

North/West Passage Pooled Fund Study

TPF-5(190)

Work Plan 4

Project 4.5:

**Traveler Information Dissemination to Commercial
Vehicle Operators**

Final Report

Prepared by:



Athey Creek Consultants

March 15, 2010



Table of Contents

1.0 Introduction	1
1.1 Project Goal	1
2.0 Successful CVO Information Dissemination Approaches	2
2.1 Commercial Vehicle Dispatcher Email Push.....	3
2.2 Commercial Vehicle Restrictions Dissemination.....	4
2.3 Commercial Vehicle Critical Geography based Traveler Information.....	5
2.4 Truck Parking Information/Truck Stops and Services	7
3.0 Experiences, Challenges, and Successes	8
4.0 Trucking Industry Feedback	9
5.0 Truck Parking Initiatives.....	11
6.0 Recommendations and Next Steps.....	13

1.0 Introduction

1.1 Project Goal

The original goal of North/West Passage (NWP) Project 4.5 was to provide the information necessary for states to consider expanding short term truck parking availability in the locations where it is needed most along the I-90 and I-94 corridor from Washington to Wisconsin. In November, 2008, the North/West Passage group (Washington, Idaho, Montana, Wyoming, North Dakota, South Dakota, Minnesota, and Wisconsin) decided to temporarily defer action on this goal as there were a number of other projects ongoing (by other groups) related to truck parking issues and challenges (see Section 5.0). The group did not want to duplicate any efforts and decided to wait and determine the exact needs of this project at a later date.

In 2009, the group agreed to broaden the focus of the project and place less emphasis on truck parking availability. The goal of the project was modified as follows:

To work with North/West Passage member agencies to research and document experiences, challenges, and successes disseminating travel information to truckers, and to prepare guidelines for commercial vehicle travel information for the North/West Passage Corridor that could be used by individual member states, or considered for an eventual future phase of the Corridor-wide Traveler Information Website (<http://i90i94travelinfo.com/>).

2.0 Successful CVO Information Dissemination Approaches

The eight North/West Passage states provide traveler information to the public through a variety of mediums and approaches. The traveler information systems in the North/West Passage states were reviewed, and stakeholders were interviewed to gain an understanding of the current information that is disseminated or available to truckers.

Four Commercial Vehicle Operations (CVO) information dissemination approaches were identified and researched. These approaches include:

1. Commercial Vehicle Dispatcher Email Push
2. Commercial Vehicle Restriction Dissemination (phone and web)
3. Commercial Vehicle Geography Based Traveler Information (web)
4. Truck Parking/Truck Stop and Services Information

The following table summarizes the CVO information dissemination approaches by state. While each state provides additional commercial vehicle information, the table is intended to summarize and document general CVO information dissemination approaches. Additional details on how each state disseminates or provides commercial vehicle related information as well as the need and concept for each service is included on the following pages.

Table 1: Trucker Information Dissemination Approaches by State

Commercial Vehicle Information Disseminated/Available to Truckers	Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington
Commercial Vehicle Dispatcher Email Push	X		X	X		X		X
Commercial Vehicle Restrictions Dissemination	X	X	X	X	X	X	X	X
Commercial Vehicle Geography based Traveler Info								
<i>Elevations</i>							X	X
<i>Road Work/Construction</i>	X	X	X	X	X	X	X	X
<i>Mountain Passes</i>							X	X
<i>Runaway Ramps</i>							X	
<i>Rest Areas</i>	X	X	X	X	X	X	X	X
<i>Chain Law</i>					X	X	X	
Truck Parking /Truck Stops and Services Information								X

2.1 Commercial Vehicle Dispatcher Email Push

Concept

E-mail/text push systems allow state Department of Transportation's (DOT's) to disseminate critical road/weather information to trucking companies that have requested this information. Rather than focusing solely on reaching drivers in the vehicles, email pushes to dispatchers deliver information to one (or a small number) single contact point per trucking company, and then rely upon internal communications methods (CB or cell phone) for the dispatcher to relay information to the driver.

Current Efforts by North/West Passage States

Wisconsin DOT operates an email push system. The system allows trucking companies to request to receive email notices of major events. The trucking dispatchers then relay the information to truckers in their vehicle. Trucking companies that have requested this service have indicated that this information delivery of real-time road information is sufficient. Email messages are either automatically generated based upon existing conditions or operations staff can push a button using software in the Transportation Management Center (TMC) to trigger the email pushes. The software used for the Wisconsin email push system was written in-house by Wisconsin DOT staff. A similar system was developed as Shareware by the Illinois Tollway Authority. Both of these software solutions could be researched in more detail and documented for North/West Passage member states to consider.

Freight travel advisory messages are distributed via an email push from the Washington State DOT to trucking firms signed up to receive the notification. The truck alerts are distributed whenever something significant happens that will impact freight movements such as weather related closures, large, long term blocking accidents, major detours, etc.

The Wyoming DOT operates a 511 Notify system that subscribers can choose the route segment(s) and time(s) for which they are interested in receiving messages via email or text. Messages include temporary and seasonal closures/openings and travel advisories currently in effect.

The South Dakota DOT provides the option for subscribers to sign up to have the Spring Load Limit, Winter Road Condition, Highway Restriction and Closure Notices sent directly to their e-mail inbox.

In North Dakota you can subscribe to the Load Restriction email updates where you will be notified by email in the event of a new order.

Candidate NWP Deployments or Enhancements to Existing Systems

1. Corridor-wide (or multi-state) event reports could be distributed through existing email push systems (Wisconsin, Washington, Wyoming), expanding the value of existing dissemination systems.
2. Email push notification of driving conditions or events for commercial vehicles could be expanded to additional NWP states, either by building upon existing software and/or systems, or deployment of new systems.
3. A corridor-wide email push system could be developed to push corridor-wide events to commercial vehicle carriers.

2.2 Commercial Vehicle Restrictions Dissemination

Concept

Dissemination of commercial vehicle restrictions is critical for trip planning. Alerts describing vehicle restrictions may be disseminated to carriers via an email push, 511 phone system, or a traveler information website.

Current Efforts by North/West Passage States

The Minnesota DOT traveler information website (<http://511mn.org>) maintains a tab and separate map display for commercial vehicle permits and restrictions. The CVO page uses “permit icons” to indicate events that are causing temporary permit restrictions, or temporary suspensions of oversize/overweight permits.

Washington DOT provides truckers with the option to sign up to receive the latest oversize/overweight restrictions and closures via e-mail. The Washington DOT also provides updated oversize/overweight restricts on their traveler information webpage. The web page includes a map that highlights recent bridge restrictions added in the last 10 days, bridge restrictions, recent road restrictions in the last 10 days, and road restrictions.

Idaho’s Transportation Department provides updated commercial vehicle restriction information on a separate truckers’ tab within the statewide website. Users are able to select either today’s restrictions or current/planned restrictions for a selected month.

The Wyoming DOT and Montana DOT provide a listing of CVO restrictions on a web page.

The North Dakota DOT provides a layering option on an interactive map to view load and/or width/height restrictions throughout the state.

Candidate NWP Deployment or Enhancement to Existing Systems

1. The methods for disseminating permit status differ between NWP states. One deployment option would be to migrate to a more ‘uniform’ method of disseminating permit status information. This would allow carriers who travel in multiple NWP state to have a consistent method for permit updates and information.
2. One or more of the existing permit information dissemination systems could be described in detail and shared with other NWP states (as a model) allowing other states to benefit from the lessons learned of the NWP state.

2.3 Commercial Vehicle Critical Geography based Traveler Information

Concept

Geographical traveler information assists truckers as they plan and depart for trips. Information critical for truckers include:

- Elevations (e.g. describing the elevation of travel to alert carriers that they will encounter steep grades or potentially winter weather)
- Road Work/Construction (road work reports impact all travelers and therefore is not specific to commercial vehicle operators)
- Mountain Passes
- Runaway Ramps
- Rest Areas
- Chain Law

This information is primarily disseminated via websites, however roadwork information is also disseminated using 511 phone systems.

Current Efforts by North/West Passage States

Elevations

The Idaho Transportation Department and the Washington DOT provide elevations at mountain passes via a web page. Washington State DOT also provides profile views of major highways, allowing web visitors to see the elevation (and elevation changes).

Road Work/Construction

All eight North/West Passage states provide road work/construction reports on web pages. Typically, roadwork reports are updated as new information is received. However, maintaining current and changing roadwork information is a challenge that every state faces.

Mountain Passes

The Idaho Transportation Department and the Washington DOT provide the location of mountain passes on a web page. Each mountain pass location provides a camera view of the mountain pass and current road conditions. The Washington DOT has the option for users to receive an email alert of mountain pass updates.

Runaway Ramps

The Idaho Transportation Department includes a map of with locations of truck ramps on the 'Trucker' tab of the website.

Rest Areas

The location of rest areas is provided by each North/West Passage state on a web page. The methods for displaying the information vary. Similarly, as Rest Areas have been closed more often in recent years, some states are posting rest area closures.

Chain Law

The Idaho Transportation Department provides a link from their trucker's web page to the Idaho State Code: Chain Law. The Wyoming DOT provides a link to their states Chain Law at various locations on their website as does the Montana DOT.

2.4 Truck Parking Information/Truck Stops and Services

Concept

The location of truck parking/truck stops and services is critical to long haul truckers. This information needs to be accurate and updated via a website.

Current Efforts by North/West Passage States

Location of truck stops for each North/West Passage state can be found at the website Truck Stop Info Plus (<http://www.truckstopinfoplus.com/>). The North/West Passage Traveler Information Website (<http://i90i94travelinfo.com/>) provides a link to this website. In addition to providing locations of truck stops, the Truck Stop Info Plus website also describes services such as fuel availability and hours of service.

Washington DOT provides a link to the Truck Stop Info Plus website from their trucking webpage.

Private operated information sources (such as Truck Stop Info Plus) offer valuable information to commercial carriers. However, the information is operated by a private entity with the intent of operating a business. Therefore, the site may not be inclusive of all truck stops.

Each of the North/West Passage member states provide information about rest areas (which often serve as truck parking facilities).

Commercial vehicle carriers have still expressed the need for additional truck parking facilities, and for real-time information about parking availability.

3.0 Experiences, Challenges, and Successes

Each North/West Passage State was contacted to gain an understanding of traveler information dissemination experiences, challenges, and successes related to commercial vehicle dissemination. A summary of the information collected is presented in the table below.

Table 2: North/West Passage Trucker Traveler Information Experiences, Challenges, and Successes

<p>What has worked well?</p>	<ul style="list-style-type: none"> • Following up with comments left on the 511 phone system from truckers (gain a clear understanding of request/comment) • Providing wireless Internet at rest areas (truckers are able to check road conditions) • Enhance traveler information website and 511 phone based on trucker feedback • Text message and email alerts/announcements • Winter Road Reports • Dynamic Message Signs (DMS) are a valuable information delivery method used by truckers although limited information • Information channeled through dispatchers and radios are valuable to truckers, although this is a case of how information is transmitted within a firm rather than how it is provided by DOTs. • Providing information on unpredictable and irregular events e.g., construction, road weather conditions, and incidents.
<p>What hasn't worked well?</p>	<ul style="list-style-type: none"> • Only segment road reporting. Truckers would also like the option for conditions for an entire route. • Education is needed for 511. Many truckers didn't understand the 511 signs along the interstates. The word "call" is being added to all 511 signs in Idaho. • If no restrictions are in place none are mentioned (confusing to truckers). Additional education is needed.
<p>What improvements have truckers suggested?</p>	<ul style="list-style-type: none"> • Automated routing based on truck dimensions. • Road reporting for an entire route (statewide) • Truckers don't want to be treated differently (if the route is closed to truckers it should be closed to cars) • Elevations (additional) on the traveler information websites • Add a truckers option on 511 (need to identify value, cost, and identify what information is different than the current information on 511) • Better project coordination between jurisdictions to provide timely, accurate information (detours, delay) to trucking companies • Provide short notice closures to trucking companies (effects super loads) • Provide additional weather information • Provide detour information • Identify truck parking • Identify speed limits • Provide chain laws • Public alert system • Improved permitting and more streamlined regulation was even more important than any of the traveler information discussed in surveys conducted in Wisconsin

4.0 Trucking Industry Feedback

In order to begin to understand what traveler information tools the trucking industry uses the following documents/news articles were reviewed.

Table 3: Trucking Industry Traveler Information Feedback

Document News/Article	Web Address	Summary of Feedback
NATSO Truckers News: Ring of the Road	http://www.etrucker.com/apps/news/article.asp?id=15653	<ul style="list-style-type: none"> • Only a meager number of truckers use email to communicate with their carrier. Most use their cell phones. More than 45% of truckers contact their carrier via cell-phone. More than 80% use their cell phones regularly. • What technologies are used to make their jobs easier: 62% cell phones, 29% on-board communication devices, 16% on-board computers, 14% personal computers, and 6% other. • 63% of truckers said their cell phones have adequate coverage. • How do you communicate most often with dispatch or other company personnel: 46% cell phone, 44% telephone, 2% email, 4% other.
NATSO Truckers News: States of Confusion	http://www.etrucker.com/apps/news/article.asp?id=3897	<ul style="list-style-type: none"> • Frustrations due to inter-state travel are the differences in laws and levels of law enforcement, such as differing speed limits, lane restrictions, and size and weight rules off the national network. <ul style="list-style-type: none"> - #1: differing speed limits for cars and trucks (split speed limits) - #2: some states enforce speed limits and other regulations with more zeal than others (and therefore are considered less trucker friendly state, such as CA) - #3: size and weight restrictions are a mishmash of federal, state, and local requirements. Each state has essentially different limits. Federal efforts to standardizing truck size and weight are limited to the national network.
RITA ITS Integration Program National Evaluation Sites Summary Descriptions	http://www.its.dot.gov/press/2001/evdata01.htm	<ul style="list-style-type: none"> • Items to include as valuable information to truckers: <ul style="list-style-type: none"> - freeway & traffic information - flood level on roadways - weather conditions - truck restrictions such as lane restrictions & speed limits - freeway construction and maintenance - safety notices

Document News/Article	Web Address	Summary of Feedback
The Truckers Report: Truck Driver Facts	http://www.thetruckersreport.com/truck_driver_facts.shtml	<ul style="list-style-type: none"> • “Most trucks use QUALCOMM Satellite System or similar, which enables carrier to track their trucks within 3 blocks, anywhere in the country”. This system shows the trucker in-cab the following items: <ul style="list-style-type: none"> - when to arrive - where to go - distance (miles) - who is the customer - directions - other pertinent info regarding the customer. • Dispatch can track the following: <ul style="list-style-type: none"> - speed of the truck - how long it's been on the move - fuel economy - idle time, engine rpm
Idaho Transportation Department: 511 System, Trucking Survey	N/A	<ul style="list-style-type: none"> • Truckers use highway related information for trip routing • Preferred method for receiving information is by phone before travel, by radio en-route • Additional technologies wanted by the drivers included: wireless internet at rest stops, weather monitoring at rest stops, e-mail notices
Freight Traveler Information Clearinghouse: Mississippi Valley Freight Coalition Project May 2009	http://www.mississippivalleyfreight.org/clearinghouse/files/	<ul style="list-style-type: none"> • Freeway changeable message signs (CMS) are a valuable information delivery method. • Information channeled through dispatchers is more valuable, although this is a case of how information is transmitted within a firm rather than how it is provided by DOTs. • Motor carriers thought commercial radio is more valuable than regulators thought. Conversely, regulators thought the phone services (e.g., 511) were more valuable than did the motor carriers. • Regulators felt a variety of information was valuable, the motor carriers more strongly favored information on unpredictable and irregular events to be more valuable, e.g., construction, road weather conditions, and incidents. • Industry suggested that improved permitting and more streamlined regulation was even more important than any of the traveler information discussed in the surveys.

5.0 Truck Parking Initiatives

As stated earlier the original focus of this project was to consider expanding short term truck parking availability throughout the North/West Passage corridor. The purpose of Table 4 is to summarize the truck parking initiatives throughout the nation in order to keep the North/West Passage states up to date on trucking parking activities and learn from other initiatives.

Table 4: Truck Parking Initiatives

Truck Parking Initiative	Web Address	Project Description
I-95 Truck Parking Initiative	http://www.i95coalition.org/i95/Projects/ProjectDatabase/tabid/120/agentType/View/PropertyID/316/Default.aspx	The I-95 Corridor Coalition will be assisting its member states resolve truck parking issues through the development of a real-time information dissemination system to make the most efficient use of available public and private truck parking capacity. This will be achieved through a balanced and comprehensive approach, featuring deployment of a real-time information system, state investment in additional capacity, exploration of innovative ways of expanding capacity that recognize the changing dynamics of the freight industry, and projects addressing marketing, outreach, evaluation and financial sustainability aspects.
I-5 Truck Parking Initiative	http://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/index.htm	I-5 was selected under the Corridors of the Future Program to receive funding for a Truck Parking Facilities program because of the innovative uses of ITS technology to provide truckers with real-time information on available parking. The project will deploy technologies in California to monitor parking availability (using cameras and detectors), and disseminate the information to truckers using devices such as cell phones, PDAs, and navigations systems. The corridor will explore ways to allow truckers to reserve parking spaces ahead of time. I-5, average daily truck traffic is near 10,000 with a maximum above 35,000.
Mississippi Valley Freight Coalition Expanded Truck Parking - National CFIRE	http://www.wistrans.org/cfire/Research/MVFC/04/index.html	This project will determine truck parking needs vs truck parking available for the 10-state Mississippi valley region, and will recommend strategies to bridge this gap.
Low Cost Strategies to Increase Truck Parking in Wisconsin -	http://www.wistrans.org/cfire/Research/CFIRE/GY01/04/index	This project will determine truck parking needs vs truck parking available for the state of Wisconsin (interstate routes 80, 90, and 94), and will

Truck Parking Initiative	Web Address	Project Description
National Center for Freight & Infrastructure Research & Education (CFIRE)	.html	recommend optimal locations and low cost strategies for providing truck parking.
Truck Parking Partnership Study October 2006	http://74.125.113.132/search?q=cache:W6EqYcCVn-0J:www.baltometro.org/freight/TruckParking.pdf+truck+parking+initiative&cd=8&hl=en&ct=clnk&gl=us	The focus of the Baltimore Metropolitan Truck Parking Partnership Study is on two specific areas within the Baltimore region known for truck parking in undesirable locations: I-83 in Hunt Valley and I-95 in Jessup. The report provided truck parking recommendations for these locations.
Partners for Adequate Parking Facilities Initiative (2001) - California DOT (Caltrans)	http://www.dot.ca.gov/hq/LandArch/srra/docs/09_Partners_for_Adequate_Parking_Facilities_Initiative.pdf	Analyzes commercial vehicle parking supply & demand, current and projected shortages, and plan of action to reduce shortages.
Partnership Strategies for Safety Roadside Rest Areas (2007) - California DOT (Caltrans)	http://www.dot.ca.gov/hq/LandArch/srra/docs/Public_Private_SRRR_Partnership_Opportunities.pdf	This project presents a strategic action plan and business plan for Caltrans to contract with private partners who would maintain and participate in, or fully fund, development of new rest areas in exchange for the rights to sell goods and services in those rest areas.
Study of Adequacy of Commercial Truck Parking Facilities - Technical Report (2002) - FHWA	http://www.tfhr.gov/safety/pubs/01158/	Outlines the lack of adequate parking facilities for truckers and the mismatch between available facilities and trucker needs with regard to location, amenities, and functional characteristics.
Highway Special Investigation Report: Truck Parking Areas - National Transportation Safety Board (NTSB)	http://www.nts.gov/Publictn/2000/SIR0001.pdf	The major issue addressed in this Safety Board special investigation report is the lack of safe available commercial vehicle parking ¹³ on or near interstates for truck drivers who want or need to use it. Associated with this issue, this report also discusses the lack of information about parking available to truck drivers and the State-enforced parking time limits.
Dealing with Truck Parking Demands (2003) - Transportation Research Board & National Cooperative Highway Research Program (NCHRP)	http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_syn_317.pdf	This project identified those practices that have been used to manage the increasing demand for commercial motor vehicle parking. The emphasis is on identifying successful and innovative strategies that have been implemented by transportation agencies as well as potential strategies that have yet to be deployed.

6.0 Recommendations and Next Steps

From the review of the information gathered for this project the following bullets summarize suggested recommendations and next steps to improve information dissemination to commercial vehicle carriers along the North/West Passage corridor.

Options to Enhance Existing Trucker Traveler Information Dissemination Systems

Commercial Vehicle Dispatcher Email Push

- Expand North/West Passage States existing e-mail push disseminating systems to include distribution of multi-state event reports
- Build upon existing software and/or systems or deployment of new systems to expand email push notification of driving conditions or events to additional North/West Passage states
- Develop a corridor-wide email push system to push corridor-wide events to commercial vehicle carriers

Commercial Vehicle Permits

- Migrate to a more 'uniform' method of disseminating permit status information in order to provide consistency for permit updates and information
- Describe one or more existing permit information dissemination systems to allow other North/West Passage states to benefit from the lessons learned.

State Phone/Website Geographical Trucker Traveler Information

- Enhance geographical information on individual states websites that may benefit truckers (e.g. elevations, road reporting for an entire route, truckers option on 511, detour delays, short notice closures)

Recommendations to Enhance Corridor-Wide Trucker Traveler Information Dissemination

- Create a trucker specific portion of the i90i94travelinfo.com website incorporating the feedback received from this project.
- Provide an outreach/training opportunity to the North/West Passage trucking industry to highlight the trucking traveler information dissemination tools used by the state DOT's and to continue to learn how the trucking industry uses the provided information. Many truckers are not aware of the 511 phone system.
- Provide wireless Internet at rest stops along the corridor giving truckers as well as the public the ability to check state DOT websites for road conditions.