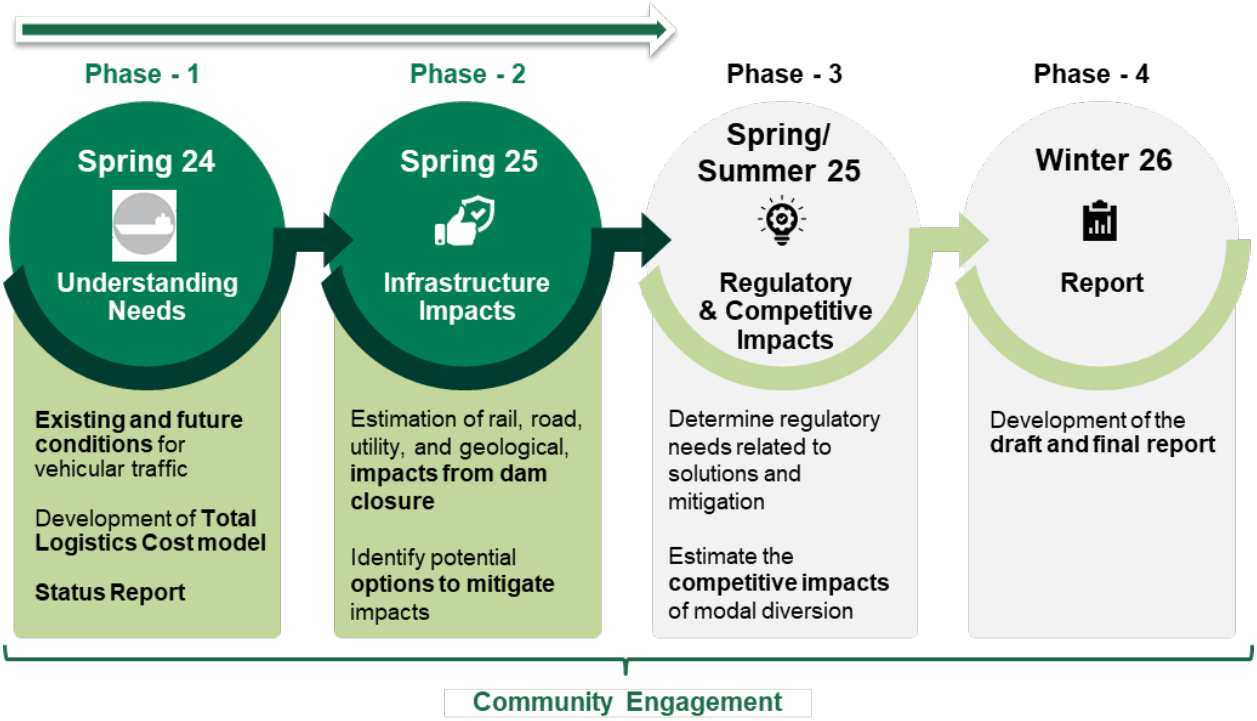
Next Steps

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

- Conduct base year and future year model runs with and without dams.
- Finalize the definition of alternative future scenarios and conduct model runs to reflect these scenarios.
- Conduct Phase 2 work on infrastructure impacts from shifting goods from barge on the Lower Snake River to other modes.
- Continue conducting outreach to ensure that the Phase 2 work is shared and vetted by appropriate stakeholders.
- Complete contracting for Phase 3 of the study focused on regulatory and competitive impacts.

Below is a high-level timeline for the study.

TIMELINE


Phase - 1
Spring 24
Understanding Needs
Existing and future conditions for vehicular traffic
Development of Total Logistics Cost model
Status Report
Phase - 2
Spring 25
Infrastructure Impacts
Estimation of rail, road, utility, and geological, impacts from dam closure
Identify potential options to mitigate impacts
Phase - 3
Spring/ Summer 25
Regulatory & Competitive Impacts
Determine regulatory needs related to solutions and mitigation
Estimate the competitive impacts of modal diversion
Phase - 4
Winter 26
Report
Development of the draft and final report
Community Engagement