TPB MEMBER TECHNOLOGY INVENTORY SURVEY

Overview

Andrew Burke
TPB Transportation Engineer

NVTA Transportation Technology Committee
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National Capital Region
Transportation Planning Board

Background and Purpose

- Snapshot of current technology use by member agencies in the TPB region
- Build on past surveys – Traffic Signal Timing, Power Back-up, and Technology Surveys
- Inform future planning activities and feed into ITS architecture update

Technology Survey – Scope of Work

- Survey performed by team from ICF and Mead & Hunt in coordination with members of TPB staff
- Transportation Systems Management & Operations (TSMO) service areas were selected as the focus of the survey
- In addition, information on Emerging Technologies, Communications Networks, and available GIS datasets were collected in survey efforts
- Online form or word document options used for agency responses
- Existing technologies versus planned technologies – 2 year implementation cutoff

TSMO Categories Surveyed

- **Active Traffic and Demand Management** (Adaptive Ramp Metering, Managed Lanes, Variable Tolling, etc.)
- **Traffic Management Centers** (e.g., Arterial Management, Real-time traffic management, Real-time dynamic messaging, etc.)
- **Traffic Signal Operations** (e.g., Adaptive Traffic Signal Control, Traffic Responsive Signal Control, Automated Traffic Signal Performance Measures (ATSPMs), etc.)
- **Integrated Corridor Management** (e.g., Roadway Incident Detection, Incident Response, Support System for Arterial Traffic Signals, etc.)

TSMO Categories Surveyed Continued

- **Traveler Information** (e.g., Advanced Transportation Management Systems (ATMS), website, smart phone applications, etc.)
- **Work Zone Operations** (e.g., Smart Work Zone, Variable Speed Limit, Real-time Work Zone Information, etc.)
- **Emergency Transportation Operations** (e.g., Decision Support Systems, Evacuation Management, etc.)
- **Connected and Automated Vehicle Deployment** (e.g., SPaT Messages Broadcast, BSM Messages Broadcast, CV applications, etc.)
- Plus **Emerging Tech., Comm. Networks, and GIS datasets**

Participating Agencies

District Department of Transportation (DDOT)

Maryland Department of Transportation State Highway Administration (MDOT/SHA)

Virginia Department of Transportation (VDOT)

Arlington County

City of Alexandria

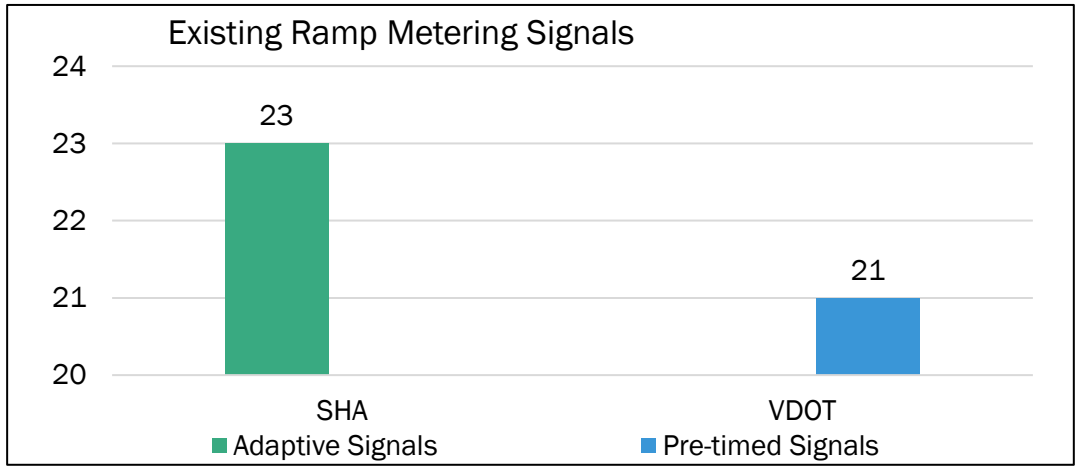
City of Fairfax

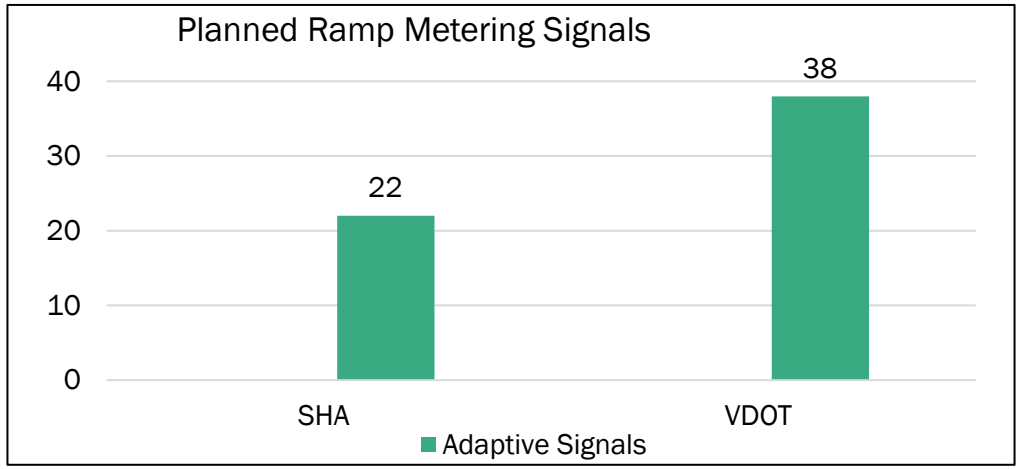
City of Gaithersburg

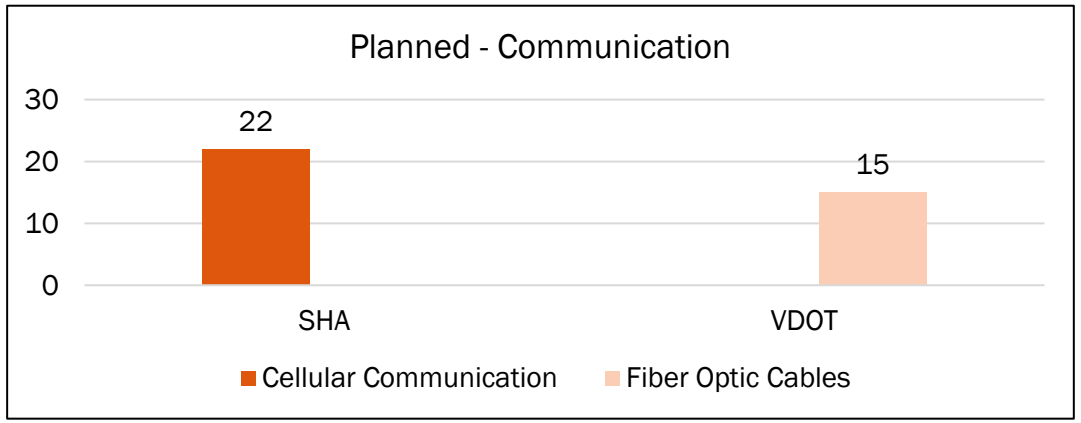
City of Manassas

Montgomery County Department of Transportation (MCDOT)

Result Highlights - Active Traffic and Demand Management





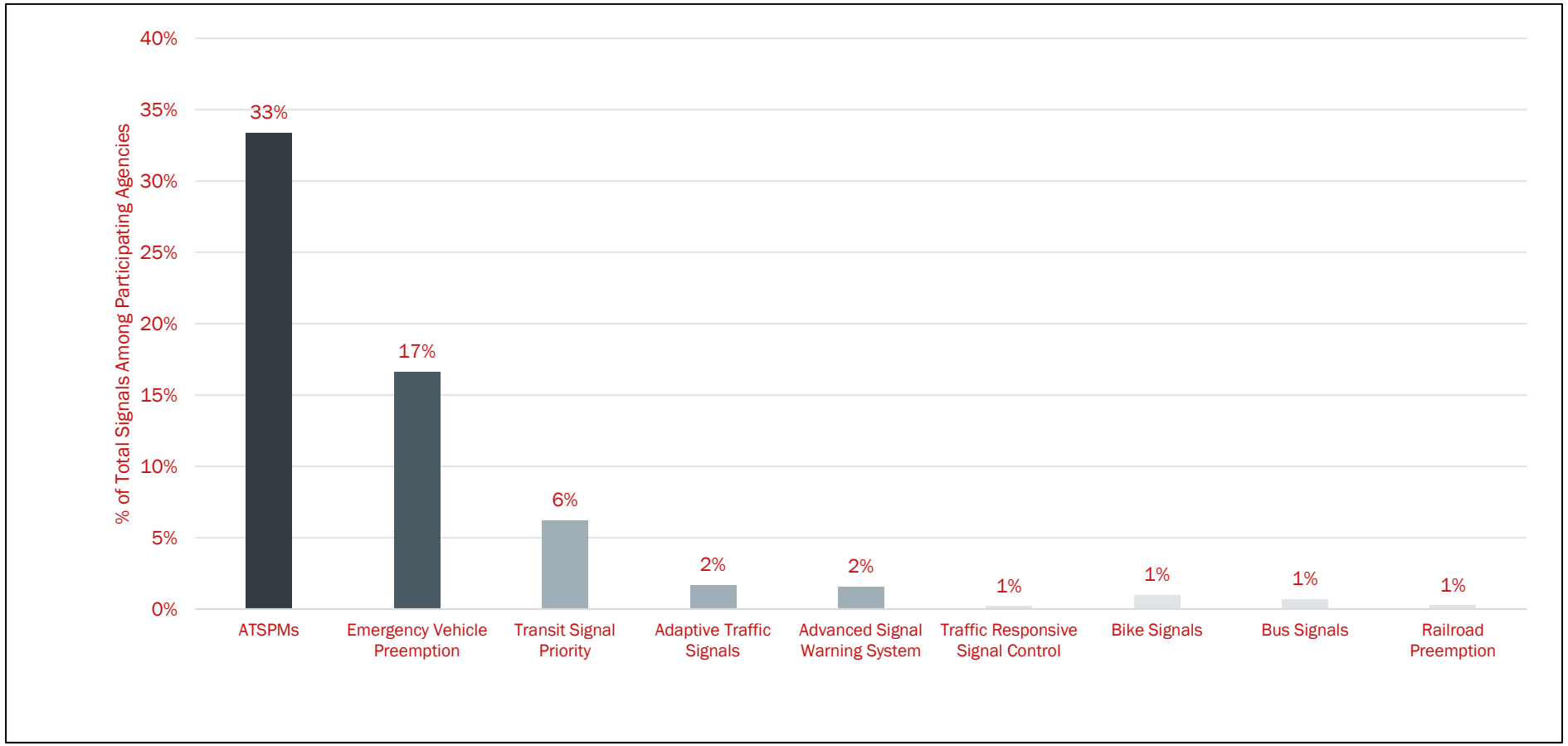


Ramp Metering Detectors:

- **SHA:**
  - 23 Locations with Existing Video Detectors, 23 Locations Existing Radar Detectors
  - 22 Locations Planned Video Detectors; 22 Locations Planned Radar Detectors

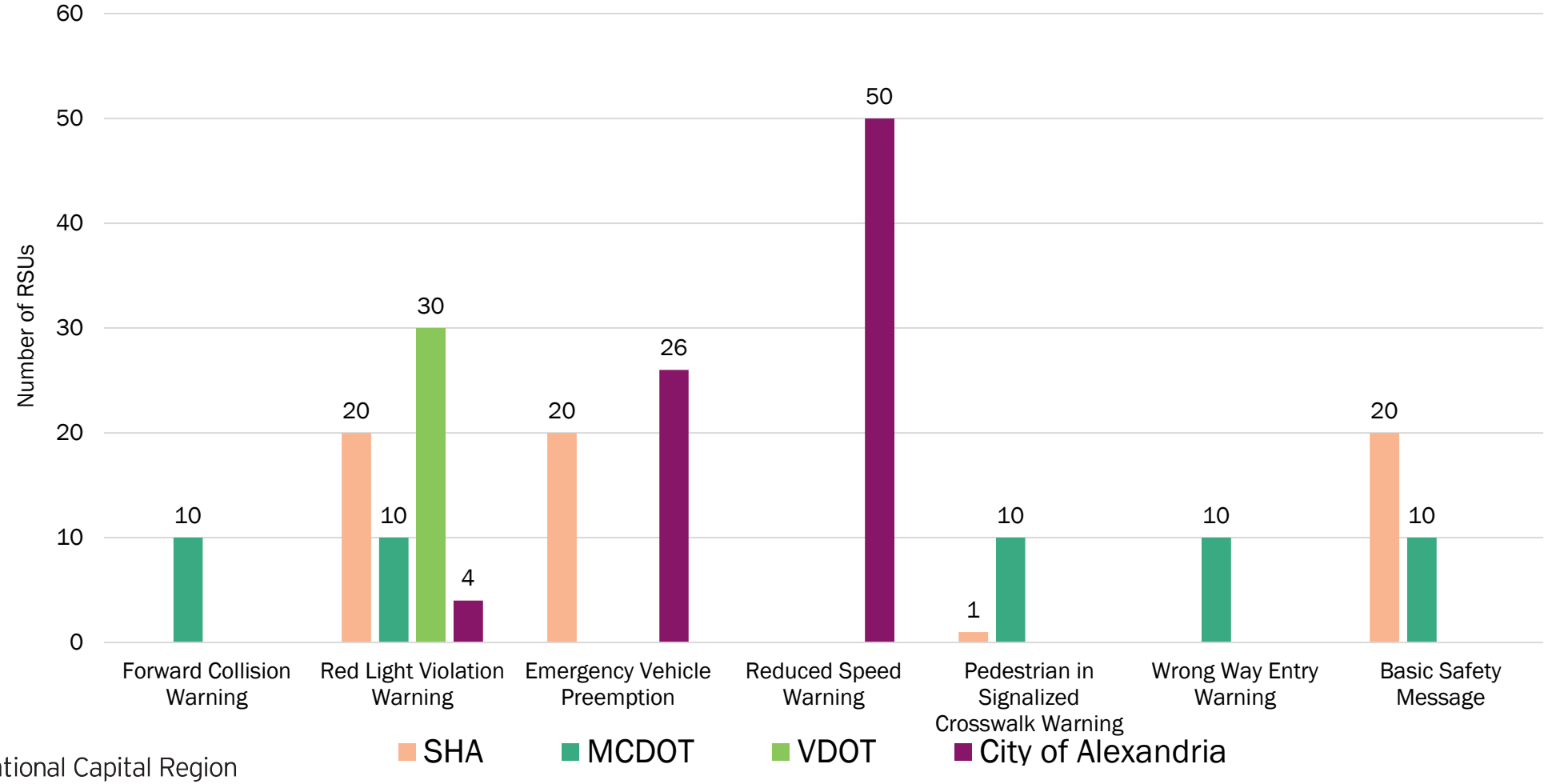
Result Highlights - Traffic Signal Operations

EXISTING TRAFFIC SIGNAL STRATEGIES



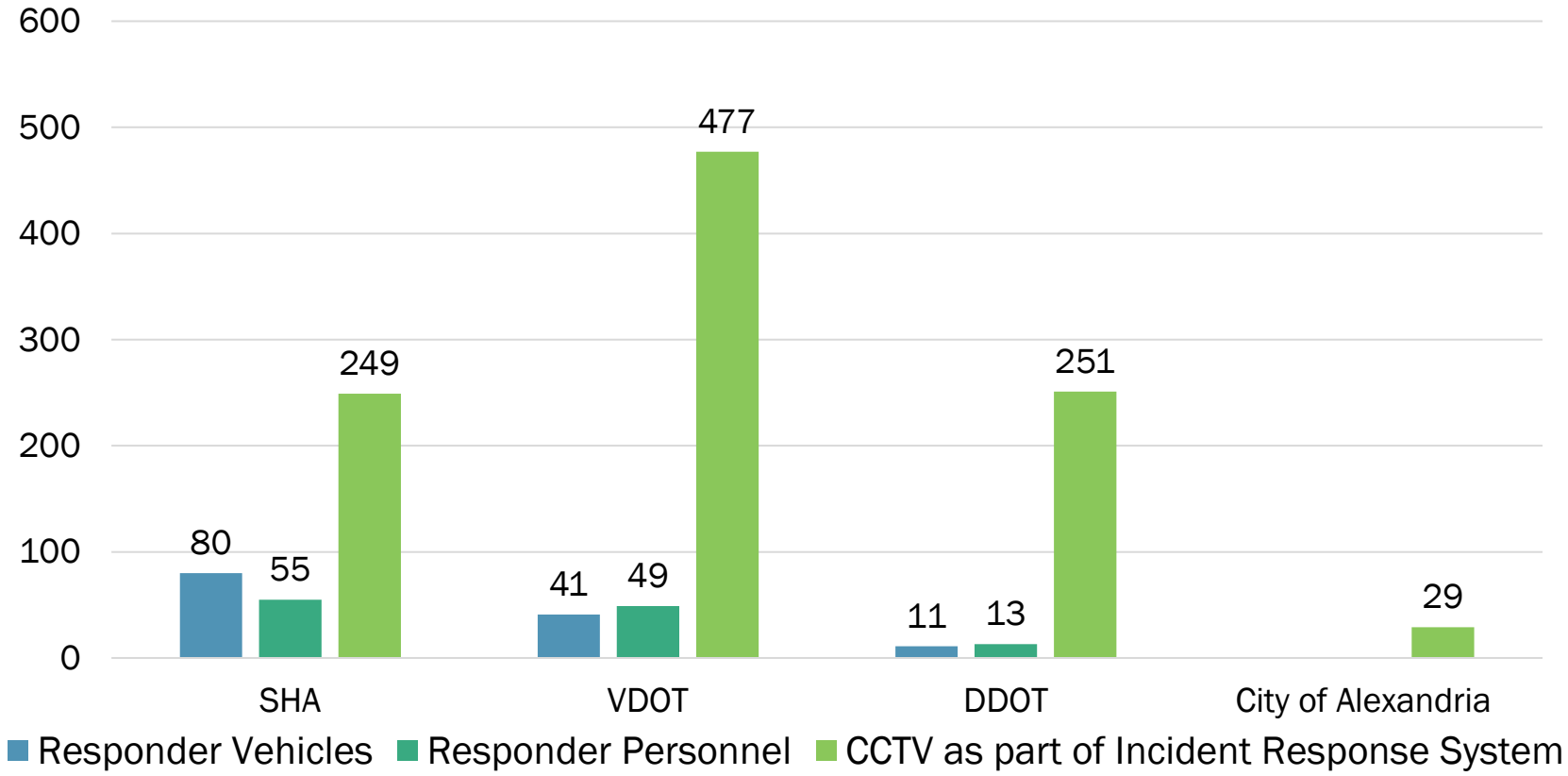
Result Highlights – CAV Deployment

Safety Applications – Existing Roadside Units (RSU)



Result Highlights - Integrated Corridor Management

Incident Response System



Conclusions & Next Steps

- Technology changes at fast pace, use Systems Performance, Operations and Technology Subcommittee (SPOTS) as technology showcase
- Encourage increased member participation in future surveys
- Research making survey a “living document” and resource directory for members

Andrew Burke

Transportation Engineer
(202) 962-3778
aburke@mwcog.org

mwcog.org/tpb

Metropolitan Washington Council of Governments
777 North Capitol Street NE, Suite 300
Washington, DC 20002

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