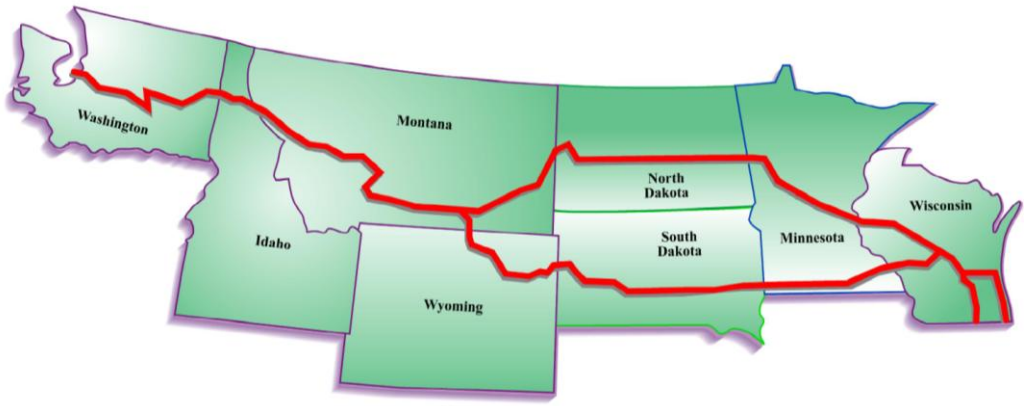
North/West Passage Pooled Fund Study

TPF-5(190)

Work Plan 6



FINAL

September 13, 2011

North/West Passage

North/West Passage Transportation Pooled Fund
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Background

Interstates 90 and 94 between Wisconsin 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, Wisconsin, 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 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.

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 four work plans containing 18 projects including development of a corridor-wide traveler information website. Currently the group is completing its fifth work plan consisting of 6 projects. Complete details on previous work plans and individual projects are available through the program web site at www.nwpassage.info.

At the Opening Session of the 2010 National Rural ITS Conference, the NWP was recognized as the winner of the 2010 Best of ITS Rural Award under the category Best New Practice. The Best of ITS Rural Awards is the only program in the world that recognizes the best and brightest of the rural ITS community.

Accomplishments

Since 2001 accomplishments of the corridor include:

- North and South Dakota 511 callers can select to receive information on Minnesota's highways.
- Creation of the program website.
- Development of one proposal to hire a contractor to perform work in two bordering states.
- Completion of a Strategic Plan to guide the future of the corridor.
- Each state uses their own phrases to describe road events. The NWP defined and agreed upon a set of consistent event description phrases to use across the I-90 and I-94 corridor.
- Created a website to provide traveler information for the 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 which demonstrated an integrated surface transportation weather observing, forecasting, and data management system. The result of the

project was an example of all NWP states working together to develop a corridor Concept of Operations document.
- Summarized recommendations to advance the ability of travelers to access information about adjacent states traveler information.
- Identified what would be the options (and related costs) should the NWP member states decide to move towards regional permitting.
- Identified recommendations to enhance existing and corridor-wide trucker traveler information dissemination systems.

Financial Status

There have been previous solicitations for funding associated with North/West Passage. Solicitation 1 in 2003 generated $200,000 from the states of Minnesota, North Dakota and Wisconsin. In 2006, the Solicitation 2 generated funding from all eight states totaling $425,000. In 2008, Solicitation 3 was issued to fund Work Plan 4. In the third solicitation $200,000 was generated by contributions from all eight states. A fourth solicitation in January 2010 to support Work Plan 5 generated $175,000. In January 2011 a fifth solicitation was conducted to solicit funding to support Work Plan 6.

Projects

At the March 17 and 18, 2010 annual meeting 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 enough value to warrant continuation of the pooled fund. A list of prospective projects for Work Plan 6 was then developed over several months. The prospective projects were based on member suggestions and the Strategic Plan. These projects were scored at the May 18 and 19, 2011 Annual Meeting based on anticipated benefits to the corridor, likelihood of success, compatibility with vision and ConOps, and timeliness of the project.

The voting results, along with planning level cost estimates are presented in Table 1.

Table 1: Voting Results for Work Plan 6 Projects

Project Name	Estimated Project Costs	Estimated Cumulative Costs	Total Points Voted	Rank by Points
Corridor-Wide Traveler Information Coordination – Operational Test	$ 30,000	$ 30,000	631	1
23 CFR 511 final rule	$ 15,000	$ 45,000	599	2
Citizen Assisted Reporting – Phase 2	$ 55,000	$ 100,000	566	3
Cost/Benefit Tool Evaluation – Phase 2	$ 25,000	$125,000	562	4
NWP Traveler Information Website – Phase 3	$ 25,000	$175,000	556	5

CVO – Regional Permitting Phase 3	$ 25,000	$150,000	551	6
Corridor-Wide Marketing and Outreach to CVOs	$35,000	$210,000	452	7
Canada/NWP Cross Border Traveler Information Coordination	$ 25,000	$235,000	481	8
Advanced Driving Simulator Virtual Test Bed – Warning Signs	$ 25,000	$260,000	336	9

After discussing the voting results the states agreed to pursue as many of the projects listed in Table 2 as could be accomplished with available funding. Full project details are included at the end of this work plan in Appendix A. Details for those projects not selected for this work plan are also included in Appendix B.

Several other expenses are estimated in addition to the projects. Program administration support is as an overarching contractor task to support the Program Administrator with meeting preparations, writing conference papers, preparing presentations, etc. The states are also planning their annual meeting in the coming year and the estimated cost consists of associated travel expenses.

Table 2: Work Plan 6 Funding Plan

Expense	Estimated Costs	
Project Cost		
Project 6.1: Corridor-wide Traveler Information Coordination – Operational Test	$ 30,000	
Project 6.2: 23 CFR 511 Final Rule	$ 15,000	
Project 6.3: Citizen Assisted Reporting – Phase 2	$ 35,000*	
Project 6.4: Cost/Benefit Tool Evaluation – Phase 2	$ 25,000	
Project 6.5: NWP Traveler Information Website – Phase 3	$ 25,000	
Project 6.6: CVO – Regional Permitting Phase 3	$ 25,000	
Project 6.7: Corridor-Wide Marketing and Outreach to CVOs	$ 35,000	
Total Work Plan 6 Cost	**$ 190,000**	
Administrative Cost		
Program Administration Support	$ 25,000	
Program Website Maintenance (www.nwpassage.info)	$ 5,000	
Member Travel Support (one in person meeting)	$ 10,000	
Total Administrative Cost	**$ 40,000**	
Revenue		**Estimated Revenue**
Carryover Balance from Previous Work Plan		$ 43,630.04
Wisconsin In-kind contribution (UW TOPS Lab – Project 6.2)		$ 15,000
State Contributions from Solicitation 4 (7 states@ $25,000/state)		$ 175,000
Total (Revenue vs. Expenses)	**$ 230,000**	**$ 233,630.04**

** As the detailed project scope was developed for Project 6.3 the total project cost was reduced from $55,000 to $35,000.*

The 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 6.

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The details of projects 6.1 – 6.6 are included in this appendix. For each project, a title, description, and recommended champion is 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. Details for those projects not selected for this work plan are included in Appendix B.

Project Title	**6.1: Corridor-wide Traveler Information Coordination – Operational Test**
Project Champion	Vince Garcia, Wyoming DOT
Project Purpose	Conduct an operational test to coordinate traveler information (communications, acceptance, MOU's etc.) during one or more major events throughout the corridor. The project would leverage existing systems in place (DMS, 511 phone & web, corridor wide ATIS site) and therefore would not need to deploy new equipment or systems.
Budget	$30,000
Background / Current Status	Several NWP projects have developed guidelines for consistent traveler information reporting (e.g. Project 5.3: Consistent and Coordinated Dynamic Message Sign (DMS) Use Workshop, and Project 3.1 Corridor-Wide Consistent Major Event Descriptions). This project proposes another step to test the effectiveness of these guidelines during actual major events that occur along the NWP Corridor.
Approach	For this project, one or several major planned events will be identified (e.g. Sturgis), together with a winter month where adverse weather is expected. The project will treat the NWP Corridor like an Operational Test of coordinated use of ITS devices and systems. The ITS devices and systems will be the 511 phone and web systems already deployed, the DMS already deployed, and other devices. This project will take all the guidelines and operating plans that have been developed and work with member agencies to strongly encourage the use of the guidelines. The project will assess how the consistent disseminations function (e.g. do travelers notice? Does it enhance the information dissemination?), and will assess the ease or difficulty that NWP member agencies encountered utilizing the guidelines (e.g. was there resistance to using the guidelines? Was there a perceived value? Was there a perceived lack of value?).

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Project Title	**Project 6.2: 23 CFR 511 Final Rule**
Project Champion	Vince Garcia, Wyoming DOT
Project Purpose	To investigate options and to promote consistent application of the recently adopted federal rule regarding the real-time system management information program (23 CFR 511).
Budget	$15,000
Background / Current Status	The USDOT – FHWA has recently adopted a Code of Federal Rulemaking (CFR) rule regarding real-time system management information. Under this rule, state agencies must measure, report, or calculate information describing the transportation system that would be useful to travelers. The rule establishes reporting frequencies, coverage areas, information topics, and other requirements that the organizations must adhere to. To successfully meet these requirements, State DOTs may need to deploy additional systems, or alter reporting policies and procedures. There is no additional funding available to assist states in meeting these requirements.
Approach	The approach to this project is for the North/West Passage member states to work in partnership to identify what can or cannot be accomplished based on the Federal Requirements. This will provide assistance to those NWP states that do not yet have a defined plan of action for meeting the requirements. The other benefit will be the opportunity to coordinate the development of systems such that they work consistently from one NWP state to the next, to the extent possible. Specific activities of this project are expected to include: • Documenting the guidelines each member agency meets or doesn't meet. • Conference calls and webinars focusing on one or more of the specific requirements to facilitate discussion on how each state is or is not meeting a requirement. A summary document will then be developed identifying the gaps that need to be addressed to accomplish the current guidelines. Each state will then identify their plan for meeting the rule. • Consolidating the North/West Passage's comments to the guidelines for submission and consideration by the USDOT. • Identifying a USDOT representative to engage in the project.

Project Title	Project 6.2: 23 CFR 511 Final Rule
	• Being available for responses/discussions/reactions from the USDOT. • Monitor and participate in the 511 stakeholder outreach on the 511 rule being conducted by FHWA.

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Project Title	**Project 6.3: Citizen Assisted Reporting – Phase 2**
Project Champion	Vince Garcia, Wyoming DOT and Tony Ernest, Idaho Transportation Department
Project Purpose	To implement selected strategies to expand Wyoming DOT's Enhanced Citizen Assisted Reporting System.
Budget	$ 35,000
Background / Current Status	The NWP Work Plan 5 project "Enhance Citizen Assisted Reporting (E-CAR)" project developed concepts for how the successful Wyoming ECAR project could be expanded both within Wyoming as well as to other NWP member states. The conclusion of this Work Plan 5 project identified several concepts for expanding E-CAR as a second phase to the project.
Approach	This project would expand Wyoming's ECAR system in three phases. Wyoming DOT will complete Phase 1 in house. The cost of Phase 2 and 3 is $35,000 and will be allocated to each Phase based on the completed of Phase 1. • **Phase 1 – Develop an ECAR web entry tool for the Wyoming DOT ECAR Program.** WyDOT will develop a web entry tool for existing ECAR users in Wyoming to push the event reports using an XML format. Lessons learned will be documented from existing ECAR recruits about preferences to phone vs. web entry. All NWP members will benefit from understanding citizens' preferences of web or phone entry. This portion of the project to be led by Vince Garcia, WyDOT. • **Phase 2– Define Corridor-Wide Consistency in Observation and Reporting.** In preparation for additional NWP states (Idaho initially and possible more in the future) deploying and using the ECAR tools, a facilitated process will begin with the Wyoming ECAR phrases and observation and reporting processes, and work with all NWP members to determine if these processes and phrases are suitable for the entire corridor. In the event that additional phrases or reporting approaches are needed (e.g. to meet unique needs of other states or metro areas) these will be defined in a consistent manner. The ultimate intent is that the WyDOT ECAR tool could be used by any NWP state. This portion of the project to be led by Vince Garcia, WyDOT. • **Phase 3– Deployment of the Wyoming DOT Web Entry Tool (Phase 1 of this project) by Idaho.** Idaho Transportation Department deploy and use the WyDOT web entry tool, allowing trained Idaho citizens to enter events. In order for the events that are entered to reach the traveling public, ITD

Project Title	Project 6.3: Citizen Assisted Reporting – Phase 2
	will develop an interface to ingest reports from the WY/DOT ECAR tool to the ITD CARS system. This will demonstrate the portability of the Wyoming create web tool and demonstrate citizen reporting in multiple states. This portion of the project to be led by Tony Ernest, ITD.

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Project Title	**Project 6.4: Cost/Benefit Tool – Phase 2**
Project Champion	Bill Legg, WSDOT
Project Purpose	To enhance and improve the North/West Passage Cost/Benefit Tool for future coordination with the ENTERPRISE ITS Warrants Project.
Budget	$25,000
Background / Current Status	The North/West Passage is in the process of completing the first phase of a Cost/Benefit Tool. The spreadsheet tool was developed to help agencies determine whether benefits of a project outweigh associated costs (especially in rural areas). There are standard costs and benefits that are generally accounted for (travel time savings, vehicle operating cost savings, safety benefits), but this tool was developed to include the standards used as well as the DOT Cost-Saving as a Benefit. The first phase was focused on the following four devices: DMS, Traffic Detection, RWIS, and CCTV. The tool is portable (Excel spreadsheet) and can be executed easily with minimal preparation. The tool was developed for use in rural and urban areas. A Metropolitan Planning Organization model is not required to use the spreadsheet.
Approach	This project would enhance the Cost/Benefit Tool by: • Adding 'MetaData' to the tool which would explain deployment parameters for cited references, descriptions of how each device is used, and conditions for deployment • Adding additional ITS devices to the four developed in Phase 1 (Ultimate goal is to align the cost/benefit tool device list with the ENTERPRISE Warrants device list) • Continuing to expand/improve the tool based on input from the North/West Passage states as well as the ITS community

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Project Title	**Project 6.5: NWP Traveler Information Website – Phase 3**
Project Champion	TBD
Project Purpose	Enhance www.i90i94travelinfo.com by adding citizen comments on events to the website, , or uploading the ECAR entries from Wyoming and Idaho (Project 6.3).
Budget	$25,000
Background / Current Status	Phase 1 of www.i90i94travelinfo.com developed a corridor-wide traveler information website for travelers on I-90 and I-94 from Wisconsin to Wyoming, relieving the need to check each state's website. The website provide users with camera images and weather conditions along the corridor to serve as a comprehensive source for traveler information. The website also identified rest areas and provide links to each states commercial vehicle restriction information as well as truck stop information. Phase 2 of the website added the ability for users to click on a state to receive a list of active event reports posted by member agencies. Currently the website is posting six of the eight member states event data.
Approach	The Phase 3 of the North/West Passage traveler information website will be determined at the conclusion of Phase 2. Possibilities included: • Enhancing the website to provide the option for users to comment on events • Acquiring and posting ECAR entries from Wyoming and Idaho (Project 6.3)

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Project Title	**Project 6.6: CVO – Regional Permitting Phase 3**
Project Champion	Jim Wright, Washington State DOT
Project Purpose	The goal is to continue to increase the efficiency of trucking in the corridor by reducing the confusion in regulations and requirements for oversize/overweight trips and by providing a single mechanism for obtaining permits for oversize/overweight loads moving over the corridor.
Budget	$25,000
Background / Current Status	The North/West Passage group completed Phase 1 of a regional permitting project. The project researched existing regional permitting compacts, gained information through outreach to NWP states and the trucking industry, and formulated ideas for moving towards regional permitting. Phase 2 is focused on moving recommendations from Phase 1 forward including: • Conducting regular Conference Calls/Webinars • Identifying Opportunities to Reduce Confusion of Regulations/Requirements Between Jurisdictions • Conducting a NWP Basic Permit Requirements Inventory • Researching the XML Permit Concept. • Identifying the Next Steps for NWP States to Join/Not Join or Expand WASHTO
Approach	TBD during the completion of Phase 2.

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Project Title	**Project 6.7: Corridor-Wide Marketing and Outreach to CVOs**
Project Champion	Cory Johnson, Minnesota DOT
Project Purpose	The purpose of this project is to establish brand recognition for the North/West Passage corridor and to initiate outreach and education to the commercial vehicle operators (CVOs) that travel the corridor regularly.
Budget	$35,000
Background / Current Status	The first task of this project would be to assess the current communication channels that exist with commercial vehicle carriers (both real-time and periodic communication) in an effort to develop a market outreach plan. In addition, the public affairs coordinators in each member state likely will have established procedures and processes that must be respected, and in many cases, can be leveraged to accomplish this project.
Approach	Marketing to CVOs along the corridor should begin with an initial stage to develop a marketing plan. This plan should consist of defining "who" the primary target audience is. Then the North/West Passage members should develop and reach consensus on "what" messages are to be conveyed to the primary audience (e.g., one option might be that the message is to inform them of the North/West Passage website and the ability to call transfer to any North/West Passage state by calling 511). Then the market outreach effort should define "how" the communication will be performed. This is where the existing communication channels (and use of flyers, web announcements, press releases, or media outlets) also will be utilized. The second phase of the project should focus on performing the outreach to commercial vehicle carriers by executing the marketing plan.

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This appendix contains the details of projects not selected for Work Plan 6. The projects are documented here for future work plan reference and for further consideration should additional funding become available to the North/West Passage states.

Project Title	**Canada/NWP Cross Border Traveler Information Coordination**
Project Champion	Brandi Hamilton, Montana DOT
Project Purpose	Research current cross border traveler information efforts and create interaction with Canada to identify cross border traveler information opportunities.
Budget	$25,000
Background / Current Status	In the Spring of 2010, there was a full day Webinar involving states and provinces that border on the US/Canadian border. The topic of discussion was cross border travel information. The discussion focused on dissemination of information about things such as border crossing times, as well as information related to driving conditions along major routes on both sides of the border, and finally in information sharing between systems.
Approach	This project would create collaboration between US states and Canadian Provinces to identify and resolve any barriers to cross border information exchanges and information dissemination. Ultimately, the goal of this project would be to better educate drivers in both the US and Canada who are planning to cross in to the other country about the border crossing times, and driving conditions and travel times for the duration of the trip.

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Project Title	**Advanced Driving Simulator Virtual Test Bed – Warning Signs**
Project Champion	Brandi Hamilton, Montana DOT
Project Purpose	The goal of this project is to use an advanced driving simulator to develop a virtual test bed within which to collect driver data in response to different types of advance warning signs and timing algorithms.
Budget	$25,000 (to be verified)
Background / Current Status	Traffic signals are important for the safe and efficient control of traffic through intersections. Advance warning devices are necessary in cases with restricted sightline distances to the traffic signal or high speeds on the approach road. The success of these warning devices depends on the design of the type, logic, and timing of warning. The goal of this project is to use an advanced driving simulator to develop a virtual test bed within which to collect driver data in response to different types of advance warning signs and timing algorithms. The data provided will support performance-based design decisions about the type of signs and algorithms to deploy at intersections as a function of road environment.
Approach	The analysis will consider driver data as well as driver preference for different combinations of sign type, warning algorithm, and mainline speed. The data will indicate the extent to which specific sign combinations attract driver attention to the sign and result in a change in behavior in response to the active sign state. These data are expected to support performance-based design decisions about the type of signs and timing algorithms to deploy at intersections as a function of road environment (e.g., speed limits. In so doing, the conclusions of this study will help support policy on intersection signing.