

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Washington State Department of Transportation

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

| | | |
|---|--|--|
| Transportation Pooled Fund Program Project # <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> <p style="text-align: center;">TPF-5(494)</p> | Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" type="checkbox"/> Quarter 4 (October 1 – December 31) | |
| Project Title: <p style="text-align: center;">Western States Rural Transportation Consortium (WSRTC) (Phase 2)</p> | | |
| Name of Project Manager(s): <p style="text-align: center;">Tony Leingang</p> | Phone Number: <p style="text-align: center;">360-709-8002</p> | E-Mail <p style="text-align: center;">Tony.Leingang@wsdot.wa.gov</p> |
| Lead Agency Project ID: <p style="text-align: center;">TPF5494</p> | Other Project ID (i.e., contract #): <p style="text-align: center;">N/A</p> | Project Start Date: <p style="text-align: center;">January 31, 2022</p> |
| Original Project End Date: <p style="text-align: center;">March 31, 2027</p> | Current Project End Date: <p style="text-align: center;">March 31, 2027</p> | Number of Extensions: <p style="text-align: center;">0</p> |

Project schedule status:

- On schedule
 On revised schedule
 Ahead of schedule
 Behind schedule

Overall Project Statistics:

| Total Project Budget | Total Cost to Date for Project | Percentage of Work Completed to Date |
|----------------------|--------------------------------|--------------------------------------|
| \$1,100,918.00 | \$852,134.32 | 77.40% |

Quarterly Project Statistics:

| Total Project Expenses and Percentage This Quarter | Total Amount of Funds Expended This Quarter | Total Percentage of Time Used to Date |
|--|---|---------------------------------------|
| | \$26,563.34 | 77.40% |

Project Description:

The Western States Rural Transportation Consortium (WSRTC) was established with the following mission, vision and goals:

Mission

The WSRTC shall provide a collaborative mechanism to leverage research activities in a coordinated manner to respond to rural transportation issues among western states related to Technology, Operations and Safety.

Vision

The WSRTC shall promote innovative partnerships, technologies and educational opportunities to facilitate and enhance safe, seamless rural travel throughout the western United States.

Goals

- Provide a framework to leverage research and promote collaboration in solving rural transportation issues.
- To leverage research resources related to rural issues concerning technology, operations and safety.
- Provide technology solutions in the form of technology transfer to rural areas and training on a regular basis.
- Recycle and reuse existing research, applying its results to rural issues.
- Development of a rural western states integrated corridor management system to improve seamless, coordinated and safe transportation to the public.

Project work is assigned via task order, and 5 task orders have been executed in Phase 2 of the pooled fund through the end of this quarter:

- WTI Task Order #2 - WSRTC Meeting Coordination, Western States Forum Travel Support and Website Maintenance (\$110,000). This task order concluded 6/30/2024.
- WTI Task Order #6 - WSRTC Meeting Coordination, Western States Forum Travel Support and Website Maintenance (\$121,977). This task order concluded 6/30/2025.
- WTI Task Order #7 - Connected Vehicle Highway Grip Factor Reporting for Snowplows (\$128,775).
- WTI Task Order #8 - WSRTC Meeting Coordination, Western States Forum Travel Support and Website Maintenance

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

WTI Task Order #7 - Connected Vehicle Highway Grip Factor Reporting for Snowplows

Task 1: Project Management

The budget and balance spreadsheet of expenditures were reviewed and updated. Research team meetings were coordinated, prepped for, and followed up on.

Task 2: Literature Review / Background

The research team conducted online searches for relevant literature. Sources were reviewed and organized. A team drafted a literature review report.

Task 3: State of the Practice for Winter Maintenance Decision Making Processes

The two state of the practice surveys were exempted from human subjects review by the MSU IRB. The survey questions were reviewed by the PTAP and further refined based on feedback. They were put into the Qualtrics survey tool and tested by the research team. Based on research team review, the surveys were prepped for review and testing by the PTAP at the beginning of the next quarter.

Task 4: Evaluation of Virtual RWIS for Use in Road Weather Management Applications

The research team worked to identify potential virtual RWIS providers that could provide data for comparison. Permanent RWIS sites for the comparison were also identified (Pondosa – coming online in February 2026, Perez RWIS (MOD/139/PM22.65) along with availability of current and historical data. Length of comparison / timeframe for comparison was discussed.

Task 5: Develop a Framework for Evaluating a Connected Vehicle Automated Safety Warning System

No work was completed on this task during this quarter.

Anticipated work next quarter:

WTI Task Order #7 - Connected Vehicle Highway Grip Factor Reporting for Snowplows

Task 1: Project Management

A project fact sheet will be completed. A balance spreadsheet of expenditures will be updated. An update on the Consortium's website will be drafted. A No Cost Time Extension will be requested to allow sufficient time for data collection and analysis for Task 4: Evaluation of Virtual RWIS for Use in Road Weather Management Applications.

Task 2: Literature Review / Background

The research team will review literature to characterize the state of the practice relative to connected vehicles, RWIS station to vehicle data communication in rural/remote locations, the use of virtual RWIS networks, and performance metrics used by agencies in winter operations. The review will specifically include identifying data elements used by agencies in CVs during winter operations. Information will also be sought on decision matrixes used, and processes and procedures agencies have in place.

The literature review report will be drafted and reviewed.

Task 3: State of the Practice for Winter Maintenance Decision Making Processes

In conjunction with the literature review, the research team will prepare two surveys to distribute within Caltrans and to other state agencies. These surveys will characterize the state of the practice for winter maintenance decision making processes. In this quarter, the surveys will be reviewed and tested by the PTAP and finalized. The surveys will be distributed to the two groups and responses will be collected.

Task 4: Evaluation of Virtual RWIS for Use in Road Weather Management Applications

The research team will begin data collection and review for the permanent RWIS stations identified. Virtual RWIS providers will be contacted.

Task 5: Develop a Framework for Evaluating a Connected Vehicle Automated Safety Warning System

Work on this task will be completed subsequent to tasks 2, 3, and 4.



Significant Results:

WTI Task Order #7 - Connected Vehicle Highway Grip Factor Reporting for Snowplows (\$128,775).

Two State of the Practice surveys were drafted, reviewed, revised, and tested in a survey tool. Virtual RWIS providers were researched. Access to WeatherShare and California RWIS data was facilitated.

WTI Phase 2 Task Order 8: WSRTC Meeting Coordination, Western States Forum, Website Maintenance

The dates for the 2026 Western States Forum were announced with the distribution of a Save the Date postcard via mail, email, and posted on the Forum and Consortium websites.

The Call for Abstracts for the 2026 Western States Forum was released.

The Forum Steering Committee chose to move the 2026 Forum to the Gold Miners Inn, Grass Valley, California.

Travel reimbursements for the 2025 NRITS / ITE Meeting were disbursed.

The Forum and Consortium websites were updated.

Montana Tech Phase 2, Task Order #2 - Chain-Up Delay Tracking and Estimation

Work continued on the Chain-Up Delay Tracking and Estimation project, data collection continued overlapping with some bad weather and several chain-up events at Fawndale, and analysis was conducted on this data.

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

Due to a relatively mild winter two years ago and data quality issues discovered last year, we requested a no-cost time extension on the Chain-Up Delay Project to allow for further data collection to support algorithm development.

Potential Implementation:

Tech Transfer and prospective implementation is anticipated from round-table discussions and affiliation with the Western States Forum.

Chain-Up Delay Tracking and Estimation is planned for ongoing research and development and subsequent implementation.