

NORTH/WEST PASSAGE



May 2023

Current Practices in Expanding DOT Traveler Information Coverage

Project 17.7 – FINAL

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Cover photo provided courtesy of the Minnesota Department of Transportation.

1. INTRODUCTION

The North/West Passage (NWP) pooled fund study program focuses on developing effective methods for sharing, coordinating, and integrating traveler information, operational activities, and emerging technologies across state and provincial borders. Membership includes the states of Washington, Idaho, Montana, Wyoming, North Dakota, South Dakota, and Minnesota, as illustrated in Figure 1.

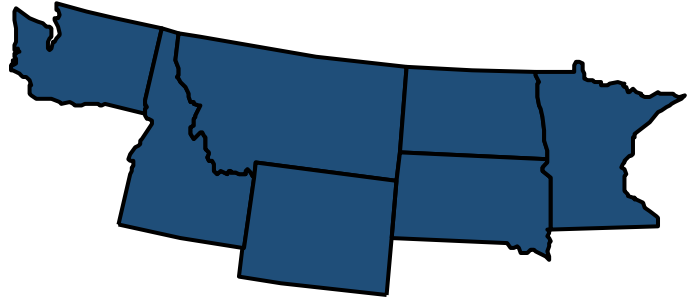


Figure 1: North/West Passage Members

State Departments of Transportation (DOTs) typically operate and provide traveler information for state maintained and operated roads. A challenge related to this is that some travelers who view State DOT traveler information mechanisms may interpret the lack of an event icon on a local road as clear or normal conditions even if an event is occurring on the local road. Additionally, travelers may benefit if state DOT operated traveler information systems were expanded to include additional roads beyond state operated roads (e.g., to cover local county and city roads and roads in national parks and tribal lands).

This project researched and documented practices for expanding DOT traveler information beyond State DOT maintained roads. The intent of the project was to provide NWP members with insights and example practices of DOTs that provide traveler information beyond state maintained roads to consider for their states.

This project first reached out to a list of State DOT traveler information managers from around the country, requesting a brief response regarding whether their agency provides traveler information for non-State DOT routes. The project then reviewed selected State DOT traveler information sites and administered a detailed follow-up survey to the State DOTs that indicated that they provide traveler information for non-State DOT routes on their DOT-operated traveler information systems. The survey gathered input on practices for obtaining, updating, and displaying road event information (e.g., construction, closures, incidents) for non-State DOT routes. Lastly, relevant practices for 11 State DOTs were documented.

The sections of this report include:

- [2. Project Approach](#) – Describes the project tasks taken to complete this project.
- [3. Identifying and Gathering Practices](#) – Summarizes findings from outreach to State DOT traveler information managers and results from an online survey.
- [4. Details of State DOT Practices](#) – Outlines practices from 11 State DOTs that provide road event information for non-State DOT routes on their traveler information mechanisms.
- [5. Summary](#) – Provides an overview of the project findings.

This project researched and documented practices for expanding DOT traveler information beyond State DOT maintained roads.

2. PROJECT APPROACH

A series of tasks were completed for this project that researched and documented practices for providing traveler information beyond State DOT maintained roads on State DOT traveler information mechanisms. See Figure 2.

The first task was to identify State DOTs that provide traveler information beyond state operated roads. This was completed through a basic request sent to an email list of State DOT traveler information managers, asking whether their State DOT operated traveler information systems provide road event information beyond State DOT maintained roads.

Based on responses from the initial request to State DOT traveler information managers, an online survey was developed and sent to those State DOTs indicating that they provide road event information beyond State DOT maintained roads. The survey requested additional details about the information displayed by State DOT traveler information mechanisms and processes for obtaining and maintaining road event information for non-State DOT roads.

For relevant practices identified through the initial request and the survey responses, the applicable State DOT traveler information websites were reviewed to gather additional details and screenshots showing how road event information for non-state DOT routes is displayed.

The final project task produced this project summary document to summarize the information gathered.

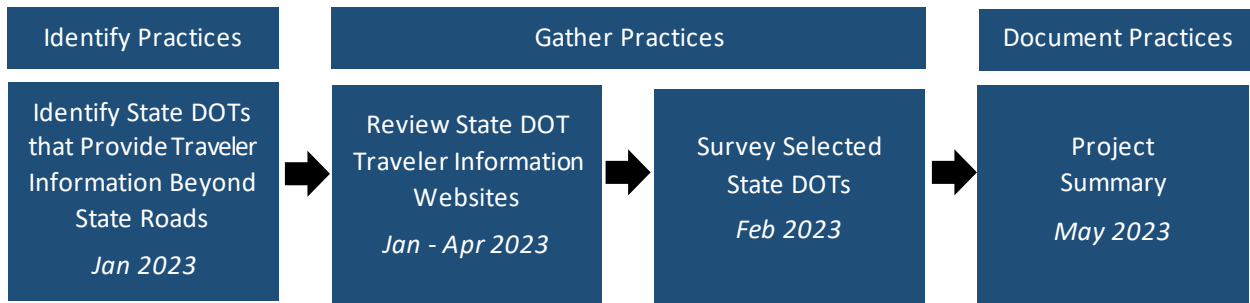


Figure 2: Project Approach

3. IDENTIFYING AND GATHERING PRACTICES

This project first identified State DOTs that provide road event information beyond State DOT maintained routes. Further research that included an online survey and review of applicable State DOT traveler information websites was used to gather and document relevant practices.

3.1 State DOTs that Provide Traveler Information Beyond State DOT Roads

As a first step, State DOT traveler information managers were emailed and asked whether their state DOT provides traveler information for non-state operated roads. Twenty (20) responses were received, with 11 agencies indicating they do provide traveler information beyond state operated roads and 9 agencies indicating they do not. See Figure 3.

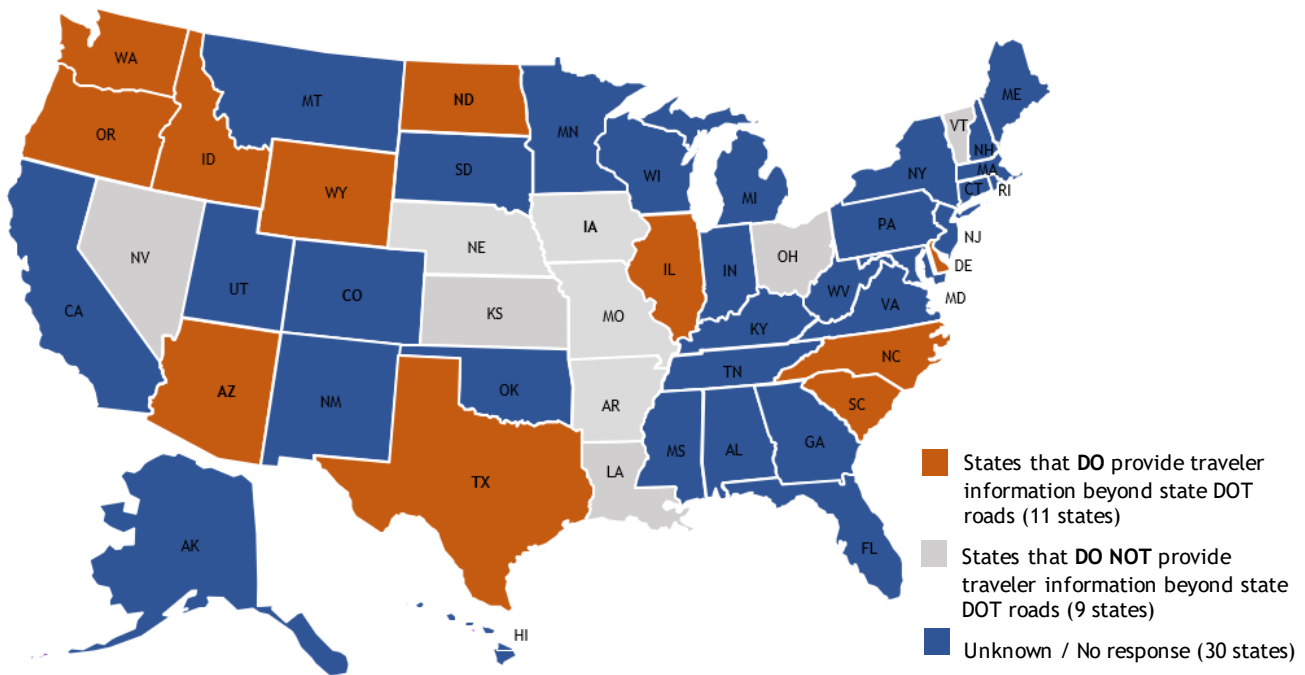


Figure 3: Responses for State DOTs Providing Road Event Information for Non-State DOT Routes

3.2 Applicable State DOT Traveler Information Websites

For relevant practices identified through the initial request to State DOT traveler information managers and the survey responses, 11 applicable State DOT traveler information websites were reviewed to gather additional details and screenshots showing how road event information for non-state DOT routes is displayed. The State DOT traveler information websites listed in Table 1 were reviewed.

Table 1: State DOT Traveler Information Websites Reviewed

State DOT	Traveler Information Website
Arizona Department of Transportation	https://az511.com/
Delaware Department of Transportation	https://deldot.gov/map/

State DOT	Traveler Information Website
Idaho Transportation Department	https://511.idaho.gov/
Illinois Department of Transportation	https://www.travelmidwest.com/ https://www.gettingaroundillinois.com/TravelerInfo/
North Carolina Department of Transportation	https://drivenc.gov/
North Dakota Department of Transportation	https://travel.dot.nd.gov/
Oregon Department of Transportation	https://www.tripcheck.com/
South Carolina Department of Transportation	https://www.511sc.org/
Texas Department of Transportation	https://drivetexas.org/
Washington State Department of Transportation	https://wsdot.com/Travel/Real-time/Map/
Wyoming Department of Transportation	https://map.wyoroad.info/wtimap/

3.3 Survey of Selected State DOTs

Based on responses received from the initial request sent to State DOT traveler information managers, an online survey was developed and sent to those State DOTs indicating that they provide road event information beyond State DOT maintained roads. The survey requested details such as what type of road event information is displayed and for which route types, how the information is obtained, the steps taken by non-State DOT entities to submit, update, and delete road event information, use of automated data feeds, whether any commitments or agreements are in place to manage relevant activities between the State DOT and non-DOT entities, and challenges or issues. See [Appendix A](#) for the survey questions.

Respondents from the following seven State DOTs completed the survey and provided their practices for obtaining, updating, and displaying road event information for non-State DOT routes on their State DOT operated traveler information systems:

- Arizona Department of Transportation
- Delaware Department of Transportation
- Illinois Department of Transportation
- North Carolina Department of Transportation
- North Dakota Department of Transportation
- Oregon Department of Transportation
- Wyoming Department of Transportation

The remainder of this section provides aggregated results from the online survey.

Type of Road Event Information Displayed for Non-DOT Roads

Survey respondents were asked, “What type of road event information does your agency display for non-State DOT roads (e.g., county roads, city roads, national parks, tribal lands)? Select all that apply.” Road

closures, bridge closures, and construction were the three most common responses, followed closely by third party speed/congestion data and truck restrictions. Weather-related information was among the “other” responses noted. All answer choices and the aggregated results for this question are shown in Table 2.

Table 2: Type of Road Event Information Displayed for Non-DOT Roads

Answer Choices	Number of Responses	States
Road closures	5	AZ, DE, IL, OR, WY
Bridge closures	4	AZ, DE, IL, OR
Construction	4	AZ, DE, IL, OR
Third party speed/congestion data (e.g., HERE, INRIX)	3	AZ, IL, NC
Truck restrictions	3	DE, OR, WY
Incidents (e.g., crashes)	1	DE
Third party event/incident data (e.g., Waze)	1	DE
Other. Please describe.	6	DE, IL, NC, ND, OR, WY
<ul style="list-style-type: none"> • Any transportation related information to include weather, evacuations, and etc. (DE) • We do not receive construction, road/bridge closure from all local agencies. We do usually publish what we receive. (IL) • NCDOT maintains 80% of the public roads in NC. We do not display any other agencies incident data, except an occasional National Park Road closure. (NC) • Travel Warnings: County polygons for adverse driving conditions. Counties can be displayed for different travel warnings, even if the state system is not as bad. Entire counties are displayed as a single polygon color. There is not individual county road info. (ND) • Winter maintenance (or lack thereof), passenger vehicle restrictions (OR) • More may be added (WY) 		

Route Types for Which Information is Provided

The survey then asked, “What type of routes is information provided for? Select all that apply.” The most common responses were city roads, county roads, and National Park roadways. Oregon DOT (ODOT) noted that they provide information for US Forest Service roads. All answer choices and the aggregated results for this question are shown in Table 3.

Table 3: Route Information Provided

Answer Choices	Number of Responses	States
City roads	5	AZ, DE, IL, NC, OR
County roads	5	AZ, IL, ND, OR, WY
National Park roadways	4	AZ, NC, OR, WY
Statewide non-DOT roads	2	AZ, ND
Tribal land roadways	2	AZ, IL
Other. Please describe.	3	DE, IL, OR
<ul style="list-style-type: none"> • Over 90 percent of all roads in Delaware are maintained by DeIDOT (DE) • We do not receive information from all local agencies. We do usually publish what we receive. (IL) • US Forest Service roads (OR) 		

Obtaining Road Event Information for Non-State DOT Routes

Next, survey respondents were asked, “How is road event information obtained for non-State DOT routes? Select all that apply.” Most responses indicated that local agency staff (maintenance field staff, construction field staff, traffic management staff) provide road event information for non-State DOT routes. Other contributors of road event information for non-State DOT routes included county sheriffs, county emergency managers, and a variety of external sources. All answer choices and the aggregated results for this question are shown in Table 4.

Table 4: Obtaining Road Event Information for Non-State DOT Routes

Answer Choices	Number of Responses	States
Local agency maintenance field staff	3	AZ, OR, WY
Local agency construction field staff	2	AZ, IL
Local agency traffic management staff	2	AZ, IL
Monitoring third party websites	0	–
Contractors	0	–
Other. Please describe.	5	DE, IL, NC, ND, OR
<ul style="list-style-type: none"> • DeIDOT's 24-hour Transportation Management Center (TMC) is contacted by a variety of external sources (DE) • Major incident information on non-State routes are only provided when reported to IDOT. (IL) • National Park Service reaches out to us. We put a standing entry into our system for a road that is often closed in the winter. (NC) • County Sheriffs request through local DOT districts. (ND) • County Sheriff (Search & Rescue), County Emergency Managers, PIO's (OR) 		

Systems Used by Non-State DOT Entities

The survey inquired about systems used by non-State DOT entities to manage road event information, asking, “What, if any, systems are used by non-State DOT entities to enter, update, and delete information for non-State DOT routes? Select all that apply.” A variety of mechanisms were indicated by respondents, including web-based data entry, State DOT advanced traveler information system (ATIS), mobile app, email notice, and manual process (i.e., no systems used). All answer choices and the aggregated results for this question are shown in Table 5.

Table 5: Systems Used by Non-State DOT Entities

Answer Choices	Number of Responses	States
Web-based data entry form	2	DE, OR
No systems are used. It is a manual process.	2	NC, ND
State DOT Advanced Traveler Information System (ATIS)	1	DE
Mobile app	1	DE
Local agency ATIS	0	–
Other. Please describe.	3	DE, IL, WY
<ul style="list-style-type: none"> • Email the DeIDOT TMC. (DE) • Typically is email notice originating from local road or emergency service agencies. (IL) • We have agreements to close adjacent roads when a WYDOT-maintained road closes. We report full road conditions/closures in national parks. (WY) 		

Steps by Non-DOT Agencies to Enter, Update, and Delete Information

Survey respondents were asked to “Describe the steps non-DOT agencies use to enter, update, and delete road event information (e.g., local staff call in events to the DOT for addition and removal, entry in a mobile app, direct access to State DOT systems).” Responses varied from email notice to the DOT, entry directly into the State’s 511 system, direct contact to the State DOT traffic management center (TMC), and a custom-built web-based data entry tool. Individual responses to this question are shown in Table 6.

Table 6: Steps by Non-DOT Agencies to Enter, Update, and Delete Information

State	Responses
AZ	Local staff enter incidents/events directly into the AZ511 system. Local staff are also responsible for updating and removing their incidents/events.
DE	As indicated above contact is made by a variety of means with the DeIDOT TMC.
IL	Typically is email notice originating from local road or emergency service agencies - emails are shared within IDOT and ATIS staff manages the enter, update, and delete of road event information.
NC	Sometimes city staff will call an NCDOT staff person who will enter the City's or a Utility or RR's closure into our system. This is rare.
ND	Local law enforcement contacts local DOT district. They agree to issue the travel warning. Local DOT district contacts central office to make appropriate changes to travel info systems. The same process is used to add and remove travel warnings.
OR	ODOT rebuilt a web-based tool called TripCheck Local Entry (TLE) based on stakeholder feedback which went live in April, 2019. Agencies create and manage their own accounts within TLE. Approved users for the agencies use a Google Map based platform to draw or pick map points for an event location, add a description and post the event. Each event is located on TripCheck, our statewide traveler information map and distributed via our traveler info API.

Administration of External User Accounts for State DOT-Operated Systems

The survey asked, “If applicable, how are external user accounts administered for State DOT-operated systems that are used to enter and update road events (e.g., how is access granted, who is contacted for technical issues or other support)?” Most respondents indicated that this is not applicable, while ODOT described a process in which local agency staff apply for an administrative role, are approved by ODOT, and can authorize and maintain additional editors within their local agency as approved by ODOT. Aggregated results for this question are shown in Table 7.

Table 7: Administration of External User Accounts for State DOT-Operated Systems

Answer Choices	Number of Responses	States
Not applicable	5	DE, IL, NC, ND, WY
Please describe.	1	OR
<ul style="list-style-type: none"> Typically, an agency will contact me via our traveler info support email. After discussion the agency representative will "apply" for an account on the TLE website. I approve the person and they become the agency Admin for TLE. They are then responsible to maintain their user group and authorize new editors for their agency TLE account. ODOT vets each new agency admin to ensure they are an appropriate representative. Technical support is managed through our Traveler Info team (ITS). Rather than ODOT manage passwords or other security we opted to use OAuth allowing users to manage their security using Twitter, Microsoft or Google accounts. (OR) 		

Road Event Information Accessed from an Automated Feed

Next, the survey asked, “Is any road event information for non-DOT routes accessed from an automated feed (e.g., Waze, HERE)?” Illinois DOT indicated that they receive and use Waze and HERE data to identify potential incidents, and Delaware DOT responded that they are testing integration with Waze. Complete results for this question are shown in Table 8.

Table 8: Road Event Information for Non-DOT Routes Accessed from an Automated Feed

Answer Choices	Number of Responses	States
No	4	NC, ND, OR, WY
Yes. Please describe. <ul style="list-style-type: none"> We are testing integration with Waze at this time. (DE) We receive and use both Waze and HERE to identify potential incidents. ATIS Operators can place incident notification on website once verified. (IL) 	2	DE, IL

Commitments or Agreements

Survey respondents were asked, “Are there any commitments or agreements in place between the State DOT and non-State DOT entities that outline parameters for providing road events and displaying these events on State DOT traveler information mechanisms?” While most respondents, indicated “no,” Wyoming DOT has full agreements in place, and ODOT indicated they provide guidance and suggested language with no formal agreements. Complete results for this question are shown in Table 9.

Table 9: Commitments or Agreements Between State DOT and non-State DOT Entities

Answer Choices	Number of Responses	States
No	4	DE, IL, NC, ND
Yes. Please describe. <ul style="list-style-type: none"> We provide guidance and suggested language but there are no formal agreements. (OR) Full MOUs (WY) 	2	OR, WY

Displaying Road Event Information for Non-State DOT Routes

In terms of displaying road event information for non-state DOT routes, the survey asked, “Where is road event information for non-State DOT routes displayed? Select all that apply.” Nearly all respondents indicated the information is displayed on the State DOT traveler information website, and many also indicated it is displayed on the State DOT traveler information mobile app. Others noted that the information is available via an API or other data feed. All answer choices and the aggregated results for this question are shown in Table 10.

Table 10: Displaying road event information for non-State DOT routes

Answer Choices	Number of Responses	States
State DOT traveler information website	6	AZ, DE, NC, ND, OR, WY
State DOT traveler information mobile app	4	AZ, DE, ND, WY
Local agency traveler information website	0	–
Local agency traveler information mobile app	0	–
Other. Please describe.	4	AZ, IL, OR, WY
<ul style="list-style-type: none"> • The AZ511 travel map found at az511.gov can be embedded on any website via an API. (AZ) • Travel Midwest website which includes mobile-friendly site. (IL) • API (OR) • Data feed (WY) 		

Challenges or Issues

The survey inquired about challenges by asking, “Please describe any challenges or issues with non-State DOT agencies providing traveler information to the State DOT.” Challenges cited included timeliness of updating or removing local agency events, lack of an organized process, and coordination required to build a data feed. All responses to this question are shown in Table 11.

Table 11: Challenges or Issues with Non-State DOT Agencies Providing Traveler Information to the State DOT

State	Responses
AZ	Sometimes local agency events are not removed when they are no longer active.
DE	None
IL	Multiple agencies responsible to collect and share the majority of the needed traveler information and no organized process to gather and share.
NC	It is a manual process since it is rare. If it was more frequent, we might give them a login to our system so they could enter directly.
ND	During major flooding events, NDDOT has displayed county road closures on the NDDOT travel info map. The most challenging piece was the timeliness of the closures. The locals were more than happy to get their closures on the map, but less prompt when the roads opened again.
OR	We have had good responses from our partner agencies. Using Google Maps can be a technical challenge.
WY	It takes coordination to build the feed.

Additional Information

For the final question of the survey, respondents were asked to “Please provide any additional information for the project to consider regarding traveler information on non-State DOT routes.” Oregon DOT reported that 53 agencies have joined ODOT TripCheck Local Entry (TLE) since it launched in 2019, noting that users from counties and USDA - Forest Service have utilized TLE in the winter to warn travelers about unmaintained secondary roads. All responses to this question are shown in Table 12.

Table 12: Additional Information Regarding Traveler Information on Non-State DOT Routes

State	Responses
NC	We have a "wildcard" road State Route 9999 for when we do have to enter incidents on roads that are not in our system. The user can type the Common Name of the road to display on DriveNC.gov but on the back end it is coded as SR-9999
OR	Since the launch in early 2019 there have been 53 agencies join TLE. 169 users have created 3038 events over that time with our peak month occurring in September 2020 due to several large wildfires impacting state and not state roads. Many of the counties and USDA - Forest Service have been using TLE in winter to warn travelers about unmaintained secondary roads in an effort to prevent navigation apps from routing to those roads.
WY	This is a safety of life issue.

4. DETAILS OF STATE DOT PRACTICES

This section provides details of approaches for how selected State DOTs provide traveler information for non-DOT routes on their State DOT operated traveler information systems. The State DOT practices summarized in this section were gathered from the initial call for information, survey responses (as applicable), and viewing State DOT traveler information websites. Practices for 11 State DOTs are included in this section.

Practices summarized using the initial call for information, survey responses, and review of the State DOT traveler information websites include:

- Arizona Department of Transportation
- Delaware Department of Transportation
- Illinois Department of Transportation
- North Carolina Department of Transportation
- North Dakota Department of Transportation
- Oregon Department of Transportation
- Wyoming Department of Transportation

Practices summarized using the initial call for information and review of the State DOT traveler information websites include:

- Idaho Transportation Department
- South Carolina Department of Transportation
- Texas Department of Transportation
- Washington State Department of Transportation

4.1 Arizona Department of Transportation

Arizona DOT provides road event information for multiple types of road event types and for several types of non-State DOT routes. Local staff enter incidents and events directly into the AZ511 system and are also responsible for updating and removing their incidents and events. A challenge noted was that sometimes local agency events are not removed when they are no longer active.

Table 13 provides a summary of Arizona DOT practices for obtaining, updating, and displaying road event information for non-State DOT roads, as gathered through the online survey.

Table 13: Arizona DOT Practices

Arizona DOT Practices: Obtaining, Updating, and Displaying Road Event Information for Non-State DOT Roads https://az511.gov/	
Type of road event information displayed for non-State DOT roads	<ul style="list-style-type: none"> • Construction • Road closures • Bridge closures • Third party speed/congestion data (e.g., HERE, INRIX)
Non-State DOT routes for which information is provided	<ul style="list-style-type: none"> • City roads • County roads • National Park roadways • Tribal land roadways • Statewide non-State DOT roads
Method for obtaining road event information from non-State DOT entities	<ul style="list-style-type: none"> • Local agency construction field staff • Local agency maintenance field staff • Local agency traffic management staff
Steps used by non-State DOT agencies to enter, update, and delete road event information	Local staff enter incidents/events directly into the AZ511 system. Local staff are also responsible for updating and removing their incidents/events.
Methods for administering external user accounts	Not applicable.
State DOT mechanisms that display road event information for non-State DOT routes	<ul style="list-style-type: none"> • State DOT traveler information website • State DOT traveler information mobile app • The AZ511 travel map found at az511.gov can be embedded on any website via an API.
Challenges or issues	Sometimes local agency events are not removed when they are no longer active.

Figures 4 and 5 show examples of how Arizona DOT’s traveler information website ([AZ511](https://az511.gov/)) displays road event information for non-State DOT roads, including screenshots of road closure a National Park Service route (Figure 4) and a flooding event on a county road (Figure 5).

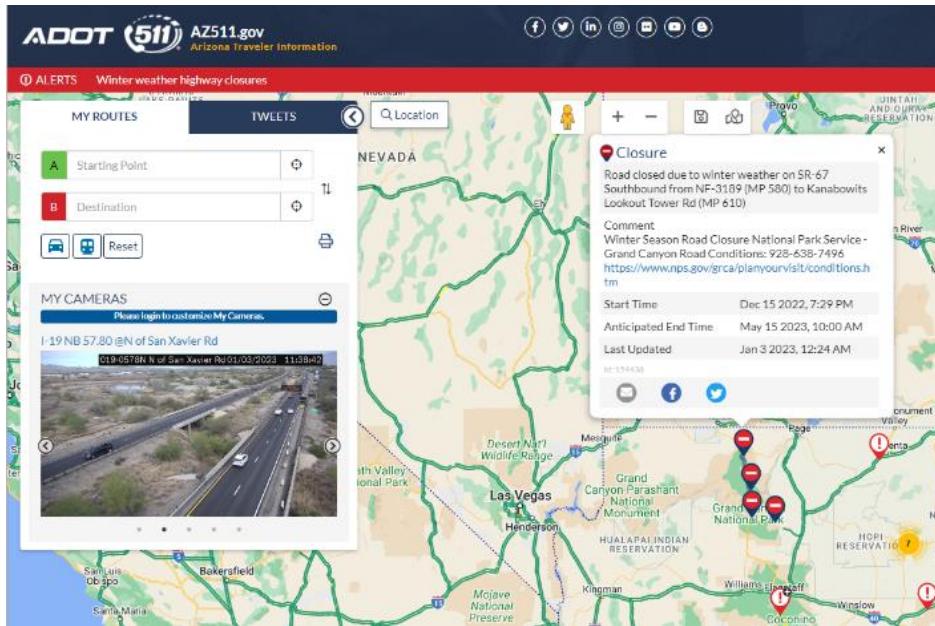


Figure 4: Screenshot of Road Closure on National Park Service Road (Accessed 1/3/23: <https://az511.gov/>)

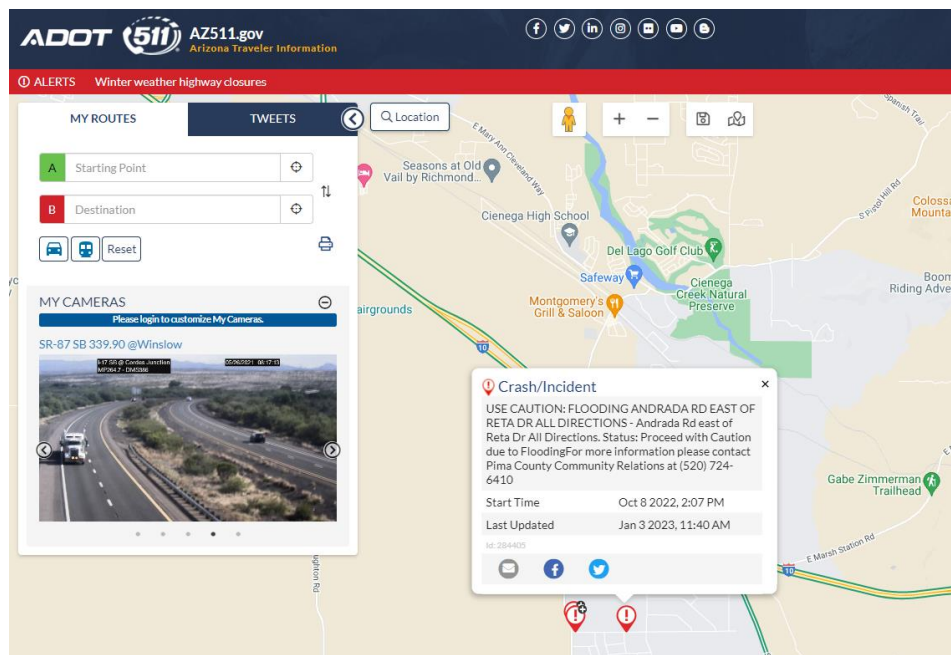


Figure 5: Screenshot of a Flooding Incident on Prima County Road (Accessed 1/3/23: <https://az511.gov/>)

4.2 Delaware Department of Transportation

More than 90 percent of all roads in Delaware are maintained by the Delaware DOT (DeIDOT). The DeIDOT traveler information website and mobile app display multiple types of transportation-related information, including weather events and evacuations, for local roads. DeIDOT's 24-hour Transportation Management Center (TMC) is contacted by a variety of external sources that provide road event information for display on their traveler information mechanisms.

Table 14 provides a summary of Delaware DOT practices for obtaining, updating, and displaying road event information for non-State DOT roads, as gathered through the online survey.

Table 14: Delaware DOT Practices

Delaware DOT Practices Obtaining, Updating, and Displaying Road Event Information for Non-State DOT Roads https://deldot.gov/map/	
Type of road event information displayed for non-State DOT roads	<ul style="list-style-type: none"> • Construction • Road closures • Bridge closures • Incidents (e.g., crashes) • Third party event/incident data (e.g., Waze) • Truck restrictions • Any transportation related information to include weather, evacuations, and etc.
Non-State DOT routes for which information is provided	<ul style="list-style-type: none"> • City roads • Over 90 percent of all roads in Delaware are maintained by DeIDOT.
Method for obtaining road event information from non-State DOT entities	DeIDOT's 24-hour Transportation Management Center (TMC) is contacted by a variety of external sources.
Systems used by non-State DOT entities to enter, update, and delete information	<ul style="list-style-type: none"> • State DOT Advanced Traveler Information System (ATIS) • Web-based data entry form • Mobile app • Email the DeIDOT TMC
Steps used by non-State DOT agencies to enter, update, and delete road event information	As indicated above contact is made by a variety of means with the DeIDOT TMC.
Method for administering external user accounts	Not applicable.
Road event information accessed from an automated feed for non-State DOT routes	We are testing integration with Waze at this time.
Commitments or agreements between State DOT and non-State DOT entities	No.
State DOT mechanisms that display road event information for non-State DOT routes	<ul style="list-style-type: none"> • State DOT traveler information website • State DOT traveler information mobile app
Challenges or issues	None.

Figures 6 and 7 show examples of how the [Delaware DOT traveler information website](https://delaware.gov/traffic/travel-advisory/#advisories) displays road event information for non-State DOT roads, including screenshots of construction on a county road (Figure 6) and a road closure on a county road (Figure 7).

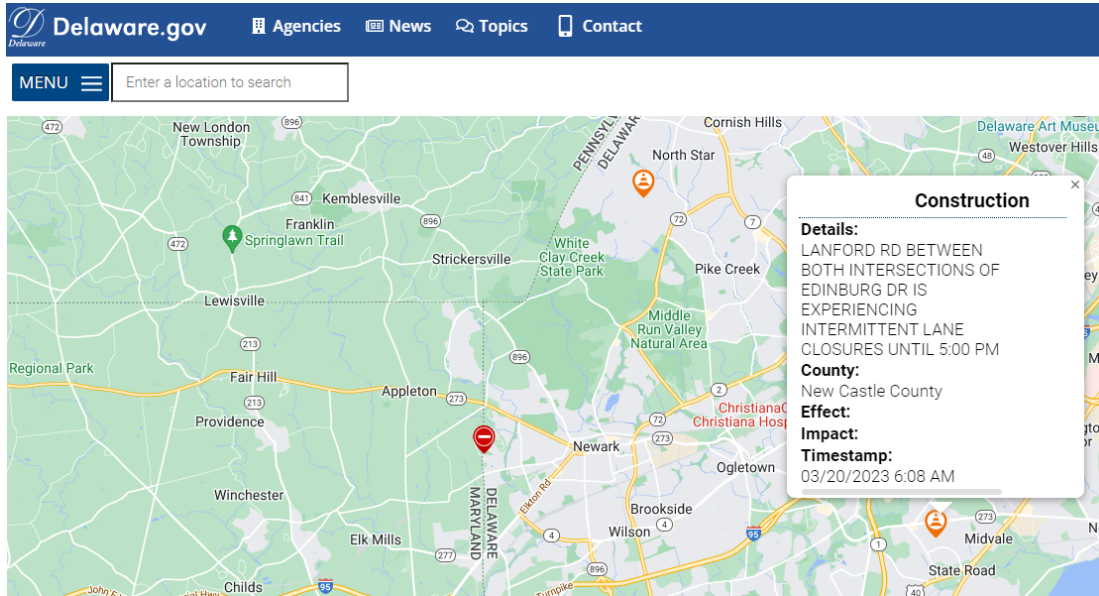


Figure 6: Screenshot of Construction Event in New Castle County
(Accessed 3/20/23: https://deldot.gov/Traffic/travel_advisory/#advisories)

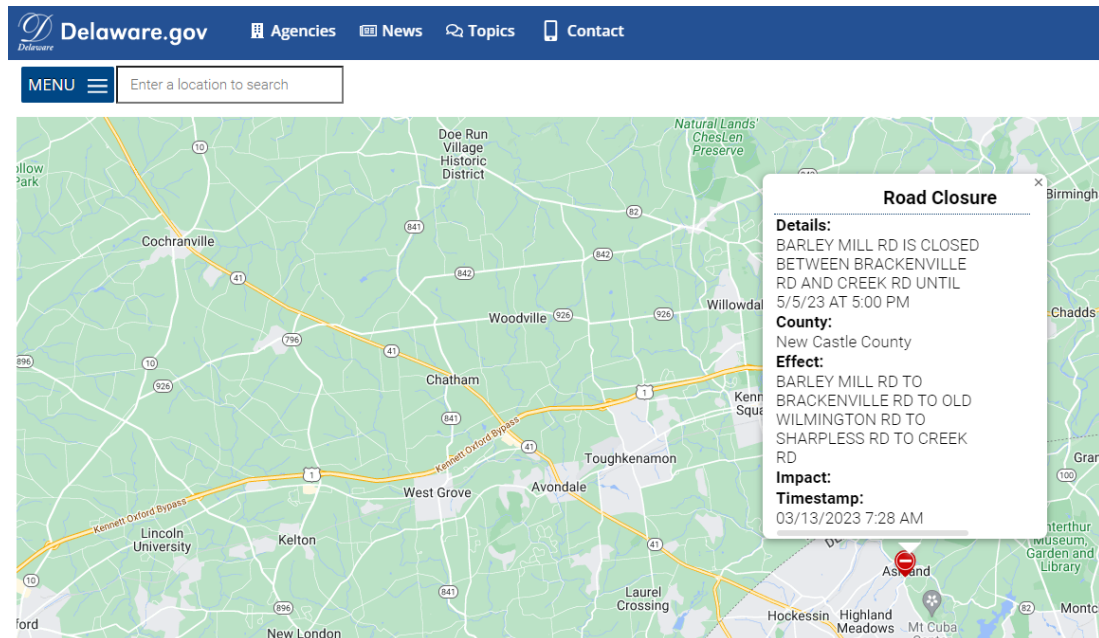


Figure 7: Screenshot of Road Closure in New Castle County
(Accessed 3/20/23: https://deldot.gov/Traffic/travel_advisory/#advisories)

4.3 Illinois Department of Transportation

Illinois DOT displays construction, road closures, and bridge closures for non-State DOT roads on the [Travel Midwest](https://www.travelmidwest.com/) website, as received from local agencies usually by email. Illinois DOT does not receive road event information from all local agencies, but they usually publish what they receive. IDOT also displays third party speed/congestion data for non-State DOT roads, noting that they also receive and use both Waze and HERE to identify potential incidents and when verified, ATIS Operators can place the verified incident notification on the website.

Table 15 provides a summary of Illinois DOT practices for obtaining, updating, and displaying road event information for non-State DOT roads, as gathered through the online survey.

Table 15: Illinois DOT Practices

Illinois DOT Practices Obtaining, Updating, and Displaying Road Event Information for Non-State DOT Roads https://www.travelmidwest.com/	
Type of road event information displayed for non-State DOT roads	<ul style="list-style-type: none"> • Construction • Road closures • Bridge closures • Third party speed/congestion data (e.g., HERE, INRIX) • We do not receive construction, road/bridge closures from all local agencies. We do usually publish what we receive.
Non-State DOT routes for which information is provided	<ul style="list-style-type: none"> • City roads • County roads • Tribal land roadways • We do not receive information from all local agencies. We do usually publish what we receive.
Method for obtaining road event information from non-State DOT entities	<ul style="list-style-type: none"> • Local agency construction field staff • Local agency traffic management staff • Major incident information on non-State routes are only provided when reported to IDOT.
Systems used by non-State DOT entities to enter, update, and delete information	Typically is email notice originating from local road or emergency service agencies.
Steps used by non-State DOT agencies to enter, update, and delete road event information	Typically is email notice originating from local road or emergency service agencies - emails are shared within IDOT and ATIS staff manages the enter, update, and delete of road event information.
Method for administering external user accounts	Not applicable.
Road event information accessed from an automated feed for non-State DOT routes	We receive and use both Waze and HERE to identify potential incidents. ATIS Operators can place incident notification on website once verified.
Commitments or agreements between State DOT and non-State DOT entities	No.

State DOT mechanisms that display road event information for non-State DOT routes	Travel Midwest website which includes mobile-friendly site.
Challenges or issues	Multiple agencies responsible to collect and share the majority of the needed traveler information and no organized process to gather and share.

Figure 8 shows congestion information for non-State DOT roads as displayed on the Travel Midwest traveler information website.

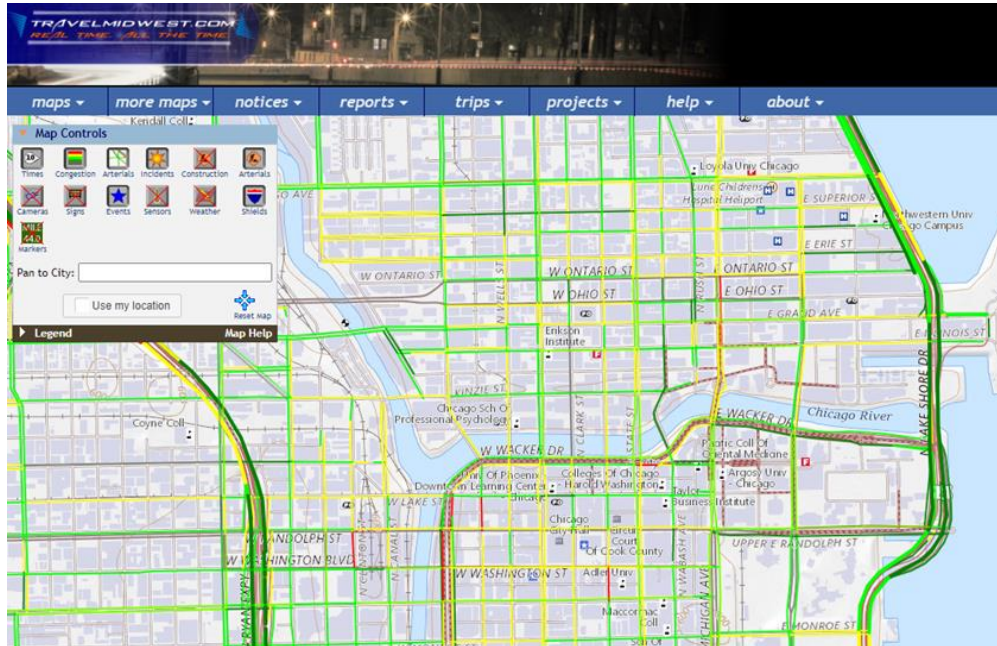


Figure 8: Screenshot of Congestion Information on Travel Midwest website
(Accessed 3/21/23: <https://www.travelmidwest.com/>)

Based on review of the [Illinois DOT traveler information website](#), Figure 9 shows an example of slow traffic displayed for a non-State DOT route (E. Erie Street) on the website.

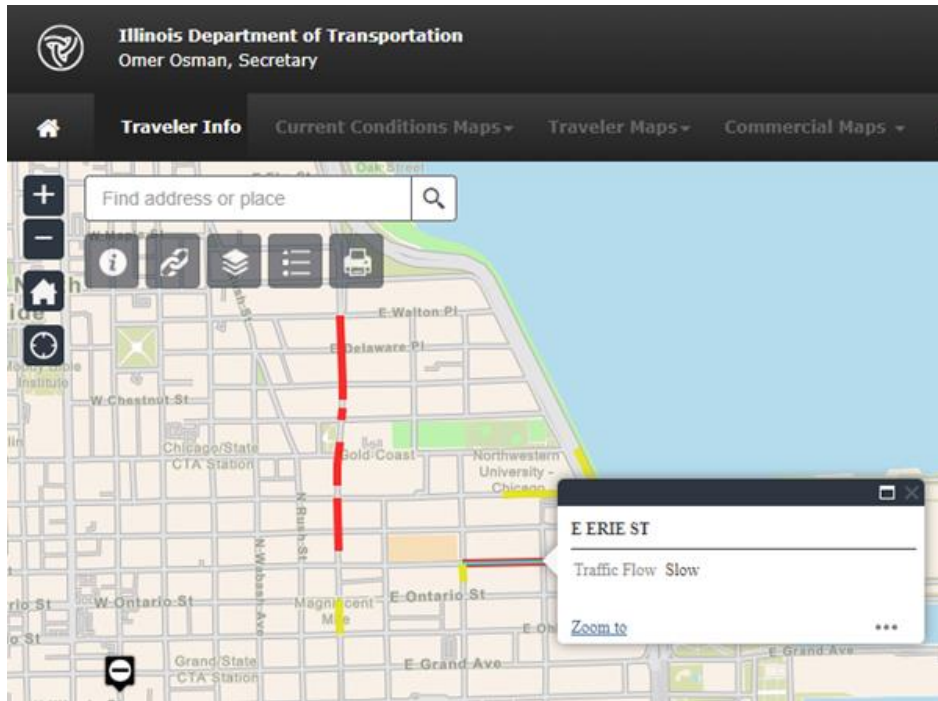


Figure 9: Screenshot of Slow Traffic on Illinois DOT Traveler Information Website
(Accessed 3/21/23: <https://www.gettingaroundillinois.com/TravelerInfo/>)

4.4 North Carolina Department of Transportation

The North Carolina Department of Transportation (NCDOT) maintains 80% of the public roads in North Carolina. Third party speed/congestion data is displayed for non-State DOT routes on the State DOT operated [DriveNC.gov](https://drivenc.gov) traveler information website. NCDOT does not display other agencies' incident data, except for an occasional National Park road closure.

Table 16 provides a summary of North Carolina DOT practices for obtaining, updating, and displaying road event information for non-state DOT roads, as gathered through the online survey.

Table 16: North Carolina DOT Practices

North Carolina DOT Practices Obtaining, Updating, and Displaying Road Event Information for Non-State DOT Roads https://drivenc.gov/	
Type of road event information displayed for non-State DOT roads	<ul style="list-style-type: none"> • Third party speed/congestion data (e.g., HERE, INRIX) • NCDOT maintains 80% of the public roads in NC. We do not display any other agencies incident data, except an occasional National Park road closure.
Non-State DOT routes for which information is provided	<ul style="list-style-type: none"> • City roads • National Park roadways
Method for obtaining road event information from non-State DOT entities	National Park Service reaches out to us. We put a standing entry into our system for a road that is often closed in the winter.
Systems used by non-State DOT entities to enter, update, and delete information	No systems are used. It is a manual process.
Steps used by non-State DOT agencies to enter, update, and delete road event information	Sometimes city staff will call an NCDOT staff person who will enter the City's or a Utility or RR's closure into our system. This is rare.
Method for administering external user accounts	Not applicable.
Road event information accessed from an automated feed for non-State DOT routes	No.
Commitments or agreements between State DOT and non-State DOT entities	No.
State DOT mechanisms that display road event information for non-State DOT routes	State DOT traveler information website.
Challenges or issues	It is a manual process since it is rare. If it was more frequent we might give them a login to our system so they could enter directly.
Additional information	We have a "wildcard" road State Route 9999 for when we do have to enter incidents on roads that are not in our system. The user can type the Common Name of the road to display on DriveNC.gov but on the back end it is coded as SR-9999.

4.5 North Dakota Department of Transportation

The North Dakota Department of Transportation (NDDOT) provides travel warnings statewide for non-State DOT roads, using county polygons to indicate adverse driving conditions on their [NDRoads](https://travel.dot.nd.gov/) traveler information website. Entire counties are displayed as a single polygon color, and information for individual county roads is not displayed. To add or remove a travel warning display, local law enforcement contacts the local NDDOT district. The local NDDOT district then contacts Central Office to make appropriate changes to travel information systems. A challenge noted for the DOT was the timeliness of obtaining updates from local agencies as local roads are re-opened following a closure.

Table 17 provides a summary of North Dakota DOT practices for obtaining, updating, and displaying road event information for non-State DOT roads, as gathered through the online survey.

Table 17: North Dakota DOT Practices

North Dakota DOT Practices Obtaining, Updating, and Displaying Road Event Information for Non-State DOT Roads https://travel.dot.nd.gov/	
Type of road event information displayed for non-State DOT roads	Travel Warnings: County polygons for adverse driving conditions. Counties can be displayed for different travel warnings, even if the state system is not as bad. Entire counties are displayed as a single polygon color. There is not individual county road information.
Non-State DOT routes for which information is provided	<ul style="list-style-type: none"> • County roads • Statewide non-DOT roads
Method for obtaining road event information from non-State DOT entities	County Sheriffs request through local DOT districts.
Systems used by non-State DOT entities to enter, update, and delete information	No systems are used. It is a manual process.
Steps used by non-State DOT agencies to enter, update, and delete road event information	Local law enforcement contacts local DOT district. They agree to issue the travel warning. Local DOT district contacts central office to make appropriate changes to travel information systems. The same process is used to add and remove travel warnings.
Method for administering external user accounts	Not applicable.
Road event information accessed from an automated feed for non-State DOT routes	No.
Commitments or agreements between State DOT and non-State DOT entities	No.
State DOT mechanisms that display road event information for non-State DOT routes	<ul style="list-style-type: none"> • State DOT traveler information website • State DOT traveler information mobile app
Challenges or issues	During major flooding events, NDDOT has displayed county road closures on the NDDOT travel information map. The most challenging piece was the timeliness of the closures. The locals were more than happy to get their closures on the map, but less prompt when the roads opened again.

Figure 10 shows travel warnings for non-State DOT roads as displayed on the NDDOT website.

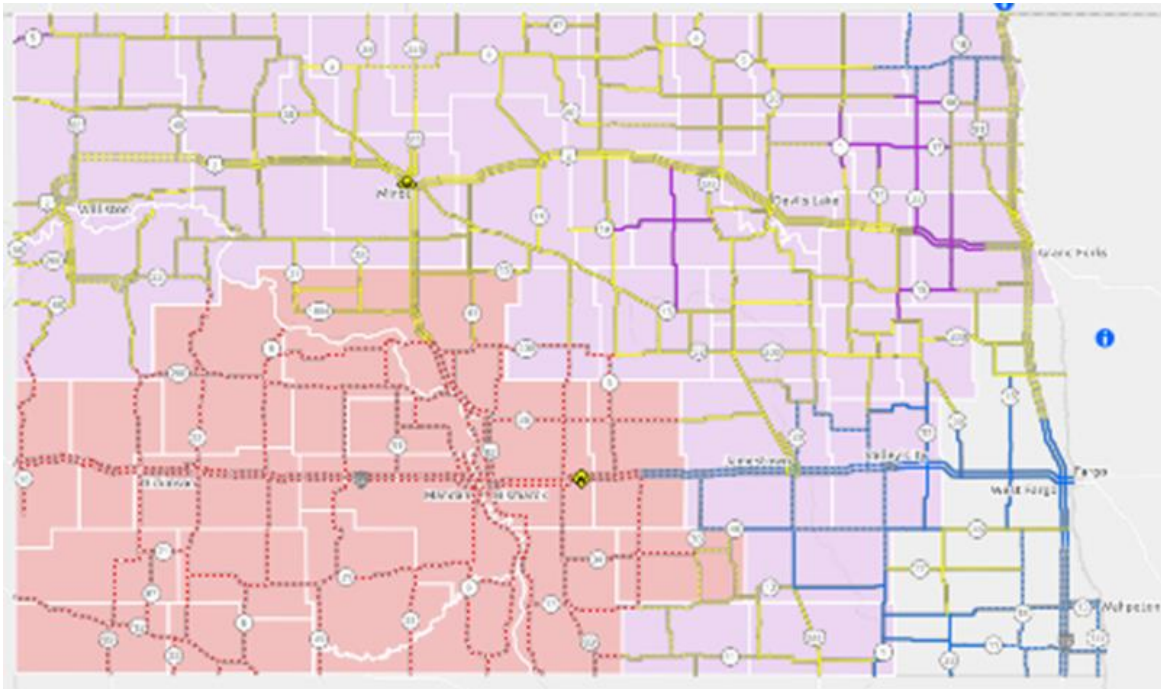


Figure 10 Screenshot of Travel Warnings on NDDOT Traveler Information Website (Provided by Brandon Beise, NDDOT)

The [NDRoads](#) website also links to the North Dakota State University (NDSU) [Geographic Roadway Inventory Tool \(GRIT\) website](#) which displays load restrictions for commercial vehicles in the state of North Dakota, including many county roads. Figure 11 shows a screenshot of the load restrictions website.

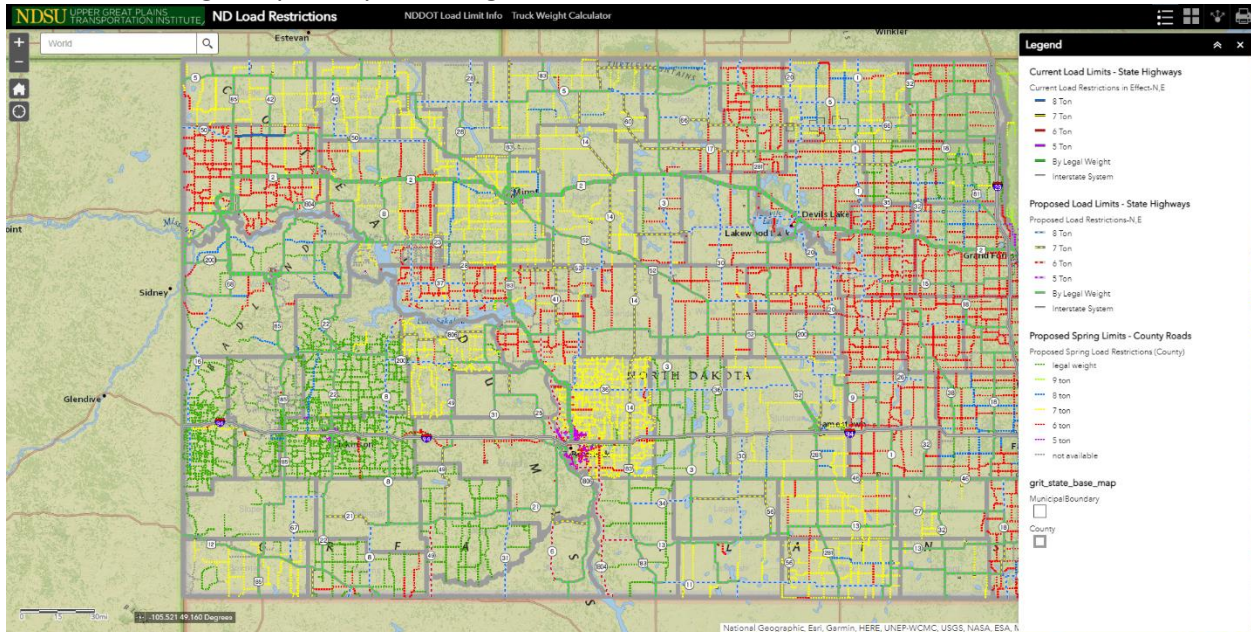


Figure 11: Screenshot of Commercial Vehicle Load Restrictions in North Dakota (Accessed 3/24/23: https://dotsc.uapti.ndsu.nodak.edu/GRIT_viewer/spring_load_restrictions/)

4.6 Oregon Department of Transportation

Oregon DOT provides traveler information events for non-State DOT roads including construction, road and bridge closures, truck restrictions, winter maintenance, and passenger vehicles. These events displayed on the [ODOT TripCheck website](#) and are provided through an API. ODOT has a web-based tool called TripCheck Local Entry (TLE) for non-State DOT entities to enter and manage road event information. Information is provided by local agency maintenance field staff, county sheriff (search and rescue), county emergency managers, and public information officers (PIOs). Lead representatives from non-State DOT entities apply for an account on the TLE website and once approved, become their agency’s administrator for TLE. Since its launch in early 2019, 53 agencies have joined TLE and 169 users have created 3038 events.

Table 18 provides a summary of Oregon DOT practices for obtaining, updating, and displaying road event information for non-State DOT roads, as gathered through the online survey.

Table 18: Oregon DOT Practices

Oregon DOT Practices Obtaining, Updating, and Displaying Road Event Information for Non-State DOT Roads https://www.tripcheck.com/	
Type of road event information displayed for non-State DOT roads	<ul style="list-style-type: none"> • Construction • Road closures • Bridge closures • Truck restrictions • Winter maintenance (or lack thereof), passenger vehicle restrictions.
Non-State DOT routes for which information is provided	<ul style="list-style-type: none"> • City roads • County road • National Park roadways • US Forest Service roads
Method for obtaining road event information from non-State DOT entities	<ul style="list-style-type: none"> • Local agency maintenance field staff • County Sherriff (Search and Rescue), County Emergency Managers, PIOs.
Systems used by non-State DOT entities to enter, update, and delete information	Web-based data entry form.
Steps used by non-State DOT agencies to enter, update, and delete road event information	<p>ODOT rebuilt a web-based tool called TripCheck Local Entry (TLE) based on stakeholder feedback which went live in April 2019. Agencies create and manage their own accounts within TLE. Approved users for the agencies use a Google Map based platform to draw or pick map points for an event location, add a description, and post the event. Each event is located on TripCheck, our statewide traveler information map and distributed via our traveler info API.</p>

Method for administering external user accounts	Typically, an agency will contact me via our traveler information support email. After discussion, the agency representative will "apply" for an account on the TLE website. I approve the person and they become the agency administrator for TLE. They are then responsible to maintain their user group and authorize new editors for their agency TLE account. ODOT vets each new agency administrator to ensure they are an appropriate representative. Technical support is managed through our Traveler Information team. Rather than ODOT manage passwords or other security we opted to use OAuth allowing users to manage their security using Twitter, Microsoft or Google accounts.
Road event information accessed from an automated feed for non-State DOT routes	No.
Commitments or agreements between State DOT and non-State DOT entities	We provide guidance and suggested language but there are no formal agreements.
State DOT mechanisms that display road event information for non-State DOT routes	<ul style="list-style-type: none"> • State DOT traveler information website • API
Challenges or issues	We have had good responses from our partner agencies. Using Google Maps can be a technical challenge.
Additional information	Since the launch in early 2019 there have been 53 agencies join TLE. 169 users have created 3038 events over that time with our peak month occurring in September 2020 due to several large wildfires impacting State and non-State roads. Many of the counties and USDA - Forest Service have been using TLE in winter to warn travelers about unmaintained secondary roads in an effort to prevent navigation apps from routing to those roads.

Figure 12 shows a screenshot from the ODOT TripCheck website displaying a local road closure.

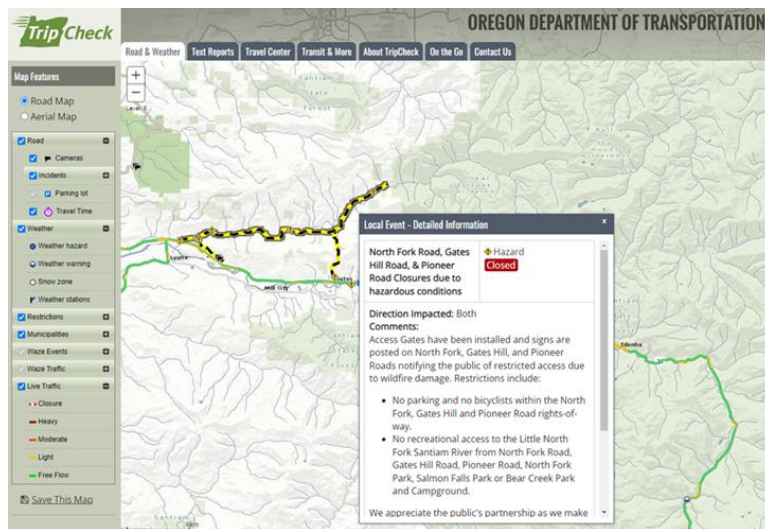


Figure 12: Screenshot of a Local Road Closure on ODOT TripCheck website (Accessed 3/22/23: <https://www.tripcheck.com/>)

4.7 Wyoming Department of Transportation

Wyoming DOT (WYDOT) provides road closures and truck restrictions for non-State DOT roads, with more information types potentially to be provided in the future. WYDOT has agreements to close adjacent roads when a WYDOT-maintained road closes. WYDOT also reports road conditions and road closures in national parks. This information is displayed on the WYDOT-operated [Wyoming Traveler Information Map](https://map.wyoroad.info/wtimap/) and provided via a data feed.

Table 19 provides a summary of Wyoming DOT practices for obtaining, updating, and displaying road event information for non-State DOT roads, as gathered through the online survey.

Table 19: Wyoming DOT Practices

Wyoming DOT Practices Obtaining, Updating, and Displaying Road Event Information for Non-State DOT Roads https://map.wyoroad.info/wtimap/	
Type of road event information displayed for non-State DOT roads	<ul style="list-style-type: none"> • Road closures • Truck restrictions • More may be added.
Non-State DOT routes for which information is provided	<ul style="list-style-type: none"> • County roads • National Park roadways
Method for obtaining road event information from non-State DOT entities	Local agency maintenance field staff
Systems used by non-State DOT entities to enter, update, and delete information	We have agreements to close adjacent roads when a WYDOT-maintained road closes. We report full road conditions/closures in national parks.
Method for administering external user accounts	Not applicable.
Road event information accessed from an automated feed for non-State DOT routes	No.
Commitments or agreements between State DOT and non-State DOT entities	Full MOUs.
State DOT mechanisms that display road event information for non-State DOT routes	<ul style="list-style-type: none"> • State DOT traveler information website • State DOT traveler information mobile app • Data feed
Challenges or issues	It takes coordination to build the feed.
Additional information	This is a safety of life issue.

4.8 Idaho Department of Transportation

The Idaho Transportation Department (ITD) displays some traveler information for non-State DOT roads on their [ITD 511 traveler information website](https://511.idaho.gov/). Shown in Figure 13 is an example where a bridge closure on a national forest road (NF-754) is displayed on the ITD 511 website.

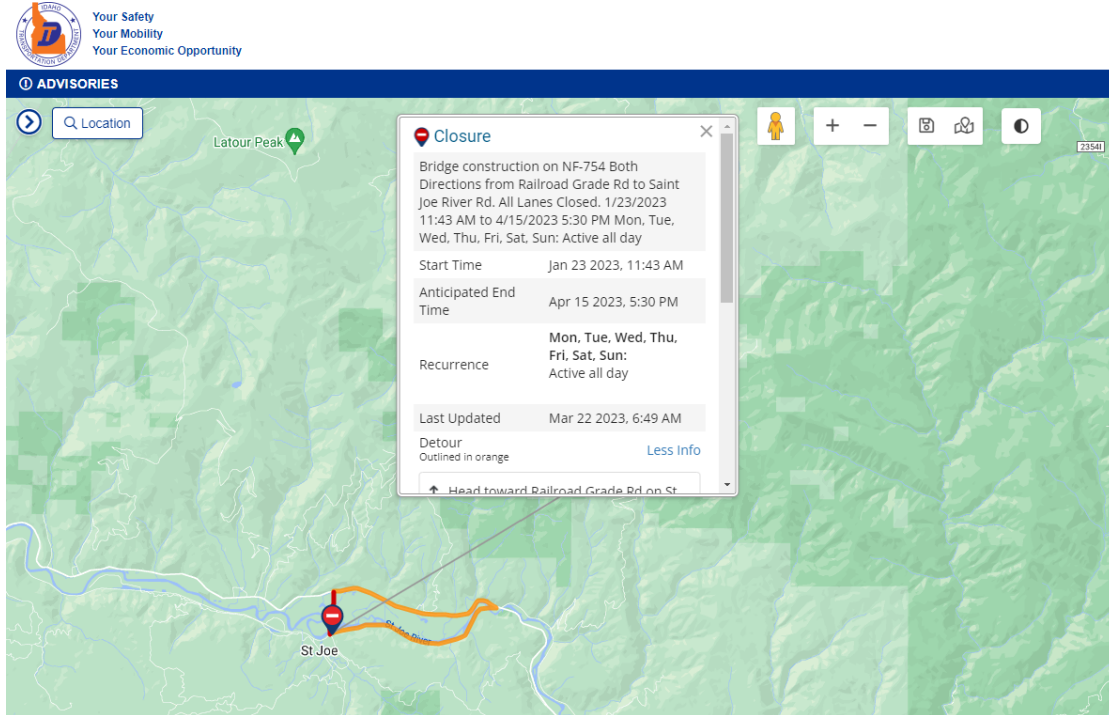


Figure 13: Screenshot of a Bridge Closure on a National Forest Road on ITD 511 Website (Accessed 3/24/23: <https://511.idaho.gov/>)

4.9 South Carolina Department of Transportation

Map-based speed data is displayed for all roads (including non-State DOT roads) on South Carolina DOT's (SCDOT) 511 traveler information mechanisms. Waze layers are included in the 511 app and website to fill in gaps where there is no TMC coverage. For example, Figure 14 shows a Waze hazard for road construction on a local road (Main Road) displayed on the [SCDOT 511 website](https://www.511sc.org/).

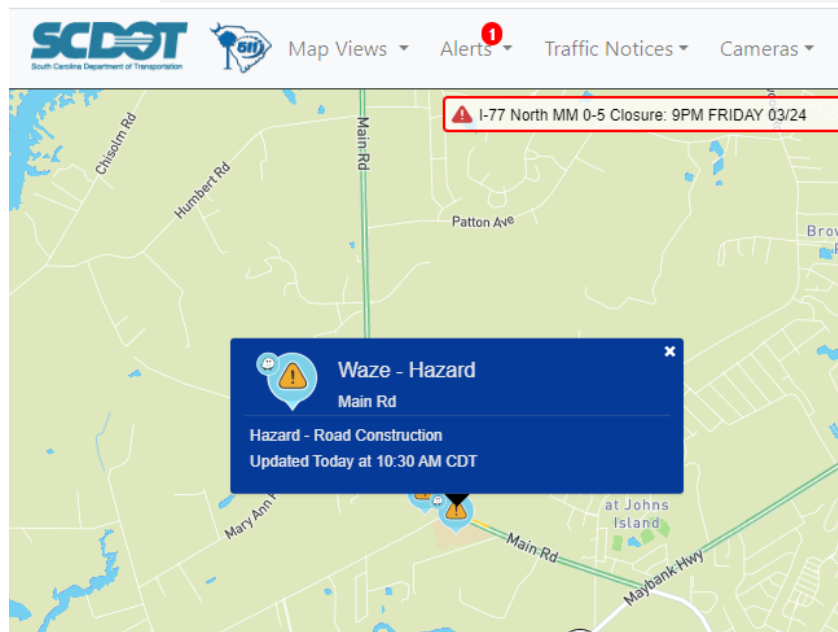


Figure 14: Screenshot of a Waze Hazard (Construction) on Main Road
(Accessed 3/24/23: <https://www.511sc.org/>)

4.10 Texas Department of Transportation

The Texas Department of Transportation provides travel speeds for most of the “major” non-State roadways on the [Drive Texas](https://drivetexas.org) traveler information website. See Figure 15.

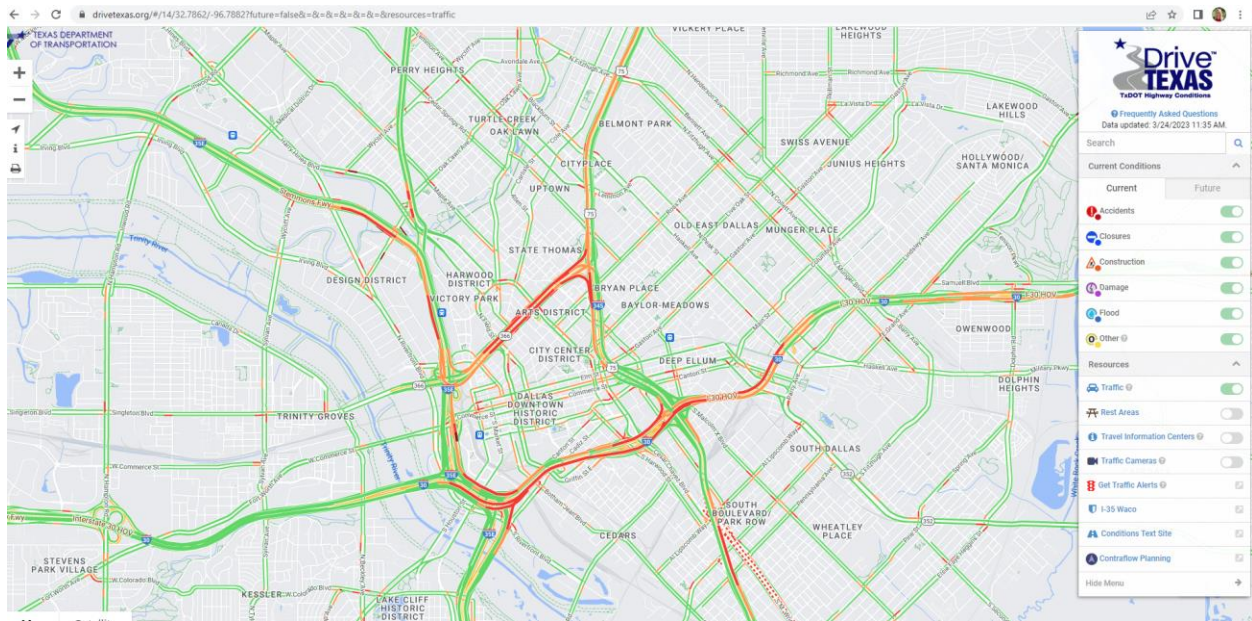


Figure 15: Screenshot of Travel Speeds for Non-State DOT Roads
(Accessed 1/3/23: <https://drivetexas.org/>)

4.11 Washington State Department of Transportation

The [Washington State DOT traveler information website](https://wsdot.com/Travel/Real-time/Map/) displays traffic flow data for higher volume non-state routes statewide. Furthermore, construction information for local roads is available for the city of Spokane only. See Figure 16.

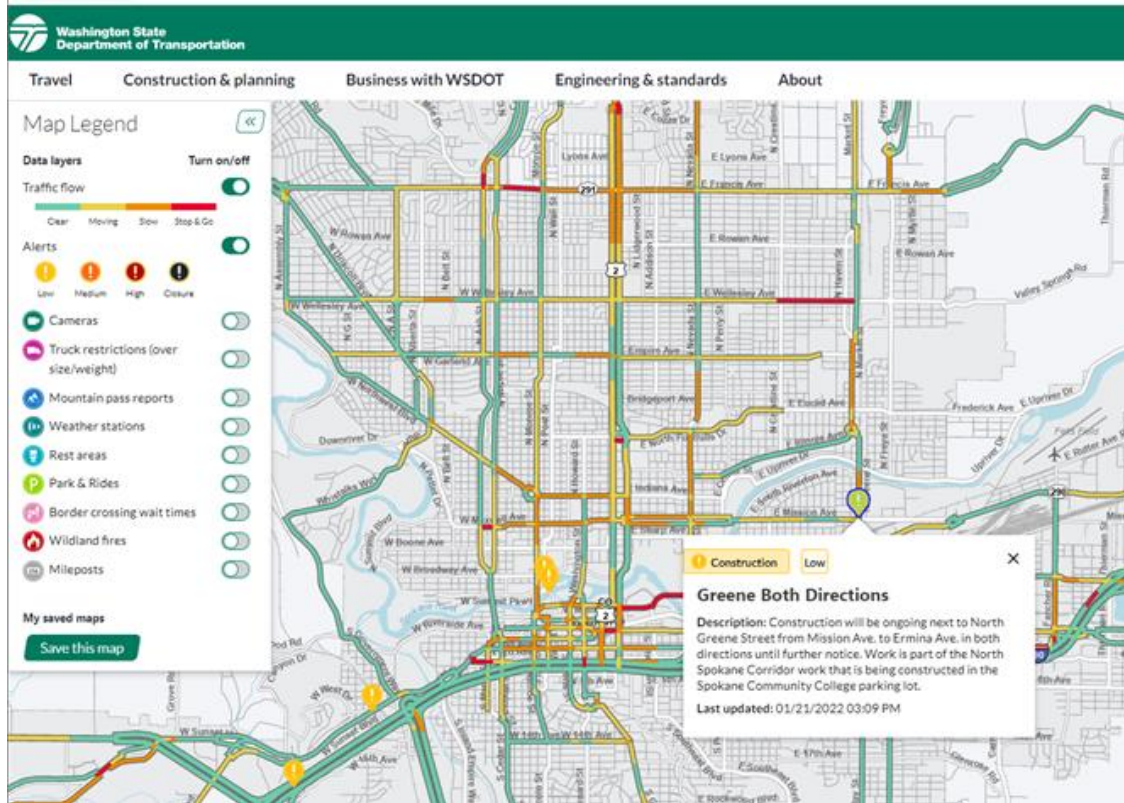


Figure 16: Screenshot of Construction in the City of Spokane Displayed on WSDOT Traveler Information Website (Accessed 1/3/23: <https://wsdot.com/Travel/Real-time/Map/>)

5. SUMMARY

State DOTs typically provide traveler information for state maintained and operated roads. Some DOTs also provide and display information for non-State DOT roads (e.g., county roads, city roads, national park roads, tribal land roads) on various traveler information mechanisms. This project researched and documented practices for expanding DOT traveler information beyond State DOT maintained roads, to provide NWP members with insights and example practices to consider.

This project gathered input by sending a request to State DOT traveler information managers from around the country to narrow in on states that provide information beyond State DOT routes, reviewed applicable traveler information websites, and administered an online survey that gathered State DOT practices for obtaining, updating, and displaying road event information for non-State DOT routes. Relevant practices for 11 State DOTs were documented.

Based on input obtained during this project, Figure 17 shows State DOTs that reported that they do and do not provide traveler information beyond State DOT roads.

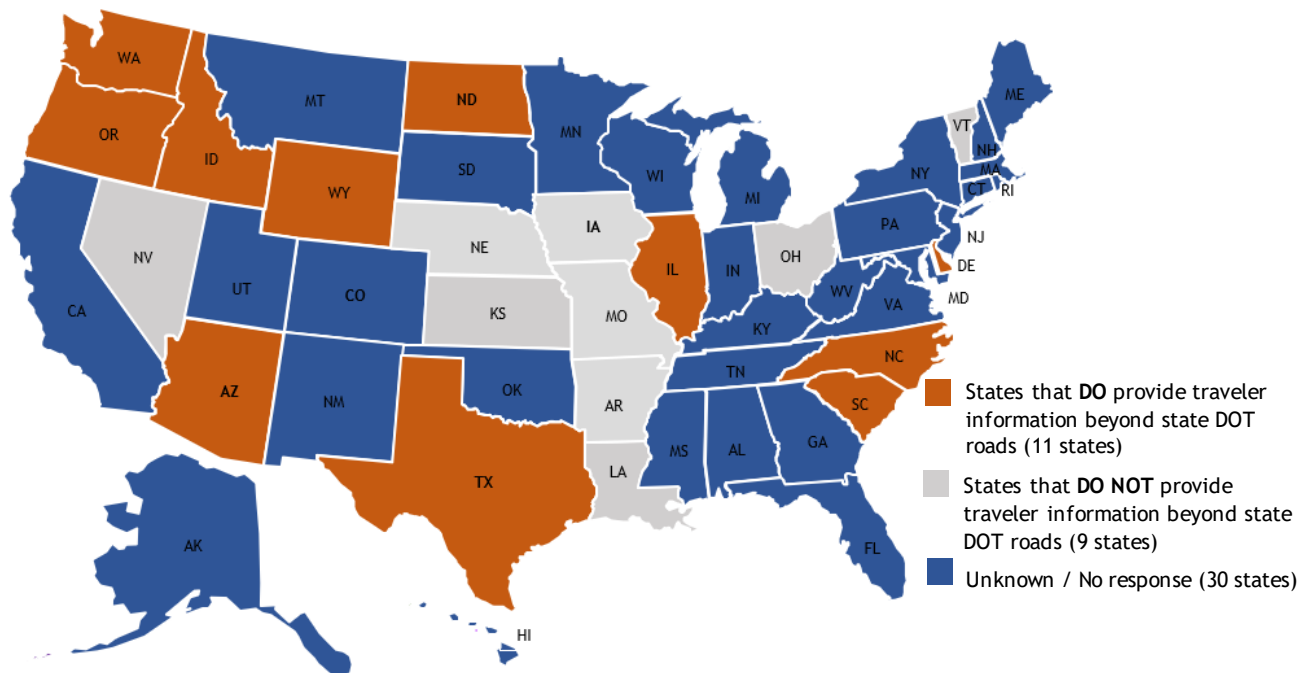


Figure 17: Responses for State DOTs Providing Road Event Information for Non-State DOT Routes

Table 20 shows the traveler information websites reviewed to further identify and document relevant practices.

Table 20: State DOT Traveler Information Websites Reviewed

State DOT	Traveler Information Website
Arizona Department of Transportation	https://az511.com/
Delaware Department of Transportation	https://deldot.gov/map/
Idaho Transportation Department	https://511.idaho.gov/
Illinois Department of Transportation	https://www.travelmidwest.com/ https://www.gettingaroundillinois.com/TravelerInfo/
North Carolina Department of Transportation	https://drivenc.gov/
North Dakota Department of Transportation	https://travel.dot.nd.gov/
Oregon Department of Transportation	https://www.tripcheck.com/
South Carolina Department of Transportation	https://www.511sc.org/
Texas Department of Transportation	https://drivetexas.org/
Washington State Department of Transportation	https://wsdot.com/Travel/Real-time/Map/
Wyoming Department of Transportation	https://map.wyoroad.info/wtimap/

Results from the online survey and review of applicable traveler information websites revealed that:

- Road closures, bridge closures, and construction were the three most common road event information types provided by State DOTs for non-State DOT roads, followed closely by third party speed/congestion data and truck restrictions. North Dakota DOT provides travel warnings by displaying county polygons for adverse driving conditions.
- The most common road types for which road event information is displayed were city roads, county roads, and National Park roadways.
- State DOTs reported using a variety of mechanisms for obtaining road event information from local agencies, for display on their traveler information mechanisms. These road events are most often provided to the State DOT by local agency staff (maintenance field staff, construction staff, or traffic management staff) and reported by county sheriffs.
- The steps used to enter, update, and delete non-State DOT road event information varied from direct contact to the DOT (Delaware DOT, Illinois DOT), entry directly into the State DOT’s 511 system (Arizona DOT), and a custom-built web-based data entry tool (Oregon DOT). Oregon DOT reported success with their TripCheck Local Entry (TLE), a web-based data entry tool that local agencies use to enter, update, and delete their road events. Since the LTE launch in early 2019, 53 agencies have joined TLE and 169 users have created 3038 events.
- A challenge reported with providing this type of information is that sometimes road event information is not updated or deleted in a timely manner, for example to notify the State DOT that a road closure event can be deleted when a local road is re-opened.

Appendix A: Survey Questions

Survey Questions – Current Practices in Expanding DOT Traveler Information Coverage

1. Please provide your contact details. This information will be used if additional information or clarification is needed from this survey.
 - Name
 - Agency
 - Email

2. What type of road event information does your agency display for non-State DOT roads (e.g., county roads, city roads, national parks, tribal lands)? Select all that apply.
 - Construction
 - Road Closures
 - Bridge Closures
 - Incidents (e.g., crashes)
 - Third Party Speed/Congestion Data (e.g., HERE, INRIX)
 - Third Party Event /Incident Data (e.g., Waze)
 - Truck Restrictions
 - Other. Please describe.

3. What type of routes is information provided for? Select all that apply.
 - City roads
 - County roads
 - National Park roadways
 - Tribal land roadways
 - Statewide non-DOT roads
 - Other. Please describe.

4. How is road event information obtained for non-State DOT routes? Select all that apply.
 - Local agency Construction Field Staff
 - Local agency Maintenance Field Staff
 - Local agency Traffic Management Staff
 - Monitoring 3rd Party websites
 - Contractors
 - Other. Please describe.

5. What, if any, systems are used by non-State DOT entities to enter, update, and delete information for non-State DOT routes? Select all that apply.
 - State DOT Advanced Traveler Information System (ATIS)
 - Local agency ATIS
 - Web-based data entry form
 - Mobile app
 - No systems are used. It is a manual process.
 - Other. Please describe.

6. Describe the steps non-DOT agencies use to enter, update, and delete road event information (e.g., local staff call in events to DOT for addition and removal, entry in a mobile app, direct access to State DOT systems).
7. If applicable, how are external user accounts administered for State DOT-operated systems that are used to enter and update road events (e.g., how is access granted, who is contacted for technical issues or other support)?
 - Not applicable.
 - Please describe.
8. Is any road event information for non-DOT routes accessed from an automated feed (e.g., Waze, HERE)?
 - No
 - Yes. Please describe.
9. Are there any commitments or agreements in place between the State DOT and non-State DOT entities that outline parameters for providing road events and displaying these events on State DOT traveler information mechanisms?
 - No.
 - Yes. Please describe.
10. Where is road event information for non-State DOT routes displayed? Select all that apply.
 - State DOT traveler information website
 - State DOT traveler information mobile app
 - Local agency traveler information website
 - Local agency traveler information mobile app
 - Other. Please describe.
11. Please describe any challenges or issues with non-State DOT agencies providing traveler information to the State DOT.
12. Please provide any additional information for the project to consider regarding traveler information on non-State DOT routes.