Data Fusion Engine (DFE) & Analysis Tools (SPATEL)

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TRANS.COM – who are we??

- Connecticut DOT
- Metropolitan Transportation Authority
- MTA Bridges & Tunnels
- MTA New York City Transit
- New Jersey DOT
- New Jersey State Police
- New Jersey Transit
- New Jersey Turnpike Authority
- New York City DOT
- New York City Police
- New York State Bridge Authority
- New York State DOT
- New York State Police
- New York State Thruway Authority
- Port Authority of NY&NJ
- Port Authority Trans Hudson (PATH)
- FHWA
- And Over 100 Affiliated Agencies
TRANSCOM Functions

- Primary Mission: Regional Operations
  - Regional Incident Management - 24/7
  - Regional Construction Coordination
  - Regional Implementation of ITS Systems

- Regional Information Data Clearinghouse for States of New York/New Jersey/Connecticut
  - Statewide Event Data
  - Statewide Travel Time Data
    - Multiple sources
  - Real-Time Transit
    - Regional Rail/MTA Subway/NJ Transit Bus
Identify all possible data sources.
Integrate and map data sources.
Develop “Business Rules” for data source usage.
Winning Source generated by DFE
Results updated every minute.
Data Archived for future analysis

“Winning Source”
• Travel Time Sources (TTS) come in multiple shapes and sizes...

• In order to compare various TTS – need to develop one “fused” basemap

• TRANSCOM developed a basemap using the HERE “Native” format structure and mapped each TTS against it
  • HERE Native selected due to increase granularity to better support agency needs.
States collect and assign volumes through different approaches.

In order to determine delay values and cost impacts – need to align travel time data along with volume data

- Data “Conflation” conducted
- NJDOT CMS – Done
TRANSCOM Data Analysis Tools - SPATEL

- So, we have all this data...now what??

TRANSCOM REGIONAL HIGHWAY CONDITIONS as of 05/08/2017 11:38:20 AM

NYSDOT - Region 3: Flooding and Road Collapse, emergency repairs on NY 183 both directions north of START ROUTE NY 183; NY 89 (Amboy) Smith Drive to Nichols Road (Williamstown) - All lanes closed
Last Updated Date: 05/07/2017 06:30:47 PM

NJ DOT - TOC South: Downed wires and Transformer fire on NJ 34 both directions at Collingswood Circle (Wall Twp) all lanes closed and detoured use caution
Last Updated Date: 05/08/2017 11:38:20 AM

PennDOT District 6-0: Vehicle fire on I-76 eastbound 2.6 miles east of Exit 331B, I-476 NORTH - PLYMOUTH MEETING. There is a lane restriction. [RCSR 317972]
Last Updated Date: 05/08/2017 11:30:44 AM

NYSDOT - Region 11: Disabled vehicle on I-278 eastbound approaching 39th Street (New York) right lane and partial center lane blocked.
Last Updated Date: 05/08/2017 11:29:30 AM

NJ DOT - TOC South: Downed wires and Transformer fire on NJ 33 both directions at Collingswood Circle (Wall Twp) all lanes closed follow detour
Last Updated Date: 05/08/2017 11:23:28 AM

NJ DOT - STMC: Utility Pole Down on NJ 27 both directions area of CR 619/Roselle St (Linden) all lanes closed for repairs
Last Updated Date: 05/08/2017 10:55:08 AM

NYSDOT - Region 11: Pothole repairs on Harlem River Drive northbound between Exit 21 - Madison Avenue (New York) and...
• Planning dashboard results provide:
  • Summary event view by day-of-week and hour-of day
  • 3-D Rendering of events along facility
**TRANSCOM SPATEL – Travel Time Analysis**

- **Historical Planning Dashboard – by Agency**
  - Configurable (10-50 trips)/AM/PM Peak/Yearly analysis
  - Summary by: worst trip
  - Results Offer: Free Flow/Historical/Planning (RI95)
Planning dashboard results provide:
- Standard Deviation (67%) for historical average
- Events in analysis

Planning dashboard results include:
- Map location of trip
- “Heat Map” displaying low speed locations along trip
• **Perf Measure**
  • Based on ASSHTO SCOPM Report
  • Allows for year over year comparison (2014-2016)
  • Configurable trip (Route/County/Trip/Map)
  • 2017 – will cross state boundaries
Results show impact year over year, including:
- Cost (Passenger/Freight/Total)
- Delay ((Passenger/Freight/Total))
- Allows for assessment of proposed activities
Graph comparison presents Total Delay costs by trip on hourly basis for:

- Baseline year; and
- Requested year

Results include:

- Map location of trip
- “Heat Map” displaying low speed locations along trip
**TRANSCOM MAP-21 Tool**

- Tool presented at December MAP meeting
- Tool being updated subject to FINAL/APPROVED Federal Ruling
- All previous functionality to be preserved
  - Geography selection (state/county/MPO/etc.)
  - Comparison (NMPRDS/TRANSCOM DFE Data)
- New request – align tool with Traffic Incident Management (TIM) Perf Measures
SPATEL TOOLS – Updated Look & Feel

More familiar layout...think Windows

- Ability to pin favorite tools
- Streamline/’assist’ user queries
For questions or more information, please contact:

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