

North/West Passage Pooled Fund Study

TPF-5(093)

Phase III

Project 3.1: Corridor-Wide Consistent Major Event Descriptions

Final Report

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1. Introduction

1.1 Background

The eight North/West Passage states (Wisconsin, Minnesota, North Dakota, South Dakota, Montana, Wyoming, Idaho, and Washington) operate a variety of condition and event reporting systems and related traveler information dissemination systems. Individually, each state disseminates reports to travelers using traveler information websites and/or 511 phone systems. Collectively, these individual systems offer I-90 and I-94 corridor-wide information, however the systems are currently not integrated and travelers must access the separate phone and web systems in order to understand the conditions along the entire corridor.

Because of the long-haul commercial vehicle traffic and leisure travel that occurs along this multi-state corridor, the member states share a vision of integrated corridor-wide travel information delivery. Within this vision, a motorist departing Milwaukee, Wisconsin could call 511 in Wisconsin and hear reports details about the roads surrounding Milwaukee. In addition, the motorist could also hear about the conditions and major events along I-94 through Minnesota and North Dakota as well as the conditions and major events along I-90 through Minnesota and South Dakota, gathering the insight needed to select the optimal route through adjacent states.

In order to move toward this vision, the North/West Passage states have long term plans to exchange messages between states that describe conditions, incidents, events, and restrictions. While completing the North/West Passage ITS Strategic Plan, it was understood that each state is using one of the National ITS standards for data exchange. However, it was also recognized that the specific phrases used to describe events are not consistent across states. Therefore, the member states agreed that the initial step to support eventual data exchange is to define a set of consistent event description phrases to be used when sharing messages.

This report summarizes the research and recommendations of the North/West Passage Project 3.1 – Definition of Consistent Event Messages.

1.2 The Goal of an Integrated Traveler Information System

During Phase 2 of the North/West Passage group's activities, a corridor-wide ITS Strategic Plan was developed. As part of this planning process, the member states prioritized the interests and expectations of the group, and defined a set of goals and objectives for the corridor. One specific goal and its related objectives were defined as follows:

Goal #1: *Integrate traveler information systems that can provide information appropriate to the location and need of the traveler.*

Objective A: Understand the common and unique information needs of the corridor's diverse travelers. This includes the type of information, as well as the mechanism for delivering the information.

Objective B: Provide integrated traveler information systems – gathering and distributing – along the entire length of the corridor.

As a part of the North/West Passage Phase 3 Work Plan, a high level introductory corridor-wide website was developed. This website allows visitors to view camera images, reports of weather conditions, commercial vehicle restrictions, truck stops, and rest areas along the corridor from a corridor-wide map display. However, this initial website stops short of displaying reports of incidents, events and conditions along on the corridor-wide map. Visitors to the site wishing to see event reports would need to click through and view the traveler information websites operated by individual states.

1.3 Challenges Facing and Integrated Traveler Information System

There are two commonly used ITS Standards for the exchange of traveler information messages used by the North/West Passage member agencies, however some states reporting systems allow the use of non-compliant phrases. The ITE/AASHTO Traffic Management Data Dictionary (TMDD) Event Message Traffic Management Center to Center (EMTMC2C) standard defines standards for sharing event information from center to center. Also, the SAE ATIS J2354 standard defines message sets for traveler information dissemination. The SAE standard also includes event descriptions for traveler services such as hotels, truck stops and is not limited to traffic management services.

1.3.1 The Use of ITS Standards

ITS standards are used to ensure open exchanges of data and messages, to avoid pitfalls of proprietary systems or limited competition when procuring components of systems, and to encourage active data exchange between different agencies. For example, the use of standards would allow a state or public agency to publish event message sets according

to a National standard, and therefore allow private information service providers to build systems for dissemination to the public that can be operated in any state publishing event reports according to the standard. There is no substitute for the use of ITS standards, and there is great value in using them.

1.3.2 Challenges Not Addressed by ITS Standards

Table 1 on the following page includes some examples of the phrases that are available in the TMDD and ATIS standards for describing events and/or conditions. This partial list of phrases is included to give readers a sample of the wide assortment of phrases that may be used by systems that are standards compliant. The advantage of having such a wide selection of event phrases to select from is that it is possible to describe nearly every possible event that may occur. The disadvantage of having so many phrases is the challenge of maintaining consistent use of phrases.

As an illustrated example, if ice is reported on the roadway, event descriptions could be selected to describe the conditions as any of the following: ice, icy patches, black ice, ice pellets on roadway, ice build up, freezing rain, wet and icy roads, slush, or frozen slush.

If an operator were to select any of the phrases to describe the ice conditions that exist, they might technically be correct, and would be standards compliant, however it is easy to imagine how two or more operators could easily describe the same condition or event by selecting different phrases, thus leading to potentially confused or misled travelers.

Therefore, the flexibility offered by a wide selection of phrases supported by the standards is a challenge to obtaining consistent event descriptions across state boundaries as well as internally to a state that are easily understood by travelers.

1.3.3 Summary of the Impacts of Standards on an Integrated System

To summarize the impacts of standards on an integrated travelers information system, the ITS standards (either TMDD or ATIS) will be critical toward ensuring that the protocols, data exchange formats, and XML schemas used support error free data exchanges and encourage open and expandable systems. However, the large selection of optional phrases allowed by the standards will not help narrow the phrases used by individual states.

Table 1 – Examples of the Different Phrases Defined by ITS Standards for Event Descriptions

Weather Phrases	Road Condition Phrases	Roadwork Phrases	Crash / Incident Phrases	Vehicle Restriction Phrases
overcast	ice	road construction	crash	restrictions
cloudy	icy patches	major road construction	accident	ramp restrictions
mostly cloudy	black ice	long term road construction	serious accident	truck restriction
partly cloudy	ice pellets on roadway	construction work	injury accident	speed restriction
partly sunny	ice build up	paving operations	minor accident	noise restriction
mostly sunny	freezing rain	work in the median	multi vehicle accident	traffic regulations have been changed
sunny	wet and icy roads	road reconstruction	numerous accidents	local access only
fair	melting snow	opposing traffic	accident involving a bicycle	no trailers
clear	slush	narrow lanes	accident involving a bus	no high profile vehicles
mostly clear	frozen slush	construction traffic merging	accident involving a motorcycle	hazardous materials truck restriction
mostly dry	snow on roadway		accident involving a pedestrian	no through traffic
dry	packed snow	road maintenance operations	accident involving a train	no motor vehicles
blizzard	packed snow patches	road marking operations	accident involving a truck	width limit
heavy snow	plowed snow	bridge maintenance operations	accident involving hazardous materials	height limit
snow	wet snow	bridge construction	Accident	length limit
light snow	fresh snow	bridge demolition work	serious accident	axle load limit
snow showers	powder snow	blasting	injury accident	gross weight limit
winter storm	granular snow	avalanche control activities	minor accident	axle count limit
ice storm	frozen snow	water main work	multi vehicle accident	
sleet	crusted snow	gas main work	numerous accidents	
rain and snow mixed	deep snow	work on underground cables	accident involving a bicycle	
rain changing to snow	snow drifts	work on underground services	accident involving a bus	
damaging hail	drifting snow	new road construction layout	accident involving a motorcycle	
hail	expected snow accumulation	new road layout		
dense fog	current snow accumulation	temporary lane markings		

1.4 Project Goal and Objectives

In light of the North/West Passage states' long term plans to share messages with neighboring states; and with respect to the existing operational systems that exist within each state, the overall goal and objectives of this project are as follows:

Project Goal: To achieve a level of consistency in the major event reports created by member agencies in order to allow future program projects to ultimately offer consistent corridor-wide traveler information

Objective #1: To document the current phrases most often used by North/West Passage member agencies in describing major events that have potential to impact the entire corridor.

Objective #2: To define a set of consistent phrases (and related definitions) that can describe the major events on the corridor most likely to be shared with travelers in adjoining states.

Objective #3: To define translations from the existing phrases used by member states to the consistent phrases defined in this project. This will allow member states to have the option of either transitioning to the use of the limited set of consistent phrases, or to continue entering events as they do now, or allowing for a translation of the events if they are shared with other North/West Passage states.

2. Consistent Event Reports – Operational Concept

Before defining a set of consistent event description phrases, it is important to define and reach consensus on how the consistent phrases might be used.

This section serves to define two distinct items:

- How the consistent event descriptions will impact the travelers along the corridor (*'The Travelers' View'*); and
- How the consistent event descriptions may be used by State DOTs in reporting conditions to the travelers (*'The Agencies' View'*).

2.1 Consistent Event Reports – The Travelers' View

Through project meetings and feedback from the group, the following three scenarios for how the consistent event descriptions will impact travelers have been defined.

2.1.1 Scenario #1: Consistency among Individual State Hosted Systems

One possible scenario describing the travelers experience with the consistent phrases is the operation of individual state ATIS systems in the same manner as they are operated now. States would modify phrases to be consistent with the corridor. In this scenario, no additional integration of systems will occur, and travelers will need to visit multiple states' ATIS systems to access information. However, because of the use of the consistent event descriptions, travelers driving some or the entire corridor will hear messages described by a small set of phrases used consistency along the corridor.

Scenario #1 Example:

A traveler driving East out of Seattle will call the Washington 511 phone system and hear a report of 'Packed Snow' on the roadway on I-90 through Spokane. As the traveler crosses the border into Idaho, he calls 511 again, reaching the Idaho 511 phone system and hears a report of 'Packed Snow' for the stretch of I-90 through Idaho. Under this scenario, travelers are accessing separate and individual systems, but hearing consistent descriptions of events. In addition, if travelers seek the information, common definitions of the phrases are available from any of the North/West Passage member states.

2.1.2 Scenario #2: Exchanges of event messages between member states' systems

Another possible scenario describing the travelers' experience with the consistent phrases would be the situation where some or all of the North/West Passage states wish to

exchange event messages between state reporting systems in order to offer information on roads in neighboring states to callers of 511 or visitors to the ATIS website. In this scenario, some or all of the states have built data exchange capabilities and messages are being shared between condition reporting systems.

Scenario #2 Example:

A traveler driving from Bismarck, North Dakota to the Twin Cities calls 511 in North Dakota. Under this scenario, the North Dakota 511 system would offer reports for I-94 in North Dakota as well as the stretch of I-94 inside Minnesota leading to the Twin Cities. In this scenario, the information disseminated might describe ‘Freezing Rain from Bismarck to Fargo’, and ‘Freezing Rain on I-94 in Minnesota from Fargo to Fergus Falls’, and ‘Snow from Fergus Falls to Minneapolis’. Again, the concept is that the caller calls only the North Dakota system and hears consistent descriptions for both the North Dakota report and the Minnesota report. Again, definitions would be available for the phrases ‘Freezing Rain’ and ‘Snow’.

2.1.3 Scenario #3: Consolidation of events into a corridor-wide system

The final and grandest scenario describing the possible use of the consistent event descriptions is the consolidation of all major events along the entire corridor into one overall traveler information system. A website is the logical dissemination mechanism; however it is conceivable that the corridor could operate a corridor-wide 511 phone system at some stage. In this scenario, event descriptions deemed major enough to be shared over state boundaries would be aggregated into one system (either by each state sending the event descriptions or by a system pulling descriptions from each state’s system). Then, one central system could disseminate the events, offering travelers a ‘one-stop shop’ for information along the entire corridor.

Scenario #3 Example:

A commercial vehicle carrier departing from Seattle en-route to Wisconsin could view the corridor wide website, and at a glance view icons that describe every major event or condition currently impacting the corridor without having to click on individual state systems. An icon near Bismarck, North Dakota might describe conditions as ‘Packed Snow’, while another icon near St. Cloud might describe conditions as ‘Ice’. The phrases used will be consistent throughout the corridor, and the visitor will have access to definitions of the phrases used to understand the likely impacts of conditions.

2.2 Consistent Event Reports – The Agencies’ View

The consistent event descriptions developed within this project are intended to support the collaboration of North/West Passage member agencies and contribute to the overall program goals. In order to accomplish this, individual state agencies will need to decide how they will use the recommended consistent phrases. Recognizing that there is a comfort level in the current processes and procedures used by each member state, two strategies have been defined to describe how state agencies may use the recommended phrases.

Strategy #1: Exclusive Use of the Recommended Phrases for Major Events

One strategy that member states may decide to implement is to transition to the use of the recommended phrases and their definitions whenever describing these categories of events and conditions along the I-90/I-94 corridor. Based upon a survey and research conducted into each states current or planned condition reporting systems, the recommended phrases could be used by each of the states within their current system (or with minor changes to their current system). In this strategy, individual states would decide which of the recommended phrases they will use exclusively to describe the conditions or events. If each state chooses to do this, then all weather and road conditions, crashes, roadwork, and vehicle restrictions that are reported throughout the corridor would be reported consistently.

Strategy #2: Conversion of Local Phrases to the Recommended Phrases

Some North/West Passage member states may select not to transition to the exclusive use of the recommended phrases contained later in this document. The most likely reason for this is because the recommended phrases lack the detail that is offered by additional phrases that the agencies may prefer to use. An illustrative example is the use of the phrase ‘Icy patches’. ‘Icy patches’ is not one of the recommended phrases described later in Section 4 of this report, however one or more of the member states may decide they still want to use the phrase ‘Icy patches’, as well as numerous other phrases.

For situations where individual states will continue to use additional phrases, this document has defined translations for many phrases. The translations describe how the locally preferred phrases will be translated to a ‘consistent’ phrase before being shared with other states. The translation would occur solely for sharing with other North/West Passage states and the corridor-wide website.

In the illustrative example described earlier of the phrase ‘Icy patches’. If a state continues to use ‘Icy patches’, operators within the state will describe conditions as ‘Icy patches’. The phrase (and related icon) ‘Icy patches’ will appear on the state operated ATIS website as it does now and on the state-operated 511 phone system. However, when event messages are exchanged with other states or sent to a central database to

populate the corridor-wide website, the phrase will be translated according to the tables contained in later sections. In this example, the phrase ‘Icy patches’ will be translated into ‘Ice’.

Illustrative Example:

If Minnesota selects to continue using their local preferred phrases and North Dakota switches to using the recommended consistent phrases, the following example may occur:

During a winter storm in the Fargo/Moorhead area, North Dakota may create an event in their local system that describes conditions as ‘***Ice*** on I-94 from Exit 340 to the Minnesota State Line in Fargo, North Dakota, for the next 2 hours’.

Minnesota may report on the same winter storm by creating an event in their local system that describes conditions as: ‘***Icy Patches*** on I-94 from North Dakota State line to Exit 10 in Moorhead, Minnesota for the next 2 hours’.

The dissemination on both states local systems would describe conditions as shown above. However, when the event reports are consolidated together in a future North/West Passage Corridor Dissemination System, the two reports would be presented with consistent phrases, as follows:

‘Ice on I-94 from Exit 340 to the Minnesota State Line in Fargo, North Dakota, for the next 2 hours’ ; Ice on I-94 from the North Dakota State line to Exit 10 in Moorhead, MN for the next 2 hours’.

Therefore, each state is still able to maintain their preferred phrase use. However, consistent event descriptions on the overall corridor-wide information dissemination system are possible.

3. The Full Vision of Consistent Event Reports

The travelers view and the agencies' view described by the scenarios and strategies in Section 2 describe several uses for consistent event reports. This section defines a broad definition of consistent event reports and the many facets of consistency in event reporting, and then clarifies those components addressed by the remainder of this document.

3.1 Definition of Event Reports

For purposes of this project and this Final Report document, the term Event Report refers to the description of an event or a condition that exists or is planned along the roadway. The Event Report shall include details about the event that will allow traveler information systems, media, or other dissemination outlets to share the event summary with travelers.

The complete Event Report may be different than what is disseminated to travelers. For example, an Event Report may contain several qualifiers or quantities describing the situation in great detail, however a 511 phone system may only announce the basic information.

3.2 The Structure of an Event Report

Typically, Event Reports contain at least the basic elements shown in Figure 1.

[Location]	[Description]	[Duration]
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Figure 1 - Elements of Basic Event Report

However, for some types of events, an additional qualifier called a quantity is needed to completely describe the event. While these elements are not typically mandatory, the messages may seem incomplete without them. These types of quantities include numeric values defining such things as height limits (in feet), weight limits (in pounds), and width limits (in feet). The structure of these Event Reports typically looks like the elements shown in Figure 2.

[Location]	[Description]	[Quantity]	[Duration]
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Figure 2 - Elements of Event Report Containing Quantity

In addition, in order to provide additional details, additional qualifiers may be used to describe details or the impact of the event. A typical structure of an Event Report with qualifiers would be as shown in Figure 3.

[Location]	[Description]	[Qualifier/Impacts]	[Duration]
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Figure 3 - Elements of Event Report Containing Qualifiers

3.3 The Concept of Event Report Consistency

There are several aspects that collectively define Event Report consistency. This section describes background into six of these aspects.

- Consistency in reporting frequency.** The reporting frequency refers to the approach taken to enter and/or record events and conditions. One approach is to perform exception reporting that may include *only* reporting events and conditions that negatively impact traffic flow. Another approach is to describe road conditions *at all times*, therefore describing dry conditions when they are dry, or free flow speeds when applicable. A hybrid approach is to perform regular reporting of conditions during the winter months and exception reporting during the summer months. The challenge with inconsistent reporting frequency is that if a driver receives a report of ‘dry’ conditions for the duration of a state and then enters a new state where there are no reports, they can not be sure if the conditions will remain dry, or if inclement driving conditions exist but have not been reported.
- Consistency in location descriptions.** There are two levels of consistency in location descriptions. At the most critical level, location descriptions that follow one of the National ITS standards will include a geospatial reference (e.g. latitude/longitude) that allows for the event to be placed on a map, and a linear reference to a roadway. However, beyond the location description needed to interpret the location, there is the physical description of the location. Given that the North/West Passage events will typically describe freeway locations, consistency is less complicated than arterial and rural routes, however one state may describe locations to include exit number and intersecting highway, while another may describe exit number and closest city.
- Consistency in event descriptions.** Consistent event descriptions are the specific focus of this project. They refer to one or two descriptive phrases that describe what is happening. Lack of consistency typically is a result of difference in detail level (e.g. ‘snow’ vs. ‘heavy snow’ vs. ‘blizzard’) or interpretation of the event (‘ice’ vs. ‘black ice’).

- **Consistency in the use of qualifiers.** Qualifiers refer to phrases or quantities that help clarify the condition or the event. They range from numeric quantities that are needed to adequately describe a vehicle restriction (e.g. ‘height restriction *12 feet*’) to phrases that add detail to the event description (e.g. ‘Ice *on bridges*’). The consistent use of some qualifiers (e.g. quantities describing restrictions) would ensure that all descriptions have the information that travelers or truckers need. Consistency for other qualifiers primarily will ensure uniform descriptions and understanding. However, some of the qualifiers defined by the standards are ambiguous. For example, the qualifier ‘on hills’ may be used to describe conditions along a stretch of road that only occurs on hills (e.g. high winds, snow etc.). However, the term ‘hill’ means different things in the mountainous states than it does in the plain states.
- **Consistency in the use of impact descriptions.** Similar to the use of qualifiers, some states’ systems use phrases specifically to describe the impacts of the event or conditions. Examples of impact descriptions: ‘expect delays’, ‘delays less than 20 minutes’, ‘speeds are reduced’. The issue of consistency primarily relates to travelers understanding if it is a situation where there are no delays or if the state simply does not use impact descriptions. For example if two continuous states differ in their approach of using impact descriptions, a traveler driving across one state might hear ‘drifting snow expect slow driving conditions’, but when the traveler hears the report for the same highway across the state line would hear ‘drifting snow’. Some drivers may infer that the slow driving conditions end at the state line.
- **Consistency in the use of durations.** Event durations are used to describe to travelers the expected end of the event or the time that the impacts of the event will no longer be experienced. There are differing opinions about whether durations should be displayed on web sites and/or 511 phone systems.

The North/West Passage Project 3.1 is focused on the consistency in the event descriptions, and therefore, this report is primarily focused on defining common event descriptions and the translations from other event summaries.

4. Project Findings and Results

The initial research in this project focused on documenting the current phrases and standards used by each of the member states when describing:

- weather and road condition information;
- road management;
- incidents;
- road restrictions; and
- road work.

Appendix A to this Final Report contains a set of tables created to document the phrases most often used by the states to describe major events along the corridor. Note: this list does not necessarily include every phrase used by the states; however it was created with feedback from the states to represent the phrases most often used.

4.1 Findings of the Current Use of Descriptions

Based on the outreach and research in the initial phase of this project, the largest inconsistencies exist in the descriptions of weather and road condition information. In fact, the general approach toward weather and road condition descriptions varied by state, and is summarized as follows:

- Some states describe only observed conditions (e.g. packed snow, icy patches, wet roads) preferring not to make a statement about the resulting performance of vehicles on the road;
- One state defines a qualitative assessment of driving conditions along the roads (e.g. ‘good’, ‘fair’, ‘difficult’); and
- Some states describe best estimates of the performance of vehicles (e.g. slick spots, slippery roads) given the current conditions.

In addition to the general approach, the research revealed that states were similar in the phrases they use, but that most states use numerous phrases when describing conditions. Table 2 below illustrates an example of road condition phrases used to describe snow on the road. For brevity, only a sample of the North/West Passage states’ information is shown. The complete table of phrases used is included in the Appendix.

Table 2 – Examples of Phrases Used to Describe Snow on the Road

Minnesota	North Dakota	South Dakota
- Packed Snow - Packed Snow Patches	- Compacted Snow	- Packed Snow

4.2 Recommended Event Descriptions – Identity and Definition

After compiling the tables that describe the phrases that the member states use today to describe events and conditions, the project efforts then focused on defining a set of consistent phrases to be used throughout the corridor, in accordance with the scenarios presented in Section 2.

The tables on the following pages perform four key roles:

- Identify the current phrases used most often by member states to describe conditions and events;
- List the recommended phrases defined within this project to be used to describe conditions and events;
- Depict the translation from phrases used today to the recommended phrases;
and
- Define each of the recommended phrases.

Table 3 - Recommended Event Description Phrases for Road/Weather Surface Events

Road/Weather Phrases Currently Used by NWP States								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [road surface condition], [weather condition], [other qualifiers] [optional duration]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
Weather Phrases								
	- Rain	- Rain	-Rain	-	- Rain	- Rain - Heavy rain	- Rain	Rain Continuous or near continuous non-freezing precipitation that has potential to make the road surface wet. Conditions beyond isolated showers or precipitation that does not wet the pavement.
	- Freezing Rain	- Freezing Rain	-Freezing Rain	- Freezing Rain		- Freezing Rain		Freezing Rain Rain that falls as a liquid but freezes into glaze upon contact with the ground.
	- Light Snow - Snow - Heavy Snow	- Snow - Snow/Rain - Sleet	- Snow	- Snowing	- Snow	- Light Snow - Snow - Heavy Snow - Rain and Snow mixed	- Snow - Rain and Snow mixed - Ice	Snow Precipitation in the form of snowflakes that may or may not accumulate on the road surface.

Road/Weather Phrases Currently Used by NWP States								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [road surface condition], [weather condition], [other qualifiers] [optional duration]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
	- Blowing Snow	- Blowing Snow	- Blowing Snow		- Blowing Snow		-	Blowing Snow Snow propelled by the wind across or along the road surface, at least one (1) foot above the ground
	- Drifting Snow			- Blowing and Drifting		- Drifting Snow	- Drifting Snow	Drifting Snow Snow propelled by the wind across or along the road surface, less than one (1) foot above the ground
	- Reduced Visibility - Patchy Fog - Freezing Fog - White Out	- Reduced Visibility - Zero Visibility	- Reduced Visibility - Dust - Smoke - Fog	- Reduced Visibility - Fog	- Limited Visibility - Fog	- Reduced Visibility - Patchy Fog - Dense Fog - Blowing Dust	- Fog - Areas of Fog	Reduced Visibility Visibility less than 400 feet (for any reason)
				- High Winds	- Strong Wind	- Gusty Winds - High Winds		Strong Wind Winds greater than 30 mph.

Road/Weather Phrases Currently Used by NWP States								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [road surface condition], [weather condition], [other qualifiers] [optional duration]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
Road Surface Condition Phrases								
Good Winter Driving	- Driving Conditions Good	- Good	- Dry	- Dry	- Dry	- Dry	- Bare	Dry Road surface dry.
		- Wet	- Wet	- Wet - Scattered Wet	- Wet	- Wet	- Wet	Wet Road surface is wet from precipitation or water across roadway.
- Snow Covered and Slippery	-	- Snow Covered - Scattered snow - Scattered snow Drifts	- Snow Covered - Drifting Snow - Snow Drifts	- Snowcover - Scattered Snow and Ice - Snow and Ice	- Drifted Snow		- Drifting Snow - Blowing Snow	Snow Covered Snow that has accumulated on the road surface.
	- Packed Snow - Packed Snow Patches	- Compacted Snow	- Packed Snow	-		- Packed Snow Patches - Packed Snow	- Packed Snow - Packed Snow Patches	Packed Snow Snow that has not been removed from the roadway that becomes firmly packed on the road surface.

Road/Weather Phrases Currently Used by NWP States								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [road surface condition], [weather condition], [other qualifiers] [optional duration]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
- Ice Covered and Slippery - Slippery Stretches	- Wet and Icy roads - Icy patches - Ice - Black Ice - Slippery	- Scattered Ice - Continuous Ice -	- Ice - Slippery - Black Ice	- Intermittently Snow Packed and Icy - Snow packed and icy - Intermittent Ice - Icy - Ice or Black Ice -	- Slick - Slick in spots	- Wet and Icy Roads - Icy Patches - Ice	- Wet and Icy roads - Icy Patches - Ice - Black Ice	Ice Frozen water adhered to the road surface causing moderate to extreme slippery conditions.
		- Frost	- Frost	- Frost				Frost Vapor condensation covering the road surface causing moderate to extreme slippery conditions.
	- Slush	- Slush	- Slush	- Slush - Scattered Slush		- Slush	- Slush	Slush Loose snow accumulation or ice on roadway that may cause slippery conditions.

Table 4 - Recommended Event Description Phrases for Roadway Management

Roadway Management Phrases Currently Used by NWP States								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [roadway management], [[other qualifiers] [duration]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
		- Closed		- Road Closed - Road Closed - nb - Road Closed - sb - Road Closed - wb - Road Closed - eb - Closed for the season - Closed due to avalanche		- Road Closed		Road Closed Road is closed to all traffic.
		- Blocked				- Road Blocked		Road Blocked Road is blocked or impassable to all traffic.
				-Blocked Lanes				Lane Blocked Lane is blocked to all traffic.

Table 5 - Recommended Event Description Phrases for Vehicle Restriction

Vehicle Restriction Phrases Currently Used by NWP States								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [vehicle restriction], [appropriate quantities being limited], [impacts]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
	- Width Limit ##		- Width Limit ##	- Width Restriction		- Width Limit ##	- Width Limit	Width Limit ## The width of the roadway or at least one individual lane is less than standard width. This phrase is typically accompanied by a quantity qualifier to specify the width allowed.
	- Height Limit ## feet		- Height Limit ## feet	- Load Restriction Report	- Height	- Height limit ## feet	- Height limit ## feet	Height Limit ## The clearance height of temporary or permanent objects above the roadway is less than standard height. This phrase is typically accompanied by a quantity qualifier to specify the width allowed.

Vehicle Restriction Phrases Currently Used by NWP States								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [vehicle restriction], [appropriate quantities being limited], [impacts]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
	- Weight Limit ## pounds	- Unrestricted - 6 ton limit - 7 ton limit 8 ton limit	- Gross Weight Limit ##	- Load Restriction Report		- Gross Weight Limit ###	- Gross Weight Limit	Weight Limit ## The legal weight limit for vehicles is temporarily reduced below the standard weight, in order to protect the infrastructure or the safety of the traveler. This phrase is typically accompanied by a quantity qualifier (either expressed in pounds or by percentage).
			- Length Limit ##			- Length Restrictions ###		Length Limit ## The maximum length for vehicles. This phrase is typically accompanied by a quantity qualifier to specify the length allowed.

Table 6 - Recommended Event Description Phrases for Road Work

North/West Passage Roadwork Phrases								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [Roadwork Description], [qualifiers], [impacts]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
	<ul style="list-style-type: none"> - Road Construction - Construction Work 	<ul style="list-style-type: none"> - Maintenance - Surfacing - Chip/Seal/Overlay 	<ul style="list-style-type: none"> - Fresh Oil - Grading - Paving - Pavement Repair - Striping 	<ul style="list-style-type: none"> - Fresh Oil - Crack Sealing - Grading - Striping - Chip Sealing - Overlay - Milling - Rut Filling - Rumble Strip - Paving - Guardrail - Shoulder - Patching - Sweeping - Culvert Installation 		<ul style="list-style-type: none"> - Road Work - Road Construction - Road Maintenance - Paving Operations - Road Reconstruction - Major Road Construction - Long Term Road Construction - Bridge Construction 	<ul style="list-style-type: none"> - Road Construction - Construction Work 	<p>Road Work</p> <p>Work is being performed on the roadway. This work may include typical maintenance activities, repairs, or the addition of lanes. Travelers should expect delays at times, and may encounter flaggers directing traffic.</p> <p>Ideally, this phrase would be accompanied by a qualifier describing the impacts to the travelers (in the form of delay, restrictions, or the use of detours).</p>

North/West Passage Roadwork Phrases								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [Roadwork Description], [qualifiers], [impacts]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
	- Bridge Work	- Bridges improvement	- Bridge Repair	- Bridge Work		- Bridge Maintenance Operations	- Bridge Work	<p>Bridge Work Work is being performed on a bridge. This work may include typical maintenance activities, repairs, or the addition of lanes. Travelers should expect delays at times, however the activities are limited to the length of the bridge and therefore most often are short distances.</p> <p>Ideally, this phrase would be accompanied by a qualifier describing the impacts to the travelers (in the form of delay, restrictions, or the use of detours).</p>

Table 7 - Recommended Event Description Phrases for Incidents

Incident Phrases								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [incident], [impacts], [other qualifiers]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
	- Accident		- Accident	-		- Crash - Serious Crash - Multi Vehicle Crash - Crash Involving Truck	- Accident -	Crash An unplanned collision has occurred between a vehicle with the infrastructure or another vehicle.
				- Incident			- Stalled vehicle	Incident A planned or unplanned event has occurred.
			- Traffic congestion					Traffic Congestion Roadway exceeds capacity.
			- Stopped Traffic				- Lanes Blocked - Both lanes blocked	Stopped Traffic A planned or unplanned incident or event has caused traffic to stop movement. The road is not closed, but vehicles are stopped.

Incident Phrases								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [incident], [impacts], [other qualifiers]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
			-Avalanche	- Avalanche		- Avalanche	- Avalanche	Avalanche A large amount of snow has slid onto the roadway, blocking traffic for an unknown duration.
	-Landslide		- Landslide - Rock Fall - Mudslide	- Landslide		- Landslide	- Landslide	Landslide A large amount of dirt or mud has slid onto the roadway, blocking traffic for an unknown duration.
	-Debris		- Debris on Roadway	- Debris on Roadway		- Debris on Roadway	- Debris on Roadway	Debris on Roadway Natural or man-made objects are on the roadway and impacting the speed or safety of traffic.

Incident Phrases								Recommended NWP Phrase and Definition
Typical Phrase Structure: [interstate location description], [incident], [impacts], [other qualifiers]								
Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington	
	<ul style="list-style-type: none"> - Grass Fire - Forest Fire - Wildfire - Serious Fire 	<ul style="list-style-type: none"> - Grass Fire - Rangeland Fire - Wildfire 	<ul style="list-style-type: none"> - Grass Fire - Forest Fire 			<ul style="list-style-type: none"> - Grass Fire - Forest Fire - Wildfire - Serious Fire 	<ul style="list-style-type: none"> - Grass Fire - Forest Fire - Wildfire - Serious Fire 	<p>Fire</p> <p>A fire is burning on or near the roadway and the flames and/or smoke is impacting travel.</p>
			<ul style="list-style-type: none"> - Criminal Activity - Riot - Civil Emergency - Security Incident - Terrorist Incident - Bomb Alert - Weapons of Mass Destruction Threat 					<p>Civil Emergency</p> <p>There is an emergency that has been reported and emergency responders are in response. This may include police, fire, security, or chemical release situations. Travelers should be warned to avoid situations if possible or to use caution when approaching.</p>

4.3 The Use of Qualifiers in Consistent Event Reports

As described earlier, event descriptions often include qualifiers. Qualifiers may either be:

- Phrases that add clarity to the event description (e.g. ‘on bridges’, ‘in low lying areas’, ‘on the shoulder’);
- Quantities that work with the phrases to describe details (e.g. ‘## feet’, ‘## pounds’, ‘## minutes’);
- Phrases that describe the impacts of events (e.g. ‘expect delays’, ‘delays longer than 2 hours’, ‘detour in operation’).

The ITS standards contain a long list of optional qualifiers. Many of the North/West Passage states use qualifiers to add details to their messages. Table 8 (on the following page) lists a number of the qualifiers used by North/West Passage member states and indicates the phrases with which the qualifiers would most likely be associated.

4.3.1 Concerns about Defining Consistent Qualifiers and Definitions

In regards to corridor-wide consistent condition descriptions, there are three concerns about defining consistent uses for qualifiers:

- Some qualifiers may introduce ambiguity. For example, the qualifier ‘on hills’ might mean something different to travelers in mountainous states than it does those in the plains. Similarly, ‘long delays’ might have different meaning in Seattle than it does in rural Montana;
- Because qualifiers are typically used to add more detail and because the consistent event exchange will most likely be used to alert travelers to basic information about major events they may experience in adjacent states, the need to exchange the details of qualifiers might not justify the added complexity and burden placed on the states; and
- The qualifiers that describe quantities in vehicle restriction reports (height, width, weight limits) are critical and therefore should be exchanged with event report. As an example, if a truck driver sees an icon describing a height limit in a neighboring state, he needs to access all available information, ideally the actual height limit in feet.

4.3.2 Recommendations for Defining Consistent Qualifiers and Their Definitions

Based on the concerns mentioned above, this draft report includes the following recommendations:

Recommendation #1: That a limited set of qualifiers shall be exchanged with the event report when sharing events in future North/West Passage projects. These qualifiers shall be used if available:

- The quantities that describe height, length, weight or width restrictions to add detail to vehicle restriction descriptions
- The quantities that describe delay to add detail to road management, road/weather, road work, or road work phrases
- The direction of travel to add detail to road management, road/weather, road work, or road work phrases

Recommendation #2: That states continue using qualifiers as they currently do for reporting events and disseminating information within their states.

Table 8 - Summary of Qualifiers Most Likely Tied to Consistent Phrases

North/West Passage Phrases		Normal Traffic Speeds	Reduced Traffic Speeds	Slow Traffic	Delays Less than 15 min.	Delays Less than 2 hours	Delays Greater than 2	On Bridges	On Ramps	In Low Lying Areas	On Hills	On the Shoulder	In the Median	## Feet	## Pounds	
Road Condition & Weather	Rain															
	Freezing Rain															
	Snow															
	Blowing Snow							X	X	X	X	X				
	Drifting Snow							X	X	X	X	X				
	Reduced Visibility	X	X	X	X	X	X			X	X					
	Strong Wind	X	X	X	X	X	X				X					
	Dry															
	Wet	X	X	X	X	X	X									
	Snow Covered	X	X	X	X	X	X	X	X	X	X	X				
	Packed Snow	X	X	X	X	X	X	X	X	X	X	X				
	Ice	X	X	X	X	X	X	X	X	X	X	X				
	Frost	X	X	X	X	X	X	X	X	X	X	X				
	Slush	X	X	X	X	X	X	X	X	X	X	X				

Roadway Mgmt	Road Closed	X	X	X	X	X	X									
	Road Blocked	X	X	X	X	X	X									
	Lane Blocked	X	X	X	X	X	X									
Restrictions	Width Limit														X	
	Height Limit														X	
	Weight Limit															X
	Length Limit														X	
Road work	Road Work	X	X	X	X	X	X					X	X			
	Bridge Work	X	X	X	X	X	X									
Incidents	Crash	X	X	X	X	X	X					X				
	Incident	X	X	X	X	X	X					X				
	Traffic Congestion	X	X	X	X	X	X									
	Stopped Traffic	X	X	X	X	X	X									
	Avalanche	X	X	X	X	X	X									
	Landslide	X	X	X	X	X	X									
	Debris on Roadway	X	X	X	X	X	X					X				
	Fire	X	X	X	X	X	X									
	Civil Emergency	X	X	X	X	X	X									

5. Future Opportunities for Applying the Consistent Structure

The North/West Passage Consistent Event Description project represents one of the initial set of projects funded to begin implementing the Corridor-wide ITS Strategic Plan completed in 2007. The North/West Passage Strategic Plan includes a project description for an Information Systems Network to allow for sharing of active event descriptions and populating an expanded corridor-wide website.

During the North/West Passage Strategic Planning process, it was recognized that prior to developing any real-time message exchanges between states, there was a need to examine the current event phrases and definitions used by member states, and define consistent messages whenever possible. In other words, the states agreed that if they proceeded to exchange real-time event reports with neighboring states while there were still inconsistencies in the phrases and definitions used, the benefits of data exchange would fall short of the potential.

Looking toward the future, the North/West Passage member states envision two options for the use of the consistent event message descriptions being defined in this project: a consolidated corridor website, or state to state message exchanges.

A *consolidated corridor website* has been proposed as a candidate Phase 4 project and would plot icons or color in road segments on the corridor-wide website map allowing travelers to view all incidents, events, and conditions for the entire corridor from one map view. The use of consistent event descriptions would avoid inconsistent reports. Using the example above, ‘packed snow’ would be a common phrase when snow exists on the roadway.

State to state message exchange is an option where all North/West Passage states or select states may agree to send real-time messages among and between states (either using a corridor data hub or using state to state direct data exchanges). In this example, it is most likely that a state might offer callers to their 511 phone system the option to hear conditions along the freeway in neighboring states without needing to forward to call. Again, the consistent messages would allow the state to use pre-recorded phrases and phrases familiar to travelers within the state.

This project has provided each North/West Passage state with a great reference to learn about and understand the road condition phrases that are used by surrounding states. It has also provided member states with guidelines to consider as each state updates their individual reporting systems. As an example, Montana updated their system and used the suggested translation phrases as well as the individual phrases used by neighboring states to improve their phrases. In addition, each of the other North/West Passage states has or will consider the translation phrases as their systems are updated.

Appendix A – Summary of Event Phrases

The following pages provide a summary of the phrases used to describe Weather Events/Road Surface Conditions, Vehicle Restrictions, Road Work Events, and Incident Descriptions for each North/West Passage state.

Table A1 - Weather Phrases Used By Individual States

Table A2 - Road Surface Phrases Used By Individual States

Table A3 - Vehicle Restriction Phrases Used By Individual States

Table A4 - Road Work Event Phrases Used By Individual States

Table A5 - Incident Phrases Used By Individual States

Note: this list does not necessarily include every phrase used by the states; however it was created with feedback from the states to represent the phrases most often used.

Table A1 - Weather Phrases Used By Individual States

Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington
<p>Weather Details are provided for Weather Stations throughout the state.</p> <ul style="list-style-type: none"> - Location - Municipality - Time of Observation - Air Temp - Due Point - Relative Humidity - Avg Wind 	<ul style="list-style-type: none"> - Rain - Light snow - Snow - Heavy Snow - Packed Snow - Packed Snow Patches - Slush - Slippery - Wet and icy roads - Icy patches - Ice - Black ice - Freezing rain - Freezing fog - Reduced visibility - Patchy fog - Drifting snow - Blowing snow - White out - Travel not advised 	<ul style="list-style-type: none"> - Blowing Snow - Fog - Freezing Rain - None - Rain - Sleet - Snow - Snow/Rain <p><i>Visibility</i></p> <ul style="list-style-type: none"> - Clear - Reduced Zero <p><i>Traffic Speeds</i></p> <ul style="list-style-type: none"> - 25 MPH or Less - Normal Reduced 	<p><i>Visibility</i></p> <ul style="list-style-type: none"> - Reduced Visibility - Dust - Smoke - Fog - Snow - Blowing Snow <p><i>Extents</i></p> <ul style="list-style-type: none"> - None - In Sheltered Areas - In Open Areas - In Low-Lying Areas - In Valleys - On Hills - Near the Lake <p><i>Enumeration</i></p> <ul style="list-style-type: none"> - Zero - Near Zero - Less Than 1/8 Mile - Less Than 1/4 Mile - Less Than 1/2 Mile Not Impacting Travel 	<ul style="list-style-type: none"> - - Blowing and Drifting - - Fog - Freezing Rain - High Winds - Reduce visibility 	<ul style="list-style-type: none"> - Favorable: Occasional light shower possible. - Snow: Snow above isolated or occasional shower has potential to stick to road surface. - Rain: In excess of light showers with potential to make the road surface wet. - Strong Wind: Winds greater than 25 mph on slick roads or 35 mph on dry roads. (Report strong wind when wind affects driving ability.) - Fog: Fog that impairs visibility to less than 400 feet. (Note: See Delineator Spacing.) - Blowing Snow: Snow propelled by the wind across or along the road surface, at least 1 foot above the ground by definition. (Provide detail so severity can be determined) - Limited Visibility: Visibility less than 400 feet for any reason. 	<ul style="list-style-type: none"> - Clear - Cloudy - Rain - Heavy rain - Freezing rain - Rain and snow mixed - Light snow - Snow - Heavy snow - Patchy fog - Dense fog - Gusty winds - High winds - Drifting Snow <p>AD = Avalanche danger AV = Avalanche BD = Blowing dust DR = Deer on roadway DS = Drifting snow RF = Rock fall RV = Reduced visibility SC = Snow chains recommended</p>	<ul style="list-style-type: none"> - Clear skies - Rain - Snow - Rain and Snow Mixed - Ice - Drifting snow - Fog - Areas of fog

Table A2 - Road Surface Phrases Used By Individual States

Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington
<ul style="list-style-type: none"> - Good Winter Driving - Slippery Stretches - Snow Covered and Slippery - Ice Covered and Slippery 	<ul style="list-style-type: none"> - Driving Conditions Good - Driving Conditions Fair - Difficult Driving Conditions - Hazardous Driving Conditions - Packed Snow - Packed Snow Patches - Slush - Slippery - Wet and icy roads - Icy patches - Ice - Black ice - Drifting snow - Blowing snow - White out - Travel not advised 	<ul style="list-style-type: none"> - Good - Compacted Snow - Scattered Ice - Snow Covered - Scattered Snow - Scattered Snow Drifts - Continuous Ice - Slush - Frost - Wet - No Travel Advised - Blocked - Closed - Flooded (traffic allowed) - Alternate Route - Seasonal conditions 	<ul style="list-style-type: none"> - Dry - Wet - Snow Covered - Drifting Snow - Snow Drifts - Packed Snow - Frost - Slush - Ice - Black Ice - Slippery - Winter Maintenance Suspended <p><i>Qualifier</i></p> <ul style="list-style-type: none"> - None - Scattered - Mostly - Continuous - Light - Deep - Shallow <ul style="list-style-type: none"> - Chains Required - Chains Recommended - No travel advised - Road Blocked 	<ul style="list-style-type: none"> - Snow cover - - Frost - Wet - Scattered Wet - Slush - Scattered Slush - Ice or Black Ice - Wet - Snow and Ice - Scattered Snow and Ice - Closed for the season - Dry - Chains Required for Towing Units - Chains Required Towing Units Northbound - Chains Required Towing Units Southbound - Chains Required Towing Units Westbound - Chains Required Towing Units Eastbound - Road Closed Northbound - Road Closed Southbound - Road Closed Westbound - Road Closed Eastbound 	<ul style="list-style-type: none"> - Dry: 100% of the road is dry. - Wet: Puddles and standing water present; spray coming off cars. (An occasional damp spot doesn't qualify.) - Slick: Long, continuous sections of icy or snow packed roads. Greater than 50% of road section is icy or snow packed. Includes Black Ice, which is an extremely slick condition where a sheen of ice covers the road surface, but the road surface is visible. - Slick in Spots: Short, non-continuous sections of icy or snow packed road. Less than 50% of road section is icy or snow packed. - Drifted Snow: Drifts of any size that cross the white line and cause a driver to feel a bump or a pull on the steering wheel. 	<p>Road Conditions</p> <ul style="list-style-type: none"> - Dry - Wet - Slush - Icy patches - Ice - Packed snow patches - Packed snow - Wet and icy roads - Road Closed - Road Blocked 	<ul style="list-style-type: none"> - Bare - Wet - Packed Snow - Packed Snow Patches - Slush - Wet and icy roads - Icy patches - Ice - Black ice - Drifting snow - Blowing snow - White out

				- Road Re-Open - Closed Due to Avalanche			
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Table A3 - Vehicle Restriction Phrases Used By Individual States

Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington
<ul style="list-style-type: none"> - Highway - DOT Region - County - Location and Limits - Dates for posting this season - Estimated date roadway will no longer be posted - Contact 	<ul style="list-style-type: none"> - Permits open - Permits closed - Permits call in - Width limit ## feet - Height limit ## feet - Weight limit ## pounds 	<ul style="list-style-type: none"> - Unrestricted - 6 ton limit - 7 ton limit - 8 ton limit 	<ul style="list-style-type: none"> - Width limit (ft) - Height limit (ft) - Gross Weight Limit ## - Length Limit ## (ft) - Axle Weight Limit ## - Speed limit - Truck speed limit - Reduced speed - Flaggers - No passing 	<ul style="list-style-type: none"> - Load Restriction - Speed Restriction - Load and Speed Restriction - Height Restriction - Weight Restriction - Width Restriction 	<ul style="list-style-type: none"> - Route - Milepost - Direction - Width - Height - Location - Effective Date - Rescind Date - Contact - Phone # 	<ul style="list-style-type: none"> - Width limit ## feet - Height limit ## feet - Gross Weight Limit ## - Length Restrictions ## - Axle Load Limit - Truck Restrictions - Restrictions 	<ul style="list-style-type: none"> - Width limit ## feet - Height limit ## feet - Gross Weight Limit - Axle Weight Limit

Table A4 - Road Work Event Phrases Used By Individual States

Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington
<ul style="list-style-type: none"> - Hwy Number - County - Region - Description <ul style="list-style-type: none"> - Closed - Restriction - Inconvenience - Detour Estimated Completion Date 	<ul style="list-style-type: none"> - Road Construction - Construction work - Bridge Work - In the median - Left lane closed - Right lane Closed - Reduced lanes 	<ul style="list-style-type: none"> - Reconstruction - Maintenance - Surfacing - Chip/Seal/Overlay - Safety - Width or Height - Restriction - Bridges/Municipal/Road Side Improvements <i>Description</i> - Highway - Project Description - Comments 	<ul style="list-style-type: none"> - Fresh Oil - Loose Rock - Grading - Paving - Pavement Repair - Gravel Surface - Striping - Maintenance - Bridge Construction - Bridge Repair - Utilities Work - Miscellaneous - Construction - Suspended - Road Closed - Lane Reduction - Reduced Speed - Flaggers - No Passing - Routing to Opposing Lanes - Detour (mi) - Truck Detour (mi) - Local Traffic Only - Travel Delay (min) 	<ul style="list-style-type: none"> - Reduced speed - Fresh Oil - Loose Gravel - Crack Sealing - Grading - Landscaping - Striping - Sign Installation - Bridge - Light Installation - Chip Sealing - Overlay - Milling - Rut Filling - Clearing and Grubbing - Rumble Strip - Paving - Reconstruction - Intersection - Fencing - Surveying - Guardrail - Signal Installation - Shoulder - Patching - Sweeping - Seeding - Miscellaneous - Sidewalk - Pulverizing - Topsoil - Culvert Installation - Median - Rock Work - Pilot Cars 	<ul style="list-style-type: none"> - Construction - Description - Road - Mileposts - Delays - Surface - Contact Information 	<ul style="list-style-type: none"> - Road Work - Road Construction - Road Maintenance 	<ul style="list-style-type: none"> - Road Construction - Construction work - Bridge Work - Major bridge work - Both lanes blocked - In the median - Left lane closed - Right lane Closed - Reduced lanes

				<ul style="list-style-type: none">- Gravel Surface- Rough Roadway Surface- Single-lane Traffic- Single-lane Closures- Grooved Surface- Road Closure- Intersection Work- Traffic Controlled by Signal Lights- Flaggers			
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Table A5 - Incident Phrases Used By Individual States

Wisconsin	Minnesota	North Dakota	South Dakota	Montana	Wyoming	Idaho	Washington
<p>Incident Alerts highlighted on WisDOT Home Page</p>	<ul style="list-style-type: none"> - Accident - Alert - Difficult Driving - Grass Fire - Forest Fire - Wildfire - Serious Fire - Landslide - Debris 	<ul style="list-style-type: none"> - Incident included on construction map - Grass Fire - Rangeland Fire - Wildfire 	<ul style="list-style-type: none"> - Traffic Congestion - Accident - Stopped Traffic - Acc Investigation - Stalled Vehicle - Abandoned Vehicle - Disabled Vehicle - Jackknifed Vehicle - HazMat Incident - Train Derailment - Vehicle Traveling Wrong Way - Reckless Driver - Criminal Activity - Riot - Civil Emergency - Security Incident - Terrorist Incident - Bomb Alert - Weapons of Mass Destruction Threat - Amber Alert - Buckled Pavement - Surface Water Hazard - Lane Dropoff - Mud - Flooding - Mudslide - Avalanche - Rock Fall - Landslide - Grass Fire - Forest Fire - Fire Danger - Storm Damage - Fallen Trees 	<ul style="list-style-type: none"> - Incident - Special Event - Delays - Detours - Road Closed Due to Flood - Road Closed Due to Fire - Water on the Roadway - Landslide - Debris on Roadway 	<p>Eventually will enter incidents after TMC is deployed.</p>	<ul style="list-style-type: none"> - Crash - Landslide - Debris on Roadway - Grass Fire - Forest Fires - Wildfire - Serious Fire - Avalanche - Mudslide - Flooding - Brush Fire - Sports Event - Major Event - Bicycle Race 	<ul style="list-style-type: none"> - Accident - Alert - Lanes Blocked - Stalled vehicle - Both lanes blocked - Avalanche - Landslide - Debris on Roadway - Grass Fire - Forest Fire - Wildfire - Serious Fire

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|--|--|--|--|--|--|--|--|
| | | | <ul style="list-style-type: none">- Downed Power Lines- Bridge Out- Debris on Roadway- Herd of Animals on Roadway | | | | |
|--|--|--|--|--|--|--|--|