

MAP-21 & the NPRM for System Performance

Measures

Now what do we do?

Performance Measures

	4 PM	5 PM		
	\$31.5K	\$23.8K	\$120.3K	\$132.7K
	\$16.4K	\$42.1K	\$110.4K	\$153.3K
	\$10.5K	\$131.8K	\$246.8K	\$187.9K
	\$4.7K	\$27K	\$131.2K	\$214.7K
	\$2.2K	\$34K	\$156.8K	\$269.3K
	\$3K	\$11.9K	\$180K	\$271.8K
	\$52.9K	\$18.8K	\$13.7K	\$28.9K
	\$684.4K	\$1,246.9K	\$1	

Planning



Operations



Communications



Enabling Decision Making & Effective Communication



- Announced on April 22
- 120 days to comment
- FHWA Webinars



MAP-21 Dashboard

Add widget

Widget Types

Speed and Travel Time Table
Compare current and historic speed and travel time data along corridors of interest.

Ranked Bottleneck Table
Display a ranked list of bottlenecks for a selected geography.

MAP-21
Produce a family of regional performance measures widgets that conform to MAP-21 specifications.

Coming Soon
Performance Comparison

Coming Soon
Reliability Chart

Coming Soon
Accidents & Events

MAP-21
Create a dashboard widget to monitor states', MPOs', and Urbanized Areas' performances against the new MAP-21 ruling.
[FAQ](#)

MAP-21

MAP-21 Advanced

1. Select geography:

States

- or -

Urbanized areas

2. Select year:

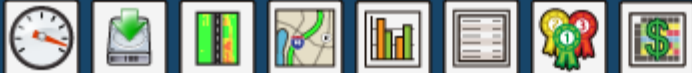
3. Select measures **i**:

- Level of Travel Time Reliability on interstates for all vehicles
- Level of Travel Time Reliability on non-interstates for all vehicles
- Level of Travel Time Reliability on interstates for trucks
- Uncongested interstates for trucks

4. Show data as:

Graph **i**

Creating MAP-21 Dashboard – State

Vehicle Probe Project Suite  Welcome, jlees@umd.edu | [FAQs](#) | [Screencasts](#) | [Logout](#)

Dashboard + Add widget Select a dashboard...

MAP-21

MAP-21 | Advanced

1. Select geography:

States Select a state...

- or -

Urbanized areas Select an urbanized area...

2. Select year:

2015

3. Select measures i:

Level of Travel Time Reliability on interstates for all vehicles

Level of Travel Time Reliability on non-interstates for all vehicles


Level of Travel Time Reliability on interstates for trucks

Uncongested interstates for trucks

4. Show data as:

Graph i

Map i



Creating MAP-21 Dashboard – State



Dashboard

+ Add widget

Select a dashboard...

MAP-21

MAP-21 **Advanced**

2. Select year:

2015

3. Select measures **i**:

- Level of Travel Time Reliability on interstates for all vehicles
- Level of Travel Time Reliability on non-interstates for all vehicles
- Level of Travel Time Reliability on interstates for trucks
- Uncongested interstates for trucks

4. Show data as:

- Graph **i**
- Map **i**

5. Name MAP-21 widget(s):

2015 MAP-21 Reliability for Maryland

-or-

Enter custom name...

+ Add widget

MAP-21 State Performance

Vehicle Probe Project Suite



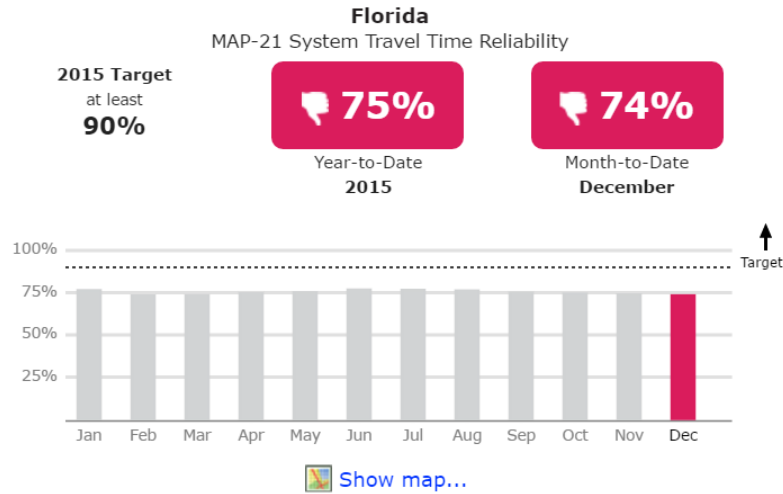
Welcome, Nikola | [Help](#) | [Screencasts](#) | [Logout](#)

Florida MAP-21

+ Add widget

Select a dashboard...

2015 MAP-21 System Travel Time Reliability for Florida



Using NPMRDS (Trucks and passenger vehicles) data

Updated May 1, 2016 9:16 PM (1m ago)

2015 MAP-21 System Travel Time Reliability for Florida



Using NPMRDS (Trucks and passenger vehicles) data

Updated May 1, 2016 9:15 PM (1m ago)

Creating MAP-21 Dashboard – Urbanized Area



Dashboard

+ Add widget

Select a dashboard...

MAP-21

MAP-21 Advanced

1. Select geography:

States

- or -

Urbanized areas

2. Select year:

3. Select measures *i*:

Peak Hour Travel Time Reliability on interstates for all vehicles

Peak Hour Travel Time Reliability on non-interstates for all vehicles

Total Hours of Excessive Delay per capita

4. Show data as:

Graph *i*

Map *i*

Creating MAP-21 Dashboard – Urbanized Area



Dashboard

+ Add widget

Select a dashboard...

MAP-21

MAP-21 Advanced

2. Select year:
2015

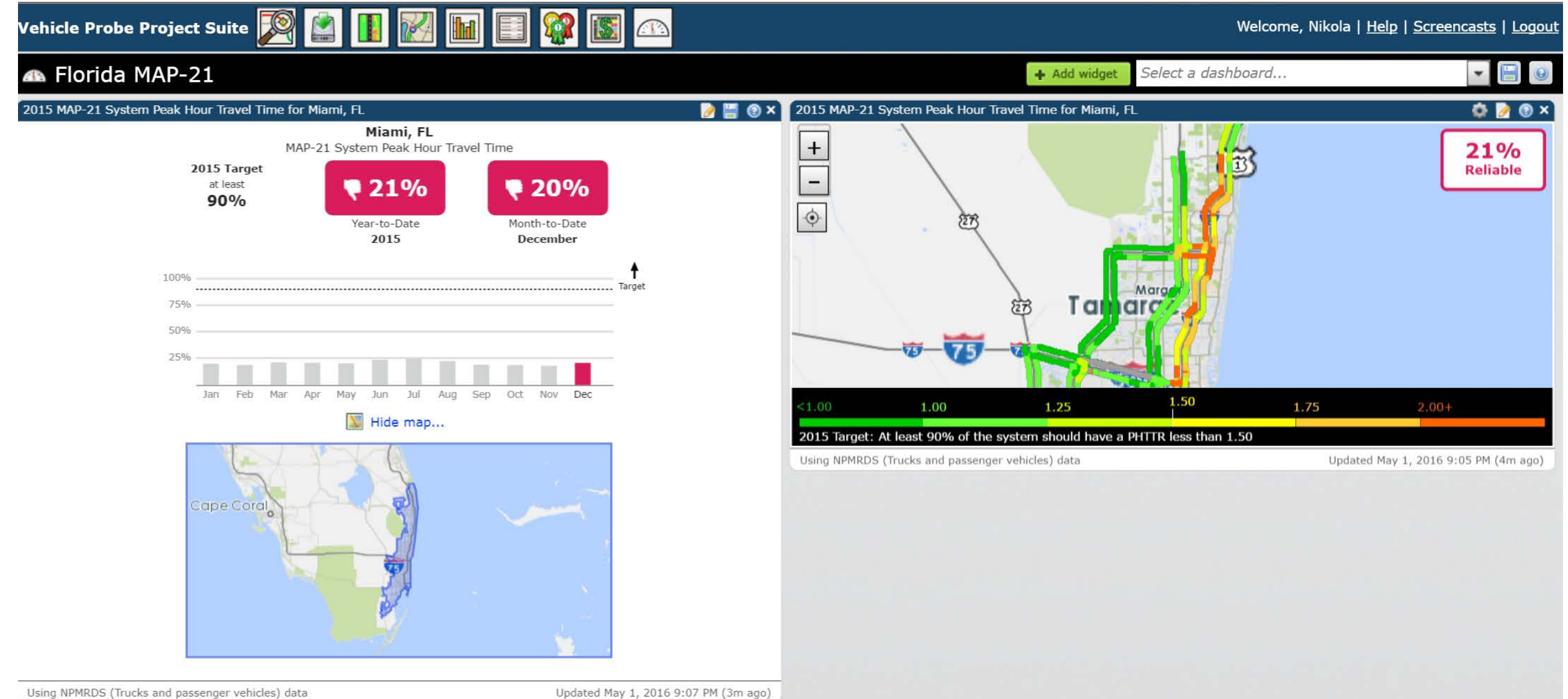
3. Select measures i :
 Peak Hour Travel Time Reliability on interstates for all vehicles
 Peak Hour Travel Time Reliability on non-interstates for all vehicles
 Total Hours of Excessive Delay per capita

4. Show data as:
 Graph i
 Map i

5. Name MAP-21 widget(s):
 2015 MAP-21 Reliability for Maryland
-or-
 Enter custom name...

+ Add widget

MAP-21 Urbanized Area Performance



Creating MAP-21 Dashboard – Advanced

Vehicle Probe Project Suite



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Dashboard

+ Add widget

Select a dashboard...

MAP-21

MAP-21 **Advanced**

1. Select geography:
Select a state or urban area...

2. Select measures:
 Reliability [i](#)
 Emissions [i](#)
 Delay [i](#)


3. Select year:
2015

4. Select data source:
 NPMRDS
 INRIX
 HERE
 State choice [i](#)


5. Show data as:
 Graph [i](#)


Other Capabilities Using NPMRDS



 **Dashboard**
Create your own personal dashboards to monitor corridor performance in regions of interest.
[Tutorial](#) | [FAQ](#)


 **Massive Data Downloader**
Download raw probe data from our archive for offline analysis.
[Tutorial](#) | [FAQ](#)


 **Congestion Scan**
Analyze the rise and fall of congested conditions on a stretch of road.
[Tutorial](#) | [FAQ](#)

 **Trend Map**
Create animated maps of roadway conditions.
[Tutorial](#) | [FAQ](#)

 **Performance Charts**
Chart performance metrics over time.
[Tutorial](#) | [FAQ](#)

 **Performance Summaries**
Report on Buffer Time Index, Planning Time Index, and other performance metrics.
[Tutorial](#) | [FAQ](#)

 **Tutorials**
Learn how to use each of the tools in the suite.

 **MAP-21**
Create a dashboard widget to monitor states', MPOs', and Urbanized Areas' performances against the new MAP-21 ruling.
[FAQ](#)

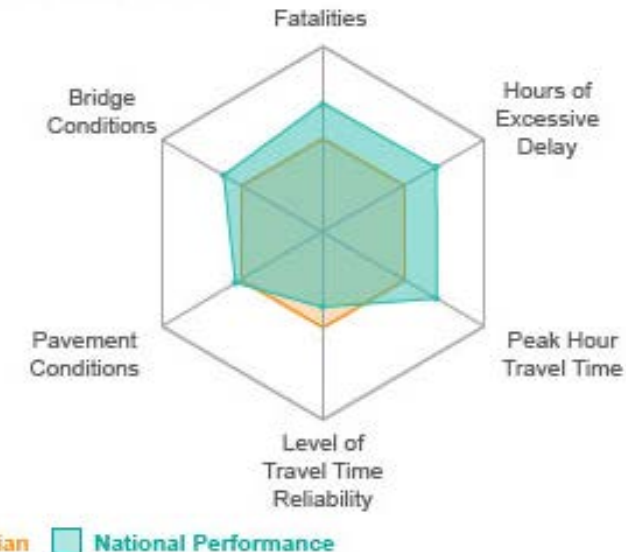
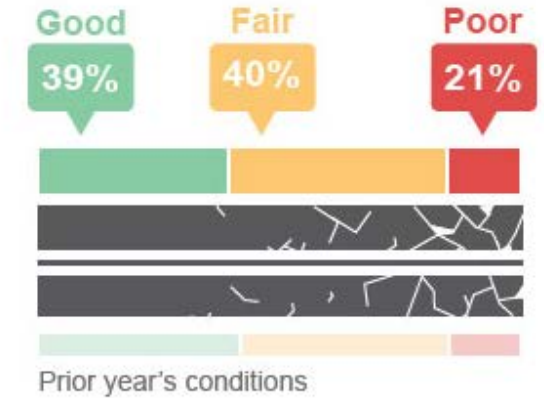
Near Future Updates

- Other MAP-21 measures:
 - Safety
 - Bridge Performance
- Integration with other big data sets.
- Integration of O/D data.

Bridge Conditions:



Pavement Conditions:



Working with AASHTO, I-95 Corridor Coalition, and others to evaluate MAP-21 measures and test hypothesis/alternatives

Helping State DOTs and MPOs:

- Exploring the NPMRDS
- Working with other data sources
- Providing guidance and feedback
- A forum for discussion
- A place to ask question
- How to provide us your volume and speed limit data
- What else can we do for you?



We're Here to Help: cattlab.umd.edu/MAP-21

← → ↻ www.cattlab.umd.edu/MAP-21/ 🔍 ☆

Are you ready for MAP-21?

The CATT Lab Can Help You!

This page includes a number of resources to:

- Help you [understand](#) the proposed rule
- Use [free tools](#) to see how your State, MPO, and/or Urban Area are performing
- Use [free tools to experiment](#) with variations to the proposed rule such as:
 - Imputation methods other than using speed limits
 - Arithmetic mean vs. harmonic mean
 - NPMRDS vs. other 3rd Party Data Sources (HERE, INRIX, and TomTom)
 - Experiment with target setting
 - *Send us your own suggestion*
- [Provide us](#) your volume and/or speed limit data for use in our free tools
- Learn to [compute the measures yourself](#) using sample data sets
- Link to [FHWA webinars and other resources](#)
- Discuss the rule, ask questions, request support, and collaborate in an [open forum](#)
- Learn [about us](#)

Our goal is to enable MPOs and DOTs to evaluate the proposed measures, assess their impact, experiment with alternatives, and respond to the docket. Comments on the latest Systems Performance NPRM are currently due by **August 20**.

Understanding the Notice of Proposed Rule Making (*coming soon*)

FHWA's [MAP-21 NPRM Website](#) has a lot of good information about the rule, but here is our quick and dirty interpretation of what is being asked, how it will affect you, and how complicated it's going to be. (*Coming soon.*)

Free MAP-21 Performance Calculation Tools

The CATT Lab has developed some free tools that are available to states, MPOs, and consultants working on behalf of an agency to better explore the National Performance Management Research Data Set (NPMRDS) data (one of the datasets that FHWA suggests using for computing performance). Within this suite of tools is a MAP-21 widget that allows you to quickly and easily calculate your region's performance as described in the NPRM subparts [E](#), [F](#), [G](#), and [H](#).

The tool outputs the systems performance measures as charts, maps, and data files that can be used to report up to FHWA or to simply understand your agency's performance.

The tool can be found at npmrds.ritis.org.

Detailed tutorials will be added soon, so please check back often.

How do I see these tools?

- ▶ If you already use RITIS tools, your [existing login](#) is all you need to access the NPMRDS analytics tools.
- ▶ If you do not have a RITIS account, click now to [request a login](#). Most accounts will be ready within 1 business day.

Any users experiencing issues with access or login should email support@ritis.org.

Our databases already include everything needed to calculate Level of Travel-Time Reliability (LOTTR) across all states and MPOs nationwide. However, we do not have all data needed to calculate all measures for all areas. We can work with you to load your data for immediate analysis of additional parameters such as speed limits and traffic volume.

Experimenting with the Rule (*coming soon*)

Many who read the NPRM may question the algorithms, methods, data, etc. Our goal is to modify our free tools described above to allow your agency to experiment with variations to the proposed rule to see how those variations might impact both your performance and the intent of the rule. We encourage you to email us (or post to the forum) your questions and/or requests for what you'd like us to experiment with. Time permitting, we will attempt to add options to the tools to allow you to test each possibility (or combination of possibilities). Examples could include things like:

- Testing of Imputation methods other than just filling gaps with speed limits
- Arithmetic mean vs. harmonic mean
- NPMRDS vs. other 3rd Party Data Sources (HERE, INRIX, and TomTom)

Speed and Travel Time Table
Compare current and historic speed and travel time data along corridors of interest.

Ranked Bottleneck Table
Display a ranked list of bottlenecks for a selected geography.

MAP-21
Produce a family of regional performance measures widgets that conform to MAP-21 specifications.

Performance Comparison

Reliability Chart

Accidents & Events

Getting Access

If you have an existing RITIS account, you can access the tool at:

npmrds.ritis.org

If you do not have a RITIS account, you can request one at: ritis.org/register

For more information visit: cattlab.umd.edu/MAP-21



New User Registration

Welcome to RITIS! This website is for public safety and transportation agency use only. Enter your contact information below to receive access. This approval process can take up to two business days to complete.

Business E-Mail*

Confirm E-Mail*

Title

First Name*

MI

Last Name*

Agency/Office Address*

City*

State*

Zip Code

Office Phone*

Mobile Phone

Password*

Minimum of 8 characters and at least one number

Confirm Password*

Password Strength:

Weak Medium Strong Best

Thank You!

Nikola Ivanov

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