

*The National Academies of*  
SCIENCES • ENGINEERING • MEDICINE



TRANSPORTATION RESEARCH BOARD

# Changing Transportation System Technologies

**October 13, 2021**

**@NASEMTRB**  
**#TRBwebinar**



# PDH Certification Information:

- 1.5 Professional Development Hour (PDH) – see follow-up email for instructions
- You must attend the entire webinar to be eligible to receive PDH credits
- Questions? Contact [TRBWebinars@nas.edu](mailto:TRBWebinars@nas.edu)

*The Transportation Research Board has met the standards and requirements of the Registered Continuing Education Providers Program. Credit earned on completion of this program will be reported to RCEP. A certificate of completion will be issued to participants that have registered and attended the entire session. As such, it does not include content that may be deemed or construed to be an approval or endorsement by RCEP.*



**REGISTERED CONTINUING EDUCATION PROGRAM**

**#TRBwebinar**

# Learning Objectives

1. Identify the benefits of incorporating hands-on exercises into traffic incident management training
2. Identify risks to contractors, consultants, and public owners when allocating risk in alternative contracting
3. Identify current workforce development initiatives





# Adapting to Changing Transportation Technologies



## Data and Analytics at UDOT

- Who are we?
- Where are we at?
- Where are we going?
- How do we get there?

Who are we?



## Data, Technology & Analytics

The Data, Technology & Analytics Division helps UDOT leverage data, apply analytics, and implement new technology. We create consistency and promote technologies across the department.

### Business Systems

Support for ePM, ProjectWise, Masterworks, Google Workspace, Adobe, software applications, new system development.



Scott



Steve



Jordan



Gary



Mark



Keriann Noble



Scott Jones



Lora Bradley



Corey Unger

### Data Coordination

Provide direction by facilitating communication between groups relating to Data and Documentation Management.

### Data & Analytics

GIS, LRS, data acquisition & governance, data analytics, dashboards.



Mike



Stanley



Felix



Angie



Kelli



Jennifer



Peter



TBD



TBD

# Data and Analytics +

## GIS

- LRS
- Application Development
- Analytics
- Dashboarding
- Machine Learning

## Business Analytics

- Data Access
- Performance Metrics
- Analytics
- Dashboarding
- Machine Learning



Where are we  
at?



# Utah is growing. Fast.

## 3 Utah areas near top in the nation for growth this decade

Wasatch County, St. George and Provo-Orem were among the country's fastest growing this decade among counties and metro areas.

Nation's fastest growing counties, 2010-2019	
	% growth
1. Williams County, N.D.	67.8%
2. Hays County, Texas	46.5%
<b>3. Wasatch County, Utah</b>	<b>44.9%</b>
4. Comal County, Texas	43.9%
5. Kendall County, Texas	42.1%

## Nation's fastest growing metropolitan areas, 2010-2019

	% growth
1. The Villages, Fla.	41.7%
2. Myrtle Beach, N.C.-S.C.	32.0%
3. Austin-Roundrock, Texas	29.8%
4. Midland, Texas	28.9%
<b>5. St. George, Utah</b>	<b>28.6%</b>
6. Greeley, Colo.	28.3%
7. Bend, Ore.	25.3%
8. Cape Coral-Fort Meyers, Fla.	24.5%
<b>9. Provo-Orem, Utah</b>	<b>23.0%</b>
10. Raleigh-Cary, N.C.	23.0%

Source: U.S. Census Bureau estimates  
GRAPHIC BY CHRISTOPHER CHERRINGTON | The Salt Lake Tribune



## Utah leads as the fastest growing state in the U.S.\*

Percentage increase in population, 2010-2020

<b>1. Utah</b>	<b>18.4</b>
2. Idaho	17.3
3. Texas	15.9
4. North Dakota	15.8
5. Nevada	15.0
6. Colorado	14.8
7. District of Columbia	14.6
8. Washington	14.6
9. Florida	14.6
10. Arizona	11.9

\*Ranking includes District of Columbia  
Source: Census Bureau

GRAPHIC BY CHRISTOPHER CHERRINGTON  
The Salt Lake Tribune



# Fall colors lead to re Cottonwood canyon



**Road Closure Alert**  
 UDOT will temporarily close Gu...  
 dependent on weather and clear...  
 @UDOTCottonwoods on Twitter

See the current  
**ROAD INFORMATION**  
 Go

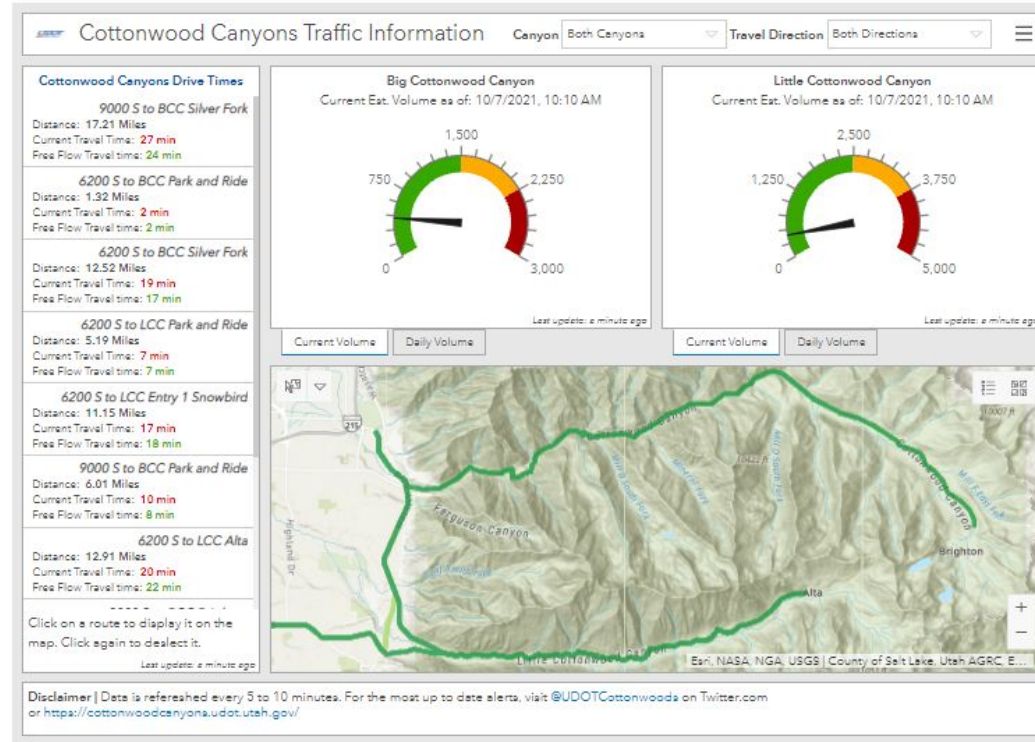
**ROAD CLOSURE**



## COTTONWOOD CANYONS ROAD INFORMATION //

To check current road conditions in the Cottonwood Canyons, scroll down for the UDOT Traffic Cameras in each canyon, which are listed in uphill order. You can also view the weather forecast, and get to the UDOT Road [Weather Forecast](#) page from here. The UDOT Road Weather Forecast will show you where the snow plows are working during a storm, road surface conditions, temperature, weather, and more!

### COTTONWOOD CANYONS TRAFFIC INFORMATION



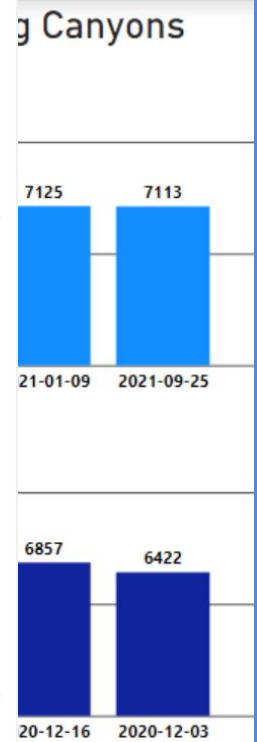
### TRAFFIC CAMERAS

- ▶ Little Cottonwood Canyon (S.R. 210)
- ▶ Big Cottonwood Canyon (S.R. 190)
- ▶ 9400 S / Little Cottonwood Canyon Rd. (S.R. 209)

## TEST VEETS

ts by cottonwoods

**JDOT Cottonwood Ca**  
 @UDOTcottonwoods  
 j to @UDOTcottonwoods  
 ening, @UtahDOT may  
 ently close the road due  
 er before a final closure  
 ad for the season. Stay  
 r updates & safe  
 @parkcitygovt  
 itcountyUT  
 chcounty @brightonUT  
 ieMTN @UDOTTRAFFIC  
 'RegionTwo



1h

**JDOT Cottonwood Ca**  
 @UDOTcottonwoods  
 pdate 🌤️ BCC

Where are we going?



# One Year Key Initiatives

- GIS Career Path
- GIS Collaboration
- Data Governance
- Artificial intelligence and Machine learning
- Real Time analytics

How are we  
going to get  
there?



# UDOT Geospatial Analytics Career Path

Promoting strategic professional growth as a map based organization.

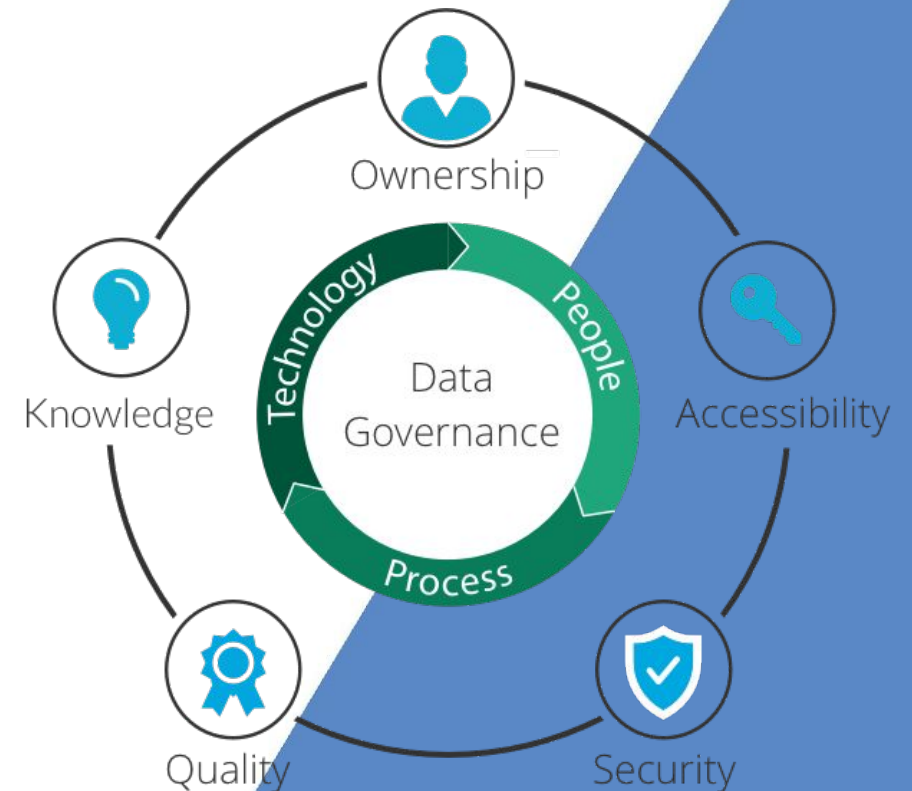
(1) A minimum of one year must transpire between step increases using this career path. (2) Years of experience must be met. (3) Documented experience that demonstrate competencies outlined in the Skills Matrix are required.



Education may be substituted for years of experience  
 Master's degree = 2 year of experience  
 PhD = 3 year of experience

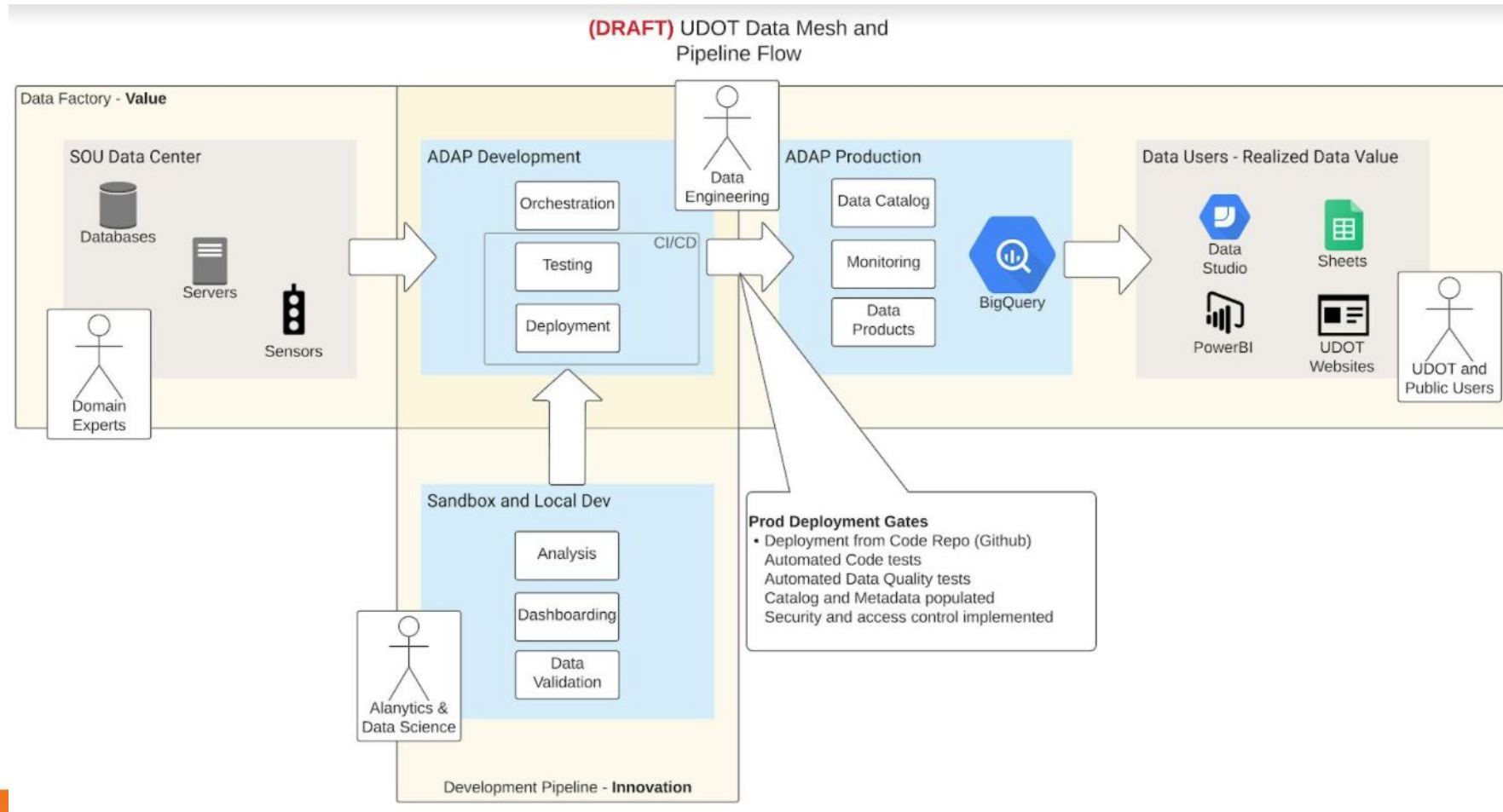
# Collaboration and Data Governance

- Lead efforts in collaboration and data sharing to maximize data use
- Establish trust in the products, services, and data that we can provide
- Develop Department-wide Data Governance and GIS Implementation Plan





# Data Governance: GCP







# Artificial Intelligence/Machine Learning



# Near Real-Time Analytics

Select a feed type ? ×

			
<b>ArcGIS</b> Create a new feed from an ArcGIS layer or feature service	<b>Cloud</b> Create a new feed from a cloud service	<b>Web and Messaging</b> Create a new feed from a web or messaging service	<b>Data Providers</b> Create a new feed from a data provider
<ul style="list-style-type: none"><li>Feature Layer</li><li>Stream Layer</li></ul>	<ul style="list-style-type: none"><li>Azure</li><li>Amazon</li><li>Cisco</li></ul>	<ul style="list-style-type: none"><li>HTTP</li><li>Kafka</li><li>RSS</li></ul>	<ul style="list-style-type: none"><li>Verizon Connect Reveal</li><li>Geotab</li></ul>
<a href="#">See all</a>	<a href="#">See all</a>	<a href="#">See all</a>	<a href="#">See all</a>



# UDOT'S ROAD MAP

## MISSION

ENHANCE QUALITY OF LIFE THROUGH TRANSPORTATION

### QUALITY OF LIFE FRAMEWORK



Better  
Mobility



Good  
Health



Connected  
Communities



Strong  
Economy

## VISION

KEEPING UTAH MOVING

## UDOT VALUES

RESPECT | INTEGRITY | CARING

## STRATEGIC GOALS

ZERO CRASHES, INJURIES AND FATALITIES |  
PRESERVE INFRASTRUCTURE | OPTIMIZE MOBILITY



Thank You!

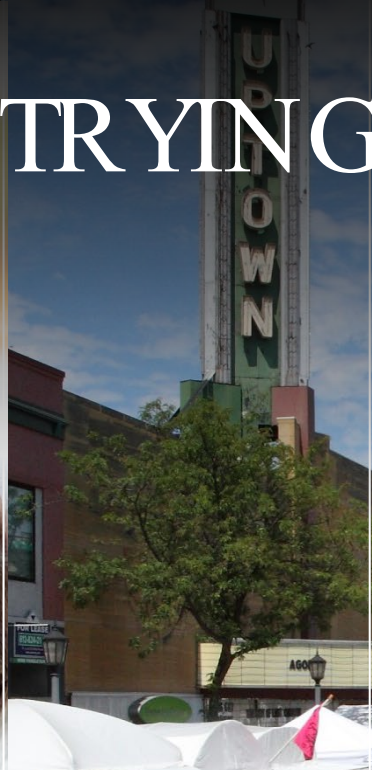
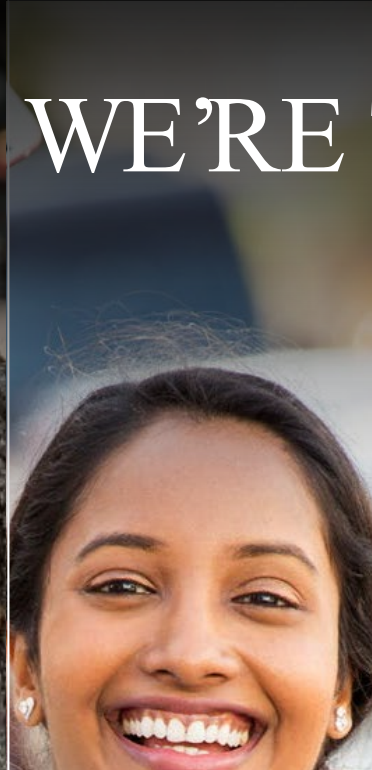
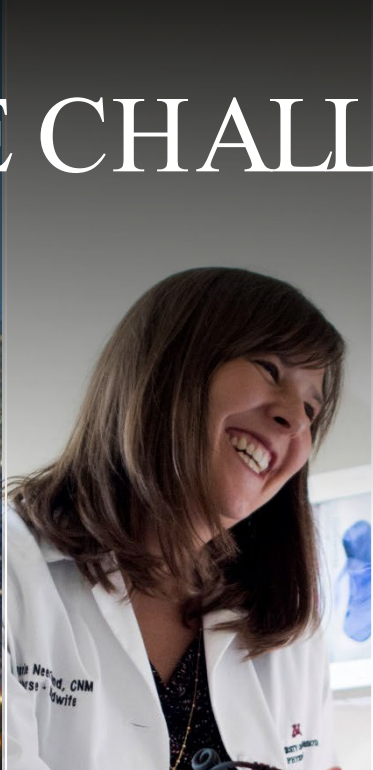
# MINNESOTA CAV CHALLENGE: HOW “MINNOVATION” INSPIRED VALUES-BASED PARTNERSHIPS

Minnesota Department of Transportation





# THE CHALLENGES WE'RE TRYING TO SOLVE

An icon of a bar chart with an upward-pointing arrow.

ECONOMY

An icon of a stethoscope.

HEALTH

An icon of an open book.

EDUCATION

An icon of a smiling face.

HAPPINESS

An icon of a globe.

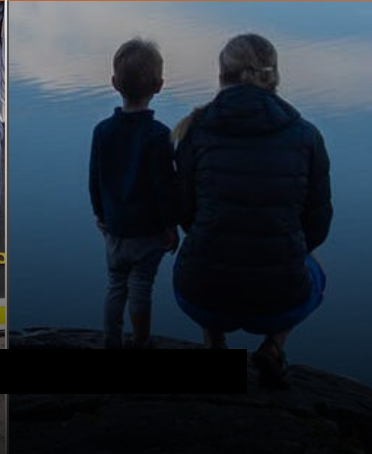
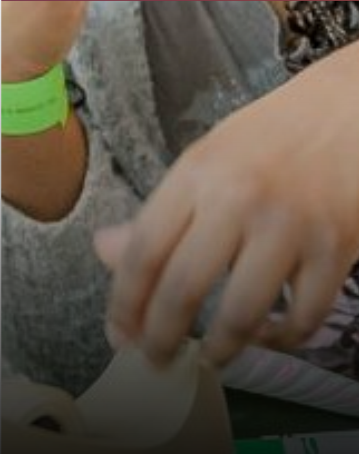
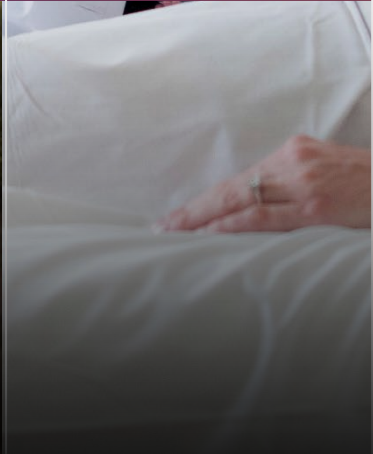
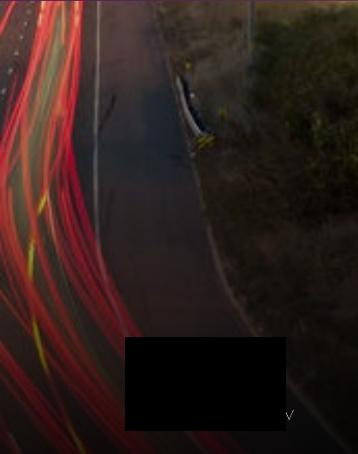
COMMUNITY

An icon of a scale of justice.

EQUITY

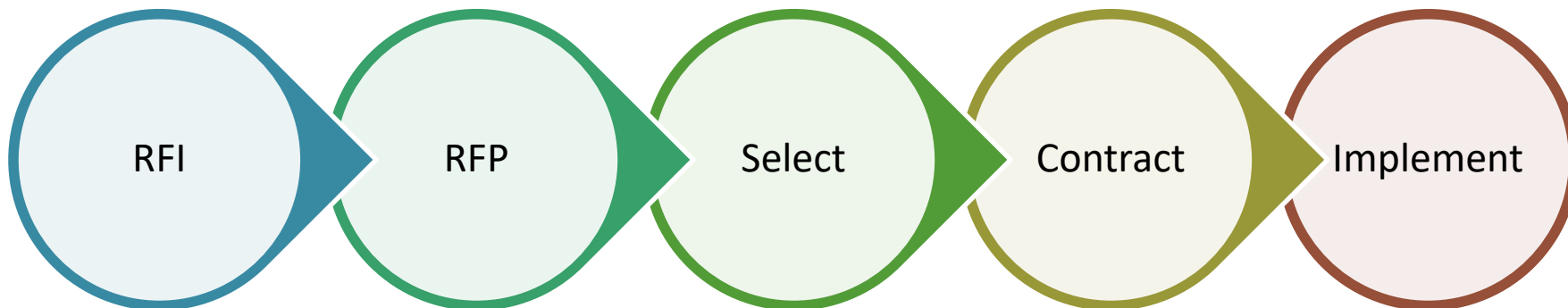
An icon of a tree.

ENVIRONMENT



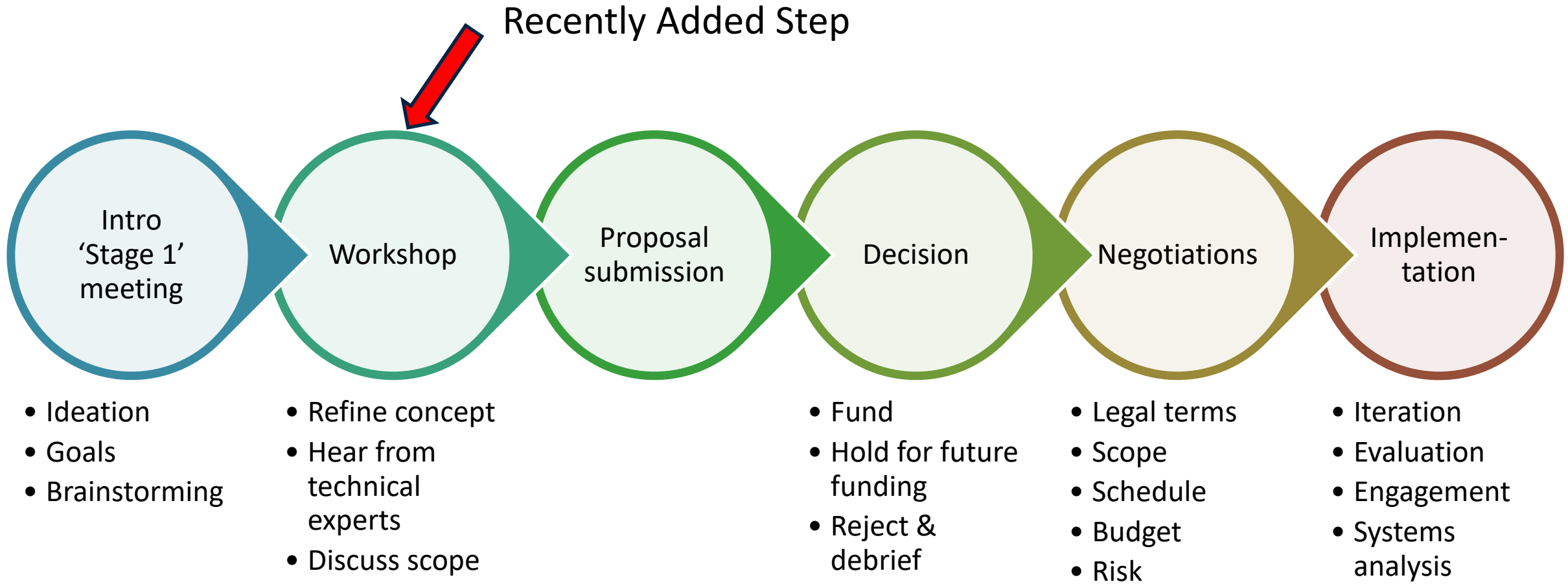
# WHY

- What is the CAV Challenge?
- Great Ideas.....but Bad Processes
  - Innovation
  - Time
  - Confidentiality
  - Procurement Laws





# NEW PROCESS



# CRITERIA – PROPOSAL CONTENTS

## Project Overview

- Why your project?
- Goals
- Advance MN Priorities
- Work Plan
- Risks / Opportunities
- Who benefits

## Partnerships

## Company Profile

- Company Experience
- Staff Experience

## Project Evaluation and Success Measures

## Cost Proposal

- Partnership Contribution
- Proposer Costs
  
- 80% Technical
- 20% Costs

# BENEFITS AND OPPORTUNITIES

- Open & Rolling RFP
- Industry Innovation
- Collaboration
  - Efficiency for Proposers
  - Efficiency for Owner
- Confidential discussions protect trade secrets
- New partners
- Consistent in Scoring
- Phasing (Now, Never, Later)



# SUCCESSES & CHALLENGES

- 2018 – Launched Program
- 16 selected projects
- 7 fully-negotiated contracts
- Winner of the 2019 National Cronin Award for Procurement Excellence, the 2020 AASHTO Innovation Award and the 2021 WTS Innovation Award
- New Partners and Consultants
- Saved \$2M+ in RFP resources and 200+ hours of staff time
- Rejected Proposals

CAV Challenge website  
[www.mndot.gov/automated/cavchallenge](http://www.mndot.gov/automated/cavchallenge)

The screenshot displays the website for the CAV Challenge, part of the Minnesota Department of Transportation (MnDOT). The page is titled "CAV Challenge request for proposals" and includes a search bar, navigation menu, and a main content area with text, a video player, and a "Why Minnesota?" section.

**DEPARTMENT OF TRANSPORTATION** 

Search MnDOT A to Z General Contacts

Connected and Automated Vehicles

Home Advisory Council Innovation Alliance Strategic Plan Scenario Planning Partnerships CAV Challenge Projects ITS Resources Contacts

### CAV Challenge request for proposals

The Minnesota CAV Challenge is a new, innovative request for proposals that seeks to advance emerging technologies to improve transportation for all Minnesotans.

Connected and Automated Vehicle (CAV) technology is advancing rapidly. CAVs can save lives and provide better access to transportation, jobs and health care, making communities safer, and more equitable. To harness these rapidly-evolving technologies to solve transportation challenges, an innovative and flexible approach to working with industry and communities was created.

The CAV Challenge is a new, open and rolling procurement process that fosters innovation. Public and private entities can propose CAV solutions to improve safety, efficiency, equity, outreach and mobility. The CAV Challenge positions Minnesota as a destination for CAV and innovation.



#### Why Minnesota?

Minnesota is the first state to create this new and innovative approach to advance CAV. With strong commitment from state leaders, \$2.5 million is invested each year to seek innovative ideas to test and deploy new and emerging CAV technologies. MnDOT is excited to welcome partners to Minnesota to leverage opportunities, including:

- **Winter weather:** Help industry solve winter weather challenges thru testing at its MnROAD facility.
- **CAV support and expertise:** MnDOT's CAV Office (CAV-X) is one of the country's leading teams dedicated to CAV policy, planning, and engineering.
- **Dedicated funding:** MnDOT has dedicated significant funding towards advancing mobility solutions through CAV.
- **Innovation:** Minnesota is open to trying new ideas.
- **Testing experience:** MnDOT has experiencing testing CAV and other technologies.
- **Connected Corridors:** Minnesota has one of the most advanced connected vehicle corridors in the

**Connect with us**  
Sign up for connected and automated vehicle updates

**Contact**  
Use Us Now  
651-524-5902

# MINNESOTA CAV CHALLENGE

HAVE AN IDEA? REQUEST A MEETING TO ADVANCE A COMMUNITY PARTNERSHIP



A large white circle containing the central logo for "DESTINATION CAV THE FUTURE OF MOBILITY IS IN MINNESOTA" surrounded by various partner logos including: POLARIS INDUSTRIES INC., wsb, AECOM, TRAFFIC CONTROL CORPORATION, iteris, VISION SYSTEMS INTELLIGENCE, EY, id8, H2R, plus.ai, applied INFORMATION, KRATOS DEFENSE &amp; SECURITY SOLUTIONS, HNTB, here, Athey Creek CONSULTANTS, First Transit, easy MILE, Center for Transportation Studies, THE EHRICHMAN GROUP, MobilityMania Accessibility for All, and 3M.

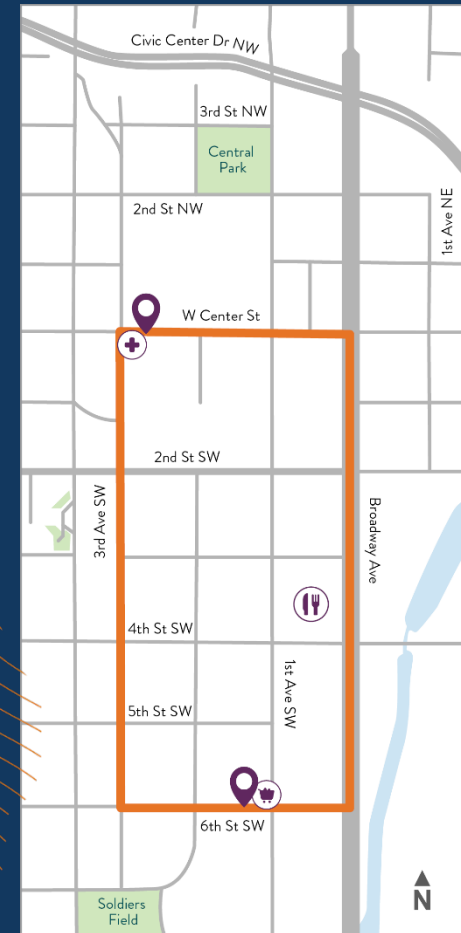
103  
VENDOR MEETINGS

69  
PROPOSALS SUBMITTED

16  
AWARDED PROJECTS

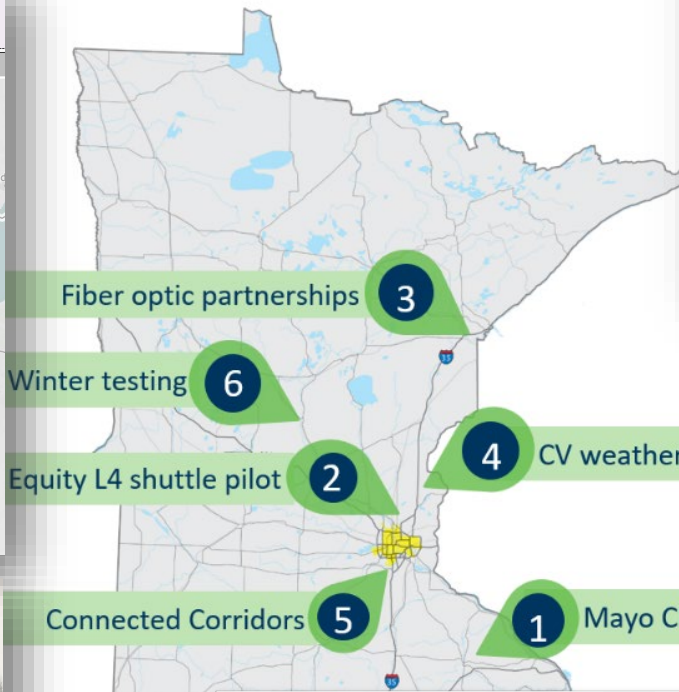
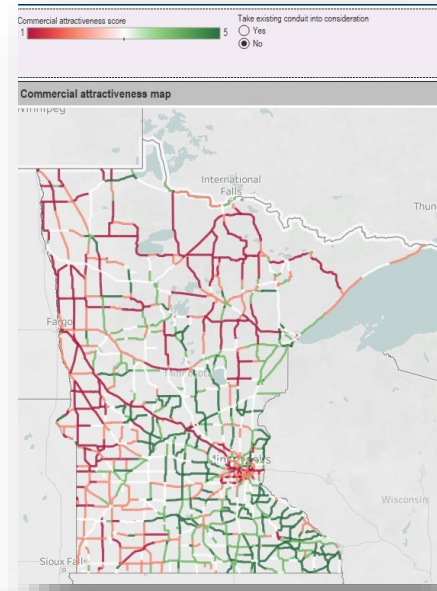
# // MED CITY MOVER

- MnDOT CAV Challenge Program
- Two Level 4 automated shuttle
  - 👤 Onboard ambassador
  - 🏠 Urban route
  - ➡ Free & open to the public
  - 🕒 12 months of operation
- COVID-19 precautions
- Multiple partners

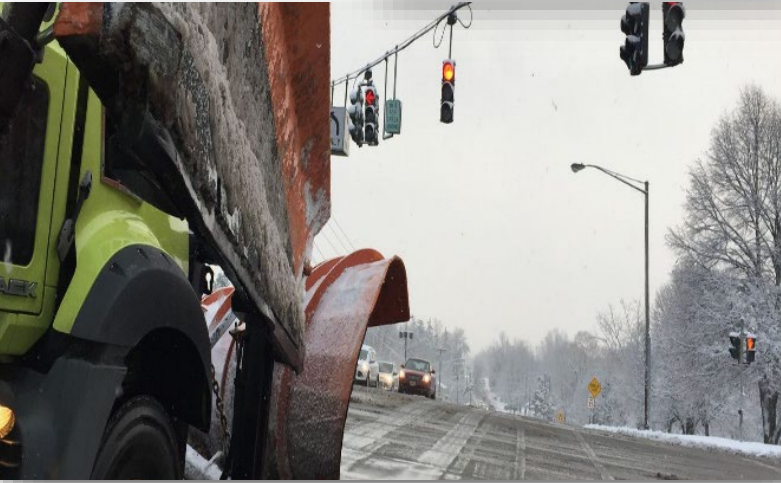


# CAV PROJECTS

CAV fiber optic feasibility study and partnership pilot



Autonomous maintenance trucks



Connected vehicle corridors

**mi** Minnesota Department of Transportation  
 January 22 · 🌐

Our snowplows and maintenance vehicles on I-35 are testing technology to boost safety. Once they drive by a digital highway sign, it will warn motorists that a slow-moving vehicle is ahead on the road.

📄 More details: [mndot.gov/news/2021/01/22-d6-i35.html](https://mndot.gov/news/2021/01/22-d6-i35.html)

*Please note that the sign does not flicker in person. It appears to flicker in the video because of the way the camera captured the LED lights.*



Rochester self-driving shuttles



# WHEN TO USE CHALLENGE-BASED PARTNERSHIPS

Requirements are unknown, hard to define, rapidly changing

Lack of internal expertise

Seeking innovation

Seeking new outside specialty partners



# WHAT WE HEARD FROM PARTICIPANTS

- Confidentiality
- 1:1 Workshops
- Make the process crystal clear
- Leverage the virtual environment for online meetings, tools, and proposal submissions
- Make the decision process, timelines and criteria clear
- Clearly state your goals and prioritize them in the RFP

Example showing how project goals match with Minnesota goals

CAV Goal	Project Deliverable	How Deliverable Meets CAV Goal
CAV Strategic Plan Recommendation 58 – Conduct public demonstrations throughout Minnesota	1 Level 4 AV demonstration held in Northern Minnesota for 1 week	Public will have the ability to interact with technology.

Risk assessment and strategy example

Risk Category	Description	Likelihood	Owner	Mitigation Strategy
Safety	Vehicle technology may not work properly and may stop abruptly	Medium	Applicant, technology sub-consultant	Develop safety plan and emergency communications plan

# TOP 10 LESSONS LEARNED

1. Equity must be addressed explicitly
2. Prioritize the priorities
3. Workshop ideas
4. Protect IP and trade secrets
5. Technology is a means to an end
6. Create interdisciplinary teams
7. Performance measures and accountability
8. Seek feedback
9. Advertise your program
10. Manage expectations

# THANK YOU

MINNESOTA CONNECTED AND AUTOMATED VEHICLES PROGRAM

JAY HIETPAS

Assistant Commissioner - Operations

[jay.hietpas@state.mn.us](mailto:jay.hietpas@state.mn.us)

# NCHRP 20-68A U.S. Domestic Scan Program Update



## Urgent Clearance of Traffic Incidents Operations and Technology

Lee Smith, TDOT

# Urgent Clearance of Traffic Incidents

## Agenda

### Update on the progress made since summer 2019 Urgent Clearance of Traffic Incidents

- TIM Program
  - Push / pull / drag
  - HOT Training
  - Use of technology – Next Gen TIM
- TMC Operations
  - SmartWay Central Software deployment
  - Integrated Corridor Management



# Urgent Clearance of Traffic Incidents

## TDOT MISSION:

To provide a safe and reliable transportation system that supports economic growth and quality of life

# Urgent Clearance of Traffic Incidents

## Enhanced Commitment to Safe Quick Clearance



*Commissioner Clay Bright*

Commissioner Bright is eager for TDOT to push forward with innovative approaches to congestion and traffic management.

*“I recognize that responding to incidents is challenging work, but I have **high expectations** for TDOT to **consistently take an active leadership role** when it comes to the quick clearance of lane blocking incidents” – Commissioner Bright*

# Urgent Clearance of Traffic Incidents

## *TIM/HELP Program*

### Push / Pull / Drag

- Emphasis area since Top To Bottom Review, combine Construction and Maintenance
- Open Roads Policy, Quick Clearance MOU
- TIM Training for all



State of Tennessee

"OPEN ROADS POLICY"

*Quick Clearance for Safety and Mobility*



BE A TEAM  
JOB TO FOLLOW



# Urgent Clearance of Traffic Incidents

## Push / Pull / Drag

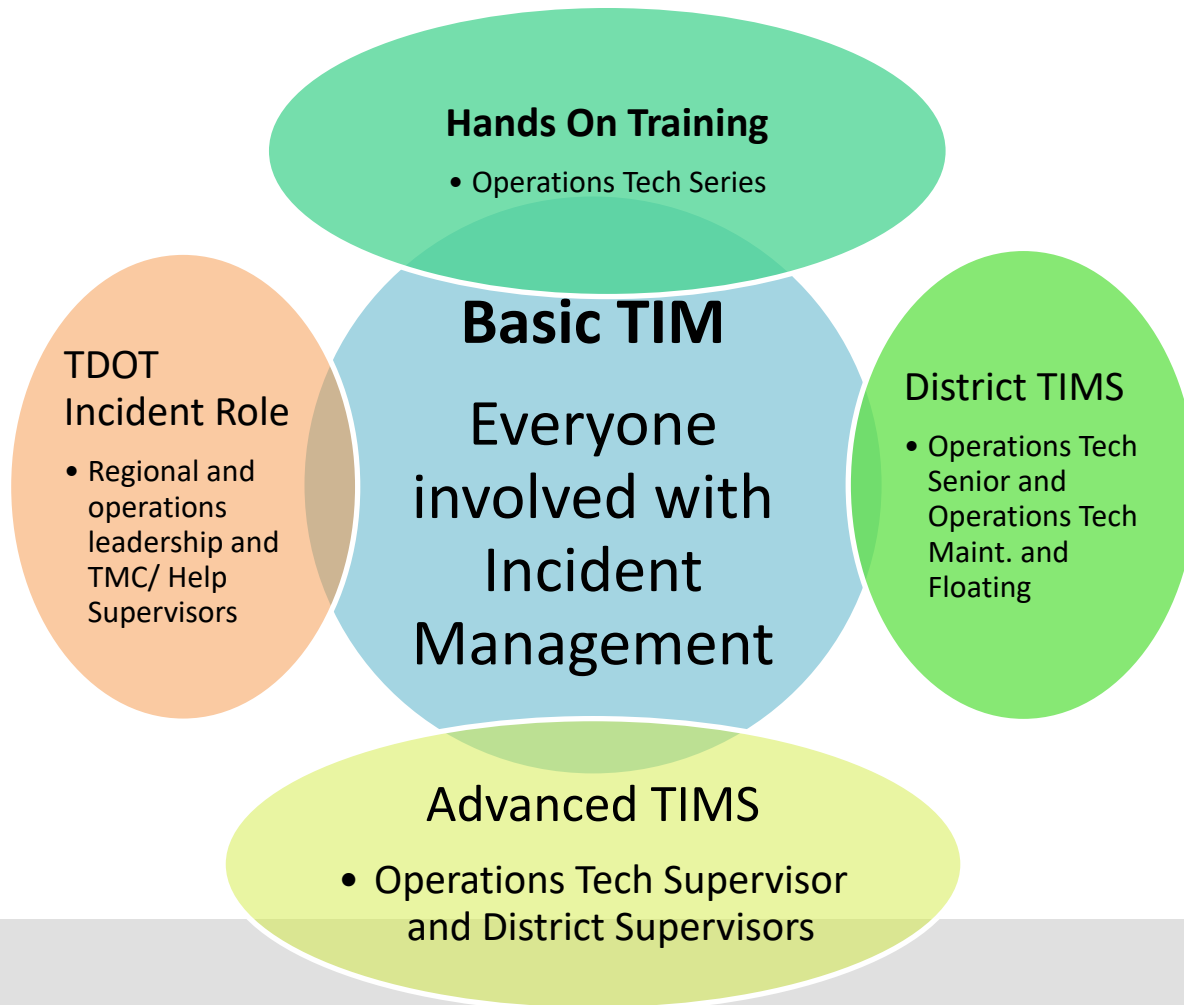


Empower TDOT staff to clear equipment from the roadway using TDOT equipment!



# Urgent Clearance of Traffic Incidents

## *TIM/HELP Program:* **Hands On Training (HOT)**

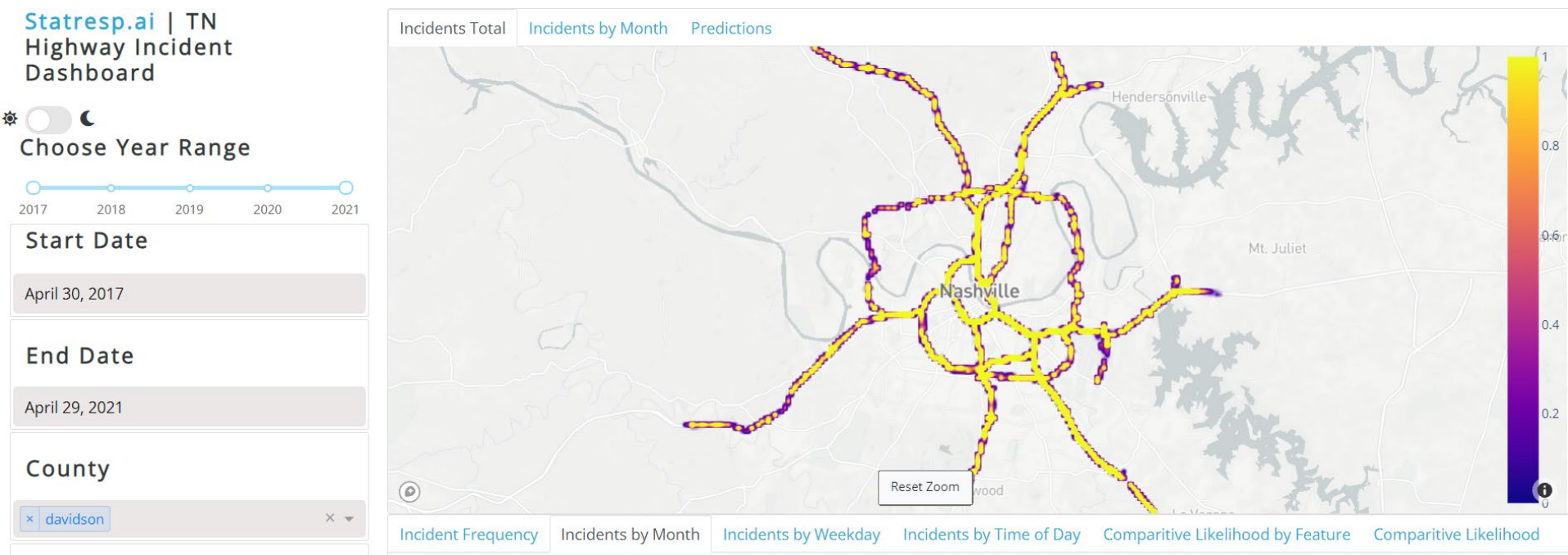




# Urgent Clearance of Traffic Incidents

## TIM/HELP Program: Use of Technology

### AI-Driven Predictive Analytics for Incident Management Resource Allocation System



# Urgent Clearance of Traffic Incidents

## *TMC Operations*

### SmartWay Central Software deployment

#### Why was SmaryWay Central Software needed?

- Efficient incident/HELP Truck management
- Recurring congestion management
- Establish a unified software platform
- Integrated Corridor Management (ICM) support
- Data exchange between different TMCs/TOCs



# Urgent Clearance of Traffic Incidents

## TMC Operations: SmartWay Central Software deployment

### Where did we start?

#### Multiple software for Incident Management:

- MIST
- IM/LOCATE
- Cameleon
- SWIFT
- Vero
- Platinum

**LOCATE/IM**

**MIST Operator Interface -**  
MIST Map Status Database Signal Control Flows Strategies Maintenance Pager

**FAIRFAX AREA MAP**

BENNINGTON WOODS RD  
LARKS RD  
SUNSET HILL RD  
DUNLES TOLL RD (RD)  
TEMPORARY RD  
SUNSET HILL RD  
DUNLES TOLL RD (RD)  
LARKS RD

602050  
602047  
602046

evscope: 6000 geoscope 1

**cameleon**  
Username: TDOTUJSTANTKI  
Password:  
 Single sign-on  
Primary server: Nashville

Next >

**SWIFT**  
J09942

231 214 0 17

1  
228  
0  
0  
2

18-230 - Eastbound - Humphreys - Incident  
18-107 - Both Directions - Union - Resurfacing  
18-81 - Both Directions - Union, Washington  
18-76 - Both Directions - Montgomery  
18-11 - Southbound - Robertson - Utilities  
18-56 - Both Directions - Jackson - Resurfacing  
18-225 - Both Directions - Chester - Brush  
18-111 - Both Directions - Overton  
18-56 - Both Directions - Jackson - Resurfacing  
18-71 - Both Directions - Knox - Brush Removal  
18-125 - Both Directions - Handmark - Mowing

Map > Display Modes >  
Go To Object  
Show Overview  
Show Full Extent  
Show Legend  
Layer Control  
Click Mode >  
Hide Toolbar  
Open Another View  
Hold View On Bottom  
Set Background Color  
Save View  
Load View  
Capture View As Bitmap  
Print View  
Set Drawing Layer  
Coordinates >  
Static Objects >  
Save As...

NUM



# Urgent Clearance of Traffic Incidents

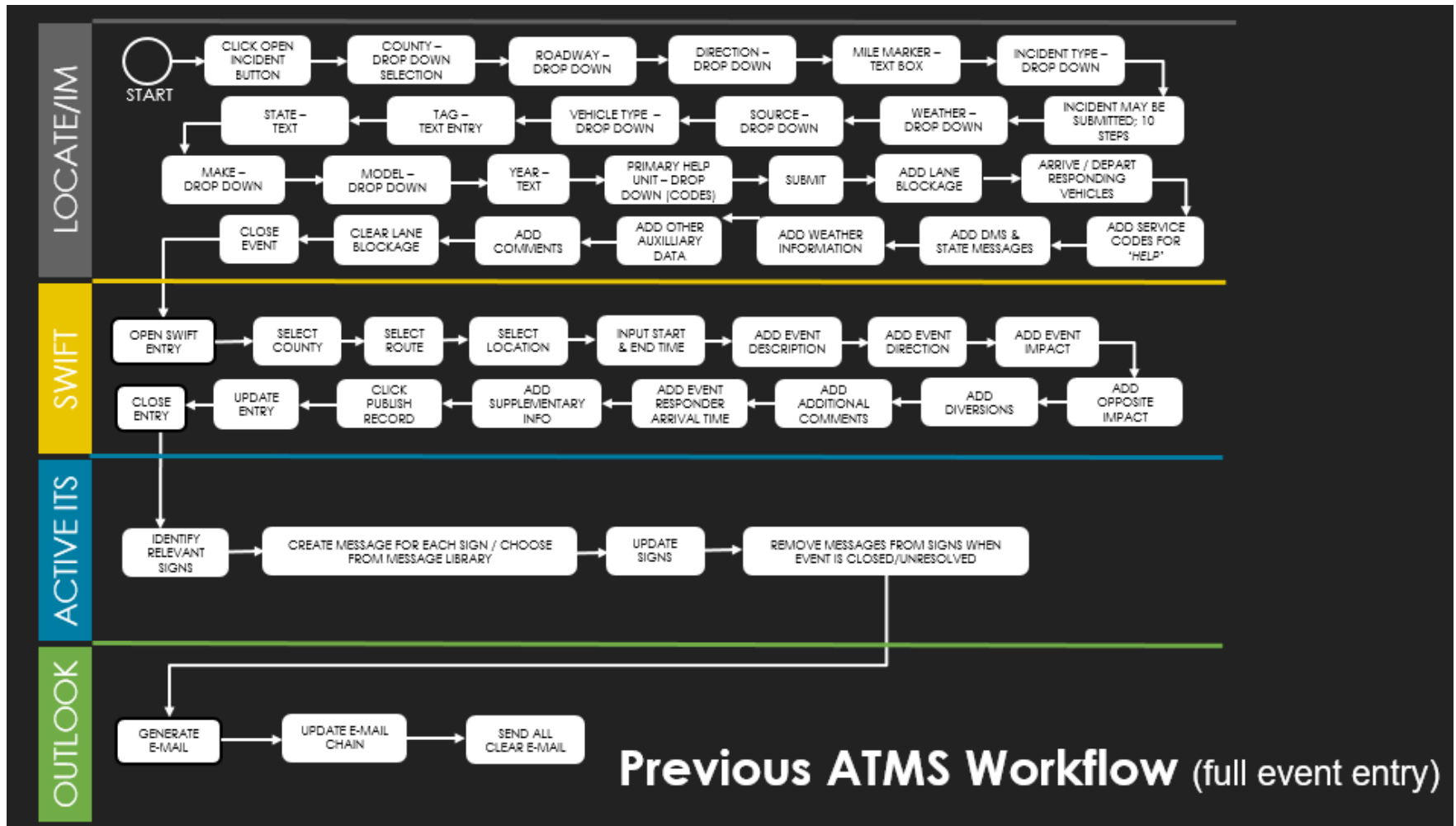
## TMC Operations: SmartWay Central Software deployment Where are we now?

- Unified map interface
- All modules in one package
- Statewide consistency
- Single databus to facilitate automation
- Center to Center Communications

The screenshot displays the SmartWay Central Software interface. At the top, it shows the user's name "MattDavis" and a "Logout" button. The interface is overlaid on a map of Lakeland, TN. A grid of 23 system status icons is visible, each with a "Ready" label and a checked box. The icons represent various systems: AVLR (towing truck), C2C (cloud communication), CCTV (camera), Connected Veh. (vehicle with antenna), DMS (message sign), EM (emergency message), GPIO (input/output), HAR (hardware), IDS (intrusion detection), MAS (message alert), RMS (traffic light), RS (road sign), RWIS (road weather information), SAA (signalized intersection), SAS (signalized intersection), TSS (traffic signal), TvT (television), and VW (video wall). The bottom of the screen shows connection information: "Connection Info: TDOT04SWCS\_CORE:8009, Version 1.3.0, Build 730".

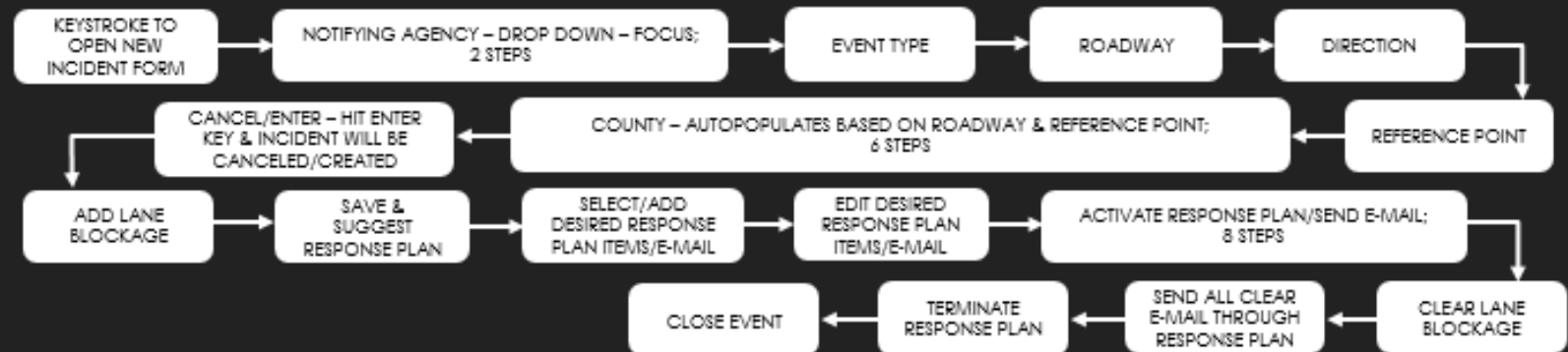


# Event Workflow



# Event Workflow

SWCS

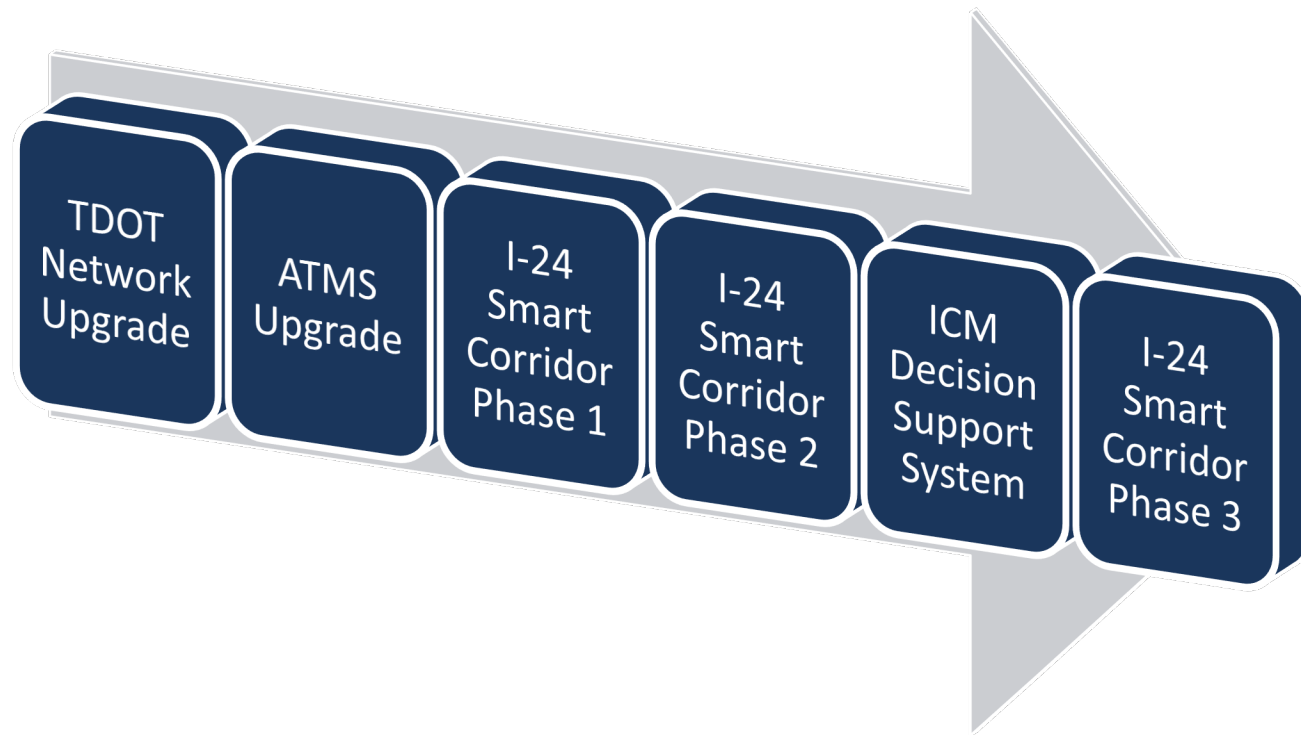


## Improved Operations: New Workflow (SWCS)

Efficiency/Consistency/Uniformity – Single Data Entry & Automatic Response Plan Generation

# Urgent Clearance of Traffic Incidents

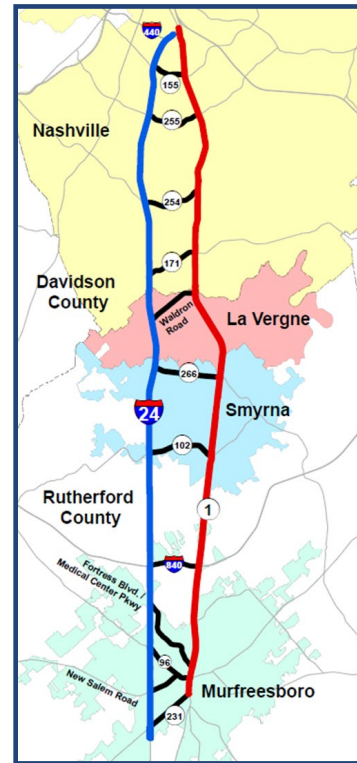
*TMC Operations:* **From SWCS to ICM and beyond**



# Urgent Clearance of Traffic Incidents

## TMC Operations:

## Integrated Corridor Management - I-24 Smart Corridor



**NDOT**

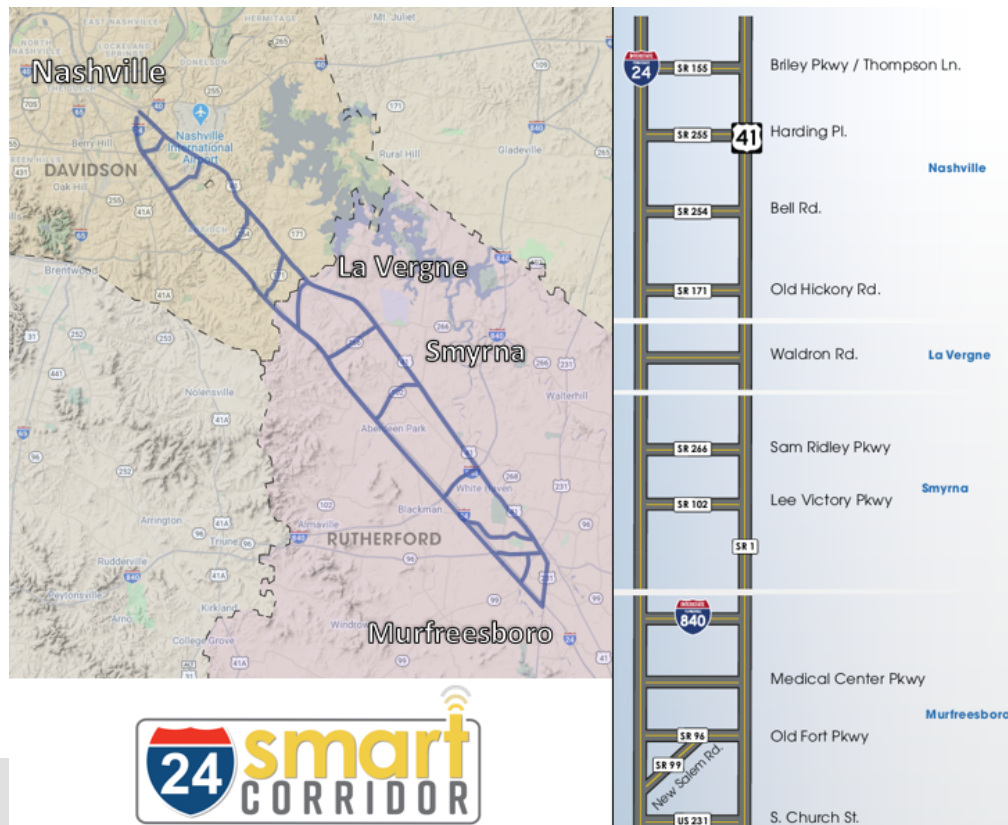


**TDOT**  
Department of  
Transportation

# Urgent Clearance of Traffic Incidents

## TMC Operations:

## Integrated Corridor Management - I-24 Smart Corridor Phase 1 and Phase 2



**Length:** 94.10 Total Miles (29.5 Miles along I-24)

### Termini:

- I-24 from I-440 to SR-231
- SR-1 from I-24 to SR-231
- Various connector routes

### Phase 1

- **Scope of Work:**
- ITS and signal improvements on all project roadways
- Connected Vehicle Infrastructure
- Interchange ramp improvements along I-24
- Emergency pull-offs along I-24
- **Let to Contract:** October 2018
- **Contractor:** Stansell Electric
- **Award Price:** \$18.7 Million
- **Estimated Completion:** December 2021

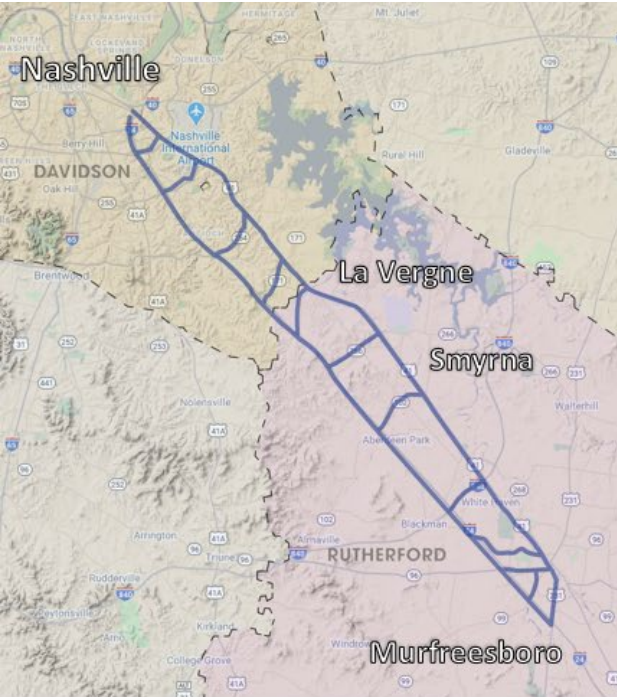
### Phase 2

- **Scope of Work:**
- Install 67 overhead dynamic message signs on I-24 between I-440 and SR-102
- Traffic Signal upgrades: radar and video detection
- Implement Active Traffic Management (Arterial & Freeway)
- **Let to Contract:** October 2019
- **Contractor:** Stansell Electric
- **Award Price:** \$45.8 Million
- **Estimated Completion:** December 2022

# Urgent Clearance of Traffic Incidents

## TMC Operations:

## Integrated Corridor Management - I-24 Smart Corridor Phase 3

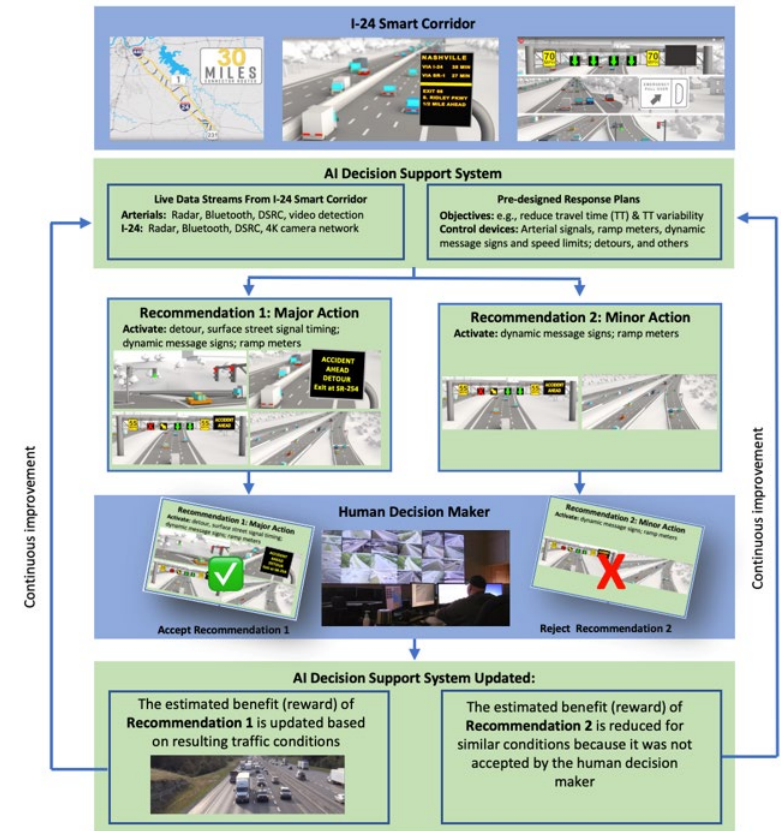
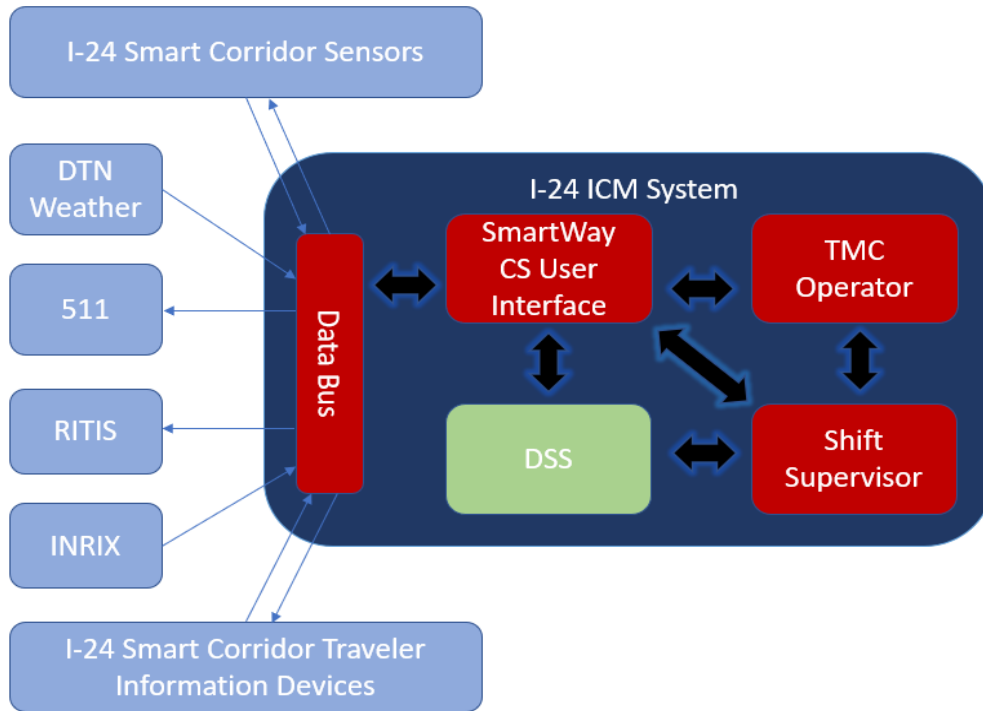


- **Phase 3**
- **Length:** 94.10 Miles
- **Termini:**
  - I-24 from I-440 to SR-231
  - SR-1 from I-24 to SR-231
  - Various connector routes
- **Scope of Work:**
  - Ramp Meters
  - Arterial Fiber Optic expansion
  - Arterial DMS Trailblazers
  - Arterial CCTV Cameras
  - Intersection Operations Improvements (ADA, Pedestrian Signals, etc)
- **Estimated Construction Cost:** \$45M
- **Earliest Letting:** CY 2022

# Urgent Clearance of Traffic Incidents

## TMC Operations:

## Integrated Corridor Management - I-24 Smart Corridor Decision Support System



# Urgent Clearance of Traffic Incidents

## TMC Operations:

## Integrated Corridor Management - I-24 Smart Corridor Operations and Maintenance Plan

Provide Agency Specific training:

- BlueTOAD units / BlueARGUS Dashboard
- DSRC / CAV Training
- Traffic Responsive Operation
- Miovision Cameras (Intersection Stopbar Detection)
- Wavetrnix (Advanced Detection)
- Centrac (Signal Controller central management software)
- RITIS Training



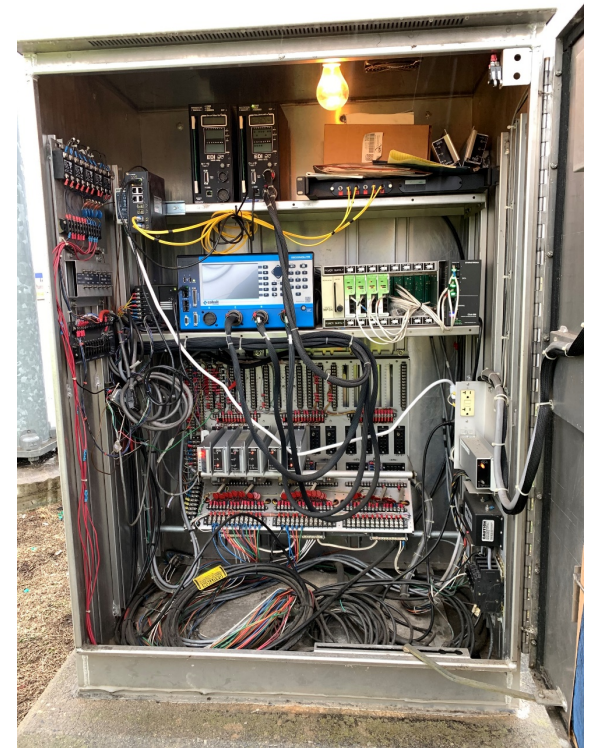


# Urgent Clearance of Traffic Incidents

## *TMC Operations:*

## **Integrated Corridor Management - I-24 Smart Corridor Operations and Maintenance Plan**

- ICM Maintenance Expectations
  - Set maintenance goals and expectations for the local agencies
    - Identify critical field assets
    - Define KPIs such as percent uptime
    - Establish expected repair times
  - Establish maintenance budgets
  - TDOT's role if local agency cannot repair critical asset within accepted duration
  - Paradigm Shift for Traffic Signal O&M in TN
    - TSM&M



# Urgent Clearance of Traffic Incidents

## *TMC Operations:*

## **Integrated Corridor Management - I-24 Smart Corridor**

### **ICM Coordinator**

- Defines and coordinate training needs
- Support the TMC on active freeway and arterial management strategies
- Support DSS Development based on lessons learned and TDOT SOPs
- Define rules for implementation of diversion scenario plans
- Coordinates with Local Agencies on the implementation of an incident management signal timing plans.
- Corridor Specific TIM Coordination



# Thank You!



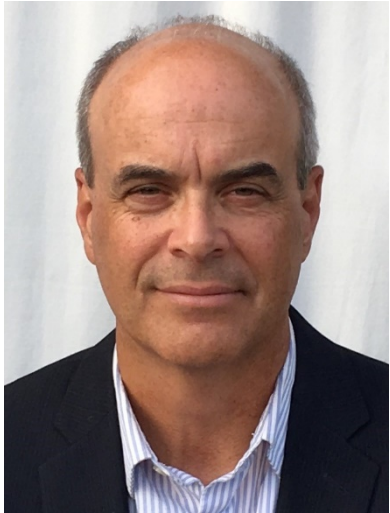
**Lee Smith, PE**

**Assistant Director Traffic Operations Division**

**[Lee.j.smith@tn.gov](mailto:Lee.j.smith@tn.gov)**

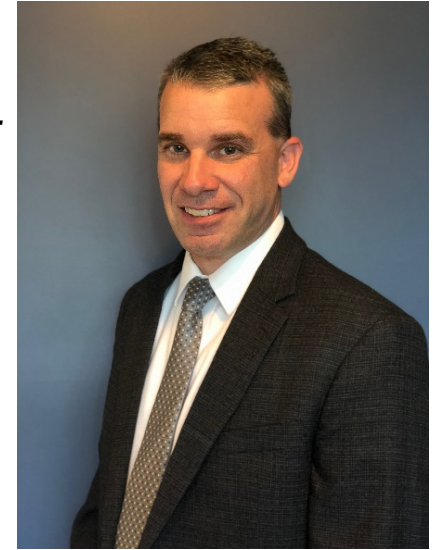
**615.253.6705**

# Today's Panelists



**Moderator:**  
**Michael Lewis,**  
*Colorado DOT (fmr.)*

**Jay Hietpas,**  
*Minnesota DOT*



**Lee Smith,**  
*Tennessee DOT*



**Corey Unger,**  
*Utah DOT*

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