MDOT TSMO Program
DTMB IT Support

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Michigan Department of Transportation

MDOT TSMO Program

DTMB IT Support

1. MDOT TSMO Strategic and Implementation Plan

- Align MDOT/DTMB Business Process

2. Dedicated DTMB ITS Staff

- Cybersecurity (Software/Hardware)
- Telecommunications
- Software Delivery Project Manager

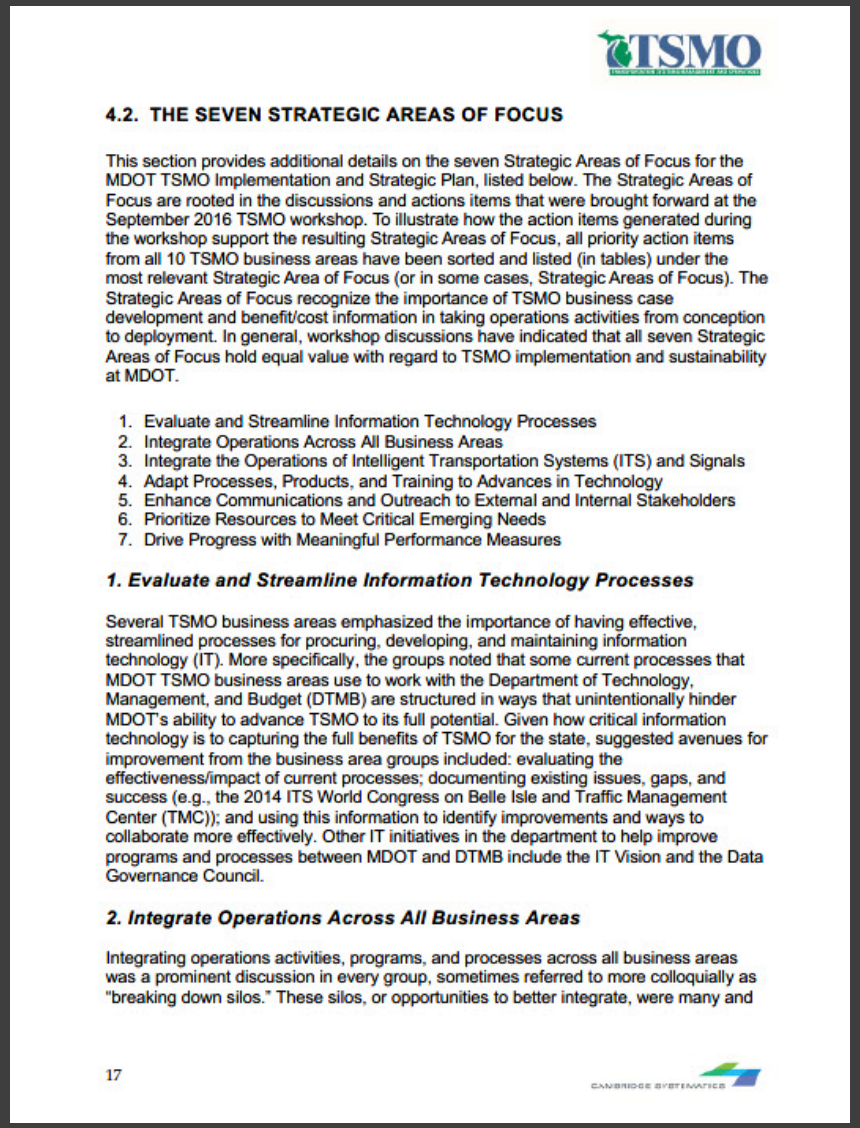
3. MDOT ITS Network Cybersecurity Assessment

- Software Keylight
- ITS Field Network Scans

4. DTMB Software Procurement

- Central Signal Control Software (CSCS)
- Advanced Traffic Management System Software (ATMS)

MDOT TSMO Strategic & Implementation Plan



4.2. THE SEVEN STRATEGIC AREAS OF FOCUS

This section provides additional details on the seven Strategic Areas of Focus for the MDOT TSMO Implementation and Strategic Plan, listed below. The Strategic Areas of Focus are rooted in the discussions and actions items that were brought forward at the September 2016 TSMO workshop. To illustrate how the action items generated during the workshop support the resulting Strategic Areas of Focus, all priority action items from all 10 TSMO business areas have been sorted and listed (in tables) under the most relevant Strategic Area of Focus (or in some cases, Strategic Areas of Focus). The Strategic Areas of Focus recognize the importance of TSMO business case development and benefit/cost information in taking operations activities from conception to deployment. In general, workshop discussions have indicated that all seven Strategic Areas of Focus hold equal value with regard to TSMO implementation and sustainability at MDOT.

1. Evaluate and Streamline Information Technology Processes
2. Integrate Operations Across All Business Areas
3. Integrate the Operations of Intelligent Transportation Systems (ITS) and Signals
4. Adapt Processes, Products, and Training to Advances in Technology
5. Enhance Communications and Outreach to External and Internal Stakeholders
6. Prioritize Resources to Meet Critical Emerging Needs
7. Drive Progress with Meaningful Performance Measures

1. Evaluate and Streamline Information Technology Processes

Several TSMO business areas emphasized the importance of having effective, streamlined processes for procuring, developing, and maintaining information technology (IT). More specifically, the groups noted that some current processes that MDOT TSMO business areas use to work with the Department of Technology, Management, and Budget (DTMB) are structured in ways that unintentionally hinder MDOT's ability to advance TSMO to its full potential. Given how critical information technology is to capturing the full benefits of TSMO for the state, suggested avenues for improvement from the business area groups included: evaluating the effectiveness/impact of current processes; documenting existing issues, gaps, and success (e.g., the 2014 ITS World Congress on Belle Isle and Traffic Management Center (TMC)); and using this information to identify improvements and ways to collaborate more effectively. Other IT initiatives in the department to help improve programs and processes between MDOT and DTMB include the IT Vision and the Data Governance Council.

2. Integrate Operations Across All Business Areas

Integrating operations activities, programs, and processes across all business areas was a prominent discussion in every group, sometimes referred to more colloquially as "breaking down silos." These silos, or opportunities to better integrate, were many and

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MDOT TSMO Strategic Areas of Focus

1. Evaluate and Streamline IT Processes
2. Integrate Ops Across All Business Areas
3. Integrate the Ops of ITS and Signals
4. Adapt Processes, Products and Training
5. Enhance Communications & Outreach
6. Prioritize Resources to Meet Needs
7. Drive Progress w/ Perf. Measure

MDOT TSMO
Improve IT Processes/DTMB Collaboration

1) DTMB ITS Support
2) Pilot Collaboration
3) Integrate IT CFP

Accomplishments To-Date
Completed Actions from the 5 TSMO Commonality Areas (CA)

Commonality Area (CA)	Action Description	MDOT Staff

1. Improve IT Processes and MDOT-DTMB Collaboration	Accomplishments to-date include:
	Developed an on-going matrix to track and maintain actions, defining 3 actions:
	• Action 1: Establish and develop DTMB ITS support team
	  ○ Hired and assigned an Automation Manager to fully support TSMO activities.
	  ○ Gained executive approval and funding to build DTMB ITS technical support team.
	  ○ Hired and assigned Cyber Specialist and Project Manager.
	  ○ Implemented Lean Process Improvement (LPI) for the SafeStat replacement project.
	• Action 2: Pilot potential changes to ITS-DTMB collaborations such as: 1) letting ITS work (Centralized Signal Control System CSCS) through DTMB contracting process, and 2) putting ITS endpoint devices in the SOM Verizon VPN cloud. <On-going work>
	• Action 3: Integrate ITS IT with the DTMB/MDOT Call for Projects process.
	  ○ Established a preapproved DTMB template for the networking of Internet of Thing (IoT) devices.
		Spike Fuehr, John Jersey, Andy Esch, Collin Castle

Dedicated DTMB ITS Staff

- Cybersecurity (Software/Hardware)
  - Access the Cybersecurity of:
    - ITS Communications Network (Fiber, Wireless, Cellular)
    - ITS Field Hardware (ITS, Signals, Mobile)
- Telecommunications
  - Manage ITS Communications Network
    - IP Address Allocations
    - Private Cellular Network Establishment
- Software Delivery Project Manager
  - Manage Software Requirements Development
  - Manage Software Delivery Projects

MDOT ITS Network Cybersecurity Assessment

- Software Security Assessments
  - Establish Data Classification
  - Identify Software Vulnerabilities
  - Grant Authority to Operate (ATO)

- ITS Field Network Security Scans
  - Implemented by Michigan Cybersecurity
  - Scan Network/Hardware for Vulnerabilities
  - Assist in Developing Risk Matrix/Plan of Action

DTMB Software Procurement Support

MDOT Delegated Authority

MDOT/DTMB Co-Lead Procurement

- User Needs Collection
- Software Requirement Development
- Concept of Operations
- Procurement Document Development
- Procurement Management
- Software Delivery Management
- Software O&M Management

Successful Delivery

- Central Signal Control System (CSCS) Software

In-Process

- Advanced Traffic Management System (ATMS) Software

Lessons Learned

BE CLEAR ON YOUR NEEDS

EMBRACE SUBJECT MATTER EXPERTS

EDUCATE STAFF ON VALUE

COLLABORATE

Contact Info

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