Regional Integrated Transportation Information System (RITIS)

National Rural ITS Conference – Branson, MO
Session H1
August 25, 2014
UMD CATT Laboratory
RITIS Background

• Many traffic management centers collecting large amounts of data:
  – Washington, D.C. TMC
  – Maryland CHART TMC
  – Northern Virginia TMC
  – Several Large County TMCs
  – Several Transit Agencies
  – Emergency Management Agencies
  – Computer Aided Dispatch
• Coordination?!—does it exist?
• How is safety and performance measured/analyzed?
• How are investment decisions made?
• Why isn’t there more innovation – private sector or otherwise?
RITIS Mission

- Improve accessibility to data
- Improve data quality
- Facilitate Operations Coordination

- Reduce Agency Operations Integration Costs
- Reduce 3rd Party Developer Costs
- Encourage and Facilitate Innovation by Others
- Create an accessible transportation data archive for
  - Performance Reporting
  - Research
  - Operations
  - Planning
- Decrease % of Wasted Research Dollars
## Incident List

<table>
<thead>
<tr>
<th>Source</th>
<th>Location</th>
<th>Type</th>
<th>Updated</th>
<th>Lane Status</th>
<th>Start Time/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODOT_C chart</td>
<td>Unknown Location</td>
<td>Disabled Vehicles</td>
<td>8/25/2014 12:23 AM</td>
<td>South North</td>
<td>8/25/2014 11:00 AM</td>
</tr>
<tr>
<td>MDOT_C chart</td>
<td>MD 83 SOUTH BETWEEN EXIT 20 SHAWAN RD AND EXIT 17 BADONIA RD</td>
<td>Road Maintenance Operations</td>
<td>8/25/2014 12:20 AM</td>
<td>South North</td>
<td>8/24/2014 6:44 AM, UNABLE TO ATTACH #24</td>
</tr>
<tr>
<td>MDOT_C chart</td>
<td>MD 83 NORTH PAST PFEELAND RD</td>
<td>Road Maintenance Operations</td>
<td>8/25/2014 12:20 AM</td>
<td>South North</td>
<td>8/24/2014 6:44 AM, UNABLE TO ATTACH #24</td>
</tr>
<tr>
<td>MDOT_C chart</td>
<td>MD 147 SOUTH NORTH FROM NORTH WIND TO DODOR RD</td>
<td>Emergency Roadwork</td>
<td>8/25/2014 12:19 AM</td>
<td>South North</td>
<td>8/24/2014 6:25 AM, MORE 410-900-9917, MORE IS NOT THE CONTACT PERSON FOR THIS PROJECT, MORE PISQUARIELLO WILL BE</td>
</tr>
<tr>
<td>VTRAFFIC</td>
<td>VA-76 east @ MH 99.700</td>
<td>Road Construction</td>
<td>8/24/2014 11:44 PM</td>
<td>West East</td>
<td>8/24/2014 10:30 PM, ON VA-7 (Leesburg Pike) in the County of Fairfax from the ramp from VA-123 to the ramp to I-495, motorists can expect potential delays in this area from... Display More</td>
</tr>
<tr>
<td>VTRAFFIC</td>
<td>VA-295W west @ MH 10.400</td>
<td>Road Construction</td>
<td>8/24/2014 11:44 PM</td>
<td>West East</td>
<td>8/24/2014 11:30 PM, ON VA-295 (Dulles Bl) in the City of Alexandria at the ramp from I-665, motorists can expect potential delays in this area from... Display More</td>
</tr>
<tr>
<td>VTRAFFIC</td>
<td>I-95 north @ MH 170.000</td>
<td>Road Construction</td>
<td>8/24/2014 11:44 PM</td>
<td>South North</td>
<td>8/24/2014 11:30 PM, On I-95 in the City of Alexandria from mile marker 2 to mile marker 4, motorists can expect potential delays in this area from... Display More</td>
</tr>
<tr>
<td>VTRAFFIC</td>
<td>I-95 south @ MH 9.000</td>
<td>Road Construction</td>
<td>8/24/2014 11:44 PM</td>
<td>South North</td>
<td>8/24/2014 11:30 PM, On I-95 in the City of Alexandria from mile marker 2 to mile marker 4, motorists can expect potential delays in this area from... Display More</td>
</tr>
<tr>
<td>MDOT_C chart</td>
<td>I-95 EAST/WEST PAST MD 170 (BALTIMORE/WASHINGTON INTL. AIRPORT)</td>
<td>Alert</td>
<td>8/24/2014 11:40 PM</td>
<td>South North</td>
<td>4/3/2013 3:42 PM</td>
</tr>
<tr>
<td>MDOT_C chart</td>
<td>MD 170 SOUTH AT BRYTON AVE</td>
<td>Road Maintenance Operations</td>
<td>8/24/2014 11:15 PM</td>
<td>South North</td>
<td>8/24/2014 6:25 PM</td>
</tr>
</tbody>
</table>
Region of Interest and Filters
Incidents, Sensors, Probe Vehicle Data
CCTV
Fleet AVL and Radio Scanners
Weather Alerts and RWIS
Weather Forecast
Temperature Forecast
Evacuation Support – Staging Areas
Evacuation Support – Traffic Control Points

- Resource Requirements
  - One Watch Duty Position

- Priority 1
  - Watch Duty personnel is needed to:
    - direct traffic
    - manage any traffic incidents and back-up

- Montgomery County
  - Baltimore Scenario
  - TCP 15-T56
  - MD 97 @ Market St (Brookeville)
Personal Alerts

Build Your Route

Alert Types

Select All  Select None  Next

Select All  Select None  Next
Personal Alerts

Lane Status

Step 4: Sometimes incidents happen on or near the roadway, but they don’t block any lanes. Here you can set your preference for how many lanes must be blocked before you will be sent an alert. You can skip this step if you just want to be notified regardless of how many lanes are blocked.

- Alert me regardless of how many lanes are closed.
- Alert me when 25% or more of the lanes are closed.
- Alert me when 50% or more of the lanes are closed.
- Alert me when all of the lanes are closed.

Alert Time

Step 5: Select the times at which you want to receive an alert for this route. You get to choose both the days of the week and the time range when alerts should be sent. You can add multiple time ranges by clicking on the “Add Time Segment” button.

Please select the location that best describes your time zone from the drop-down menu.
Incident Timeline
Incident Archive Analysis
Incident Archive Analysis
Incident Type Measures
Incident Duration Measures
Detector Networks Overview
Corridor Overview
Corridor Analysis
Individual Detector Analysis
Shorter Time Period and Data Health

- **Profile**
  - Zone ID: 4096
  - Organization: FDOT
  - Lane: 4
  - Location: I-95 MP 047.0
  - Northbound

- **Health Summaries**
  - **Zone**
    - Valid: 97%
    - Invalid: 3%
  - **Lane 1**
    - Valid: 75%
    - Invalid: 25%
  - **Data Validation Checks**
    - controller err codes: 100%
    - maximum occupancy: 100%
    - maximum speed: 100%
    - consistency: 100%
    - volume speed: 100%
    - consistency: 100%
    - speed volume: 100%
    - consistency: 100%
    - maximum estimated density: 100%

- **Nearby Detectors**

- **Graphs**
  - Speed (mph)
  - Volume Weighted

- **Legend**
  - Valid
  - Invalid
  - Missing Data
Custom Measures
Corridor Health Analysis
Individual Detector Health Analysis
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