Member Updates on Key Accomplishments

***Presenters:** Please allocate 5 minutes for presentation and 3 minutes for Q&A

Members We Will Be Hearing From Today

1. New York State DOT
2. Utah DOT
3. Tennessee DOT
4. Indiana DOT
5. Kansas DOT

New York State Department of Transportation

Rebecca Gibson-Schott
Director, TSMO Bureau
NYSDOT
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NYSDOT: Key Issue #1

- Title: TMC Risk Assessment
  - Challenge: 10 different TMCs on separate networks with their own instance of ATMS. No centralized management of networks, no OITS oversight.
  - Issues addressed: Cyber Security, standardization and potential consolidation of systems
  - Action pursued: Hired a Consultant for TMC Risk Assessment of the OT networks at all 10 TMCs
  - Results: Risk assessment was completed in three parts:
    - Current state
    - Future State
    - Roadmap for improvement
  - Lessons learned: There is a lot to be done!
    - Formation of several working groups necessary to determine direction
    - Standardization of hardware/software/policies/procedures
    - Consolidation of networks
    - Cyber-oversight
  - Additional information:
    - Project Manager: Rebecca.Gibson-Schott@dot.ny.gov
    - CISO: Shain.Jacob@dot.ny.gov

NYSDOT: Key Issue #2

- Title: Technology Plan
  - Challenge: With all the changes coming with Cyber Security, how do we build the TMC Networks to conform?
  - Issues addressed: Align mission and goals of NYSDOT and NYS OITS
    - Maintenance and Support
    - Cyber security
  - Action pursued: Brought on Contract staff to help agency develop a plan
  - Results: In Process
  - Lessons learned: There will likely be an effort to consolidate and standardize TMC network and software systems. Reducing the variety of hardware will also be considered.
  - Additional information:
    - Project Manager: Rebecca.Gibson-Schott@dot.ny.gov

NYSDOT: Key Issue #3

- Title: Statewide Traffic Control System
  - Challenge: Regions are in need of a new ATMS system. At the same time, our Traffic Signal ATMS is expiring. The Agency is looking to consolidate systems and get more return on our investment.
  - Issues addressed: Replace outdated software systems with one standardized platform
    - Combine into one software
    - Include ATIS
    - Include CPU upgrade
    - May include AI
    - Address Regional Needs
  - Action pursued: Completed an RFI late in 2023, in process of developing scope
  - Results: In Process
  - Lessons learned: There are systems that can easily manage both systems
  - Additional information:
    - Project Manager: Andrew.Gilchrest@dot.ny.gov (Signals)
    - Project Manager: Evan.Seyboth@dot.ny.gov (TMC Ops)

NYSDOT: Key Issue #4

- Title: TSMO Engine and Next Gen 511NY
  - Challenge: 511NY System is expiring and the Agency needs to manage data an a more consistent manner
  - Issues addressed: Replace current 511NY system with more robust system. At the same time, consider how data is managed throughout the agency
    - Need a way to consolidate and analyze data
    - System will ingest and output data from/to multiple sources
    - May include AI
    - Has been put on the back burner while we address higher priorities
  - Action pursued: Kick-off meeting scheduled for this week!
  - Results: TBD
  - Lessons learned: TBD
  - Additional information:
    - Project Manager: Tim.Fiato@dot.ny.gov

NYSDOT: List of Key Accomplishments

- Began Automated Work Zone Speed Enforcement (4/17/23)
- Near Completion on TMC Risk Assessment
- Began Technology Plan
- Planning for April 8 Total Solar Eclipse
- Expansion of HELP to pilot Debris Removal System and Electric Vehicle Charging

NYSDOT:

- Questions??
- Contact to obtain additional information:

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Utah Department of Transportation

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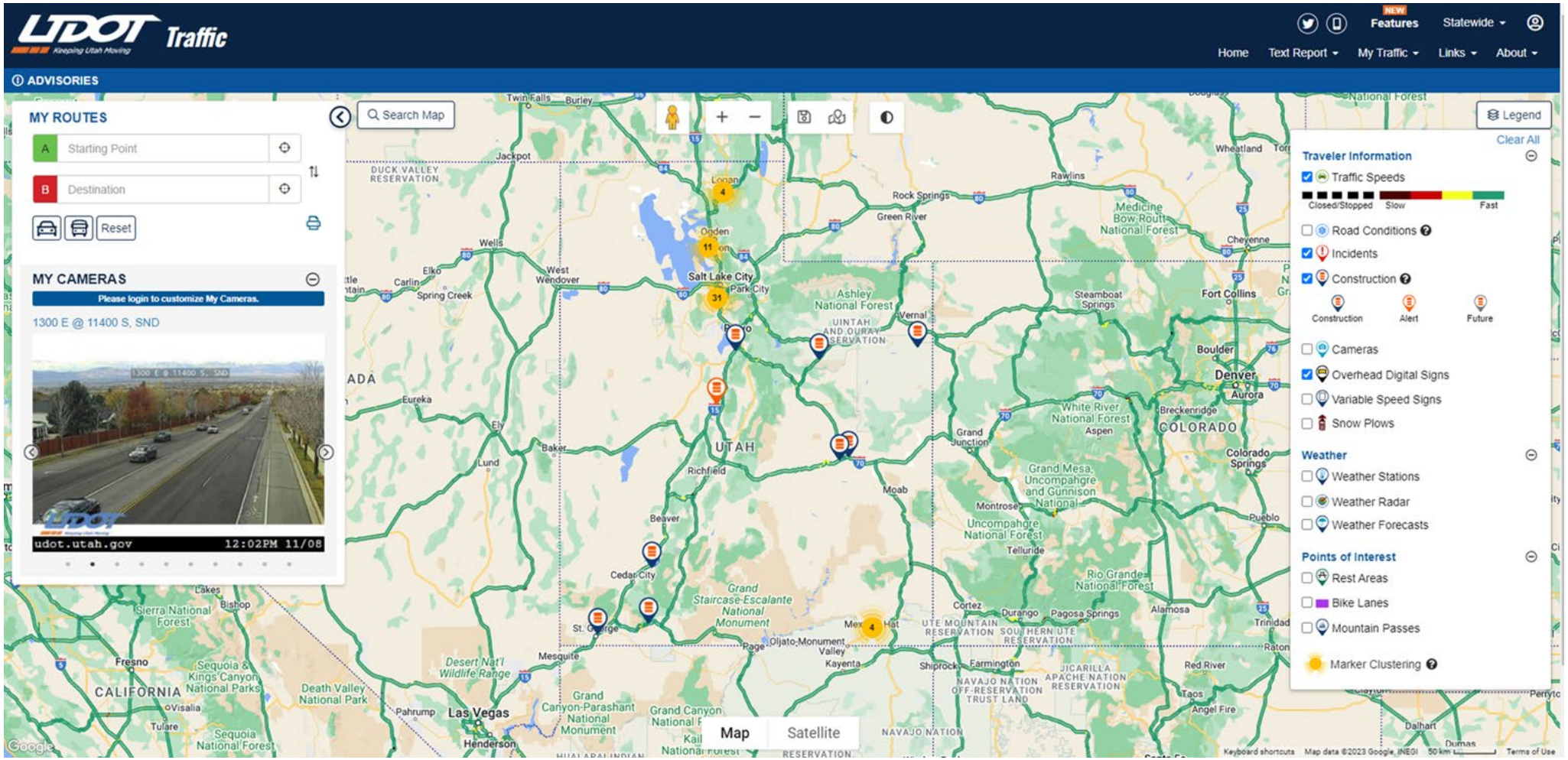
Utah Department of Transportation – New Traveler Information Website

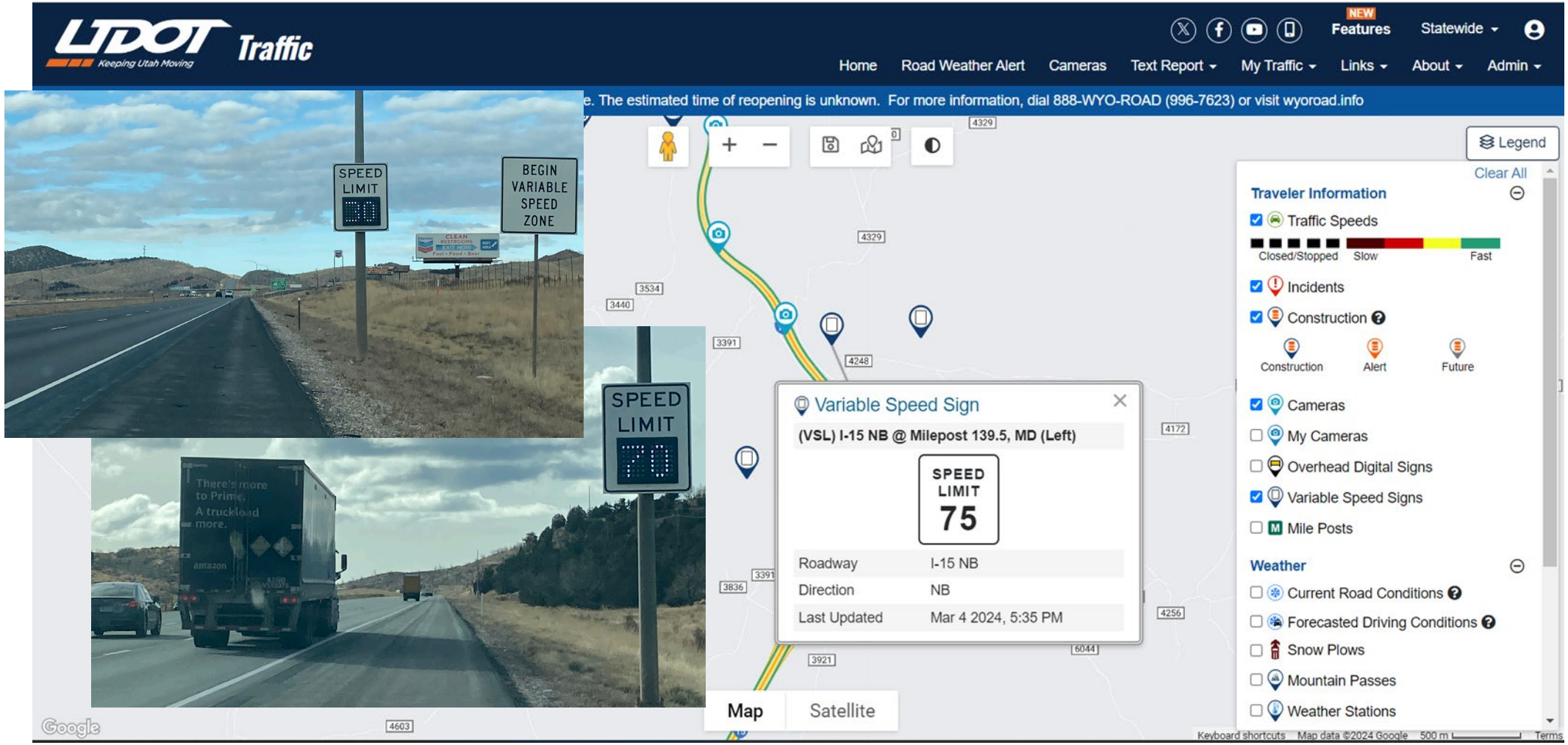
- Traveler Information Website Launch
  - Modernize background map, route setting preferences, stronger support team with external vendor. Gain efficiencies through large agency pool supporting the software.
  - RFP released late 2021, Awarded to Arcadis (fka – IBI Group). Go-live August 2023.
  - Seamless switchover with website and mobile app.
  - Lessons learned:
    - Get common vocabulary worked out sooner than later
      - Weather terminology – i.e., Road Conditions, Advisory, Alert, Emergency Alert, etc…
      - Be clear on intended source information. UDOT produces road forecasts, that is different than NWS forecast.
  - Additional information:
    - https://www.udottraffic.utah.gov/
- New Regulatory Variable Speed Limit Corridor, w/Weather activated features
  - I-15 MP 134-141, rural I-15, 20 miles north of Beaver, UT.
  - Live on January 10, 2024 (10 years after our first VSL went live)

UDOT Traffic – ATIS website (vendor, Arcadis)



U.S. Department of Transportation
Federal Highway Administration

UDOT new Regulatory Variable Speed Limit – I-15 MP 134-141



Tennessee Department of Transportation

Lee Smith
Traffic Operations Technical and Program Advisor
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Tennessee DOT Key Issue

- Title: **I-24 MOTION Test Bed**
  - Challenge: *create a densely instrumented open road test environment to:*
    - *analyze active traffic management technologies,*
    - *evaluate reliability, safety, and mobility initiatives, and*
    - *demonstrate and evaluate connected and automated vehicle (CAV) technologies*
  - Issues addressed: *first of its kind test bed; constrained schedule, custom hardware, supply chain*
  - Action pursued: *accelerated design, procured poles parallel to construction schedule, collaboration with contractor*
  - Results: *completed construction on schedule, performed largest CAV test ever, supply data feed to 150 users from all over the world, received national recognition, ability to test Active Traffic Management strategies*
  - Lessons learned: *schedule management, educate leadership, outreach to industry*
  - Additional information: I-24 MOTION (tn.gov), Home | I-24 MOTION (i24motion.org); I-24 SMART Corridor (tn.gov); TDOT launches 'smart corridor' to manage traffic on I-24 (wkrn.com)

I-24 MOTION – TMC Pooled Fund Study

Jan 2021

Built a one-of-a-kind live testbed with federal $, highly visible press and awards

Nov 2022

CIRCLES: World's largest automated vehicle experiment with collaboration from Nissan, GM, Toyota

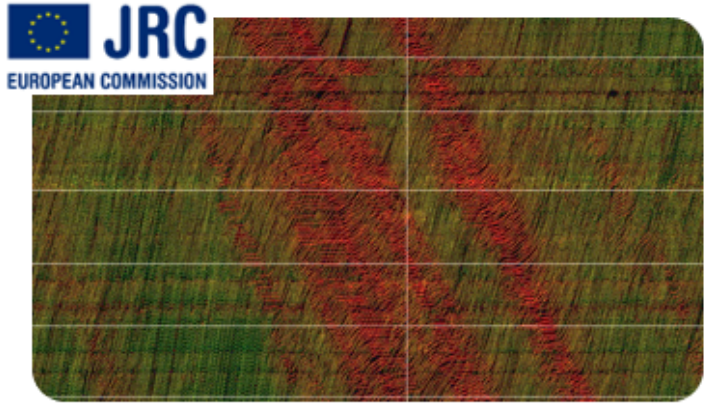
July 2023

Calibrated variable speed limits on I-24 SMART corridor to improve system performance

Where are we going?

Freight Electrification Insights

- Identify class 8 truck cab types (sleeper, regional).
- Experimenter/funder: Tennessee Valley Authority
- Timeframe: 2023-2025



Level 2 Automated Vehicles

- Quantify level 2 automated vehicle impacts on traffic stability
- Experimenter/funder: European Commission Joint Research Centre
- Timeframe: January 2024

And more…

Testing with TDOT – Ramp Meter Optimization

Testing with USDOT – "Jambusters": AVs driven at VSL speed, improving compliance and safety (proposed USDOT grant)

Testing with states – pooled fund studies: lane control signals, move over laws, incident scenes

Testing with industry – Nissan, GM/Cruise, express lane operators (Cavnue, Cintra, Transurban), start-ups (Armada IQ, roadsAI)

IMPACT FOR TENNESSEE DRIVERS

I-24 SMART Corridor – Measures of Success

Crash Comparison
June 20 through November 30
Mile Marker 52 to 74

Change in Total Crashes
2022 – **822**
2023 – **731**

- 11%

Change in Fatal / Injury Crashes
2022 – **173**
2023 – **144**

- 17%

Traffic Volume Comparison
June 20 through November 30
Mile Marker 54 to 56

Change in Average Vehicles per Day
2022 – **169,000 vpd**
2023 – **184,500 vpd**

+ 9%

Travel Time Comparison
June 20 through November 30
Mile Marker 52 to 74

Change in Average Travel Time (min)

	EB	WB
2022 –	30.3	32.8
2023 –	30.0	33.6

+/- 1.0%

Travel Speed Comparison
June 20 through November 30
Mile Marker 52 to 74

Change in Average Travel Speed (mph)

	EB	WB
2022 –	44.8	43.5
2023 –	45.5	41.7

+/- 1.0%

Crash Data from https://tdot.aashtowaresafety.com

U.S. Department of Transportation
Federal Highway Administration

IMPACT FOR TENNESSEE DRIVERS

I-24 SMART Corridor – Measures of Success

Crash Comparison – Region 3 Corridors

June 20 through November 30

I-24 SMART Corridor

From I-440 to I-840

Change in Total Crashes
2022 – **822**
2023 – **731**

- 11%

Change in Fatal / Injury Crashes
2022 – **173**
2023 – **144**

- 17%

I-65 South

From I-440 to I-840

Change in Total Crashes
2022 – **330**
2023 – **424**

+ 28%

Change in Fatal / Injury Crashes
2022 – **53**
2023 – **71**

+ 34%

I-40 East

From I-24 / I-440 to I-840

Change in Total Crashes
2022 – **450**
2023 – **504**

+ 12%

Change in Fatal / Injury Crashes
2022 – **99**
2023 – **105**

+ 6%

I-40 West

From I-440 to I-840

Change in Total Crashes
2022 – **294**
2023 – **296**

+ 1%

Change in Fatal / Injury Crashes
2022 – **53**
2023 – **55**

+ 4%

Crash Data from https://tdot.aashtowaresafety.com

U.S. Department of Transportation
Federal Highway Administration

Tennessee DOT: List of Key Accomplishments

- AI DSS – first deployment of Artificial Intelligence supported Decision Support System
- Variable Speed Limits/Lane Control Systems – optimized by I-24 MOTION, early results are showing 10% to 20% reduction in crashes
- Rural Service Patrol – service patrol to all rural interstates in TN
- Integrated Corridor Management – first ICM deployment in TN, includes first VSL/LCS, traffic signal operations by TDOT, and ICM staff in TMC
- Video Analytics- RFP in final review, will give TMC ability for automated incident detection
- Statewide TIM Steering Committee and Strategic Plan – building on strong TIM foundation to engage first responders from top down on a common vision for TIM in Tennessee

Tennessee DOT

- Questions??
- Contact to obtain additional information:

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Indiana Department of Transportation

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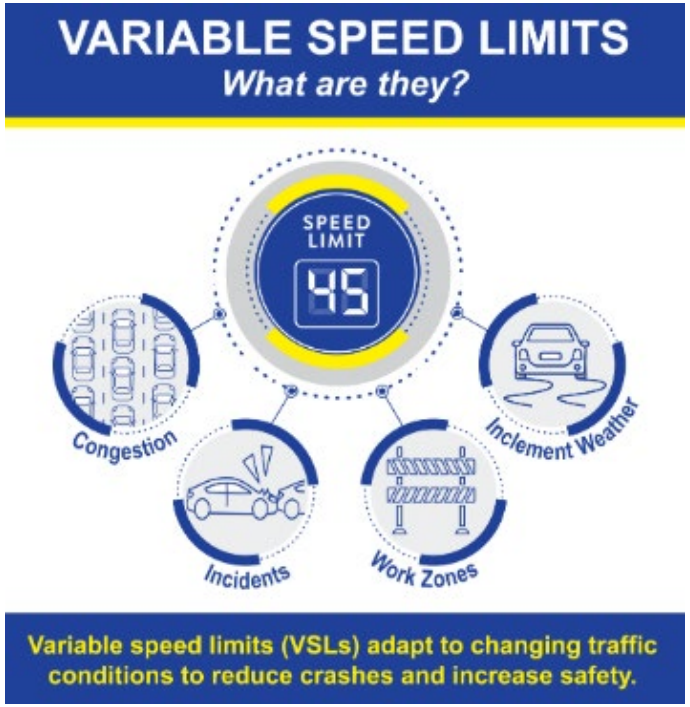
Indiana Department of Transportation: SE Indianapolis TSMO

- I-465 SE side of Indianapolis
  - Challenge: Congestion, limited geometrically/no potential for expansion
  - Issues addressed: LOS issues, queueing,
    high crash rate
  - Action pursued: Ramp metering,
    variable speed limits, additional DMS boards



Indiana DOT: I-80/94 Flex Road project

- Title: 80/94 Flex Road “Less Stop, More Go”
  - Challenge: Heavy congestion, highest % of trucks in Indiana (SE side of Chicago)
  - Issues addressed: LOS issues, high response times and crash rates
  - Action pursued: Hard shoulder running (inside and outside), TRIP program, variable speed limits, increased signage/DMS boards (queue warning), interchange improvements
  - Results: Pre-work (fiber) starting in 2025
  - Additional information:
    - https://indianaflexroad.com/

80/94 FLEXROAD LESS STOP, MORE GO

Indiana DOT: List of Key Accomplishments

- ATMS software development. Currently under development
- Automated speed enforcement in work zones – starting this summer
- AASHTO Community of Practice on Traveler Information
- Coordination with Purdue to advance TIM After Action reports
- Buckle Up / Phones Down initiative
- 723 active cameras
- 2449 connected signals
- 102 DMS boards – all full color
  by 2027

Indiana Department of Transportation

- Questions?
- Contact to obtain additional information:

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Kansas Department of Transportation

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WICHway TMC (TranSystems)
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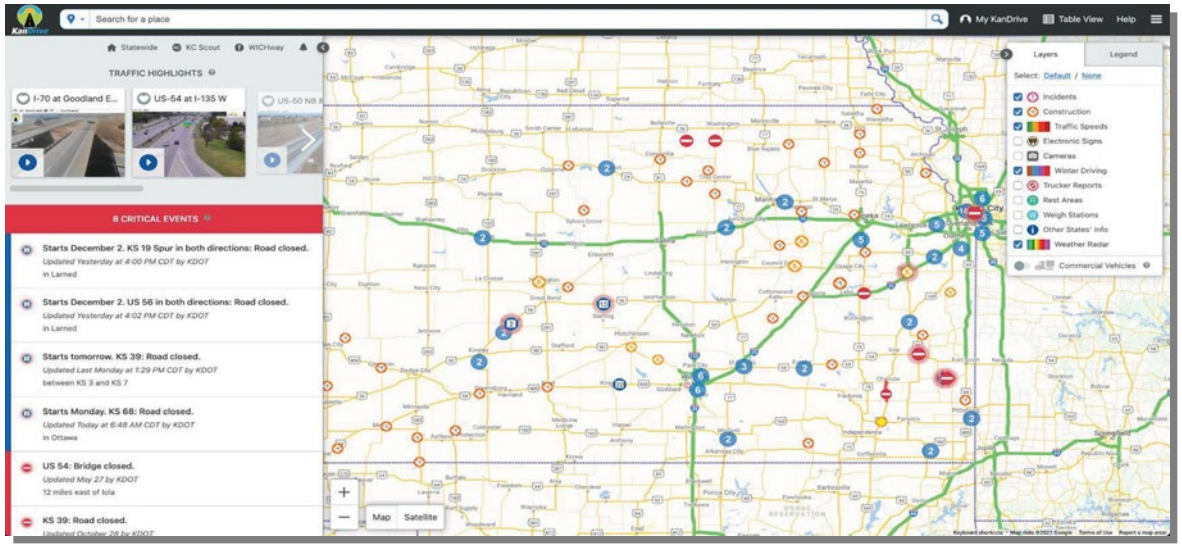
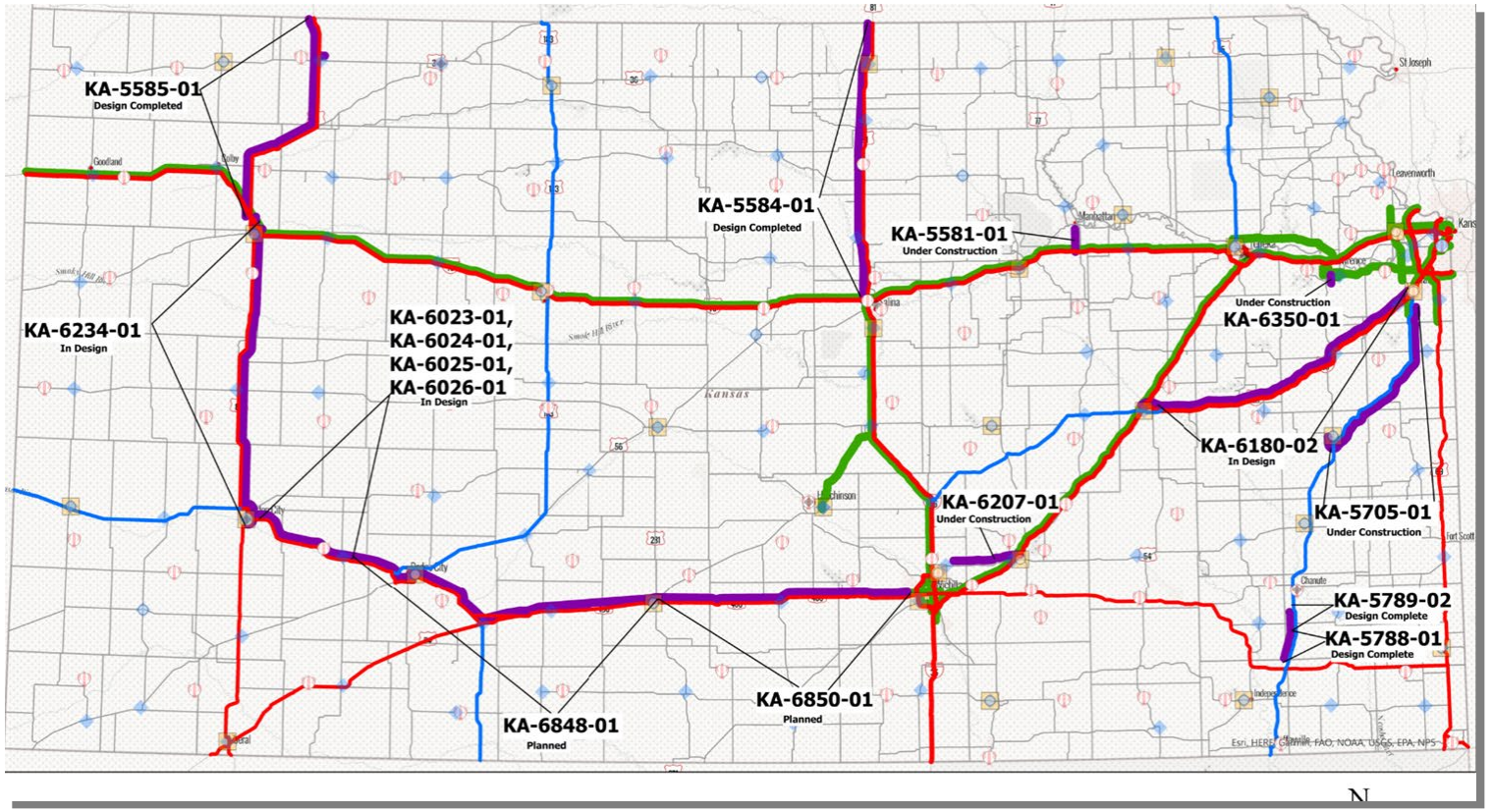
Kansas DOT: Key Issue #1

- **Statewide Traffic Management Center (TMC)**
  - Challenge: Post-COVID Operations
  - Issues addressed: Staffing, Interagency coordination
  - Action pursued: KanDrive and KaITS Enhancements
  - Results: Improved Coordination
  - Additional information: https://www.kandrive.gov



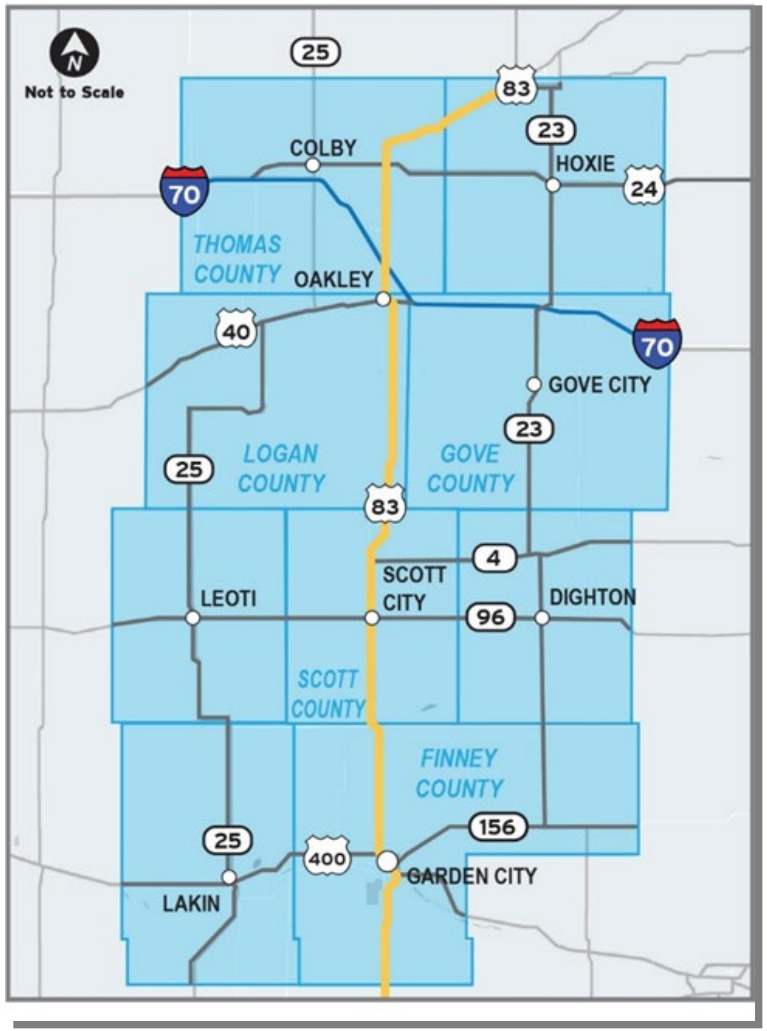
Kansas DOT: List of Key Accomplishments

- Statewide Fiber and Multiduct Installations along Freight Routes



Kansas DOT: List of Key Accomplishments

- Great Plains Rural Freight Technology Corridor ATCMTD Grant
  - KDOT awarded $6.7 million
  - 80 miles of fiber
  - Connected Vehicle and Other Technologies
  - Letting for Fiber installation June 2023
  - Technology letting in early 2025

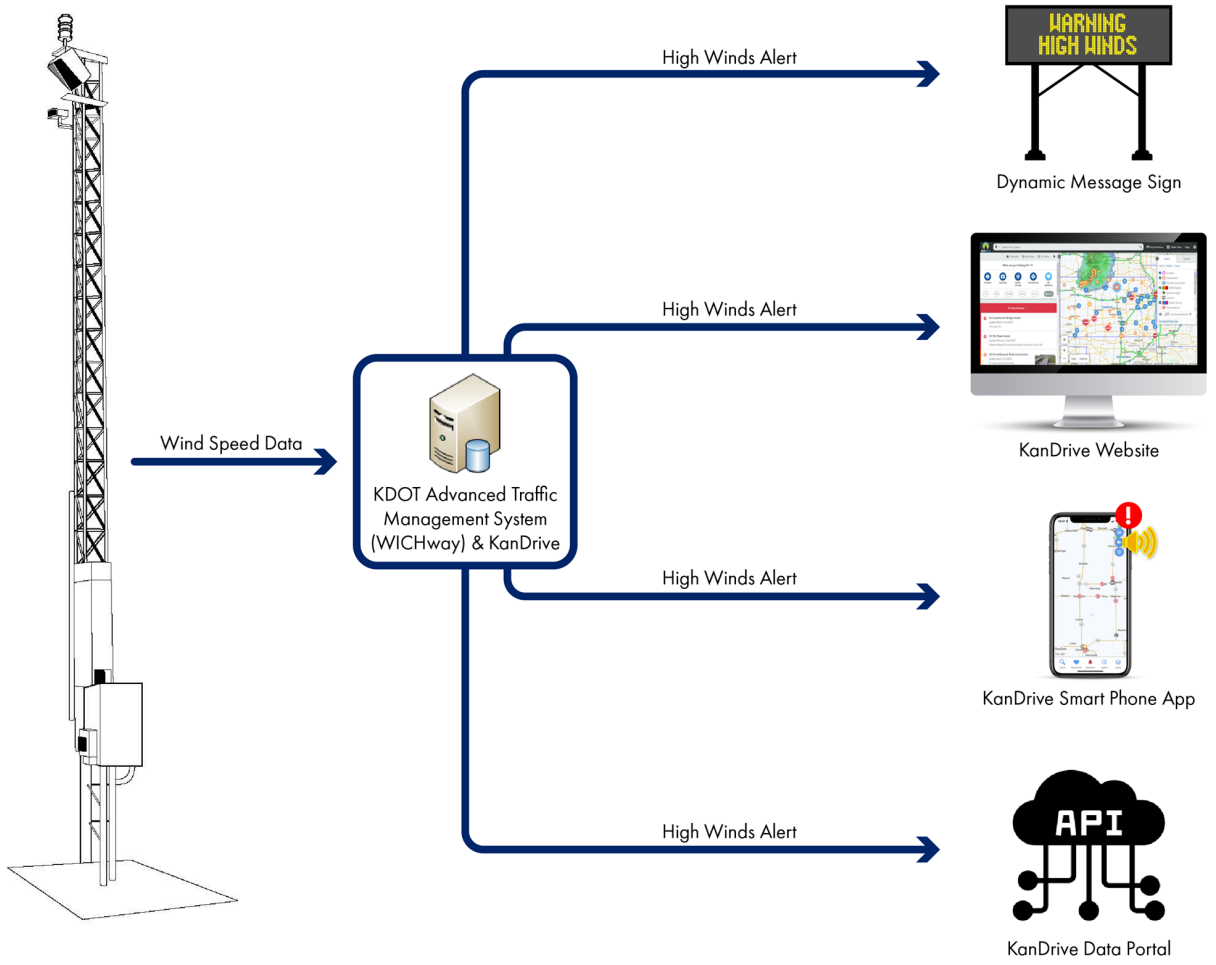


Kansas DOT: List of Key Accomplishments

- KanDrive Enhancements
  - Public Incident Reporting (verbal)
  - CarPlay/Android Auto Integration
  - Alexa Home Speaker Integration
  - Work Zone Data Exchange (WDZx) Data Feed
  - Work Zone Status Information
  - Detour Recommendations Enhanced
  - RWIS Integration for Display and Alerts

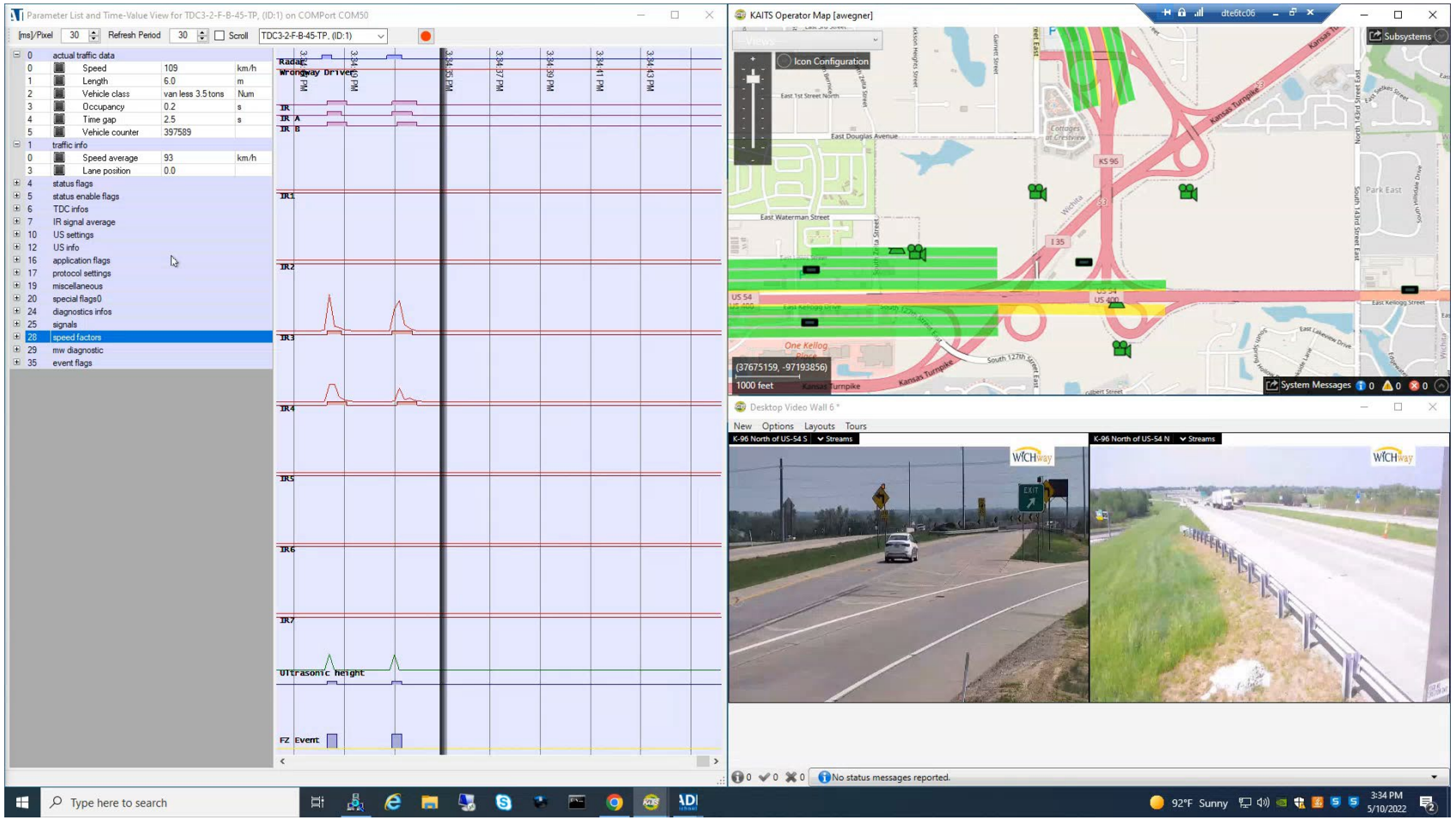
Kansas DOT: List of Key Accomplishments

- Develop Wind and Visibility Warning System
- Enhancements
  - Relocate and Replace RWIS
  - Added Visibility Sensors
  - Remote Wind Speed and Visibility Sensors
  - Integration into KanDrive



Kansas DOT: List of Key Accomplishments

- Truck Overturn Protection System (TOPS) Installation – Wichita



Kansas DOT: List of Key Accomplishments (TOPS – Wichita)

TOPS in Wichita, KS

Kansas DOT:

- Questions??

- Contact to obtain additional information:

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