# Members We Will Be Hearing From Today

1. California DOT
2. Georgia DOT
3. Illinois Tollway Authority
4. Iowa DOT
5. Maryland DOT
6. Michigan DOT
7. Nevada DOT
8. New Jersey DOT
9. Texas DOT
10. Virginia DOT

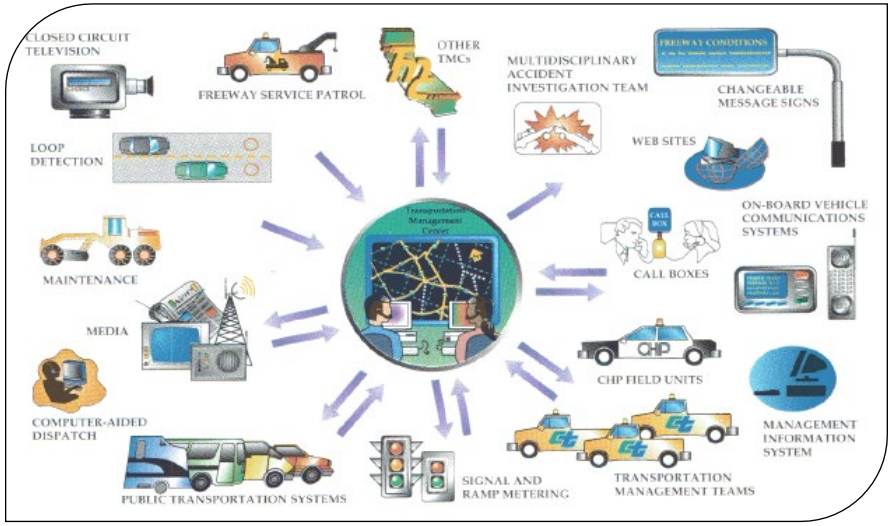
# California Department of Transportation

**Jose Camacho Jr.**
**Transportation Engineer, Electrical**
**Caltrans, HQ - Traffic Management Branch**
**jose.camacho.jr@dot.ca.gov**

# Caltrans: Key Issue #1

## Title: California ATMS Project

- **Challenge:** CA is comprised of 12 districts. Each district has varying operating systems, support programs, various versions or combinations of each system and programs within each TMC. Replacing 12 different systems with over 150+ stakeholders and 5 functional areas within state/districts.
- **Issues addressed:** Improve Caltrans transportation management by replacing the existing 12 intelligent transportation systems with a single statewide system (CATMS) to improve safety, incident and congestion management, traveler information, quality of travel, interoperability, standardized training and federal mandate compliance.



# Caltrans: Key Issue #1 Continued…

## Title: California ATMS Project

- **Action pursued:** Currently in Stage 2 – developing the detailed requirements documentation for the various stakeholders within the SW TMCs
- **Results:** Completed Stage 1: Business Analysis, Stage 2: Governance, HR, Staff, Stakeholder Management Plans
- **Lessons learned:** With the vast size of CA and various areas represented by stakeholders within this project, communication and stakeholder involvement is key to success. There were stakeholder workshop held with each stakeholder group separately and participation significantly increased. The same applied for documentation review.
- **Additional information:**

Alan Benson

Transportation Systems Engineer

Caltrans, Office of Systems Development

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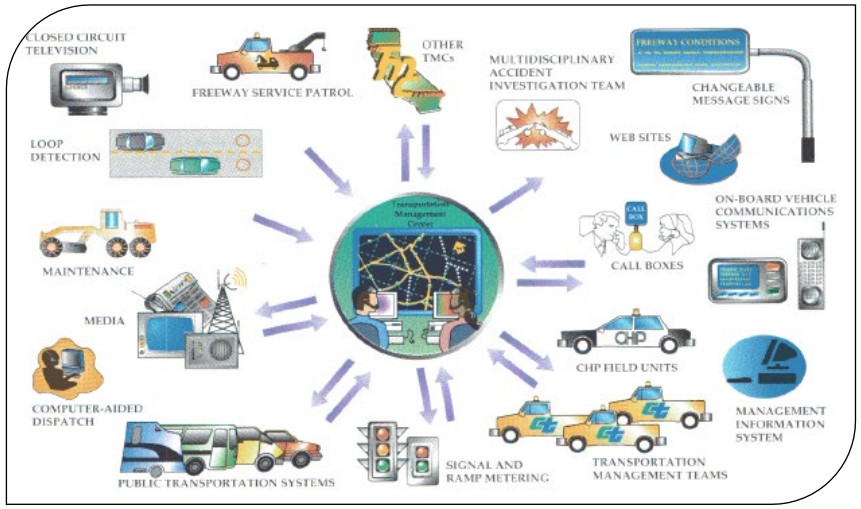

# Caltrans: Key Issue #2

## Title: California UAS

- **Challenge:** Traffic incidents cause major delays and impact CA in various ways. With the advancements in technology, Caltrans has established a statewide Unmanned Aircraft System (UAS) Program. The program is establishing working groups to address the many uses of UAS at Caltrans.
- **Issues addressed:** The working group will focus on development and best practices for UAS operations providing real-time data (video) to assist incident responders in the TMC, the field and the Emergency Operations Center (EOC).
- **Action pursued:** Develop a Charter that lays out the roles and responsibilities of the Traffic Management UAS Working Group (TMWG). The TMWG is sponsored by HQ Traffic Operations Division and the Division of Aeronautics.

# Caltrans: Key Issue #2 Continued…

## Title: California UAS

- **Results:** Charter approved January 2021.
  - Charter detailed Working Group's purpose:
    - Improve safety and operational best practices for Caltrans and Emergency response when requested.
    - Research, develop, test, acquire, integrate, and implement the best practices of data collection and processing within Caltrans.
    - Provide guidance on FAA regulations, Caltrans policy, UAS related training and updates on UAS technology.
    - Facilitate a forum for best practice findings from Traffic Operations program related to UAS and share UAS efforts from other states DOT's.
- **Lessons learned:** Along with existing internal and external partners, implantations of UAS programs are worthwhile, inexpensive and manageable providing a cost effective and safe alternative for producing visual product(s) for analysis and outreach.
- **Additional information:**

Sergio Venegas
Caltrans District 6 TMC Manager | EOC Coordinator
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# Caltrans:  List of Additional Key Accomplishments

- SW SOP – Emergency Response Plan (COVID-19 Response Plan)
- District 4 TIM Dashboard
- EDC-6: CT QuickMap Incident Push Notification

# Caltrans

## Questions?

**Additional Contact Information:**

Jose Camacho Jr.
Transportation Engineer, Electrical
Caltrans, HQ - Traffic Management Branch
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# Georgia Department of Transportation


**Matt Glasser, PE**
**Assistant State Traffic Engineer**
**GDOT**
**mglasser@dot.ga.gov**

# GDOT: Key Issue #1

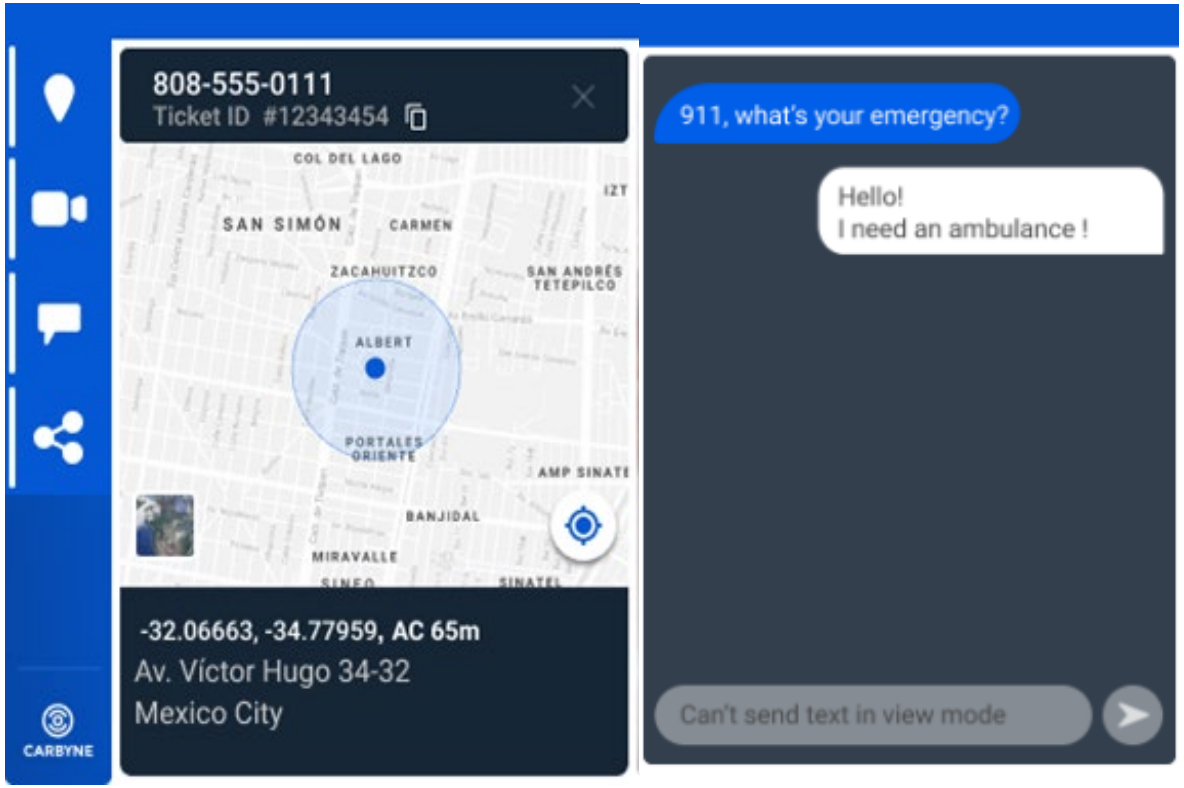
## Title: Using Location Data with Carbyne c-Lite

- **Challenge:** Inability to locate and dispatch stranded motorists in rural Georgia
- **Issues Addressed:** Minimal physical ITS coverage outside of Metro Atlanta
- **Action Pursued:** Utilize location services on cell phones
- **Lessons Learned:**
  - Potential ITS design disruptor technology
  - Minimal citizen pushback

# Collecting Location Data with Carbyne c-Lite

**How it works**

- When motorist call 511 requesting HERO or CHAMP assistance and are not sure of their location, an Operator can launch the c-Lite tool from their desktop.
- The 511 Operator will then ask if it's okay to send a link to the motorist cell phone to determine their exact location.
- When the motorist receives the link, they will click on it and be prompted to enable their location.
- If successful, within 10-20 seconds the 511 Operator will have the motorist exact location
- To communicate with callers who are unable to speak, shouldn't speak or who disconnected from the voice call unexpectedly, call-takers can use the Chat Function. NOTE: A chat window will automatically open when a caller sends a message.




**Results**

- Initially provided 6 licenses for testing and evaluation
- First weekend of use utilized the product 30 times only experiencing minor issues and callers being very open to the use of the product
- At the moment we are averaging 13 uses a week
- An additional 10 licenses were provided through our partnership with Carbyne to complete a large use case pilot Phase 1 testing. This provides all operators in third shift access.

# GDOT: List of Key Accomplishments

- Updated 5 Year Strategic Vision – *Towards Minute Zero*
- Awarded Statewide Traffic Incident Management Support Contract
- Awarded Statewide Operations Floor Contract
- Created Joint Agency Data Purchasing Program between GDOT and ARC
- 511 RFP
- Statewide Safety Service Patrol (CHAMP) RFP
- System-wide ITS audit underway

# GDOT:

## Questions?

Contain to obtain additional information:

Matthew Glasser, PE
Assistant State Traffic Engineer
GDOT
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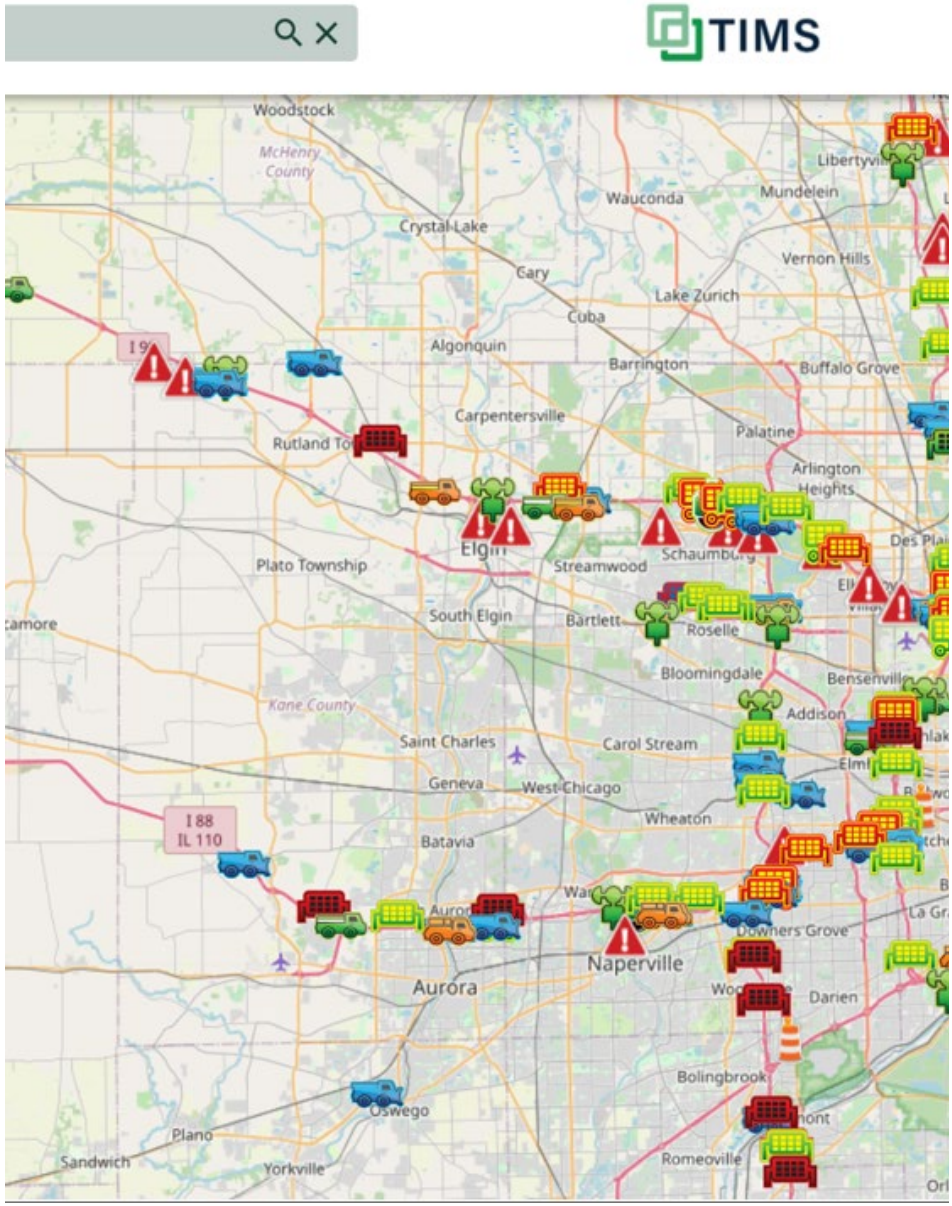
# Illinois Tollway Authority

**Elyse Morgan**
**Traffic Operations Center Manager**
**Illinois Tollway**
emorgan@getipass.com

# Illinois Tollway: Key Issue #1

**Title: Traffic and Incident Management System (TIMS) WebApp**

- **Challenge**: Limited access to Traffic Operations Center
- **Issues addressed**: Access to cameras and incident data from anywhere.
- **Action pursued**: The WebApp was built in a mobile-friendly platform and procuring a video-distribution server license to allow for release to limited number of key users and opportunity to expand to Illinois State Police District 15.
- **Results**: Integration of an effective tool for remote roadway maintenance and incident management. The WebApp can be used on any phone or mobile device to provide incident information, roadwork data, DMS status messages, camera snapshots and live video, AVL, RWIS and snowplow data.



# Illinois Tollway: Key Issue #2

**Title: Wrong-Way Driver Pilot Program**

- **Challenge**: Prevent and optimize response to wrong-way drivers.
- **Issues addressed**: Explored physical and technological enhancements to identify, measure, assess and counter wrong-way drivers.
- **Action pursued**: Pilot enhancements in key areas identified for potential improvements including signage and physical countermeasures, detection options, reporting and measurement and response planning.
- **Results**: Over time, the benefits of additional signage and improvements to pavement markings will become statistically relevant. Reporting enhancements allow for real-time checks and remove perceptions from the WWD assessment equation. Video analytics are being integrated more broadly using GPU servers and open-sourced analytics tools.

# Illinois Tollway: List of Key Accomplishments

- Two-way integration to asset management system
- Integration to lane closure application
- Smart work zone enhancements and PCMS contracts tracking
- Determination of third-party data
- Under-the-hood items
  - Redundant power and UPS for Traffic Operations Center
  - AD integration, switching to Tollway IT domain
  - Disaster planning and recovery
- Enhanced performance measurement and TSMO concepts

# Illinois Tollway:

**Questions?**

Contact to obtain additional information:

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Traffic Operations Center Manager
Illinois Tollway
emorgan@getipass.com

# Iowa Department of Transportation

**Bonnie Castillo**
**TMC/Service Patrol Contract Manager**
**Iowa Department of Transportation**
**Bonnie.Castillo@iowadot.us**

# Iowa DOT Key Issue #1

## Title: TMC Dashboard

- **Challenge**: The Iowa DOT TMC requires operators to create Emergency Incident Notifications (EIN) based off of severity of incidents, along with several types of reports from data produced by the TMC.

- **Issues addressed**: Operators were required to manually enter multiple forms for one incident based off of criteria and severity. In addition, data availability and retention was an issue, along with manual creation of monthly reports being time consuming.

- **Action pursued**: Iowa DOT contracted for a Systems Manager/Programmer in the TMC (separate contract from TMC staffing) to produce a TMC dashboard.

- **Lessons learned**: Requirements for vendor contract must be specific to duties and required capabilities.

- **Additional information**: Dashboard creates EIN based on criteria and severity, pulls data from ATMS, Waze and other sources to reduce manual entry, sends notification through outlook based on severity and GIS data. Also has the capability to send texts, all Performance Measurement reports are autogenerated from system, along with other reports.

# Iowa DOT Key Issue #2

Title: Combining ATMS/ATIS Solutions

- **Challenge:** RFP for ATMS/ATIS solutions requiring partnering of system vendors prior to proposal submittal
- **Issues addressed:** Proposals did not meet all requirements, and partnerships limited capabilities in both ATMS and ATIS
- Action pursued: Rejected all proposals, reposted RFP without partnership requirements
- **Lessons learned:** Setting requirements in the proposal to require system capability, without requiring selection of partnership allowed for selection of best fit for both ATMS and ATIS solutions.
- **Additional information:** We have successfully deployed the new ATMS system, which has reduced the number of systems required and steps operators must take to manage an incident. The operator no longer is required to manually enter/update/remove the ATIS (CARS/511) entry.

# Iowa Department of Transportation:  List of Key Accomplishments

- ATMS/ATIS Deployment
- TMC Dashboard
  - Notifications
  - Reports
  - ATMS Incident Feed
- Full Remote Operations for COVID on set of Pandemic
- Wrong Way Driver Project – Phase 2
- Statewide Interstate TIM/Diversion Plans

# Iowa Department of Transportation:

## Questions?

Contain to obtain additional information:

Bonnie Castillo
TMC/Service Patrol Contract Manager
Iowa Department of Transportation
Bonnie.Castillo@iowadot.us

# Maryland Department of Transportation

**Jason Dicembre**
**Division Chief – TMC Operations**
**MDOT SHA**
jdicembre1@mdot.Maryland.gov

# MDOT SHA: Key Issue #1

**Title:** Office Reorganization

- **Challenge:** Traffic Signal Operations were handled completely through our engineering office and not from within the TMC. New ATM Systems (PTSU, VSL, Queue Warning, etc.) are also being deployed in metro areas, a first in the state.

- **Issues addressed:** Desire to bring Signal Operations into the Statewide TMC and instill a more "active" traffic management posture.

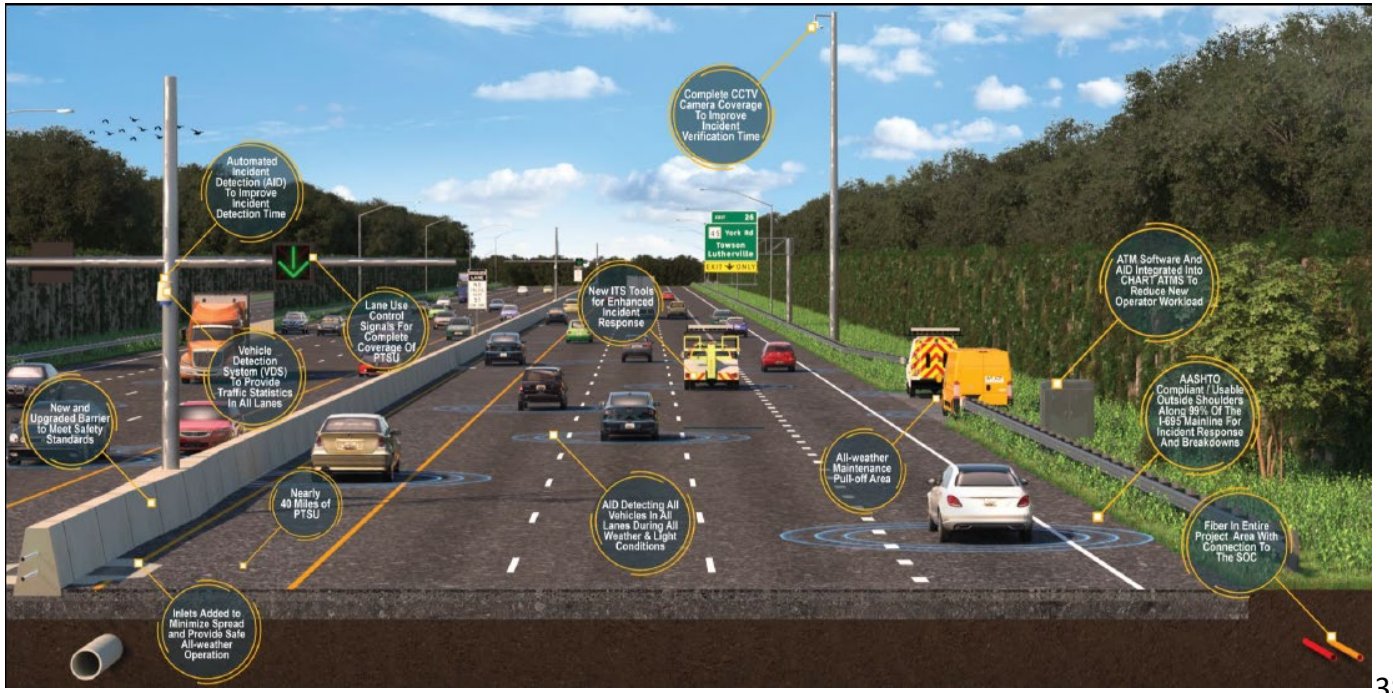
- **Action pursued:** An office reorganization, support by the Secretary's Office, to bring some level of signal engineering functions into TMC Ops.

- **Results:** Office of Coordinated Highways Action Response Team (CHART) realigned and renamed to the Office of Transportation Mobility & Operations (OTMO) with the deployment of Signal Ops in the TMC underway.

  **Lessons learned:** Operation of Maryland's signal system is multi-faceted and complex. Managing organizational change can be difficult but change is needed.

# MDOT SHA: List of Key Accomplishments

- Began construction on the Statewide Operations Center Reconfiguration
  - COVID-19 Complications
- Joined Waze CCP and began incorporating use within TMC
- Began work on US 1 Smart Corridor pilot project
- I-695 PTSU / TSMO System Contractor Selected
- Finalized TSMO Master Plan
- Began work on ATMS Release Upgrade with new Decision Support Tools to support Signal Operations



# MDOT SHA:

## Questions?

Contain to obtain additional information:

Jason Dicembre
Division Chief – TMC Operations
MDOT SHA Office of Transportation Mobility & Operations
jdicembre1@mdot.Maryland.gov

# Michigan Department of Transportation

**Suzette Peplinski**
**Grand Region Traffic Safety & Operations Engineer**
**Michigan Dept. of Transportation**
**PeplinskiS@michigan.gov**

# Michigan DOT: TOC Pandemic operations

## Response to pandemic

- MDOT has 3 Transportation Operations Centers (TOCs) and 1 international bridge crossing TOC.
- TOCs had contingency plans for remote/backup operations for short-term, but not months and months.
- The decision about whether to go to remote operations or remain onsite was made at each TOC, balancing the risk of remaining onsite vs the potential for completing work remotely.
- Action pursued: The Statewide TOC and the Southeast Michigan TOC shifted to 100% remote, the West Michigan TOC and the Blue Water Bridge TOC kept operators onsite in the control rooms, with reduced staff onsite.
- For remote operations: Computers, monitors, chairs were sent home with operators. VPN access was provided for each. Phones were the biggest challenge.
- For onsite operations: Each control room operated with 1 or 2 operators. At WMTOC, shift supervisor is onsite, but in a different room in the building.
- Heavy Reliance on MS Teams, SharePoint, and OneDrive.
- Adjustments made to freeway service patrol operations, but due to traffic volume changes, not due to staffing challenges.

# Michigan DOT:  TOC GIS Operator Dashboard

- Challenge: Many operator resources scattered over a variety of sites.
- Action pursued: Map-based dashboard pulling together these resources.
- Results: TOC GIS Dashboard
- WMTOC worked with MDOT's GIS unit to combine existing MDOT layers and some new layer sources.
- Includes: Waze Alerts, camera images, traffic speed data, work zone lane closures, power company outage maps, traffic signal data layer, signal dispatch contacts, emergency contacts, and weather data.

# MDOT Traffic Operations Center

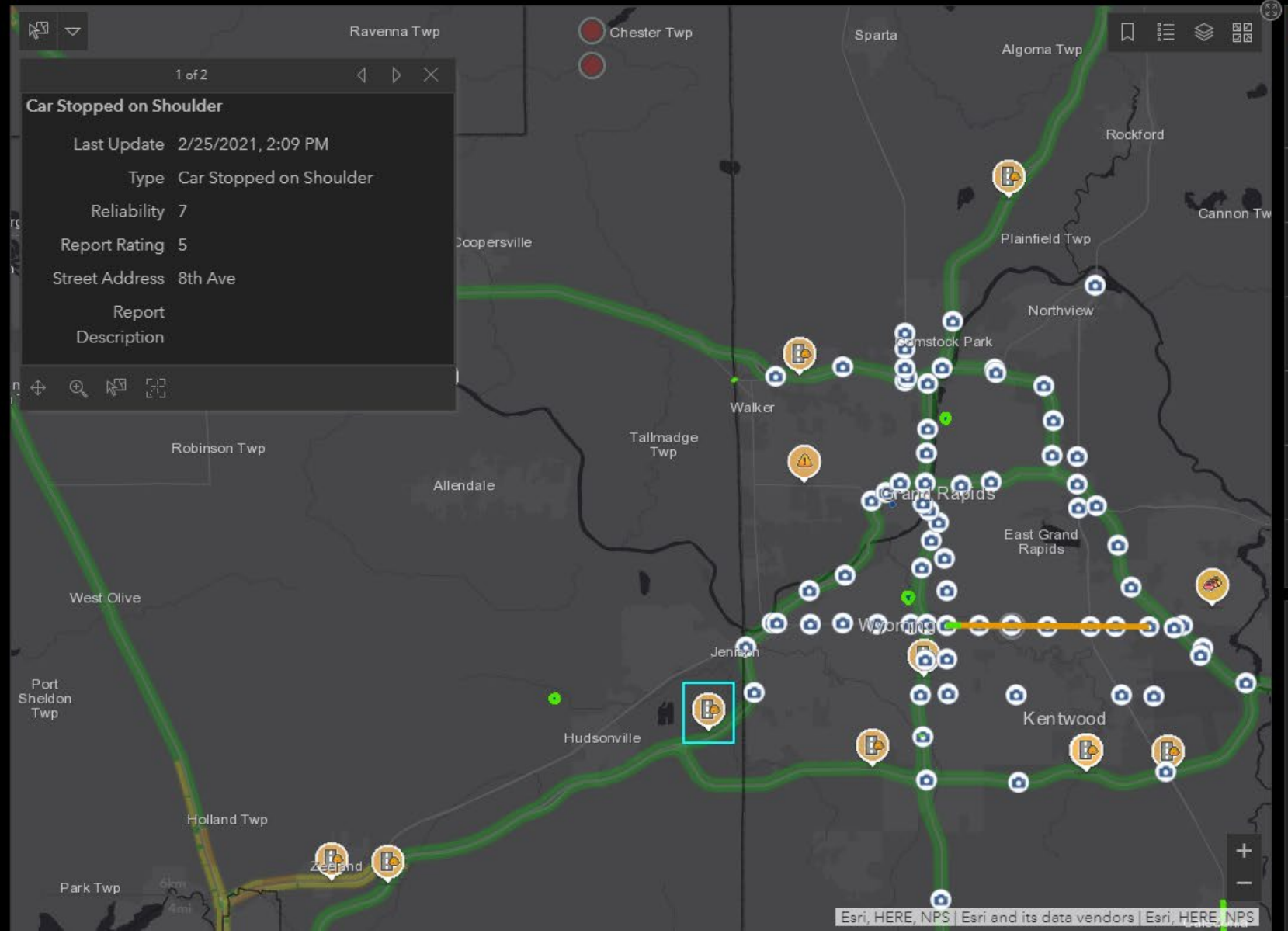
MiDrive

Traffic & Incidents | Weather & DMS | Signals & Power Outages | Traffic & Incidents (Beta)

Waze Alerts: Last 10mins | Last 30mins | Last Hour | Last 90mins | All

## Waze Alerts

- **Car Stopped on Road:** Maynard Ave NW 2/25/2021, 2:27 PM
- **Car Stopped on Shoulder:** 68th Ave 2/25/2021, 2:26 PM
- **Car Stopped on Shoulder:** I-196 W 2/25/2021, 2:24 PM
- **Car Stopped on Shoulder:** I-196 BUS E 2/25/2021, 2:15 PM
- **Car Stopped on Shoulder:** 8th Ave 2/25/2021, 2:09 PM
- **Car Stopped on Shoulder:** M-6 W 2/25/2021, 2:07 PM
- **Moderate Traffic:** Burton St SE 2/25/2021, 2:05 PM
- **Car Stopped on Shoulder:** M-6 W 2/25/2021, 2:03 PM
- **Car Stopped on Shoulder:** Broadmoor Ave SE 2/25/2021, 2:00 PM
- **Car Stopped on Shoulder:** M-6 W 2/25/2021, 1:58 PM
- **Car Stopped on Shoulder:** I-96 E 2/25/2021, 1:55 PM
- **Car Stopped on Shoulder:** US-131 N 2/25/2021, 1:38 PM
- **Car Stopped on Shoulder:** US-131 N




## MiDrive Cameras

- **28th Street @ Kraft Ave** in Kent County
  Traffic closest to camera is traveling east
- **44th Street @ Division Ave** in Kent County
  null
- **44th Street @ Kalamazoo Ave** in Kent County
  null
- **44th Street @ Patterson Ave** in Kent County
  null
- **Division Ave @ 36th St** in Kent County
  null
- **Division Ave @ Burton St** in Kent County
  null
- **Division Ave @ Hall St** in Kent County
  null

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### I-196 @ 44th Street

# MDOT Traffic Operations Center

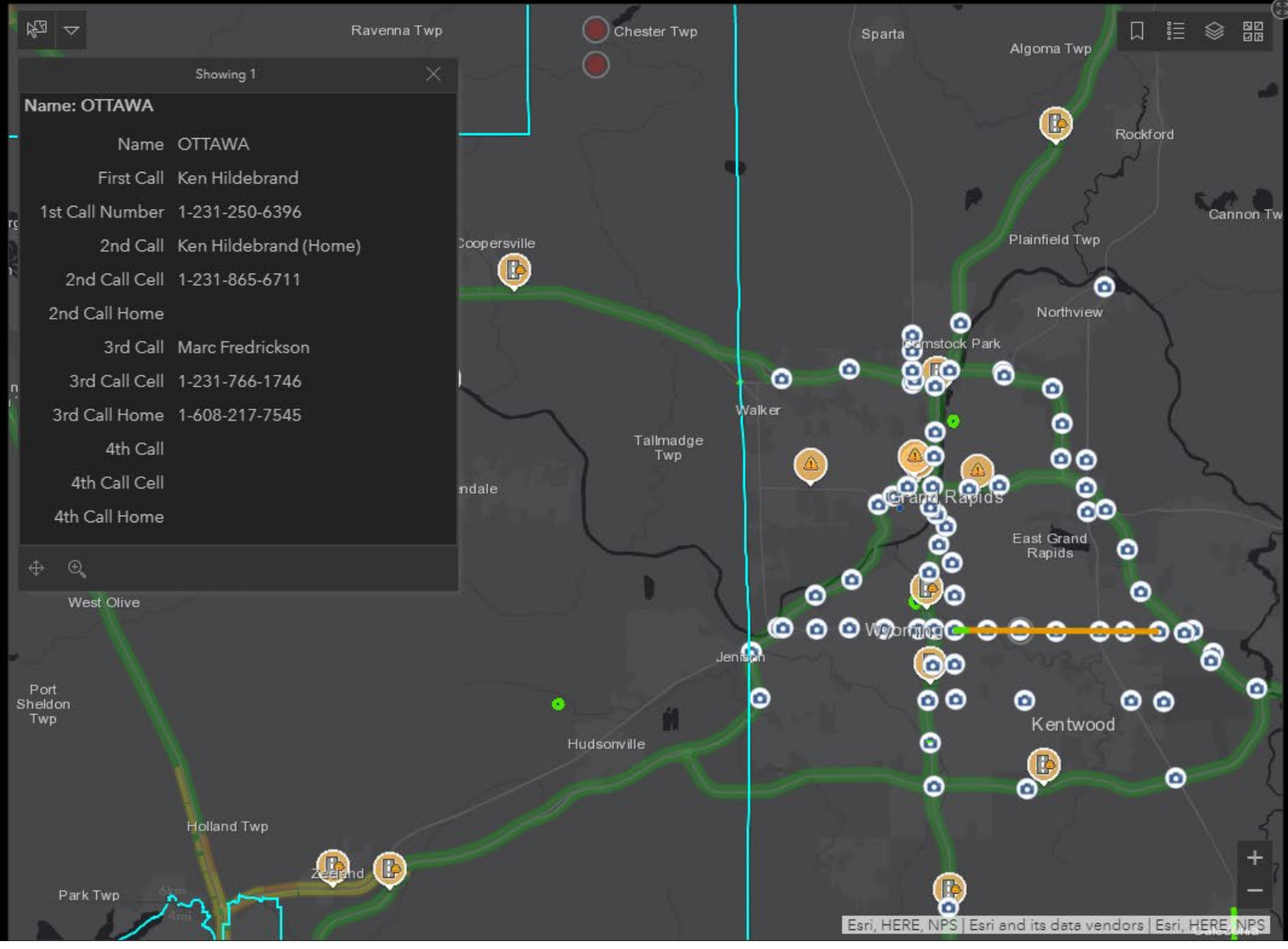
MiDrive

Traffic & Incidents | Weather & DMS | Signals & Power Outages | Traffic & Incidents (Beta)

Waze Alerts: Last 10mins | Last 30mins | Last Hour | Last 90mins | All

## Waze Alerts

- **Car Stopped on Shoulder:** Exit 89: I-96 / M-37 / Muskegon / Lansing
  2/25/2021, 2:54 PM
- **Car Stopped on Road:** Fire vehicle on scene
  2/25/2021, 2:45 PM
- **:** 2nd St
  Responding fire vehicle nearby
  2/25/2021, 2:43 PM
- **Car Stopped on Shoulder:** US-131 N
  2/25/2021, 2:41 PM
- **Car Stopped on Shoulder:** US-131 N
  2/25/2021, 2:37 PM
- **Car Stopped on Shoulder:** M-6 W
  2/25/2021, 2:37 PM
- **Car Stopped on Shoulder:** Lake Michigan Dr
  2/25/2021, 2:36 PM
- **Car Stopped on Shoulder:** I-96 W
  2/25/2021, 2:36 PM
- **Car Stopped on Shoulder:** US-131 N
  2/25/2021, 2:34 PM
- **Car Stopped on Road:** Fire vehicle on scene
  2/25/2021, 2:34 PM
- **Car Stopped on Shoulder:** US-131 N
  2/25/2021, 2:32 PM
- **Car Stopped on Road:** Maynard Ave NW
  2/25/2021, 2:27 PM




Showing 1

**Name: OTTAWA**

| | |
|---|---|
| Name | OTTAWA |
| First Call | Ken Hildebrand |
| 1st Call Number | 1-231-250-6396 |
| 2nd Call | Ken Hildebrand (Home) |
| 2nd Call Cell | 1-231-865-6711 |
| 2nd Call Home | |
| 3rd Call | Marc Fredrickson |
| 3rd Call Cell | 1-231-766-1746 |
| 3rd Call Home | 1-608-217-7545 |
| 4th Call | |
| 4th Call Cell | |
| 4th Call Home | |

## MiDrive Cameras

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  null
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  null
- **Division Ave @ 36th St** in Kent County
  null
- **Division Ave @ Burton St** in Kent County
  null
- **Division Ave @ Hall St** in Kent County
  null

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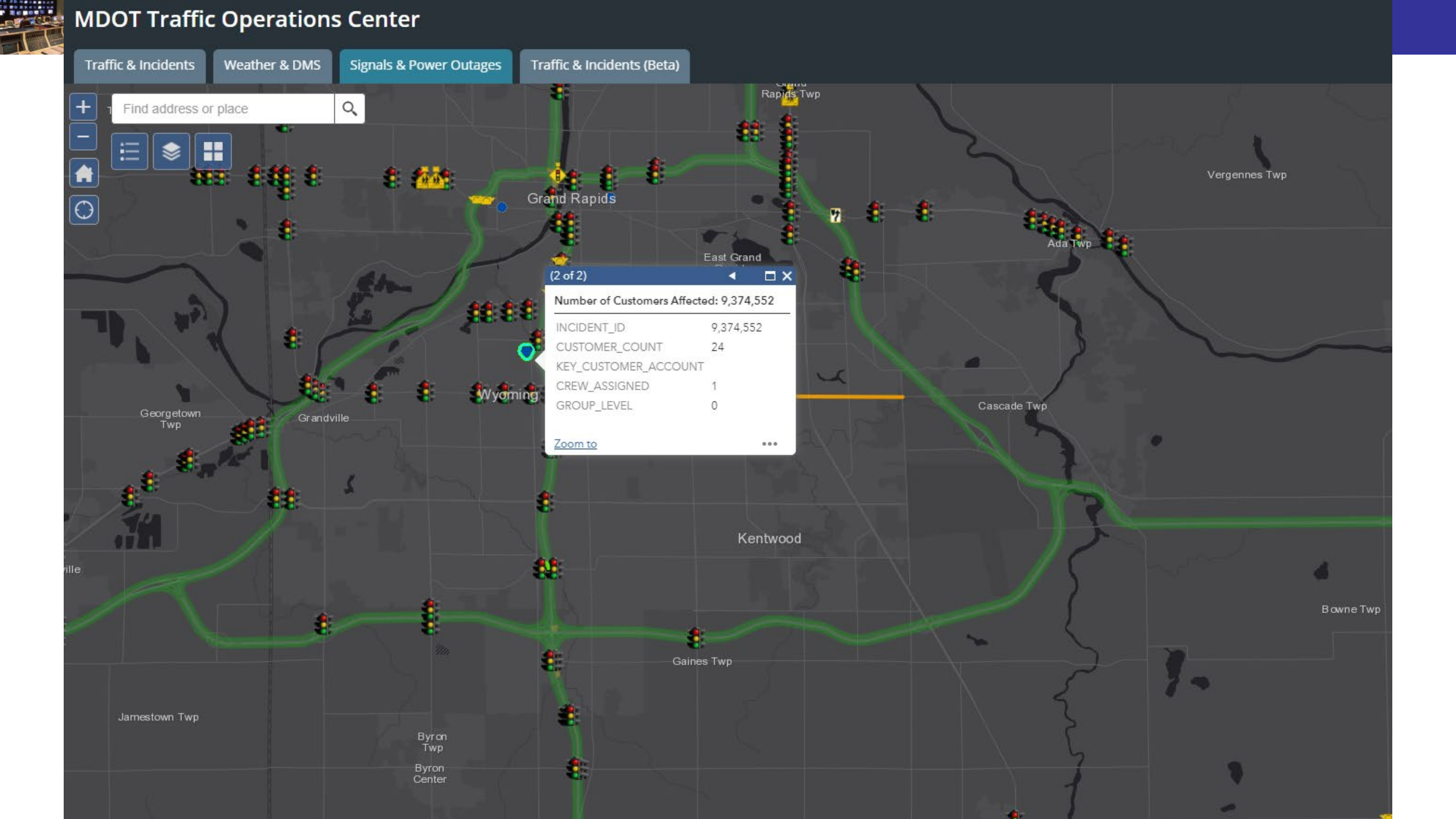
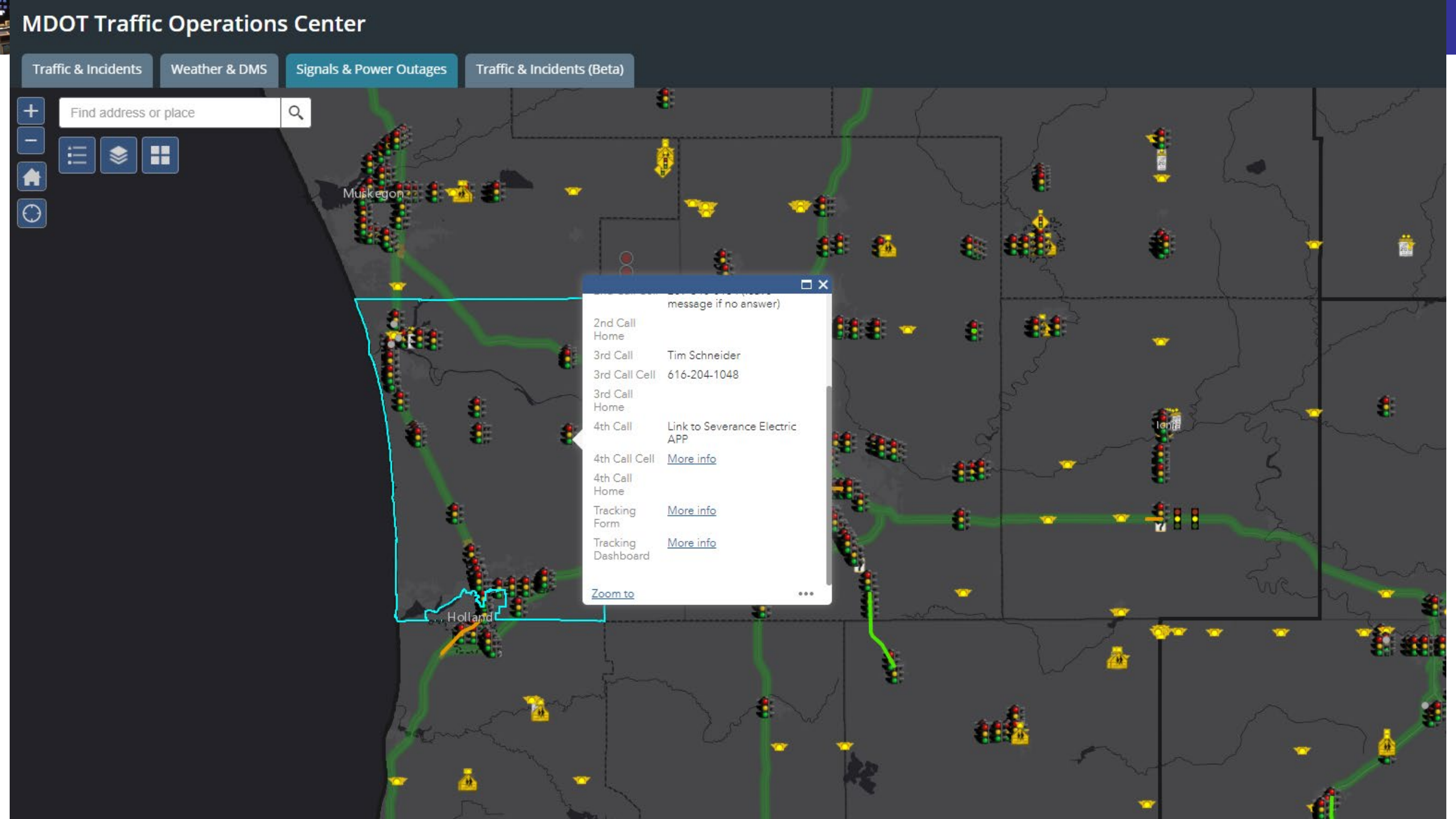
### I-196 @ 44th Street


MDOT Traffic Operations Center
Traffic & Incidents
Weather & DMS
Signals & Power Outages
Traffic & Incidents (Beta)
Find address or place
Grand Rapids Twp
Grand Rapids
Vergennes Twp
Ada Twp
East Grand
(2 of 2)
Number of Customers Affected: 9,374,552
INCIDENT_ID 9,374,552
CUSTOMER_COUNT 24
KEY_CUSTOMER_ACCOUNT
CREW_ASSIGNED 1
GROUP_LEVEL 0
Zoom to
Wyoming
Georgetown Twp
Grandville
Cascade Twp
Kentwood
Bowne Twp
Gaines Twp
Jamestown Twp
Byron Twp
Byron Center


MDOT Traffic Operations Center
Traffic & Incidents
Weather & DMS
Signals & Power Outages
Traffic & Incidents (Beta)
Find address or place
Muskegon
Holland
message if no answer)
2nd Call Home
3rd Call
Tim Schneider
3rd Call Cell
616-204-1048
3rd Call Home
4th Call
Link to Severance Electric APP
4th Call Cell
More info
4th Call Home
Tracking Form
More info
Tracking Dashboard
More info
Zoom to

# Michigan DOT: List of Key Accomplishments

- Developing requirements for new statewide ATMS
- ITS Template funding constraints (O&M takeover)
- Implemented TOC SharePoint site for internal stakeholders
- Piloting wrong way systems with notification to TOCs
- Automated weather messaging on DMS
- Implemented Active911 communications with dispatch partners
- Utilizing Teams Platform for internal TOC operations
- SEMTOC Freeway Courtesy Patrol trailer
- WMTOC migrated to new platform for Performance measures data and reporting. Power BI based, web-hosted.

# Michigan DOT

## Questions?

Contact to obtain additional information:

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# Nevada Department of Transportation

**LaShonn Ford**
**Senior Traffic Operations Engineer**
**Nevada Department of Transportation**
lford@dot.gov.nv

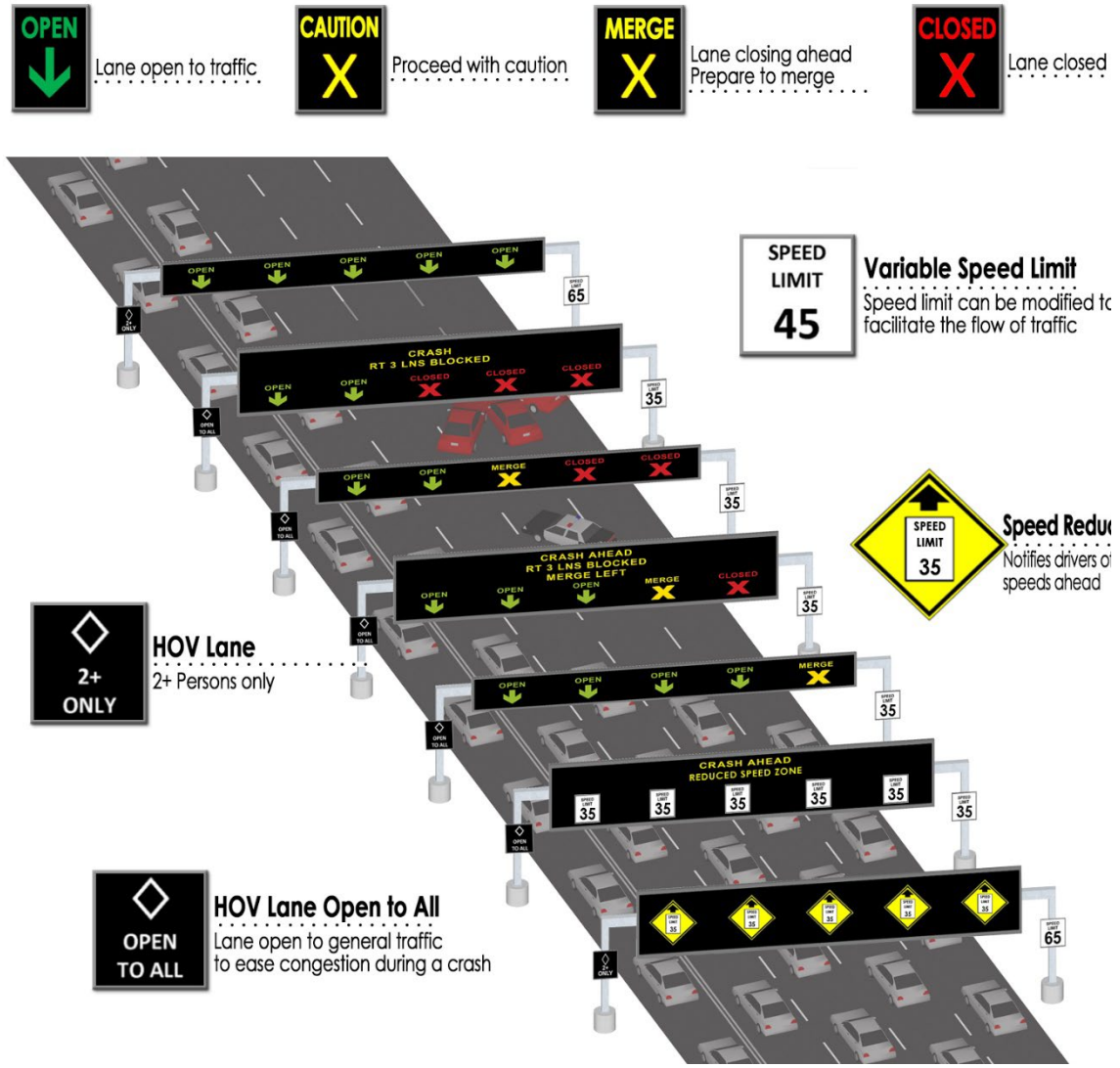
# NDOT: Key Issue #1

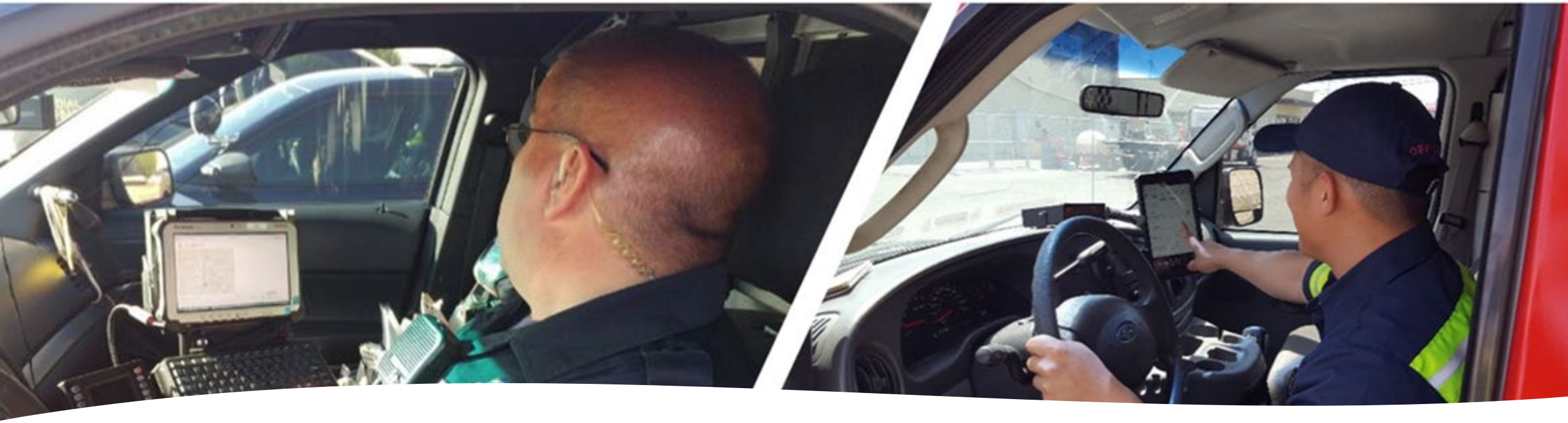
## Title: Implementation of the 2020 NDOT TSMO Statewide Program

- **Challenge:** Reach Level 3 Maturity (Integrated) within 3-years.
- **Issues addressed:** Making sure business process aligns with the goals and objectives as outlined in the Statewide TSMO Program Plan.
- **Action pursued:** Used a series of 3 separate virtual CMM workshops in 2020 to identify the progress made, results compared to the 2014 CMM. Actionable items developed to continue progress.
- **Results:** NDOT has progressed the program over the past 6-years and has seen a shift in culture within Traffic Operations and planning development for project prioritization.
- **Lessons learned:** The enhanced TSMO Culture within the agency can be considered a “grass-roots” effort. Buy-in from agency leaders is critical to success of implementation. Addressing TSMO Culture, Divisional Business Case development and development of our Investment Prioritization Tool for ITS projects has been successful for achieving buy-in.
- **Additional information:** NDOT was selected as the runner-up in the Project Selection and Prioritization category for the 2020 TSMO NOCoE Awards.

# NDOT: List of Key Accomplishments

- Project Neon Active Traffic Management (ATM) System went live March of 2020
    - Regulatory variable speed limits (speed harmonization)
    - Dynamic lane use control
    - Queue warning
    - Driver caution
    - Adaptive ramp metering
    - Dynamic lane use control – junction control





# NDOT: List of Key Accomplishments

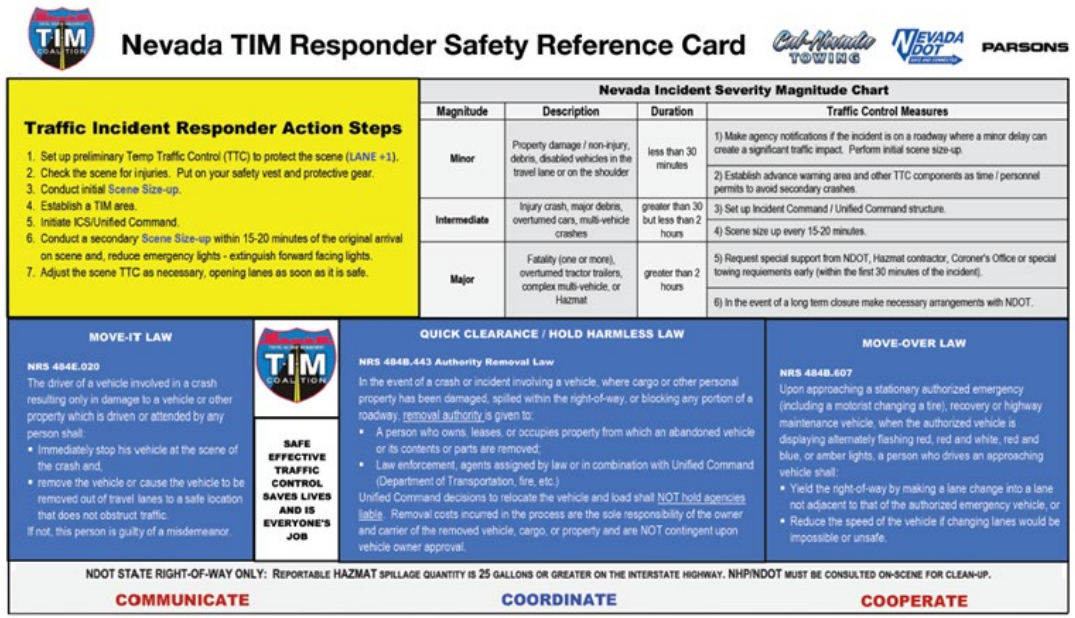
- Waycare
  - NDOT Maintenance, NDOT FSP, FAST, and NHP are leveraging the Waycare platform system in Southern NV to share real-time incident information which results in improved interoperable communications, reduces response times by an average of 12 minutes, and reduces secondary incidents by shortening traffic disruption.
  - Waycare is also being utilized in Northern NV, but only NDOT Maintenance and FSP have it available at this this time.

# NDOT: List of Key Accomplishments

- Freeway Service Patrol Program
  - The program has an impressive set of statistics, including clearance of incidents in under 15-minutes at 77% in Las Vegas and 83% in Reno. Mitigations have significantly increased from last year.
  - In FY19 FSP achieved 36,104 mitigations in Las Vegas and 11,944 in Reno.
  - For FY20 Las Vegas has increased by 5,547 to a total of 41,651 mitigations, and Reno increased by 1,774 to a total of 13,718 mitigations.


# NDOT: List of Key Accomplishments

- TIM and Hazmat Program
  - The TIM Program produced quick reference visor cards to be placed in the vehicles of various first responders. This gives them quick references for various TIM Laws and principles, as well as MUTCD Compliant traffic control.



Nevada TIM Responder Safety Reference Card

**Traffic Incident Responder Action Steps**

1. Set up preliminary Temp Traffic Control (TTC) to protect the scene (LANE +1).
2. Check the scene for injuries. Put on your safety vest and protective gear.
3. Conduct initial Scene Size-up.
4. Establish a TIM area.
5. Initiate ICS/Unified Command.
6. Conduct a secondary Scene Size-up within 15-20 minutes of the original arrival on scene and, reduce emergency lights - extinguish forward facing lights.
7. Adjust the scene TTC as necessary, opening lanes as soon as it is safe.

**Nevada Incident Severity Magnitude Chart**

| Magnitude | Description | Duration | Traffic Control Measures |
|---|---|---|---|
| Minor | Property damage / non-injury, debris, disabled vehicles in the travel lane or on the shoulder | less than 30 minutes | 1) Make agency notifications if the incident is on a roadway where a minor delay can create a significant traffic impact. Perform initial scene size-up. |
| | | | 2) Establish advance warning area and other TTC components as time / personnel permits to avoid secondary crashes. |
| Intermediate | Injury crash, major debris, overturned cars, multi-vehicle crashes | greater than 30 but less than 2 hours | 3) Set up Incident Command / Unified Command structure. |
| | | | 4) Scene size up every 15-20 minutes. |
| Major | Fatality (one or more), overturned tractor trailers, complex multi-vehicle, or Hazmat | greater than 2 hours | 5) Request special support from NDOT, Hazmat contractor, Coroner's Office or special towing requirements early (within the first 30 minutes of the incident). |
| | | | 6) In the event of a long term closure make necessary arrangements with NDOT. |

**MOVE-IT LAW**

NRS 484E.020

The driver of a vehicle involved in a crash resulting only in damage to a vehicle or other property which is driven or attended by any person shall:

- Immediately stop his vehicle at the scene of the crash and,
- remove the vehicle or cause the vehicle to be removed out of travel lanes to a safe location that does not obstruct traffic.

If not, this person is guilty of a misdemeanor.

SAFE EFFECTIVE TRAFFIC CONTROL SAVES LIVES AND IS EVERYONE'S JOB

**QUICK CLEARANCE / HOLD HARMLESS LAW**

NRS 484B.443 Authority Removal Law

In the event of a crash or incident involving a vehicle, where cargo or other personal property has been damaged, spilled within the right-of-way, or blocking any portion of a roadway, removal authority is given to:

- A person who owns, leases, or occupies property from which an abandoned vehicle or its contents or parts are removed;
- Law enforcement, agents assigned by law or in combination with Unified Command (Department of Transportation, fire, etc.)

Unified Command decisions to relocate the vehicle and load shall NOT hold agencies liable. Removal costs incurred in the process are the sole responsibility of the owner and carrier of the removed vehicle, cargo, or property and are NOT contingent upon vehicle owner approval.

**MOVE-OVER LAW**

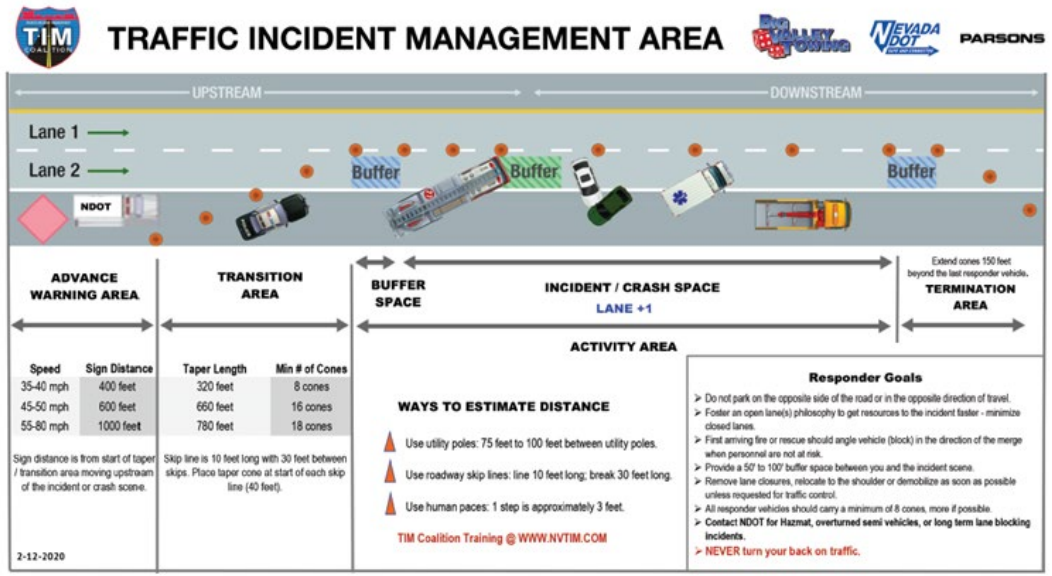
NRS 484B.607

Upon approaching a stationary authorized emergency (including a motorist changing a tire), recovery or highway maintenance vehicle, when the authorized vehicle is displaying alternately flashing red, red and white, red and blue, or amber lights, a person who drives an approaching vehicle shall:

- Yield the right-of-way by making a lane change into a lane not adjacent to that of the authorized emergency vehicle, or
- Reduce the speed of the vehicle if changing lanes would be impossible or unsafe.

NDOT STATE RIGHT-OF-WAY ONLY: REPORTABLE HAZMAT SPILLAGE QUANTITY IS 25 GALLONS OR GREATER ON THE INTERSTATE HIGHWAY. NHP/NDOT MUST BE CONSULTED ON-SCENE FOR CLEAN-UP.

COMMUNICATE COORDINATE COOPERATE



TRAFFIC INCIDENT MANAGEMENT AREA



| Speed | Sign Distance | Taper Length | Min # of Cones |
|---|---|---|---|
| 35-40 mph | 400 feet | 320 feet | 8 cones |
| 45-50 mph | 600 feet | 660 feet | 16 cones |
| 55-80 mph | 1000 feet | 780 feet | 18 cones |

Sign distance is from start of taper / transition area moving upstream of the incident or crash scene.

Skip line is 10 feet long with 30 feet between skips. Place taper cone at start of each skip line (40 feet).

**WAYS TO ESTIMATE DISTANCE**

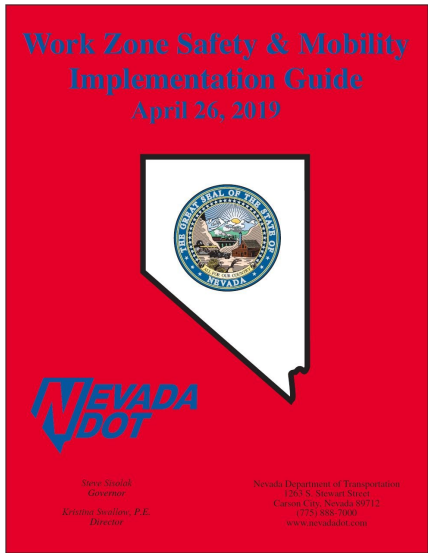
- Use utility poles: 75 feet to 100 feet between utility poles.
- Use roadway skip lines: line 10 feet long; break 30 feet long.
- Use human paces: 1 step is approximately 3 feet.

TIM Coalition Training @ WWW.NVTIM.COM

2-12-2020

**Responder Goals**

- Do not park on the opposite side of the road or in the opposite direction of travel.
- Foster an open lane(s) philosophy to get resources to the incident faster - minimize closed lanes.
- First arriving fire or rescue should angle vehicle (block) in the direction of the merge when personnel are not at risk.
- Provide a 50' to 100' buffer space between you and the incident scene.
- Remove lane closures, relocate to the shoulder or demobilize as soon as possible unless requested for traffic control.
- All responder vehicles should carry a minimum of 8 cones, more if possible.
- **Contact NDOT for Hazmat, overturned semi vehicles, or long term lane blocking incidents.**
- NEVER turn your back on traffic.





# NDOT: List of Key Accomplishments

- NDOT's Work Zone Safety and Mobility Implementation Guide updated April 2019.

- Added Work Zone Speed Reduction Countermeasure Matrix
- Guidance on placing devices during speed reductions
- Increases compliance with reduced speed limits.
- Next update scheduled for April 2021.

| Work Zone Conditions | Changeable Message Sign | Uniform Traffic Control Officer | *Temporary Lighting | Temporary Rumble Strips | Speed Feedback Sign | Lateral Deflection | Lane Narrowing | Flashing Beacon | *Smarter Work Zone System | **Required Cumulative Point Value |
|---|---|---|---|---|---|---|---|---|---|---|
| Alignment changes designed for speed below the existing posted speed limit | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 0 | 5 |
| Concrete barrier rail less than 2 feet from high speed traffic | 1 | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 0 | 3 |
| Insufficient sight distance | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 0 | 4 |
| Pilot Car | 1 | 1 | 0 | 2 | 1 | 2 | 2 | 1 | 2 | 6 |
| Ramp Closure | 1 | 1 | 1 | 2 | 1 | 0 | 2 | 1 | 0 | 3 |
| Traffic lanes less than 11 feet wide | 1 | 1 | 0 | 2 | 1 | 2 | 2 | 1 | 0 | 3 |
| Trucks entering roadway | 1 | 1 | 1 | 2 | 1 | 0 | 2 | 1 | 2 | 4 |
| Uneven Lanes/Rough Road | 1 | 1 | 0 | 2 | 1 | 2 | 2 | 1 | 0 | 3 |
| Unprotected Work Activities | 1 | 1 | 0 | 2 | 1 | 2 | 2 | 1 | 0 | 3 |
| Unusual/Reduced Roadway Geometrics | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 0 | 3 |
| Narrow Shoulders | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 0 | 3 |
| Expected Reduction (mph) | 1.4 - 2.8 | 2 - 6 | | 2.5 - 5.5 | 2 - 10 | | 3 - 8 | 3 - 6 | | |
| Source | Ukkusuri, S. V., Gkriza, K., Qian, X., & Sadri, A. M. (2016) | NCHRP 482 Work Zone Speed Management | NCHRP 476 Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance and Construction | Bai & Li 2009, 2011 | FHWA Guidelines on managing speeds in work zones, 2010. | | Traffic Control Devices Handbook, ITE, 2013 | FHWA Desktop Reference of Potential Effectiveness in Reducing Speed, 2014. | | |

*These measures do not necessarily decrease operating speeds but are proven safety countermeasures.
**Cumaltive point values are determined by aggregating scores of all mitigation strategies implemented in particular work zone.

# NDOT:

## Questions?

Contain to obtain additional information:

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# New Jersey Department of Transportation

**Michael Juliano**
**Manager, Mobility Operations North**
**New Jersey Department of Transportation**
**Michael.Juliano@dot.nj.gov**

# New Jersey Department of Transportation: Key Issue #1

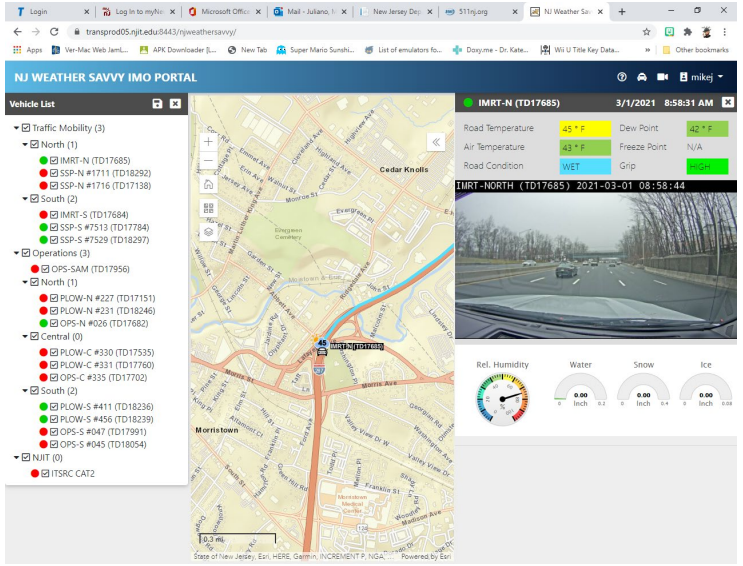
## COVID 19

- How to maintain operations while protecting NJDOT employees and the motoring public.
- Social Distancing, Remote working, Decrease Exposure, Temperature Scans NJDOT Policy 111/112 and Executive Orders. 300+ Confirmed Cases.
- Action pursued: Mask Up, Enhanced Cleaning, Wash Hands, E-mail centralized HR address for COVID related issues.
- Results: Less infection statewide, use of remote working environments, increased training.
- Lessons learned: No one can plan for this type of response, it's an ever evolving situation. Use time for additional training.
- Additional information: For additional information related to NJDOT COVID response please contact Michael Juliano: Michael.Juliano@dot.nj.gov

# New Jersey Department of Transportation: Key Issue #2

Title: Weather

- Challenge: Winter Weather (Snow / Ice )
- Issues addressed: Snow has been 4th busiest season (so far) in recorded history.
- Action pursued: Towing packages (high issue areas), Additional staff in regional headquarters, Live mobile RWIS trucks with video.
- Results: Better information, faster, more accurate to motoring public.
- Lessons learned: Good news fast, Bad news faster.



# New Jersey Department of Transportation:

## Questions?

Contact to obtain additional information:

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# Texas Department of Transportation

**David McDonald**
**Traffic Incident Management Coordinator**
**TxDOT**
david.mcdonald@txdot.gov

# TxDOT: Key Issue #1

Title: TxDOT Ransomware Attack May 14th, 2020

- **Challenge**: TxDOT Network was compromised by Ransomware, most employees working remote due to COVID-19
  - TxDOT IT Security team locked down the TxDOT network to prevent further spread of Ransomware infection
  - Civil unrest in many cities in Texas
  - Tropical Storm Cristobal

- **Issues addressed**: Highlighted the need for a separate network between the TxDOT Traffic Network and Business Network
  - Traffic, TxDOT Information Technology Division (ITD), TxDOT Contractor's all had to redesign network connections due to dependency between them (redesigned network to be more resilient to prevent an outage on one segment of network if others were affected)
  - CCTV and DMS were offline across the entire state, except for the Houston District

- **Action pursued**: Identified critical ITS infrastructure, and created a safe network for critical ITS infrastructure
  - New security standards implemented across all of TxDOT, example, two factor authentication, new configurations for firewall and switches

- **Results**: Within 2 weeks TxDOT had 90% access to critical ITS infrastructure

- **Lessons learned**: Separate the Traffic Network and the TxDOT Business Network. A must have for any DOT. It is easier to hack a Business Network than the Traffic Network. The Business Network is more susceptible to common hacking techniques such as Phishing or Bait and Switch attacks

# TxDOT: List of Key Accomplishments

- There is a unified agreement on having separate networks for Traffic Operations and the Business Network
  - New Governance Model for ITD and Traffic Cooperation
- Technological advancements in devices and the number of devices on your network make sure you are protecting them as appropriate
  - For example, do not continue to use the “default” password for Traffic Field equipment
- **IT** is not the same as **ITS**
  - DOT’s need to recognize that ITS and IT equipment cannot be supported using an IT methodology, just because the equipment is attached to a network does not make it the same. The sooner this is recognized and documented, the sooner new technology traffic field equipment can be supported properly
  - ITS components are at risk, but necessary to provide communication to public, (protesters blocking I-35 in Austin)

# Texas Department of Transportation:

## Questions?

Contain to obtain additional information:

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# Virginia Department of Transportation

**Ali Farhangi, PE**
State Operations Engineer
Virginia Department of Transportation
Ali.Farhangi@VDOT.Virginia.gov

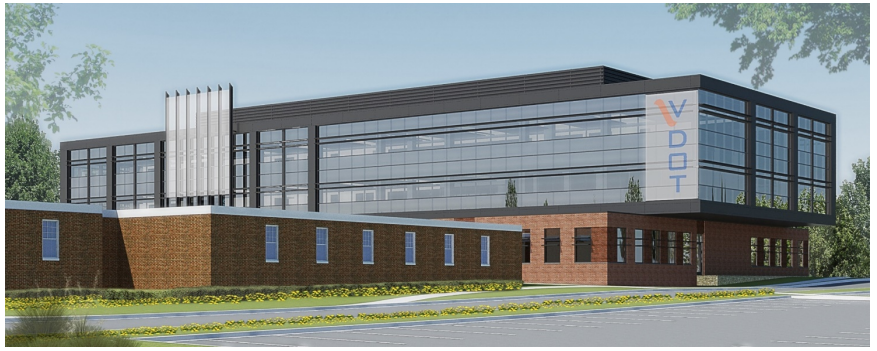
# VDOT: Key Issue #1

## Title:

- **Challenge:** Improve Incident Management Coordination with Law Enforcement Entities
- **Issues addressed:** Desire to promote rapid communication with law enforcement officials to improve incident response and clearance times. Desire to minimize delay in sharing information.
- **Actions pursued:** (Short Term) Use the recent Interstate Operations Enhancement Program to expand VDOT-local PSAP data links. (Long Term): Co-locate Virginia State Police (VSP) offices at VDOT's five Regional TOC facilities.
- **Results**: (Short Term) To date, 17 jurisdictions have PSAP connections to VDOT. Secured funding to connect an additional 13 jurisdictions PSAP to a VDOT Regional TOC. (Long Term) Three of five facilities have VSP presence. One additional facility is planned.
- **Lessons learned:**
- **Additional information:**
  - kbsgc.com/project/vdot-vsp-joint-operations-center/

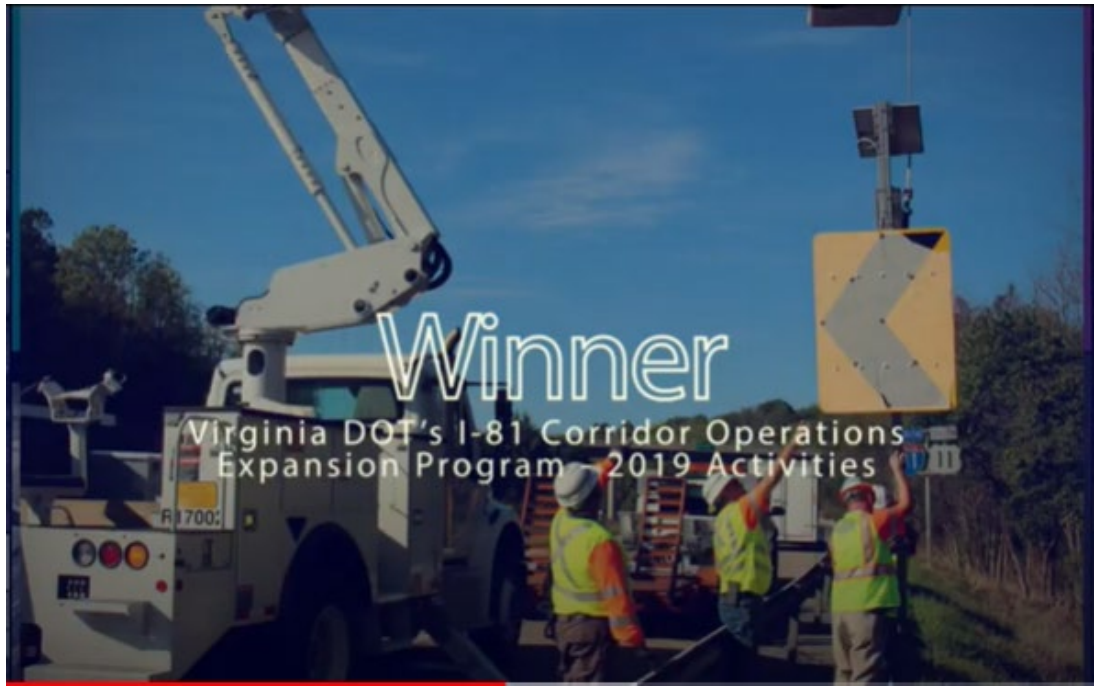
# VDOT: List of Key Accomplishments

- Opened the new Central Region (Richmond) joint VDOT-VSP Traffic Operation Center
- Planning to develop a new Eastern Region (Norfolk/Virginia Beach) joint VDOT-VSP Traffic Operations Center
- I-95 Variable Speed Limit (Fredericksburg): Completed Concept of Operations study and preparing for 2021 deployment
- Converted 4 of 5 TOCs to a common ATMS to provide additional functions and promote fail over capabilities. The final facility is switching over.
- Received an ATCMTD grant to advance a Regional Multimodal Mobility Program (ICM) in Northern Virginia
- Received a FHWA grant to provide statewide WZDx data feeds
- Signed additional fiber resource share agreements (RSA) to promote future transportation technology programs



# VDOT: List of Key Accomplishments

- Completed Corridor Improvement studies on all major interstate routes.
- Obtained dedicated funding to advance recommendations from the Corridor Improvement studies.
- Completed efforts include:
  - Expanded statewide Towing Recovery Incentive Program (TRIP) contract
  - Expanded SSP coverage
  - Expanded number of CMS and CCTV
- Won the SASHTO Operations Excellence Award



# Virginia Department of Transportation

## Questions?

Contain to obtain additional information:

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