

# NORTH/WEST PASSAGE



July 6, 2020

Transportation Pooled Fund Study TPF-5(376)

**FINAL Work Plan 15**



# North/West Passage

## TRANSPORTATION POOLED FUND STUDY TPF-5(376)

### BACKGROUND

Interstates 90 and 94 between Minnesota and Washington function as major corridors for commercial and recreational travel. Extreme winter weather conditions, prevalent in the northern states within this corridor, pose significant operational and travel-related challenges. Idaho, Minnesota, Montana, North Dakota, South Dakota, Washington, and Wyoming are predominantly rural and face similar transportation issues related to traffic management, traveler information, and commercial vehicle operations.

Recognizing the value of coordinated, cross-border collaboration for Intelligent Transportation System (ITS) deployment to address these issues, Minnesota initiated a meeting in 2002 with representatives from each of the states within the corridor. The group established itself as a Transportation Pooled Fund (TPF-5(093)) in 2003 through the Federal Highway Administration (FHWA). The TPF number was then changed to TPF-5 (190) when FHWA transitioned to a new reporting system. In 2019 TPF-5 (190) was closed out and a new number was assigned (TPF-5(376)).

The vision of the North/West Passage Corridor is to focus on developing effective methods for sharing, coordinating, and integrating traveler information and operational activities across state and provincial borders.

The North/West Passage Corridor has developed an [ITS Integrated Strategic Plan](#) and has successfully implemented thirteen work plans. Currently the group is completing its fourteenth work plan consisting of five projects. Complete details on previous work plans and individual projects are available through the program web site at [www.nwpassage.info](http://www.nwpassage.info).

### ACCOMPLISHMENTS

The North/West Passage has completed a number of projects since its inception in 2003, the following bullets highlight some of accomplishments of the corridor:

- Best of ITS Rural Award recipient in 2010.
- Development of one proposal to hire a contractor to perform work in two states.
- Each state uses their own phrases to describe road events. NWP defined and agreed upon a set of consistent event description phrases to use across the I-90 and I-94 corridor.
- Provided a forum for state patrol/police and DOT staff to discuss integration of systems.
- Held a workshop to create action plans for increased cross-border operation and maintenance collaboration.
- Participated in the USDOT Clarus initiative that developed a corridor Concept of Operations.
- Signed a Corridor-Wide MOU for coordination of traveler information.
- Created a benefit/cost spreadsheet tool for typical rural ITS projects.
- Researched freight funding opportunities, truck platooning and parking for the NWP states.

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- Evaluated traveler information tools and coordination during major events.
- Documented how each state plans and prioritizes ITS deployments.
- Assessed each state’s conformance to SAFETEA-LU 1201 regarding real-time system management information program.
- Federal Grant: Multistate Corridor Operations and Management Program (MCOM) recipient.
- Held peer exchanges on the development of a concept for rural TMC/TOC operations, variable speed limits, DOT efficiencies, TSMO practices, plow cameras, and protest management.
- Hosted a NWP Regional Operations Forum.
- Summarized NWP winter performance measures practices and approaches for forecasting road conditions.
- Evaluated Rural 511 Phone Service
- Documented current work zone practices of member states.
- Conducted a Pathfinder Peer Exchange.
- Conduct annual technician's forum.

## FINANCIAL STATUS

North/West Passage members contribute \$25,000 or more annually to the pooled fund and are reimbursed for program travel. The North/West Passage member agencies are anticipated to contribute financially to the projects included in this work plan.

## PROJECTS

At the April 2020 North/West Passage Annual Meeting, held via webinar, the states reviewed the North/West Passage goals, objectives, and projects completed to-date in order to gauge interest in continuing to work as a pooled fund. The states all agreed that goals are being met and the work being done is of value to warrant continuation of the pooled fund. A list of prospective projects for Work Plan 15 was then discussed in detail. The prospective projects were based on member suggestions and the [ITS Integrated Strategic Plan](#). These projects were scored at the annual meeting based on anticipated benefits to the corridor, likelihood of success, compatibility with vision and strategic plan, and timeliness of the project.

The voting results are presented in Table 1.

**TABLE 1: VOTING RESULTS FOR WORK PLAN 15 PROJECTS**

Project Name	Total Points Voted	Rank by Points
Operations Task Force – Year 8	644	1
Freight Task Force – Year 5	627	2
North/West Passage Situational Data Exchange (SDX) – Phase 2	576	3
Commercial Vehicle Traveler Information Assessment	542	4
North/West Passage Responses to the COVID-19 Pandemic	532	5
E-Screening Coordination Assessment	528	6

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North/West Passage Weather Messaging Coordination	511	7
North/West Passage Activity to Support the Work Zone Data Initiative (WZDI)	499	8
State Facility Assessment for Truck Parking and Other Uses	481	9
Cross Border Route Planning/Designation Assessment	479	10
North/West Passage Operations Data: Sources, Use, and Management	473	11
Edge Computer – Early Examples	318	12

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After discussing the voting results, the states agreed to fund the eight highest ranked projects.

Table 2 provides a funding plan for Work Plan 15 that includes several other expenses in addition to the projects selected through voting. Program administration support is as an overarching contractor task to support the Program Administrator and Chair with meeting preparations, writing conference papers, preparing presentations, maintaining progress reports, etc. The states are also planning their annual meeting in the coming year and the estimated cost noted below consists of associated travel expenses.

**TABLE 2: WORK PLAN 15 FUNDING PLAN**

Expense	Estimated Costs	Project Champion(s)
<b>Project Cost</b>		
Project 15.1 Operations Task Force – Year 8	\$25,000	Brandon Beise
Project 15.2 Freight Task Force – Year 5	\$15,000	Dave Huft
Project 15.3 North/West Passage Situational Data Exchange (SDX) – Phase 2	\$20,000	Vince Garcia
Project 15.4 Commercial Vehicle Traveler Information Assessment	\$20,000	Freight Task Force and Tony Ernest
Project 15.5 North/West Passage Responses to the COVID-19 Pandemic	\$15,000	Cory Johnson and Justin Belk
Project 15.6 E-Screening Coordination Assessment	\$20,000	Kevin Zeller
Project 15.7 North/West Passage State Weather Messaging Coordination	\$15,000	Brandon Beise
Project 15.8 North/West Passage Activity to Support the WZDI	\$10,000	Cory Johnson and Justin Belk
<b>Total Project Cost</b>	<b>\$140,000</b>	
<b>Administrative Cost</b>		
Program Administration Support	\$ 30,000	
Program Website Maintenance ( <a href="http://www.nwpassage.info">www.nwpassage.info</a> )	\$ 5,000	
Member Travel Support	\$ 10,000	
<b>Total Administrative Cost</b>	<b>\$ 45,000</b>	
<b>Revenue</b>		<b>Estimated Revenue</b>
State Contributions (7 states@ \$25,000/state)		\$ 175,000
Work Plan 14 Travel (met via webinar)		\$10,000
<b>Total (Revenue vs. Expenses)</b>		<b>\$ 185,000</b>

The member states will be directly involved with finalizing contractor cost estimates, scopes of work and schedules for each of the projects to ensure concurrence with the final mix of projects contracted for Work Plan 15.

The details of projects 15.1 – 15.8 are included below. For each project, a title, description, and champion are provided, in addition to a prospective approach. Also provided are planning level cost estimates. This planning level information was used as the basis to develop this work plan and will be used to arrange contractor services to execute the individual projects.

<b>Project Title</b>	<b>15.1 Operations Task Force – Year 8</b>
<b>Project Champion</b>	Brandon Beise, North Dakota DOT
<b>Project Purpose</b>	To continue meeting as a task force for another year.
<b>Budget</b>	\$25,000
<b>Background</b>	<p>North/West Passage has supported an Operations Task Force for six years. Following are highlights from each year.</p> <ul style="list-style-type: none"> <li>• <u>Year 1</u> (October 2013 – August 2014) Provided more in-depth expertise on the states' individual operating procedures and on the approaches that North/West Passage could pursue to strengthen and maintain coordination among the states, particularly during major events.</li> <li>• <u>Year 2</u> (August 2014 – August 2015) Webinars focused on a variety of topics including ITS deployment plans, API use among states, approaches to 24/7 staffing and citizen reporting and other crowd sources. The Operations Task Force also hosted a Regional Operations Forum on May 13-15, 2015.</li> <li>• <u>Year 3</u> (August 2015 – August 2016) Explored third party data providers to better understand the data they provide, summarized ITS deployments for operations, and conducted a Technician's Forum.</li> <li>• <u>Year 4</u> (August 2016 – August 2017) Discussed color DMS use, working with law enforcement, interpreting DMS guidelines, ITS asset management, and conducted a Technician's Forum.</li> <li>• <u>Year 5</u> (August 2017 – August 2018) Conducted a Technician's Forum, hosted a peer exchange on camera placement, integration and maintenance experiences, and hosted a webinar on protest management experiences.</li> <li>• <u>Year 6</u> (August 2018 – August 2019) Conducted a Pathfinder Peer Exchange and Wyoming DOT provided an update on their connected vehicle pilot project.</li> <li>• <u>Year 7</u> (August 2019 – August 2020) Conducted webinars including plow hit experiences and traveler information experiences.</li> </ul> <p>The intent of the task force is to:</p> <ul style="list-style-type: none"> <li>• Establish relationships</li> <li>• Enhance the scope of operations-oriented projects</li> <li>• Support further implementation of project findings</li> <li>• Increase interaction among the states outside of major events.</li> </ul>

<b>Approach</b>	<ul style="list-style-type: none"> <li>• <b>Task Force Schedule:</b> Develop a webinar schedule that identifies operations oriented, TSMO, and maintenance operations topics. Schedule task force meetings for the year. Longer meetings will be scheduled as needed to facilitate more in-depth discussion about select topics. One meeting topic will focus on drone use for traffic operations.</li> <li>• <b>Conduct Webinars:</b> Prepare, gather information, facilitate, and conduct task force webinars.</li> </ul>
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<b>Project Title</b>	<b>15.2 Freight Task Force – Year 5</b>
<b>Project Champion</b>	Dave Huft, South Dakota DOT
<b>Project Purpose</b>	To continue meeting as a task force for another year.
<b>Budget</b>	\$15,000
<b>Background</b>	<p>North/West Passage has supported a Freight Task Force for four years where the intent of the task force is to enhance North/West Passage activities with the freight community and efforts.</p> <ul style="list-style-type: none"> <li>• Year 1 – Provided a more in-depth expertise on the states’ individual freight issues and activities and on the approaches that North/West Passage could pursue to better understand and address freight needs in future projects.</li> <li>• Year 2 – Focused on supporting active engagement of Freight Task Force members, conducted best practice (and practical) research on project funding opportunities, helped refine the truck parking concept so that it best fits North/West Passage needs, and conducted exploratory research on truck platooning for the North/West Passage corridor.</li> <li>• Year 3 – Focusing on truck platooning regulations and virtual weigh stations.</li> <li>• Year 4 – Focused on supporting active engagement of Freight Task Force members and on taking steps to advance a multi-state truck platooning demonstration.</li> </ul>
<b>Approach</b>	<p>Ongoing Freight Task Force Support</p> <ul style="list-style-type: none"> <li>• Maintain the task force memberships list with input from the project champion</li> <li>• Prepare, gather information, facilitate, and conduct task force meetings</li> <li>• Schedule task force meetings periodically throughout the year to provide an opportunity for task force members to guide and provide input to work plan projects</li> <li>• Facilitate an in-person “Peer Exchange” to broaden state freight connections</li> <li>• Other support, as needed</li> </ul>

<b>Project Title</b>	<b>15.3 North/West Passage Situational Data Exchange (SDX) – Phase 2</b>
<b>Project Champion</b>	Vince Garcia, Wyoming DOT
<b>Project Purpose</b>	Expand the situational data exchange that was developed as part of the <u>Wyoming Connected Vehicle Pilot</u> project.
<b>Budget</b>	\$20,000
<b>Background</b>	<p>Wyoming DOT was awarded a cooperative agreement from the USDOT to implement a suite of connected vehicle applications and technologies to meet their region’s unique transportation needs. This included the development of a situational data exchange that compiles several data sources: data from connected vehicles, weather from the Pikalert system, incident information, work zone data, and parking information.</p> <p>The current North/West Passage project “Project 14.2: Situational Data Exchange – Phase 1” will provide members with an understanding of the potential use and expansion of Wyoming DOT’s situational data exchange to other state transportation agencies.</p> <p>The purpose of this project is to expand the situational data exchange to other North/West Passage members based on the results from Project 14.2.</p>
<b>Approach</b>	TBD based on next step recommendation from Project 14.2.

<b>Project Title</b>	<b>15.4 Commercial Vehicle Traveler Information Assessment</b>
<b>Project Champion</b>	Freight Task Force and Tony Ernest, Idaho Transportation Department
<b>Project Purpose</b>	To identify freight-relevant information needs and issues and to propose a framework for improved sharing information across borders.
<b>Budget</b>	\$20,000
<b>Background</b>	<p>In Winter 2019/20 one-on-one consultations were held with each North/West Passage member state to:</p> <ul style="list-style-type: none"> <li>• Understand their key issues, interests and needs</li> <li>• Identify overlap of interests between states</li> <li>• Recognize work already being done by others</li> <li>• Carve a unique and impactful role for the NWP Freight Task Force</li> </ul> <p>The consultations resulted in several research project concepts, including a Commercial Vehicle Traveler Information Assessment.</p>

	Currently, many states operate traveler information systems focused on providing passenger vehicles with relevant information within their own borders. Commercial vehicles require advance notice (often before they cross a state line) on parking availability, route closures and re-routing, construction activity, emergency declarations, etc. This project concept is aimed at increasing awareness and collaboration between state agencies to benefit trucking operations.
<b>Approach</b>	Develop and execute a task force work plan. The focal points of the work plan will be on a Commercial Vehicle Traveler Information Assessment: <ul style="list-style-type: none"> <li>• Identify information needs and issues (trucking operators and state agencies)</li> <li>• Assess available information and sources</li> <li>• Propose framework for information sharing across borders</li> </ul>

<b>Project Title</b>	<b>15.5 North/West Passage Responses to the COVID-19 Pandemic</b>
<b>Project Champion</b>	Cory Johnson, Minnesota DOT and Justin Belk, Washington DOT
<b>Project Purpose</b>	To document and share North/West Passage member agencies’ responses to the COVID-19 pandemic to apply towards future events or daily operations.
<b>Budget</b>	\$15,000
<b>Background</b>	<p>To decrease the spread of the COVID-19 pandemic in March 2020, many employees at state DOTs through direction from their governor were ordered to work from home. This happened very quickly, and DOTs had to adjust to this change. Adjustments included such things as:</p> <ul style="list-style-type: none"> <li>- Decentralizing work activities;</li> <li>- Transitioning IT support actions to accommodate the new work environments; and</li> <li>- Relocating operations center staff to their homes and accommodating this.</li> </ul> <p>The purpose of this project is to share what worked well and to understand lessons learned that may be applied during future events or towards daily operations.</p>
<b>Approach</b>	<ul style="list-style-type: none"> <li>• <b>Phone Interviews:</b> Prepare a questionnaire, with input from the North/West Passage members, on areas of interest to learn from each other on responses to the COVID-19 pandemic and where additional focus is needed. Phone interviews will then be conducted with North/West Passage members using the questionnaire to guide the discussion and the information gathered will be documented.</li> <li>• <b>Peer Exchange Webinar:</b> Conduct a peer exchange webinar. The webinar agenda to be prepared with input from the North/West Passage members based on the information gathered through the phone interviews. The agenda could be structured</li> </ul>

	<p>for each state to present their responses to COVID-19 or states could present and focus on different topic areas. In addition, a summary of national COVID-19 resources could be shared. For example AASHTO’s <a href="#">Coronavirus Resources</a> website.</p> <ul style="list-style-type: none"> <li>• <b>Draft and Final Project Summary:</b> Prepare a draft project summary of information gathered for review by the North/West Passage members. The comments received will then be incorporated into a final project summary.</li> </ul>
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<b>Project Title</b>	<b>15.6 E-Screening Coordination Assessment</b>
<b>Project Champion</b>	Kevin Zeller, Washington DOT
<b>Project Purpose</b>	To identify opportunities for new/improved permit coordination between states to increase efficiency for trucking operators and state agencies.
<b>Budget</b>	\$20,000
<b>Background</b>	<p>In Winter 2019/20 one-on-one consultations were held with each North/West Passage member state to:</p> <ul style="list-style-type: none"> <li>• Understand their key issues, interests and needs</li> <li>• Identify overlap of interests between states</li> <li>• Recognize work already being done by others</li> <li>• Carve a unique and impactful role for the NWP Freight Task Force</li> </ul> <p>The consultations resulted in several research project concepts, including an E-Screening Coordination Assessment.</p> <p>This project concept is aimed at increasing collaboration and minimizing number of stops and redundancies that trucking operators and state agencies encounter as part of multi-state truck movements.</p>
<b>Approach</b>	<p>Develop and execute a task force work plan. The focal points of the work plan will be on an E-screening Coordination Assessment:</p> <ul style="list-style-type: none"> <li>• “Paper” pilot of truck traveling from Washington to Montana, and beyond</li> <li>• Document existing process for several load/permit types</li> <li>• Identify opportunities for new/improved coordination to increase efficiency for trucking operators and state agencies</li> </ul>

<b>Project Title</b>	<b>15.7 North/West Passage State Weather Messaging Coordination</b>
<b>Project Champion</b>	Brandon Beise, North Dakota DOT

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<b>Project Purpose</b>	To document current approaches for weather messaging in each North/West Passage state and identify coordination approaches between the member states.
<b>Budget</b>	\$15,000
<b>Background</b>	<p>States have been increasing the use of weather messaging in traveler information systems and on Dynamic Message Signs (DMS).</p> <p>The North/West Passage Operations Task Force hosted a Pathfinder Peer Exchange on January 16, 2019. A national perspective was provided by FHWA and the National Weather Service (NWS). In addition, Wyoming and Minnesota shared their Pathfinder experiences.</p> <p>Washington, Idaho, and Minnesota have participated in Pathfinder workshops.</p> <p>This project will document the extent to which weather messaging is used in the North/West Passage states and identify coordination approaches.</p>
<b>Approach</b>	<ul style="list-style-type: none"> <li>• <b>Webinar:</b> Conduct a webinar to understand weather messaging (e.g. high winds, low visibility, winter weather) in each North/West Passage state. This will include summarizing weather messaging efforts in each member state.</li> <li>• <b>Coordination Process:</b> Based on the information presented in the webinar, identify a process to implement coordination (e.g. threshold of when to coordinate) and document coordination approaches across state boundaries.</li> <li>• <b>Draft and Final Project Summary:</b> Prepare a draft project summary of information gathered for review by the North/West Passage members. The comments received will then be incorporated into a final project summary.</li> </ul>

<b>Project Title</b>	<b>15.8 North/West Passage Activity to Support the WZDI</b>
<b>Project Champion</b>	Cory Johnson, Minnesota DOT and Justin Belk, Washington DOT
<b>Project Purpose</b>	To advance an activity to support the WZDI within the North/West Passage member states.
<b>Budget</b>	\$10,000 (Note: project budget may be used as a match if a federal grant submission is successful)
<b>Background</b>	<p>The North/West Passage members are aware of national work zone data management efforts, including the Federal Highway Administration (FHWA) WZDI and the US Department of Transportation (USDOT) Work Zone Data Exchange (WZDx) that aims to create a consistent language for communicating work zone activity data (WZAD) across jurisdictional boundaries.</p> <p>North/West Passage completed a project (<a href="#">Project 13.4 NWP Traveler Information Work Zone Alerts Feasibility Study</a>) in November 2019 to track current national work zone data</p>

	<p>management efforts, including pilot activities and funding opportunities, and to document current practices in North/West Passage states. This report summarized the information gathered and shared by North/West Passage members on project webinars.</p> <p>The purpose of this project is to build from the results of Project 13.4 and advance an activity to support advancing the WZDI within the North/West Passage member states.</p>
<p><b>Approach</b></p>	<ul style="list-style-type: none"> <li>• <b>WZDx v2 Specification and Potential WZDI Grant Opportunity:</b> Summarize and present key information to the North/West Passage members regarding the WZDI, including information about grant opportunities.</li> <li>• <b>Organize and support a North/West Passage activity to advance the WZDI within the member states:</b> Building from the results of Project 13.4 and in response to potential federal grant availability, work with members to identify the most affective activity to help members advance towards implementing the WZDx. This might include:             <ul style="list-style-type: none"> <li>○ Working with North/West Passage members to assess collaborative efforts to implement WZDx throughout the corridor, that could lead to a united response to a federal grant opportunity; or</li> <li>○ Working with each North/West Passage state to document existing work zone data that is currently collected and processed through their Road Condition Reporting Systems (RCRS) and identifying elements to be translated to implement the WZDx.</li> </ul> </li> <li>• <b>Draft and Final Project Summary:</b> Prepare a draft project summary of the overall approach selected by North/West Passage members to advance the WZDI throughout the corridor.</li> </ul>