U.S. Department of Transportation
Federal Highway Administration

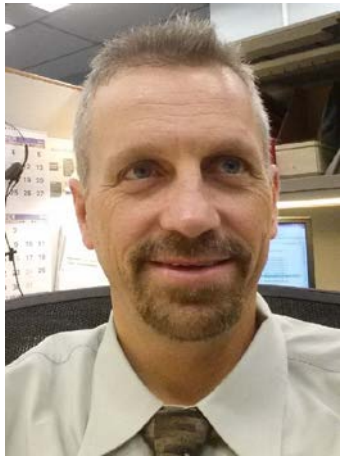
TSMO Program Planning

December 10
Webinar

Agenda

- Welcome and Introductions
- TSMO Program Planning Context, Jim Hunt (FHWA)
- Alabama TSMO Program Plan, Chris Hilyer (ALDOT)
- Minnesota TSMO Program Plan, Brian Kary (MnDOT)
- Maryland TSMO Program Plan, Joey Sagal (MDOT SHA)
- Q&A with Presenters
- Resources Available

Meet our speakers



Jim Hunt,
FHWA

Michael Grant,
ICF

Danielle Stanislaus,
Emergent Transportation Concepts

Chris Hilyer,
Alabama DOT

Brian Kary,
Minnesota DOT

Joey Sagal,
Maryland DOT

TSMO Program Planning Context

- What is TSMO and what is driving increasing interest in TSMO
- How does TSMO represent a paradigm shift in developing transportation solutions
- Motivation and purpose of TSMO Program Planning

What is TSMO?

- "[TSMO] means integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of the transportation system."

  - 23 U.S. Code § 101(a)(30)

- TSMO is actively managing the multimodal transportation network to improve safety, mobility, and reliability outcomes.

Growing Recognition of the Importance of TSMO

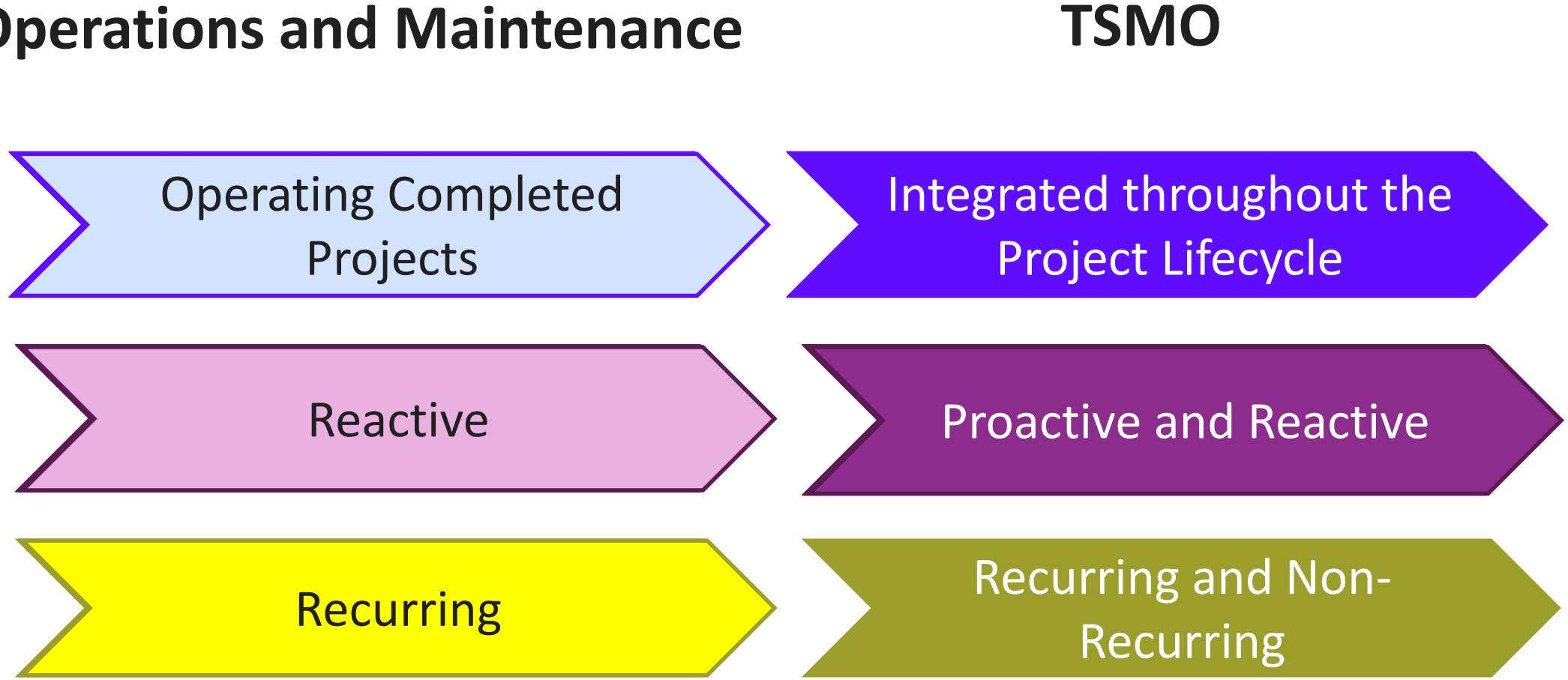
- Increased reliance on information and technology
- Increasing customer needs and expectations
- Growing emphasis on measuring performance
- Reduced financial resources
- Technology also offers opportunities – multiple operations strategies and regional integration of various modes

TSMO Activities…

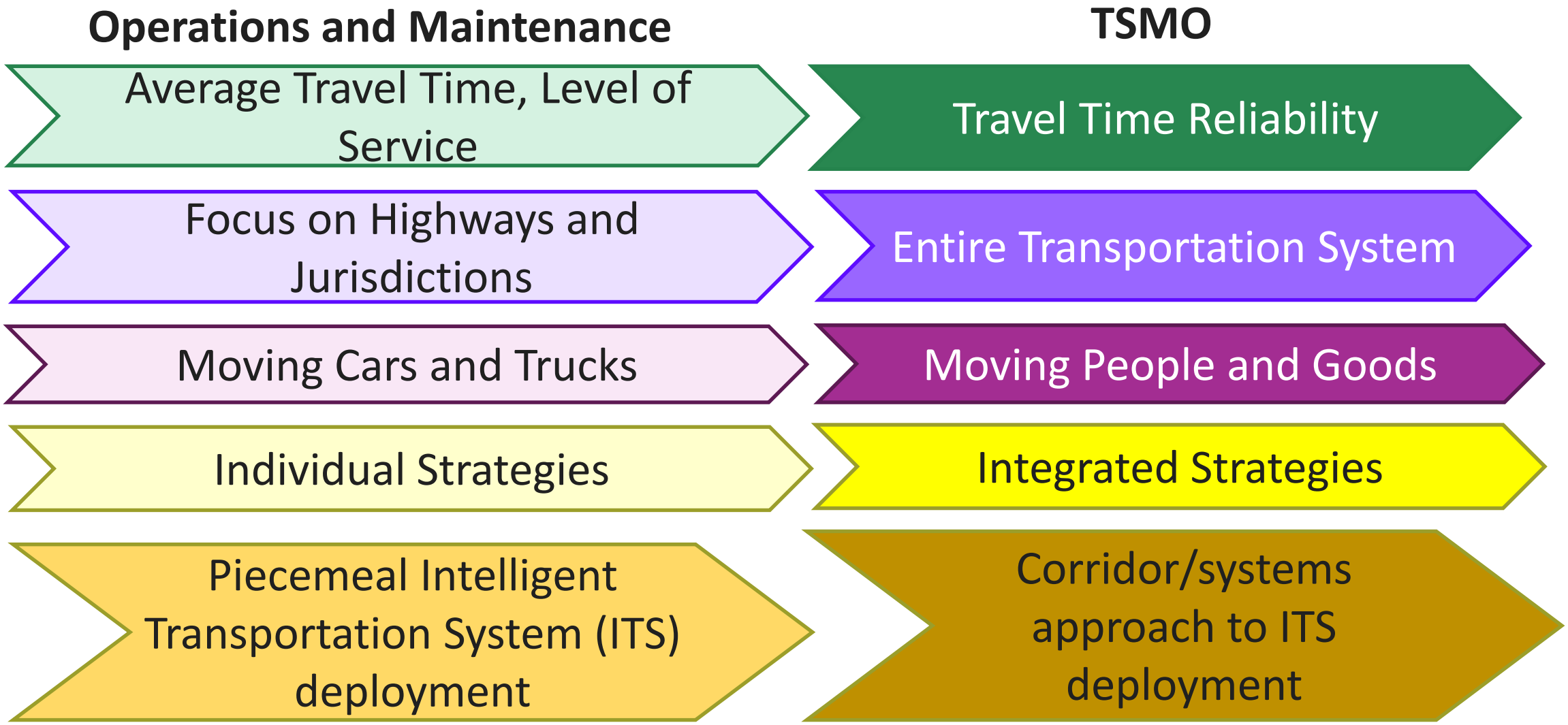
- Influence travel demand (how much, when, where)
- Effectively manage the movement of people and goods
- Leverage technology
- Anticipate and respond to planned and unplanned events (incidents, work zones, bad weather, special events)
- Provide travelers with high quality traffic, transit, and weather information
- Ensure that the unique needs of the freight community are considered and included

USDOT, FHWA Office of Operations, *The Operations Story,* Presentation.

Shifting Paradigms



Shifting Paradigms (continued)



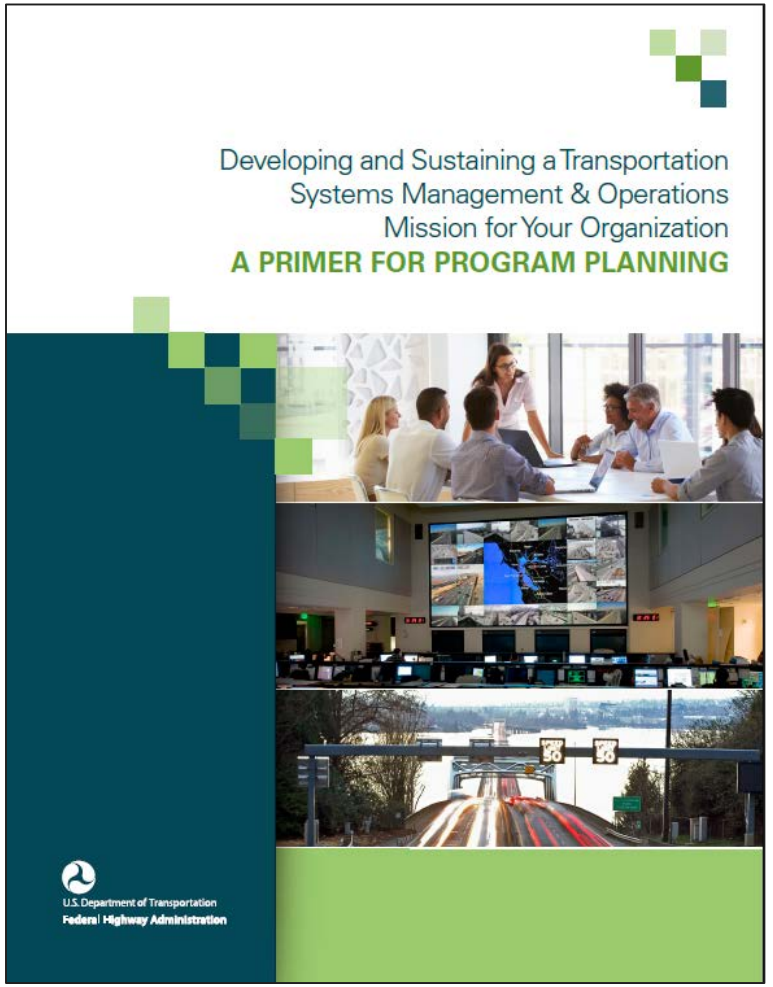
Why TSMO Program Planning?

- Moves TSMO from an ad hoc set of activities or strategies into a cohesive ***program*** vital to the mission of the agency

- Facilitates ***integration*** and ***mainstreaming*** of TSMO within a transportation organization to support new and evolving roles and responsibilities of these organizations

FHWA's Primer on TSMO Program Planning

- The Primer provides the rationale for and the key elements of successful TSMO program planning.
- It is intended to help agencies understand:
  - Why is TSMO program planning important? How can it benefit a transportation agency or region?
  - What are key elements of effective TSMO program planning, and what steps or activities should be taken?
  - What would an effective TSMO Program Plan look like?



Source: FHWA
Available at: https://ops.fhwa.dot.gov/publications/fhwahop17017/ch1.htm

Key Elements of TSMO Program Planning

Rationale for TSMO Program Planning

- Creating a TSMO Mission
  - Articulates the benefits and importance of TSMO
  - Describes connections between TSMO activities and other agency processes
  - Defines strategic goals of TSMO

- Sustaining and Institutionalizing the TSMO Mission
  - Identifies how TSMO is integrated into key responsibilities of organization(s)
  - Supports organizational decision making and prioritization of investments
  - Identifies staffing and workforce development needs

- Supporting Effective Program Delivery
  - Identifies funding needs and sources, deployment activities, and responsible parties
  - Identifies program and project priorities
  - Identifies performance measures for tracking on-going progress

Peer Presentations

- Chris Hilyer, ALDOT – TSMO Past, Present, and Future in Alabama
- Brian Kary, MNDOT – TSMO Program Planning in Minnesota
- Joey Sagal, MDOT SHA – Maryland TSMO Strategic Plan and Program

U.S. Department of Transportation
Federal Highway Administration

Chris Hilyer

Alabama DOT

National Operations Center of Excellence
TSM&O Program Planning Webinar
December 10, 2019

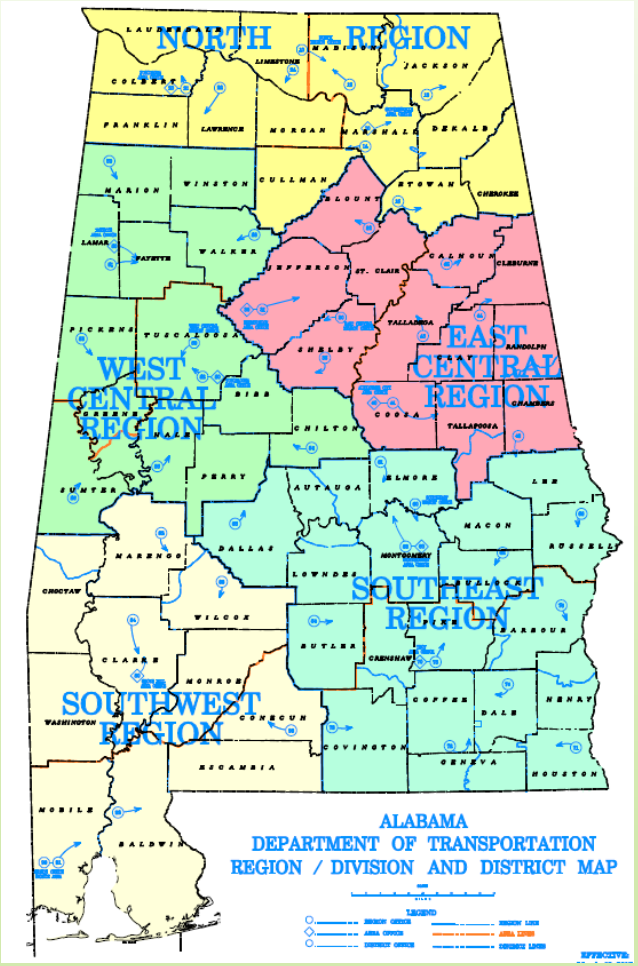
ALABAMA TSM&O

A CHRONICLE OF THE PAST, PRESENT, & FUTURE

CHRIS HILYER

STATE TSM&O ADMINISTRATOR

HILYERC@DOT.STATE.AL.US



PAST

- REGIONAL ITS ARCHITECTURE(S)
- LOCAL MASTER PLANS
- ISOLATED PROJECT LETTINGS
- NO BUSINESS CASE

PAST

- STATE ITS ARCHITECTURE
- ITS STRATEGIC BUSINESS PLAN
- SUBLET PROJECTS
- NO BUSINESS CASE
- CENTRALIZED TECHNICAL KNOWLEDGE BASE

Minimum Stakeholder Participation

ATTRITION, ATTRITION, ATTRITION

PRESENT – *"Making the Business Case"*

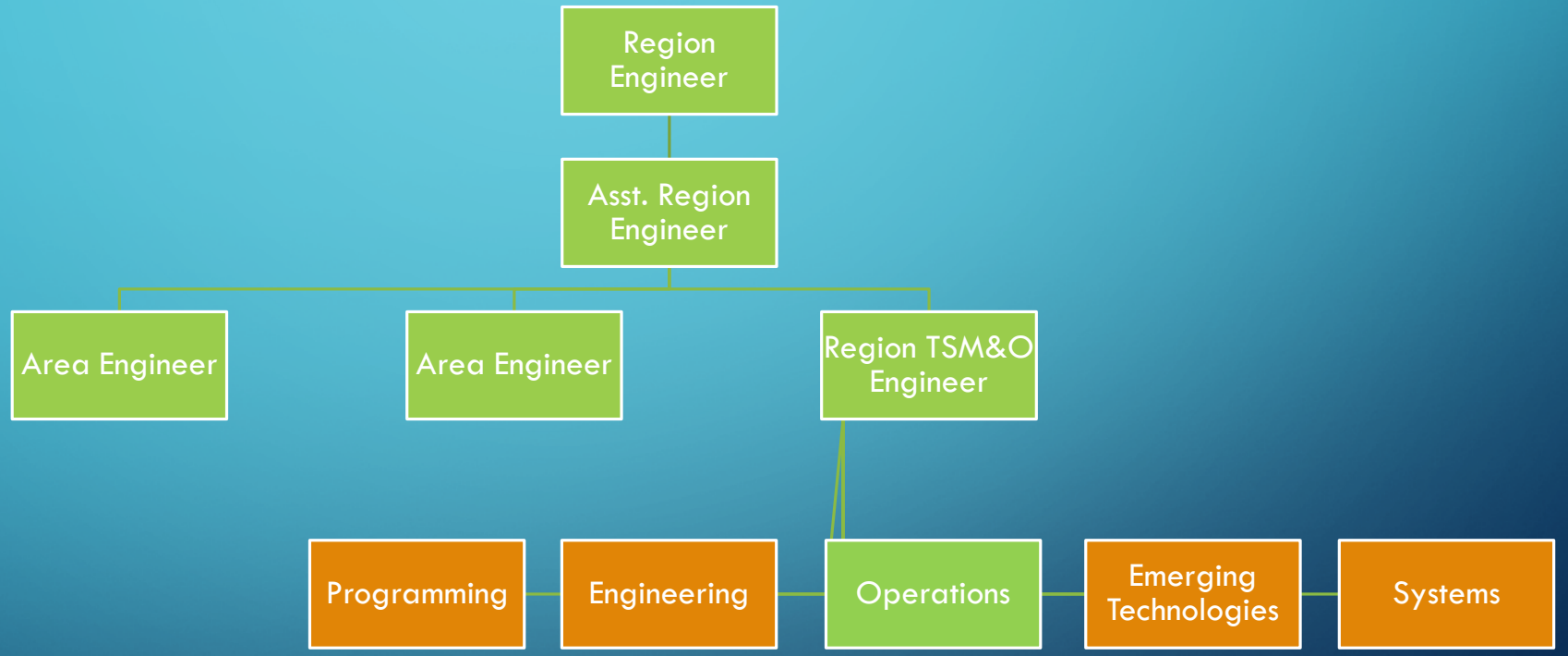
VISION & OBJECTIVES MEETINGS WITH LEADERSHIP

- LEGISLATION
- GUIDELINES FOR OPERATIONS
- 23-CFR-511 REQUIREMENTS
- CURRENT & FUTURE TRANSPORTATION BILL REQUIREMENTS
- PRIORITY CORRIDORS
- EVERY DAY COUNTS INITIATIVES
- CONTINUOUS SYSTEMS & SOLUTIONS

PRESENT – *"Making the Business Case"*

- VISION & OBJECTIVES MEETINGS WITH LEADERSHIP
  - THE NEED FOR A MASTER PLAN
  - THE NEED FOR A CHAMPION
  - THE NEED FOR REORGANIZATION
  - EXECUTIVE BUY-IN

PRESENT


Region Engineer
Asst. Region Engineer
Area Engineer
Area Engineer
Region TSM&O Engineer
Programming
Engineering
Operations
Emerging Technologies
Systems

PRESENT – *"Making the Business Case"*

- STATEWIDE TSM&O STRATEGIC PLAN
- STATEWIDE TSM&O PROGRAM PLAN
- STATEWIDE TSM&O SERVICE LAYERS
- REGION TSM&O TACTICAL PLANS

PRESENT – *"Making the Business Case"*

STATEWIDE TSM&O STRATEGIC PLAN

- WHAT IS TSM&O
- THE BUSINESS CASE FOR TSM&O (*OPPORTUNITY FOR IMPROVEMENT*)
- CAPABILITY MATURITY MODEL
- SURVEYS & WORKSHOPS
- VISION, GOALS, AND OBJECTIVES

PRESENT – *"Making the Business Case"*

STATEWIDE TSM&O PROGRAM PLAN

- PROGRAM STRUCTURE
- PROGRAMMATIC PROCESSES
- CONTINUOUS TSM&O PROGRAM SUCCESS
- TSM&O PROGRAM IMPLEMENTATION

PRESENT – *"Making the Business Case"*

STATEWIDE TSM&O SERVICE LAYERS

1. ITS & COMMUNICATIONS
2. TRAFFIC SIGNAL MANAGEMENT
3. TRAFFIC MANAGEMENT CENTERS
4. TRAVELER INFORMATION
5. TRAFFIC INCIDENT MANAGEMENT
6. EMERGENCY TRANSPORTATION OPERATIONS
7. WORK ZONE MANAGEMENT
8. ACTIVE TRANSPORTATION AND DEMAND MANAGEMENT
9. EMERGING TECHNOLOGIES

PRESENT – *"Making the Business Case"*

REGION TSM&O TACTICAL PLANS

- IMPACTED AREAS
- EXISTING CONDITIONS
- EXISTING SYSTEMS
- CURRENT & FUTURE PLANNED PROJECTS
- STRATEGIES & PRIORITIES
- DEPLOYMENT RECOMMENDATIONS & PROJECT COSTS
- REGION SYSTEMS ENGINEERING ANALYSIS

PRESENT – *"Making the Business Case"*

	ITS & Communications	Traffic Signals	TMC	Traveler Information	TIM	Emergency Transportation Operations	Work Zone Management	Active Transportation & Demand Management	Connected Autonomous Vehicle
Business Processes	Each Service Layer is measured against each CMM Dimension Level 1- Level 4 annually to realize improvement and next CY focus needs.								
Systems & Technology									
Performance Measurement									
Culture									
Workforce									
Collaboration									

TOMORROW

- SUSTAINABLE ANNUAL FUNDING
- COLLABORATIVE PARTNERSHIPS
- CULTURE ADVANCEMENT
- INFRASTRUCTURE PREPARATION
- DATA, DATA, DATA

U.S. Department of Transportation
Federal Highway Administration

Brian Kary

Minnesota DOT

Transportation Systems Management & Operations (TSMO) Program Planning

DEPARTMENT OF TRANSPORTATION

mndot.gov

Agenda

- TSMO Motivation
- MnDOT's TSMO Program Planning Process
- Summarize the Strategic, Implementation and Business Plans
- New TSMO Funding
- Next Steps

Why a TSMO Program Plan?

MnDOT is Already Doing Many TSMO Strategies

Deliberate

- Highest value
- Cost effective

Consistent

- Not just when we have time or extra funding

Proactive

- Anticipates issues
- Planned ahead of time

Before TSMO was TSMO

- MnDOT staff attended a regional workshop in Milwaukee, WI
- Completed the TSMO Capability Maturity Framework
  - To get to the next level we need a TSMO plan.
- 2015 Statewide ITS Plan
  - Approach A – Fiscally Constrained
  - Approach B – Asset Management Scenario
  - Approach C – Optimization Scenario

Developing a TSMO Program

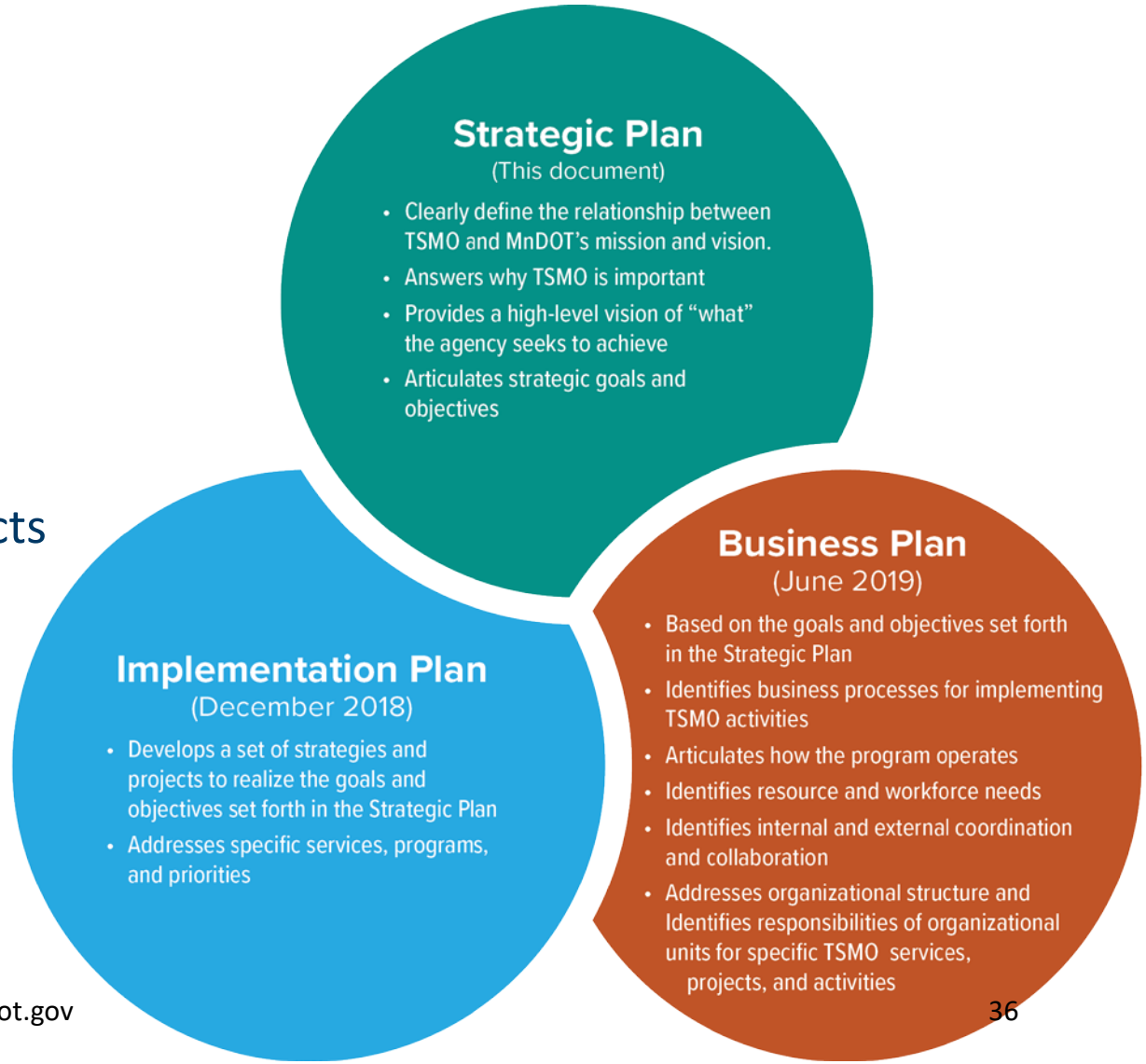
- Created a part-time TSMO Position
- Formed leadership team (from an already existing ITS leadership team)
- Analysis of existing TSMO efforts
- Hired initial consultant
  - Research TSMO alternatives
  - Determine TSMO Direction
  - Develop Scope of Work
- Hired consultant to develop TSMO plan

Preliminary TSMO Funding

- Statewide ITS System Integrator
- Expanded RTMC coverage area and hours of operations
- Purchased cellular probe data
- Additional Freeway Service Patrol routes
- Streaming video to the public
- Funding to support CAV projects

MnDOT TSMO Program Planning

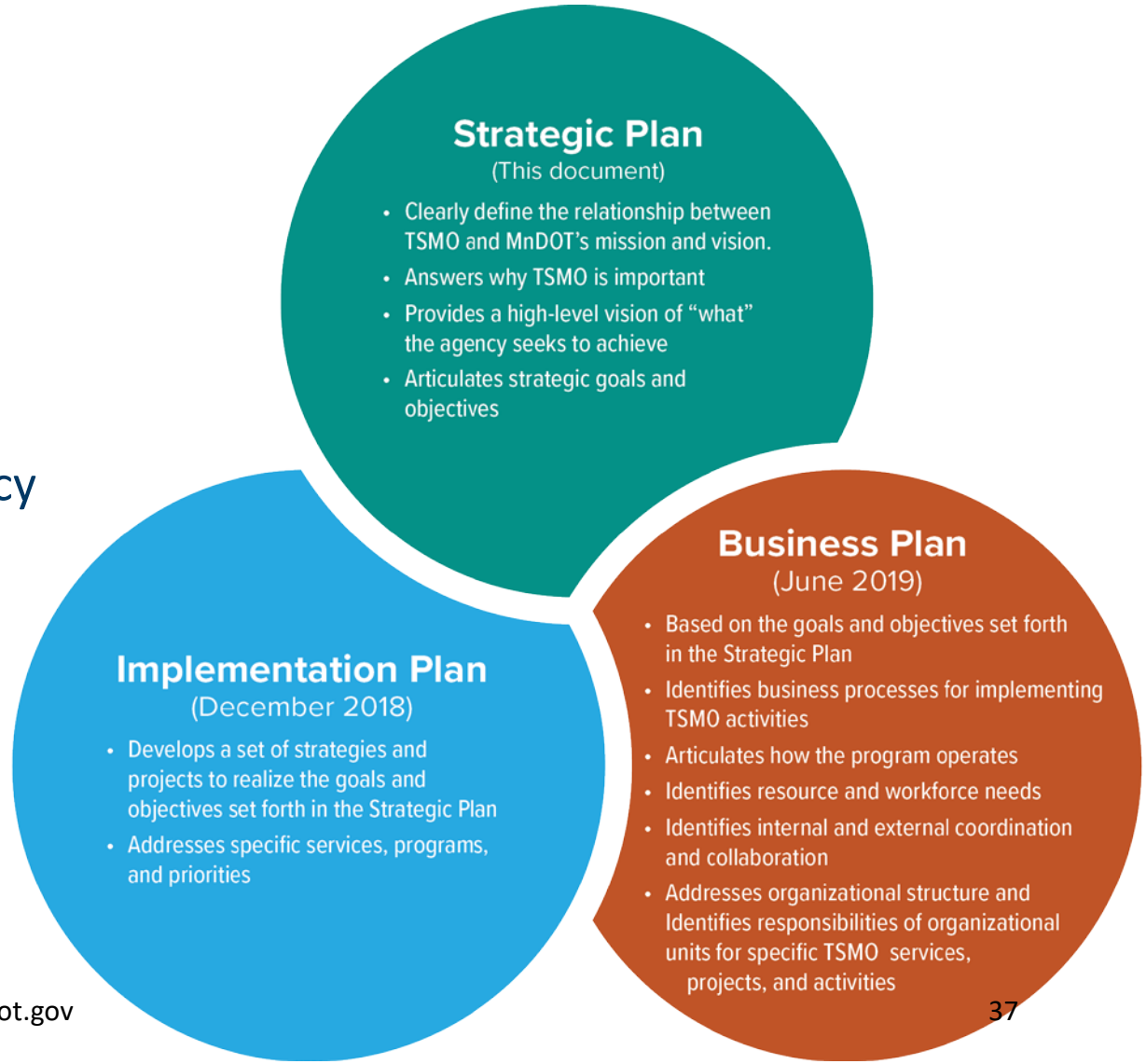
- Strategic Plan
  - Justification for TSMO
  - Goals & objectives
- Implementation Plan
  - Recommended strategies/services/projects
- Business Plan
  - Business processes and organization
- All Completed June 2019



TSMO Strategic Plan

Identify Desired Outcomes

- TSMO Background & Justification
- TSMO Goals
  - Improve Reliability, Mobility, and Efficiency
  - Increase Safety
  - Carefully and Responsibly Manage Transportation Operations Assets
- 16 Objectives



Improve Reliability, Mobility and Efficiency

1. Reduce Congestion
2. Promote Alternatives to SOV
3. Increase travel time information
4. Reduce the impact of snow and ice
5. Reduce incident clearance times
6. Increase awareness of incidents and alternatives
7. Reduce Construction Activity Delays
8. Reduce Maintenance Activity Delays

Increase Safety

9. Reduce Congestion-Related Crashes
10. Reduce Secondary and Work Zone Crashes
11. Reduce Worker and Responder Exposure
12. Reduce Roadway Departures
13. Reduce Intersection Crashes
14. Reduce Weather-Related Crashes

Manage Transportation Operations Assets

15. Fund Life-Cycle Costs of Operating and Maintaining Assets

16. Manage Data

TSMO Implementation Plan

Identify Actions to Achieve Outcomes

- District and Office Input
- Scoring criteria
- 34 Prioritized Strategies

Implementation Plan

Strategies

1. Update Signal Timing and Coordination
2. Increase MnDOT Usage of 3rd Party Data and Sharing (e.g. Google, WAZE, INRIX, HERE)
3. Develop Regional TIM Programs
4. Implement Low-Cost / High-Benefit Capital Improvements
5. Coordinate Work Zones Across Districts and Routes
6. Expand Snow Fence Use through Research and Increased Use
7. Expand the Coverage of Freeway and Expressway Traffic Management Systems
8. Develop TIM Strategies for Work Zones
9. Utilize Intelligent Work Zone Systems Where Appropriate
10. Expand the Use of Ramp Metering
11. Expand Use of Technology at Weigh Stations for Enforcement

Implementation Plan

Strategies

12. Increase TSMO Asset Life Cycle Understanding and Management
13. Implement Signal Timing Updates for Construction Projects
14. Provide Traveler Information on Alternative Modes and Routes
15. Expand and Enhance the Deployment of Road Weather Information Systems
16. Innovative Intersection Technology or Design (e.g. RICWS, roundabouts, RCIs, diverging diamonds, etc.)
17. Expand Dynamic Message Sign (DMS) Use to Include Standard Weather Messages
18. Improve Pedestrian and Bicycle Service at Signals
19. Increase Real-time Tracking of Work Zones and Lane Closures for 511
20. Upgrade Signal Equipment for Communications to Central System
21. Deploy Truck Parking Information for Rest Areas
22. Develop and Implement Pre-planned Alternative Routes for Incidents

Implementation Plan

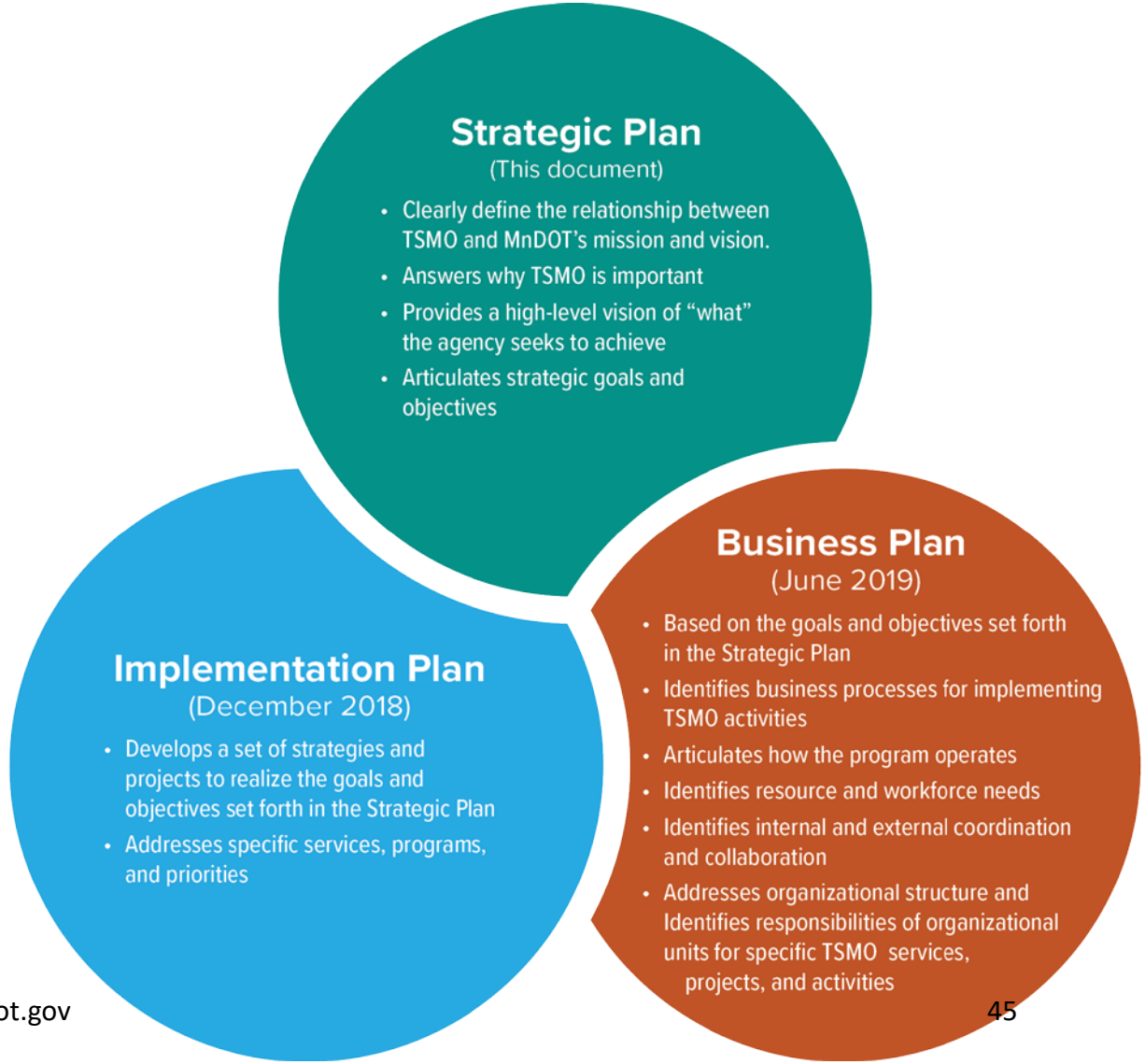
Strategies

23. Ensure New Signals are Connected Automated Vehicle (CAV) Ready
24. Add Additional MnPASS Lanes in the Twin Cities Metro Area
25. Provide Enhanced Enforcement Technology (Speed Enforcement, Red Light Running, MnPASS, etc.)
26. Expand and Streamline Road Weather Data
27. Utilize Alternate Route Signing for Work Zones
28. Expand Dissemination of Travel Times (Work Zones and Geographic Expansion)
29. Expand Sharing of Video and Data Between Agencies (Integrated Corridor Management)
30. Deploy Transit Signal Priority
31. Address Bikes and Pedestrians in Construction Detours
32. Improve Work Zone Data for CAV Readiness
33. Prepare Systems to Obtain/Use Data from CAVs
34. Encourage Work Flexibility for Travel Demand Management

Business Plan

Manage the Program

- Programmatic Objectives
- Funding, staffing, administration, organization, data, business processes
- 8 Recommendations



Business Plan

Recommendations

1. Fully Fund TSMO
2. Designate and Fund a State TSMO Coordinator
3. Create Staffing Positions to Support TSMO Strategies
4. Continue and Clarify the Minnesota TSMO Leadership Team
5. Continue and Clarify the Minnesota TSMO Working Group
6. Establish a MnDOT TSMO Organizational Model
7. Define TSMO Performance Measures and a Data Use Plan
8. Institutionalize the TSMO Implementation Planning Process

TSMO Funding

New TSMO Funding

- $700K annual base
- $Additional $700K 1X in FY 2020
- Start with prioritized strategies identified in TSMO Implementation Plan & TSMO Business Plan
  - Signal Timing
  - HERE Real Time Probe Data
  - Traffic Incident Management
  - Connect Signals to Central System
  - Video Streaming on 511
  - Statewide TSMO Coordinator

TSMO Funding Scenarios:

- Full Scenario: $16.5M
- $3M Scenario: $3.3M
- No Funding Scenario: $0

Next Steps: TSMO Coordinator

Statewide TSMO Coordinator (Director)

- Reports to Operations Division
- Support implementation of TSMO strategies
- Helps find funding for TSMO Implementation Plan strategies
- Chairs the TSMO Leadership Team and Working Group
- Works with districts, specialty offices, MG groups, external organizations

TSMO Leadership Team

- Change to bi-monthly meetings
- Refine membership
- Add external agencies
- Agree on a charter

TSMO Working Group

- Change to monthly meetings
- Refine membership to include appropriate specialty offices
- Add external agencies
- Coordinate across functional areas
- May include task forces for specific topics

Thank you again!

Brian Kary
brian.kary@state.mn.us
651-234-7020

Steve Misgen
steve.misgen@state.mn.us
651-234-7835

Mike Schweyen
michael.schweyen@state.mn.us
651-234-7375

Ray Starr
ray.starr@state.mn.us
651-234-7050

U.S. Department of Transportation
Federal Highway Administration

Joey Sagal

Maryland DOT

MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

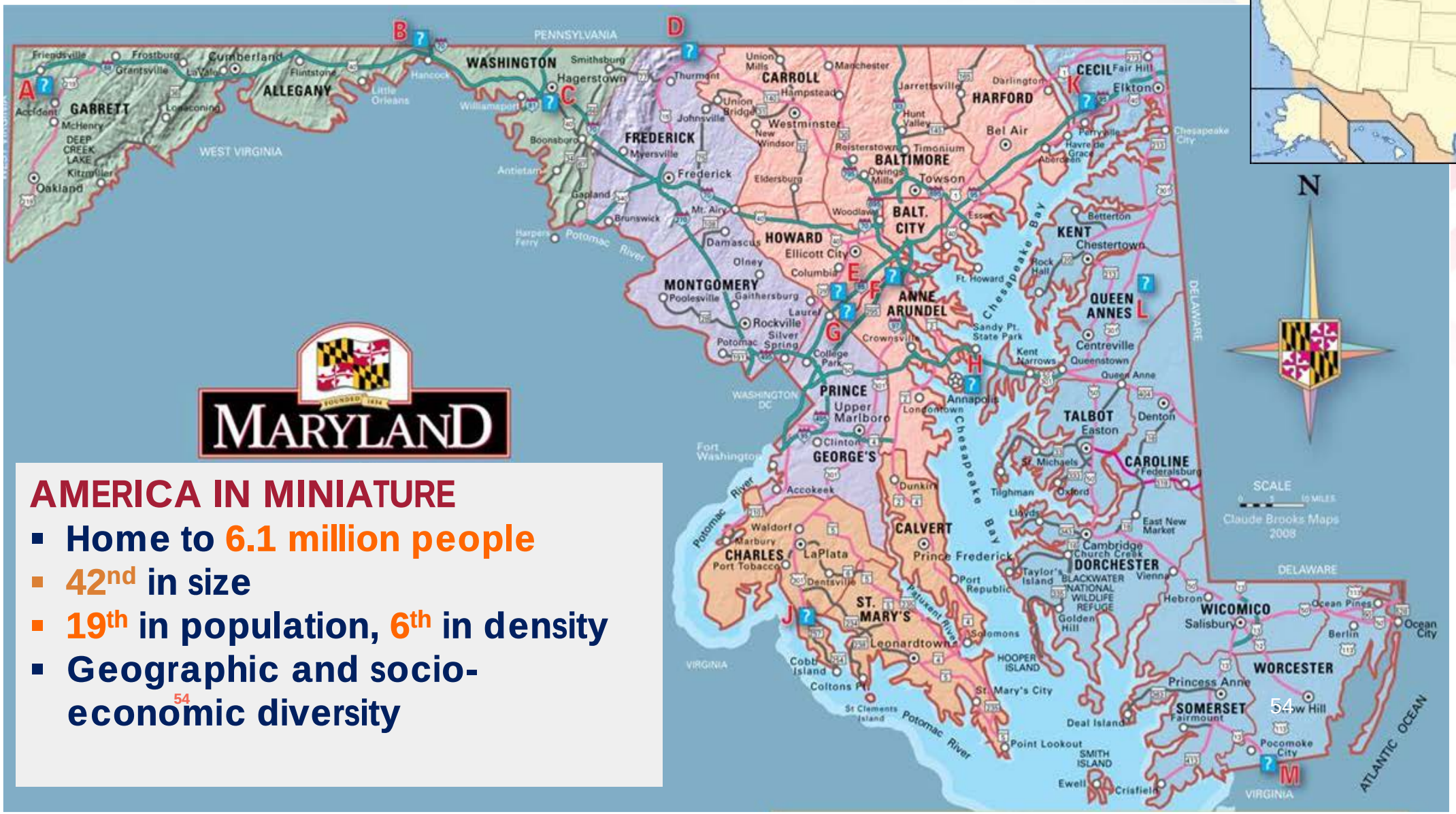
TSMO

MARYLAND TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

TSMO Program Planning
FHWA/NOCoE Webinar

Joey Sagal
MDOT - State Highway Administration

ABOUT MARYLAND



MARYLAND

AMERICA IN MINIATURE

- Home to 6.1 million people
- 42nd in size
- 19th in population, 6th in density
- Geographic and socio-economic diversity

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

54

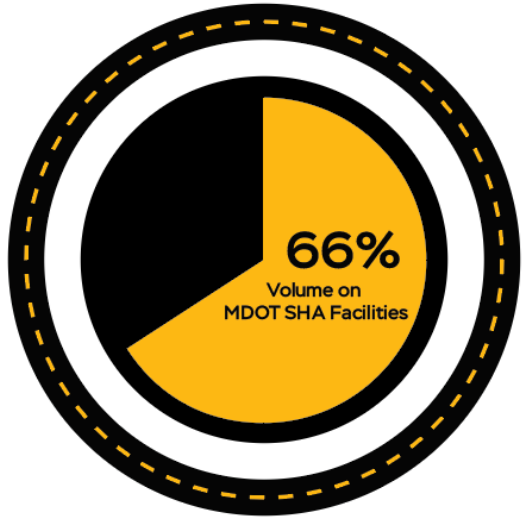
ABOUT MDOT STATE HIGHWAY ADMINISTRATION

MDOT SHA operates and maintains the numbered, non-toll routes in Maryland

- 17,000 lane-miles and 2,576 bridges

- Customer Focused
- System Efficiency & Reliability Key Drivers
- Freight Movement and Economy
- Performance Management

Maryland Roadway Network



Maryland Traffic Volume

Huge Emphasis on

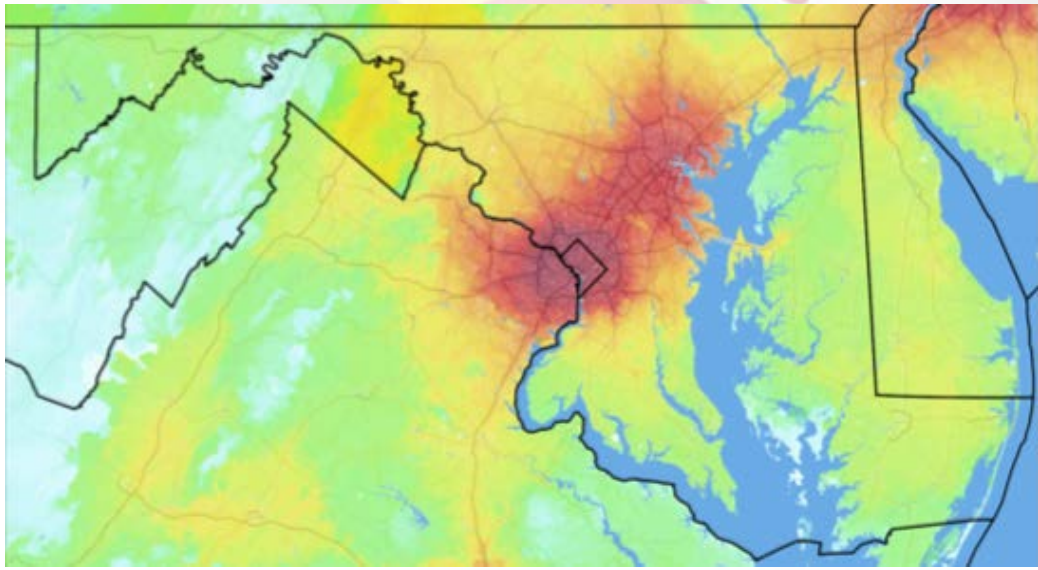
Transportation Systems Management & Operations (TSMO)

ICM is a KEY COMPONENT for TSMO Implementation

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

WHAT ARE CURRENT TRENDS IN MARYLAND?

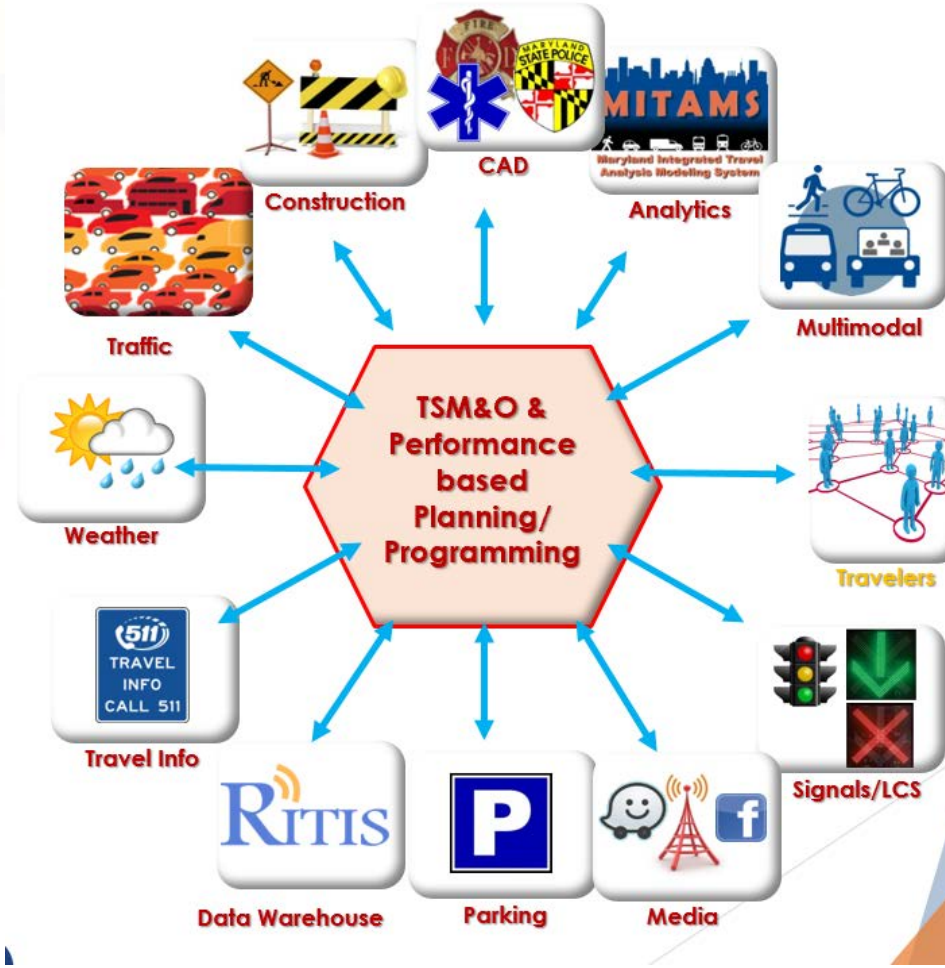
- VMT is at all time high
- Nation's 2ND highest commute times
- B-W region is one of the most congested regions in US
- Oversaturated conditions leads to higher unreliability



MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MDOT SHA MOTIVATION

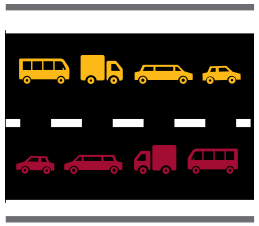
- **Focus on Transportation Systems Management & Operations (TSMO)**
- System Efficiency & Reliability Key Drivers
- Freight Movement and Economy
- Communicating Performance
- **Customer Focused** & Outcome Oriented
- Support MDOT & Administration goals
  - *MDOT Excellerator*
- Statutory Regulatory Requirements
  - *MAP-21/ FAST Act, MFR, MDOT AR*

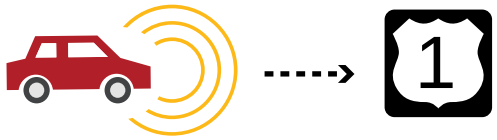


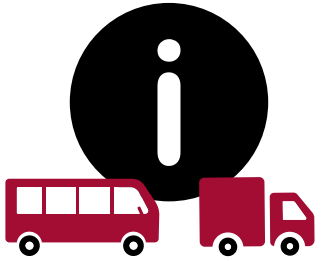
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

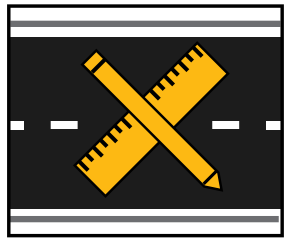
EXAMPLE TSMO STRATEGIES AND SOLUTIONS

- Work Zone Management
- Traffic Incident Management
- Service Patrols
- Special Event Management
- Road Weather Management
- Transit Management
- Freight Management
- Traffic Signal Coordination
- Traveler Information
- Ramp Management
- Managed Lanes
- Active Traffic Management
- Integrated Corridor Management



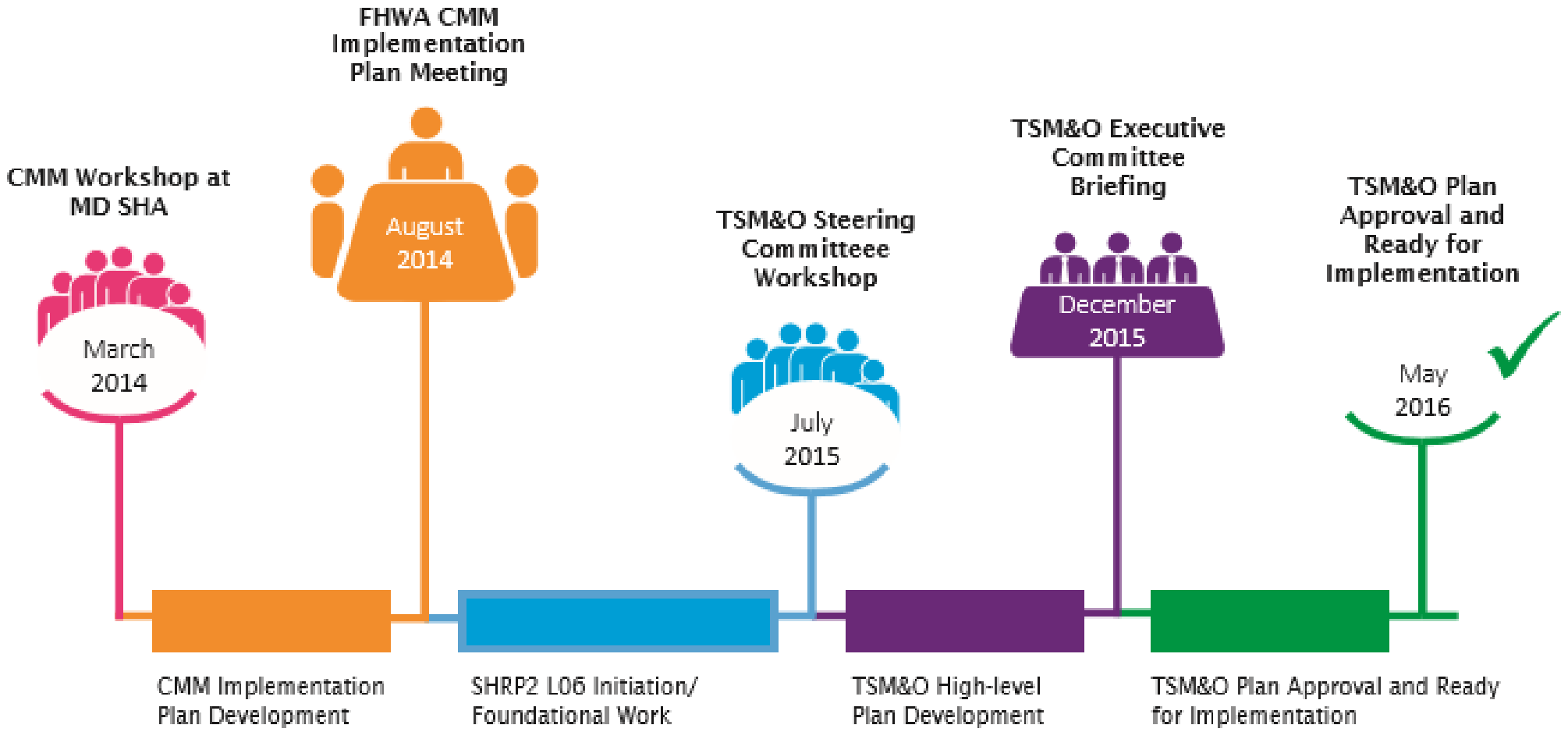






MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

2016 MD TSMO PLAN DEVELOPMENT TIMELINE



TSM&O Plan officially adopted in August 2016.
FHWA CMM Post Evaluation/ Project Wrap-Up Meeting – July 2017

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

2018 MDOT SHA TSMO PROGRAM

- TSMO Program Guided by TSMO Strategic Plan
- TSMO Program Development Started in 2014 with FHWA SHRP2 L06 Assistance
- First TSMO Strategic Implementation Plan Approved in August 2016
- Many 2016 Strategic Plan Action Item Accomplishments
- Rapidly Evolving Environment Necessitated Development of New TSMO Strategic Plan

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

2018 TSMO STRATEGIC PLAN

Our Vision
A customer-driven leader working to provide safe, efficient, and innovative transportation solutions that meet or exceed customer expectations.

Our Purpose
Implement a sustainable, organization-wide TSMO Program at MDOT SHA that fully maximize the ability of Maryland's transportation system to consistently move people and goods.

GOAL 1

BUSINESS PROCESSES & COLLABORATION

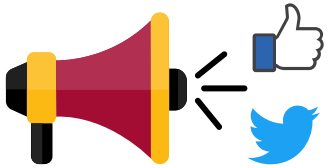
GOAL 2

SYSTEMS & TECHNOLOGY

GOAL 3

DATA, ANALYSIS & PERFORMANCE MANAGEMENT

GOAL 4



CUSTOMER EXPERIENCE & ENGAGEMENT

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

2018 TSMO STRATEGIC PLAN

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ONGOING TSMO INITIATIVES

CHART

Cleared more than **30,000 incidents** and assisted approximately **42,000 stranded motorists.**

CAPITAL IMPROVEMENTS

11 Mobility Projects Completed in 2016 mainly at intersections, as well as a new interchange on MD 5 and widening along MD 355

Projects Under Construction Include:
I-695 from US-40 to MD 144
Widening of US 29 (Seneca Dr to MD 175)
MD 404 (Completed Nov 2017)

Projects Initiated in 2016:
I-270 Innovative Congestion Management

SIGNAL SYSTEMS

306 signals reviewed.
202 of those signals were retimed.

PARK-AND-RIDE LOTS

Provided a savings of more than **101 Million Annual VMT**

Allow more than **6,700 motorists** on a given weekday to connect to transit or ride with other commuters at **106 locations, operated in 20 counties**

PEDESTRIAN

Construction of **9 miles of new sidewalk**

ADA IMPROVEMENTS

More than 80% of sidewalks are now ADA compliant

Accessible Pedestrian Signals: **5% increase statewide**

BICYCLE

Approximately 88 miles of marked bike lanes and **6 miles** of marked shared use bike lane

HOV LANES

HOV lanes on I-270 and US 50

I-270 HOV lanes save as much as **20 minutes** of travel time in the AM and **25 minutes** in the PM peak hour

FREIGHT

Projects Completed in 2016:
4 new virtual weigh stations and improvements and 8 at-grade railroad crossings

Ongoing Initiatives:
A new National Highway Freight Network, Maryland Strategic Goods Movement Plan, Maryland Freight Story Map

In progress:
Design underway to provide 10 additional truck parking spaces on I-70 WB at South Mountain

TSM&O Initiatives

Currently implementing 2016 Transportation Systems Management and Operations (TSM&O) Strategic Plan. Initiatives include developing sample corridors for TSM&O, and a developing data supported system for performance reporting.

Nationwide Research Initiatives

7 projects are being implemented to advance mobility performance management, state-of-the-art modeling tools, and innovations for transportation planning and operations.

Connected and Automated Vehicles

Committees have been established and research is being performed related to the implementation of policies for connected vehicles and automated vehicles.

2016 Annual User Savings

$1.6+ Billion

CHART/ TSM&O
$1500 Million

Capital Projects
$29 Million

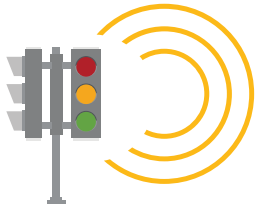
Signals & Multimodal Strategies
$84 Million

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

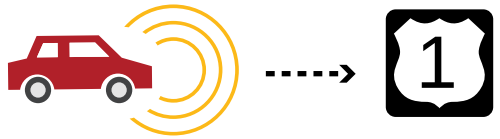
MAXIMIZING THE SYSTEM WITH TSMO

TSMO
MARYLAND TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

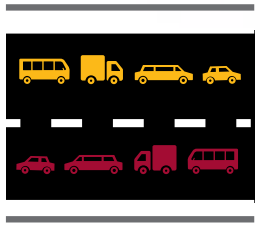
MAXIMIZING SYSTEM PERFORMANCE



SMART SIGNALS

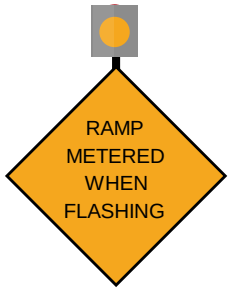


INTEGRATED CORRIDOR MANAGEMENT

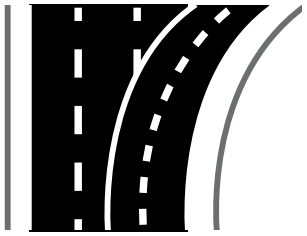


MANAGED LANES

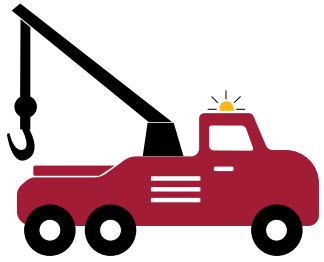
HARD SHOULDER RUNNING



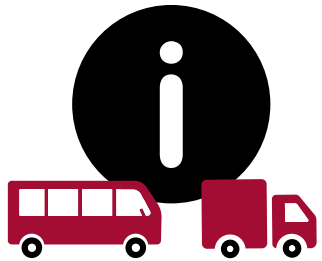
RAMP METERING



JUNCTION CONTROL



INCIDENT MANAGEMENT



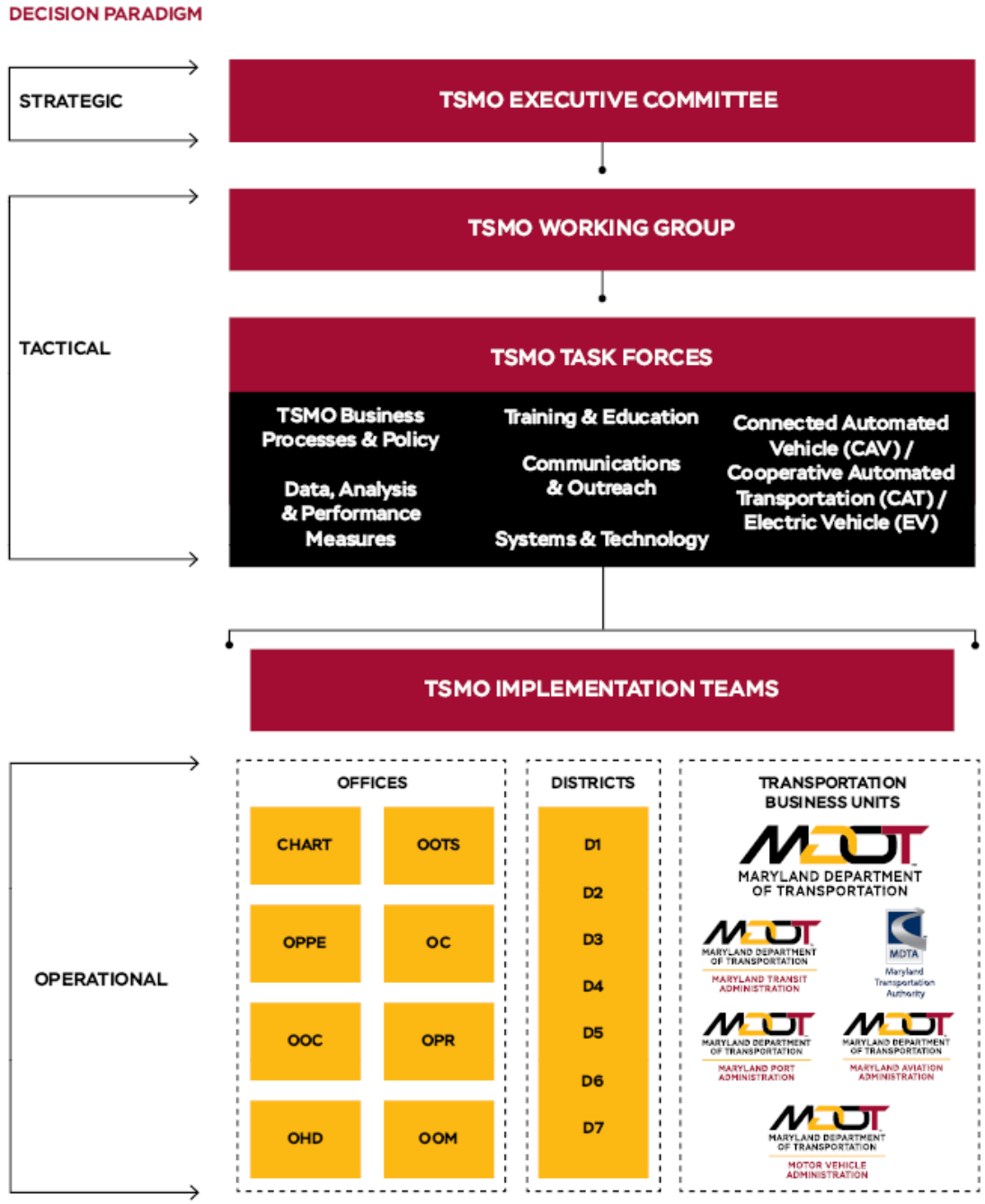
TRAVELER INFORMATION

MDOT
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

TSMO ORGANIZATION STRUCTURE

TSMO Executive Committee provides overall governance and strategic level guidance

MDOT SHA created a TSMO Deputy Director position in the Office of CHART and ITS Development to oversee MDOT SHA TSMO Program implementation.



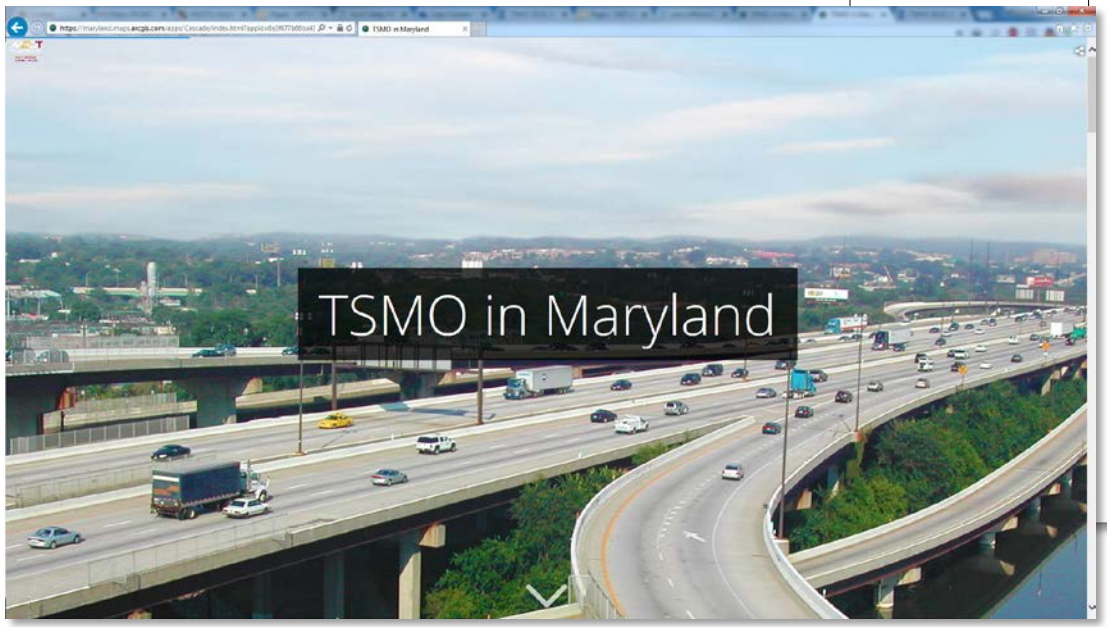
TSMO ORGANIZATION STRUCTURE

- **TSMO Working Group and Task Forces**
  - Responsibilities
    - Identify and execute specific actions, deliverables, and resources
    - Provides multi-Office collaborative oversight of Task Forces on:
      - **Training & Education**
      - **Systems & Technology**
      - **Data, Analysis, & Performance Measures**
      - **Communications & Outreach**
      - **CAV / CAT / EV**
      - **Freight & Multimodal**
    - Coordinate implementation of specific actions and projects at the operations level

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

TSMO AWARENESS, EDUCATION, TRAINING / COMMUNICATIONS & OUTREACH

- Website on SHA Internet Page
- Video
- Story Map



MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

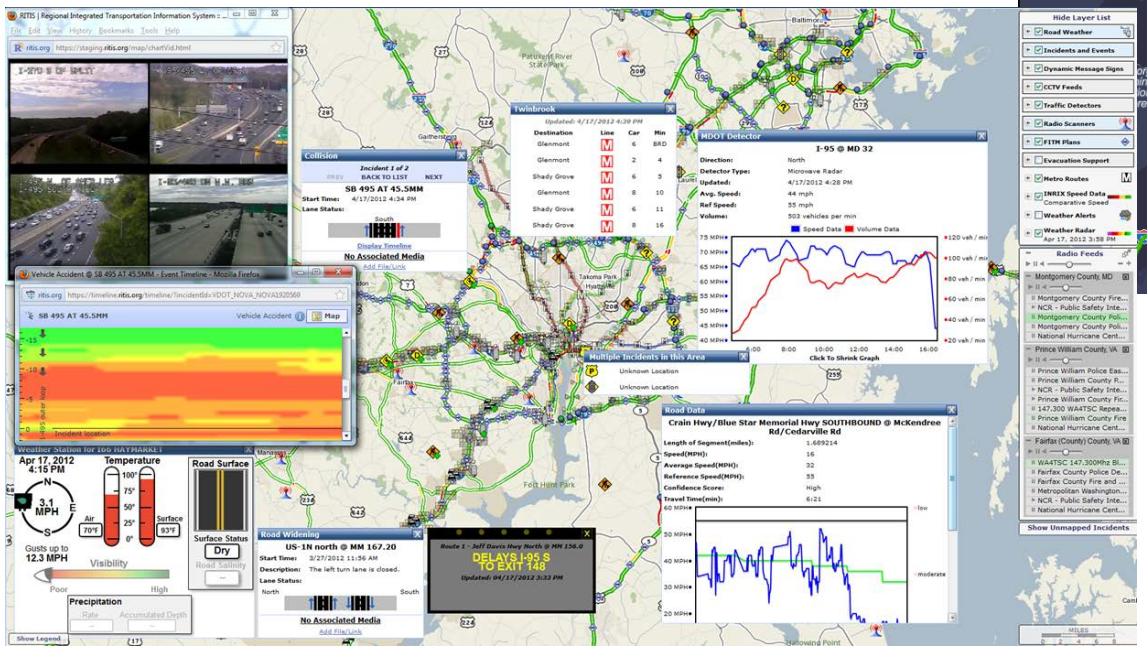
TSMO AWARENESS, EDUCATION, TRAINING / COMMUNICATIONS & OUTREACH

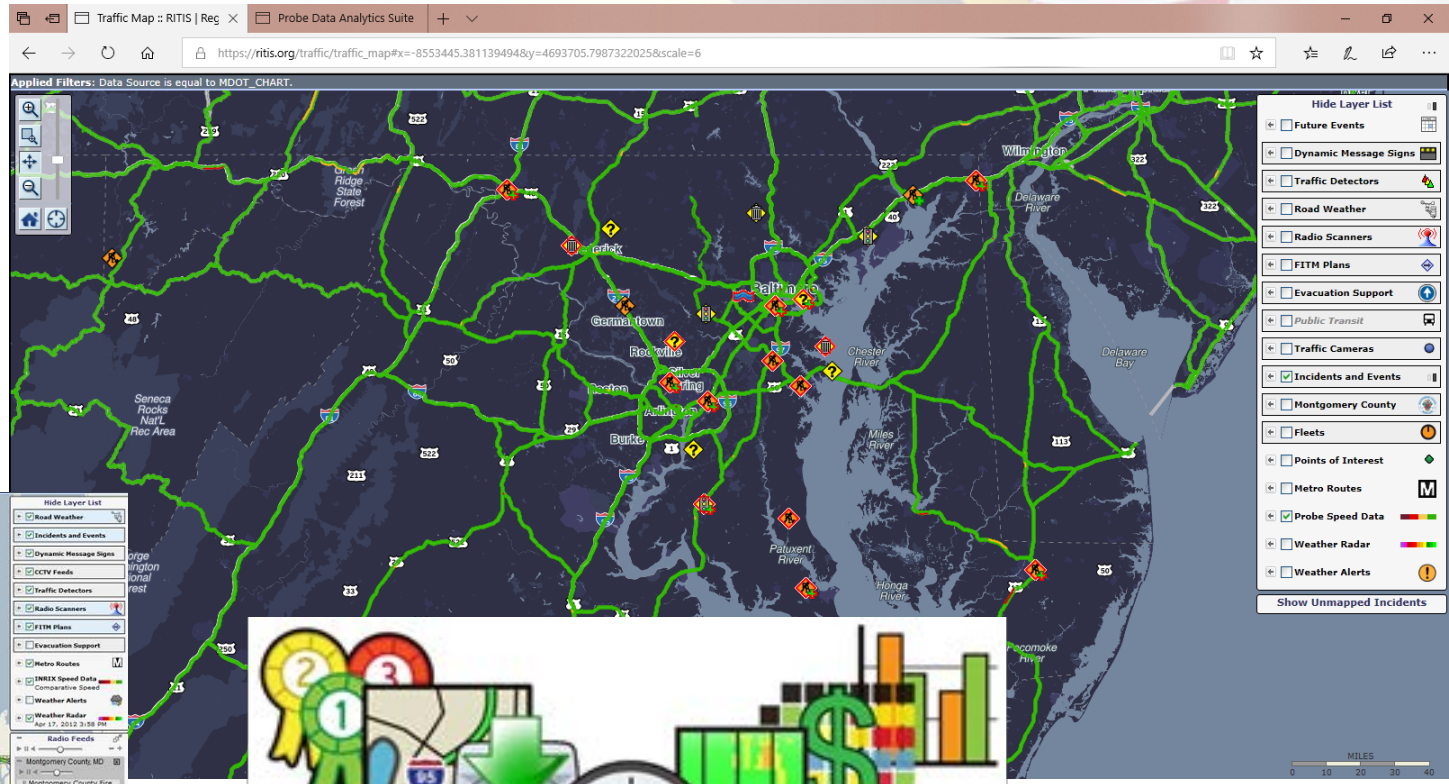
- **Roadshow**
  - 6-9 month effort to take TSMO to the field
  - 2 hour Exec / mid-manager level, 2-4 hour Town Hall presentation/discussion/Q&A
- **TSMO Internal Education**
  - Getting basic level TSMO 101 agency wide
    - GETP
    - CITE as a resource
    - LTAP
- TBU, MPO, FHWA and other agency Collaboration

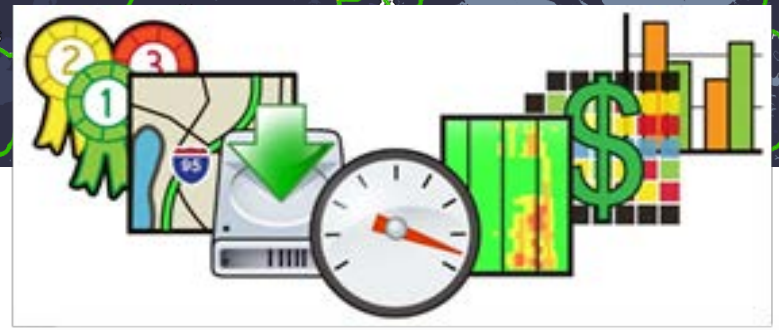
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

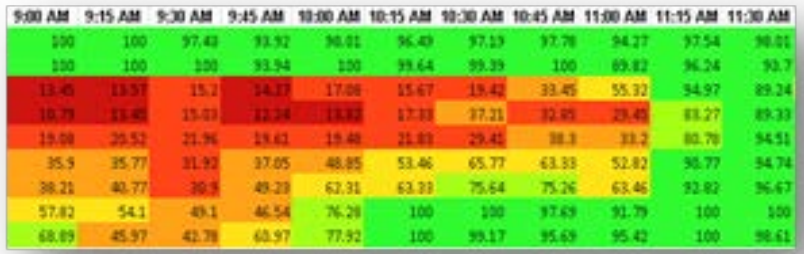
MARYLAND USE OF DATA TECHNOLOGY IN MOBILITY REALM

- Real time applications
- Archived data applications
- Combination of in-house tools and university of maryland CATT lab suite of tools (RITIS)



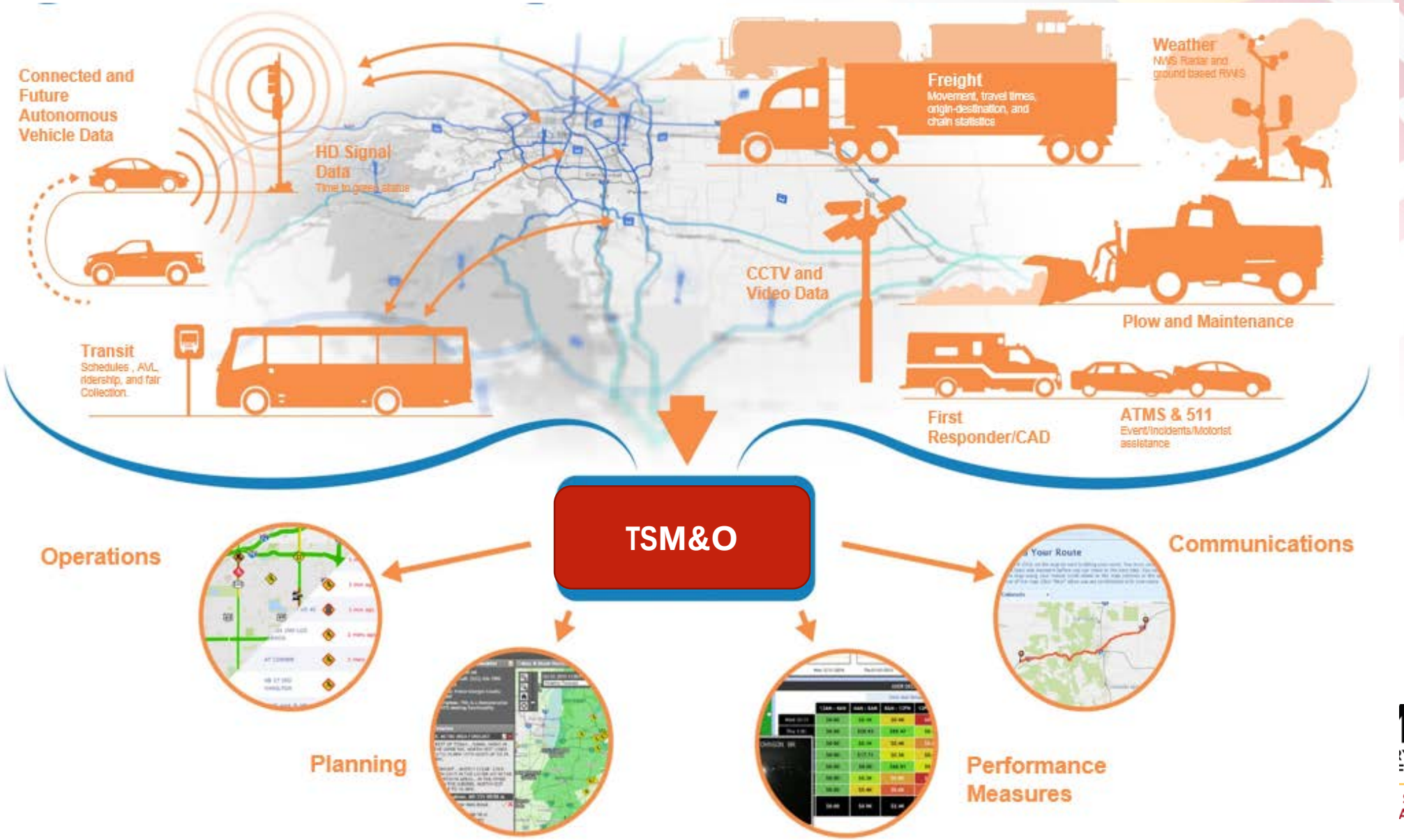






MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

THE ROAD AHEAD IN A CONNECTED/ AUTOMATED FUTURE



CONTACT INFORMATION

Joey Sagal, Director

Office of Transportation Mobility & Operations

Maryland Department of Transportation

State Highway Administration

410-582-5605

JSagal@mdot.maryland.gov

MARYLAND DEPARTMENT OF TRANSPORTATION

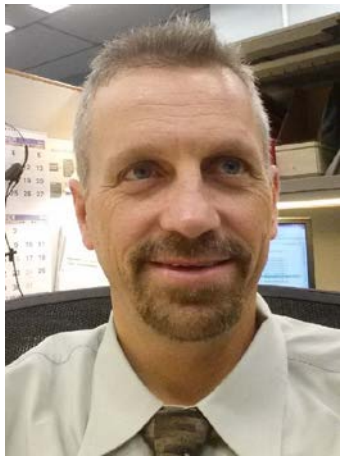
STATE HIGHWAY ADMINISTRATION

U.S. Department of Transportation
Federal Highway Administration

Q&A

Panel Discussion

Questions & Answers for our Panel



Jim Hunt,
FHWA

Chris Hilyer,
Alabama DOT

Brian Kary,
Minnesota DOT

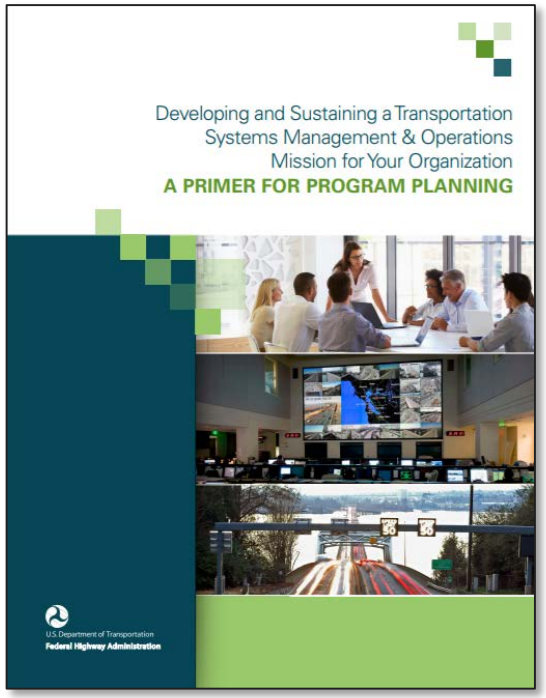
Joey Sagal,
Maryland DOT

U.S. Department of Transportation
Federal Highway Administration

Closing

Resources

- FHWA Organizing and Planning for Operations Website
  - https://ops.fhwa.dot.gov/plan4ops/index.htm
- FHWA TSMO Website
  - https://ops.fhwa.dot.gov/tsmo/index.htm
- National Operations Center of Excellence
  - https://transportationops.org/
- FHWA TSMO Program Planning Primer
  - https://ops.fhwa.dot.gov/publications/fhwahop17017/index.htm
- TSMO Fact Sheets
  - https://ops.fhwa.dot.gov/plan4ops/focus_areas/integrating/tsmo_factsheets.htm



Technical Assistance

FHWA has availability to conduct a one-day **TSMO Program Planning Workshop**

If your agency is interested in hosting, contact Jim Hunt (Jim.Hunt@dot.gov, 202-680-2679)

Thank you for attending!