

Current Practices With Using Traffic Management Center (TMC) Dashboards

July 23, 2020

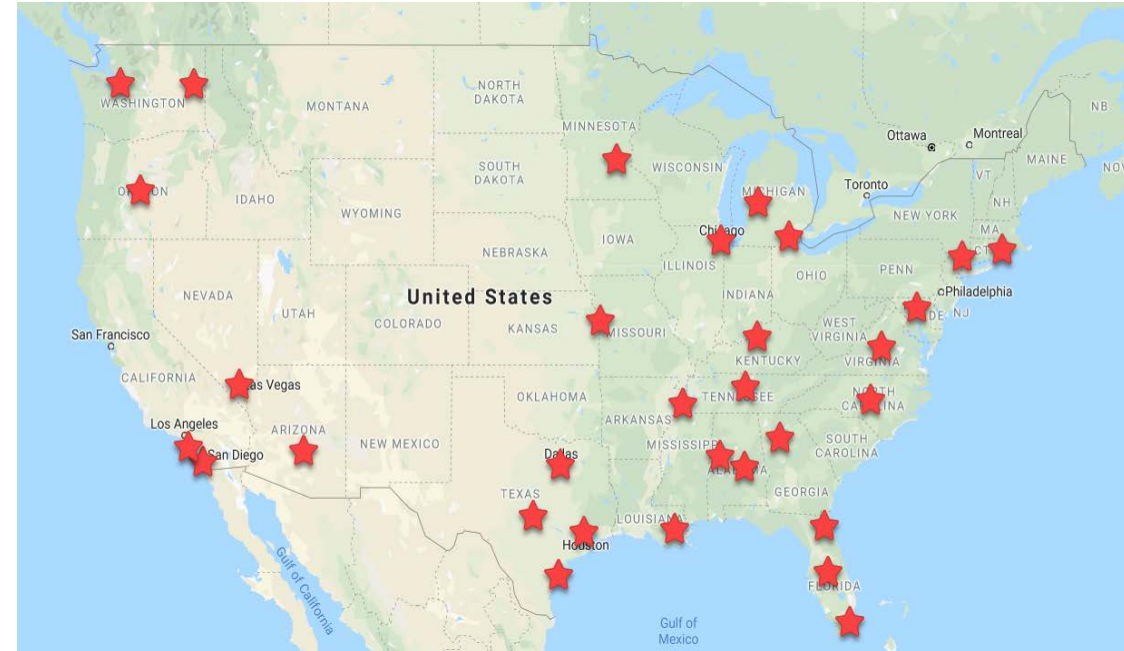
Traffic Management Center (TMC) Pooled Fund Study
(<https://tmcdfs.ops.fhwa.dot.gov/>)

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Project Targets

- Top 50 US metropolitan areas by population.
- Assistance from the States in the TMC Pooled Fund Study.
- Targeted outreach with 9 additional TMCs.
- Some TMCs covering a metro area and others covering a region or State.
- Range of population sizes.
- Total of 34 responses.



Source: *Federal Highway Administration
Office of Operations - Transportation
Management Center Performance
Dashboards.*

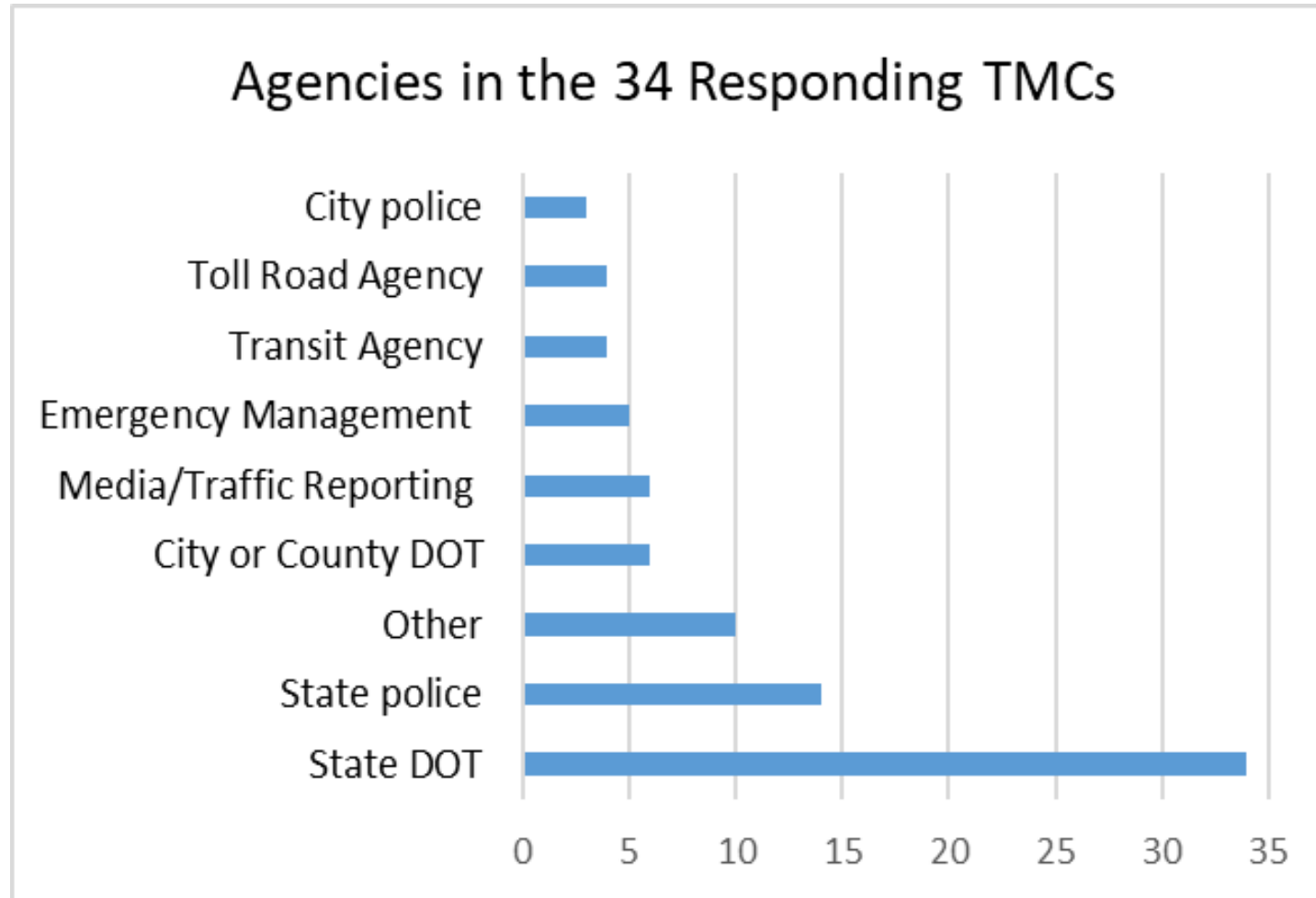


Multiple Contact Process

- Called each prospective TMC:
 - Explained the project goals and methods.
 - Described the benefit to the TMC community.
 - Described the flexibility to each TMC's interest and ability to respond.
- Found appropriate person, offered a range of submission options.
- Asked for information on original dashboard set-up, on-going operations and maintenance and usage.
- Provided a download link to submit examples of dashboard displays.



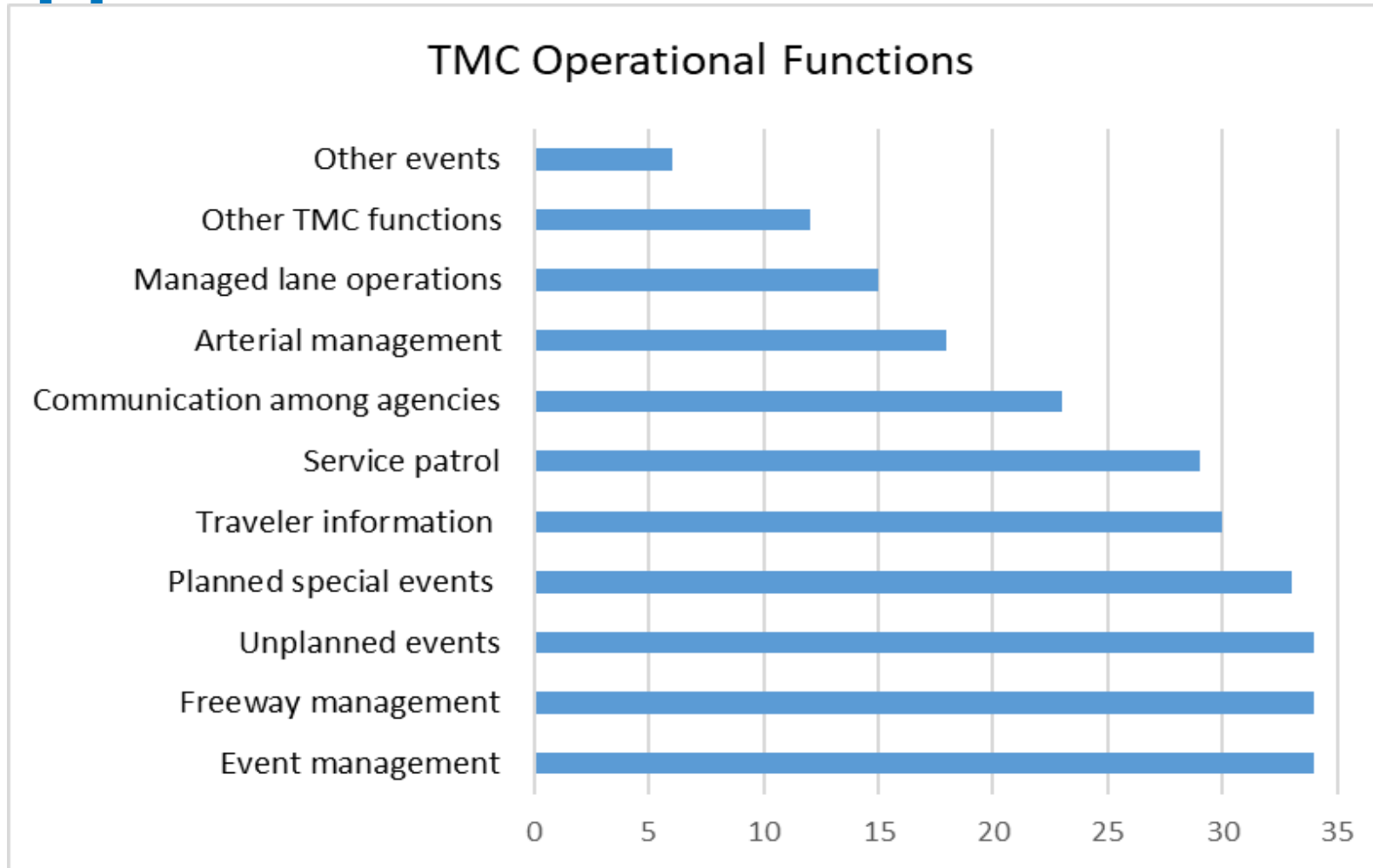
Who is in the TMC?



Source: *Federal Highway Administration Office of Operations - Transportation Management Center Performance Dashboards.*



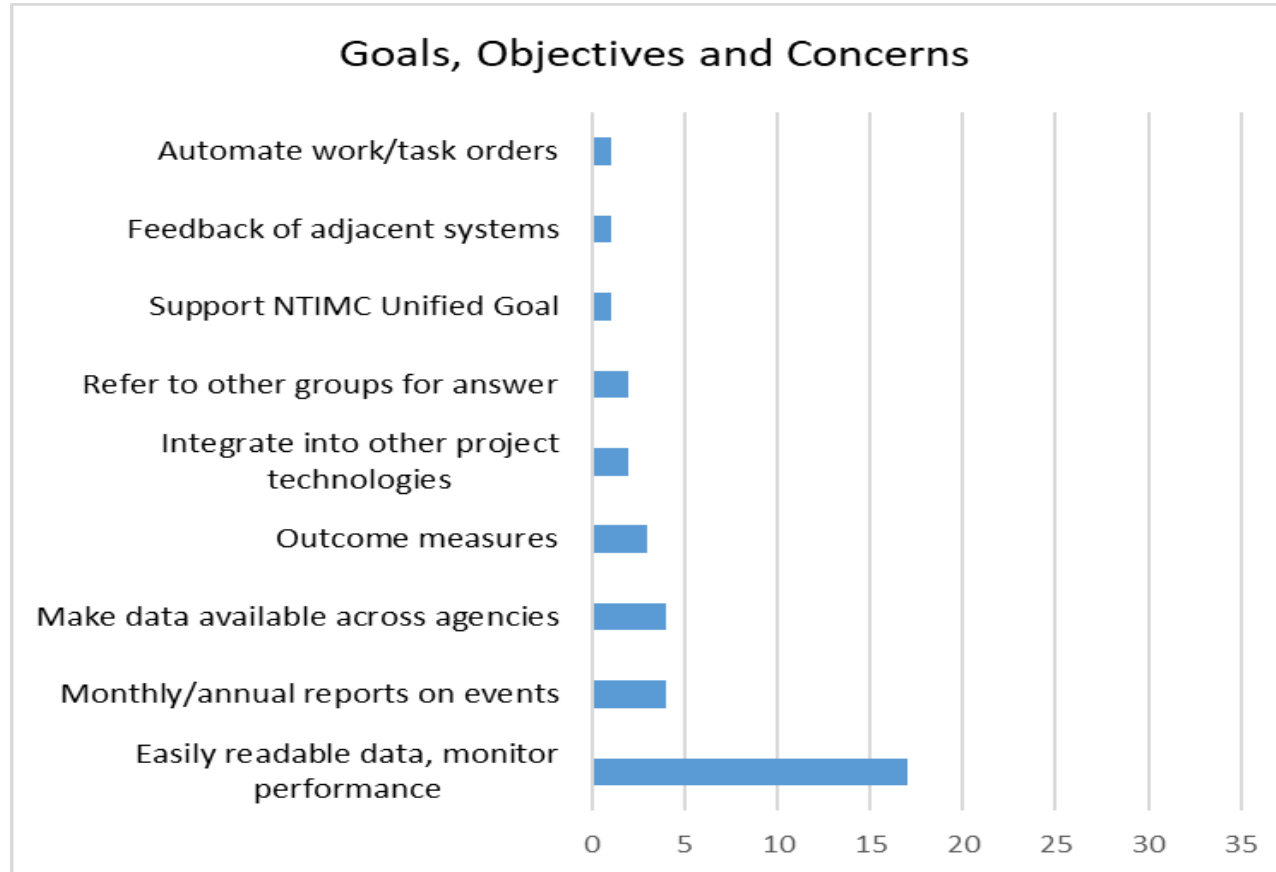
What Happens in the TMC?



Source: *Federal Highway Administration Office of Operations - Transportation Management Center Performance Dashboards.*



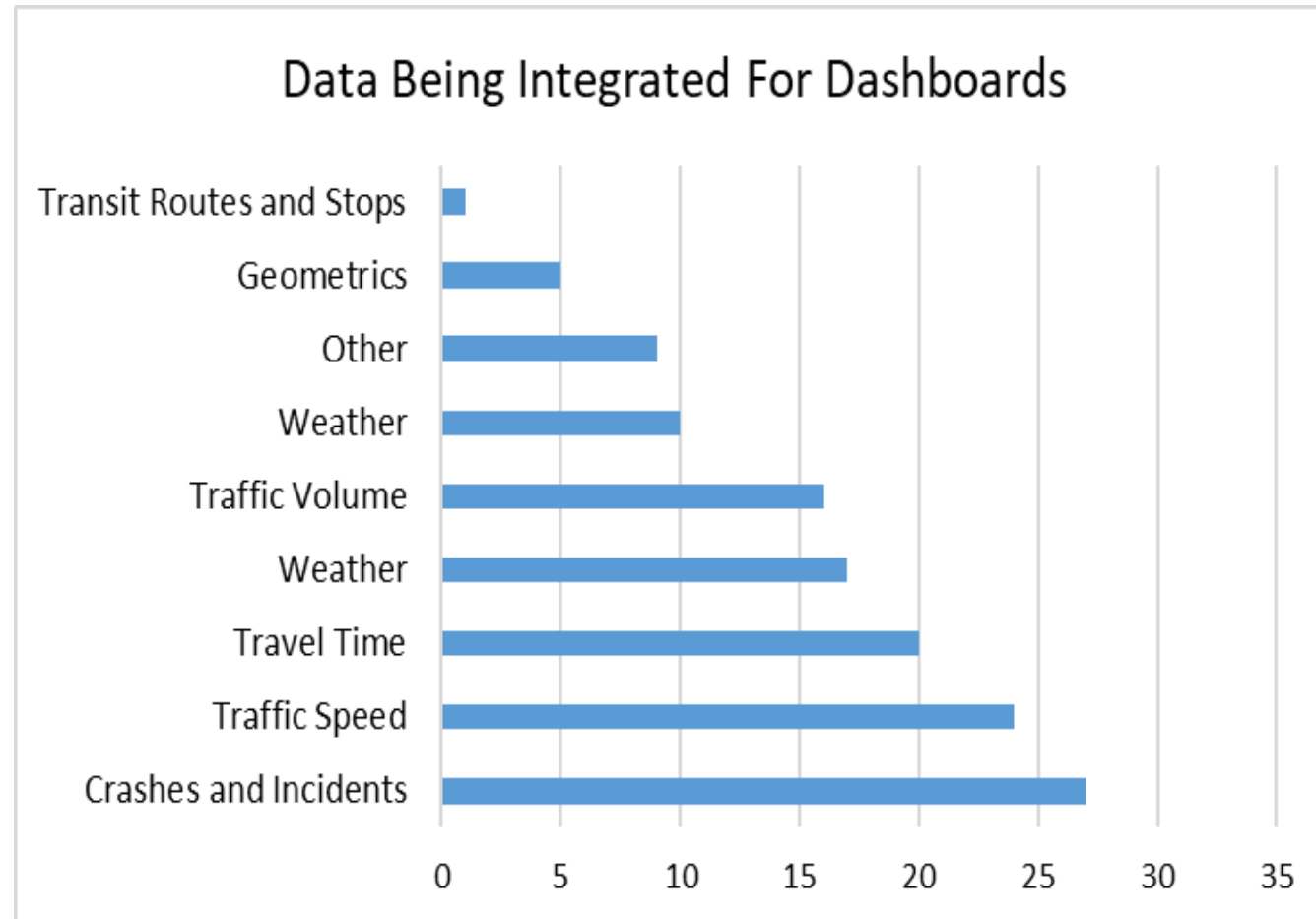
Why Does the TMC Look Like it Does? What Were the Initial Goals?



Source: *Federal Highway Administration Office of Operations - Transportation Management Center Performance Dashboards.*



What Data are Used for Operations Dashboards?



Source: *Federal Highway Administration Office of Operations - Transportation Management Center Performance Dashboards.*

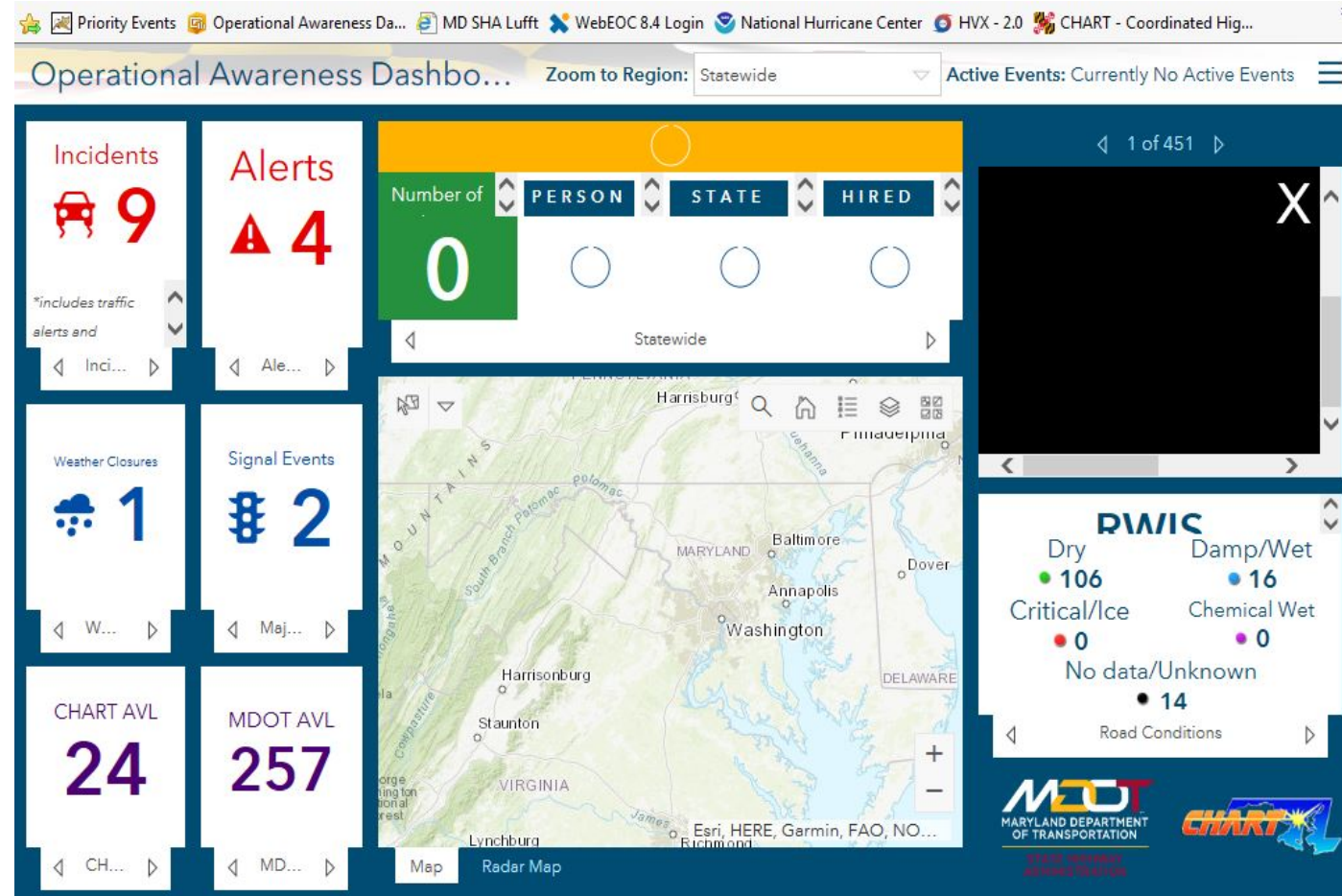


Key Output Measures Displayed on Dashboards

- TMC status.
- Device uptime.
- Service patrol status – location, response time, clearance time.
- Crashes – status, mapping, patterns.
- Website hits to identify usage patterns.
- Clickable maps that provide quick access to event details.



Example: Summary Stats and Clickable Map for Event Details



© Maryland State Highway Administration – Coordinated Highways Action Response Team Dashboard.



Public-Facing Dashboards

- Few agencies have a public-facing dashboard.
- Most common public facing information:
 - Traffic speed.
 - Volume.
 - Weather.
 - Crash and incidents.
- Standard TMC data with logical connections to the core mission.
- Used in operation, management, staff, and resources.
- Basic components of a before/after and TMC benefit analysis.



Dashboard Evolution

- Change is a constant!
- New data sources such as third-party data and information providers like WAZE, INRIX, or HERE.
- New agency goals.
- Additional desired or mandated attributes.
- User feedback, public comments, and stakeholder meetings.
- Change suggestions from internal TMC operators – new needs or improvement suggestions.
- New analytic platforms or data integration services.



Other Improvement Goals for Performance Dashboards

- Display real-time events:
 - Understandable for systems that are primarily designed to serve internal TMC operations.
- Dashboard attributes or other operational improvements.
- Greater flexibility for use across TMC agencies.
- Geographic displays of active events.
- Able to customize features.



Future Dashboard Enhancements

- New Data Sources – traffic speed and traffic signal data.
- New analysis capabilities – more complex information queries and predictive analysis.
- Information sharing (to other stakeholders) – supporting the goal of a common communication platform.
 - Few respondents mentioned sharing data with the public.
- Real-time visualization or presentation – new control center capability.
- Real-time tracking of TMC performance.
- Making report preparation easier, integrating TMC data with other data.

