MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

CHART

TSMO

MARYLAND TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

MDOT SHA OTMO Updates

Baltimore Regional Transportation Board

August 23, 2022

Mission

"Improve mobility and safety for the users of Maryland's highways through the application of ITS technology and interagency teamwork."

Core Functions

- Traveler Information
  - MD 511/CHART Website
  - Dynamic Message Signs
- Traffic Monitoring
  - CCTV
  - Probe Vehicle Data
- Emergency Operations
- Traffic Incident Management
  - Emergency Response Technicians (CHART)
  - Regional Traffic Operation Centers
- **Traffic Management**
  - TSMO System Operation
  - Signal Operations

TSMO
MARYLAND TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

CHART

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

The Need….CHART to OTMO

	1995-2001	2021
DMS	<30	Over 300
CCTV	<50	Access to over 900
Full-Time CHART Patrols	4	54
CHART Regions	2	4
CHART Patrol Hours	16 x 5	24x7
TSMO Systems	0	1 active (I-270) 1 in-progress (I-695)
Real-Time Signal Operations	No	Yes

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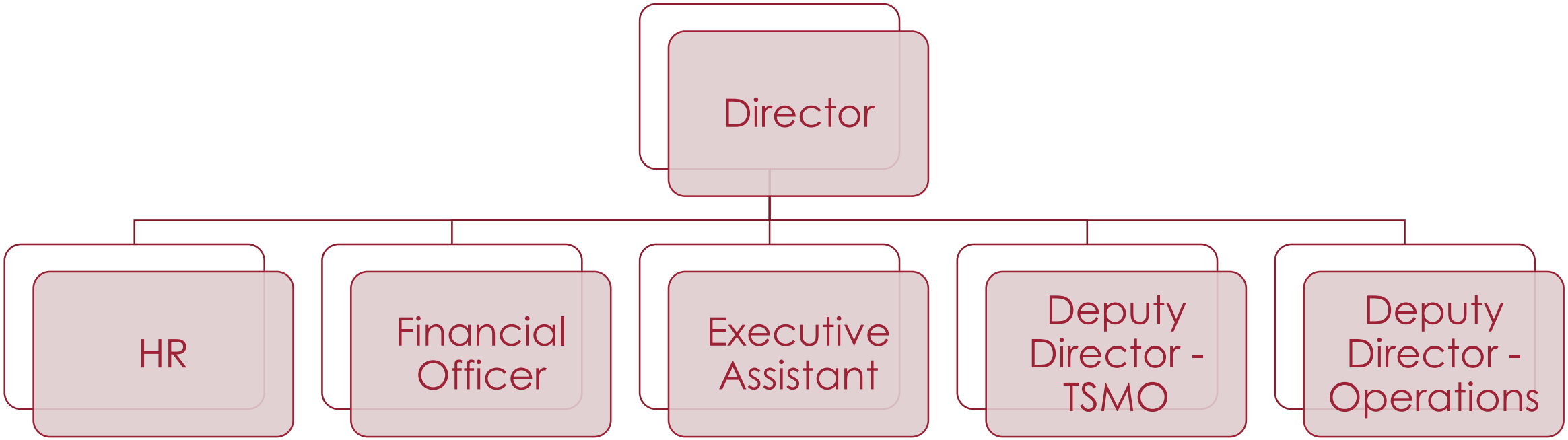
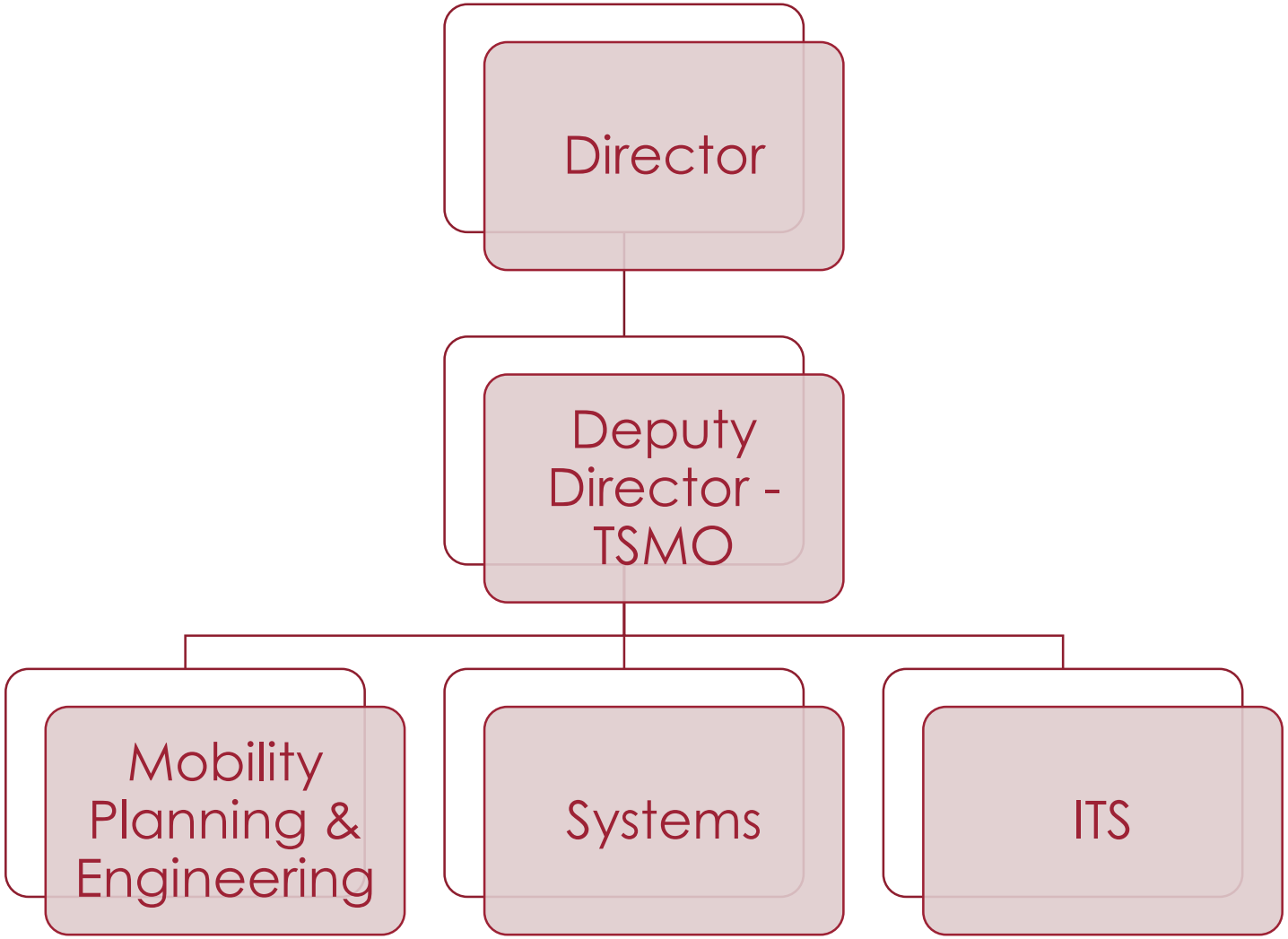
STATE HIGHWAY ADMINISTRATION

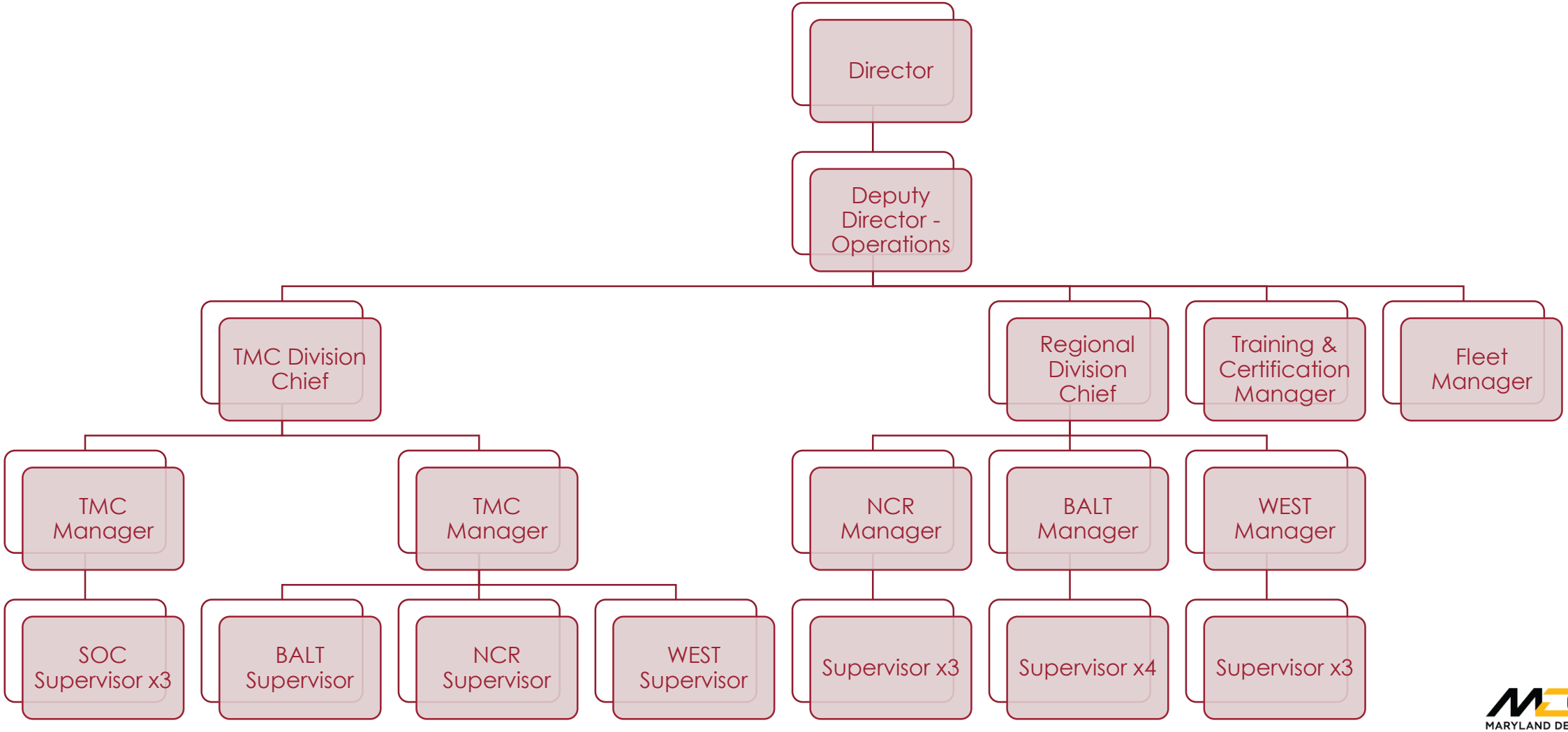
Structure


Director
HR
Financial Officer
Executive Assistant
Deputy Director - TSMO
Deputy Director - Operations

Structure


Director
Deputy Director - TSMO
Mobility Planning & Engineering
Systems
ITS

Structure



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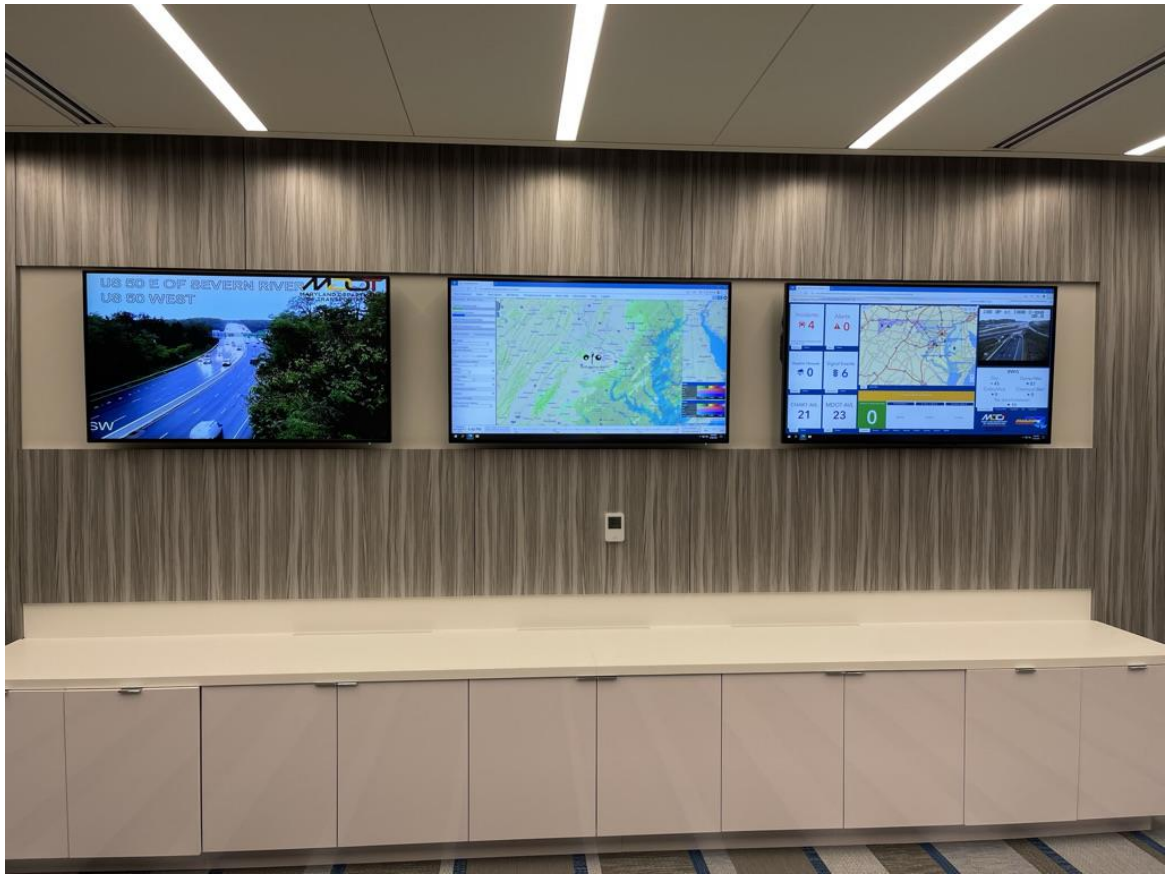
"Reconfigured" SOC

New SOC Entrance

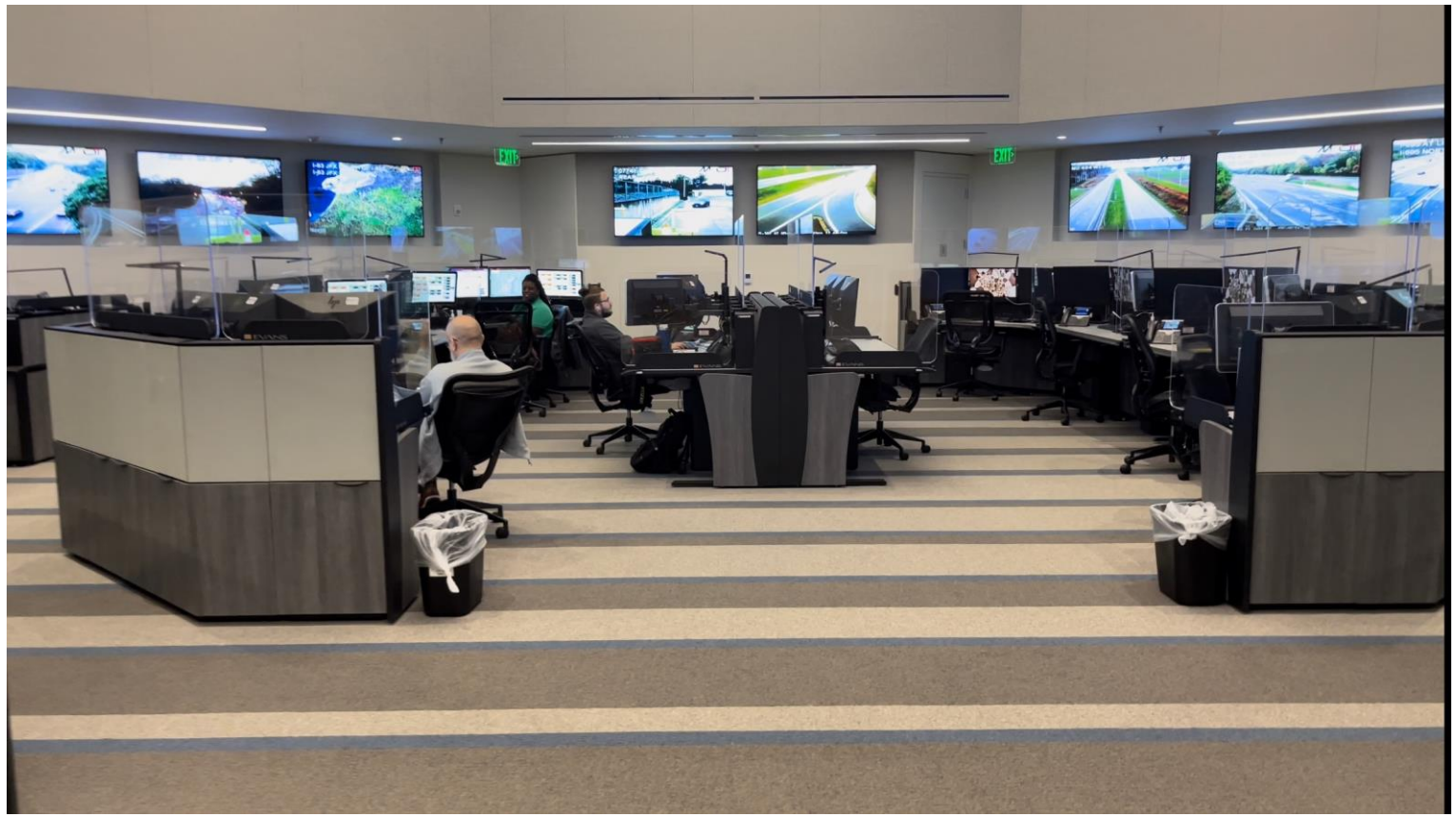
New SOC Lobby

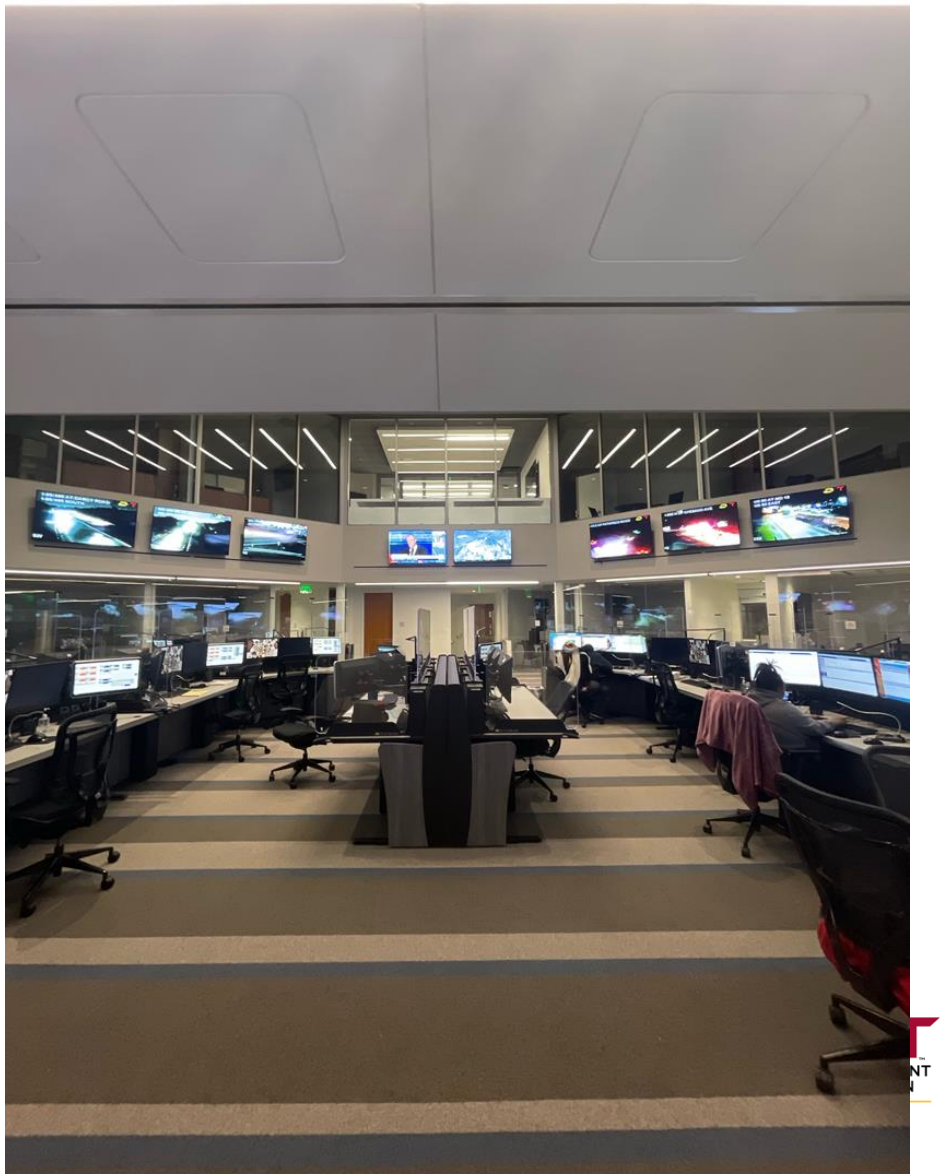


- New seating / waiting area
- Monitors for situation awareness can display CCTV Video, PC images, or cable TV
  - Configurable by Operators

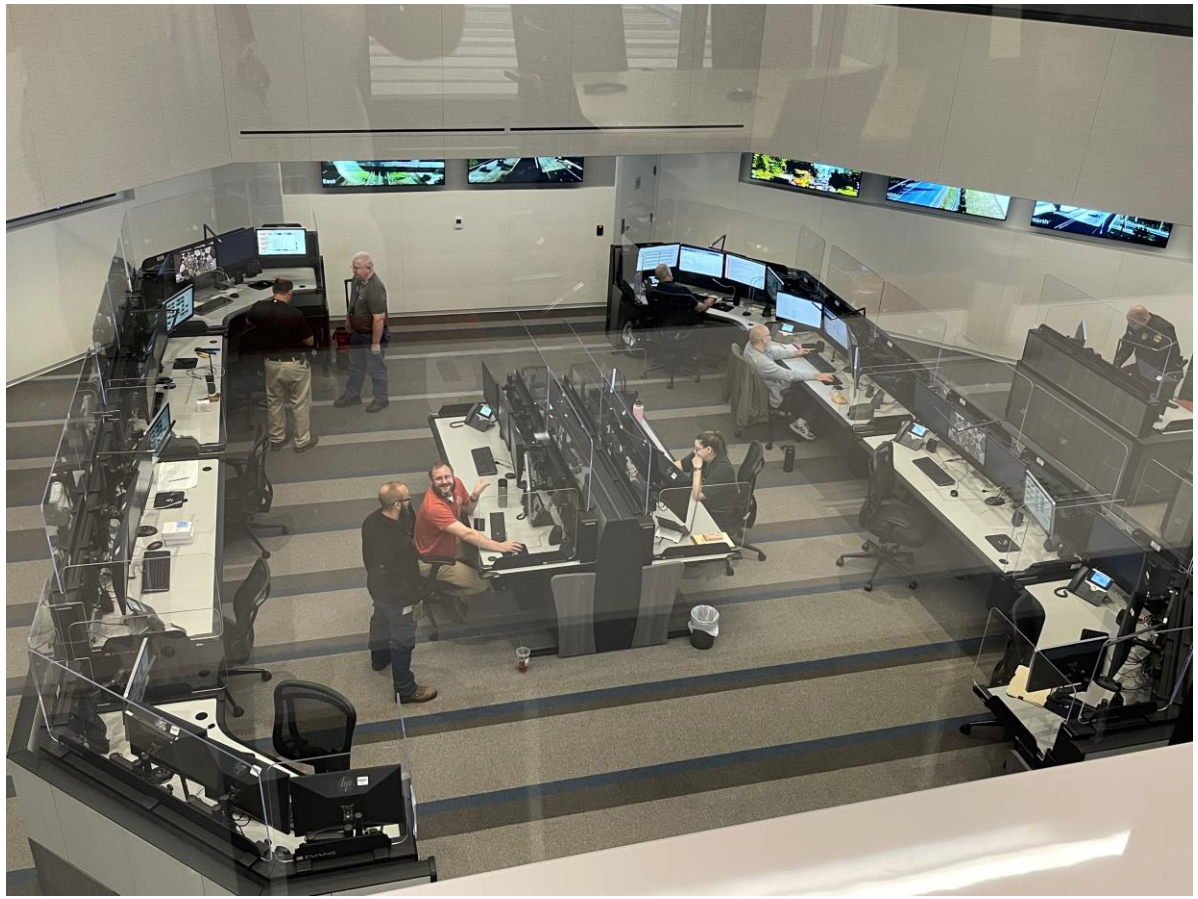
Previous SOC Operations Floor

New SOC Operations Floor





"Operations Football" Concept



- Goal to orient operators more to each other and their workstation than the video wall
- Groups supervisors with their teams
- Nature of design insulates core operations from the activity occurring outside

CCTV

CHART Patrol Cameras

- Full Pan – Tilt – Zoom camera controlled by central software at SOC/TOCs

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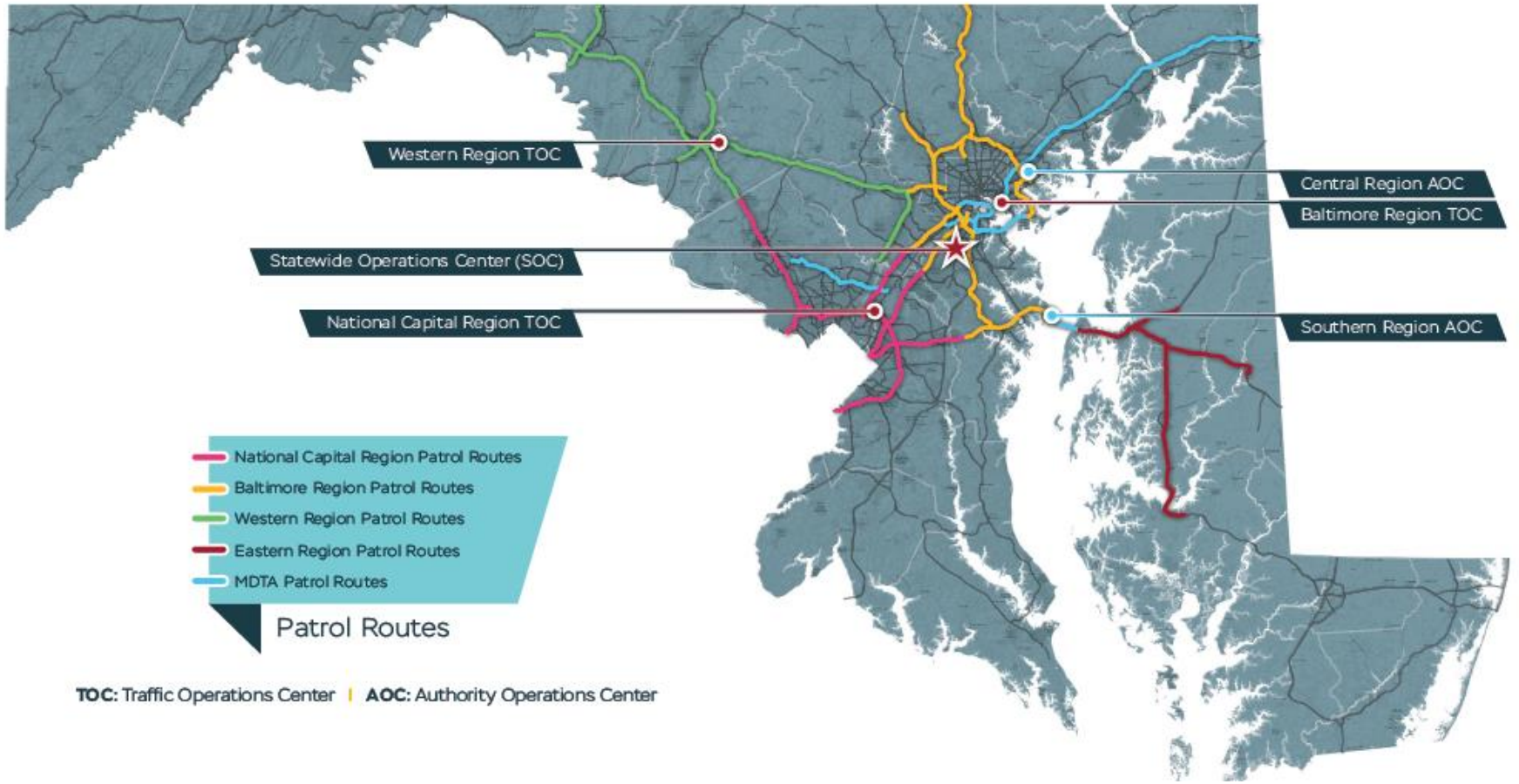
Incident Management- CHART Patrols

National Capital Region:
- In service 24/7/365
- I-495, I-95, I-270, US 50, MD 295

Baltimore Region:
– In service 24/7/365
- I-695, I-83, I-70, I-795, I-97, MD 295

Western Region:
- In service M-F= 5a-9p;
S, S = 9a-9p
- I-70, I-270, US 15/340, I-81

Eastern Region:
-In service M-F, 5a-9p*
-Weekends May-Sept
- US 50, US 301, MD 404



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Incident Management - CHART Patrols

Three types of Response Vehicles

- Tow Trucks
- Customer Response Vehicle (CRV)
- Heavy-Duty Utility w "hide-away stinger"

Certified Emergency Vehicles with MVA

New Equipment

- Battery powered Chainsaw & Blower
- Portable EV Charging Packs
- "Lane Blade"

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Incident Management – MSP Partnership

Move It Law

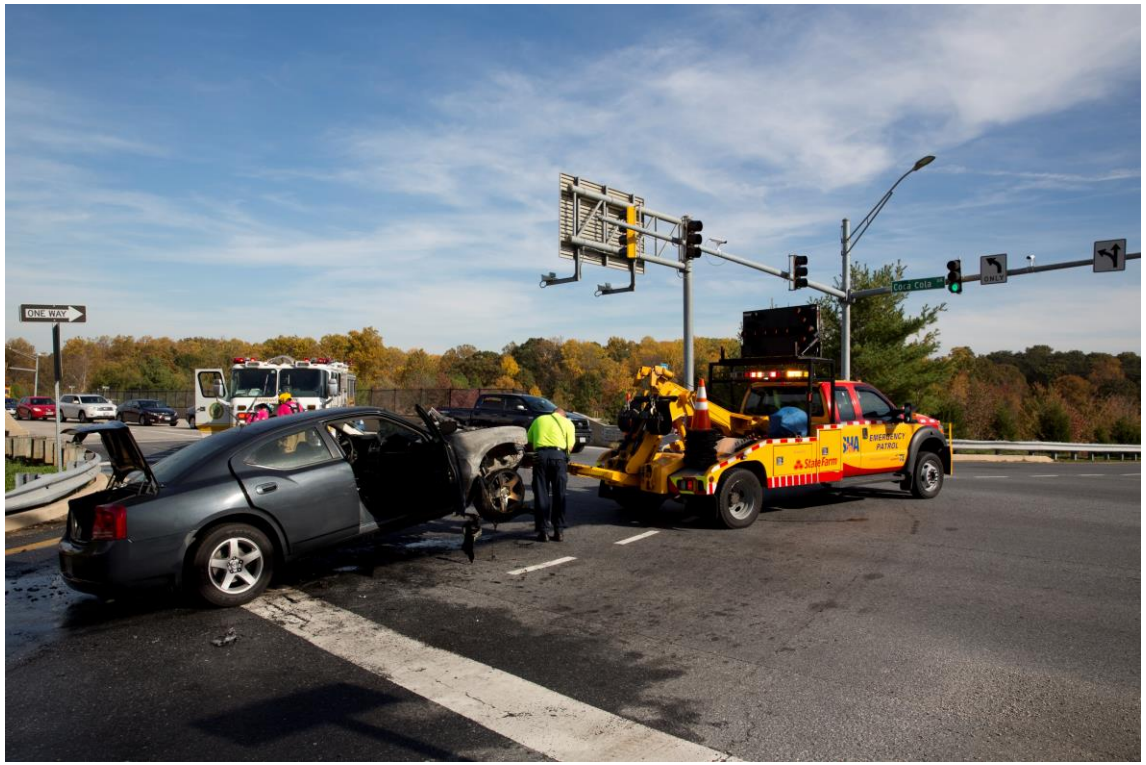
-MD Law to move vehicles out of the travel portion if drivable and no injuries

"Clear the Road" Policy

-MSP and MDOT SHA have agreed on a policy for rapid removal of vehicles from travel lanes

Dedicated MSP Liaison

Dedicated MSP Traffic Incident Management Unit



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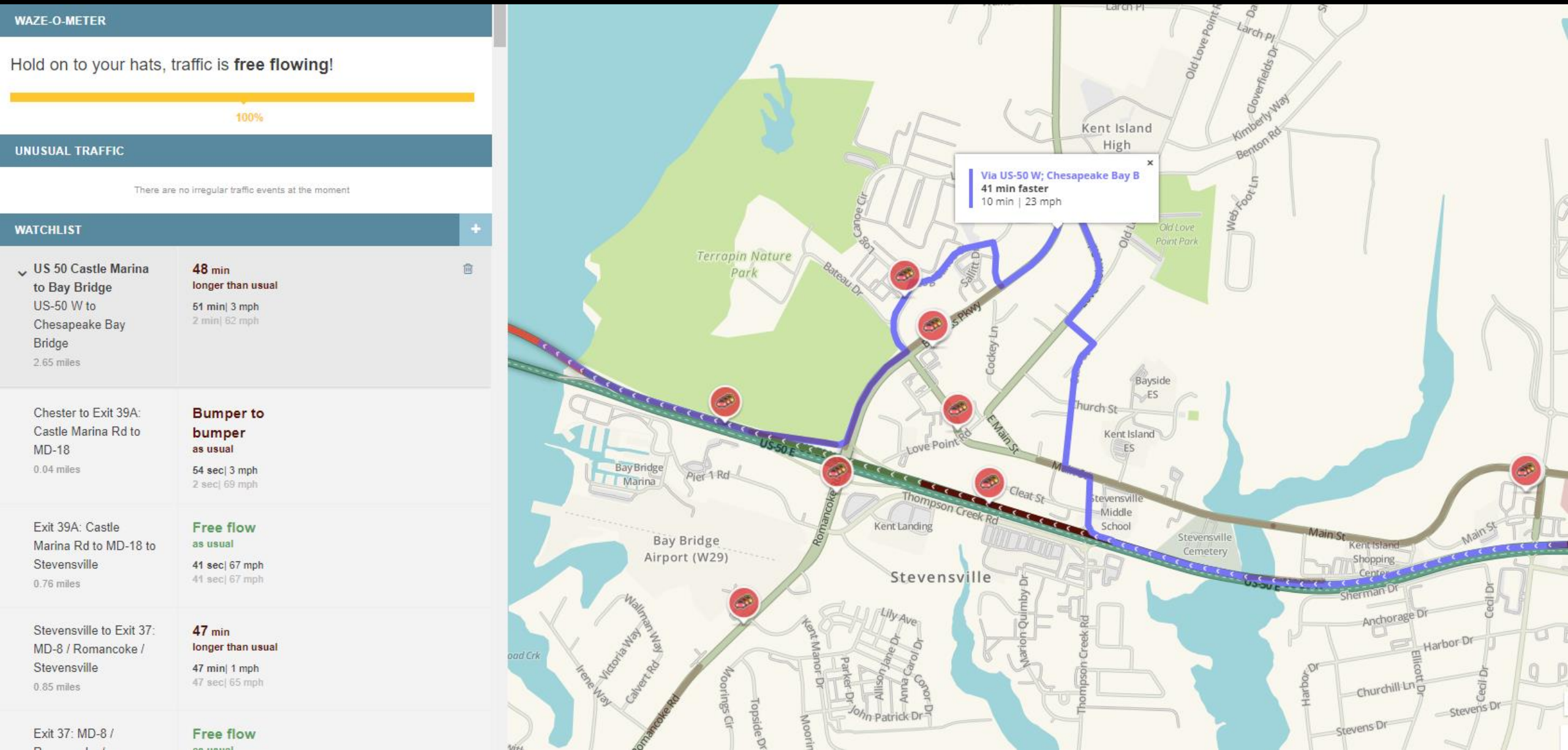
Traffic Monitoring with Waze



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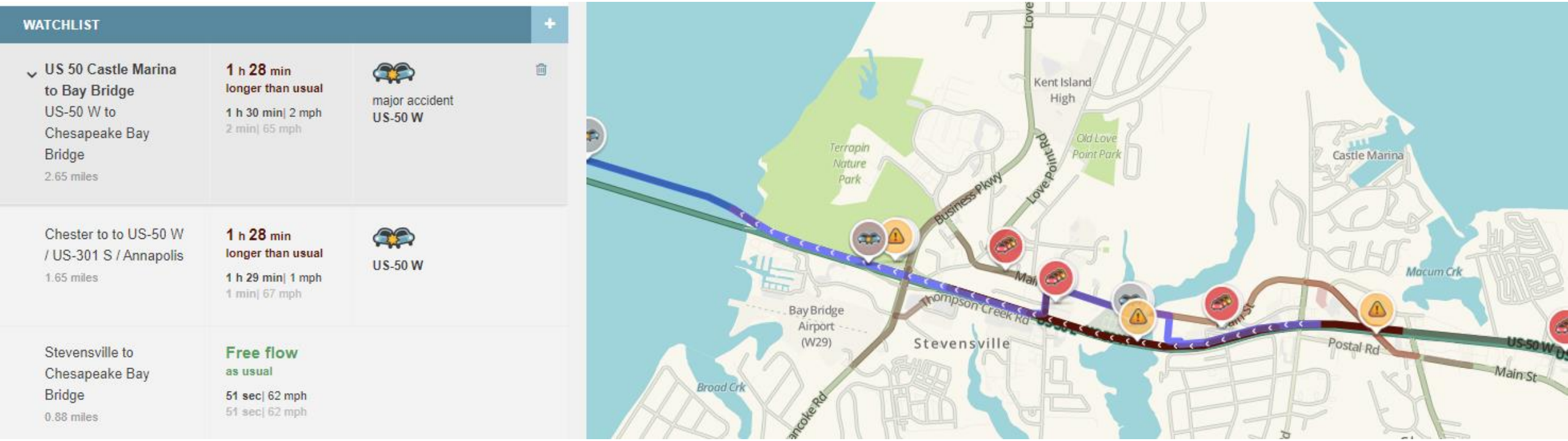

MARYLAND DEPARTMENT OF TRANSPORTATION
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FITM Plans

Incident Type: Collision, Personal Injury **HAZMAT:** NO
Incident Sub-Type:

Vehicle Count					
	Involved (Only)	Overturned	Lost Load	Jackknifed	TOTAL
Car	3	0			3
Tractor Trailer	0	1	0	0	1
TOTAL					4

TMDD Vehicle Count: 3 Cars, 1 Truck
Severity Score: 78 Details

FITM Plan Suggested
This incident may qualify for signal intervention.
Consider using an available FITM plan and notifying OOTS designee(s).
Use FITM: I-70, EX 83 to EX 87, East/West
Dismiss

Roadway Conditions Edit Road Configuratio

Direction: East
Road Surface Condition: Dry
Nearby Wx Station: Location: I-70 West of US
(Intranet Map) show sensors
y: N/A; Vis: N/A;

Road Configuration Description: 2 Traffic Lanes in each direction, with Shoulders, Right Off Ramp, and Median.

Notification Create Notification Create Signal Notification

No notifications are available for this traffic event.

Signals

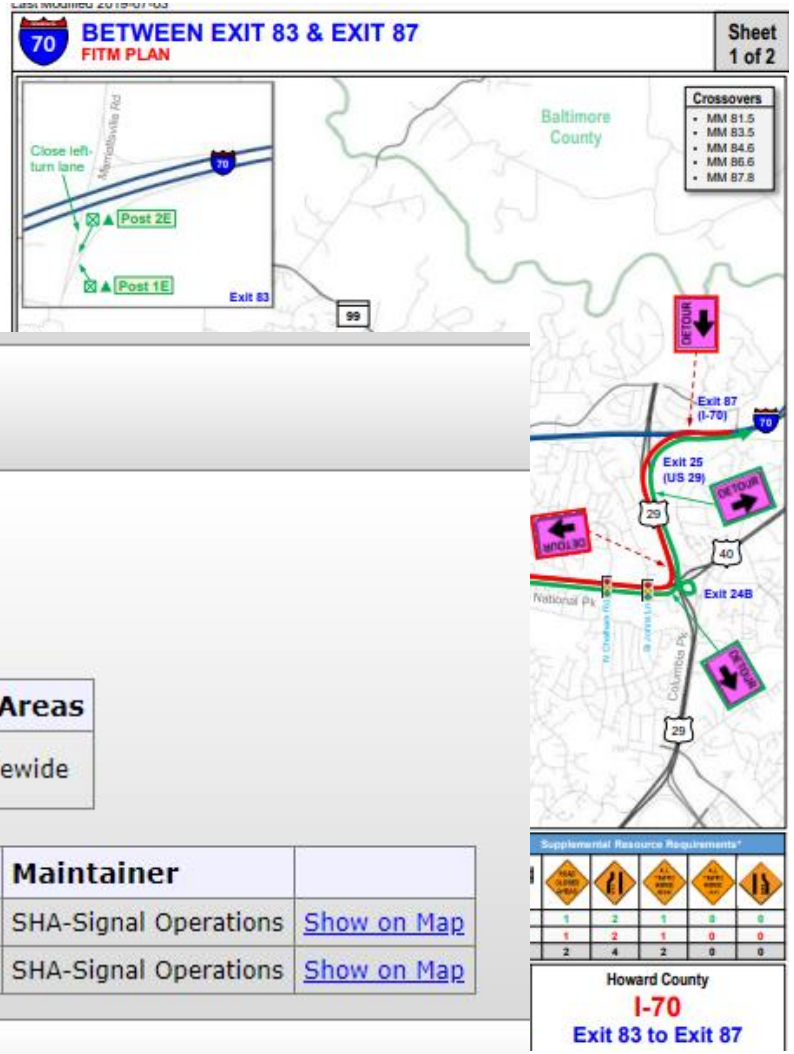
FITM Plan		
I-70, EX 83 to EX 87, East/West	View PDF	Remove from Event

Current OOTS Designee - Name	Call Sign	Phone Numbers	Patrol Areas
Pecorino, John (SHA / OOTS / TOD / Signal Ops)	454	[redacted]	OPS Statewide

Signal Name	Owner	Maintainer	
MARRIOTTSVILLE RD @ I-70 WB OFF RAMP [Traffic Control Signal]	SHA-Signal Operations	SHA-Signal Operations	Show on Map
US 29 (29TH INF DIV) @ I 70 N RAMP (EXIT 25) [Traffic Control Signal]	SHA-Signal Operations	SHA-Signal Operations	Show on Map

Photos Choose Files No file chosen Upload

No photos are available for this event.



Freeway Incident Traffic Management Plans (FITM)

- Pre-engineered detour plans with input from State and local stakeholders
- OTMO partners with SHA Shops for deployment
- Moving towards TMC Adjusting Signals

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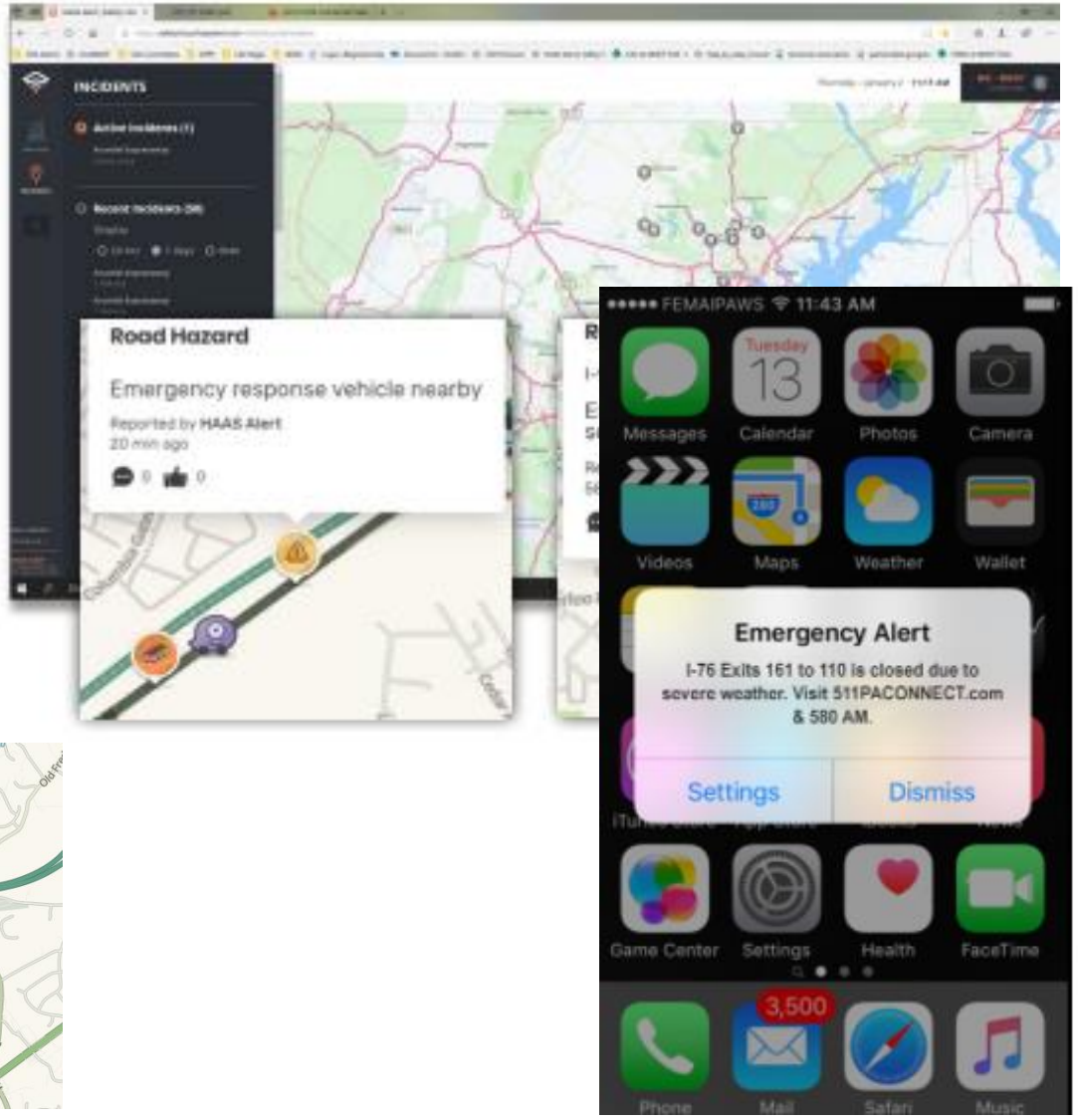
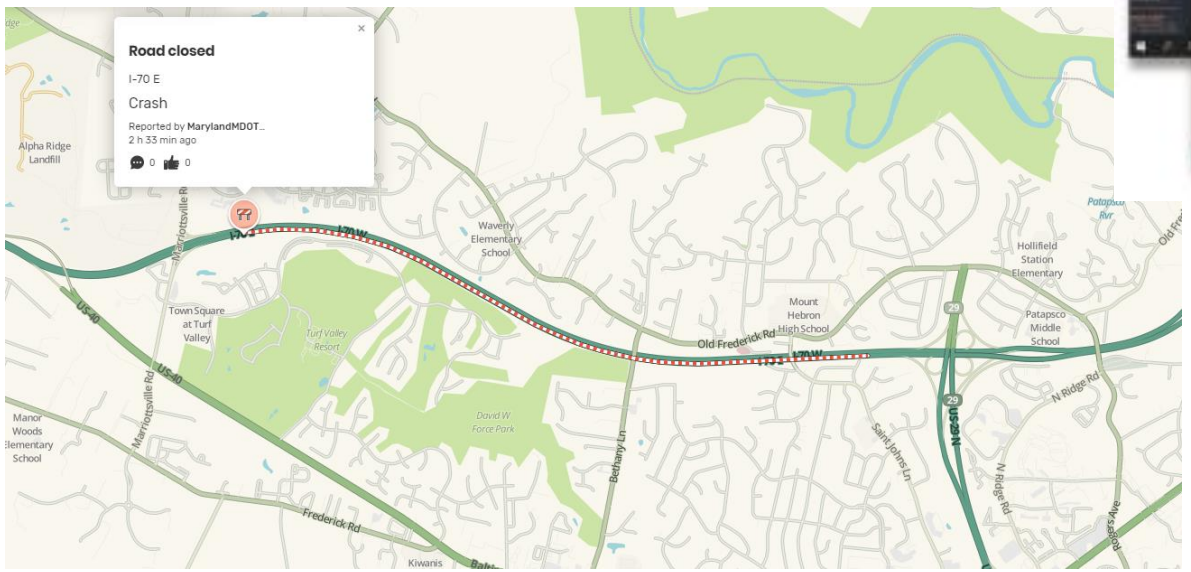
Traveler Information

From the TMC and Other Technology:

- Real-Time input into Waze for major closures
- R2V Alerting
- IPAWS Alerts





MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Traffic Management – Enhanced FITM Plans

Incident Type: Collision, Personal Injury **HAZMAT:** NO
Incident Sub-Type:

Vehicle Count					
	Involved (Only)	Overturned	Lost Load	Jackknifed	TOTAL
Car	3	0			3
Tractor Trailer	0	1	0	0	1
TOTAL					4

MDD Vehicle Count: 3 Cars, 1 Truck
Severity Score: 78 Details

FITM Plan Suggested

This incident may qualify for signal interve
Consider using an available FITM plan and

Use FITM: I-70, EX 83 to EX 87, East

Dismiss

Roadway Conditions Edit Road Configuratio

Direction: East
Road Surface Condition: Dry
Nearby Wx Station: Location: I-70 West of US
(Intranet Map) show sensors

Road Configuration Description: 2 Traffic Lanes in each direction, with Shoulders, Right Off Ramp, and Me
Lane Closure Description: 2/2 Eastbound closed

Signal Name	Owner
MARRIOTTSVILLE RD @ I-70 WB OFF RAMP [Traffic Control Signal]	SHA-Signal Operations
US 29 (29TH INF DIV) @ I 70 N RAMP (EXIT 25) [Traffic Control Signal]	SHA-Signal Operations

Photos Choose Files No file chosen Upload

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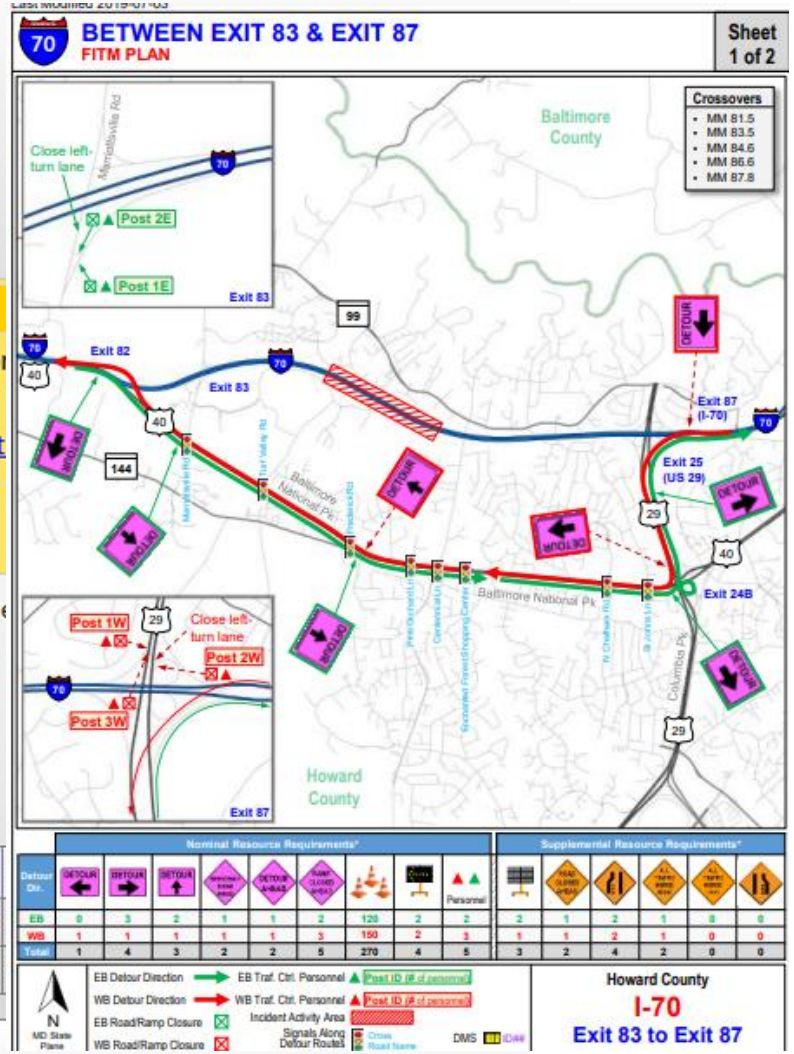

Freeway Incident Traffic Management Plans (FITM)

- Pre-engineered detour plans with input from State and local stakeholders
- OTMO partners with SHA Shops for deployment
- Moving towards TMC Adjusting Signals

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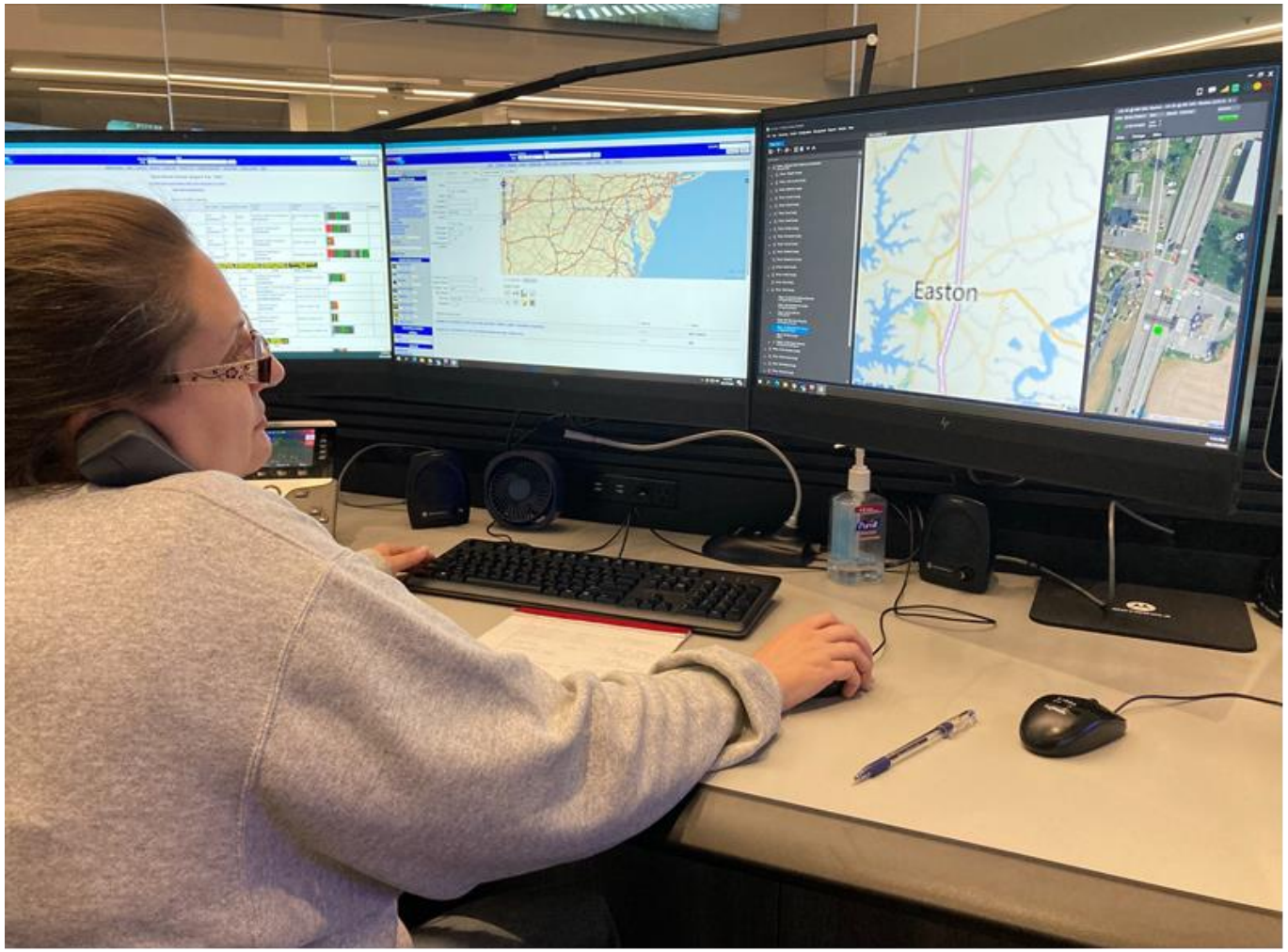
STATE HIGHWAY ADMINISTRATION

Traffic Management – SOC Signal Adjustment



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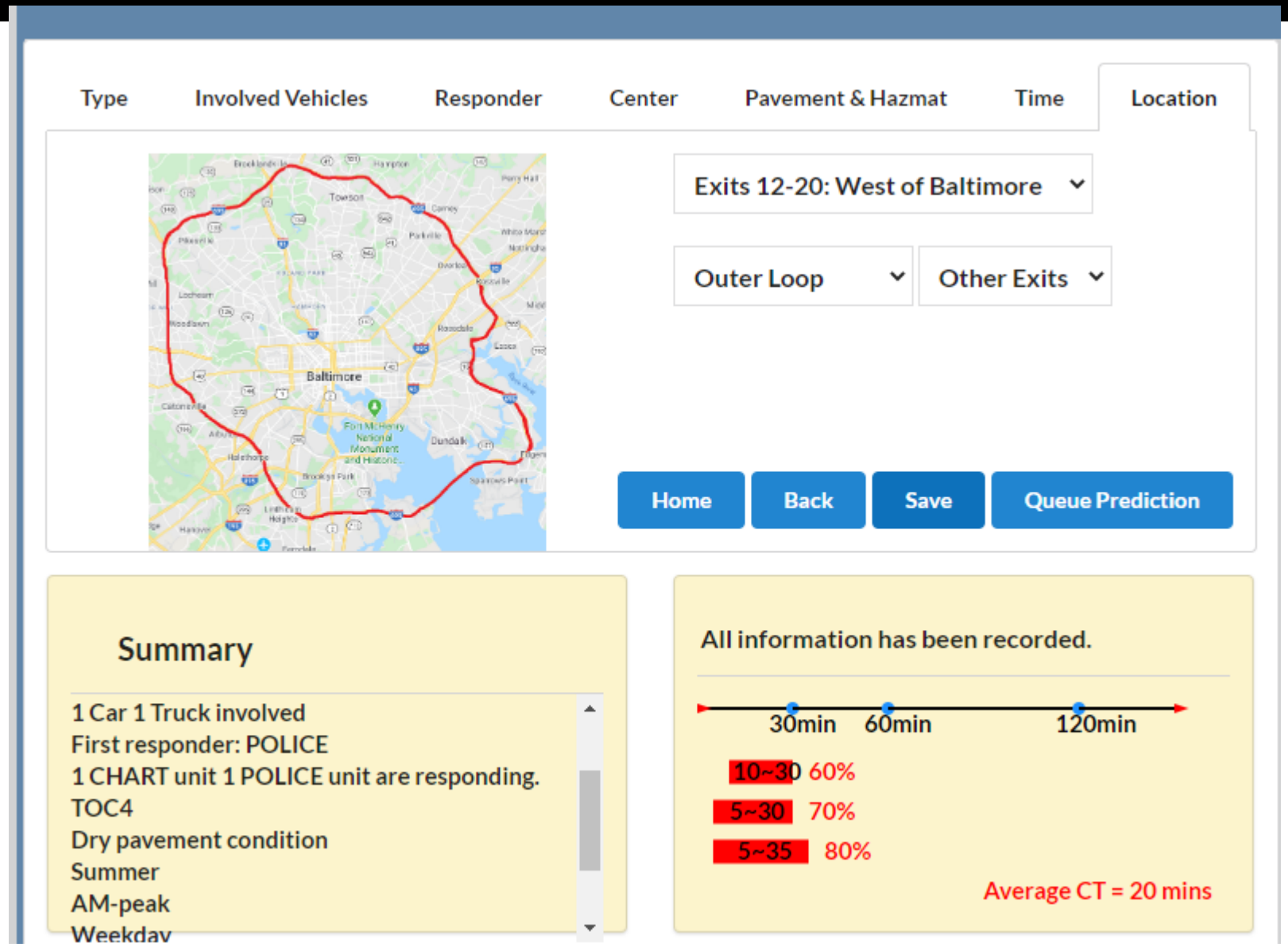
Predictive Tools



Duration Prediction

- Uses historical CHART ATMS data to calculate averages
- Separate tool that requires operator input

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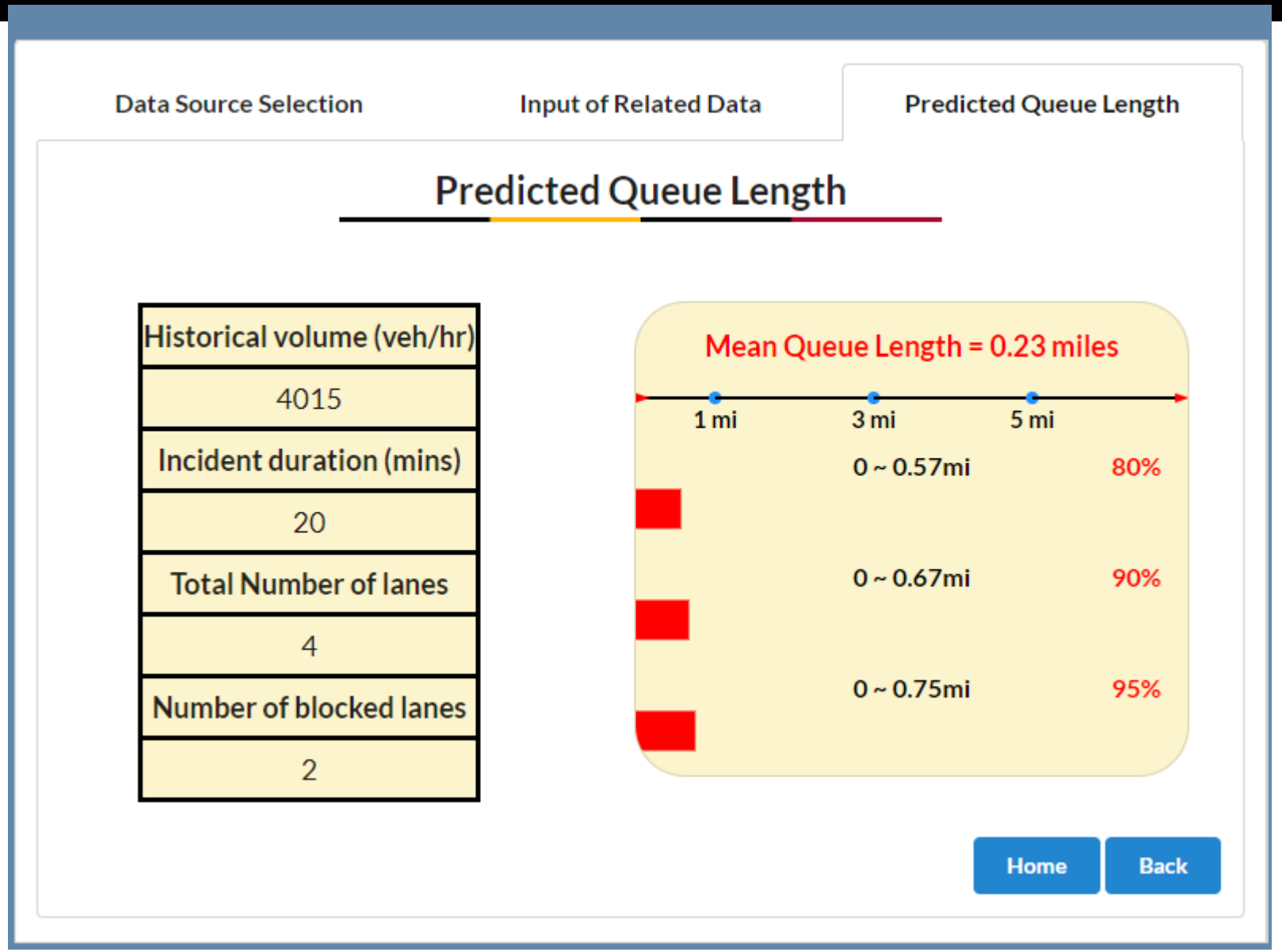
Predictive Tools



Queue Prediction

- Can use live detector data or historical data based on vehicle counts or speed
- Separate tool that requires operator input

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QUESTIONS?

THANK YOU!

JASON DICEMBRE
DIRECTOR
MDOT SHA
OFFICE OF TRANSPORTATION, MOBILITY & OPERATIONS (OTMO)

JDICEMBRE1@MDOT.MARYLAND.GOV

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