Probe Data Analytics User Group Web Meeting
August 17, 2017

Agenda:

#	Topic	Speaker
1	Welcome & Coalition Update	Kelly Wells, North Carolina DOT Denise Markow, I-95 Corridor Coalition John Allen, UMD CATT
2	PDA Suite: What's new / coming soon	John Allen
3	Holiday Travel Advisory "How-to"	Ed Stylc, Baltimore Metropolitan Council
4	NPMRDS v2.0	John Allen
5	O-D Data Suite Focus Group Status	John Allen
6	NJCMS / PDA Suite – Ratings for Potential Projects	Ira Levinton, NJDOT
9	Agency Input Session	All Agencies
10	Wrap Up – Next Meeting and Thank You	Denise Markow

Next User Group Meeting: Thursday, December 14, 2017 - 10:30a.m. - 12:00p.m. (EST)

Meeting Highlights:

- **Welcome & Coalition Update**:
    - ➢ Kelly Wells welcomed the group and thanked them for their participation.
    - ➢ Denise Markow reviewed four recent Coalition meetings that have taken place in an effort to keep all apprised of Coalition activities.
        - ➢ Denise mentioned the RITIS User Group Meeting in June where the Work Zone Performance Monitoring Application (WZPMA)was presented. This Dashboard-style interface provides a comprehensive overview of a state's work zones, as well as individual work zone profiles, and include a variety of metrics and functions, such as performance charts, User Delay Costs, critical work zone identification and much more. If members would like more information, please contact Denise or John Allen.
        - ➢ There were two meetings in July – the first meeting was a GTFS (General Transit Feed Specification) Workshop, led by NJTPA, which discussed how to start building an information database for transit providers in a certain region. The second meeting in July was a Volume & Turning Movements Steering Committee meeting.
        - ➢ In August, the Coalition hosted a HOGs (Highway Operations Group) exchange, in the Potomac region, which discussed how to better use RITIS and the user delay cost module for large after-action reviews as well as how the FHWA works with agencies for TSMO funding.
    - ➢ Denise mentioned upcoming meetings including the Crowdsourcing Summit (9/14) in Philadelphia and via web and the RITIS User Group Meeting (9/21) via web.

➢ She reminded everyone that the PDA Suite User Group meetings will now meet once every four months.

➢ Denise Markow asked participants to share the information about the meetings to others in their agency that may benefit and to contact her if others from the member agencies should be added to the invitation lists.

➢ Volume & Turning Movements (VTM) Project Status – Denise provided an update on the VTM project which is a research effort to determine the possibility of using probe data to develop ubiquitous traffic volumes where sensors are not available. She reviewed the project activities to date noting that the project team has completed preliminary analyses (in Maryland and Colorado) and is are planning to move forward with more hardcore analysis using Rhode Island and Florida data. Calibration data is being fulfilled by the FHWA TMAS data set and the validation methodology is being addressed by Shawn Turner (TTI). She noted that overall, preliminary results have been very promising and the project team will be moving forward with more detailed analyses.

➢ John Allen reviewed the action items from the last PDA Suite User group meeting. In regards to the FDOT Pilot project for the O-D data analytics tools – John and Kim Samson discussed a few potentials and are continuing to look into this. PennDOT had requested automation features for the dashboard, and a meeting is now being scheduled to discuss adding these features. Agencies were requested to forward PDA Suite-generated Travel Advisory Notices for distribution to the group; no notices were received however, Ed Stylc (BMC) is making a presentation on preparing travel advisories during this meeting.

• **PDA Suite: What's new / coming soon –** John Allen discussed new features that have recently been added to the PDA Suite and or will soon be available. Below is an overview of those features

➢ There are now customizable image export functions for the performance charts. This was paid for by PennDOT. John provided screenshots of the feature and discussed how customizations can be made.

➢ There is also a new set of metrics and feature with the Bottleneck Ranking tool. The new metrics give agencies more latitude in determining what aspects of a bottleneck are most important. There are also two external tool links - to Performance Charts and User Delay Costs - that will generate performance charts and delay cost reports for a selected bottleneck.

➢ MAP-21 Dashboard widgets have been updated to their final ruling. However, the annual hours of peak hour excessive delay per capita is still being worked on and should be deployed in the next few months.

➢ In regards to performance summaries, on the query page, it will soon be possible to create a visualization for each direction of travel, or combine directions into a single visualization.

➢ The "add another time range" button will be moved from the results page to the query page so multiple times ranges can be chosen directly from the query screen. This allows the results page to expand and become easier to read, with better organization.

➢ Map controls were expected to be deployed on August 18th for TMC and Geography selection making it possible to choose an area directly from the map rather than using a drop down. This feature will make building TMC sets much easier.

➢ A Phase 1 release of the O-D Data Suite is currently scheduled to be deployed in the fourth quarter (2017).

- ➢ Work continues on removing the dependence on Flash for the tools as Adobe is ending Flash support by the end of 2020.
    - ➢ Updates to Hadoop (backend architecture) are continuing to occur in order to meet user needs. The overload issues that some users were experiencing at the beginning of each month have now been resolved.
- ➢ The deploy summary table for the second quarter has been updated and can be found under the "New Features" tab at: http://i95coalition.org/projects/probe-data-analytics/
    - o Note: Since the CATT Lab deploys many minor, moderate and major features, functions and bug fixes every quarter, the Deploy Summary Table only includes those deploys most important for users.

- • **Spotlight Presentation: Holiday Travel Advisory "How-To" –** Ed Stylc (Baltimore Metropolitan Council) discussed how he creates holiday travel advisories using his plans for the upcoming Labor Day weekend.
    - ➢ During the summer holidays, the focus of the effort is the Chesapeake Bay Bridge, I-97, and US-50 towards the Maryland beaches.
    - ➢ Ed contacts the Maryland Transportation Authority (MdTA) and AAA Mid Atlantic for traffic volume estimates, gas price information, and travel time tips. He then utilizes the PDA Suite to provide examples to support the data and recommended travel times over the holiday weekend.
    - ➢ VPP Suite tools used include the congestion scan and trend map which are useful visuals that can be easily understood by travelers.
    - ➢ BMC typically selects a five-day period for analysis. Ed noted that he uses saved queries from the previous year to begin. Using the congestion scan app, the five individual dates can be chosen and run at the same time. He checks the results from each of the data sources available to this agency in the PDA Suite.
    - ➢ Ed was able to verify MdTA's suggested travel times using his own analysis.
    - ➢ Ed creates an animated trend map for the entire MPO region for all five days, and includes a user interactive map for their website. When using the animated trend map, he is able to create an embedded code link which he tests using other websites such as "HTML and Script Code Tester."
    - ➢ The "My History" and "Saved TMC Set" features within the PDA Suite allow for easy reproduction of holiday advisories without duplication of efforts.
    - ➢ BMC has used social media as a way to provide their information to the public and have since had the "Baltimore Sun" reach out to them three times for interviews.
    - ➢ Ed provided a schedule for developing and disseminating travel advisory messages. He recommends beginning the process four weeks before the holiday and posting an advisory on the Monday before the holiday weekend.
    - ➢ John Allen added that some agency's traffic operations folks use dashboard widgets successfully to monitor ongoing traffic conditions during special events. They start by building a TMC set for the area, and then by creating two widgets on the dashboard – one for travel time and speed and the other for bottlenecks are better able to react to changing conditions (congestion, incidents, etc.), since the widget metrics and differentials are updated every minute.
    - ➢ Greg Jordan (UMD CATT Lab) asked if the forecast is revised based on the weather – Ed takes weather updates into consideration and confirms that anomalies in weather are not included when looking at previous years.

- **NPMRDS v2.0 –** John Allen provided a brief update
  ➢ A comprehensive webcast, provided by FHWA in July, may be found here:
    https://connectdot.connectsolutions.com/p13dy8kw6mr/?launcher=false&fcsContent=true&pbMode=normal
  ➢ A list was provided containing various weblinks to resources that may be helpful in using NPMRDS v2.0 such as a quick start guide, FAQs, etc.
  ➢ Steve Gault (PennDOT) questioned if other states have run into issues with the click thru agreement for access to NPMRDS. Agencies with questions were encouraged to contact the NPMRDS helpdesk support: npmrds@ritis.org.

- **O-D Data Suite Focus Group Status –** John Allen briefly summarized the inaugural meeting that occurred in June and discussed the next steps for this group.
  ➢ A meeting was held in June with various agencies to gather information in an effort to make this tool more useful and beneficial.
  ➢ A key point of the meeting was the "case for using use cases" which is the CATT Lab's approach to developing tools, features, functions, and results.
  ➢ Prior to the meeting, a questionnaire was sent out to determine specific needs and wants from the agencies. This was discussed during the meeting.
  ➢ A series of user interface design mock-ups were discussed to determine if they met the agencies' needs.
  ➢ Finally, agency input was used to review conceptual sketches.
  ➢ Overall, the meeting was useful in better understanding the agencies' vision and priorities to make the tools as beneficial as possible.
  ➢ The next steps for the focus group were to summarize the meeting discussion and submit it to the group for review. The CATT Lab will then consider suggestions to help refine the features, functions, and results page on the website. Additional insight to prioritize future tool development and deploy will be used. All of this information will be available on the I-95 CC website.
  ➢ **POST MEETING NOTE: The presentation and minutes from this meeting are currently available on the PDA page of the Coalition website (http://i95coalition.org/projects/probe-data-analytics/).**

- **Spotlight Presentation: NJCMS / PDA Suite – Ratings for Potential Projects -** Ira Levinton (New Jersey DOT) how the PDA Suite results are being used in NJDOT's rating of potential projects (NJCMS).
  ➢ NJDOT Project Management requested for a rating of about 50 Congestion Relief-related projects t to help determine which projects should be funded for the next 5 to 10 years. Traditionally, projects were rated using the New Jersey Congestion Management System (NJCMS-21).
  ➢ NJCMS-21 contains data and congestion performance measures for all Interstate, US, and State routes in New Jersey. Input data includes traffic volumes, number of lanes, traffic signals and functional classification. Data analysis and output is based on a typical weekday – on a year basis. Output data includes Volume to Capacity (V/C) ratios and delays. Congestion priority scores are developed using V/C ratios, traffic volumes, and functional class. It is important to note that although New Jersey has a large amount of shore areas which causes an increase in traffic in the Summer, NJCMS does not have a summer model.
  ➢ The project ratings were developed using NJCMS-21, and the PDA Suite. Congestion ratings for priority categories are broken into three groups: Highest (1), Next High (2), and Lower (3).

- Ira explained how NJCMS priority scores were developed using a combination of V/C ratios, ADTs and function class.
- Ira then discussed the use of the PDA Suite. NJDOT uses the congestion scan including the measures for speed, travel time index (TTI) and planning time index (PTI). The TTI for all of 2016 on weekdays combined is used for the congestion related project ratings. For the locations that have considerably more traffic in the summer, the Summer TTI for July and August combined was used.
- Ira explained that an algorithm was created for rating congestion related projects based on the NJCMS Priority Rating Score and the PDA TTI Score. It resulted in a scoring formula of NJCMS Score + 10 * (TTI – 1).
- A scoring and rating scale was also created for these projects. Ranges were selected for scoring to allow 1/3 of the scores or more to result in the highest rating with logical breakpoints. If the TTI rating is higher than the total rating, then the TTI rating is used.
- Ira presented sample results which showed that a large percentage of projects have TTIs over 2.0 and receive the highest rating of "1" based on having the highest scores. The results were compared to a base scenario resulting from using the NJCMS priority score and the TTI for an average weekday. This showed that some projects have a higher rating because the TTI rating is higher than the CMS rating, or because locations with higher summer volumes have higher TTIs in the summer. In conclusion, PDA Suite and CMS provide different performance measures that can be used in conjunction with each other to rate projects. PDA includes TTI, PTI, and speeds while CMS includes V/C ratios and delays.
- There are several next steps to be taken. Project Management will review rating results from all project lists then work with Capital Program Development to decide what projects to fund for construction over the next several years which will then be placed in the Statewide Transportation Improvement Plan. PDA Congestion Scan TTIs will be run for before, during, and after construction conditions to determine the extent by which congestion is improved.
- Kelly Wells (NCDOT) asked if the list is of needs or a list of projects. Ira answered that it is a list of projects that are already circulating within the department. She followed up with asking if he ranks the greatest needs before he develops a list of projects. Ira answered that sometimes this is done but it is a separate process.
- Denise Markow (I-95 CC) asked if this separate process occurs after the needs analysis is done or if it is a concurrent path. Ira answered that there is a process to identify needs and develop problem statements and that some of it is involved in his overall process, but there are other inputs that do not come from within his group.
- Joanna Reagle (KMJ) asked when New Jersey began to include results from the PDA Suite and how receptive his superiors were about including it into the process. Ira answered that this was the first time they included the results into their process directly and the superiors were pushing to get the PDA Suite involved in the process. Sudhir Joshi (NJDOT) noted that they formalizing a process to include PDA scores in the Department's congestion relief process.
- John Allen suggested not only using the Suite for recurring congestion, but also using other tools such as the Event Query Tool in RITIS for the non-recurring congestion aspect, for a better understanding of "cause and effect.".

➤ Jesse Buerk (DVRPC) was asked if they have a similar process as a planning commission when it comes to their project prioritization. Jesse answered that they generally work with other DOTs who usually set the list of projects but they do have a benefit criteria analysis which is used as a screening tool for new projects to evaluate them on a variety of quantitative factors. In the future, DVRPC is looking to add more performance measures to their evaluation.

➤ Kelly Wells asked how to come up with a TTI at an intersection. Ira noted that they look at each approach, and the worst one would be used in the next step. She followed up by asking about how they identify actual bottleneck locations if the TTI is worse at a distance farther from the actual location. Ira noted that they tend to generalize it by using the highest TTI in the area.

➤ Sudhir followed up by noting that NJDOT manually studies a limited number of locations using the PDA Suite based on their initially identified need. John Allen noted that at NJDOT has a complete team that brings planning and operations together for project planning within and outside of the agency. This group helps to prioritize the projects among all of the partners. Also, NJDOT has a Management System Integration project which looks across all of the areas (pavement, congestion, bridge, etc.) to identify projects in a holistic manner.

- **Agency Input Session**
  ➤ Ed Stylc asked if it would be possible to utilize the MPO boundaries in the MAP 21 widgets. John Allen answered that they have been discussing this and he will get back to Ed and the rest of the group with more information. Greg Jordan noted that the CATT Lab is looking to move up the priority of this request.

  ➤ Ram Venkatanarayana (VDOT) asked what is the base data for the OD Data Suite and whether it would automatically be available to agencies as a part of RITIS or whether it will need a separate license. John replied that the O-D dataset is separate and apart from probe data, and would need to be purchased separately from one of the data providers. It has not been decided yet whether agencies will have to pay a separate cost for the O-D Data Suite tools or if it will be a part of PDA Suite.

  ➤ Sudhir Joshi (NJDOT) asked if the TMC Selection Widget could be used to delete roadways. John answered that it is possible to create shapes to highlight areas then delete roadways individually within that shape.

  ➤ John then briefly reviewed the instant poll results from the previous meeting, and asked members to think about, and if possible follow-up with him on these questions:

    - In what areas would you like to see more presentations or "how-to's"?
    - What are your suggestions for new video tutorials?
    - What value are you getting from the Deploy Status table? What can we do to improve it?
    - Are the top three "use" areas - Planning, Communication, Pjct. /Pgm. Development & Assessment - where you want User Group focus (spotlight presentations, demos, etc.)?
    - Or would you like more focus on TSMO/TIM and leveraging funding?

- **Wrap Up** – Kelly Wells thanked the users for participating. She noted that the next Probe Data Analytics User Group meeting is scheduled for Thursday, December 14, 2017 (10:30am – 12:00pm) and it is planned to focus on Extreme Weather and After-Action Reporting.

ACTION ITEMS:

#	Action Item	Whom	Status
1	Let Denise know of anyone who would benefit or be a good resource to receive meeting invites/information	All Agencies	
2	In the Trend Map tool, add Day to the date header for the various trend maps run so users do not have to go back to calendars from previous years. Review other features and consider adding it to others as appropriate.	UMD CATT Lab Developers	John Allen to discuss with developers
3	Discuss with Kelly (NCDOT) issues experienced using PDA Suite for turning movement-level TTI (along a signalized arterial corridor).	John	
4	Check with the CATT Lab developers about enabling the use of MPO boundaries in the MAP 21 widgets.	John	

Participants:

User Group Participants:	
Ed Stylc	Baltimore Metropolitan Council
Mike Bruff City of Durham MPO	Mike Bruff City of Durham MPO
Jason Tao	District DOT
Jesse Buerk, Justin Neff	DVRPC
Kathryn Ortega	Florida DOT (WSP)
Alex Wassman	MoDOT
Andrew Meese, Daivamani Sivasailam, Patrick Zilliacus	MWCOG
Kelly Wells	NCDOT
Ridwan Ahmed, Neha Galgali, Sudhir Joshi, Ira Levinton, Jonathan Martinez	NJDOT
Chris Garro	New Jersey Turnpike Authority
Andrew Weeks	NYCDOT
Scott Benedict, Steve Gault, Brian Keaveney, Bob Davis (Pennoni)	PennDOT
John Allen, Greg Jordan, Drew Lund	UMD CATT lab
Ramkumar Venkatanarayana	Virginia DOT
Denise Markow	I-95 Corridor Coalition
Joanna Reagle, Enam Fares	KMJ Consulting (Coalition Support)