VPP Suite User Group

October 15, 2013

I-95 CORRIDOR
COALITION

Meeting Requests

- Questions will be answered at the end of each presentation
- Ask your question verbally
- Give your name and agency before asking your question (at least the first time)
- Keep your phone muted until asking a question or speaking (press *6 to mute/unmute individual phone lines)
- Do not place call “on hold” as your hold music may be heard by the group
- Call **610-662-5569** for difficulties with the web or audio application.

Agenda

Time	Topic	Speaker
10:00am to 10:10am	Welcome and Introductions Purpose of the User Group/Webcast	George Schoener, I-95 Corridor Coalition, Executive Director
10:10am to 10:15am	User Group Update	John Allen, New Jersey DOT & VPP Suite User Group Chair
10:15am to 11:00am	New VPP Suite tools	Michael Pack, UMD/CATT Lab
11:00am to 11:15am	"Top Enhancements" – where we were & where we would like to go	Michael Pack, UMD/CATT Lab
11:15am to 11:30am	Roundtable discussion with User Group members on what's new. • New uses for the VPP Suite tools and new user-generated products • New ways the VPP Suite could help agencies further process their data	All
11:30am to 11:45am	Next Steps and Meeting Wrap Up	George Schoener, I-95 Corridor Coalition, Executive Director

Welcome & Introductions

George Schoener
I-95 Corridor Coalition

User Group & Webcast Purpose

VPP Suite User Group

To provide a forum for developers of the VPP Suite and agencies using the tools to share information in an effort to improve the Suite for all member agencies.

User Group & Webcast Purpose

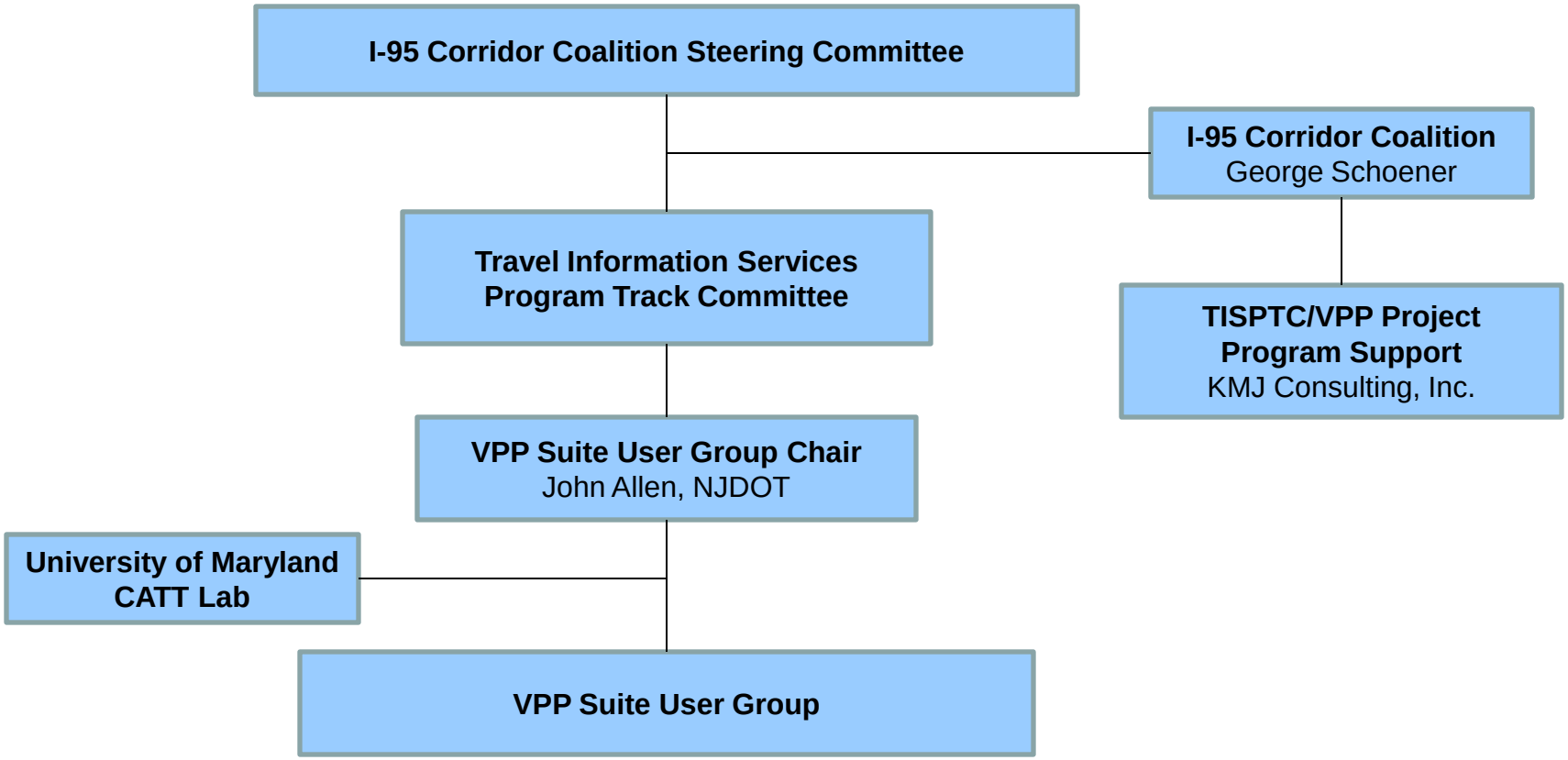
This Webcast

- To dig into new features and understand their functionality/use while providing the developers with valuable user input.
- To discuss possible future enhancements – do we want to make changes to the existing list?
- To learn how agencies are using the VPP Suite tools to improve their work.

User Group Update

John Allen
New Jersey DOT

VPP Suite User Group Structure



User Group Activities

- *Year 2012*
  - **Conducted Survey** of all VPP Suite Users *(April – May)*
  - **Conducted Initial Meeting/Workshop** of VPP Suite User Group at UMD CATT Lab and via webcast *(May)*
  - **Conducted Survey of Participants** to prioritize requests for future improvements/ enhancements to VPP Suite *(May – June)*
  - **UMD Developed Cost/Time Estimates** for each enhancement and prioritized for available funding *(July - September)*
  - **VPP Suite Steering Committee** weighed available funding, innovation, and potential impact to further prioritize *(September)*

User Group Activities

- *Year 2013*
  - **New Features** Deployed! *(April)*
    - New Road Search, Dashboard, Massive Data Downloader, Congestion Scan, Historic Probe Data Explorer, Bottleneck Ranking
  - **MORE New Features/Enhancements** Deployed! *(Summer)*
    - User Delay Cost Analysis, Real-time and Historic Weather Radar layer on the dashboard, Deeper Congestion Scan URLs, Improved Road Search (Mileage) Interface, Data Export changes
  - **Conducting VPP Suite User Group webcast** to review new features and future enhancements *(October 15th)*
  - **Even MORE New Features** to be Deployed! *(Oct/Nov)*

User Group Activities

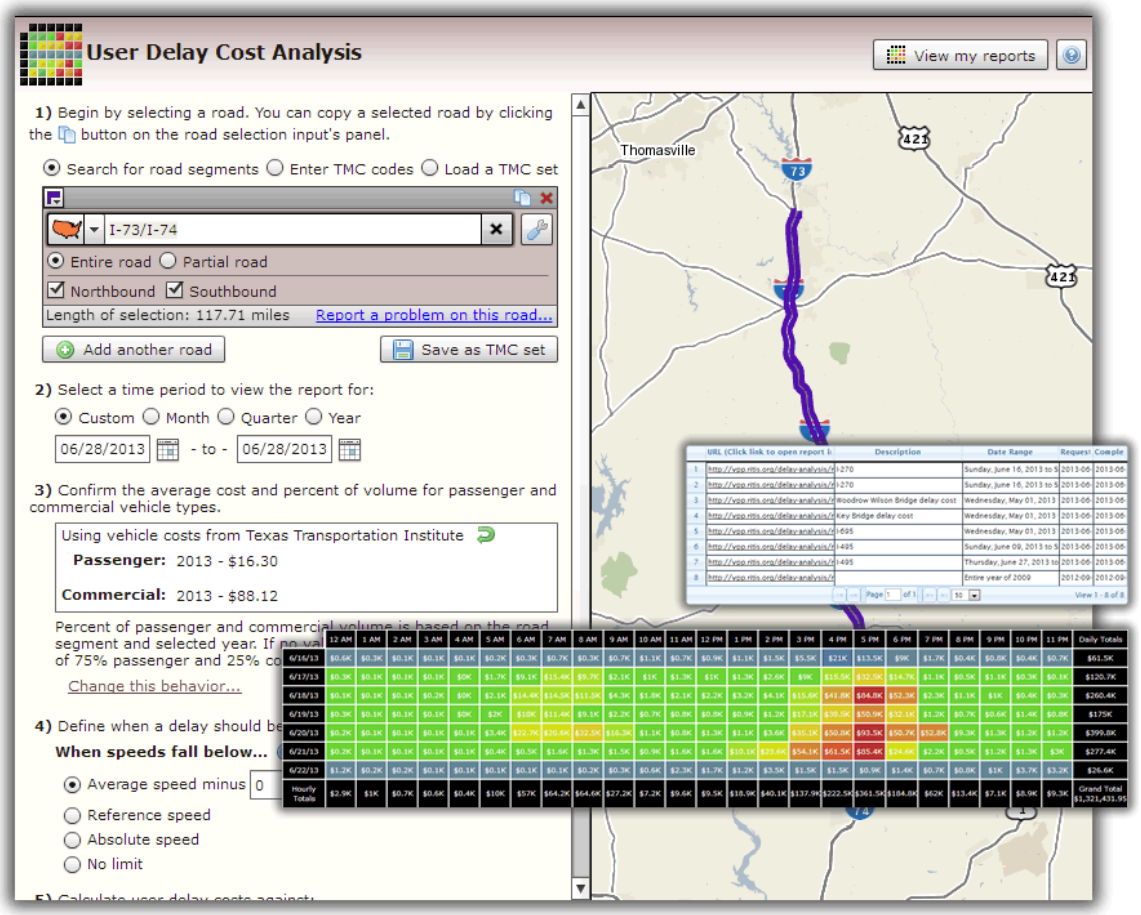
- **Other considerations**
  - **Coordination** with the *Partners Using Archived Operations Data* to confirm that the tools are addressing the "Shared Measures"
  - **Collaboration** with agencies – for example *New Jersey's Test Corridors* effort (evaluating the *AASHTO Standing Committee On Performance Management (SCOPM)* MAP-21 performance measures using INRIX® archived operations data)
  - **Communication** of use of the *VPP Suite* back to the full *VPP Agency Project Team*, and suggestions/fixes and other improvements to the UMD CATT Lab

New VPP Suite Tools

Michael L. Pack
University of Maryland

New Tools (6/28/13)

- User Delay Cost
- Historical Weather Radar
- Mileage
- Coverage Map
- “Deep Linking”



www.I95Coalition.org

A Request for the User Group

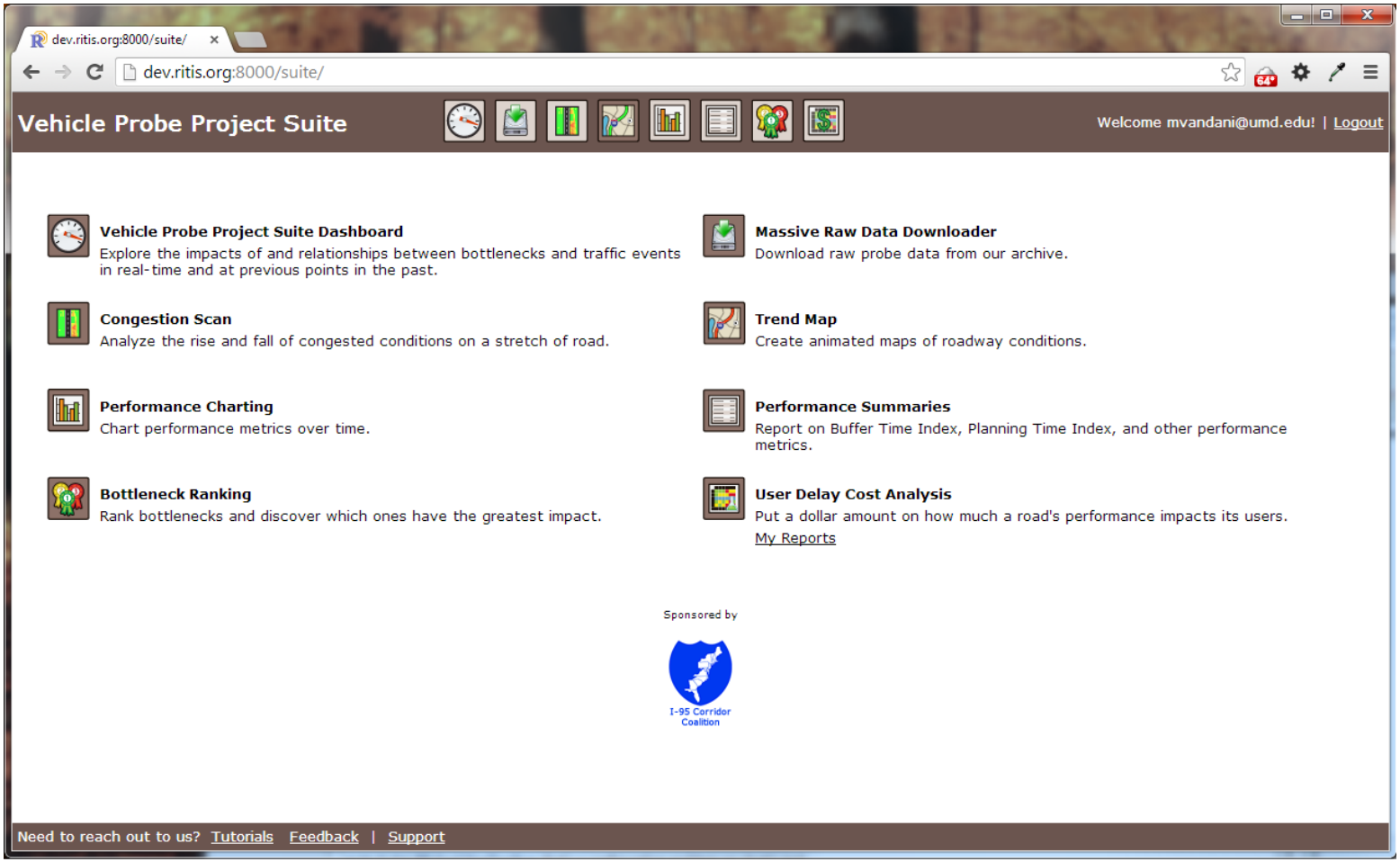
- Provide us with current and planned use-cases:
  - So we understand what you're challenges are…
  - So we understand which features are most important…
  - So we can better focus our development…
  - Example:
    - A high level manager in your department just arrived at work and complained about an accident that occurred along his commute this morning around 7:00 AM. The media and some public officials are calling the office, too, to try to get more information about what happened. This manager wants you to find out the details about this incident, but specifically, to figure out how long the bottleneck got, and how long the delays lasted. Any additional info you can glean would make his day (which isn't off to a good start.)

Details that help us out…

- What info did you find?
- How did you find it?
- How are you going to present it to the requestor?
- What worked?
- What didn't work?
- What do you wish you could have done, but couldn't?

New Tools Slated for Oct/Nov 2013

New Splash Screen



Standardized Road Selection for All Tools

Road Selection

Bottleneck Ranking

Choose a region, a class of roads, and a date range for which you want to analyze and rank bottlenecks.

The search can take a while. Analyzing a month long date range can take about five minutes while a three month long analysis could take up to a half hour.

1. Select one or more roads

Road | Region | List of TMC codes | Saved TMC Set

I-270

Directions

Northbound Southbound

Limit road to endpoints

From: Intersection: I-495/MD-355

To: Intersection: I-70/US-40

Length of selection: 65 miles

Report a problem with this road...

Add road

Your selected roads | Remove all

I-495 between VA-267/Exit 12 and US-29/Colesville Rd/Exit 30

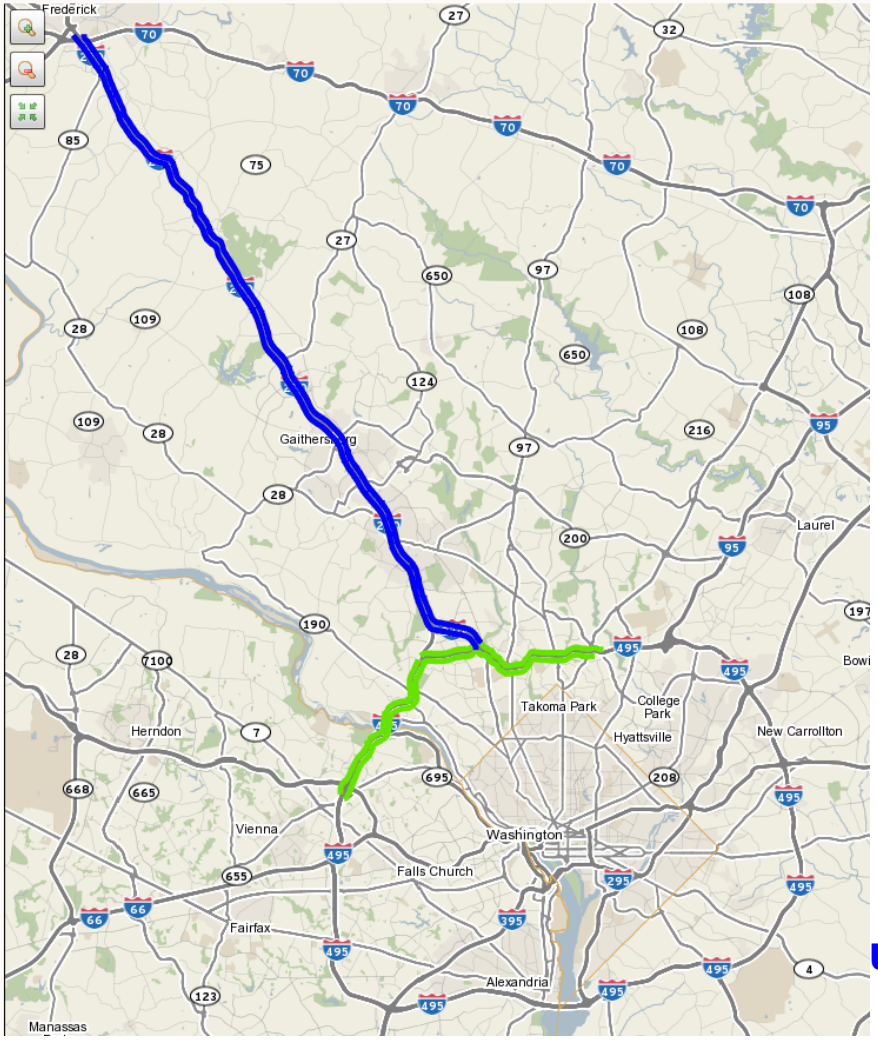
I-270 between I-495/MD-355 and I-70/US-40

Save as TMC set

2. Selected a date range

09/01/2013 - 09/30/2013

Submit



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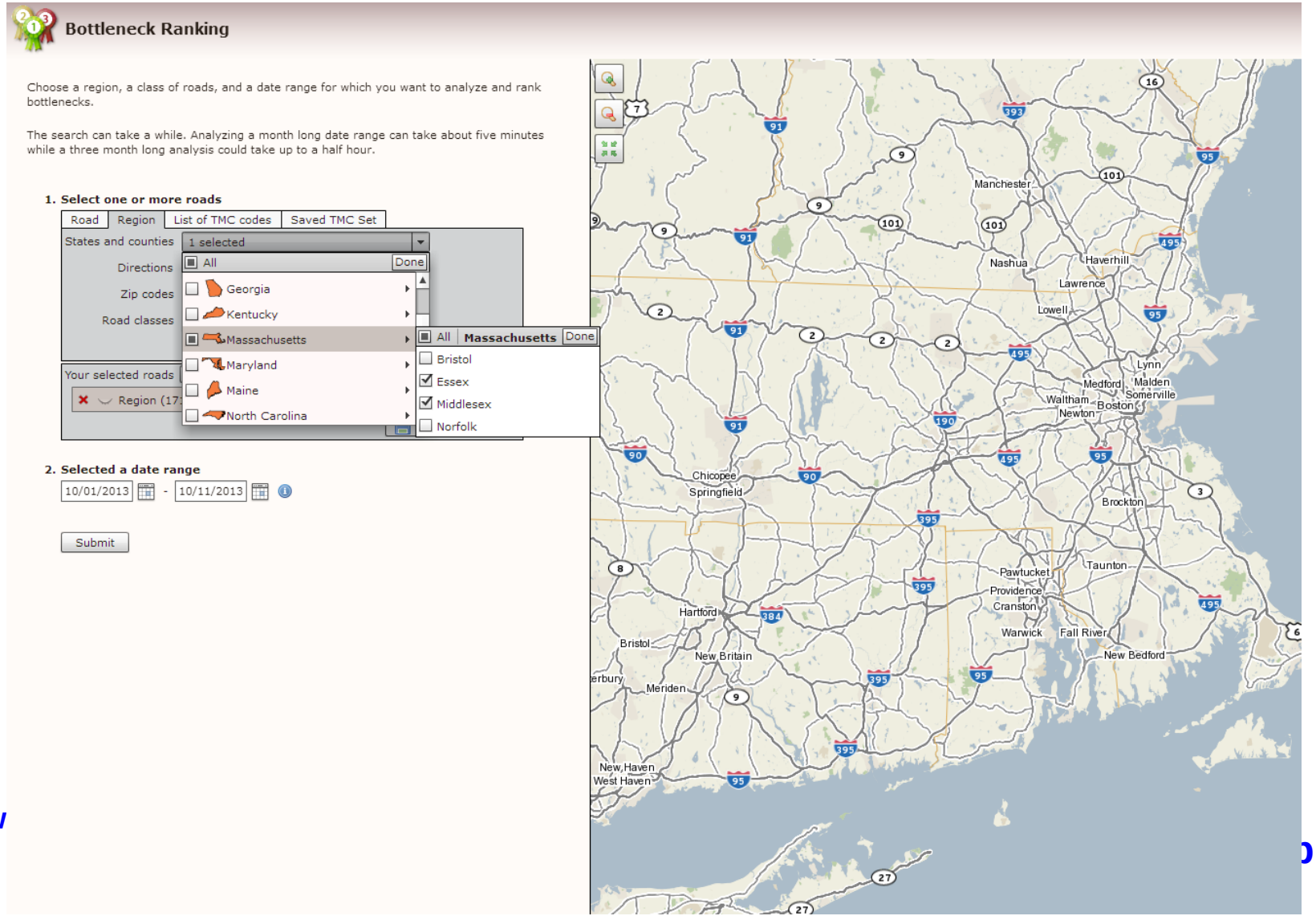
Region Selection



Raw TMC Selection

Bottleneck Ranking

Choose a region, a class of roads, and a date range for which you want to analyze and rank bottlenecks.

The search can take a while. Analyzing a month long date range can take about five minutes while a three month long analysis could take up to a half hour.

1. Select one or more roads

Road | Region | List of TMC codes | Saved TMC Set

Enter your TMC codes as a comma-separated list (e.g. 110+04645,110P04645,110+04646). ☑ Auto refresh map

110+04645,110P04645,110+04646

Add TMC codes

Your selected roads | Remove all

3 tmcs

Save as TMC set

2. Selected a date range

09/01/2013 - 09/30/2013

Submit

TMC Sets

Bottleneck Ranking

Choose a region, a class of roads, and a date range for which you want to analyze and rank bottlenecks.

The search can take a while. Analyzing a month long date range can take about five minutes while a three month long analysis could take up to a half hour.

1. Select one or more roads

Road | Region | List of TMC codes | Saved TMC Set

Filters... Showing 3 out of 16 available TMC sets

TMC Set	TMCs	Owner
DC Beltway	176	mvandani@umd.edu
Baltimore Beltway	202	mvandani@umd.edu
NJ 35	180	mvandani@umd.edu

Add selected TMC sets

Your selected roads Remove all

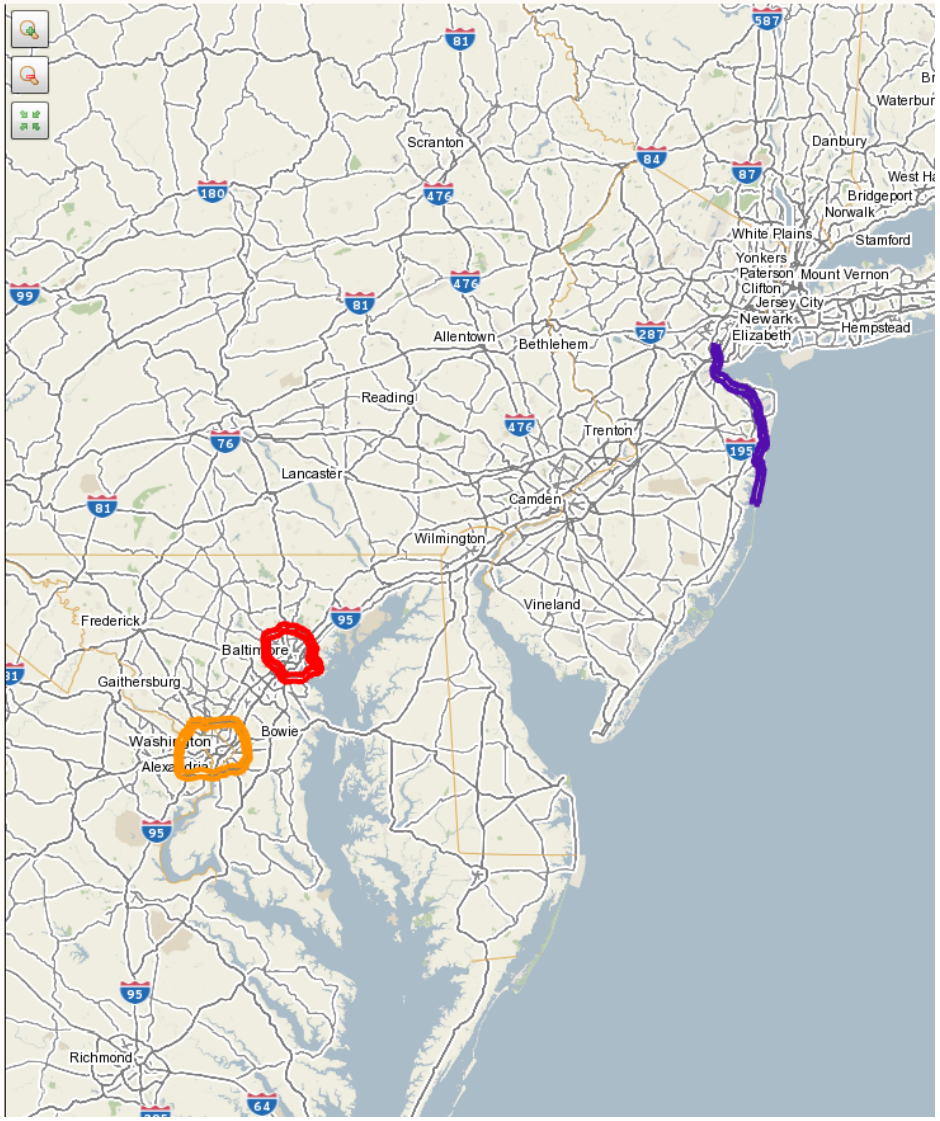
- I-495
- I-695
- NJ-35

Save as TMC set

2. Selected a date range

10/11/2013 - 10/11/2013

Submit



Multiple Mapped Bottlenecks: Single Road

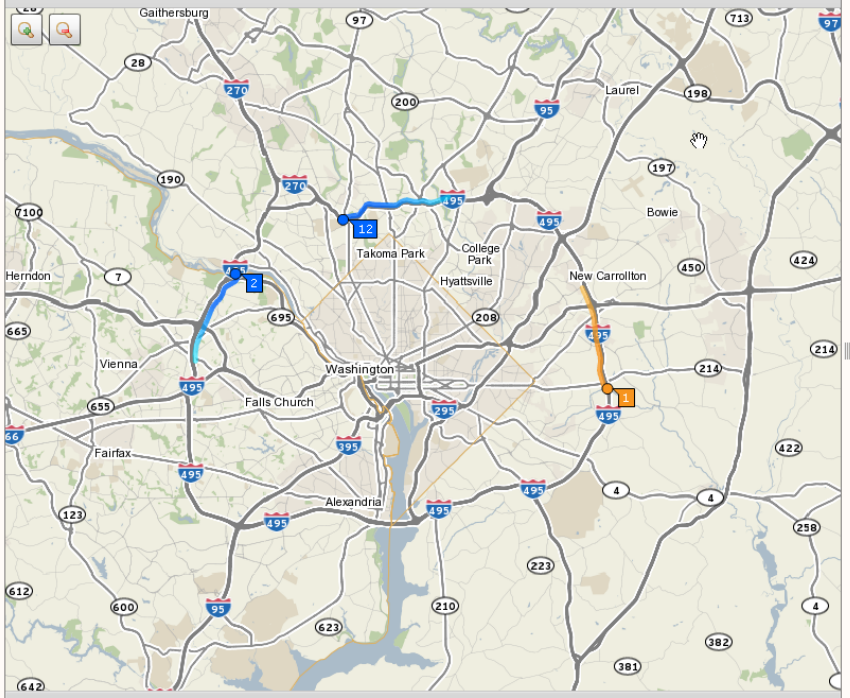
New search

Bottleneck locations on I-495 (88 total)

Export to CSV

Rank	Map	Location	Average duration	Average max length (miles)	Occurrences	Impact factor
1	☑	I-495 CW @ MD-214/Central Ave/Exit 15	1 h 41 m	6.57	81	53,728
2	☑	I-495 CW @ American Legion Bridge	3 h 3 m	6.12	65	72,756
3	☐	I-495 CCW @ VA-193/Georgetown Pike/Exit 13	1 h 45 m	3.68	63	24,341
4	☐	I-495 CCW @ Van Dorn St/Exit 3	18 m	0.69	62	769
5	☐	I-495 CW @ Clara Barton Pkwy/Exit 41	44 m	0.45	54	1,065
6	☐	I-495 CCW @ US-50/Exit 19	1 h 7 m	3.75	44	11,066
7	☐	I-495 CCW @ MD-97/Georgia Ave/Exit 31	1 h 44 m	3.94	38	15,580
8	☐	I-495 CW @ MD-4/Pennsylvania Ave/Exit 11	1 h 26 m	5.63	36	17,443
9	☐	I-495 CW @ I-270/Exit 35	1 h 53 m	4.61	34	17,693
10	☐	I-495 CCW @ MD-193/University Blvd/Exit 29	55 m	1.95	30	3,216
11	☐	I-495 CW @ US-1/Exit 1	25 m	0.82	29	597
12	☑	I-495 CCW @ MD-185/Connecticut Ave/Exit 33	1 h 58 m	7.06	28	23,317
13	☐	I-495 CW @ MD-193/University Blvd/Exit 29	32 m	2.68	26	2,226

I-495 CW @ MD-214/Central Ave/Exit 15

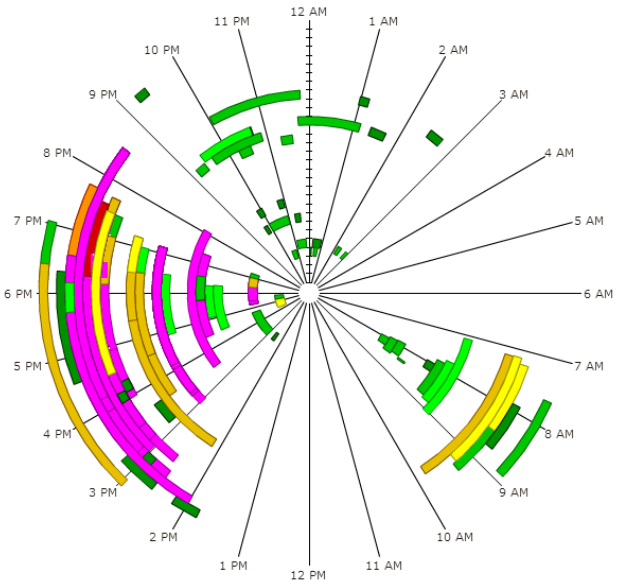


Occurrences

Spiral | Table | Export to CSV

In this time spiral each trip around the circle represents a day

The center represent September 1, 2013 and the outer edge represents October 1, 2013.



Maximum queue length < 1 > 10 miles

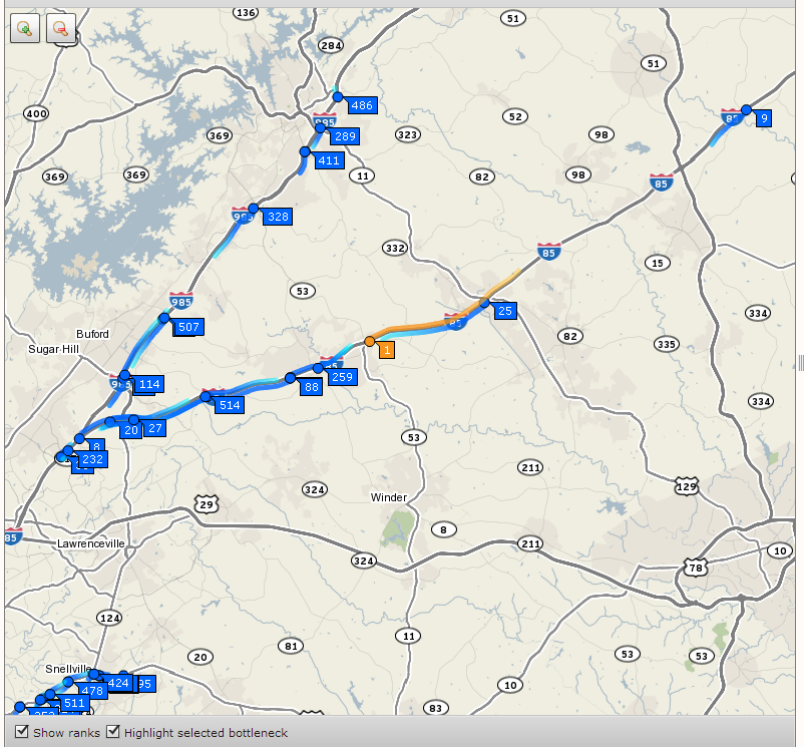
Multiple Mapped Bottlenecks: Statewide

Bottleneck Ranking

New search | **Bottleneck locations on Region (1317 tmcs) (514 total)** | Export to CSV

Rank	Map	Location	Average duration	Average max length (miles)	Occurrences	Impact factor
1	☑	I-85 S @ GA-53/Exit 129	2 h 41 m	11.08	1	1,784
2	☑	I-95 S @ GA-57/Exit 58	2 h 22 m	8.95	1	1,271
3	☑	I-85 N @ Barrow/Gwinnett County Line (Hoschton) (West)	2 h 14 m	13.03	1	1,747
4	☑	US-19 N @ GA-3/Main St	1 h 50 m	1.68	7	1,297
5	☑	I-16 E @ I-516/Lynes Ave/Exit 164	1 h 47 m	1.68	3	538
6	☑	Camp Creek Pkwy E @ Washington Rd	1 h 44 m	1.43	107	15,880
7	☑	GA-140 N @ GA-9/GA-140/GA-120/Alpharetta St	1 h 29 m	1.51	85	11,436
8	☑	I-85 S @ I-985/Exit 113	1 h 24 m	4.96	10	4,170
9	☑	I-85 N @ GA-63/Martin Bridge Rd/Exit 154	1 h 22 m	3.21	3	790
10	☑	I-16 E @ GA-307/Exit 160	1 h 21 m	4.87	5	1,971

I-85 S @ GA-53/Exit 129

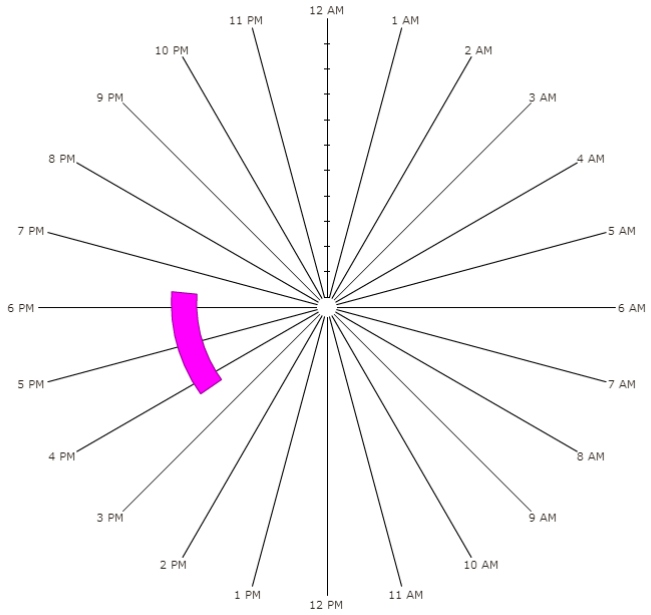


Show ranks | Highlight selected bottleneck

Occurrences | Spiral | Table | Export to CSV

In this time spiral each trip around the circle represents a day

The center represent October 1, 2013 and the outer edge represents October 12, 2013.



Maximum queue length < 1 > 10 miles

"Top Enhancements"
Where we were & where we would like to go

Michael L. Pack
University of Maryland

The Process

1. VPP Suite User Group
   - Convened at UMD and via web to discuss current functionality & user needs (May 2012)
   - Defined 32 new features & improvements to the suite of tools.
   - Rated each suggested improvement.
2. UMD developed cost & time estimates for each enhancement. (Summer 2012)
3. VPP Suite Steering Committee weighed available funding, innovation, and potential impact to decide on priorities. (September 2012)

Top 10 Enhancements

(2012 – 2013)

Item	Feature	Description
1	User-experienced Travel Time Calculations	To replace the current “snapshot” travel-time algorithms
2	User Delay	To calculate the amount of time each user is delayed by traffic
3	User Delay Costs	To calculate the dollars wasted in traffic (broken down by passenger vehicles and commercial vehicles)
4	Enhanced Incident Integration	Make it easier for users to understand the relationship between construction and incidents on congestion
5	Multi-corridor Analysis	Allow users to “join” neighboring roadways for travel-time analysis and animated mapping

Top 10 Enhancements (continued)

(2012 – 2013)

Item	Feature	Description
6	Extended Date Selections	Allow users to compare all seven days of the week in all graphs, tables, and output reports
7	Customizable Reports	Allow users to generate printable reports with multiple, customized graphics that can be tailored to individual needs and preferences.
8	Bottleneck Ranking Map	Provide users with a printable map that shows the top X-ranked bottlenecks at the same time.
9	Bottleneck Overlapping	Enhance the bottleneck generating algorithm to minimize overlapping bottlenecks.
10	Mileage Displays	Road selection tools and output graphics should display the total mileage of the roadway segments that have been chosen.

Where do we stand

Item	Feature	Status		
		In Suite	In Development	Date
1	User-experienced Travel Time Calculations		Yes	TBD
2	User Delay	Yes		6/28/13
3	User Delay Costs	Yes		6/28/13
4	Enhanced Incident Integration		Yes	TBD & Varies
5	Multi-corridor Analysis		Yes	Oct
6	Extended Date Selections		Yes	TBD
7	Customizable Reports		Yes	TBD
8	Bottleneck Ranking Map		Yes	Oct
9	Bottleneck Overlapping		Yes	TBD
10	Mileage Displays	Yes		6/28/13

Other Enhancements

Tier 2 Enhancements	
Bottleneck Treemaps	Allow congestion and bottleneck data to be displayed and explored interactively in treemap visualizations
County/Metro Area Selections	Allow users to select all roads in a county/metro area for analysis and download.
Fuel Consumption	Allow users to calculate the amount of excess fuel consumed in commercial or passenger vehicles along corridors as a result of congestion.
Bottleneck Ranking Date Extension	Allow users to select longer date ranges for the bottleneck ranking tool (up to 1-year).
Bottleneck Data Quality Filters	Develop new algorithms that allow users to ignore or filter out bottlenecks and congestion data that is derived from low-confidence data.

Other Enhancements

Tier 3 Enhancements	
Mile Marker Linking	Allow users to select roads based on mile-marker locations, not just TMC segments
Ranking comparison	Monthly bottleneck ranking report that allows the user to compare current ranking to previous rankings.
Geo-preferences	Allow users to save their geographic region of interested in a personal settings menu (instead of a cookie) so that settings would not be dependent on specific machine usage.
Saved Queries	Allow users to save queries to load at a later time or in other components of the tool
Data quality visualization	Data quality metrics should be displayed and/or filterable for all historical visualizations

Enhancement Questions

1. Is the current list still valid?
2. What Tier 2 or Tier 3 enhancements would you like advanced (if funding permits)?
3. What other future tools and/or enhancements would help you with your job?
4. Are any of these new enhancements or tools identified in question 3 more important than those listed on the right from Tier 2 or 3?

CURRENT LIST

- User Experiences Travel Times
- Customizable Reports
- Incident Integration
- Bottleneck Overlapping fixes
- Bottleneck Treemaps
- County/Metro Area Selections
- Fuel Consumption
- Date Extension for Bottleneck Rank
- MM Linking
- Ranking Trend Comparison
- Geo Preferences
- Saved Queries
- Data Quality Filters/Visualization

Roundtable discussion with User Group members on what's new

Roundtable Discussion

- New uses for the VPP Suite tools and new user-generated products
- New ways the VPP Suite could help agencies further process their data

Next Steps & Meeting Wrap Up

George Schoener
I-95 Corridor Coalition

Contact Information

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VPP Suite questions

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Thank You