This Just In!

Updates to
The VPP Suite
November 18, 2013
and Beyond...

Michael L. Pack, University of Maryland
CATT Laboratory
### Navigation Improvements

**Analytics Staging Dashboard**
Explore the relationships between bottlenecks and traffic events in real-time and in the past.

**Massive Raw Data Downloader**
Download raw probe data from our archive for offline analysis.

**Congestion Scan**
Analyze the rise and fall of congested conditions on a stretch of road.

**Trend Map**
Create animated maps of roadway conditions.

**Performance Charts**
Chart performance metrics over time.

**Performance Summaries**
Report on Buffer Time Index, Planning Time Index, and other performance metrics.

**Bottleneck Ranking**
Rank bottlenecks and discover which ones have the greatest impacts.

**User Delay Cost Analysis**
Put a dollar amount on how much a road’s performance impacts its users.

**FAQs**
Frequently asked questions and their answers.

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

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This version is scheduled for release on November 18th.
Standardization Across All Tools

Location
Date
Granularity

1. Select one or more roads.

2. Select one or more time periods to analyze.

3. Granularity

12/05/2013
Location Selection

- Works for bottleneck ranking, too!
Multi-Location Selection

1. Select one or more roads.
   - Road
   - Region
   - List of TMC codes
   - Saved TMC Set
   - States and counties: All
   - Directions: All
   - Zip codes: 21044
   - Road classes: All

2. Select one or more time periods to analyze.
   - Day(s)
   - Month(s)
   - Year
   - A maximum of 7 days is allowed within a single date range
   - 11/13/2013 - through - 11/13/2013
   - ○ Create a single time period for this range
   - ○ Limit to specific days of the week
   - ○ Create a time period for each day within this range

3. Granularity
   - ○ 1 minute
   - ○ 5 minutes
   - ○ 10 minutes
   - ○ 15 minutes

12/05/2013
Dates

2. Select one or more time periods to analyze.

Day(s) | Month(s) | Year

A maximum of 7 days is allowed within a single date range
11/13/2013 - through - 11/19/2013

Create a single time period for this range
Limit to specific days of the week

Create a time period for each day within this range

Add time period

2. Select one or more time periods to analyze.

Day(s) | Month(s) | Year

Year: 2012

Days of week

Add time period

2. Select one or more time periods to analyze.

Day(s) | Month(s) | Year

July 2012

Your selected time periods

12/05/2013
Granularity

Available selections are dependent on several things including:

- Geography (where you are)
- Number of TMCs
- Date Range selected
- Type of tool
Bottleneck Ranking: multiple roads
Bottleneck Ranking Maps
Export Ranked Bottleneck Map
Trend Maps

1. Selected area or area results:
   - I-95
   - I-270 between I-95/M-355 and Fenton Harper Blvd/Exit 17
   - I-270 South
   - Road between I-495 and Theodore Roosevelt Memorial Hwy
   - Beltway between MD-202/Kenilworth Ave and I-495/Exit 24
   - Road between I-95 and MD-202
   - MD-202
   - Route 17
   - Route 29
   - Route 301
   - Dulles Access Rd.
   - MD-113

2. Create one or more time periods to analyze:
   - Start Time: 12/31/2012
   - End Time: 12/31/2012
   - Apply Time Period

3. Granularity:
   - 60 minutes
   - 30 minutes
   - 15 minutes
   - 5 minutes
   - 1 hour

Welcome, guest@mdot.state.md.us | Exit | Screencast | Log Out
Trend Map: comparing
Trend Maps: exporting as animated GIF
Performance Charts

- New Styling, Layout & Customization for
  - Speeds
  - Travel times
  - TTI
  - BTI
  - etc

12/05/2013
Performance Charts

Speed for I-95 Interchange University Ave/Ellis St and Walnut St/Ellis St


November 03, 2013

November 04, 2013

November 05, 2013

November 06, 2013

November 07, 2013

November 08, 2013

November 09, 2013
Congestion Scan Example
Congestion Scan
Jumping Between Tools

or

12/05/2013
Massachusetts Trend Map Example
Massachusetts Trend Map Example

12/05/2013
### Massachusetts UDC Example

Warning: The volume data used to generate this report may not be precise enough for your analysis. Read more...

**Report parameters**
- **Vehicle costs**
  - 2013 - Passenger: $16.79 Commercial: $86.61
- **Percentage of vehicles (weighted on segment length)**
  - 2013 - Passenger: 75% Commercial: 25%
- **Delay is calculated against the freeflow speed for segments whose speeds fall 20 mph or more below freeflow.**

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<thead>
<tr>
<th>Vehicle Type</th>
<th>Display</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Total cost</td>
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#### Data Table

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<th>3 AM</th>
<th>4 AM</th>
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<th>12 PM</th>
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</tbody>
</table>

**Notes**
- Only the values in the "Total cost" display mode are rounded to the nearest hundredth and displayed in thousands. All other display modes show the actual values.
- The range of values for the colored backgrounds of each cell are based on the date of the selected display mode.
- Delay metrics are displayed for every hour of every day within the selected time range.
- The totals for every hour are shown in the bottom row while the totals for every day are shown in the rightmost column.
- The grand total for the entire time period is shown at the bottom right corner.
- Volumes shown in the tooltip for each hour are weighted on the length of each segment.

**Legend**
- **Lowest**
- **Highest**
- **No data**

12/05/2013
My Agency’s Volume Data
Other Enhancements

- Dashboard filtering improvements
- Upgrades to hardware
- Faster single-day queries
Next Steps & Challenges

1. Moving to a new, highly experimental data cluster to handle the growing “large data” that we process
   - Traffic events: 7,000 records per day (0.001 Gb/day)
   - Traffic detectors: 35,000,000 records per day (5 Gb/day)
   - Probe vehicle data: 4,200,000,000 records per day (550 Gb/day)
   - Connected vehicle data: ???
Next Steps & Challenges

2. Additional speed and load balancing
3. Backward geospatial compatibility issues
4. Multi-probe data vendor compatibility (including FHWA procured)
5. Duplicate Data when vendors overlap
6. MAP-21 vs. Coalition vs. AASHTO vs. Local Methodologies
Next Steps & Challenges

7. New Features Slated for Development
   a. Changes to Travel Time Calcs (user experienced)
   b. Continued Incident Integration
   c. Customizable Reports
   d. Bottleneck Ranking Algorithm Improvements
   e. Fuel Consumption
   f. Emissions
   g. Mile-marker linking
   h. Trend comparisons
   i. Treemaps
Thank you!

• Michael L. Pack
  PackML@umd.edu
  301.405.0722