



Application Quick Reference Guide





The Work Zone Performance Monitoring Application



Preface

The Work Zone Performance Monitoring Application is a real-time performance monitoring tool for work zones, using vehicle probe data and active work zone information.

The WZPMA offers a simple, effective and systematic approach to assessing and managing work zone impacts of roadway projects. In particular, using the tool to monitor and assess work zone performance helps facilitate efficient management and evaluation of work zone impacts throughout project development, implementation and after action, resulting in improved overall processes and procedures.

Using this Guide

This guide is divided into two sections:

- > Work Zone Dashboard
- > Individual Work Zone Profile

Each section starts with an overview of the main screens – layout > general functionality > basic controls – then breaks down each of the elements (or widgets) on those screens simply, clearly and completely. Screenshots of the application are used for easy reference, rapidly building understanding and familiarity with the tool's features and functionality.

Using the guide, along with the tool active on your computer, provides a quick and easy tutorial so that in no time, any user can begin to leverage the power and benefits of the **WZPMA**.

Benefits of the Work Zone Performance Monitoring Application

For Project Engineers & Managers

- ✓ Real-time performance monitoring
- ✓ Alerts when thresholds exceeded
- ✓ Actionable, multi-layered data

For Planners & Decision-makers

- ✓ Work zone / closure delay & cost summaries
- ✓ Performance assessment (to improve processes & procedures, data & information resources and training programs)

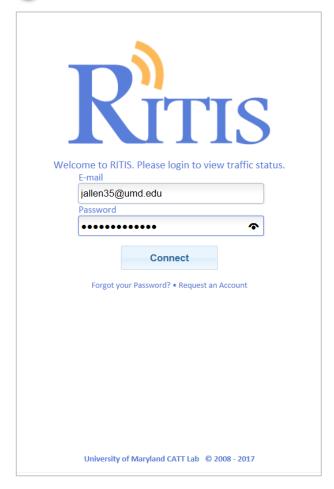
For Public Relations

- Easily compare real-time and historical performance
- ✓ Fast response to inquiries & complaints

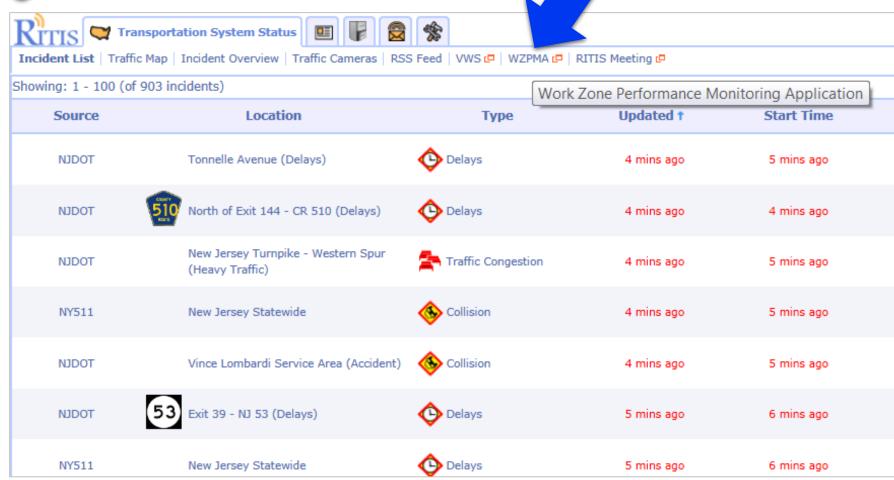
Getting Access



1 Login to your RITIS account:



2 On the landing page, click on the WZPMA link:





The Work Zone Dashboard



The Work Zone Dashboard

▶ There are four interactive widgets that make up the Work Zone Dashboard...

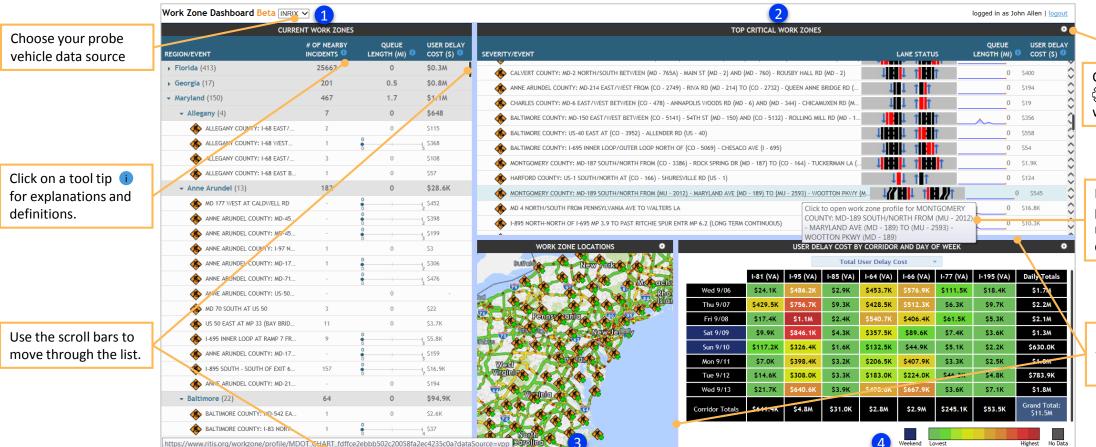


1 Current Work Zones (Overview List)

Here's where you'll find a summary of all the currently active work zones in the state – grouped by county – with number of nearby incidents, indications of increasing or decreasing queue lengths and the weekly user delay cost of each work zone.

2 Top Critical Work Zones

Major and Critical events will appear here as they develop, with indications of lane status, associated queue lengths and user delay cost.



Click on a gear icon () to change a widget's settings.

Hover your mouse pointer over a long name to see the full description

Click and drag any of the blue frames to resize the widgets.

3 Work Zone Locations (Map)

Use this scalable map to locate and zoom in on work zones, DMS and probe data; clickable icons give you to access more information.

4 User Delay Cost by Corridor and Day of Week See the last full week's worth of delay and cost-related summaries for a select number of corridors in the state.

1 Current Work Zones List

▶ This widget summarizes the currently active work zones in the State



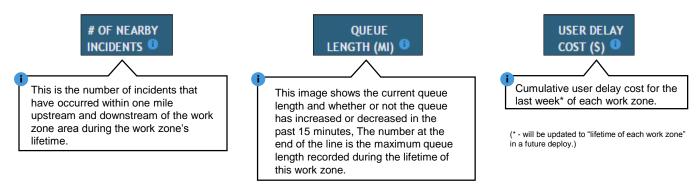
CURRI	ENT WORK ZON	ES	
REGION/EVENT	# OF NEARBY INCIDENTS 1	QUEUE LENGTH (MI) ⁽¹⁾	USER DELAY COST (\$)
Florida (413)	25810	0.3	\$0.3M
▶ Georgia (18)	212	0	\$0.8M
▼ Maryland (21)	280	0.8	\$0.9M
▼ Anne Arundel (2)	171	0	\$26.0K
(BAY	12	0	\$9.0K
I-895 SOUTH - SOUTH OF EX	159	0	1, \$16.9K
▼ Baltimore (1)	17	0	\$10.0K
I-895 NORTH-NORTH OF I-6	17	0	\$10.0K
▼ Baltimore City (3)	13	0.2	\$4.6K
• I-95 NORTH PAST MP 55.7 (5	0.1	\$1.2K
• I-895 NORTH FROM MP 12.8	8	0	\$1.8K
BALTIMORE CITY: 1-395 SOU	-	0.1	\$1.7K
→ Calvert (1)	0	0	\$3.3K
CALVERT COUNTY: MD-231	-	0	\$3.3K \$3,3
▼ Cecil (1)	1	0	\$473
CECIL COUNTY: MD-824 EAS	1	0	\$473
▼ Dorchester (1)	0	0	\$1.7K
US 50 EAST FROM BUCKTO	-	0	\$1.7K
→ Harford (1)	3	0	\$2.7K
HARFORD COUNTY: US-40 E	3	0	\$2.7K
→ Montgomery (4)	41	0.6	\$0.7M
MONTGOMERY COUNTY: I-4	12	0	\$0.5M
MONTGOMERY COUNTY: MD	7	0.6	\$7.5K
MONTGOMERY COUNTY: MD	8	0	\$48.6K
MD 355 SOUTH BETWEEN J	14	0	S0.1M
▼ Washington (3)	18	0	\$1.3K

How to use the **Current Work Zones** List...

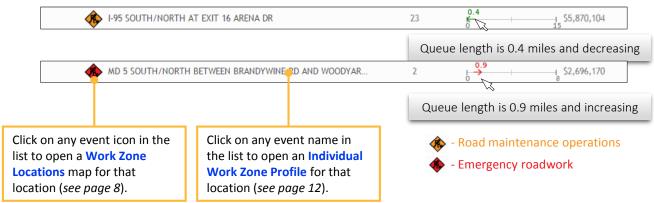


Region/Event displays the currently active work zones for the State and each county, by a route identifier and a location (or limits). Next to the state and each county's name in parentheses are the total number of currently active events. Each grouping of events can be expanded or collapsed by simply clicking on the arrow next to the state/county name, or just the name.

Click on a tool tip 1 to provide more information on the # of Nearby Incidents, Queue Length and User Delay Cost shown in the work zone list:



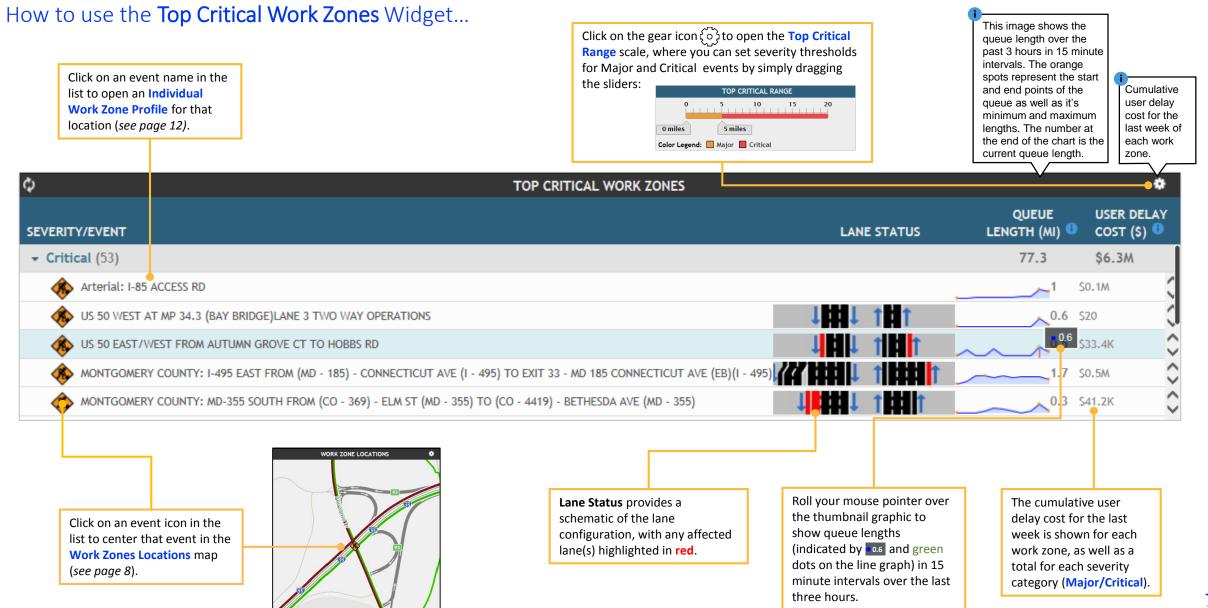
Hover your mouse pointer over the red and green numbers in the queue length indicator to show queue length status:



2 Top Critical Work Zones

▶ This widget shows the top work zone locations by severity

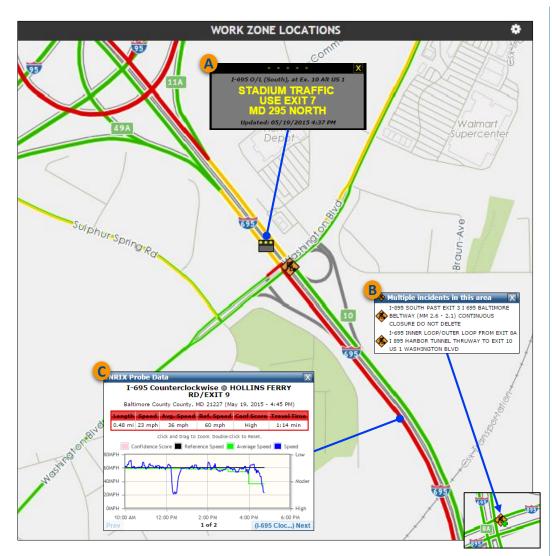




Work Zone Locations

▶ This widget shows work zone locations, and other information, on a map





- Click on any DMS icon ## to see the message being displayed.
- Multiple incidents show a green plus sign + click to see the incidents.
- Double-click any roadway link to get probe speed data.

How to use the Work Zone Locations widget...

Click on any work zone icon in the **Current Work Zones** list (*see previous page*) to show that location in the **Work Zone Locations** map (you can also use the map independently to see other work zones by zooming in and out using the mouse wheel, and by moving the map by clicking and dragging).



Click on any work zone icon on the map to generate a Road Maintenance Operations pop-up:





Click on the settings gear in the header bar to open the Map Layers pop-up:

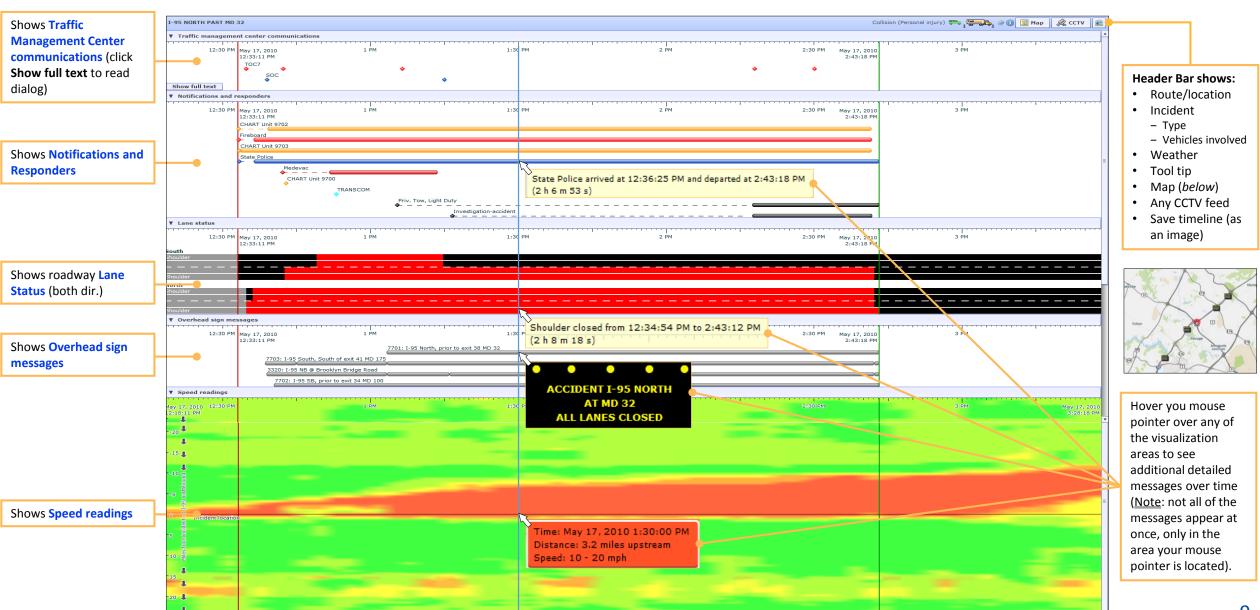


- Click on Work Zones, Dynamic Message Signs and Probe Speed
 Data to activate or deactivate those map layers
- Click on Speed, Comparative, Average Congestion or Congestion to show that data on the Probe Speed Data Layer
- Click on the Probe Speed Data tool tip for definitions of the data types and color ranges

Event Timeline

▶ This one-screen overview tool provides visualizations of detailed real-time and historic traffic management center incident data

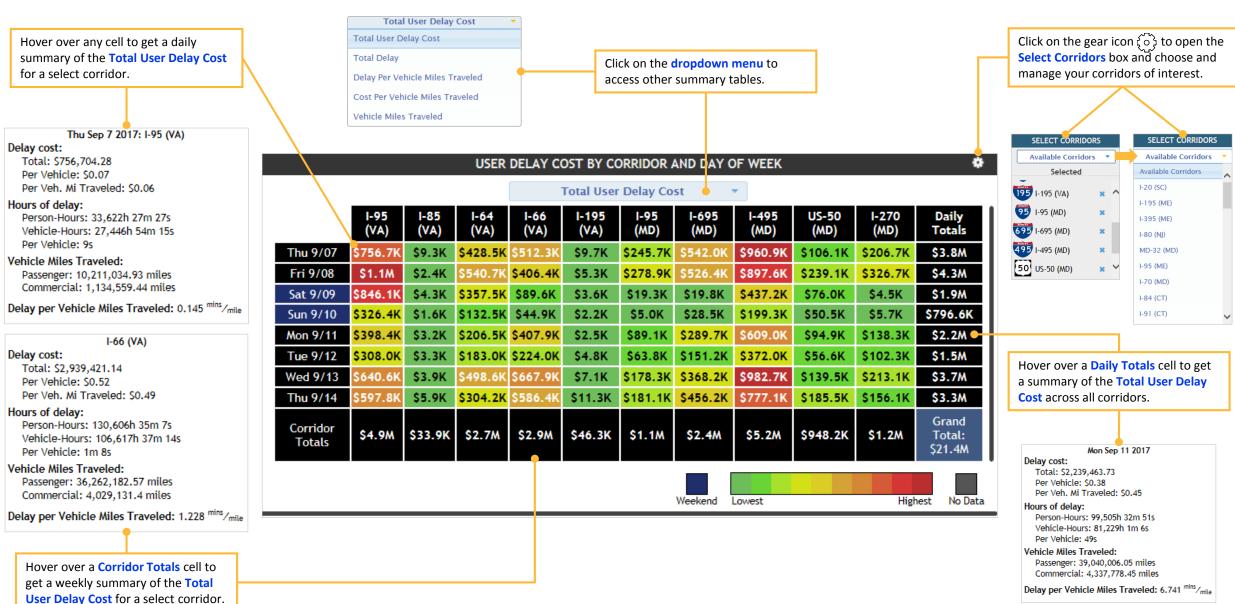




User Delay Cost by Corridor and Day of Week

▶ This widget summarizes delay and cost-related information for a number of select corridors







The Individual Work Zone Profile



The Individual Work Zone Profile

▶ There are five interactive widgets that make up the Individual Work Zone Profile...



1 Settings

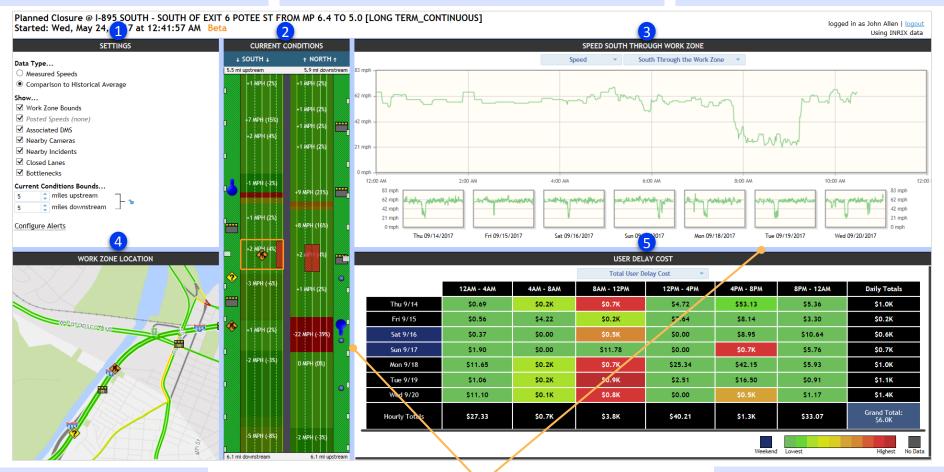
Here's where you'll set the speed data type, choose associated data layers, set your current conditions boundaries and create an personal alert for the work zone.

2 Current Conditions

Graphically displays work zone speeds, either measured or historic average, along your pre-defined boundaries. Events, queuing and other data are also displayed as available.

3 Traveling Through Work Zone

Graphically display queue length, travel time or speed for the current day and the previous seven days for comparative purposes.



4 Work Zone Location

Use this scalable map to zoom in on your selected work zone. Clickable icons (such as work zone, DMS, roadway links) give you to access more information.

Click and drag any of the blue frames to resize the widgets.

5 User Delay Cost

See the last full week's worth of delay and costrelated summaries for your individual work zone, by day of week and grouped by 4-hour time bins.



▶ This widget allows you to set a number of parameters for an individual work zone



SETTINGS Data Type... Measured Speeds O Comparison to Historical Average Show... ✓ Work Zone Bounds ✓ Posted Speeds (none) Associated DMS ✓ Nearby Cameras ✓ Nearby Incidents (none) ✓ Closed Lanes ✓ Bottlenecks Current Conditions Bounds... miles upstream miles downstream Configure Alerts

How to use the **Settings** List...

Data Type...

Choose to view the current conditions measured speeds, or a comparison to the historical average:

Measured speeds – average speeds shown along the TMCs of the predefined roadway segment (e.g.; 35 MPH)

Comparison to Historical Average – comparison of the average speed to the historical average, with percent change (e.g.; -26 MPH (-65%))

Show...

Simply check the desired boxes to show a number of different data layers:

- ☑ Work Zone Bounds.....draws an orange box around the work zone area
- ☑ **Posted Speeds......**shows speed limit signs along the predefined roadway segment
- ☑ **Associated DMS**.....shows DMS locations along the predefined roadway segment
- ☑ **Nearby Cameras......**shows CCTV cameras along the predefined roadway segment
- ✓ **Nearby Incidents......**shows the location and type of nearby incidents
- ☑ Closed Lanes.....indicates any lane closures along the predefined roadway segment
- ☑ **Bottlenecks.....**shows location, direction and length of any bottlenecks along the predefined roadway segment

Using the up/down arrows, indicate how far upstream and downstream from the work one you want to view (click on the lock icon 6 to lock these limits in place, or again to unlock 1)

Configure Alerts

Simply check the desired boxes, adjust any parameters and add your contact info to receive individual work zone alerts:

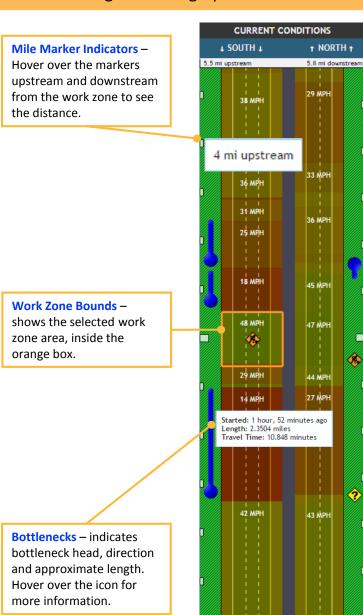
Fill out each section to set up an alert for this work zone. 1. Alert me if An accident happens near this work zone. Within 1
✓ An accident happens near this work zone. Within 1
Within 1
Keep in mind the formula for determining bottleneck conditions. Alert me only when the queue upstream from the work zone exceeds Speeds in the work zone fall below or exceed a certain range. When speeds fall below 45 mph When speeds rise above 60 mph Alert me when speed is out of range for longer than 5 minute(s) Alert me when speed returns within range for longer than 5 minute(s) 2. Alert me by Send me an email Alert will be sent to your account email: jallen35@umd.edu Send me a text message
✓ Speeds in the work zone fall below or exceed a certain range. ✓ When speeds fall below 45 pmph ✓ When speeds rise above 60 pmph Alert me when speed is out of range for longer than 5 minute(s) Alert me when speed returns within range for longer than 5 minute(s) 2. Alert me by ✓ Send me an email Alert will be sent to your account email: jallen35@umd.edu ✓ Send me a text message
When speeds fall below 45
When speeds rise above 60 pmph Alert me when speed is out of range for longer than 5 minute(s) Alert me when speed returns within range for longer than 5 minute(s) Alert me by Send me an email Alert will be sent to your account email: jallen35@umd.edu Send me a text message
Alert me when speed is out of range for longer than 5 minute(s) Alert me when speed returns within range for longer than 5 minute(s) Alert me by Send me an email Alert will be sent to your account email: jallen35@umd.edu Send me a text message
Alert me when speed returns within range for longer than 5 minute(s) Alert me by Send me an email Alert will be sent to your account email: jallen35@umd.edu Send me a text message
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✓ Send me an email Alert will be sent to your account email: <i>jallen35@umd.edu</i> ✓ Send me a text message
Alert will be sent to your account email: <i>jallen35@umd.edu</i> ✓ Send me a text message
enter your phone number 2157502887 Verizon Wireless Verily
Alert me when
Time zone
US/Eastern 🗸
Time period
1. Sun Mon Yue Wed Thu Pr Set Hours of day: 6:00 AM to 10:00 AM 2 X
2. Sun Mon Tue Wed Thu Fin Set Hours of day: 4:00 PM to 7:00 PM 📝 🗶
Select days of week
Sun Mon Tue Wed Thu Fn Set
Select hours of day 12 AM 6 AM 12 PM 6 PM 12 AM
4:00 PM 7:00 PM
+ Add time period
Create alert

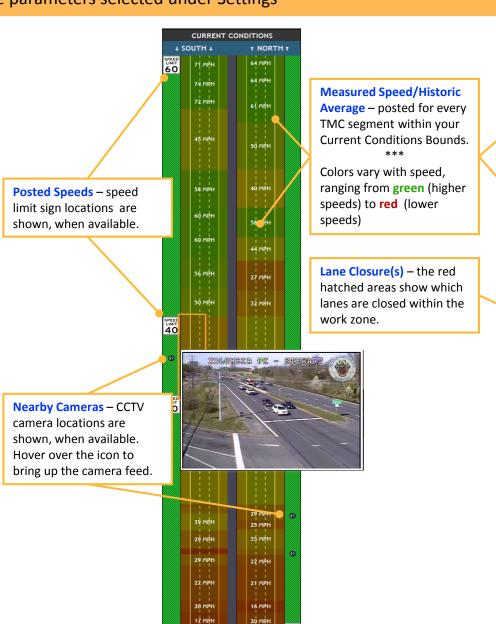
2 Current Conditions

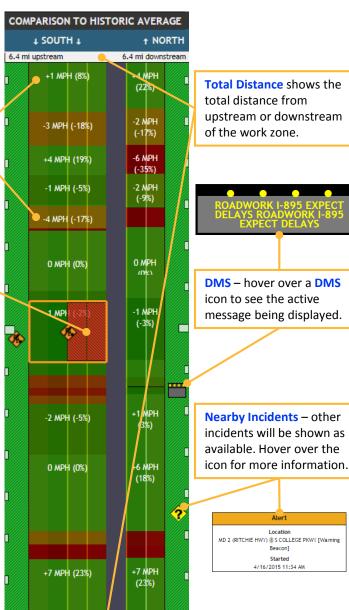
▶ This widget shows graphical results from the parameters selected under Settings



14





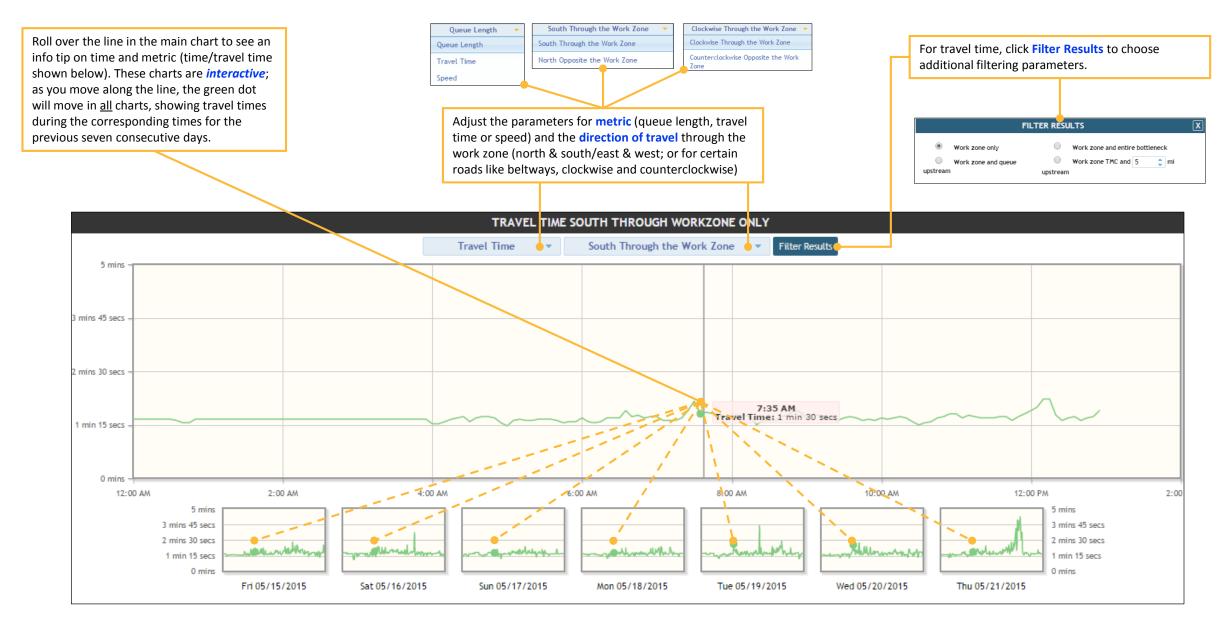


6.9 mi downstream

Traveling Through Work Zone

▶ This widget shows directional variation for a chosen metric over the day, with corresponding changes that occurred over the last seven days

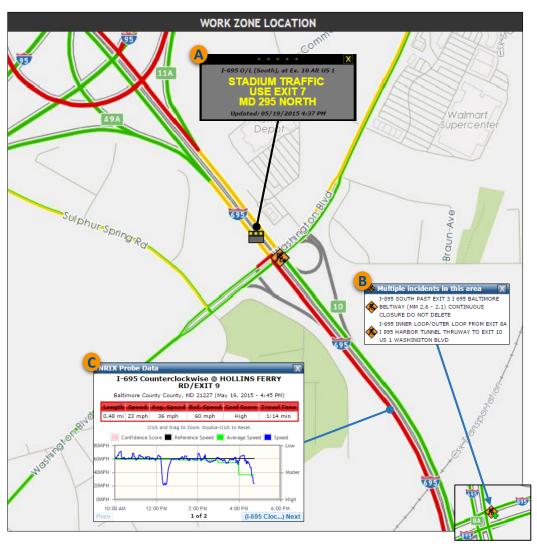




4 Work Zone Location

This widget shows work zone locations, and other information, on a map





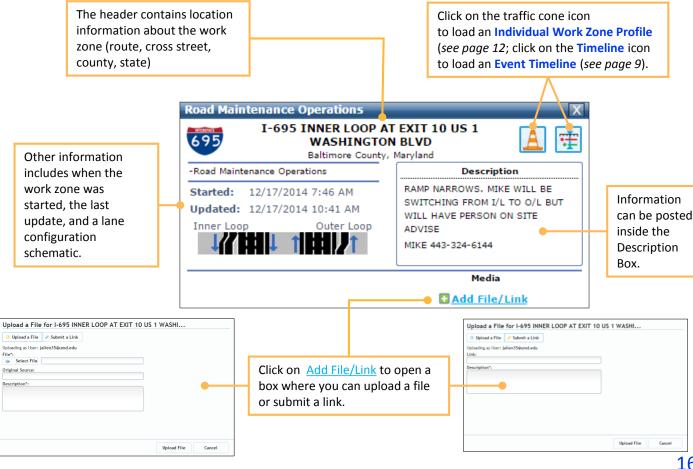
- Click on any DMS icon to see the message being displayed.
- Multiple incidents show a green plus sign $-\frac{1}{4}$ click to see the incidents.
- Double-click any roadway link to get probe speed data.

How to use the **Work Zone Location** widget...

Opening up an Individual Work Zone Profile will show that location in the Work Zone Location map (you can also use the map independently to see other work zones by zooming in and out using the mouse wheel, and by moving the map by clicking and dragging).



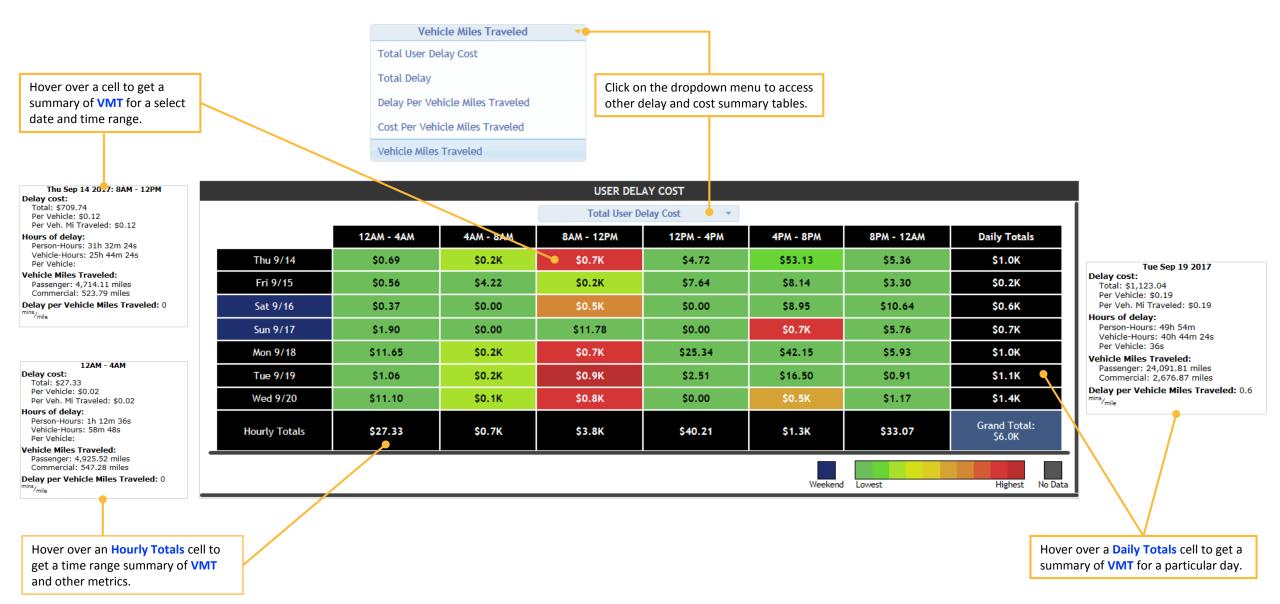
Click on any work zone icon on the map to generate a Road Maintenance Operations pop-up:



User Delay Cost

▶ This widget summarizes delay and cost-related information in 4-hr time periods, for the previous seven consecutive days







For technical support or to share feedback, please contact:

support@ritis.org

