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Traffic Management Centers and Traffic Incident Management Lessons Learned

ITS Wisconsin Transportation Conference 2025

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About

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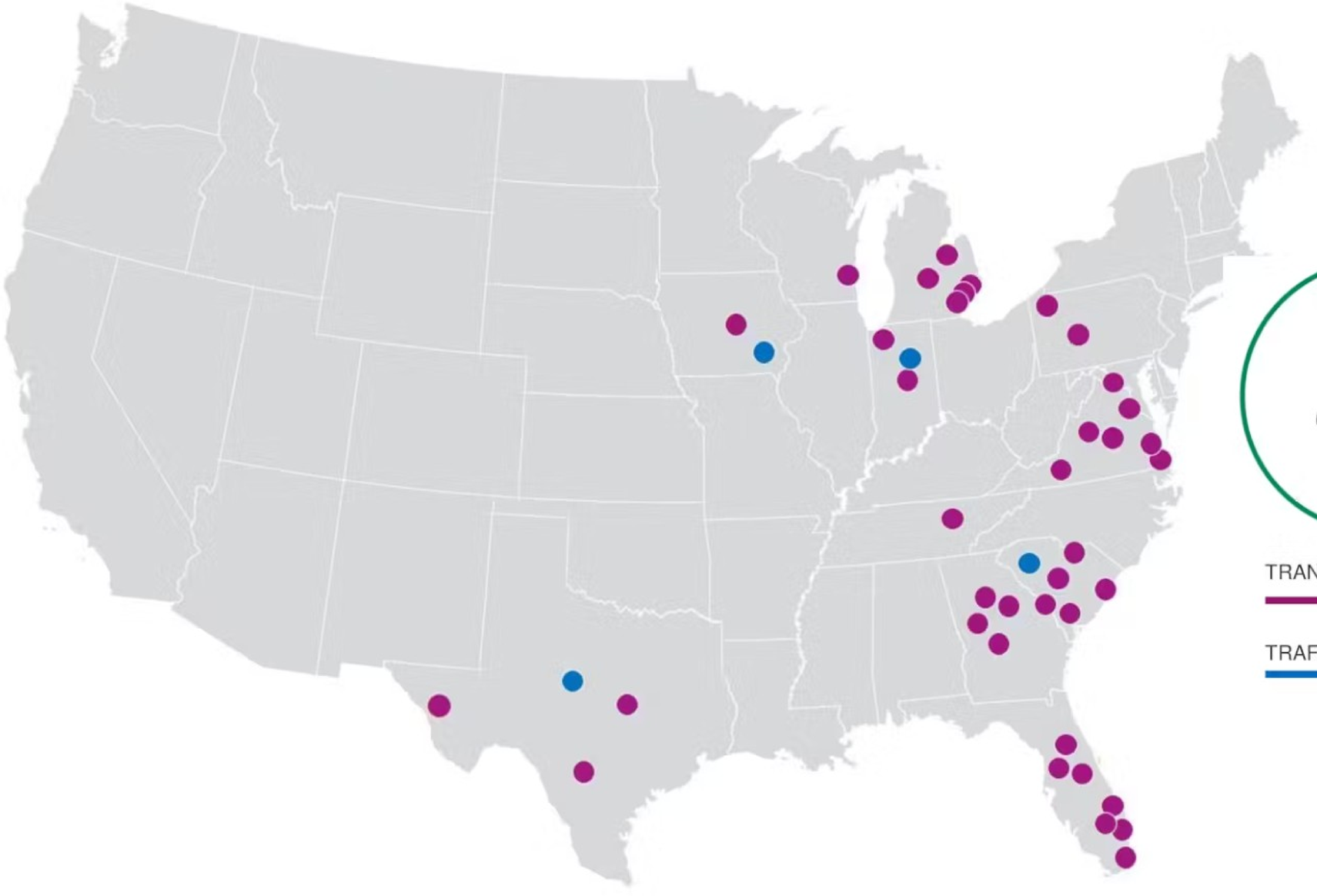
- 25 Years of ITS/TIM Experience
- Graduated from Temple University, BA in Communications
- Lead SME for AECOM’s North American TIM Operations, 6 Projects and Numerous Primary Consultant Contracts
- Based in West Palm Beach, FL

Matt Lee

- 23 Years of TMC/TIM Experience
- Graduated from Eastern Michigan University, BS in Aviation
- Oversees TMC Practice for AECOM, 33 TMC Sites and 12 Primary Consultant Contracts
- Based in Detroit, MI

AECOM TMC Experience



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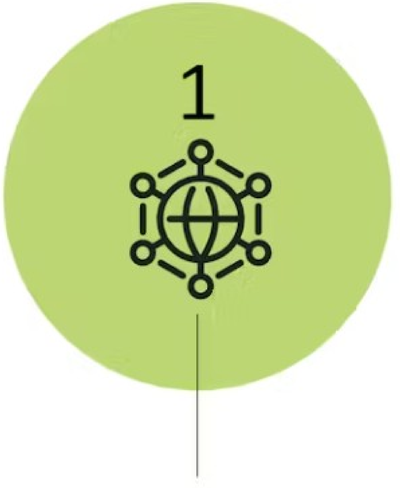
TMC/TIM Projects

TRANSPORTATION MANAGEMENT CENTER (TMC) PROJECTS

TRAFFIC INCIDENT MANAGEMENT (TIM) PROJECTS

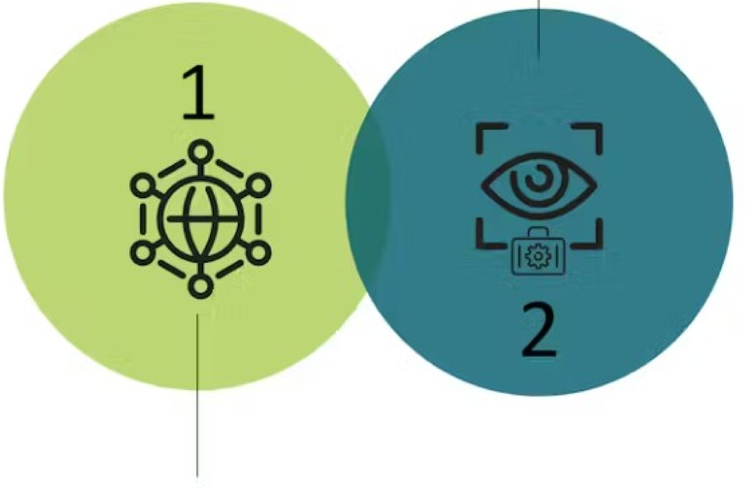
Topics and Outline



1. Define a TMC

Topics and Outline

2. Apply AECOM's TMC Assessment Practice



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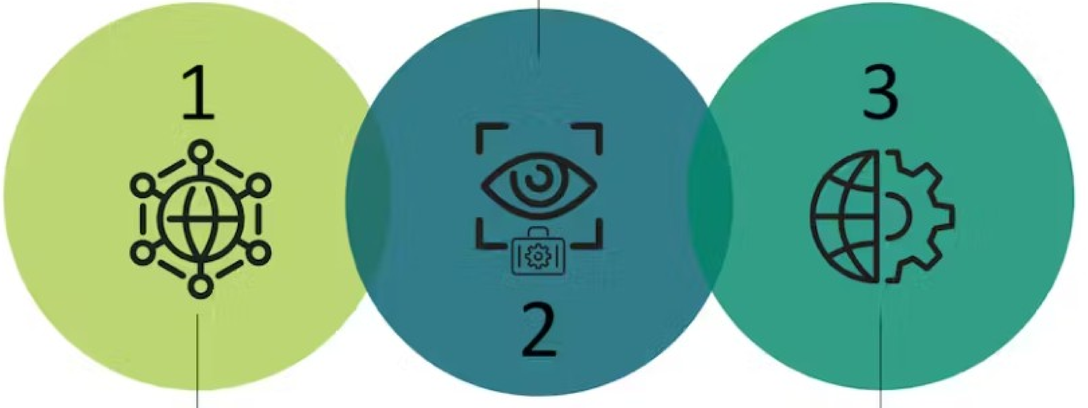
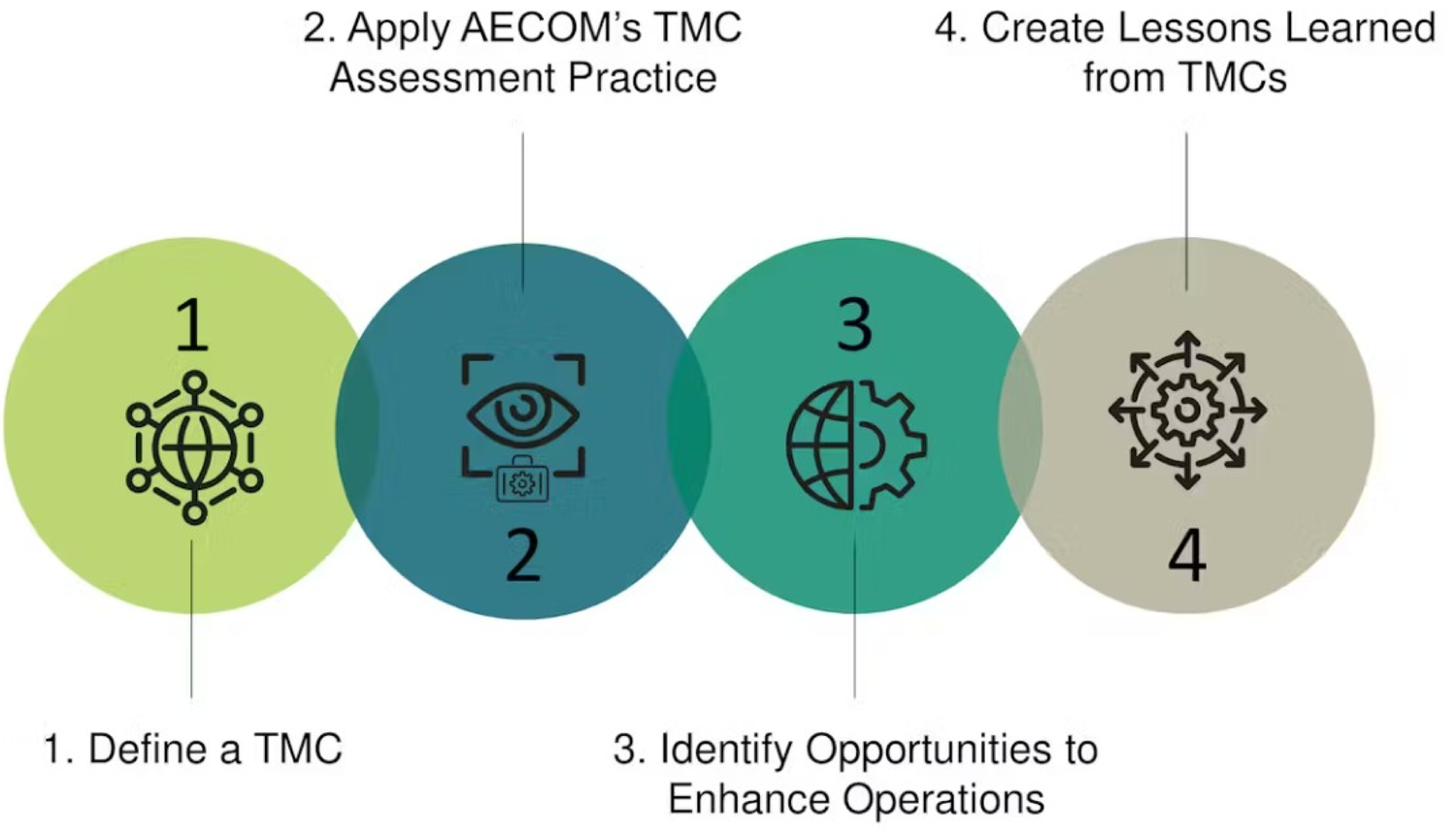


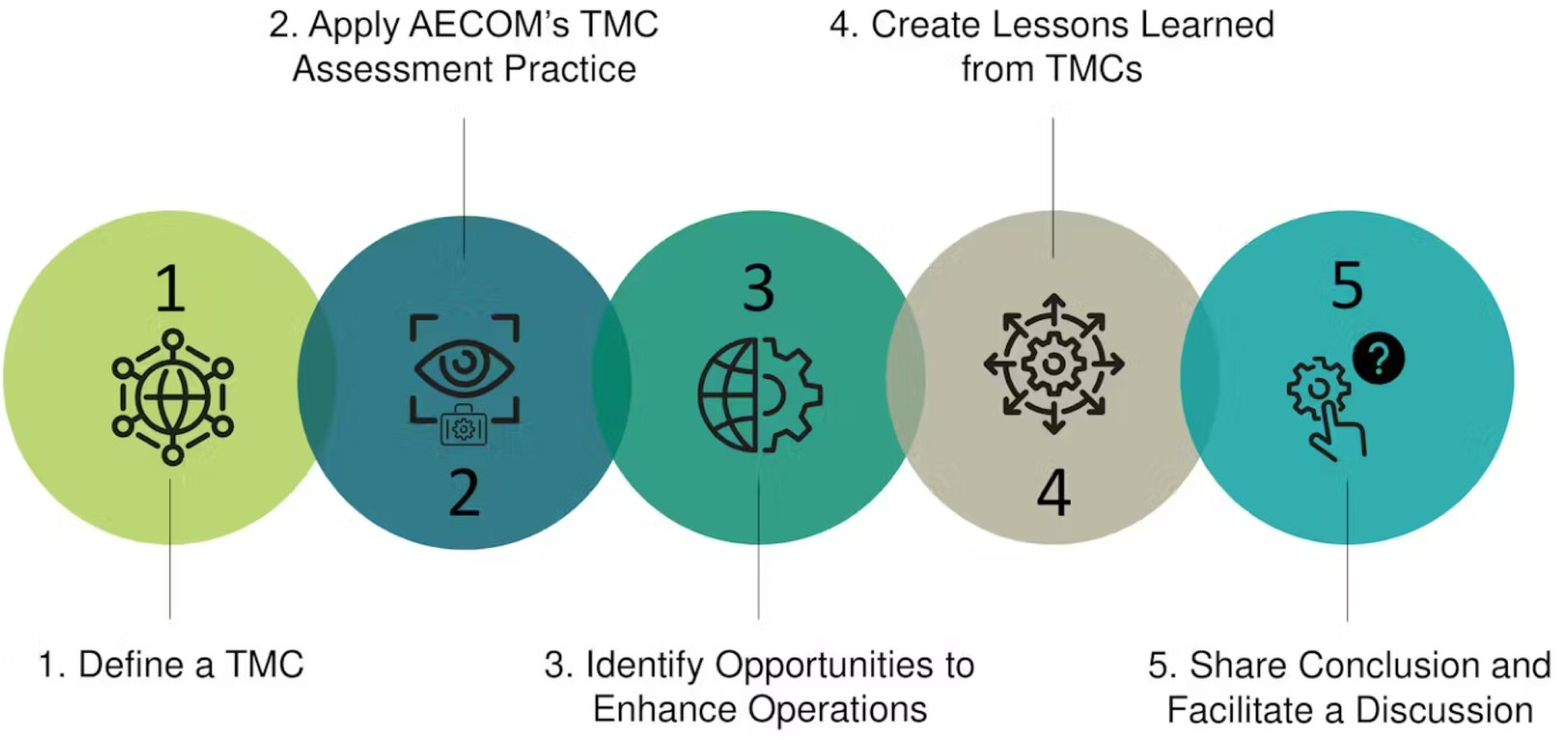
1. Define a TMC

3. Identify Opportunities to Enhance Operations

Topics and Outline



Topics and Outline



Mentimeter Instructions

Or use QR code

1

Define a TMC

What is a TMC?

A TMC is…

A TMC is…

A TMC is…

A TMC is…

A TMC is…

A TMC is…

A TMC is…

A TMC is…

95
4 MILES
5-8 MIN

Transportation Performance Measures
Progress Report • 2019

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Apply AECOM's TMC Assessment Practice

Assessment Process Overview

Assessment Process Overview

1

Pre-Assessment Kick-Off

2

On-site Assessment

3

Summarize Findings

4

Research Solutions

5

Present Assessment Results

Assessment Process Overview

- TMC Conditions
- TMC Observation
- TMC Training
- Human Resource Compliance
- Safety Awareness
- Audits and Quality Control
- Staffing Protocols
- Documentation
- Other Specialized Functions:

- Operator and Management Assessment
- Traffic Incident Management
- Dispatch Functions
- Emergency Operations
- Signal / Arterial Operations
- Performance Metrics
- ATMS Details
- Asset and Maintenance Mgmt. Functions
- Unique Services Performed

Evaluation Criteria

In-House Quick Fix

The recommended enhancement would be simple to incorporate from the existing program management and front-line staff.

Investment

The TMC operation would incur a financial impact (big or small) to accommodate this recommendation.

Awareness Only

The topic being presented is intended for awareness only. It should not be considered a high priority but could be addressed in the future to further polish the operation.

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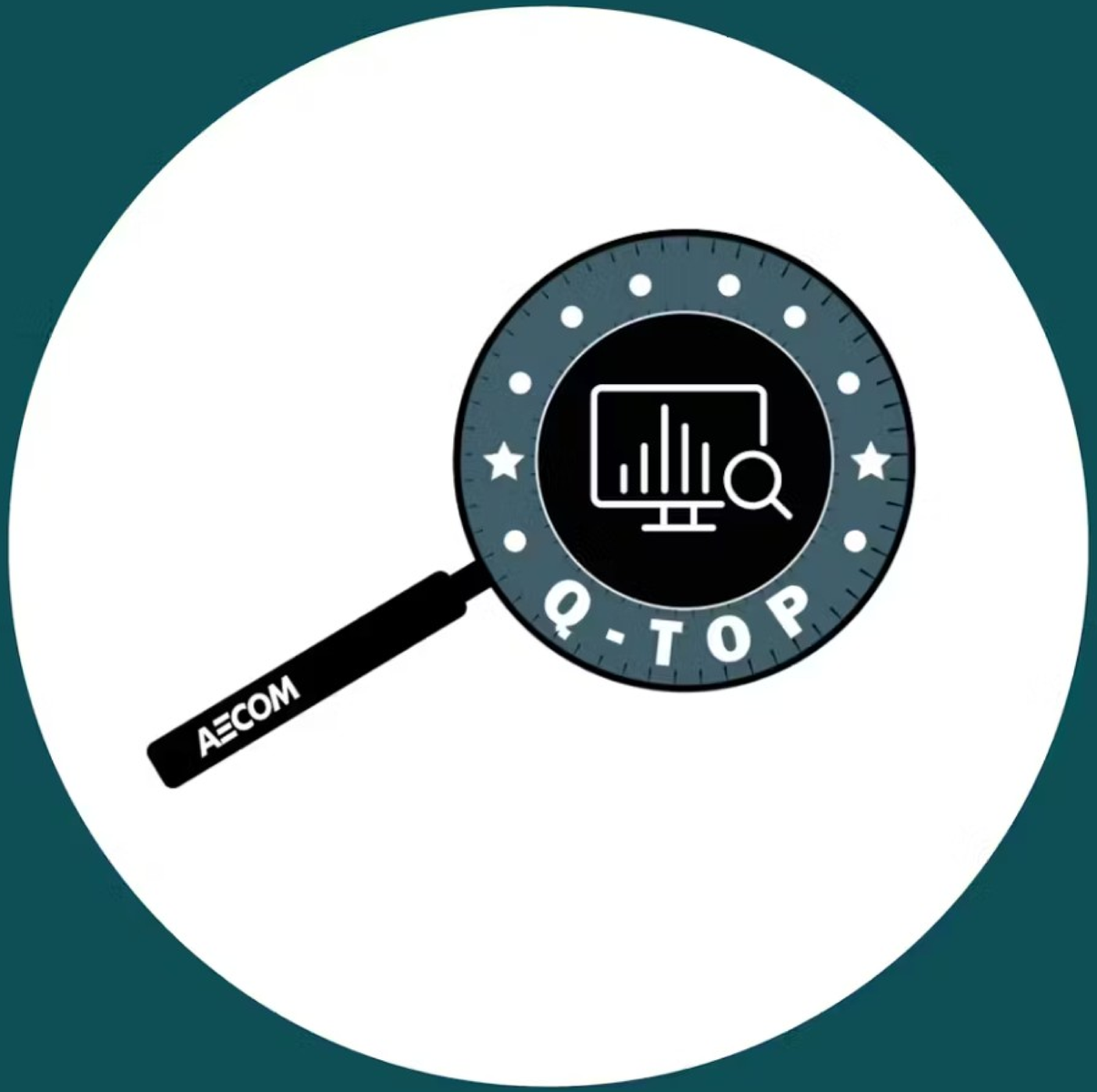

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Illinois Tollway

NEW JERSEY TURNPIKE AUTHORITY 1949

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

Q-TOP

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STATE OF OHIO DEPARTMENT OF TRANSPORTATION

CITY OF Goodyear

CITY OF PHOENIX

INDIANA TOLL ROAD

BRITISH COLUMBIA Ministry of Transportation

Ohio Department of Transportation

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Identify Opportunities to Enhance Operations

Top 5 Strategies for Streamlining Processes

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#5 Opportunities Identified

Subject Area: Standardized Procedures

Findings

- Outdated or absent Standard Operating Procedures (SOP)
- Non-uniform processes
- No correlation to staff training

Recommendations

- Develop and maintain SOP
- Create Quick Reference Guides (QRG)
- Promote accessibility

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#4 Opportunities Identified

Subject Area: Concept of Operations (ConOps)

Findings

- Lack of ConOps
- Limited services
- Outdated ConOps

Recommendations

- Identify a “Program Champion”
- Develop a ConOps – it is never too late!
- Engage stakeholders

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#3

Opportunities Identified

Subject Area: Maintenance Management

Findings

- Lack of Asset Management System (AMS)
- Overlooked warranties
- No inventory management
- Missing trouble ticket system
- No hardware replacement plan

Recommendations

- Acquire AMS
- Implement barcoding
- Develop maintenance plans
- Establish obsolescence schedule

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#2 Opportunities Identified

Subject Area: TIM Training

Findings

- Lack of shared training resources
- Inconsistent knowledge of policies between TMC and first responders
- Disconnect between urban and rural training opportunities

Recommendations

- Develop a resource and contact database (statewide)
- Schedule joint agency TIM training programs (solicit hot topics)
- Host regional tabletop exercises and training opportunities

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#1 Opportunities Identified

Subject Area: Traffic Incident Management Program

Findings

- Poor participation, missing agencies
- Limited responses to FHWA Self-Assessment
- Lack of mission

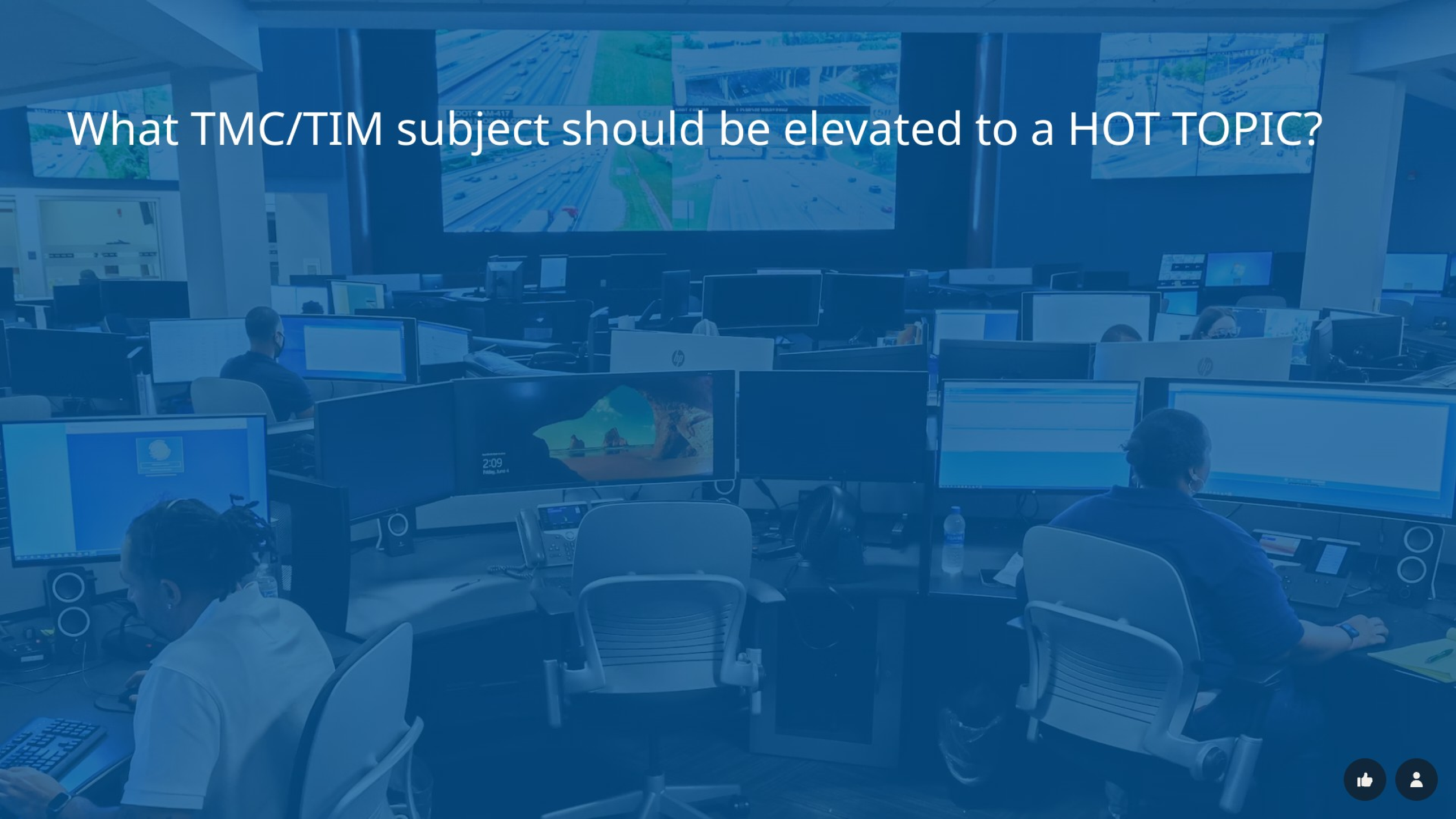
Recommendations

- Dedicate leadership to the program, identify first responder champions
- Creation of TIM Committees that are chaired by first responders
- Implement a ‘Program Charter’

What important subject do you think is missing from the list of Top 5 opportunities?

Developing a Security and Safety Plan	Conducting After Action Reviews / Post Incident Analyses	Producing Performance Reports for Mobility, TMC, and TIM	Enhancing Dedicated IT Support	Surveying Staff and Stakeholders on TMC Service Delivery	Other
0	0	0	0	0	0

What TMC/TIM subject should be elevated to a HOT TOPIC?



Which of the following top 5 opportunities do you consider the most critical?

TIM Training	Standardized Procedures	Concept of Operations	Maintenance Mgmt. System	TIM Program Implementation
0	0	0	0	0

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Create Lessons Learned from TMCs

Top 5 Best Practices for Traffic Management Centers

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#5 Innovations Realized

Subject Area: TMC / TIM Outreach Programs

Findings

- Statewide first responder educational sessions
- Shared training program facilitation and audiences
- Tailored performance measure / mobility reports

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#4 Innovations Realized

Subject Area: Facility Utilization

Findings

- Agency co-location
- Effective use of space
- Video wall considerations

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#3 Innovations Realized

Subject Area: Continuity of Operations

Findings

- Establishment of backup locations
- Availability of remote access
- Network, operations, and communication
- redundancy testing

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#2 Innovations Realized

Subject Area: TIM Program Integration into TMC Operations

Findings

- Joint leadership meetings (TMC, TIM, Motorist Assist)
- Mutually beneficial user-driven dashboard development
- TIM and TMC SOP integration and/or cross reference

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#1 Innovations Realized

Subject Area: Artificial Intelligence (AI)

Findings

- Decision Support Systems, incorporation and enhancements
- Predictive analytics
- Discussion on use of AI in TMC operations
- Implementation of AI tools to support human actions in the TMC

Considering the rise of autonomous vehicles and other advanced roadway technologies discussed today, do you believe surface transportation will become

Safer	More Dangerous	Static
0	0	0

When do you anticipate AI will play a significant role in TMC operations, potentially replacing some or most human responsibilities?

It already does	Within 5 years	Within 5 to 10 years	Beyond 10 years
0	0	0	0

Which of the following top 5 opportunities do you consider the most beneficial?

TIM Outreach and TMC Coordination	Maximizing the TMC Facility Utilization	Maintaining a Strong Continuity of Operations Plan	Statistical Performance Tracking	Artificial Intelligence Integration into TMC and TIM Operations	Other
0	0	0	0	0	0

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Thank you.

Enjoy the remainder of the workshop!

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