Planning for Connected and Autonomous Vehicles

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Presentation to the Intelligent Transportation Society of Maryland

September 22, 2016

What We Know

- ▶ CV/AV is here
- ▶ Moving faster than we thought
- ▶ Technology is changing faster than we are
- ▶ Systems and processes are for a DOT of 10-20 years ago
- ▶ Infrastructure management might change significantly
- ▶ Data is the new frontier
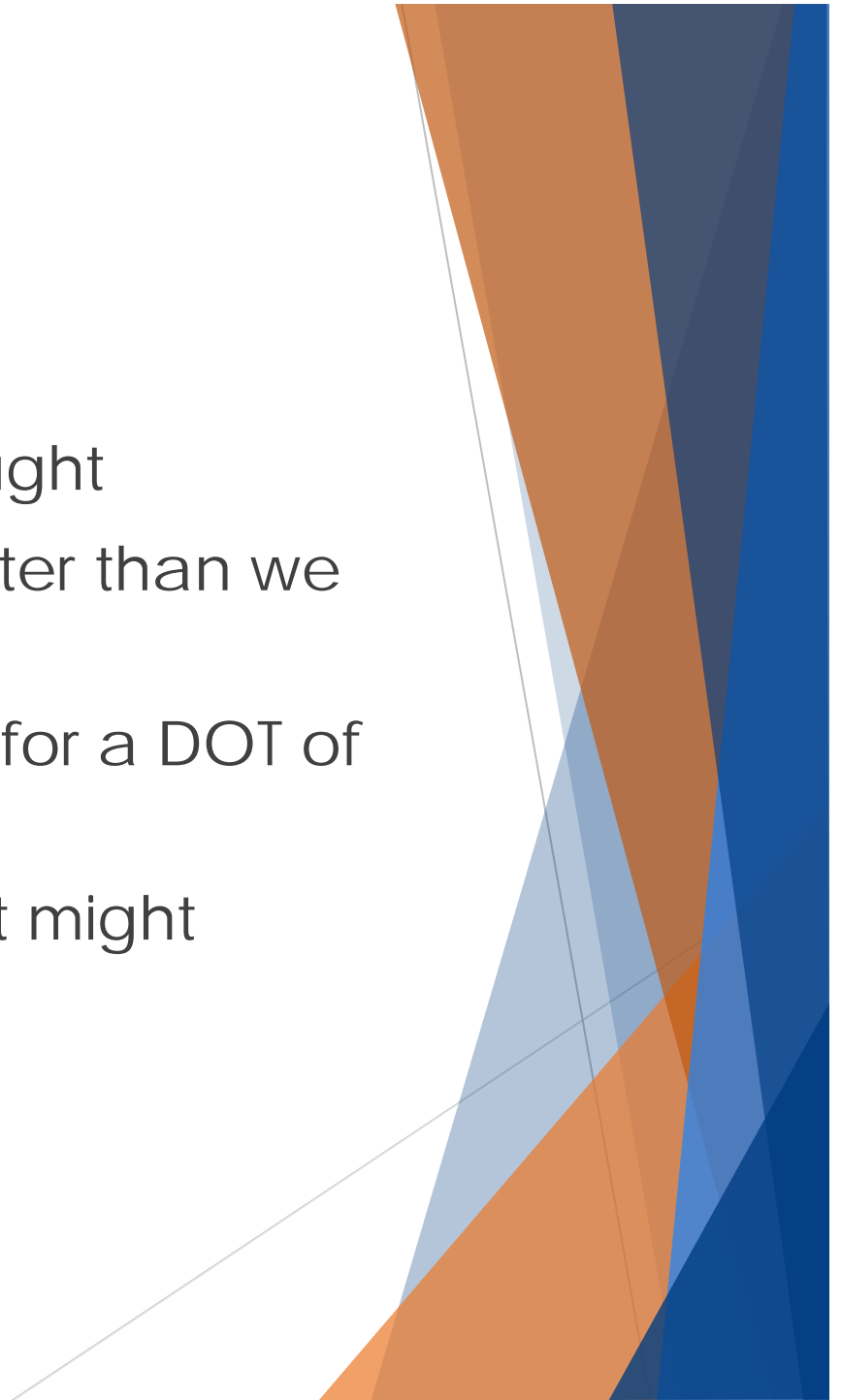
Current MDOT CV/AV Applications

▶ Supporting Operations

▶ Planning for CV/AV

▶ Communicating and Networking

▶ Test Bed/Equipment

▶ Research and Analysis

CHART Example
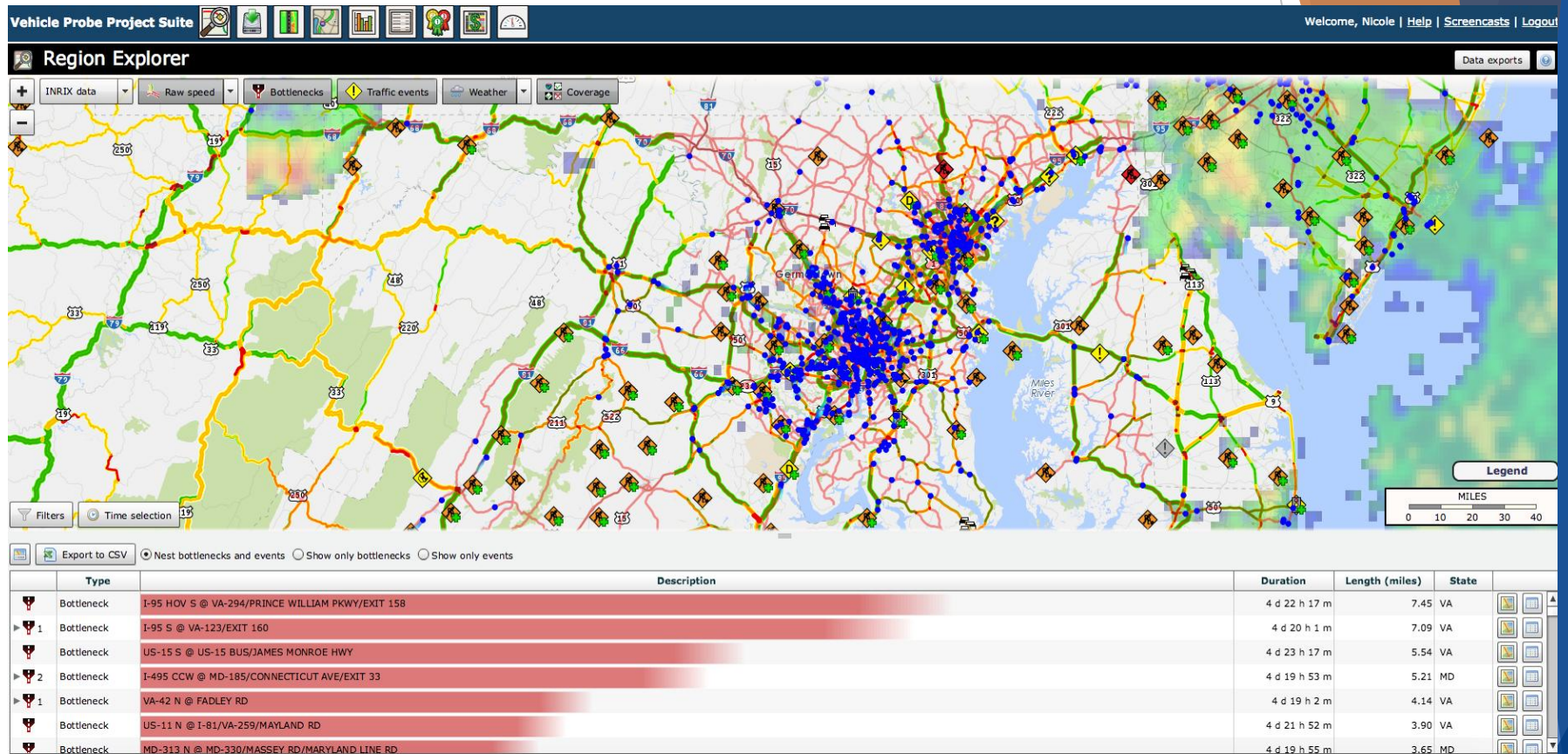
Opportunities for CV/AV for MDOT

- Operations
  - Vehicle to Vehicle and Vehicle to Infrastructure exchanges
  - Integrated corridor management and active traffic management
  - Incident management and traveler information systems
  - Congestion reduction
- Safety Improvements
  - Reduced incidents
  - Better communication with drivers
- Freight
  - Truck parking, real time parking and routing
  - Improved State level understanding of freight activities (O/D, diversions, economic activity)
- Finance ,Policy and Planning
  - CV/AV may support VMT/data collection and user revenues/tolls
  - Wealth of data and analytical opportunity to support policy, planning and investment

What We are Doing

- ▶ Supporting MDOT's CV/AV Planning and Policy Working Group
- ▶ Planning from the TBU (MDOT SHA) perspective
- ▶ Assessing other states
- ▶ Identifying our readiness
- ▶ Taking initial steps to prepare and partner

Short Term Actions at MDOT SHA

▶ Develop readiness assessment

▶ Develop a data governance framework

▶ Review current laws and codes

▶ Engage University of Maryland/CATT Lab

▶ Work with FHWA on integration

▶ Partner with I-95 Corridor Coalition on ITS truck parking

▶ Improve upon truck probe data

▶ Join FHWA Pooled Fund work by October 1, 2016

Long Term Actions

- Evaluate business processes to support CV/AV
- Identify traffic and congestion implications
- Identify safety implications
- Evaluate communications and develop a communications strategic plan with DOIT
- Engage universities to support MDOT in research, planning and implementation
- Evaluate procurement readiness
- Place focus on automated/autonomous vehicles
- Evaluate traffic simulation manual
- TSM&O– Signal Phase/timing analysis
- Develop performance analytical tools to capture CV/AV data and analyze it
- Understand mapping needs:
  - MDOT SHA pursuing Mobile LiDAR
  - Identify what information we need in mapping to support CV/AV
- Investigate Spectrum, WiFI 5.9 (follow up with FHWA Turner Fairbank)

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