



North/West Passage Commercial Motor Vehicle Traveler Information Assessment

Prepared for:

North/West Passage

Prepared by:



North/West Passage CMV Traveler Information Assessment

The objective of the North/West Passage Commercial Motor Vehicle (CMV) Traveler Information Assessment is to identify freight-relevant information needs and issues and to propose a framework for improved information sharing across borders.

Acknowledgements

The CPCS Team acknowledges and is thankful for the input of those consulted in the development of this Assessment, as well as the guidance and the input of representatives from the North/West Passage.

Opinions and limitations

Unless otherwise indicated, the opinions herein are those of the authors and do not necessarily reflect the views of the North/West Passage.

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Cover and below image source: Sections of a 40-foot mural at CPCS headquarters in Ottawa painted by Toronto artist Mike Parsons.

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Acronyms / Abbreviations

API	Application Programming Interface
CAP	Common Alerting Protocol
CMV	Commercial Motor Vehicle
CVO	Commercial Vehicle Operator
DMS	Dynamic Message Sign
DMV	Department or Division of Motor Vehicles
DOT	Department of Transportation
ELD	Electronic Logging Device
FMCSA	Federal Motor Carrier Safety Administration
I2V	Infrastructure-to-Vehicle Connectivity
ITD	Idaho Transportation Department
MAASTO	Mid America Association of State Transportation Systems
MDT	Montana Department of Transportation
MnDOT	Minnesota Department of Transportation
NDDOT	North Dakota Department of Transportation
NWP	North/West Passage
NWS	National Weather Service
OS/OW	Oversize/Overweight
SDDOT	South Dakota Department of Transportation
SDDPS	South Dakota Department of Public Safety
US	United States
USDOT	US Department of Transportation
V2I	Vehicle-to-Infrastructure Connectivity
V2V	Vehicle-to-Vehicle Connectivity
WSDOT	Washington Department of Transportation
WYDOT	Wyoming Department of Transportation

1 Introduction

Currently, many states operate traveler information systems focused on providing vehicles with relevant information within their own borders. Commercial motor vehicles (CMVs) require advance notice (often before they cross a state line) on parking availability, route closures and re-routing, construction activity, and emergency declarations, among other information.

This project aims to increase awareness and collaboration between state agencies in the North/West Passage (NWP) to benefit trucking operations, with the objective to:

Identify freight-relevant information needs and issues and propose a framework for improved sharing information across borders.

This assessment assesses available information and sources; identifies information needs and issues; and proposes opportunities for information sharing across borders in the NWP.

2 Stakeholder Outreach

The Project Team hosted CMV traveler information roundtables and conducted individual consultations with NWP stakeholders to collect feedback about CMV traveler information in NWP states.

2.1 Roundtables

The Project Team invited NWP stakeholders to two CMV traveler information roundtables, each spanning 90 minutes. The first meeting (May 6, 2021) sought to gather information about existing conditions and ongoing efforts related to CMV traveler information in the NWP. The second meeting (September 14, 2021) focused on validating findings and soliciting input related to CMV traveler information needs and opportunities for the NWP. Each meeting consisted of a mix of presentation, polling (through Mentimeter, a live-polling application), and discussion among NWP stakeholders. Meeting presentations and polling results are provided in **Appendix A**.

2.2 Individual Consultations

For individual consultations, the Project Team engaged in a two-pronged outreach approach, reaching out to both state departments of transportation (DOTs) and state trucking associations.

The Project Team conducted outreach with each of the seven state DOTs and five state trucking associations.

State DOTs

Outreach was conducted with state DOTs to understand existing sources of and plans for CMV traveler information. The Project Team held conversations with each of the seven state DOTs, in addition to select follow up conversations (Figure 1). **Appendix B** provides a list of questions used to guide consultations.

State Trucking Associations

Outreach was conducted with state trucking associations to understand driver needs along the corridor. The Project Team also engaged in discussion with five of the seven state trucking associations (Figure 2). **Appendix C** provides a list of questions used to guide consultations.

Figure 1: Consultations with State DOTs

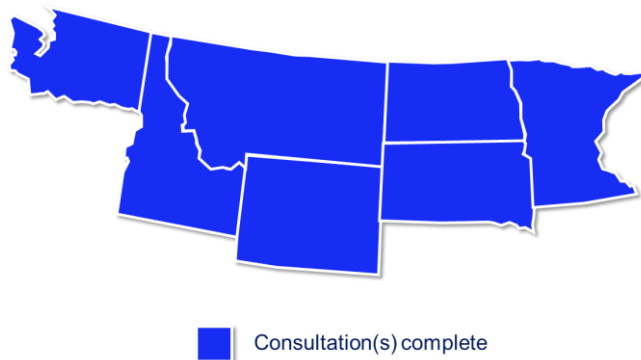
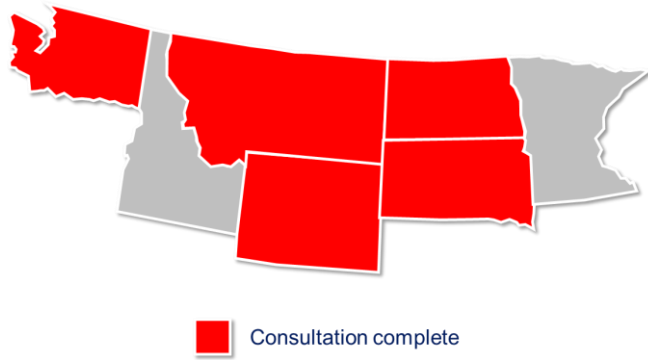


Figure 2: Consultations with State Trucking Associations



3 CMV Traveler Information in the NWP

The following section provides an overview of CMV traveler information in the NWP region and for each NWP state. These profiles were developed based on literature review, in addition to numerous stakeholder consultations focused on CMV traveler information sources. These results provide insight into the “state of the system” with respect to CMV traveler information in the NWP and support the identification of multi-state opportunities to improve CMV traveler information in the region.

3.1 NWP Regional Summary

In the NWP, all states provide CMV traveler information through a 511-phone number and traveler information website. States offer interactive maps online, as well as mobile applications, to provide information to travelers. States also offer the option for users to save information preferences (e.g., routes, cameras) and sign up for alerts (e.g., through text, e-mail). Additionally, states broadcast information through dynamic message signs (DMS) and social media (e.g., Twitter, Facebook). Some states also contact permit holders, push information in-cab, and/or make an API available for use to further share traveler information. Figure 3 on the following page provides a summary of communication methods for traveler information across NWP states.

NWP states provide a variety of traveler information that may be useful for CMV drivers. All states provide information about weather, road conditions, road incidents, road construction, size/weight restrictions, and truck parking locations. Most states also provide links to other states’ traveler information websites. Other types of information provided by some states include runaway truck ramps/turnouts, weigh station locations, and truck parking availability. Figure 4 on the following page provides a summary of communication methods for traveler information across NWP states.

Ongoing and planned CMV efforts vary across states. When states engage in cross-border collaboration, they often do so in an ad hoc manner, with interactions dependent on relationships between state agencies and typically limited to high-impact incidents or events.

Figure 3: Communication Methods for Traveler Information in NWP States (Summary Table)

	Interactive Map Online	Email or text alerts	Push information in Cab	Contact Permit Holders	DMS	Social Media (Twitter, Facebook)	Accessible API
Washington	✓	✓		✓	✓	✓	✓
Idaho	✓	✓		✓	✓	✓	✓
Wyoming	✓	✓	✓	✓	✓	✓	✓
Montana	✓	✓		✓	✓	✓	✓
North Dakota	✓	✓		✓	✓	✓	
South Dakota	✓	✓	✓	✓	✓	✓	
Minnesota	✓	✓			✓	✓	

Figure 4: Types of Traveler Information Provided in NWP States (Summary Table)

	Weather	Road Conditions	Road Incidents	Road Construction	Size/ Weight Restrictions	Runaway Truck Ramps/ Turnouts	Weigh Stations	Rest Areas (Truck Parking)	Truck Parking Availability	Other States' Info
Washington	✓	✓	✓	✓	✓			✓		
Idaho	✓	✓	✓	✓	✓	✓	✓	✓*		✓
Wyoming	✓	✓	✓	✓	✓	✓		✓*	✓	✓
Montana	✓	✓	✓	✓	✓			✓		✓
North Dakota	✓	✓	✓	✓	✓			✓*		✓
South Dakota	✓	✓	✓	✓	✓			✓		
Minnesota	✓	✓	✓	✓	✓		✓	✓	✓	✓

Note: * under Rest Areas (Truck Parking) indicates Number of Total Spaces is also provided

3.2 State Profiles

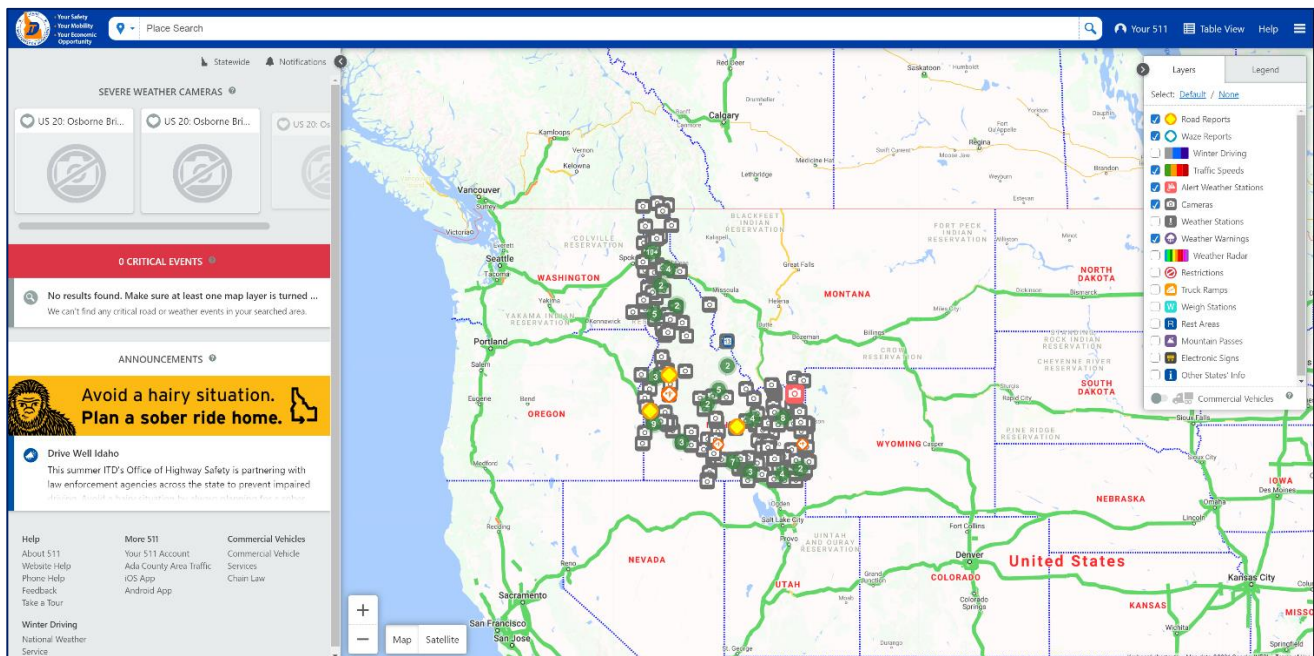
Idaho

Idaho 511

The Idaho Transportation Department (ITD) provides traveler information via 511, which includes both a 511 phone number, as well as a website (<https://511.idaho.gov/>) with interactive maps. The website can be accessed through a browser, but Idaho also provides Apple iOS and Android applications (apps) for mobile access. When accessing the 511 website, users are prompted to access information for either travelers (Figure 5) or commercial vehicles (Figure 6). In addition to the interactive map, the 511 website provides notifications for critical events. For low bandwidth users, ITD offers a Table View (Figure 7).

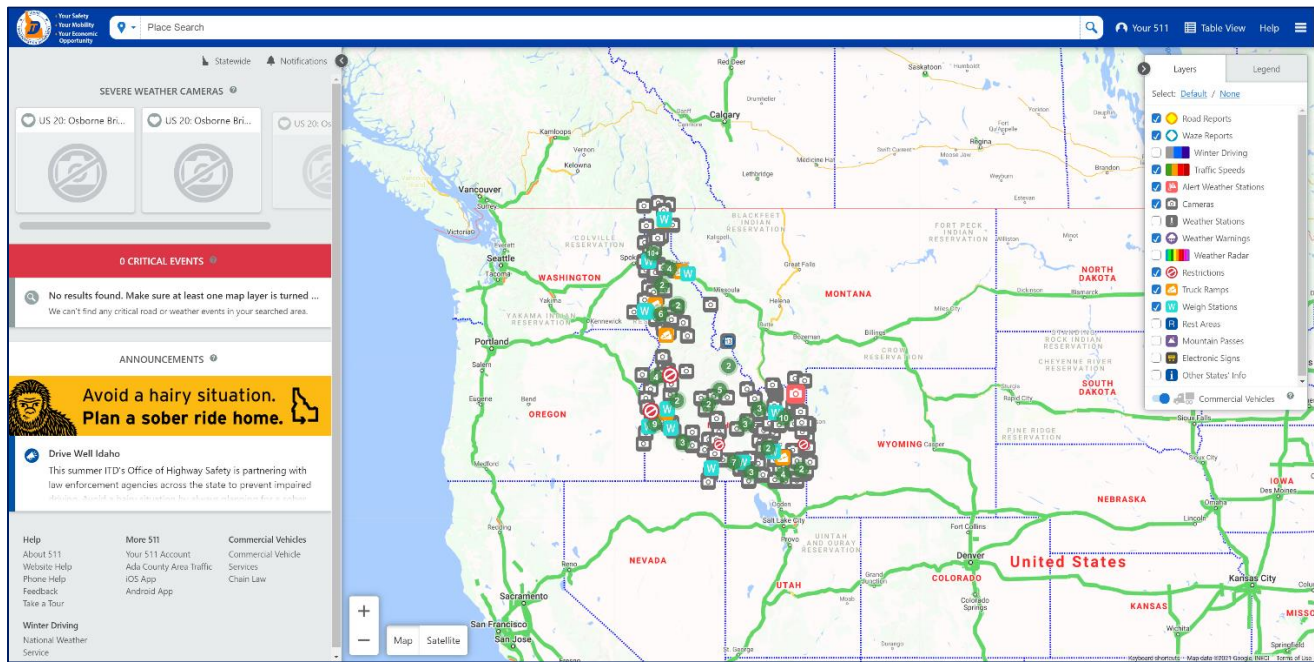
The 511 website also features links to other CMV information. The *Commercial Vehicle Services* link directs truckers to other pertinent information related to doing business in the state, including registration and permitting (Figure 8). A link to *Chain Law* in Idaho is also listed.

Figure 5: Idaho 511 Site for Travelers (Map View)



Source: <https://511.idaho.gov/>

Figure 6: Idaho 511 Site for Commercial Vehicles (Map View)



Source: <https://511.idaho.gov/>

Figure 7: Idaho 511 Site (Table View)

TYPE	ROADWAY	DESCRIPTION	RESTRICTIONS	BEGIN DATE	LAST UPDATED
Construction Work	US 2	<p>US 2: Construction work. Between Washington Street and Cedar Street (Priest River). Look out for construction work. The sidewalk is closed. The roadway is reduced to two lanes. Width limit 10'0". Until tomorrow at about 5:00PM PDT.</p> <p><i>Comment:</i> Work to repair a retaining wall and pedestrian ramps at the intersections of city streets and US-2 will shift traffic lanes. The center turn lane is being used for travel. Be alert for construction personnel within the work zone. WIDE LOADS CONTACT AARON WAYMAN (406)382-0932 FOR INFORMATION.</p> <p>View on Map</p>	Width Restriction: 10 ft 0 in	July 19, 2021	August 24, 2021
Road Construction	ID 3	<p>ID 3: Road construction. Between Seventh Street and McGary Road (near Juliaetta). Road construction work is in progress. The roadway is reduced to one lane. Bridge construction work is in progress. Expect delays. There is a width limit in effect. Expect 15 - minute delays. Width limit 12'0". Until October 29, 2021 at about 6:00PM PDT.</p> <p><i>Comment:</i> Width restriction of 11' from Thursday, June 8th at 12:30 pm until approximately 12:00pm on Friday, June 9th. Traffic signals, minimum delays, occasional flagging operations under fifteen minutes.</p> <p>View on Map</p>	Delay: 15 - minute Width Restriction: 12 ft 0 in	April 23, 2021	August 31, 2021

Source: <https://511.idaho.gov/>

Figure 8: Idaho Commercial Vehicle Services



Source: ITD Division of Motor Vehicles, <https://itd.idaho.gov/itddmv/>

Idaho’s traveler information website has been recently updated and streamlined. Key information accessible through the interactive map on the 511 website is listed below. Bolded features in red indicate information specific to CMVs.

- Road Reports
 - Waze Reports
 - Winter Driving Conditions (good, fair, difficult)
 - Traffic Speeds
 - Weather Station Alerts
 - Cameras
 - Weather Stations
 - Weather Warnings
 - Weather Radar
 - **Restrictions (includes construction and select size/weight limits)**
 - **Truck Ramps**
 - **Weigh Stations**
 - Rest Areas
 - Mountain Passes
 - Electronic Signs (& Messages)
 - Other States Info (for neighboring states)

Idaho provides the option to personalize 511 information by signing up for a personalized account and disclosing information preferences. With an Idaho 511 account, a user may:

- Save favorite routes and places
- Save favorite cameras
- Get alerts by email and text
- See preferred route(s) first
- Default to Commercial Vehicle mode

The 511 system also includes an application programming interface (API) for all traveler information, which is available free of charge to third parties that may want to make use of Idaho's traveler information.

Other Sources of Traveler Information

Social Media: The State of Idaho has a primary traffic alert Twitter account (@Idaho511) and also provides full blockages on its main ITD Twitter feed (@IdahoITD). Furthermore, the State maintains regional traffic alert Twitter feeds (@SWIdaho511, @SEIdaho511, @EastIdaho511, @NCIdaho511, @NorthIdaho511, @SCIdaho511).

Dynamic Message Signs (DMS): DMS messages receive information through the State Communications System (see Intra-state coordination below) to display traveler information.

Coordination

ITD hosts the 511 website and coordinates with other parties to input this information into the system.

Unexpected incidents (e.g., accidents, weather road closures): This type of information is entered by the 24/7 State Communications System, which is outside of ITD's jurisdiction. ITS contracts with the Idaho Department of Health and Welfare, utilizing the State Communications System's capability for emergency dispatch and communications. The 511 system also includes incident information from Waze. ITD filters the information received from Waze to narrow clusters of identical events into a single notification on the 511 map.

CMV Restrictions (e.g., due to road work events): CMV restrictions are frequently, but not always, associated with road work. When there is a road work event that will impact CMVs, information is entered by individual ITD Districts, typically through the District Office. It is the responsibility of each District to enter construction and maintenance event information in the Idaho 511 and to include project-related CMV restrictions in the entry. Each road work event is updated into the 511 system individually as new information becomes available or as road work events progress. ITD asks Districts to get road work information into the 511 system well ahead of the event to allow drivers to plan routes in advance.

Winter travel road conditions: Information related to weather comes from several sources, including the National Weather Service (NWS) radar, which tracks location storms, and the NWS Common Alerting Protocol (CAP), which provides area warnings for severe events (e.g., winter storms, flash floods, severe thunderstorms, etc.) that could be a hazard to travel. ITD accesses NWS information through their live feeds or informational APIs. ITD also obtains information from RWIS stations that have camera views mounted in important travel locations, often mountain passes and other trouble locations. The ITD system analyzes weather and sensor information, and if it passes a threshold indicating hazardous travel conditions, a notice is highlighted on the 511 interactive map. Finally, winter road condition information (color-coded on the map) is manually entered based on information collected by plow drivers. Plow drivers may contact the State Communications System to provide information or may use a smartphone application to report winter road conditions directly to 511. ITD also develops custom-made, short-range weather reports for select highway segments during winter weather events.

Additionally, when the Division of Motor Vehicles (DMV) section of ITD issues CMV permits, they refer to the 511 system for truck restrictions. The DMV section tracks information on the 511, and if a new restriction appears, they will reach out to permit holders to provide information about the new restriction, as appropriate.

Multi-state Efforts

The Idaho 511 website provides traffic speed information on interstates across state lines, as well as across the US. The website also provides links to neighboring states' and provinces' traveler information sites. ITD also imports some automated camera feeds from adjacent states and other jurisdictions.

Idaho's State Communications System, which provides unexpected incident information for ITD's 511, has a strong relationship with the Oregon Department of Transportation. When road closures occur in Oregon, they may notify the Idaho State Communications System, who will post the closure information on the Idaho 511, so drivers are aware of the information before crossing the Idaho-Oregon border.

Planned Updates

Truck Parking: ITD is considering how best to provide truck parking information to drivers.

Minnesota

Minnesota 511

The Minnesota Department of Transportation (MnDOT) provides traveler information via 511, which includes both the 511 phone number, as well as a website (<https://511mn.org/>) with interactive maps. The website (Figure 9) can be accessed through a browser, but MnDOT also provides Apple iOS and Android apps for mobile access. The website has a "commercial vehicle" option that provides information of greatest interest to truck drivers (Figure 10).

Figure 9: Minnesota 511 Site

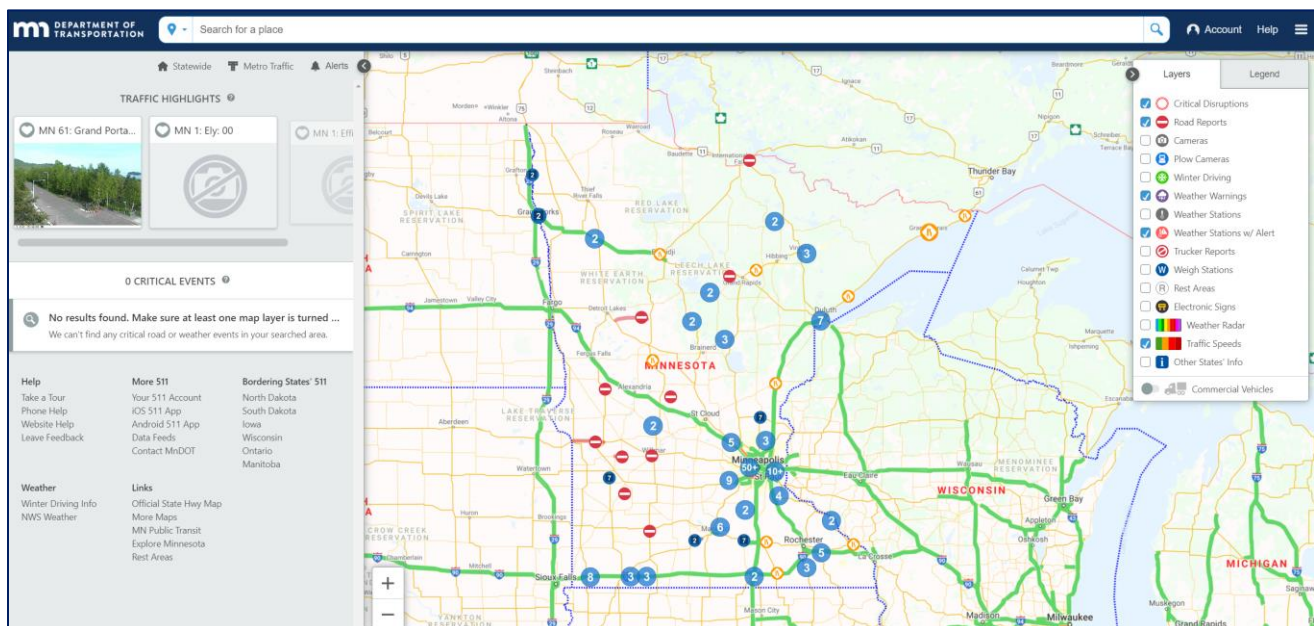
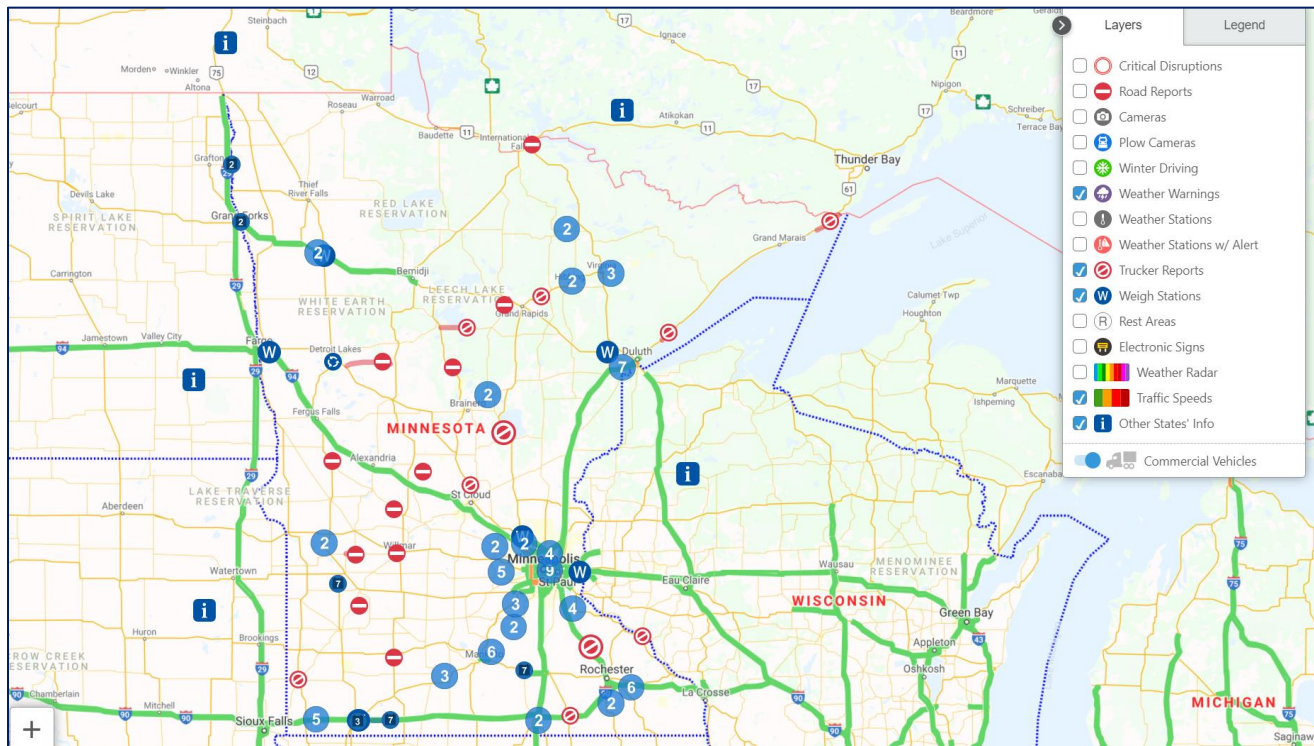


Figure 10: Minnesota 511 Site, Commercial Vehicle Information



Source: <https://511mn.org/>

Minnesota’s traveler information website has been recently updated and streamlined. Key information accessible through the 511 website is listed below. Bolded features in red indicate information specific to CMVs.

- Critical Disruptions
- Road Reports
- Cameras
- Snow Plow cameras
- Winter Driving (Road conditions)
- Weather Warnings
- Weather Stations
- Weather Stations with active Alerts
- **Trucker Reports**
- **Weigh Stations**
- Rest Areas (w/ availability)
- Electronic Signs (& Message)
- Weather Radar
- Traffic Speeds
- Other States’ Info

Minnesota provides the option to personalize 511 information by signing up for an account and disclosing information preferences. With a Minnesota 511 account a user may:

- Save routes
- Save cameras

- Schedule SMS or email alerts
- Default to Commercial Vehicle Mode

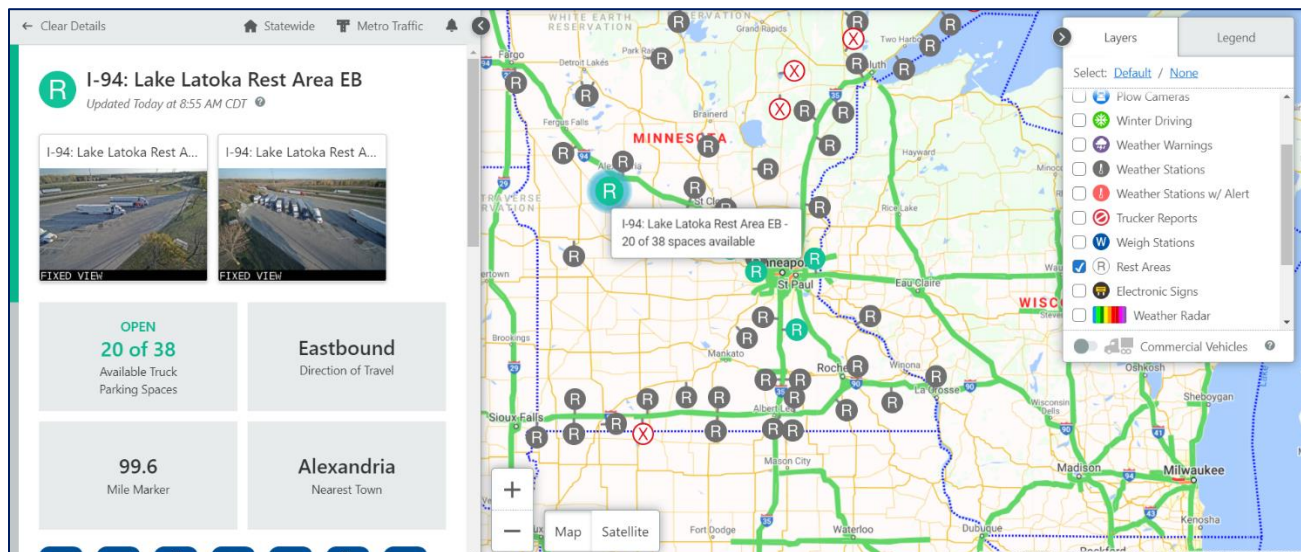
Other Sources of Traveler Information

Social Media: MnDOT provides Twitter updates on road information via its primary (@MnDOT) and regional (@mndotmetro, @mndotnortheast, @mndotnorthwest, @mndotwcentral, @mndotcentral, @mndotsoutheast, @mndotscentral, @mndotsouthwest) accounts. MnDOT also provides updates on OS/OW permitting via @mndotoversize.

DMS: Minnesota has DMS at many locations statewide, as shown through the Electronic Signs layer on the 511 website. In addition to the physical message boards on the roadway, MnDOT provides the DMS messages through its 511 map.

Truck Parking Information System: As part of the Mid America Association of State Transportation Officials (MAASTO) Truck Parking Information and Management System (TPIMS) project, Minnesota operates a truck parking information system at rest areas along I-94 and I-35. This project includes seven rest areas in Minnesota, with all of the rest areas located on the side of the freeway that leads to the Metro area. Each rest area has one DMS associated with it, and each DMS is located upstream, preceding the rest area by three to five miles. Truck parking availability information for these rest areas is also provided through the state’s 511 map (Figure 11).

Figure 11: Minnesota 511 Site, Truck Parking Availability at Rest Areas



Coordination

The MnDOT Traffic Management Center hosts the 511 website, and coordination to get information on the website varies between automated and manual processes.

For information embedded in the data warehouse, information is automatically pulled and included in the 511. However, certain types of information require more extensive coordination. For instance, when there is a construction update, the project manager will fill out an e-form and manually submit it to the traffic center, which will then manually enter the information.

Multi-state Efforts

The Minnesota 511 website provides traffic speed information on Interstates across state lines, as well as across the US. The website also provides links to neighboring states' and provinces' traveler information sites.

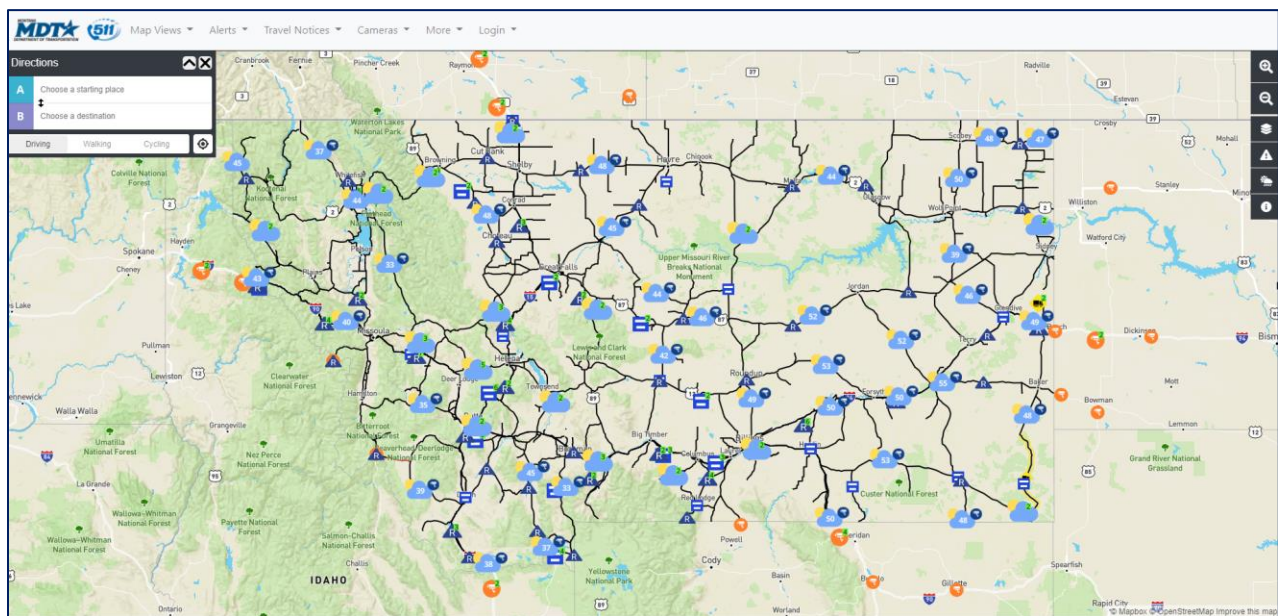
Montana

Montana 511

The Montana Department of Transportation (MDT) provides traveler information via 511, which includes both a 511 phone number, as well as a website (<https://roadreport.mdt.mt.gov/travinformobile/>, MDT Travel Info) with interactive maps (Figure 12). The website can be accessed through a browser, but Montana also provides Apple iOS and Android apps for mobile access.

On the state's general travel information website (<https://www.mdt.mt.gov/travinfo/>), Montana also provides a link to a webpage offering other pertinent information related to doing business in the state (Figure 13). This website provides further links to data on travel conditions, incidents, load restrictions, and other information not integrated into the MDT Travel Info website.

Figure 12: Montana Traveler Information Website, MDT Travel Info Map



Source: <https://www.511mt.net/>

Figure 13: Montana Motor Carrier Services

Source: MDT Motor Carrier Services, <https://www.mdt.mt.gov/business/mcs/>

Montana’s traveler information website has been recently updated and streamlined. Key information accessible through the 511 website includes the following. Bolded features in red indicate information specific to CMVs.

- Road Conditions
- Traffic Speeds
- Construction
- Restrictions
- Incidents & Events
- Weather
 - Precipitation
 - Air Temperature
 - Wind Speed
 - RWIS Cameras
- Other Cameras
- Message Signs
- Rest Areas
- Ports of Entry
- Neighboring States 511
- Snow Plows
- Parks/Beaches/Museums
- Text reports on
 - Construction
 - Road Conditions
 - Incidents-Closures
 - **Load-Speed Restrictions**

- Hazardous Weather

Of this information, Load and Speed Restrictions are provided for commercial vehicle operators.

Montana allows users to sign up for text and email alerts from 511.

Other Sources of Traveler Information

Social Media: Montana provides Twitter updates on road conditions via @mdtroadreport.

DMS: Montana has DMS at many locations statewide, as indicated through the Message Boards layer on the 511 website. In addition to the physical message boards on the roadway, MDT provides the DMS messages through its 511 map.

Coordination

MDT hosts the 511 website.

The 511 map interfaces with AASHTO projects, and staff within the MDT Transportation Management Center triage projects onto the 511 map as appropriate. Within MDT, the Maintenance Division handles all traveler information for the general public, coordinating with the Motor Carrier Services Division to provide information relevant and/or specific to CMVs. MDT also works with counties to identify size- and weight-restricted roads.

CMV traveler information is currently manually input into Montana's routing system (see planned updates for information about Montana's new automated routing system). Additionally, in the case of a global impact that will impact all CMVs, MDT will send a mass email to CMVs and publish a post to the website so the information is widely available.

Multi-state Efforts

The website provides links to neighboring states' and provinces' traveler information sites.

Montana's Traffic Management Center is in direct contact with Wyoming to coordinate information. Montana also works with Idaho. These states frequently see incidents and issues in the winter, and when Interstates are shut down near border areas, they must communicate this information with one another. Once information is shared, Montana will populate the travel information map with a notice of an incident or restriction across the border.

Planned Updates

OS/OW Permitting Upgrades – Automated Routing System: MDT has developed a new automated routing system for OS/OW permits that interfaces with information from the state's 511 map, in order to assist users in identifying highway routing for movement of OS/OW loads. Carriers will have the option to enter start and end points to get information about routes in Montana, including which routes are restricted and why. Future enhancements include notifying CMVs if they are off-route or notifying drivers and carriers in the case of an unanticipated incident or road closure and providing alternate routes. MDT plans for notification alerts to be provided through email and text, and available on mobile devices. MDT is currently testing the automated routing system interface with the 511 system, and plans for this update to be launched soon.

Additionally, while a permitting account is required to get information on routing, MDT is planning an update with BidRoute to allow guests to access route information based on specific widths and dimensions.

Push Safety Data: As part of its expanded Innovative Technology Deployment Program, Montana has identified a project opportunity to develop an application to push CMV-focused information (e.g., weather alerts, construction/work zone information, high rollover curves, bridge speed restrictions, centerline conditions, weight restriction, and height information) to CMV drivers to enable drivers to safely avoid incidents in and around Montana. The application would interface with MDT’s traveler information and automated routing systems to get information about incidents and restrictions.

Truck Parking Availability Collection and Distribution: Also as part of its expanded Innovative Technology Deployment Program, Montana has identified a project opportunity to collect real-time data on public truck parking availability and provide that information to the CMV industry and drivers, with options to communicate parking information through the state’s traveler information system, a smartphone application, and/or DMS. Montana also recognizes the successful implementation of a truck parking information system in the state would further enable a multi-state/regional truck parking information system.

North Dakota

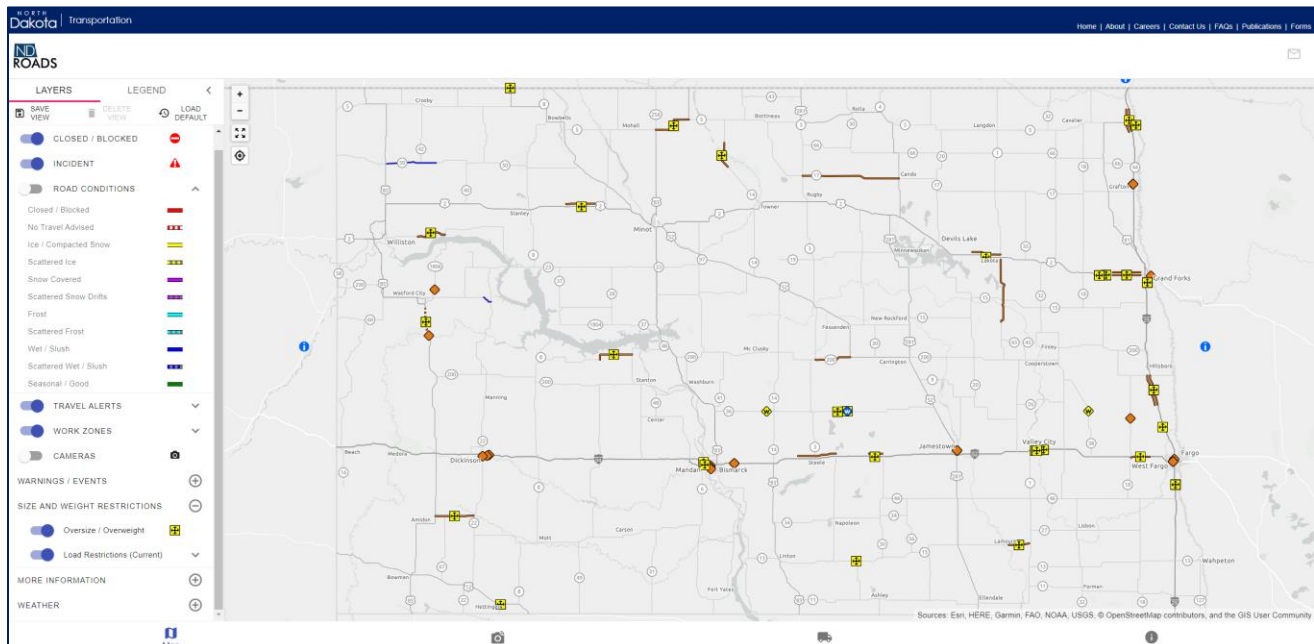
North Dakota 511

The North Dakota Department of Transportation (NDDOT) provides traveler information via 511, which includes both a 511 phone number as well as a website (<https://travel.dot.nd.gov/>, ND Roads) with interactive maps (Figure 14). The website can be accessed through a browser, but North Dakota also provides Apple iOS and Android apps for mobile access. In addition to the interactive map, the 511 site provides active message alerts (through the mail icon in the top right corner), as needed.

The 511 website also provides a link to other CMV services on the 511 website (through the truck icon on the bottom bar). This link directs truckers to other pertinent information related to doing business in the state (Figure 15).

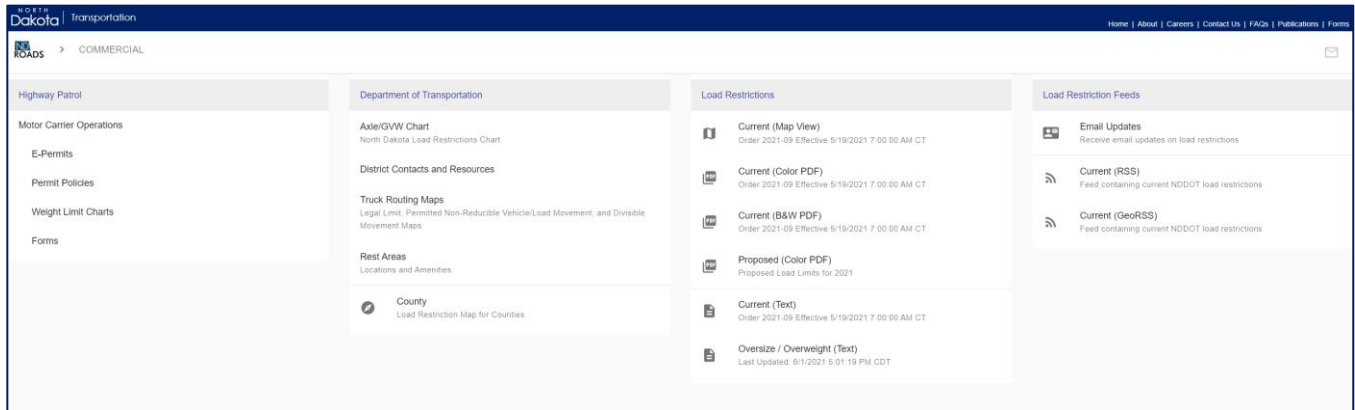
NDDOT also provides a link to static maps (that are regularly updated), as well as text feeds for key pieces of information (<https://www.dot.nd.gov/travel-info/travel-info-list.htm>).

Figure 14: North Dakota Traveler Information Website, ND Roads



Source: <https://travel.dot.nd.gov/>

Figure 15: North Dakota Commercial Vehicle Website



Source: <https://travel.dot.nd.gov/commercial/>

Key information accessible through the 511 website includes the following. Bolded features in red indicate information specific to CMVs.

- Road closures/blockages
- Incidents (generic)
- Road Conditions
- Travel Alerts
- Work Zones
- Cameras
- Warnings/events
 - Warning
 - Water on/near road
 - Events
 - Informational
- **Size and weight restrictions**
 - **Oversize/overweight (OS/OW)**
 - **Load Restrictions**
- More Information
 - Mile Markers (recently added)
 - Snow Plows
 - Rest Areas
 - Message Boards
- Weather
 - Weather Radar
 - NWS Wind Speeds
 - NWS Alerts
 - Weather Stations (RWIS)
 - Ag Weather Network (NDAWN)

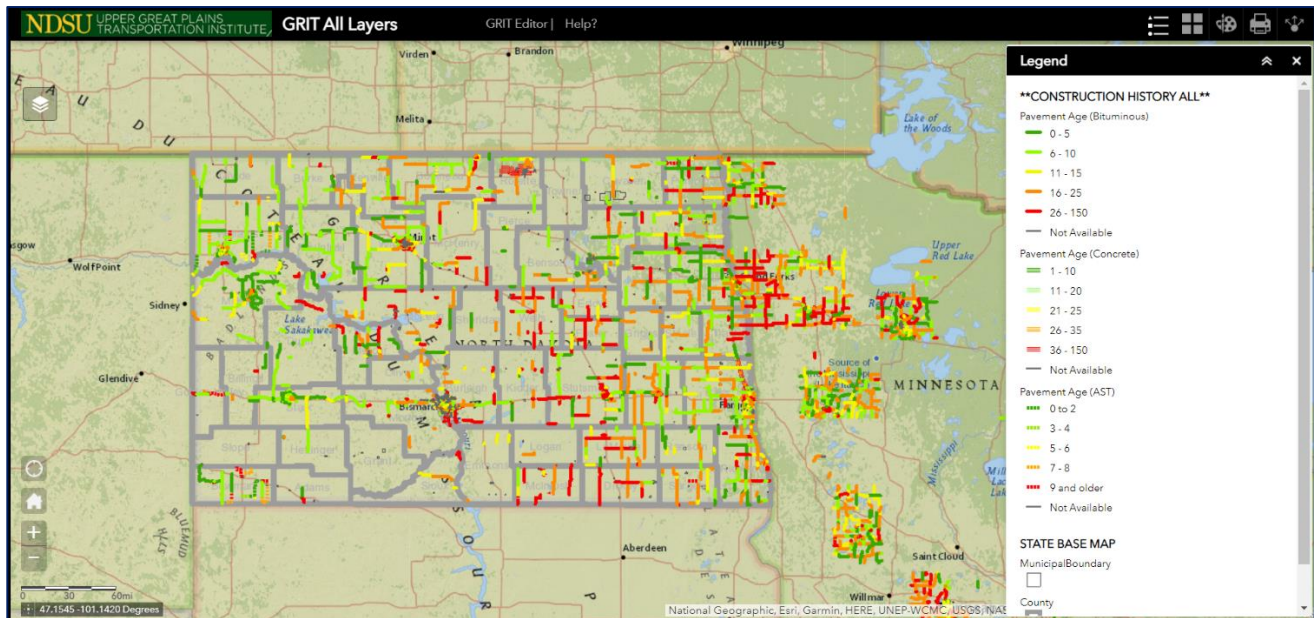
Of this information, the size and weight restrictions are provided for commercial vehicle operators.

North Dakota also allows users to sign up for alerts from 511.

Other Sources of Traveler Information

County Consortium Website: A consortium of North Dakota counties, in partnership with the North Dakota State University Upper Great Plains Transportation Institute, have developed a traveler information website (Figure 16). The website currently provides pavement age measures for select locations.

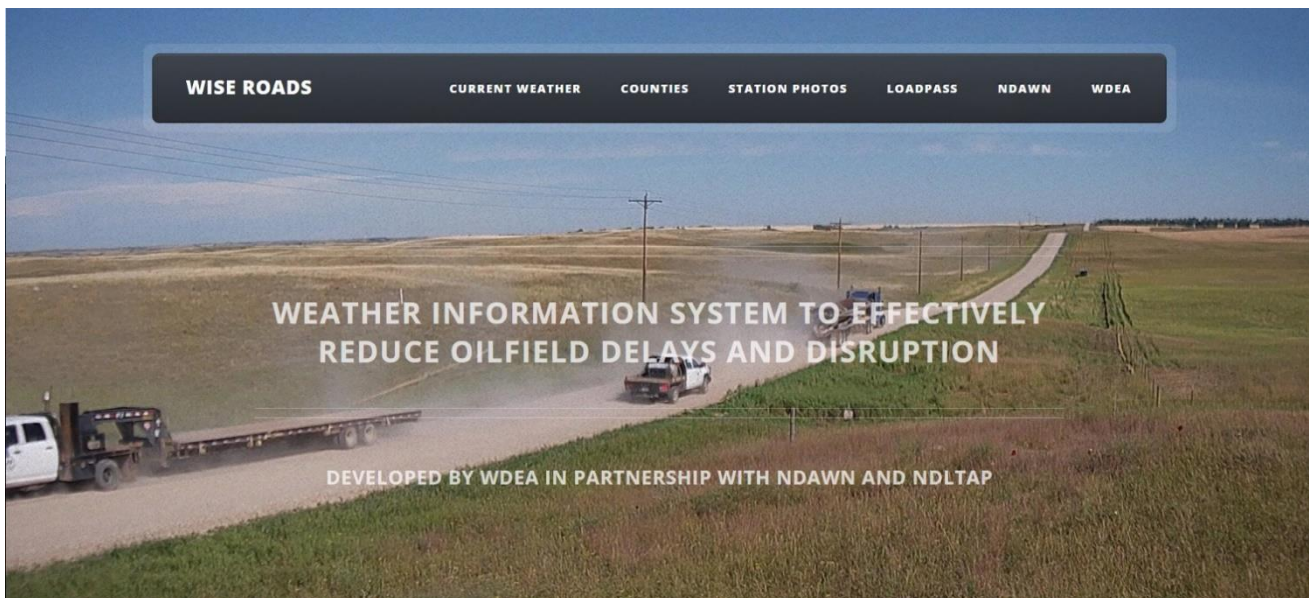
Figure 16: North Dakota County Traveler Information Website



Source: https://dotsc.ugpti.ndsu.nodak.edu/GRIT_Viewier/

Wise Roads Website: Western county oil companies have a website to track and disseminate load restrictions based on heavy events. Data is provided to local trucking industries.

Figure 17: Wise Roads Website



Source: <https://wiseroadsnd.com/index.html>

Social Media: North Dakota State Highway Patrol uses Twitter and Facebook to share information with carriers.

DMS: North Dakota has DMS at many locations statewide, as indicated through the Message Boards layer on the 511 website. In addition to the physical message boards on the roadway, NDDOT provides the DMS messages through its 511 map.

Coordination

NDDOT hosts the 511 website. While the NDDOT Maintenance Division oversees and enters information into the traveler information map, the NDDOT also coordinates with other parties to input information into the system. For instance, snow plow drivers directly input road conditions, and district personnel and construction field staff input road closure information. For one-off cases, divisions may also reach out to the Maintenance Division to enter the information into 511. During after hours, the North Dakota Department of Emergency Services State Radio Communications System also has select ability to update the 511 map (e.g., change road conditions, add icons).

For roadway incidents (e.g., accidents), NDDOT directly connects to the Highway Patrol dispatch. When roadway incidents occur, the information is automatically populated onto the 511 map. If this leads to a significant lane or road closure, district staff (who are also in contact with Highway Patrol) notify the Maintenance Division. The Maintenance Division will then put out more information on restrictions and may prepare a press release.

For CMV restrictions, NDDOT works with the Highway Patrol, which oversees CMV permitting. The Highway Patrol notifies carriers when there are CMV restrictions in an area. The Highway Patrol will then send messages related to size and weight restrictions to permit holders. Information is also provided on the Highway Patrol Website when users log in to purchase permits. Restriction information is also available to the public through the 511 map and pushed to those who have signed up for alerts. As noted earlier, North Dakota State Highway Patrol uses Twitter and Facebook to share information with carriers as well.

Additionally, NDDOT receives information from third-party data sources. NDDOT exchanges incident information with Waze, but does not yet post incident information from Waze on its 511 system. NDDOT receives weather information from the NWS, including wind speeds, storm warnings, and other red flag alerts, and also uses a paid third-party weather radar.

Multi-state Efforts

The website provides links to surrounding states' and provinces' traveler information sites.

NDDOT coordinates with neighboring states in an ad hoc manner. This coordination is often limited to major incidents such as Interstate closures and extreme winter events. In practice, this typically happens through a phone call with a neighboring state. Local communities may also communicate with bordering districts as needed.

When NDDOT receives information from a neighboring state about a major road closure near the border, it will be displayed in the message center and on the 511 map. For instance, if the state is informed of a width restriction across the border, North Dakota Highway Patrol will put a similar width restriction at the North Dakota border to maintain interstate consistency and to avoid having to refund or reroute permits.

There have also been cases in the past where North Dakota has shut down travel at the border for weather-related issues and sent out notices to neighboring states.

Planned Updates

Public Input: Moving forward, NDDOT is considering a “311 type” app that allows the public to report information.

Weather Impacts: NDDOT is also looking into speed data and weather event measures to calculate how long it takes speeds to return to normal after a storm. Currently, the state is using its own devices to obtain data but has discussed the potential of contracting with a third-party vendor.

County Information: North Dakota is also investigating how to better integrate county information on the traveler information map.

Location-based App: There have been preliminary discussions about setting up a location-based app that provides notifications using geofencing.

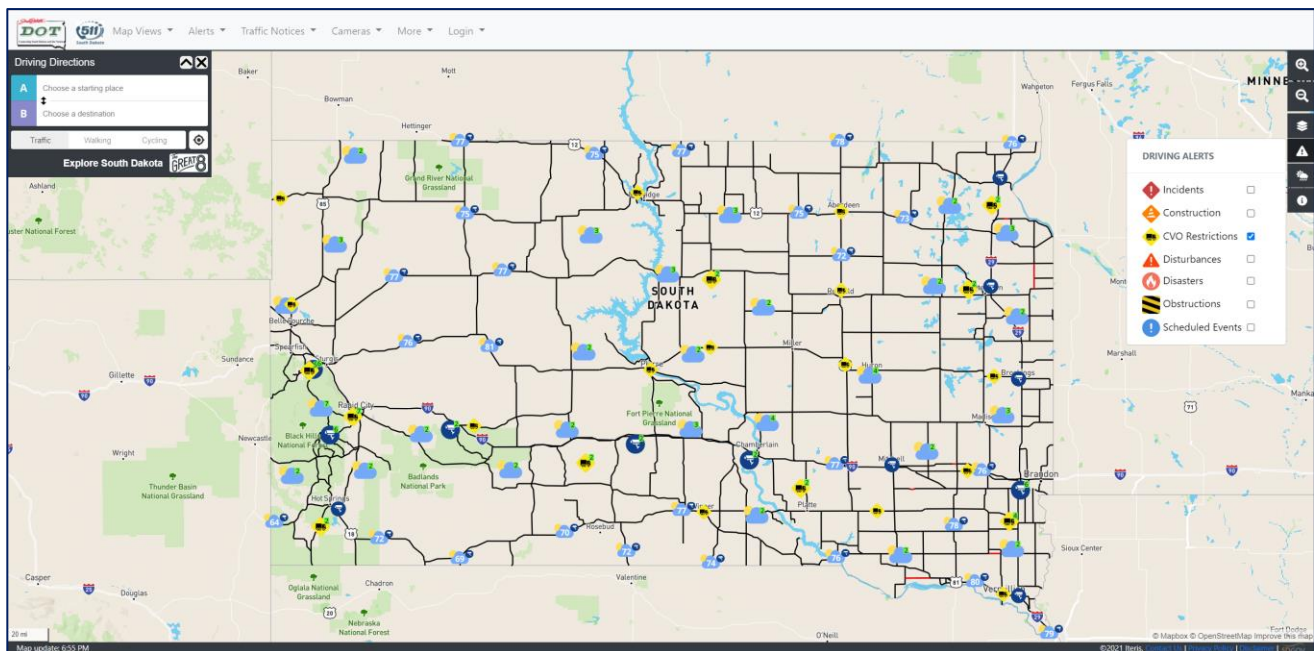
South Dakota

South Dakota 511

The South Dakota Department of Transportation (SDDOT) provides traveler information via 511, which includes both a 511 phone number, as well as a website (<https://sd511.org>) with interactive maps. The website (Figure 18) can be accessed through a browser, but South Dakota also provides Apple iOS and Android apps for mobile access.

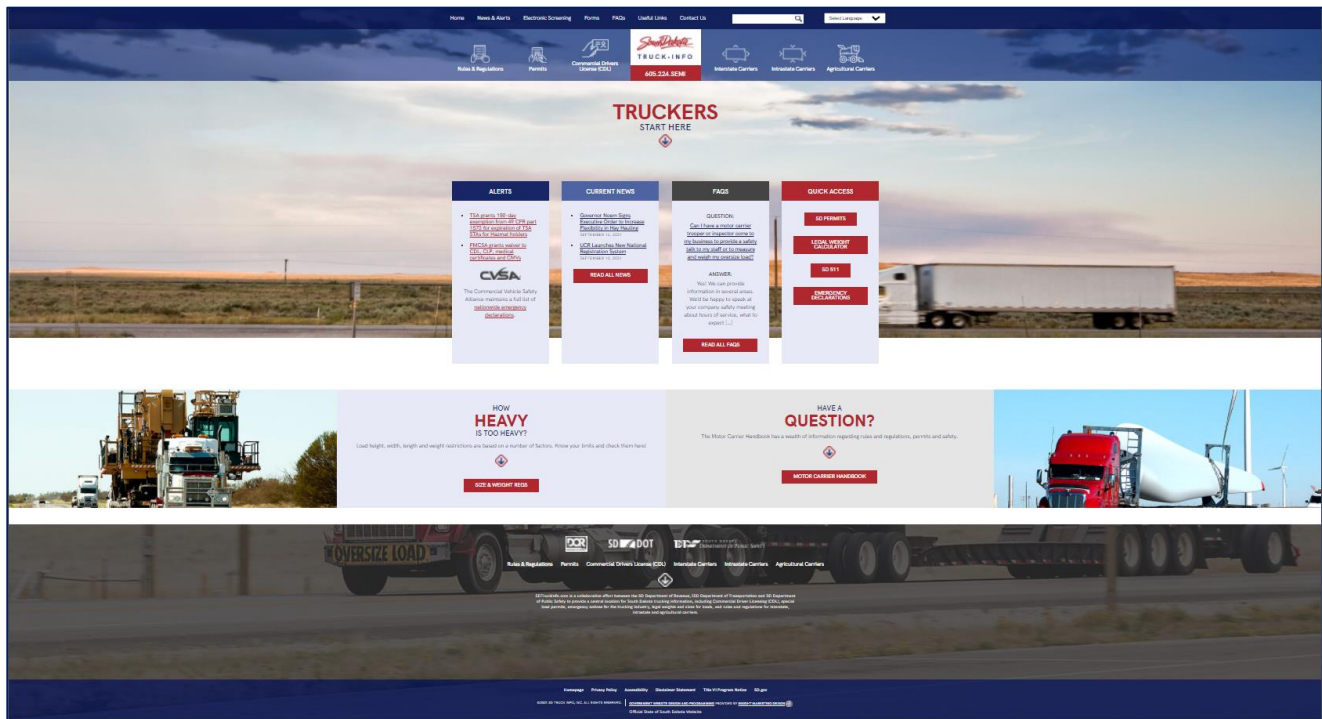
On a separate website, SDDOT provides a link to other pertinent information for truck drivers related to doing business in the state (Figure 19).

Figure 18: South Dakota Traveler Information Website



Source: <https://sd511.org/>

Figure 19: South Dakota Trucker Information Site



Source: <https://sdtruckinfo.sd.gov/>

Key information accessible through the 511 website is listed below. Of this information, commercial vehicle restrictions (such as width constrained by roadwork) can be toggled on for commercial vehicle operators.

- Map Overlays
 - Traffic Speeds (bands of 20% of % of normal speed)
 - Road Conditions
 - 24hr road condition threat forecast
 - Commercial Vehicle Restrictions
 - Directions (for trip planning)
 - Satellite View
- Driving Alerts
 - Incidents
 - Construction
 - **CVO Restrictions**
 - Disturbances
 - Disasters
 - Obstructions
 - Scheduled Events
- Weather
 - Precipitation
 - Air Temperature
 - Wind Speed
 - NWS Alerts

- Weather Station Locations
- Traveler Information
 - Traffic Cameras
 - Rest Areas

South Dakota also provides information on its website about spring load restrictions when these are in effect on smaller highways in the state.

South Dakota provides the option to personalize 511 information by signing up for an account and indicating information preferences. With a South Dakota 511 account, a user may receive email and text alerts and save favorite cameras. Text and email alerts are focused on major road closures and openings, as opposed to roadway restrictions due to construction.

Other Sources of Traveler Information

Social Media: SDDOT also provides Twitter updates on closures and other information for travelers via @SouthDakotaDOT.

DMS: South Dakota has 30 permanent DMS, located along I-90 and I-29, providing information about road closures, road conditions, wind advisements, and other traveler information.

Coordination

Within South Dakota, three state agencies coordinate to provide CMV information – the Department of Transportation, the Department of Public Safety, and the Department of Revenue.

SDDOT hosts the 511 website and coordinates with the South Dakota Department of Public Safety (SDDPS), to feed information from the SDDPS's dispatch system into the state's traveler information system.

Recently, South Dakota instituted a single phone number for all ports of entry, allowing the state to more effectively gather and organize incoming questions and concerns across facilities.

Multi-state Efforts

The South Dakota website currently does not provide regular information from neighboring states on its 511 interactive map. However, South Dakota does engage in ad hoc information sharing and coordination with its neighboring states. These efforts are often centered around major events, including those listed below:

- For the Sturgis Motorcycle Rally, South Dakota engages in planning and discussion with Wyoming and Montana about event and emergency coordination.
- Prior to the winter season, South Dakota engages in planning and discussion with its neighboring states and municipalities. This includes additional local coordination for bordering counties and cities.
- In the case of major travel restrictions, such as construction along an Interstate or other major CMV routes, South Dakota tries to coordinate permitting restrictions with other states to avoid policy inconsistency and any associated spillage of traffic onto local roads.

Planned Updates

Planned efforts in South Dakota related to CMV traveler information include the following:

Kiosks: In Fall 2021, South Dakota is planning to install kiosks at rest areas and ports of entry, with kiosk information derived from the state's 511 travel site. The kiosk will feature a scrolling slideshow

with content tailored to its particular location. The kiosks will remain adaptable, allowing for other content to be displayed, as applicable.

Truck Parking: South Dakota is beginning to experiment with counters at rest areas and private truck parking facilities to monitor how many trucks enter and exit. In the future, this information will be provided to truck drivers on the 511 website as a measure of truck parking utilization.

DMS: The state's current DMS are aging and difficult to maintain well. The state plans to replace its existing DMS with full color matrix signs in 2022 and install new ones in more locations.

Work Zone Information In-Cab: South Dakota is exploring opportunities to send work zone information to trucks in-cab, communicating relevant information to drivers when they are a set distance away from the relevant work zone. South Dakota has had initial discussions with DriveWyze, but the state is still exploring potential options. Additionally, while discussions have centered around work zone information, the same type of technology may be appropriate for providing other information in-cab, such as road closures and incidents.

Washington

Washington 511 and Traveler Information Website

The Washington State Department of Transportation (WSDOT) provides traveler information via a 511 phone number, as well as through the WSDOT website (<https://wsdot.com/traffic/>). Washington State does not provide a single interactive traveler information map, but does provide a series of links to different web pages that contain traveler information.

The WSDOT Traffic webpages provide the following information:

- Cameras: view at select traffic cameras¹
- Mountain Passes: traffic and weather conditions at select mountain passes²
- Traffic Home: links to various other traffic information and cameras throughout the state³
- Travel Alerts: state travel alerts and impact Level (Figure 20)⁴
 - Collisions
 - Construction
 - Weather
 - Road Closures
- Weather⁵
- Travel Times⁶
- Winter Driving Tips⁷

¹ <https://www.wsdot.com/traffic/Cameras/default.aspx>

² <https://www.wsdot.com/traffic/passses/default.aspx>

³ <https://www.wsdot.com/traffic/default.aspx>

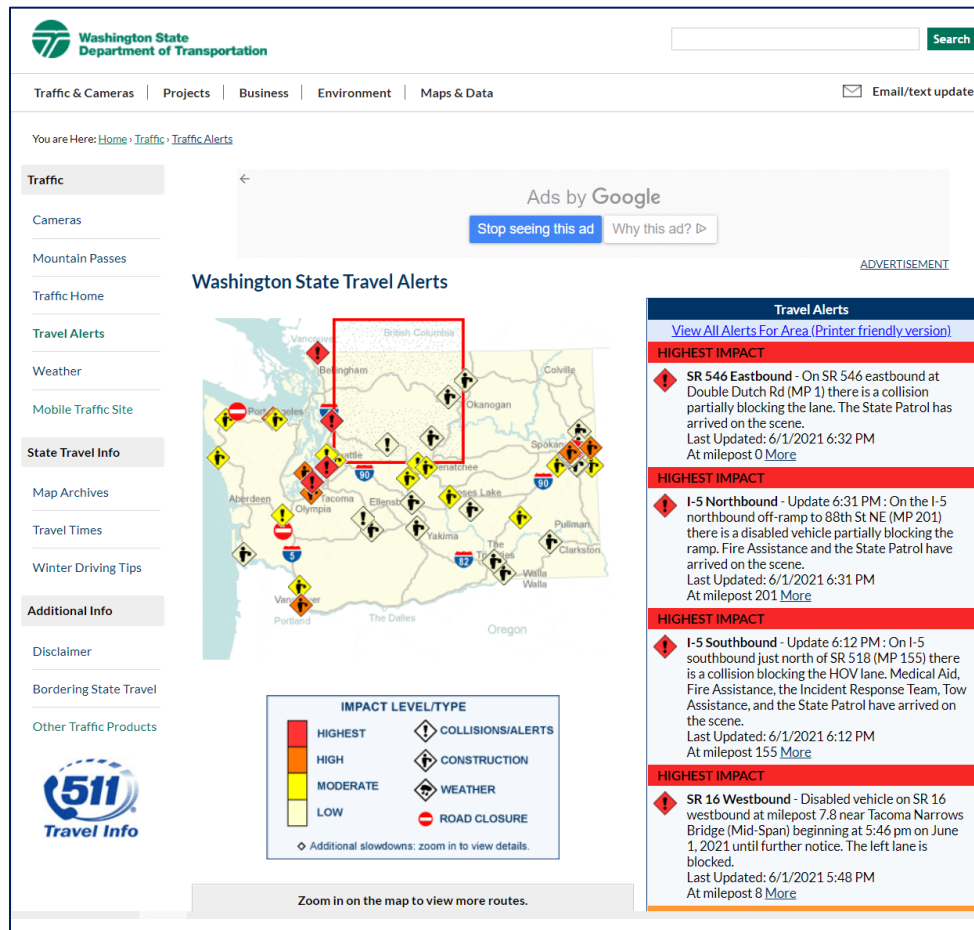
⁴ <https://www.wsdot.com/traffic/trafficalerts/default.aspx>

⁵ <https://www.wsdot.com/traffic/weather/default.aspx>

⁶ <https://www.wsdot.com/traffic/traveltimes/default.aspx>

⁷ <https://www.wsdot.com/winter/>

Figure 20: Washington State DOT Travel Alert Webpage



Source: <https://www.wsdot.com/traffic/trafficalerts/>

The WSDOT Commercial Vehicle Services webpages⁸ include the following information specific to commercial vehicle operations:

- Restrictions, including current oversize/overweight (OS/OW) restrictions (Figure 21) and vertical clearance information
- OS/OW permits
- Weigh Station Bypass
- Truck Travel Information

WSDOT’s new permitting program (eSNOOPI⁹) will also provide notifications to permit holders if road restrictions change.

⁸ <https://wsdot.wa.gov/CommercialVehicle/default.htm>

⁹ <https://wsdot.wa.gov/commercial-vehicle/permits/self-issue>

Figure 21: Washington State DOT Commercial Vehicle Restrictions Webpage

Washington State Department of Transportation

Traffic & Cameras | Projects | Business | Environment | Maps & Data

You are Here: [Home](#) > [Commercial Vehicle](#) > [Restrictions](#)

Most Requested

Restrictions for Oversize/Overweight Motor Vehicles

Vertical Clearances are not available here, please check the [Vertical Clearance Map](#)

Oversize/Overweight Restrictions

Showing 8 of 8 Restrictions [Printer Friendly](#)

- I-90, MP: 137.19 to 137.66, Direction: Both**
 Date Updated: 5/25/2021 12:58 PM
 Original Date: 6/21/2021
 Effective June 21st through June 24th No overweight loads allowed on I-90, mileposts 137 (Vantage Bridge) due to bridge work, from 7:30AM-3:00PM Monday-Thursday, Eastbound on 6/21 & 6/22 - Westbound 6/23 & 6/24
- I-82, MP: 130 to 132.60, Direction: S**
 Date Updated: 5/25/2021 10:51 AM
 Original Date: 6/7/2021
 I-82 Milepost 130 to 135.00 - Umatilla Bridge Effective June 7th through July 11th on the Umatilla Bridge I-82 southbound going into OR. No loads over 11' wide from 7AM to 5PM weekdays due to bridge work.
- I-5, MP: 250.2 to 250.7, Direction: Both**
 Date Updated: 5/21/2021 9:35 AM
 Original Date: 5/21/2021
 Effective immediately, No loads over 14' wide Sunday-Thursday nights from 8PM to 5AM. Possible detour available by County Roads or via SR-9.
- I-5, MP: 208.9 to 209.8, Direction: N**

Source: <https://www.wsdot.wa.gov/commercialvehicle/restrictions/>

WSDOT also provides select traveler information that can be accessed through Apple and Android apps for mobile access.

Figure 22: Washington State DOT Mobile App

WSDOT

Traffic Map

Ferries

Mountain Passes

Toll Rates

Border Waits

Amtrak Cascades

My Routes

Favorites

The Drury and Danekas roads are closed with alternating one way traffic Monday through Saturd...

WSDOT Traffic Map

Ferries Seattle / Bremerton

Departures: Cameras Vessel Watch

Leave Bremerton Wednesday

DEPARTURE 12:20 PM LEFT DOCK 12:22 PM ETA 1:18 PM

DEPARTURE 1:30 PM

140 drive-up spaces

DEPARTURE 3:00 PM

124 drive-up spaces

DEPARTURE 4:15 PM

143 drive-up spaces

DEPARTURE 5:30 PM

Snoqualmie Pass I 90

Updated October 26, 2020 10:11 AM

Restrictions Eastbound:
No restrictions

Restrictions Westbound:
No restrictions

Conditions:
Pass open.

Weather:
Mostly sunny, with a high near 48. Northwest wind around 7 mph.

Temperature:
38°F

Elevation:
3022 ft

WSDOT 140 Timpna Road

© WSDOT Oct 27, 2020 10:53 AM PDT

Source: Apple app store

Washington provides the option for users to set preferences and sign up for general traveler information text or email alerts.

Washington also provides a travel data API that enables third parties to obtain information.

Coordination

WSDOT hosts the 511 phone number and the traveler information website.

WSDOT works closely with the State Patrol for traffic incident management in key areas, such as mountain passes and urban areas, as well as vehicle restrictions and chain-up enforcement. WSDOT also works with Traffic Operations to coordinate activities in each of the state's six DOT regions, with regional offices generating freight-specific alerts, such as delay or detour information.

WSDOT also coordinates with the Washington State Military Department to allow pre-screened CMV drivers to enter areas where access is restricted in order to enable the efficient movement of critical supplies.

Other Sources of Traveler Information

Social Media: WSDOT provides Twitter updates on road information via its traffic (@wsdot_traffic) and regional (@wsdot_sw, @wsdot_east, @wsdot_north, @wsdot_tacoma) accounts. WSDOT also provides information on its passes through @wsdot_passes and @SnoqualmiePass and information on SR 520 through @wsdot_520.

DMS: WSDOT also provides travel information through DMS.

Multi-state Efforts

WSDOT provides links to neighboring states' and provinces' traveler information sites on the WSDOT website (<https://wsdot.com/traffic/>).

WSDOT also coordinates with neighboring states in an ad-hoc manner for certain events. Examples of prior coordination activities include:

- When there are high wind warnings on I-5, WSDOT will coordinate with the communications team and utilize National Weather Service information to disseminate information through DMS. WSDOT also reaches out to CMV groups and neighboring states to provide further awareness.
- WSDOT also works with neighboring states to manage restrictions. In the case of an event causing CMV restrictions along a route that will impact neighboring states, WSDOT will share information with these states through an email or a phone call.

Planned Updates

Website and Travel Center Upgrade: WSDOT is in the process of undergoing a complete modernization of its entire website, including traveler information webpages, in order to make information easily accessible. The new WSDOT Travel Center will be available on desktop and mobile devices and will serve as a streamlined source of traveler information for the traveling public – both passenger and commercial vehicle drivers. The updated WSDOT Travel Center will offer:

- A single interactive map that provides information in real-time
- Real-time notification alerts based on user preferences
- A single traveler information application for passenger and commercial drivers

The upgraded website will launch in November 2021. The first release aims to integrate CMV data and truck travel restrictions with other types of information, such as travel alerts, weather events, and road closures. Users will be able to view different layers at once by toggling information on and off. Users can also save viewing settings. In the future, WSDOT aims to develop new functionality by integrating additional CMV information, including bridge clearance information, into the Travel Center.

Truck Parking: WSDOT is in the process of conducting a truck parking information system pilot with the University of Washington. Currently, pavement technology with the ability to gather data has been installed at two locations (one on I-90 and one on I-5). Using this data, the pilot is testing an algorithm to predict future truck parking availability up to four hours in advance, with about 11 percent error. At the moment, predictions are provided through an Android-based application, with a plan to eventually share information through the WSDOT website. WSDOT has also recently been awarded a Federal Motor Carrier Safety Administration (FMCSA) grant through 2025 to expand the truck parking information system to public truck parking facilities statewide, with cameras and in-pavement technology gathering data at more facilities. WSDOT is also exploring opportunities to expand the application through third-party partnerships, such as with Waze or Google.

Coordinating truck parking information across state lines requires similar efforts and faces similar challenges to coordinating truck travel information more generally among multiple states. So far, WSDOT has engaged in conversations with the Oregon DOT and CalTrans (I-5 states) to discuss best practices (e.g., consistency across technologies, information types, etc.) for sharing truck parking information with drivers across state lines.

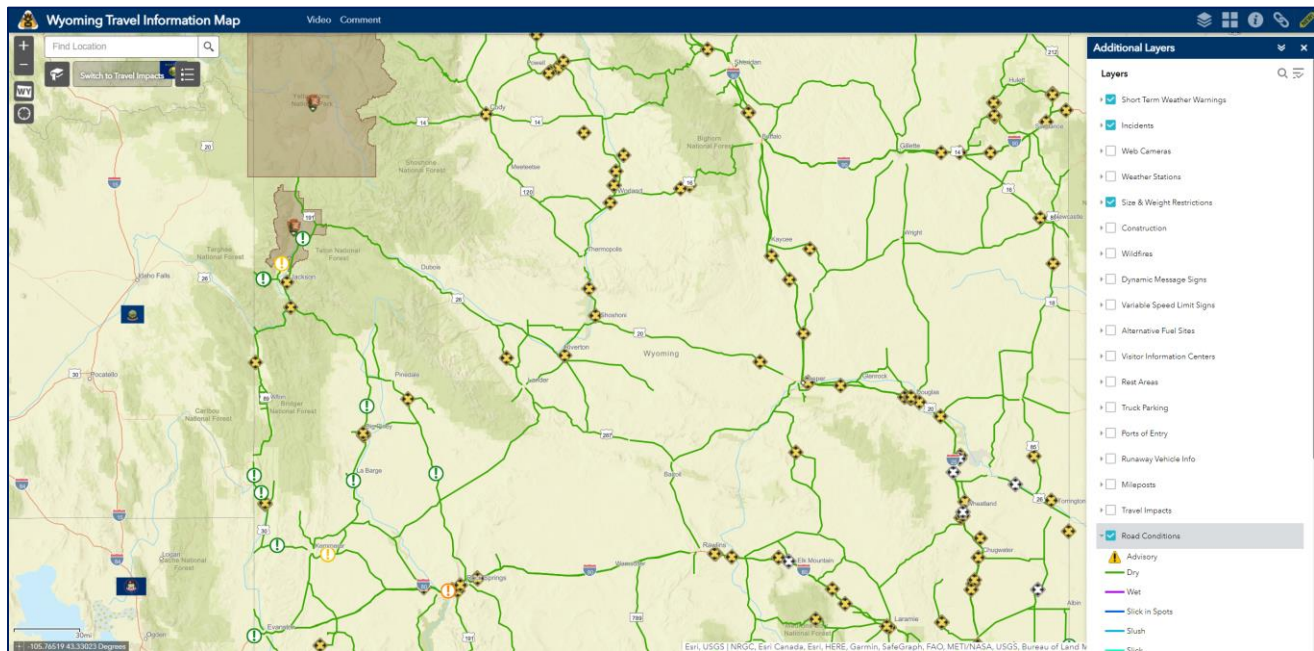
Electrification: WSDOT has begun exploring options to provide information related to truck electrification to drivers.

Wyoming

Wyoming 511

The Wyoming Department of Transportation (WYDOT) provides traveler information via 511, which includes both a 511 phone number, as well as a website (<https://map.wyoroad.info/wtimap/index.html>) with interactive maps (Figure 23). The website can be viewed in both high and low resolution, as well as in an accessible version for color-blind users. The website can be accessed through a browser, but Wyoming also provides Apple iOS and Android apps for mobile access. The mobile app also offers hands-free capabilities which allow conditions to be read out loud.

Figure 23: Wyoming Travel Information Map



Source: <https://map.wyroad.info/wtimap/index.html>

Key information accessible through the 511 website is listed below. Bolded features indicate information highlighted for commercial vehicle operators.

- Short Term Weather Warnings
- Incidents (and severity)
- Web cameras
- Weather Station Locations
- **Size and Weight Restrictions**
- Construction
- Wildfires
- Dynamic Message Signs
- Variable Speed Limit
- Alternative Fuel Sites (EV, CNG, E-85, Biodiesel)
- Visitor Information Centers
- Rest Areas
- **Truck Parking**
- **Ports of Entry (Open, Closed)**
- **Runaway Vehicle Info**
- Mileposts
- Travel Impacts (Advisories and impact: Low-Closed)
- Road Conditions
- Weather Radar
- NWS Weather Watches

Wyoming also provides information through 511 Notify, a messaging system that allows a recipient to receive important messages via text messaging (cell phone) and/or via email.

Other Sources of Traveler Information

Commercial Vehicle Operator (CVO) Portal: Wyoming provides a dedicated CVO portal for approved professional truckers and trucking companies (Figure 24). The state provides daily high-level forecast summaries, as well as customized road weather forecasts that predict wind speed, surface condition, and visibility up to 72 hours ahead of time for high impact events, along Wyoming's three interstates (I-25, I-80, and I-90) and other routes heavily traveled by trucks. Wyoming shares this information via its CVO portal. Currently, over 2,000 firms have signed up for the portal, and users can sign up for text and email notifications to receive information and forecasts about high-impact events. WYDOT has reached out to the state trucking association to ensure they know about the CVO portal. During major events, WYDOT follows up with the state trucking association to remind members to subscribe to the CVO portal.

Figure 24: Wyoming Commercial Vehicle Operator Portal



Source: <https://cvop.wyoroad.info/cvop/>

YouTube: Wyoming also creates YouTube videos for high-impact events to get information out to subscribers.

Connected Vehicle Pilot: Wyoming is currently part of a USDOT pilot project studying connected vehicle technologies. Connected Vehicles can exchange data with other Connected Vehicles and Connected Infrastructure. In the Connected Vehicle Pilot, WYDOT is using vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and infrastructure-to-vehicle (I2V) connectivity to improve monitoring and reporting of road conditions on I-80. The WYDOT project includes the development of a situational data warehouse. With connected systems, roadside units can push information from the data warehouse to connected vehicles to provide real-time, in-cab updates to drivers about road conditions, accidents, weather events, speed limit changes, and other disruptions. Currently, WYDOT is partnered with Sirius XM to push this kind of information to truck drivers.

Smart TVs: WYDOT and the Wyoming Department of Workforce Services have partnered to provide "Smart TV" custom traveler information feeds. Smart TVs are installed at ports of entry, businesses,

and sporting events to provide traveler information to travelers who pass through. The “Smart TVs” currently utilize Raspberry Pi which enables them to display travel and other information.

Social Media: WYDOT provides Twitter updates on road information through its regional (@WYDOT_Northwest, @WYDOT_Northeast, @WYDOT_Central, @WYDOT_Southwest, @WYDOT_Southeast, @Wydot1) and corridor (@WYDOT_I80, @WYDOT_I25, @WYDOT_I90) accounts.

DMS: Wyoming has DMS at many locations statewide, as indicated through the DMS layer on the 511 website. In addition to the physical message boards on the roadway, WYDOT reproduces the DMS messages on its 511 map.

Truck Parking Availability: Wyoming provides truck parking availability at some public rest areas on I-80, through crowd-sourced information.

Coordination

WYDOT hosts the 511 website and coordinates with the Wyoming Highway Patrol (which operates within the DOT) to coordinate information.

Multi-state Efforts

The Wyoming 511 website does not include any traveler information about neighboring states (e.g., road conditions), but it does provide links to neighboring states’ traveler information sites, as well as those for Yellowstone and Grand Teton National Parks.

WYDOT engages in ad hoc coordination with neighboring states. In the case of a long-term road closure in Wyoming, WYDOT contacts neighboring states to request that this information be provided to drivers, such as through DMS. WYDOT offers the same service when a neighboring state faces a road closure.

Planned Updates

Situational Data Exchange: WYDOT is currently partnered with Sirius XM to share information through Connected Vehicles, but the state is in discussions to partner with Ford and TomTom.

Amazon Alexa: WYDOT, in coordination with TriHydro, is also utilizing Amazon Alexa to provide travel information. With Alexa-enabled vehicles or home speakers, users can request travel information through Alexa’s voice recognition technology.

4 Needs and Opportunities

4.1 Needs

The goal of CMV traveler information is to make information available to truck drivers so they can operate properly and safely within and across state borders.

CMV drivers need easy access to real-time information as early as possible to inform decision-making while operating a CMV. Stakeholders emphasized the importance of safe access to information in real-time during a trip, which allows drivers to adjust routes where possible to ensure safety and enhance efficiency in the case of unexpected incidents. This includes providing updates to permit holders that may be specific to routes for permitted loads.

While CMV traveler information is useful and important for drivers, there is a need to consider how to provide critical information to drivers, while avoiding information overload. For example, alerts specific to certain routes or times of day are not useful for drivers that work different routes and/or times of the day. Stakeholders have provided positive feedback for traveler information resources that provide streamlined and user-friendly information, such as traveler information websites with a CMV section or a filter that focuses on relevant information.

Additional methods to access CMV traveler information are also helpful for drivers, such as through mobile devices, in-cab technologies, and DMS. Specifically, DMS work well to update drivers with relevant information, as they provide real-time and location-specific traveler information. However, while proactive systems are one way to alert drivers about unexpected incidents or conditions, they must be balanced with consideration for distracted driving issues. Voice recognition technology and verbal alerts may be further explored as a safe method to disseminate information to drivers in real-time. As new technologies are explored to share CMV traveler information with drivers, there is a need to also recognize and address a range of existing driver capabilities and preferences.

The ability for states to communicate relevant information across the NWP is important to enable drivers to plan trips across NWP state borders. States should consider how traveler information can interact with existing and future vehicle technologies (e.g., connected and autonomous vehicles) and identify potential new needs and opportunities to enhance information sharing in the region.

4.2 Opportunities

The following section identifies a list of potential opportunities for the NWP related to enhancing CMV traveler information-sharing across state borders. These opportunities seek to increase awareness, information sharing, and collaboration between NWP state agencies in order to benefit drivers through enhanced CMV traveler information.

Opportunities for State Consideration

This assessment has identified several examples of ongoing and future CMV traveler information practices used by states in the NWP. States may individually consider these as future opportunities to improve CMV traveler information within the state, as well as to improve coordination of CMV traveler information with neighboring states.

Consider implementing CMV traveler information best practices

States may consider implementing CMV traveler information practices that have proved successful in other NWP states. This will support the development of consistent CMV traveler information practices across the NWP and facilitate future coordination. States can use this assessment as a resource to understand ongoing and planned CMV traveler information practices in other NWP states.

Examples of innovative practices include:

- A dedicated Commercial Vehicle Operations Portal (*Wyoming*)
- Installing kiosks (*South Dakota*) or Smart TVs (*Wyoming*) that display CMV traveler information at select locations (e.g., ports of entry, truck stops, etc.)

Consider implementing multi-state coordination approaches

States may consider implementing multi-state coordination approaches related to CMV traveler information that have been used and proven successful by other states. States may individually reach out to neighboring states to coordinate these efforts. States can use this assessment as a resource to understand opportunities for coordinating CMV traveler information across states.

Examples of efforts to share CMV traveler information across NWP states include:

- Notify neighboring states when restrictions are in place near the state border. This allows neighboring states to implement similar restrictions on the connecting corridor inside their border.
 - Share temporary permit restrictions with neighbors.
 - Share emergency size and weight permissions with neighbors.

Opportunities for NWP Consideration

Low-Tech, Short-Term Opportunities

The NWP may consider the following low-tech opportunities to improve CMV traveler information across the region. These opportunities do not require significant technological efforts or investments, and may therefore be considered by the NWP for short-term implementation.

CMV Traveler Information Contact to Facilitate Information Sharing

Each state may identify a CMV traveler information contact for the NWP to facilitate information sharing across the region. This group could share best practices for establishing and maintaining multi-state coordination specific to CMV traveler information. Information exchange may occur through regularly established meetings, or through ad hoc interactions. At minimum, this would provide the group with a contact for each NWP state for matters related to CMV traveler information.

Consistent Terminology and Presentation of Information

The NWP may develop a consistent set of terminology and presentation of information, to the extent possible, for traveler information across the region. This would help reduce conflicts or confusion where different terms are currently used across states.

NWP Traveler Information Resources Webpage

The NWP may develop a webpage on the NWP website that serves as a “one-stop shop” for the region. This webpage would provide users with links to all NWP state traveler information and state permit websites.

Video Displaying Conditions Driving on NWP Corridors

The NWP may develop and share a video that depicts CMV driving conditions on NWP corridors, so CMV drivers know what to expect and what best practices to utilize as they navigate treacherous or weather-impacted roads across the NWP. The video could further provide information about where drivers may safely stop to rest or park, get fuel, check brakes, or chain up.¹⁰

High-Tech, Medium-/Long-Term Opportunities

The NWP may also consider the following high-tech opportunities to improve CMV traveler information across the region. These opportunities do require significant coordination, as well as technological efforts and investments. As a result, the NWP may consider these opportunities for future implementation.

Situational Data Exchange

This opportunity would enable states to access and use CMV traveler information provided by all NWP states and stored in a single warehouse. Through a situational data exchange, information could also be exchanged with third parties to enhance CMV traveler information sharing and dissemination in the region. By serving as a single source of information, a situational data exchange would allow for a consistent and shared source of information across the region.

Coordinate CMV Inspections Across State Lines

This opportunity would enable states to share inspection responsibilities for multi-state CMV operators. This would require significant coordination across states’ inspection requirements and processes, and should first be piloted between two states.

Multi-state Permitting and Routing System

This opportunity would enable CMV operators to obtain permits and routing instructions for multiple NWP states through a single process. An advanced multi-state automated routing system could further provide route guidance through in-cab technologies. This would require significant coordination across states’ permitting requirements and processes, and should first be piloted between two states.

Note that an OS/OW Movement Assessment to identify issues and develop mitigation strategies for OS/OW movements across state lines is planned for NWP Year 6 (pending).

Regional Truck Parking Information System

This opportunity would provide truck parking information, including location and availability of spaces, to public and/or private truck parking facilities across the region. Other regions in the U.S. have begun implementing similar regional truck parking information systems, including eight Mid America Association of State Transportation Systems (MAASTO) states¹¹, to share truck parking information and allow drivers to plan trips across state borders.

¹⁰ Opportunity modeled off Colorado DOT video. For more information, see <https://www.ttnews.com/articles/colorado-partners-release-truck-safety-video-i-70-travel>.

¹¹ MAASTO, <http://www.maasto.net/tpims.html>

Note that a Truck Parking Information Management Assessment to review how states share truck parking information and determine interest in a regional truck parking information management system is planned for NWP Year 6 (pending).

Implementation

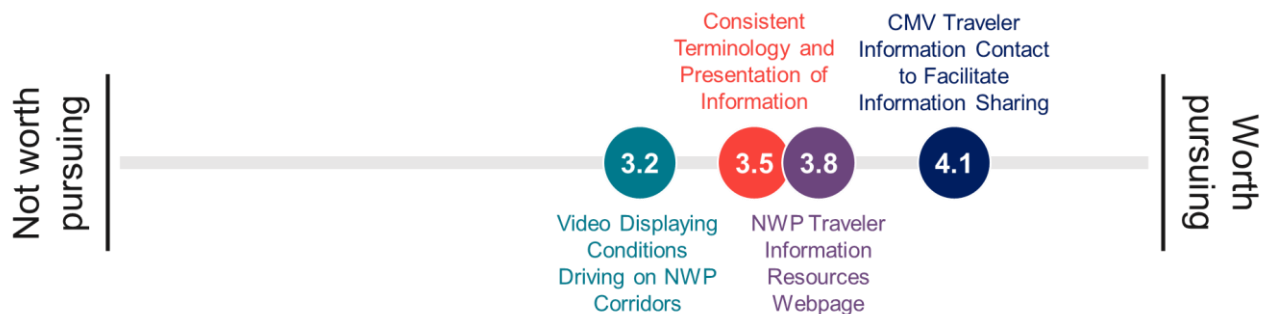
As the NWP evaluates the identified opportunities for the region to improve CMV traveler information, considerations for implementation include:

- **Value:** Is the opportunity worth pursuing with value to the NWP/states?
- **Feasibility:** Is the opportunity feasible for implementation?

NWP stakeholders were asked to evaluate identified opportunities based on value, from a scale of 1 (not worth pursuing) to 5 (worth pursuing), and feasibility, from a scale of 1 (very easy to implement) to 5 (very challenging to implement).

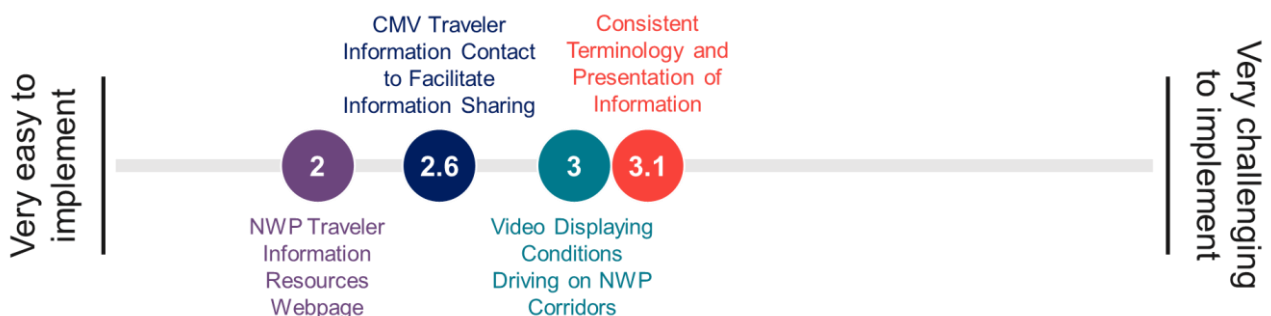
Figure 25 and Figure 26 display results from the evaluation of low-tech, short-term opportunities by value and feasibility, respectively. Figure 27 and Figure 28 display results from the evaluation of high-tech, medium/long-term opportunities by value and feasibility, respectively.

Figure 25: Stakeholder Evaluation of Low-Tech, Short-Term Opportunities (Value)



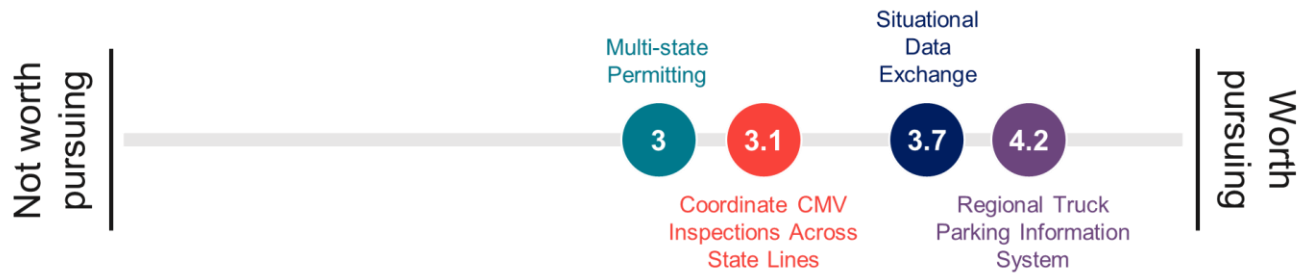
Source: Mentimeter results, CMV Traveler Information Roundtable 2, September 14, 2021

Figure 26: Stakeholder Evaluation of Low-Tech, Short-Term Opportunities (Feasibility)



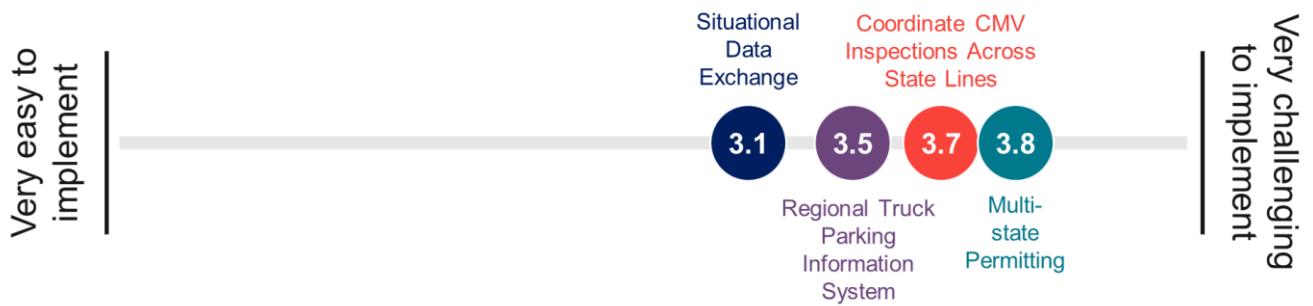
Source: Mentimeter results, CMV Traveler Information Roundtable 2, September 14, 2021

Figure 27: Stakeholder Evaluation of High-Tech, Medium-/Long-Term Opportunities (Value)



Source: Mentimeter results, CMV Traveler Information Roundtable 2, September 14, 2021

Figure 28: Stakeholder Evaluation of High-Tech, Medium-/Long-Term Opportunities (Feasibility)



Source: Mentimeter results, CMV Traveler Information Roundtable 2, September 14, 2021

Appendix A. Roundtable Presentations and Polling Results

Appendix B. Individual Consultation Guides (State DOTs)

Consultee Information	
Date	
Contact Name, Title	
Contact Details (phone/email)	
Organization	
Permission to Attribute? May we follow-up with you?	

About the Consultation

Thank you for participating in this interview in support of the North/West Passage (NWP) Freight Task Force *Commercial Motor Vehicle (CMV) Traveler Information Assessment*. This consultation seeks to gather information from state Departments of Transportation (DOT) to ensure we are capturing the full slate of current and planned CMV traveler information activities within your state borders. The NWP Coalition will use this information to inform a CMV Traveler Information Assessment, which will identify freight-relevant information needs and issues in the multi-state region, and propose a framework for improved information sharing across borders.

This consultation will take approximately 45 minutes. We have prepared a series of questions to guide our discussion. Please feel free to submit this consultation guide back to us with your written responses, in addition to sharing your perspective on any/all of the items during the consultation.

Provide written responses to Julia Thompson: jthompson@cpcstrans.com.

Questions: State DOTs

1. In your review of the state profile, are there any corrections or updates we should be aware of?
 - a. Types of information provided.
 - b. Media used to communicate travel information to CMVs.
2. Which state agencies provide travel information for CMVs? What level of coordination occurs within and/or across agencies to provide this information?
3. What kinds of CMV-focused traveler information does your state coordinate across state lines?
4. What do you see as short- and long-term cross-state opportunities to provide better CMV traveler information to drivers across NWP state borders?
5. What are you doing to automate traveler information into CMVs?
6. What are third-party data providers doing related to CMV-focused traveler information in your state?
7. How do you engage your state trucking association, motor carriers, or non-state agencies on this topic?
8. Is there anything else the NWP should consider in its CMV traveler information assessment?
9. Who else should we speak with?

Appendix C. Individual Consultation Guides (State Trucking Associations)

Consultee Information	
Date	
Contact Name, Title	
Contact Details (phone/email)	
Organization	
Permission to Attribute? May we follow-up with you?	

About the Consultation

Thank you for participating in this interview in support of the North/West Passage Freight Task Force *Commercial Motor Vehicle (CMV) Traveler Information Assessment*. This consultation seeks to gather information from state trucking associations about your perceptions of CMV Traveler Information provided by states in the North/West Passage (NWP). The NWP Coalition will use this information to inform a CMV Traveler Information Assessment, which will identify freight-relevant information needs and issues in the multi-state region, and propose a framework for improved information sharing across borders.

This consultation will take approximately 45 minutes. We have prepared a series of questions to guide our discussion. Please feel free to submit this consultation guide back to us with your written responses, in addition to sharing your perspective on any/all of the items during the consultation.

Provide written responses to Julia Thompson: jthompson@cpcstrans.com.

Questions: Trucking Associations

CMV Traveler Information Availability

1. What traveler information (e.g., winter weather and road conditions, wind advisories, load restrictions, dimension restrictions, work zones, traffic incidents, road closures, emergency declarations, rest area locations, truck parking, port of entry locations & open/closed, traffic forecast, etc.) is most critical for truck drivers to have access to pre-trip? During trip? How do truck drivers use this information?
2. What other information is not critical, but nice-to-have?
3. What are the best existing sources of CMV traveler information in your state? What is the information? Who provides this information?
4. What are the best existing sources of CMV traveler information for trips that cross state lines? What is the information? Who provides this information?
5. Have you received feedback from your members on CMV traveler information provided in your state?
 - a. What is working well in your state?
 - b. What are the recurring CMV traveler information issues you hear from truck drivers?

6. What is your assessment of the current CMV traveler information gap? (i.e., information that is required but is not currently available from any source – *this links to question 10.*)

Accessing CMV Traveler Information

7. How do truck drivers currently obtain CMV traveler information in your state pre-trip? During trip? (e.g., call/text on phone, provided on permit, website on computer, website on phone, phone app, in-cab visual, in-cab audio, etc.)
8. What is the preferred method to obtain CMV traveler information pre-trip? During trip? (including if method is active or passive)
9. How does obtaining information differ for truck drivers who travel across multiple states vs. those who remain in a single state?
10. How does obtaining information differ for permitted loads vs. non-permitted loads (e.g., turn by turn instructions, bridge clearance, oversize/overweight, other considerations)?

The Future of CMV Traveler Information

11. From a driver perspective, what is needed to improve CMV traveler information within your state and across state borders?
 - a. What CMV traveler information is currently not provided in your state or across state borders that you or truck drivers would like to see provided?
 - b. Are there better ways the states could disseminate CMV traveler information to drivers? What is the most convenient way to access CMV traveler information?
12. What do you see as short- and long-term opportunities to provide better CMV traveler information to drivers across NWP state borders?
13. Are there examples of innovative CMV traveler information solutions in other states or regions that should be investigated by the NWP?

Next Steps

14. Is there anything else the NWP should consider in its CMV traveler information assessment?
15. Who else should we speak with?

Can you help us distribute a survey of similar questions to truck drivers?