

Wisconsin 511 Winter Roads System



Management Interface Redesign

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Wisconsin TOPS Lab



Wisconsin Traffic Operations and Safety Laboratory



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON



Wisconsin Department of
Transportation



Wisconsin State Patrol



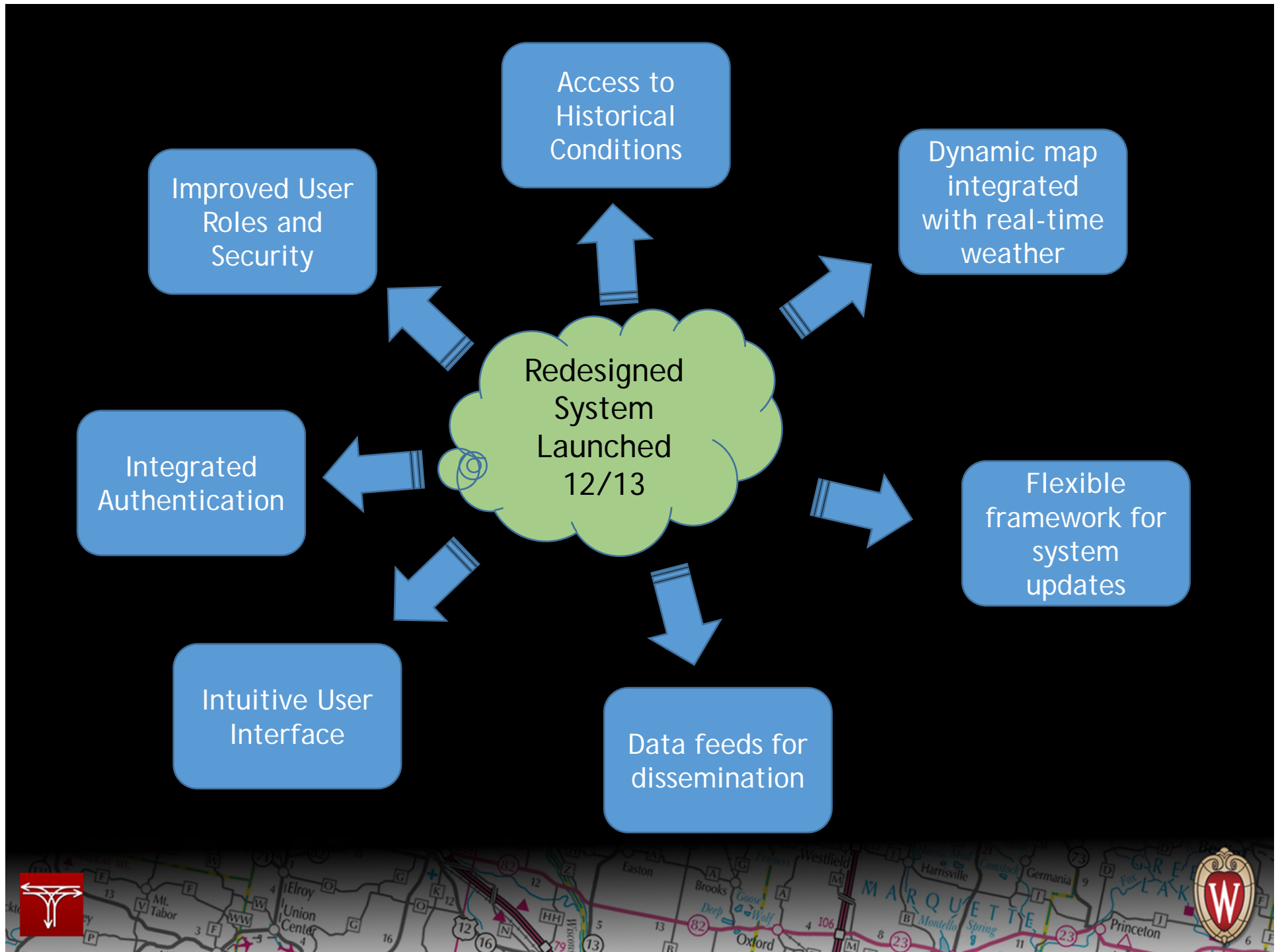
Wisconsin Traffic Operations
and Safety (TOPS) Laboratory



History of Redesign

- Accurate winter road conditions – critical traveler information
- In Wisconsin, dispatch centers have been reporting for decades
- Existing system
 - Manual
 - Unstable
 - High cost of maintenance
 - No exposure to outside parties





Ability to filter view by various attributes

Apply a condition to ALL segments with one click

Many segments can be updated at once by selecting checkboxes and applying a condition

Reset any changes made before they are applied

Individual segment conditions can be changed via dropdown

Rows are color coded by POST

Conditions are colored using a standard scheme matched on map

Home > Applications > WRS Home

Welcome

511 Wisconsin Travel Info

WRS Current Conditions

Winter Road Filters

Post: Highway: Condition: Last Updated By:

All Posts I-94 All Conditions All Users

Apply Filters Reset Page

Select a Condition Apply to Selected Apply to All Reset Selections Save Selected Conditions

	ID	Highway Segment ^	Condition	Post	Last Updated
<input type="checkbox"/>	1151	I-94/US 41 between Illinois Line and Racine	Travel Not Advised	Waukesha	02/17/2014 11:38 AM
<input type="checkbox"/>	1152	I-94/US 41 between Racine and Milwaukee	Travel Not Advised	Waukesha	02/17/2014 11:38 AM
<input type="checkbox"/>	1153	I-94 between Milwaukee and Brookfield	Travel Not Advised	Waukesha	02/17/2014
<input type="checkbox"/>	1154	I-94 between Brookfield and Oconomowoc	Travel Not Advised	Waukesha	02/17/2014
<input type="checkbox"/>	1155	I-94 between Oconomowoc and Lake Mills	Good Winter Driving	DeForest	04/18/2014
<input type="checkbox"/>	1156	I-94 between Lake Mills and Madison	Good Winter Driving	DeForest	04/18/2014
<input type="checkbox"/>	1140	I-39/I-90/I-94 between Madison and Portage	Good Winter Driving	DeForest	04/18/2014
<input type="checkbox"/>	1157	I-90/I-94 between Portage and Wisconsin Dells	Good Winter Driving	DeForest	04/18/2014 1:05 PM
<input type="checkbox"/>	1158	I-90/I-94 between Wisconsin Dells and Mauston	Snow Covered	Tomah	02/17/2014 11:38 AM
<input type="checkbox"/>	1159	I-90/I-94 between Mauston and Tomah	Snow Covered	Tomah	02/17/2014 11:38 AM
<input type="checkbox"/>	1160	I-94 between Tomah and Millston	Snow Covered	Tomah	02/17/2014 11:38 AM
<input type="checkbox"/>	1161	I-94 between Millston and Osseo	Good Winter Driving	Eau Claire	12/07/2013 7:00 AM
<input type="checkbox"/>	1162	I-94 between Osseo and Elk Mound	Good Winter Driving	Eau Claire	12/07/2013 7:00 AM
<input type="checkbox"/>	1163	I-94 between Elk Mound and Knapp	Good Winter Driving	Eau Claire	12/07/2013 7:00 AM
<input type="checkbox"/>	1164	I-94 between Knapp and Hudson	Good Winter Driving	Eau Claire	12/07/2013 7:00 AM

Current

- > table view
- > map view

Historic

- > table view
- > map view

Manage Users

Help

Exit

Release Notes



Map colors
reflect colors
in table

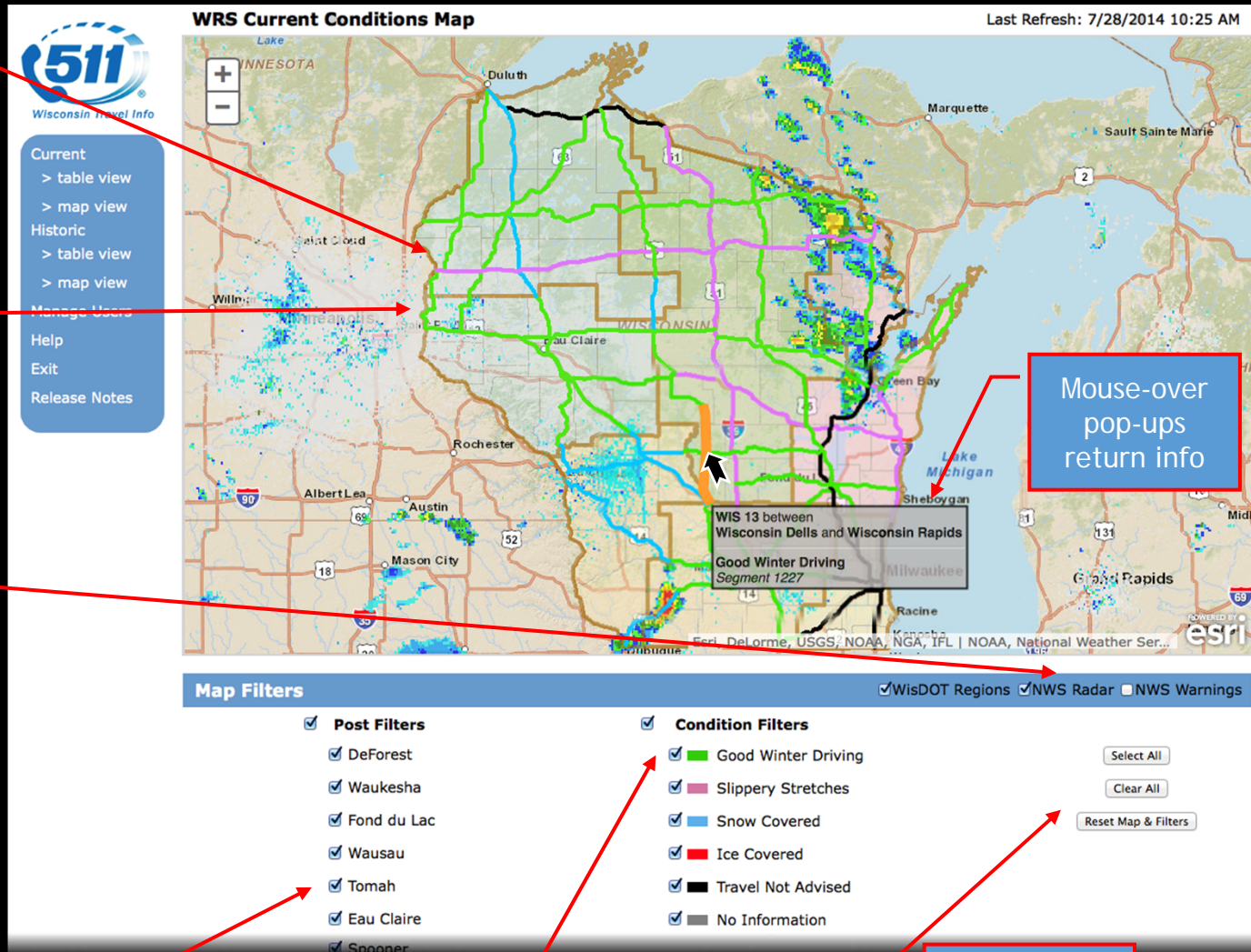
Conditions
shown on
map driven
by database

Real-time
radar and
warnings

Control layer
visibility by
post...

... or
condition

Single-button
control of
selections



Ability to filter view by various attributes

Control time period of display

Export results to CSV for further analysis

WRS Historic Conditions

Winter Road Filters

Post: Highway: Condition: Reported By: From: To:

All Posts WIS 70 All Conditions All Users 01/01/2014 01/08/2014

Retrieve Historic Conditions Reset Search 200 Results per page

Download CSV 238 conditions returned << First < Prev 1 of 2 Next > Last >>

ID	Highway Segment ^	Condition	Post	Reported on	Cleared on	User
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	12/31/2013 10:53 PM	01/01/2014 4:42 AM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/01/2014 4:42 AM	01/01/2014 10:08 AM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/01/2014 10:08 AM	01/01/2014 10:08 AM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/01/2014 10:08 AM	01/01/2014 6:48 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/01/2014 6:48 PM	01/01/2014 10:55 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/01/2014 10:55 PM	01/02/2014 4:46 AM	
1262	WIS 70 between Michigan Line and Eagle River	Slippery Stretches	Wausau	01/02/2014 4:46 AM	01/02/2014 9:10 AM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/02/2014 9:10 AM	01/02/2014 1:45 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/02/2014 1:45 PM	01/02/2014 7:11 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/02/2014 7:11 PM	01/02/2014 10:40 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/02/2014 10:40 PM	01/03/2014 5:11 AM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/03/2014 5:11 AM	01/03/2014 8:40 AM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/03/2014 8:40 AM	01/03/2014 1:45 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/03/2014 1:45 PM	01/03/2014 1:46 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/03/2014 1:46 PM	01/03/2014 6:33 PM	
1262	WIS 70 between Michigan Line and Eagle River	Good Winter Driving	Wausau	01/03/2014 6:33 PM	01/03/2014 6:34 PM	
1262	WIS 70 between Michigan Line and Eagle River	Slippery Stretches	Wausau	01/03/2014 6:34 PM	01/03/2014 11:09 PM	
1262	WIS 70 between Michigan Line and Eagle River	Slippery Stretches	Wausau	01/03/2014 11:09 PM	01/04/2014 5:20 AM	
1262	WIS 70 between Michigan Line and Eagle River	Slippery Stretches	Wausau	01/04/2014 5:20 AM	01/04/2014 5:22 AM	
1262	WIS 70 between Michigan Line and Eagle River	Snow Covered	Wausau	01/04/2014 5:22 AM	01/04/2014 1:34 PM	
1262	WIS 70 between Michigan Line and Eagle River					

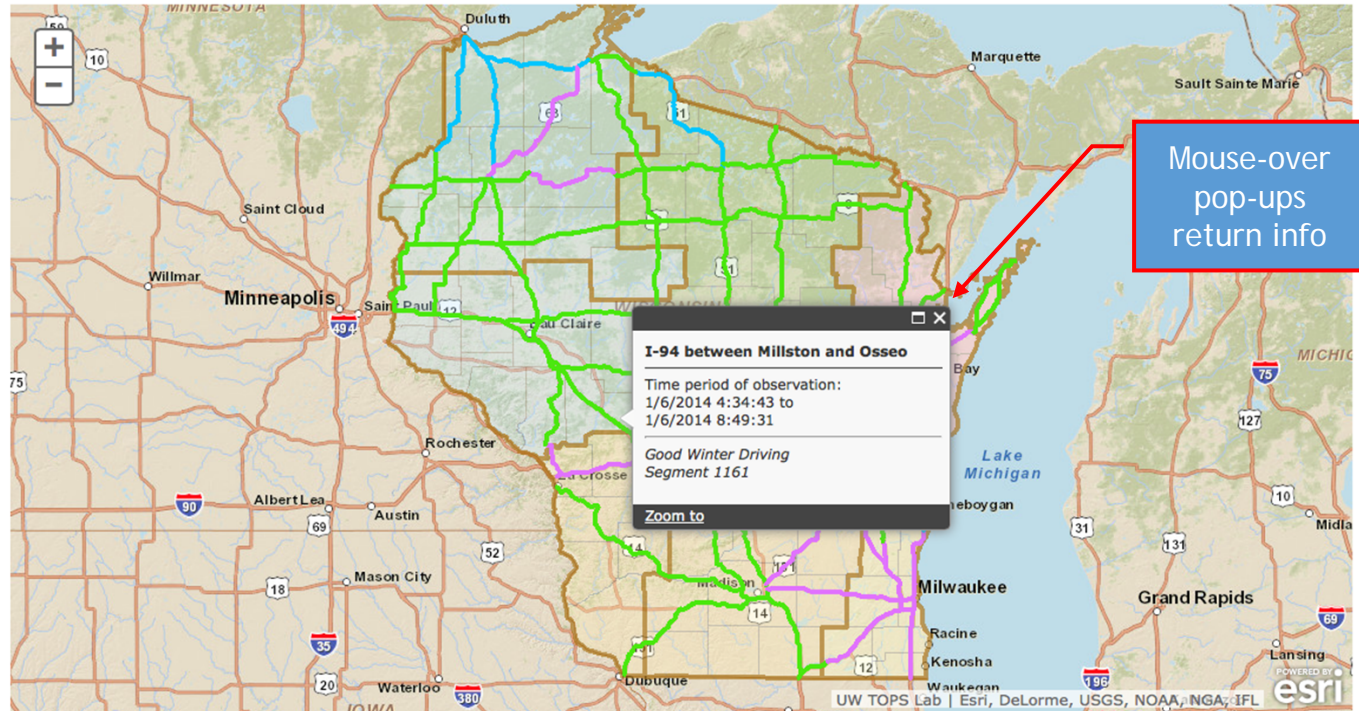
Timestamps show duration of observation

Ability to see who entered the condition



- Current
 - > table view
 - > map view
- Historic
 - > table view
 - > map view
- Manage Users
- Help
- Exit
- Release Notes

WRS Historic Conditions Map



Map Filters

✓ WisDOT Regions

Select Date and Time:

01/06/2014 07:00 am

Post Filters

- ✓ DeForest
- ✓ Waukesha
- ✓ Fond du Lac

Condition Filters

- ✓ Good Winter Driving
- ✓ Slippery Stretches
- ✓ Snow Covered

Select All

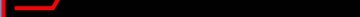
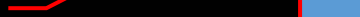
Clear All

Reset Map & Filters

Control time period of display

Control layer visibility by post...

... or condition



WISCONSIN DEPARTMENT OF TRANSPORTATION
Travel Information

Traveler Information: Call 511 or (888) 511-9472

My 511WI

Traffic Transit Travel Services Extras My 511WI 511 Projects

HOME | HELP | FAQ

TRAFFIC OPTIONS

- Traffic Map
- Winter Road Conditions
- Incidents
- Roadwork / Closures
- Message Signs
- Cameras
- Travel Times

ALERTS

Winter Road Conditions

OPTIONS SELECT

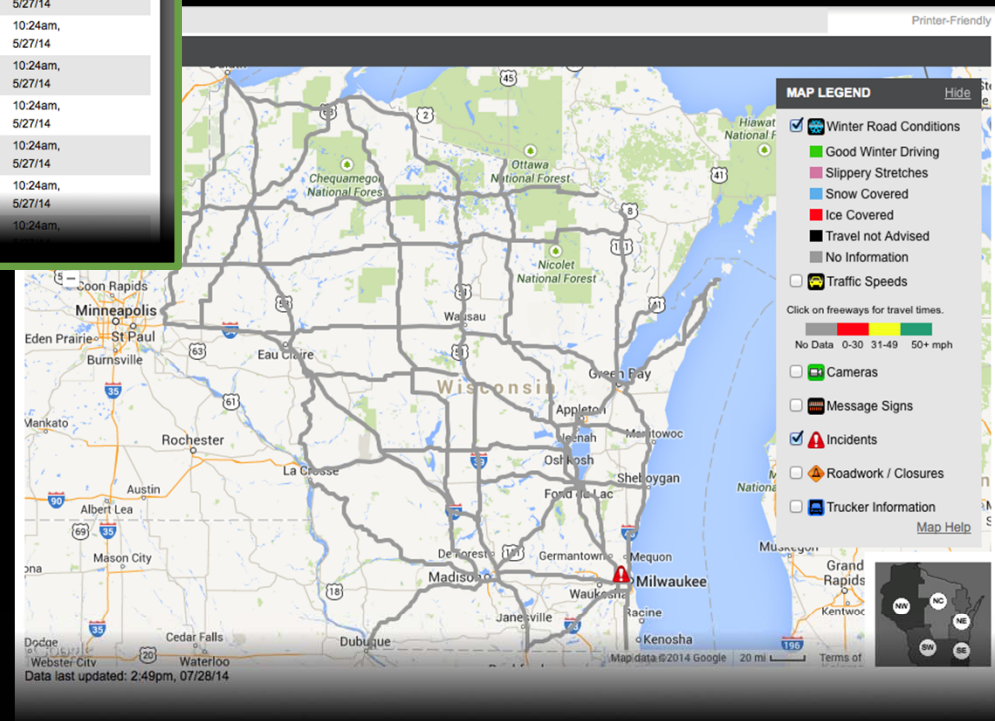
All Counties All Highways

Previous 1 2 3 4 Next

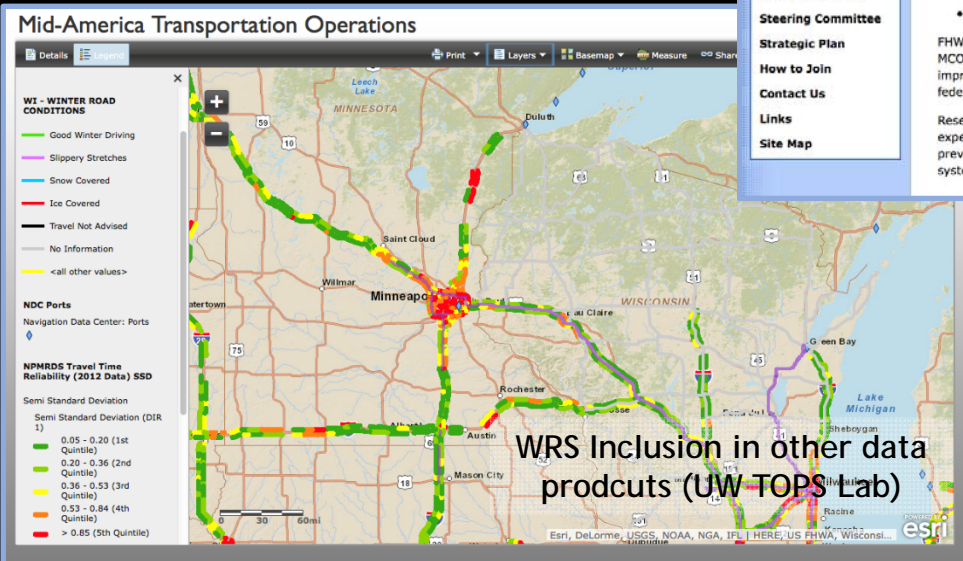
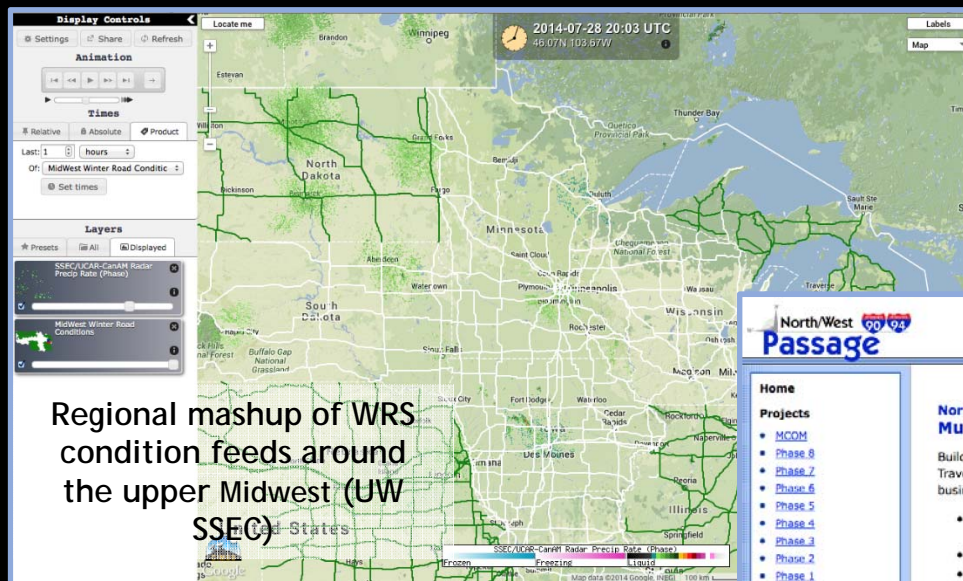
County	Highway	Location	Condition	Update Time
Chippewa	US 53	Between New Auburn and Spooner	No Information	10:24am, 5/27/14
Washburn	US 53	Between Spooner and Gordon	No Information	10:24am, 5/27/14
Burnett	WIS 35	Between Danbury and Superior	No Information	10:24am, 5/27/14
Chippewa	US 53	Between Chippewa Falls and New Auburn	No Information	10:24am, 5/27/14
La Crosse	US 53	Between La Crosse and Galesville	No Information	10:24am, 5/27/14
Eau Claire	US 53	Between Eau Claire and Chippewa Falls	No Information	10:24am, 5/27/14
Trempealeau	US 53	Between Galesville and Eau Claire	No Information	10:24am, 5/27/14
Sawyer	US 63	Between Hayward and	No Information	10:24am,

Wisconsin 511 Travel Information

511 vendor consumes an XML feed from the WRS database to generate table and graphics



Integration with other systems



North/West Passage

Welcome, Guest [Log In](#)

North/West Passage Operations and Travel Information Integration Sharing (OTIIS) Project Multistate Corridor Operations and Management (MCOM) Program

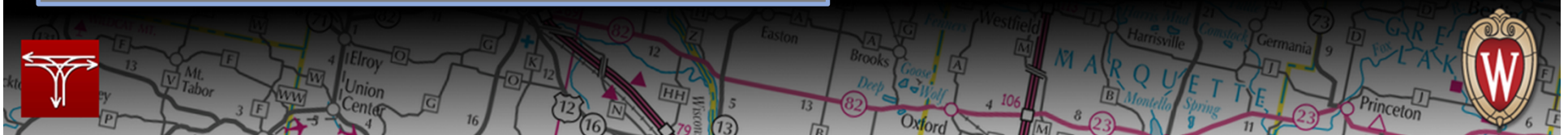
Building on nearly 10 years of collaboration to share and integrate data among the states, North/West Passage introduces the Operations and Travel Information Integration Sharing (OTIIS) project. The project will research, develop, and test a technology solution with a sustainable business model that will:

- Provide commercial and private vehicle drivers with a single, integrated source of information to promote safety and mobility for the entire corridor
- Provide transportation agencies with information and tools to plan and coordinate operations and incident response activities
- Use simulation technologies to investigate how traveler information can modify driver behavior and enhance safety along rural multistate corridors
- Investigate Application Programming Interface (API) technologies to leverage and share information to create future platforms for Connected Vehicle applications and sustainable business models
- Develop and implement a public education program for greater use of the Corridor website

FWHA in 2012 selected OTIIS for funding through the Multistate Corridor Operations and Management (MCOM) Program. The purpose of the MCOM program is to promote regional cooperation, planning, and shared project implementation for research programs and projects that improve multimodal transportation system management and operations. OTIIS received \$614,609 as one of six awards for MCOM funding. The federal funding will be combined with state matching funds of \$160,000 for a total project budget of \$774,609.

Research during the two-year OTIIS project will be carried out by the Western Transportation Institute (WTI), which offers extensive experience developing multistate corridor plans and traveler information systems. WTI has previously covered previous North/West Passage projects to implement a corridor wide traveler information website, with WTI's previous projects related to systems development, human factors, sustainable business models and marketing.

Incorporation of WRS into Multi-State Operations



WisTransPortal Login Form

Please enter your User ID and Password information.

Welcome to the WisTransPortal. This system is maintained by the [Traffic Operations and Safety Laboratory](#) at the University of Wisconsin-Madison. Unauthorized access is strictly prohibited.

User ID:

Password:

[Forgot User ID or Password?](#)

User IDs and passwords are case sensitive. This site requires cookies. For help with your account send mail to transportal@trslab.wisc.edu, or click on the links below for further information.

[WisTransPortal Home](#) | [Account Information](#) | [Contact Information](#)

Centrally controlled login

Control panel for viewing user account information

Link to interface for modifying permission levels

Updates are tied to user accounts

WRS User Accounts

Use this page to view, add, edit, or delete users within WRS. The WisTransPortal user accounts must already exist.

Add New User Order By: Sort

	User Name	User ID	Phone	Default Group	Admin	
<input type="button" value="Edit"/>	WSP SER Waukesha Post			WSP SER Waukesha Post		<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP SWR DeForest Post			WSP SWR DeForest Post		<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP NWR Eau Claire Post			WSP NWR Eau Claire Post		<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP NWR Spooner Post			WSP NWR Spooner Post		<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP / STOC Statewide			WSP / STOC Statewide		<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP NER Fond du Lac Post			WSP NER Fond du Lac Post		<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP / STOC Statewide			WSP / STOC Statewide	Y	<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP / STOC Statewide			WSP / STOC Statewide		<input type="button" value="Delete"/>
<input type="button" value="Edit"/>	WSP / STOC Statewide			WSP / STOC Statewide		<input type="button" value="Delete"/>

Edit WRS User Account

Use the form below to edit the profile of an existing WRS user account. Note that you must click "Save Changes" in order to make your changes permanent.

User Account:

Default Group:

Administrator: ☐

WRS Current Conditions

Last Refresh: 07/23/2014 3:26 PM

Winter Road Filters

Post: Condition: Highway: Last Updated By:

Select a Condition:

	ID	Highway Segment	Condition	Post A	Last Updated	User
<input type="checkbox"/>	1138	I-39/I-90 between Beloit and Janesville	No Information	DeForest	05/27/2014 10:24 AM	<input type="button" value="Edit"/>
<input type="checkbox"/>	1139	I-39/I-90 between Janesville and Madison	No Information	DeForest	05/27/2014 10:24 AM	<input type="button" value="Edit"/>
<input type="checkbox"/>	1140	I-39/I-90/I-94 between Madison and Portage	No Information	DeForest	05/27/2014 10:24 AM	<input type="button" value="Edit"/>
<input type="checkbox"/>	1144	I-43 between Beloit and Darien	No Information	DeForest	05/27/2014 10:24 AM	<input type="button" value="Edit"/>
<input type="checkbox"/>	1155	I-94 between Oconomowoc and Lake Mills	No Information	DeForest	05/27/2014 10:24 AM	<input type="button" value="Edit"/>
<input type="checkbox"/>	1156	I-94 between Lake Mills and Madison	No Information	DeForest	05/27/2014 10:24 AM	<input type="button" value="Edit"/>

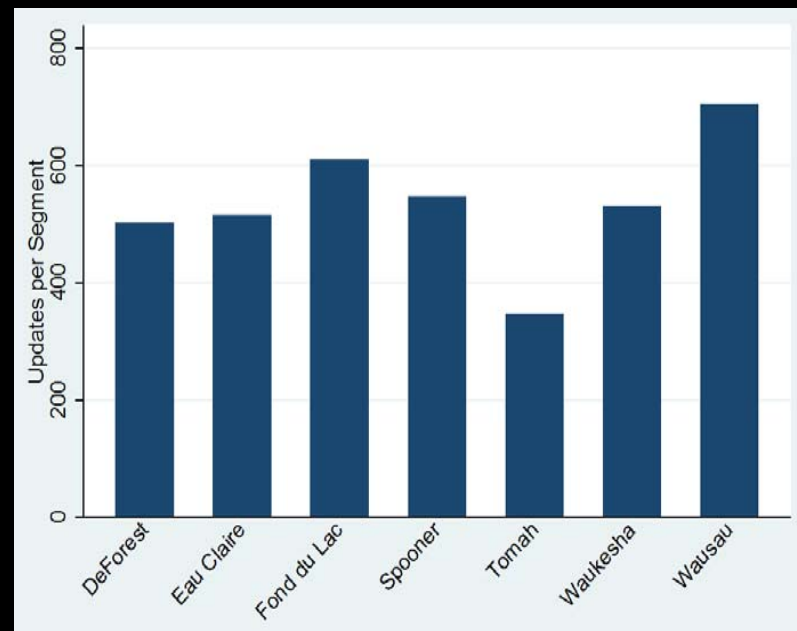


2013/14 Usage Summary

- New system live on December 11, 2013
- ~ 68 thousand updates through April 2014

Condition	Frequency
Good Winter Driving	43,838
Slippery Stretches	13,039
Snow Covered	10,272
Ice Covered	619
Travel Not Advised	75

Condition Updates per Segment



Next Phase / Enhancements

- On-the-fly segment editing
- Integration with RWIS
- Integration with MDSS



Thanks!

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