CENTRAL FLORIDA TSM&O CONSORTIUM MEETING SUMMARY

Meeting Date: December 12, 2024 (Thursday) **Time**: 10:00 AM – 12:00 PM

Subject: TSM&O Consortium Meeting

Meeting Location: FDOT District Five RTMC (4975 Wilson Rd., Sanford, FL 32771) and Teleconference

I. OVERVIEW

The purpose of this recurring meeting is to provide an opportunity for District Five FDOT staff and local/regional agency partners to collaborate on the state of the TSM&O Program and ongoing efforts in Central Florida. Jeremy Dilmore gave a short introduction and outlined the meeting agenda.

II. FLASH AWARD

Jack MacKenzie (FDOT) gave a brief presentation of FDOT's FLASH Award to Melbourne Traffic Operations team members.

- This is District Five TSM&O's new recognition program for outstanding maintaining agency response to traffic signal emergencies
- Focuses on showcasing specific efforts throughout the District
- Discuss processes, best practices, lessons learned, etc.
    - SR 40 at Ridgewood Ave
- Emergency Response Details
    - On June 5th, 2023 Volusia County Traffic Engineering Team received notification that the corrosion had severely worsened on mast arm with section loss; needed replacement
    - Volusia County performed field review next day
    - On June 7th, Volusia County coordinated with contractor to get price quotes
    - On June 13th, Volusia County received a quote and gave the contractor authorization to proceed
    - Mast arm replacement was completed overnight and by noon on June 14th, signal was back up
- Then one year later…
    - Same issue occurred in late August 2024
    - County followed a similar process to what was done in June 2023
    - Volusia County staff relocated detection equipment and street signs on September 6th and the arm was removed by the contractor on September 14th
    - The same emergency response was performed
- Long-Term plans

    - D5 Structures Maintenance, D5 TSM&O, and Volusia County coordinated to find a longer-term solution
    - A RRR project starting in Spring 2024 was found as a potential match and the scope of the intersection was then incorporated
    - The original plan was for these arms to last until the RRR project began. Unfortunately, they did not and thus, the discussions began
- Key successes
    - Utilizing an on-call contract that doesn't require a PO or written NTP
    - Having a reliable contractor that is available 24/7 (Chinchor)
    - Coordination with nearby elementary school to not disrupt arrival/dismissal with MOT
    - Involved own staff as much as possible to reduce total costs
    - Count worked with the Contractor and provided some material as needed
- Lessons Learned
    - Do not use painted mast arms (paint hides corrosive damage)
        - Potential for galvanizing in the future (currently, not cost effective)
    - There is NO formal training process – utilize veteran employees but involve newer staff in the process for experience

III. PRIORITIZATION PROCESS PILOT PROGRAM

Eric Hill (MetroPlan Orlando) briefly discussed a recent grant awarded to MetroPlan Orlando by FHWA.

- Discretionary grant intended to support planning processes for agencies
- The model used for ICMS can be reconfigured to improve planning for TSMO projects at the regional level
    - Allows users to evaluate TSMO strategies more effectively
    - User dashboard will be developed as part of grant
- "Can't build your way out of congestion"
- This is just a pilot; hoping it builds up the capability of the region
- Believe this is better than other national projects, because it focuses on TSMO prioritization
- Working on putting together a refined scope

IV. 2023 ITS DEPLOYMENT SURVEY (ITS JPO)

David Williams gave a brief presentation on the results of the 2023 ITS Deployment Survey conducted by ITS JPO.

- Conducted every 2-3 years
- Survey was carried out October 2023 – January 2024
- Previously, focus was on State DOT districts and large metro areas and some transit agencies, but for this survey and moving forward, survey will also include smaller urban and rural arterial agencies

- Below are the survey response rates

Table 2. Survey Response Rates

Survey	Eligible Sample[13]	Number of Completed Surveys	Response Rate
Freeway Survey	400	311	78%
Arterial State DOT District Survey	355	276	78%
Arterial Local Agency Survey	896	423	47%
Transit Survey	733	464	63%

- Results of survey
  - Freeway Management
    - DMS, CCTV, RWIS, and Radar/Microwave Detection are widely adopted
    - However, no single safety system (Queue warning, WWD, Variable Speed, etc.) has widespread adoption
    - Portable DMS are the most common ITS deployment in Work Zones
    - 23% of respondent agencies did not use ITS in their freeway work zones
  - Arterial Management
    - Speed feedback Sign and Pedestrian Warning System were most common ITS safety deployments along arterials
    - 57% of local agencies do not currently deploy any ITS safety systems
    - There are opportunities to increase adoption rates of safety systems

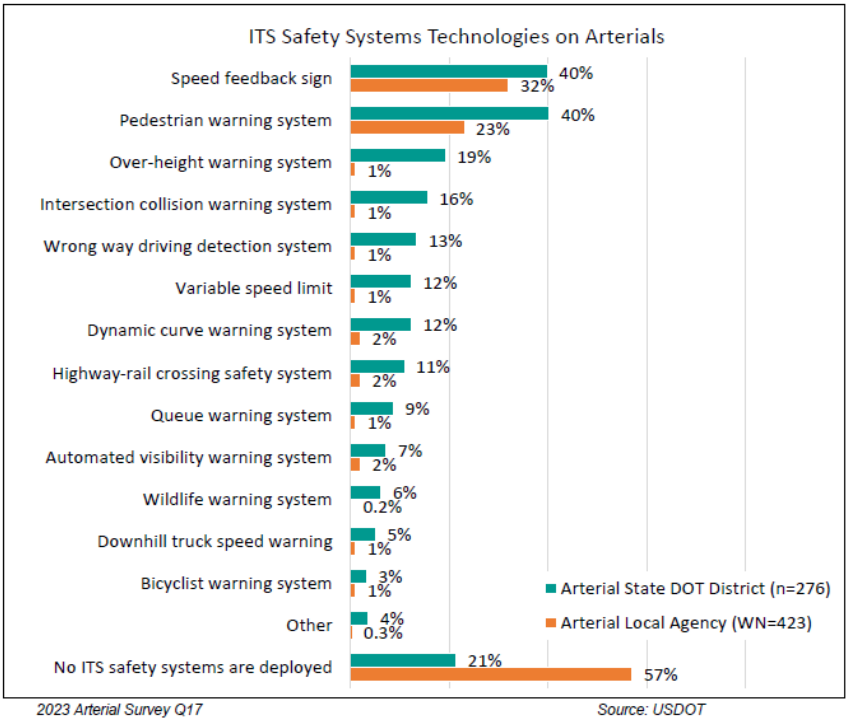
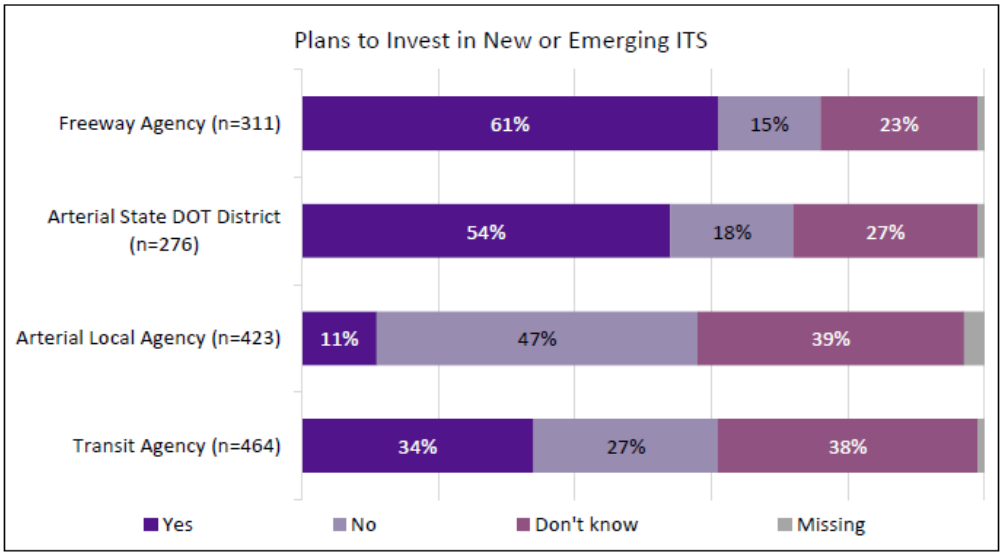


Figure 6. ITS Safety Systems Technologies on Arterials

- State DOT districts, on average, deploy 2.5 safety technologies along arterials
- About 20% of State DOT districts reported no ITS safety systems along arterials
- There may be an opportunity for further adoption of ITS information and safety systems among local agencies on the arterial network

- Freeway and Arterial Crosscutting Analysis
  - External data sources are widely used for freeway and arterial management, particularly among state DOT districts
  - Local agencies that do use external data sources most often cited Other Transportation Agency data and public notifications
  - How is external data being used?
    - For state DOT districts, TIM and Traveler Information were most commonly used
    - For local agencies, traffic studies and project prioritization were most commonly used
- Transit Survey Key Findings
  - Automated Vehicle Location (AVL), Computer Aided Dispatch & Scheduling (CADS), and Mobile Data Terminals (MDT) have widespread adoption across nation
  - There are statistically significant differences in ITS adoption for Large Urba area transit agencies and smaller/rural agencies
  - Cash is still the most common fare media, followed by physical tickets/vouchers
  - The "Free/No Fare" response is a new option
    - 12% of agencies reported this is the only media they have
    - 14% reported both "Free/No Fare" as well as another fare media
  - General Transit Feed Specification (GTFS) and GTFS Real-Time (GTFS-RT) are still the most commonly used ITS standard/specifications, though 35% of all transit agencies reported no standards or specifications have been implemented
- Freeway/Arterial/Transit Key Findings

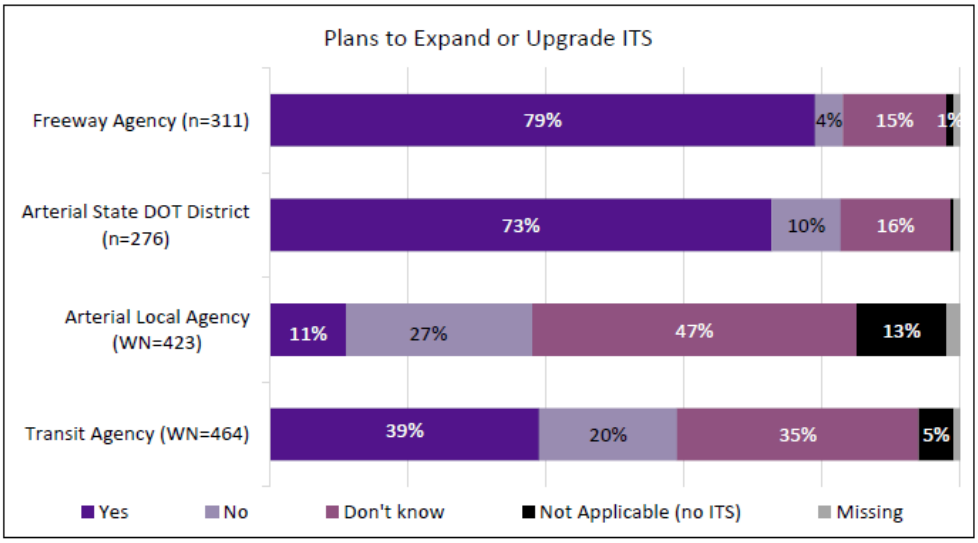
- Plans to expand or upgrade ITS in next 3 years?
  - State DOT districts largely expected to expand or upgrade ITS within 3 years
  - Only 11% of local agencies planned to expand/upgrade
  - 39% of transit agencies planned to expand/upgrade
- Plans to invest in new or emerging ITS?



2023 Freeway Survey Q55; Arterial Survey Q61; Transit Survey Q53 *Source: USDOT*

Figure 24. Plans to Invest in New or Emerging ITS

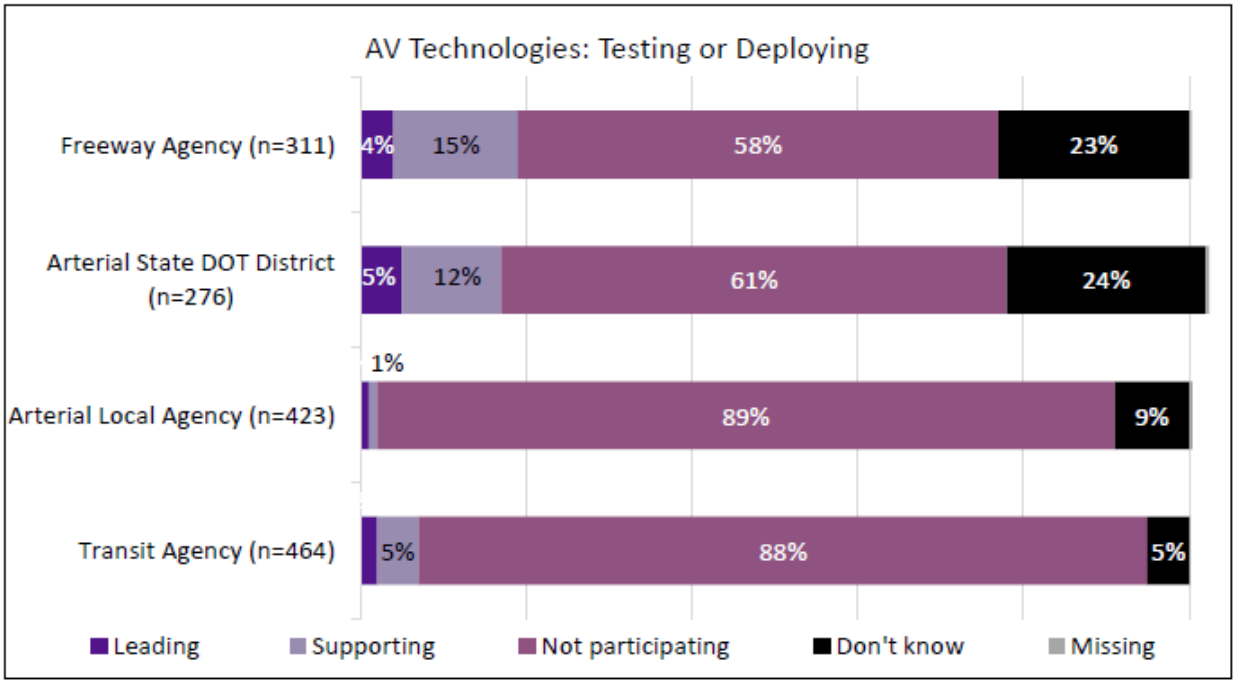
- The majority of State DOT districts have plans to invest in new/emerging ITS
  - The report suggested this would hinge largely on the extent of an agency's telecommunications technology and coverage,



2023 Freeway Survey Q54; Arterial Survey Q60; Transit Survey Q52 *Source: USDOT*

Figure 23. Plans to Expand or Upgrade ITS

because emerging ITS is reliant on telecommunications
    - Nearly 50% of local agencies reported no plans to invest in emerging ITS
- Do you have a documented ITS Cybersecurity Policy?
    - 63% of local agency respondents and 29% of State DOT district respondents did not know if their agency had a policy in place
- Is your agency developing, testing, or deploying CV technologies?
    - Deployment of CV technologies is relatively low across all surveyed agencies
    - 44% of State DOT districts have deployed or are planning to deploy CV technologies; this is similar for local agencies (45%)
- Has your agency participated in projects involving AV technologies during the last 5 years or currently? In what capacity?
    - 19% of Freeway DOT districts and 17% of arterial DOT districts were leading or supporting AV testing
    - The vast majority of transit agencies and local agencies were not participating in AV tests or deployments
    - Among 42 state DOT districts leading/supporting AV testing, the most common AV application is automated passenger fixed route



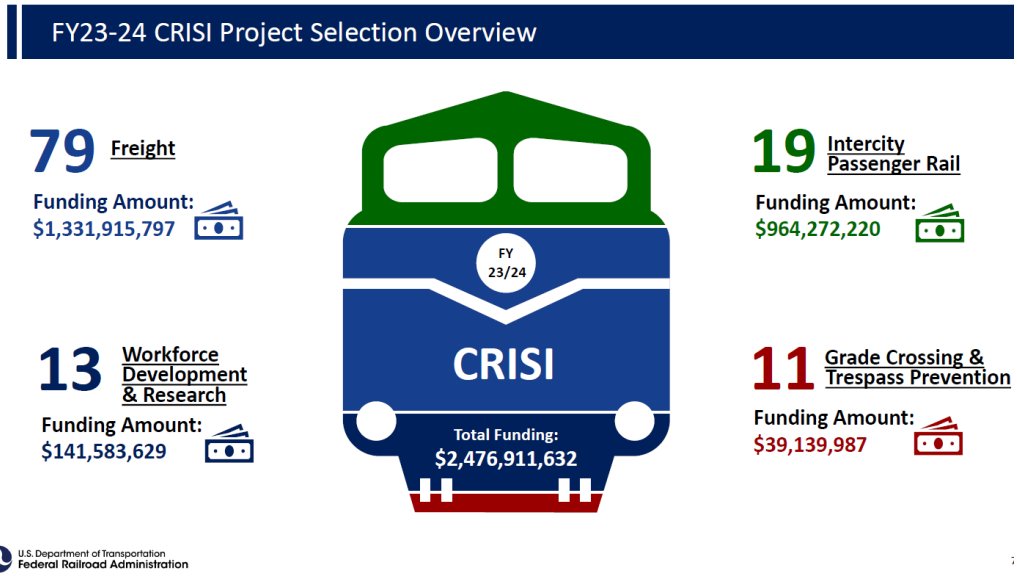
2023 Freeway Survey Q29; Arterial Survey Q36; Transit Survey Q30 *Source: USDOT*

Figure 22. AV Technologies: AV Testing or Deploying[21]

V. CONSOLIDATED RAILROAD INFRASTRUCTURE AND SAFETY IMPROVEMENTS GRANT

Bjorg Olafs briefly discussed the Consolidated Railroad Infrastructure and Safety Improvements (CRISI) Grant and the Railroad Crossing Safety Imrpovements Monitoring Systems (RCSIMS) project that was awarded the grant.

- The CRISI is a discretionary grant awarded by USDOT / FRA
    - Total funding for FY23-FY24 was $2,478,391,050
    - Allows agencies to request funds for Planning, Design, or Final Design/Construction in support of 4 main categories: Freight, Intercity Passenger Rail, Workforce Development & Research, and Grade Crossing & Trespassing Prevention



- RCSIMS project
    - Track 3 – Final Design and Construction
    - Highway-rail grade crossing improvements
    - 54% FRA funding; 46% FDOT State funding
    - Objectives of project
        - Enhance safety and operations near at-grade crossings
            - Mitigate entrapment of highway vehicles on railroad tracks
        - Reduce time it takes to identify faulty gates
        - Provide remote surveillance capabilities
        - Re-route the motoring public when crossings are closed for long periods due to maintenance activities
    - Improvements at 43 highway at-grade crossings
        - 5 pre-signals
        - 2 queue cutter signals
        - 21 railroad gate health monitoring systems
            - Utilize preemption signals and software logic to initiate a notification to the RTMC operators if the gates remain down for prolonged time. Example of operator actions will be: verify via CCTV, notify maintaining authority, notify public via RSU, 3rd party applications, and dynamic

message boards. Initiate traffic rerouting if needed.
    - 15 CCTV monitoring systems
  - Project benefits include:
    - Reduced loss of life and disabling injuries,
    - Reduced operational delays and enhance safety due to train/vehicle collisions or near-misses with vehicle entrapment on the tracks,
    - Reduced maintenance of way (MOW) response and repair costs from incidents,
    - Enhance movement of motoring public by rerouting traffic during long crossing closures, and
    - Enhance timely notification to railroad maintaining agency of faulty gate closures.
  - Schedule
    - Grant awarded October 2024
    - Pre-obligation – 6 to 18 months, includes negotiations and concurrent Design/NEPA processes
    - Construction – FY27

VI. TSM&O CAPABILITY MATURITY MODEL (CMM) SELF-ASSESSMENT

David led the Consortium attendees through a CMM self-assessment of the Region's TSM&O Program as well as their own agency's TSM&O program (aggregated and anonymized).

- The CMM is comprised of six dimensions, scored on a scale from 1 (lowest) to 4 (highest)
  - Business Processes
  - Systems and Technology
  - Performance Measurement
  - Organization & Workforce
  - Culture
  - Collaboration
- The following describes each dimension and how the respondents assessed the Central Florida region as a whole, as well as how their own agency scored (aggregated and anonymized)
- Business Processes
  - Activities such as planning, programming, agency project development, human resource management, contracting and procurement, agreements
  - Regional Score – 3.19
  - Agency Aggregate – 3.0
- Systems & Technology
  - Use of **appropriate processes for design and implementation of systems** to ensure the needs are appropriately addressed, that **systems are standardized** and implemented in an efficient manner, and interoperability with other systems is achieved
  - Regional Score – 3.25
  - Agency Aggregate – 3.31
- Performance Measurement
  - Means of determining program effectiveness, determining how changes affect performance, and guiding decision-making
    - Can be used to further demonstrate accomplishments of investments on the transportation network

  - Regional Score – 2.67
  - Agency Aggregate – 2.83
- Culture
  - Combination of values, assumptions, knowledge, and expectations of agency considering its institutional and operational context. Technical understanding, leadership, outreach, and program authority are also key.
  - Regional Score – 3.09
  - Agency Aggregate – 3.31
- Systems & Technology
  - Processes supporting effective programs requiring the appropriate combination of coordinated organizational functions and technical, qualified staff
  - Clear management authority and accountability
  - Staff development, recruitment, and retention
  - Regional Score – 2.64
  - Agency Aggregate – 3.0
- Collaboration
  - Development and implementation of TSM&O requires a collaborative approach; the effectiveness of most strategies is dependent on improving the coordinated performance of each partner
  - Regional Score – 3.33
  - Agency Aggregate – 3.55

VII. CURRENT INITIATIVES

David Williams briefly provided an update on the current work efforts throughout District Five.

- Annual Maintenance Meeting
  - Held on November 19, 2024
  - Planning to have a follow-up conference call in April
  - Will host another Annual Maintenance Meeting in November 2025
- I-4 FRAME – expected completion in Spring / Summer 2025
- OBU deployment – just had a pilot install on some Seminole County Fire Department vehicles
  - Equipped a variety of vehicle types
  - Next step is evaluating the pilot deployment
- Upcoming Grants
  - *Saving Lives with Connectivity* resubmittal → pivoting to ATTAIN; we don't anticipate another *Saving Lives* grant will be published
  - Homeland Security Grant Program (HSGP) – expected in April or May 2025

VIII. NEXT MEETING

- April 3, 2025

IX. ATTACHMENTS

- A – Presentation Slides
- B – Meeting agenda

END OF SUMMARY

This summary was prepared by David Williams and is provided as a summary (not verbatim) for use by the Consortium Members. The comments do not reflect FDOT's concurrence. Please review and send comments via e-mail to david.williams2@dot.state.fl.us *so the meeting summary can be finalized.*

Welcome to the TSM&O Consortium Meeting

December 12, 2024

CENTRAL FLORIDA TSM&O CONSORTIUM

FDOT TSM&O Transportation Systems Management & Operations

Meeting Agenda

1. FLASH Award for Emergency Repairs – Volusia County
2. Prioritization Process Pilot Program (PPPP) Grant
3. 2023 ITS Deployment Survey (ITS JPO)
4. Consolidated Rail Infrastructure and Safety Improvements (CRISI) Grant
5. TSM&O Capability Maturity Model – 2024 Assessment
6. Current Initiatives

FDOT TSM&O

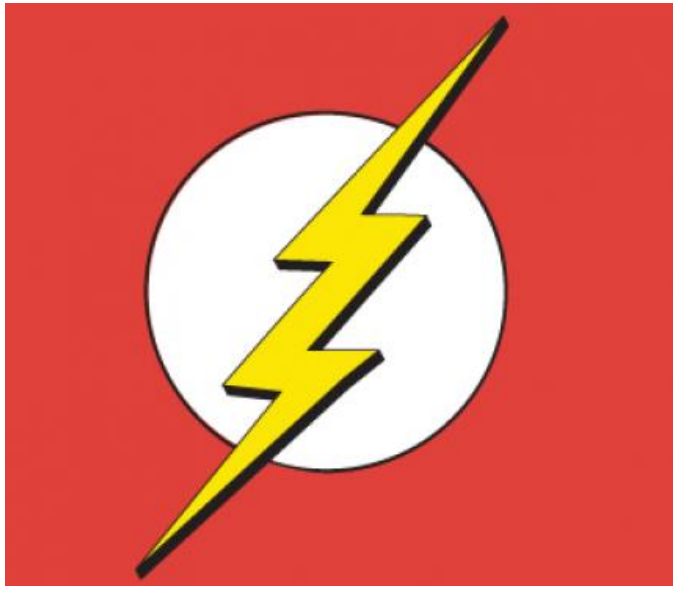
Transportation Systems Management & Operations

FLASH Award

Jack MacKenzie, FDOT District Five

FLASH AWARD

- D5 TSM&O's recognition program for outstanding maintaining agency response for traffic signal emergencies
- Focuses on showcasing specific efforts throughout D5
- Discuss processes, best practices, lessons learned, etc.



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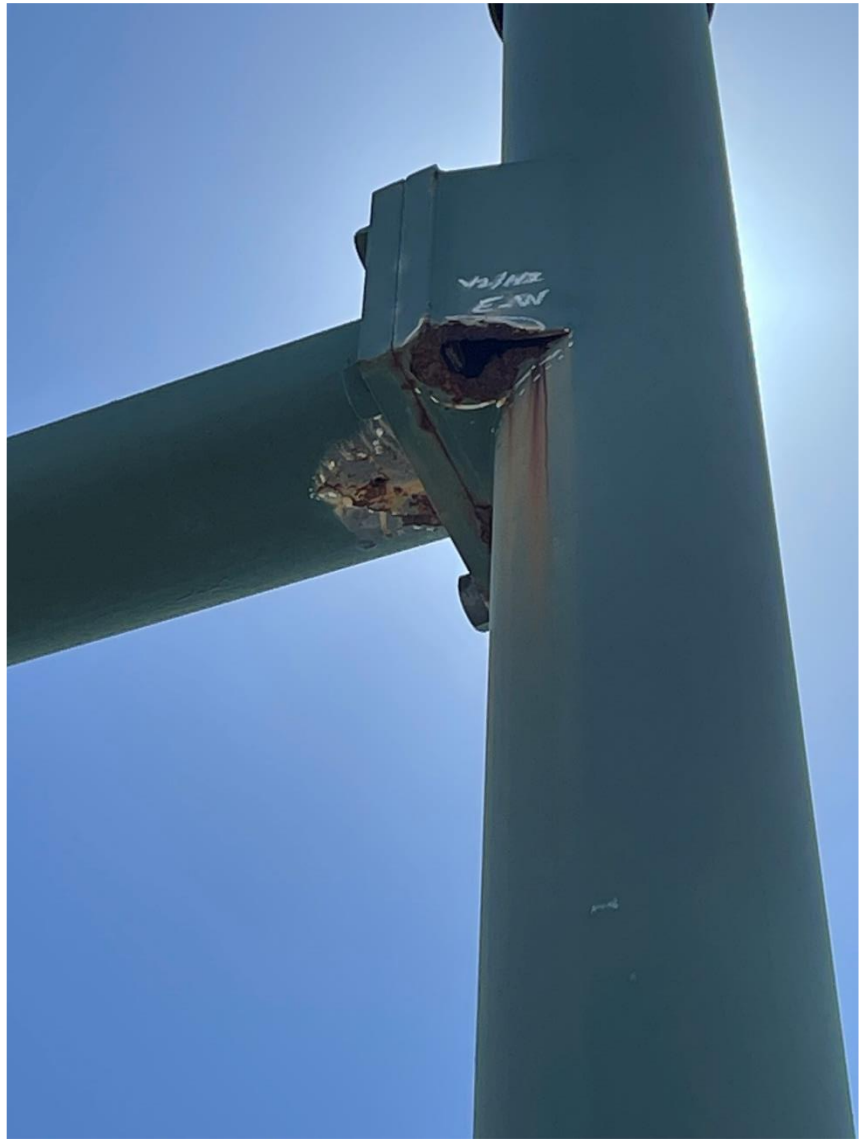
SR 40 at Ridgewood Avenue
Volusia County

- On June 5th, 2023, Volusia County Traffic Engineering Team received notification that the corrosion had severely worsened in the SB approach mast arm with section loss at the gusset plate connection and needed replacement.

SR 40 at Ridgewood Avenue
Volusia County



FDOT TSM&O
Transportation Systems Management & Operations

SR 40 at Ridgewood Avenue
Volusia County

- Emergency Response Details – 2023
  - Volusia County staff preformed a field review the next day (June 6th) and identified a possibility to keep the upright to save time. This was confirmed on the same day by Structures Maintenance.
  - On June 7th, Volusia County coordinated with the contractor to get price quotes.
  - On June 13th, the county received a quote and gave the contractor authorization to proceed
  - Mast arm replacement was completed overnight and by 12:00PM on June 14th the signal was back up

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SR 40 at Ridgewood Avenue
Volusia County

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SR 40 at Ridgewood Avenue
Volusia County

- New condition - 2023

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SR 40 at Ridgewood Avenue Volusia County

- Same Issue - One Year Later - 2024
  - Volusia County was informed in late August 2024 that the mast arm in the northwest quadrant for the WB approach was deteriorated and was needing to be replaced.
  - They followed a similar process on to what was done in June the previous year.
  - Volusia County Staff relocated detection equipment and street signs on September 6th and the arm was removed by the contractor on September 14th
  - The same emergency response was preformed by utilizing the existing upright and re-spanning.

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SR 40 at Ridgewood Avenue
Volusia County

- Old Condition - 2024

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SR 40 at Ridgewood Avenue
Volusia County

- New Condition - 2024

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SR 40 at Ridgewood Avenue Volusia County

- Long Term Plans
  - Upon finding the extent of damage within the mast arms, D5 Structures Maintenance, D5 TSM&O and Volusia County all had to coordinate and work together in finding a long-term solution.
  - A RRR project (FPID 447105-1) starting in Spring 2024 was found as a potential match and the scope of the intersection was then incorporated.
  - The original plan was for these arms to last until the RRR project began. Unfortunately, they did not and thus the discussions began.
  - Coordination between all parties was necessary in getting these mast arms re-spanned as an interim solution.

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SR 40 at Ridgewood Avenue
Volusia County

- Key Successes
  - Utilizing an “on-call” contract that doesn’t require a purchase order or written NTP
  - Having a reliable contractor that is available 24/7 - Chinchor
  - Coordination with nearby elementary school to not disrupt arrival/dismissal with MOT
  - Involved own staff as much as possible to reduce total costs
  - County worked with the contractor and provided some material as needed (goosenecks, mounting hardware, etc.)
- Lessons Learned
  - Do not use painted mast arms (paint easily hides corrosive damage)
    - Potential for galvanizing in the future (currently not cost effective)
  - There is NO formal training process – utilize veteran employees but involve newer staff in the process for experience

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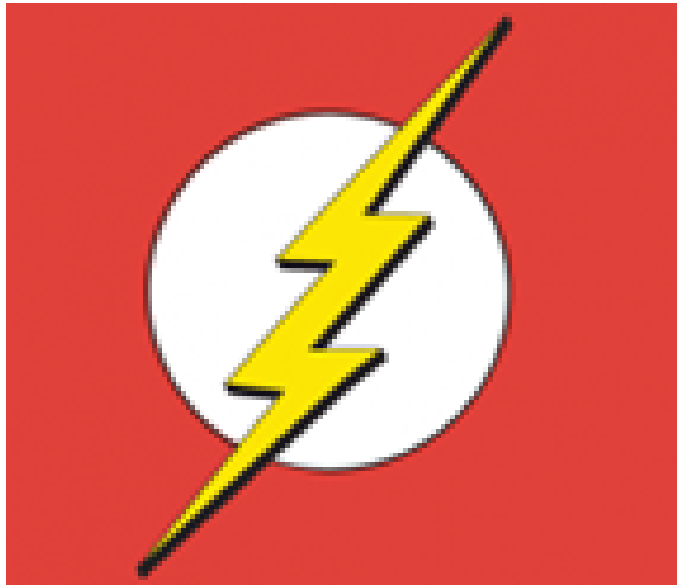
SR 40 at Ridgewood Avenue
Volusia County

Key Staff Involved – Volusia County:



- Tim Karr – Coordination with Contractor & Site Visit (both events)
- Allen Cates -Coordination with Contractor & internal staff (both events)
- Bahram Joulaee – Site Visit and internal staff coordination
- Norbert Negron – Relocation of video detection and removal of equipment to reduce contractor costs & schedule
- Dylan Rugger – Relocation of video detection and removal of equipment to reduce contractor costs & schedule

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Prioritization Process Pilot Program (PPPP)

Eric Hill, MetroPlan Orlando

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Transportation Systems Management & Operations

2023 ITS Deployment Survey (ITS JPO)

David Williams, VHB

ITS Deployment Survey

- Conducted every 2-3 years
- Survey was carried out Oct 2023 – Jan 2024
- Previously, focus was on State DOTs and large metropolitan areas
- New methodology
  - Freeways
    - State DOT Districts and Toll Authorities
  - Arterials
    - State DOT Districts
    - Large Urban Arterial Agencies
    - Smaller Urban and Rural Arterial Agencies
  - Transit

Table 1. Topics in 2023 Deployment Tracking Survey

Category	Freeway Survey	Arterial Survey	Transit Survey
Safety-related ITS (ITS safety systems, work zone ITS, ITS for road weather management, automated enforcement, ITS for incident detection and verification)	X	X	-
Real-time Data Collection (e.g., roadside infrastructure, vehicle probes, external data sources)	X	X	X
Traffic Signal Management Technologies	-	X	-
Telecommunications	X	X	X
Connected Vehicle and Automated Vehicle Technologies	X	X	X
Integrated Corridor Management	X	X	X
Traffic Management: Freeways (e.g., managed lanes, ramp metering, Transportation Systems Management and Operations (TSMO) Plans)	X	-	-
Traffic management: Arterials (e.g., parking management, TSMO Plans)	-	X	-
Traveler Information and Open Data Feeds	X	X	X
Transit Management Technologies and Strategies	-	-	X
Transit Agency Partnerships and Fare Media	-	-	X
Regional (or State) ITS Architecture	X	X	-
Agency Coordination and Data Sharing	X	X	-
ITS Cybersecurity	X	X	X
Maintenance of ITS Devices	X	X	X
Future ITS Deployment	X	X	X

CENTRAL FLORIDA TSMO CONSORTIUM

FDOT TSM&O Transportation Systems Management & Operations

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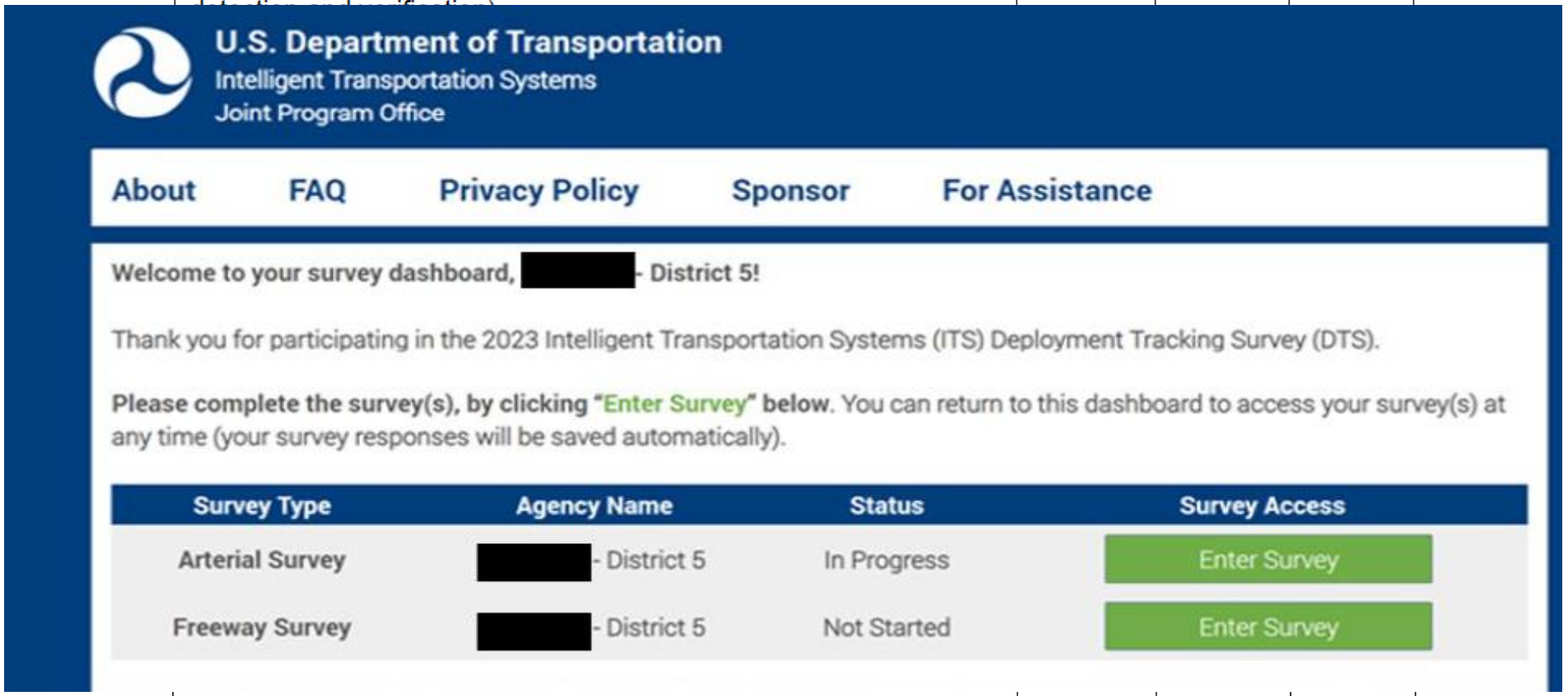
Safety-related ITS (ITS safety systems, work zone ITS, ITS for road weather management, automated enforcement, ITS for incident	X	X	-



Agency Coordination and Data Sharing	X	X	-
ITS Cybersecurity	X	X	X
Maintenance of ITS Devices	X	X	X
Future ITS Deployment	X	X	X

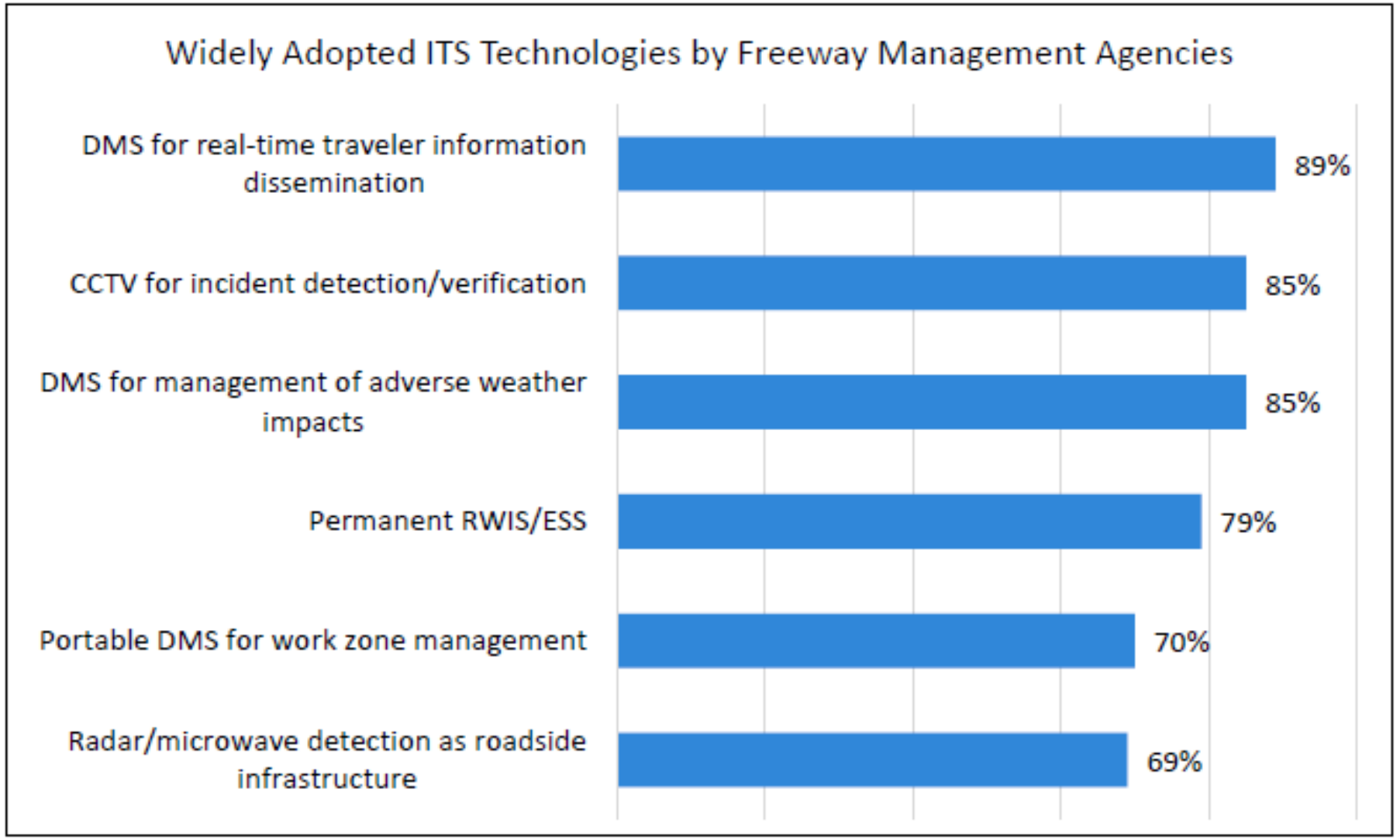
ITS Deployment Survey

Table 2. Survey Response Rates

Survey	Eligible Sample[13]	Number of Completed Surveys	Response Rate
Freeway Survey	400	311	78%
Arterial State DOT District Survey	355	276	78%
Arterial Local Agency Survey	896	423	47%
Transit Survey	733	464	63%

- Design weights were established for Local/Transit Agency surveys due to lower response rate of the randomized sample

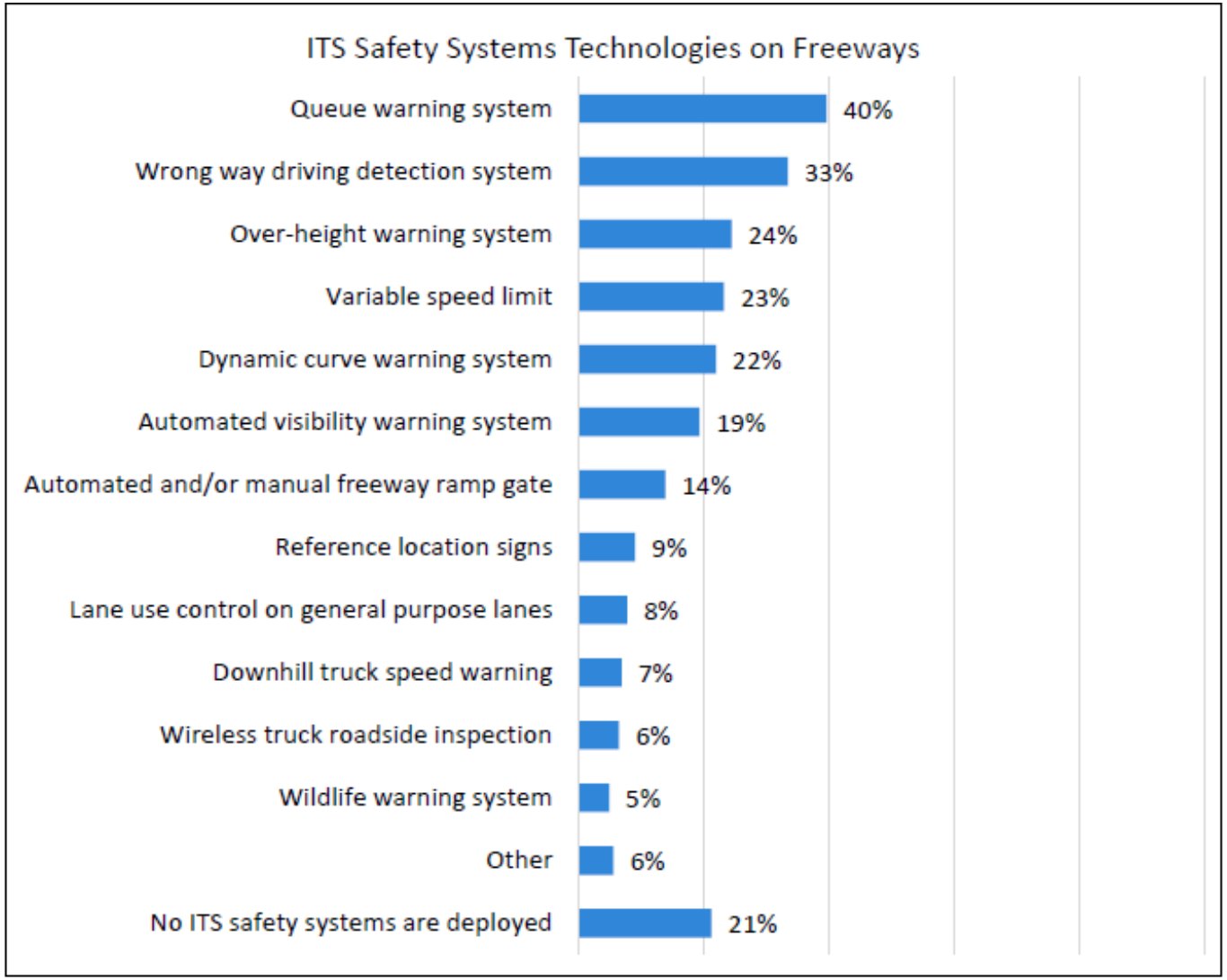
Freeway Management Survey Key Findings



2023 Freeway Survey Q1,Q14-Q16, Q18, Q19; (n=311)

Source: USDOT

Freeway Management Survey Key Findings



2023 Freeway Survey Q13; (n=311; 3% missing) *Source: USDOT*

Figure 3. ITS Safety Systems Technologies on Freeways

Freeway Management Survey Key Findings

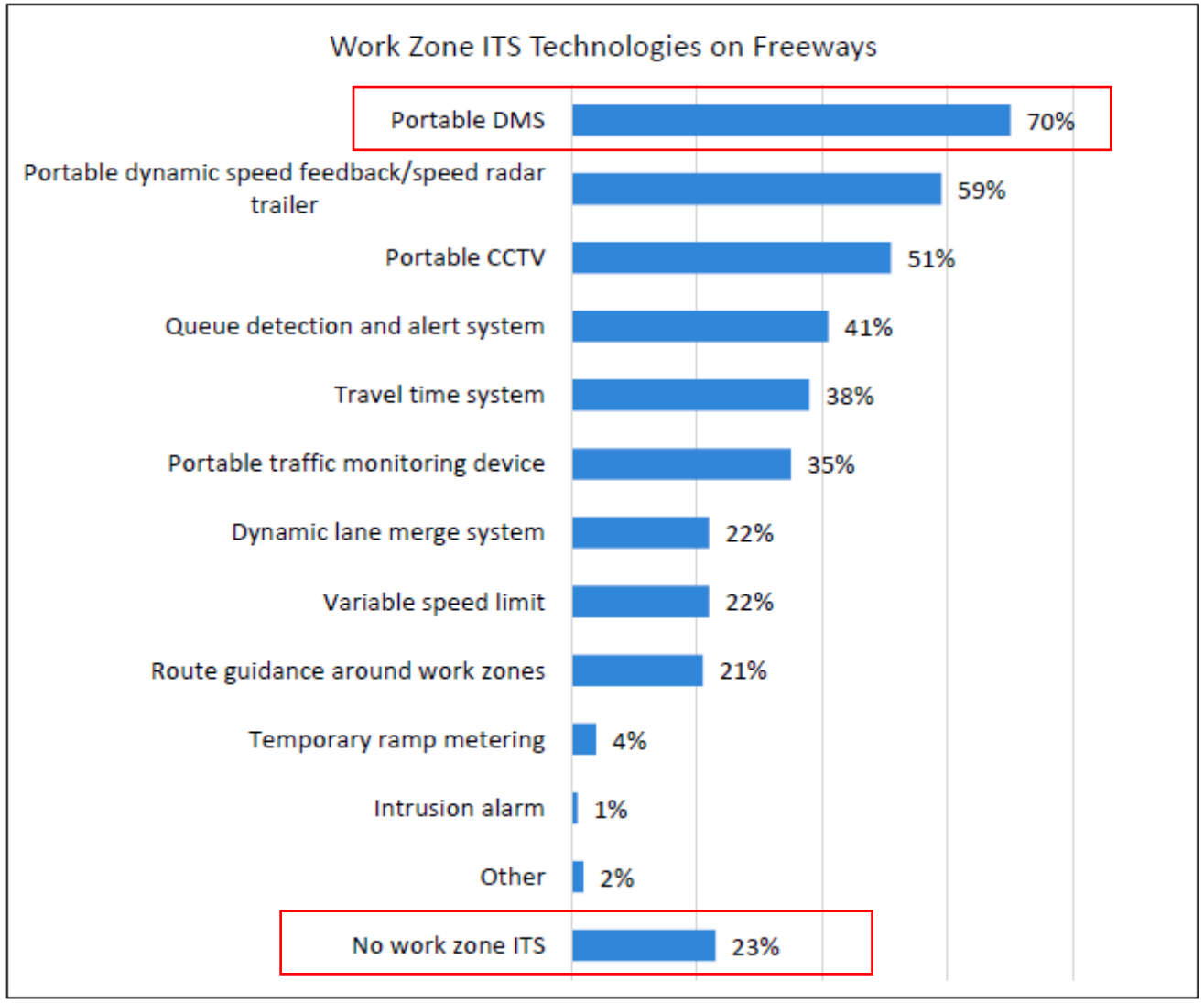


Figure 4. Work Zone ITS Technologies on Freeways

Freeway Management Survey Key Findings

Table 3. Freeway Management Agencies: Significant Differences Between State DOT District Population Groups

Technology/Method	State DOT Districts with a Large Urban Area (n=119)	State DOT Districts without a Large Urban Area (n=154)
One or more ITS safety system technologies *	84%	73%
One or methods for incident detection/verification *	96%	82%
One or more roadside infrastructure ITS *	94%	83%
Traveler Information Dissemination: Third Party Mobile Apps *	60%	47%
One or more managed lane strategies *	34%	19%
Freeway entrance ramp metering *	37%	8%
Developing, testing, or deploying CV technology *	24%	8%
ICM *	27%	16%

2023 Freeway Management Survey Q1, Q6, Q10, Q13, Q14, Q16, Q18, Q19, Q21, Q29 *Source: USDOT*

** statistically significant difference between State DOT districts with a large urban area & State DOT districts without a large urban area*

Freeway Management Survey Key Findings

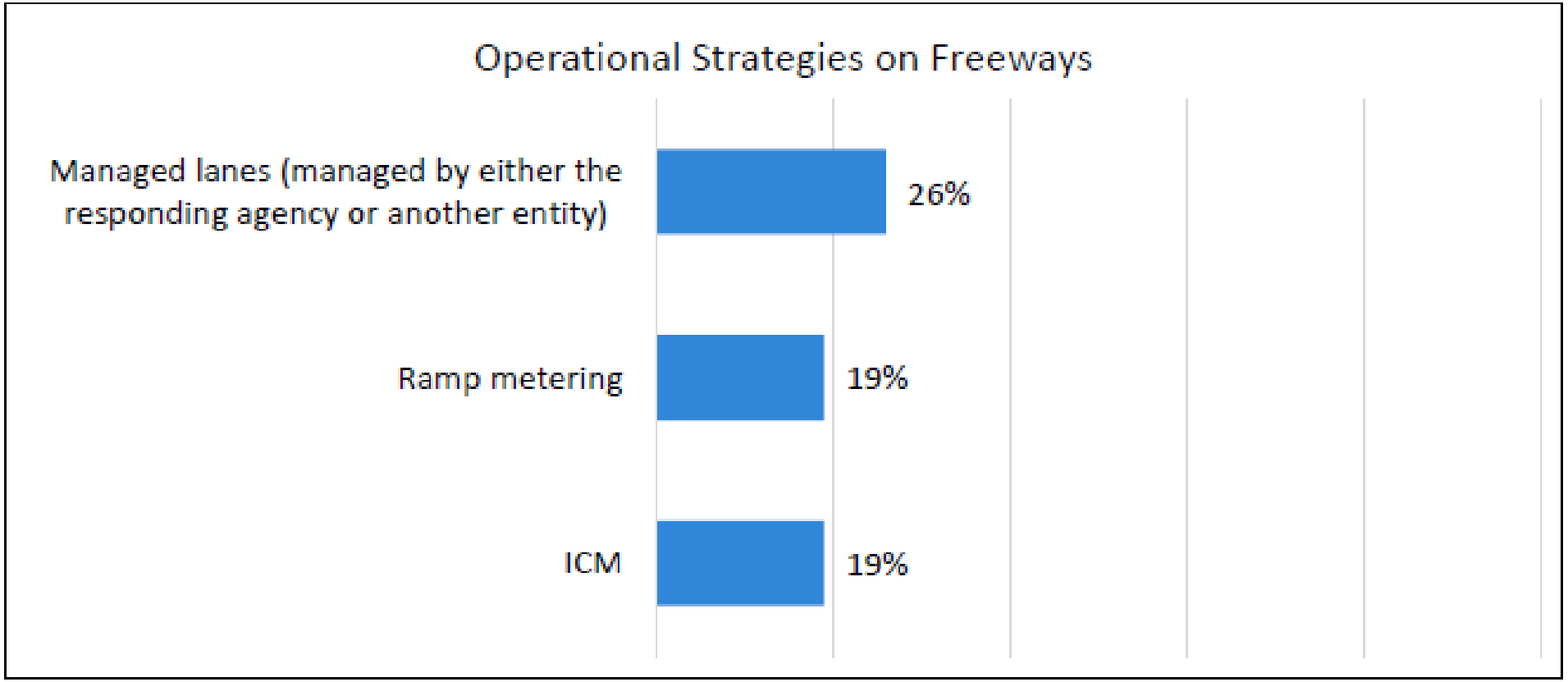


Figure 5. Operational Strategies on Freeways

Arterial Management Survey Key Findings

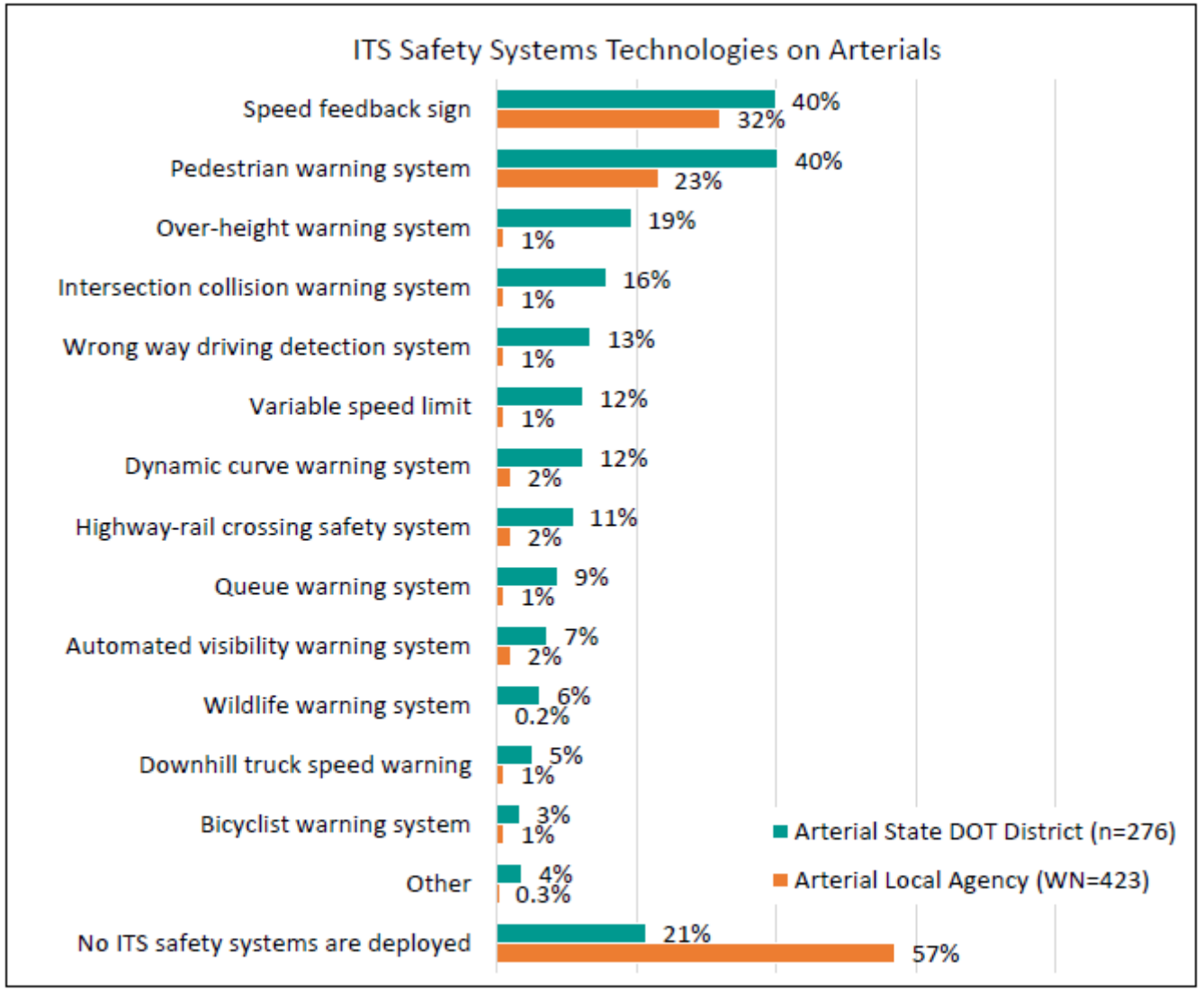
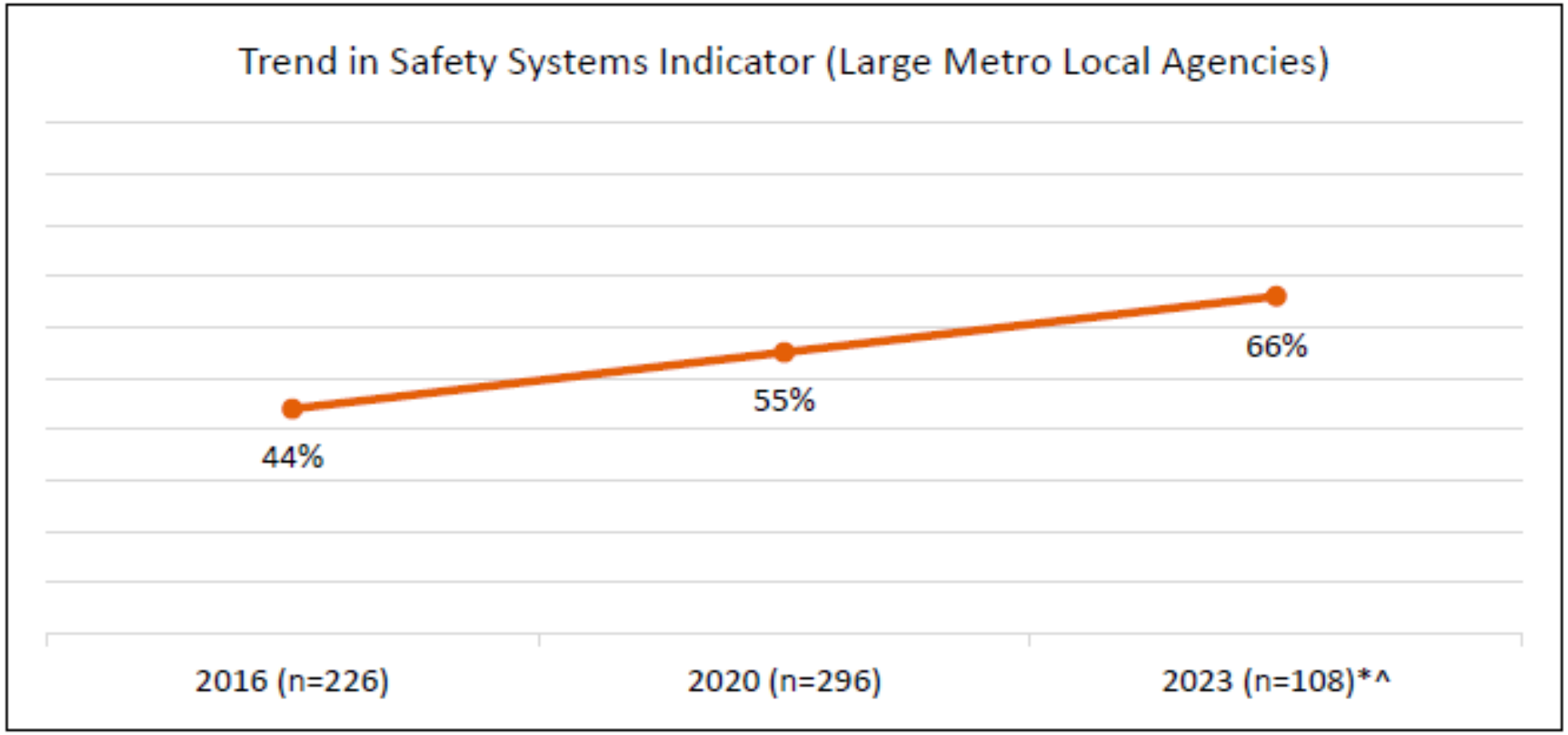


Figure 6. ITS Safety Systems Technologies on Arterials

Arterial Management Survey Key Findings

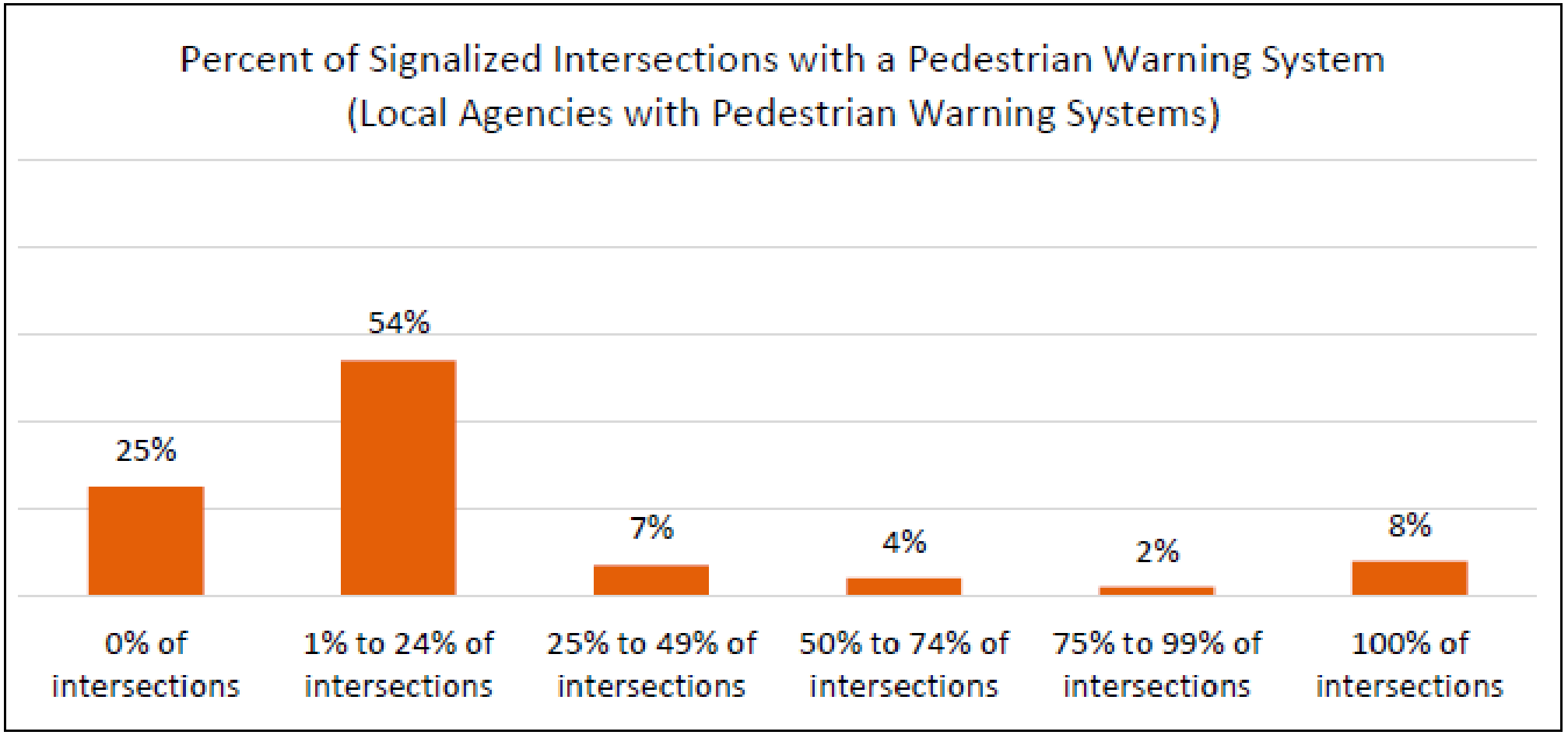


2023 Q17
**statistically significant difference between 2020 & 2023;*
^statistically significant difference between 2016 & 2023

Source: USDOT

Figure 78. Trend in Safety Systems Indicator (Large Metro Local Agencies)

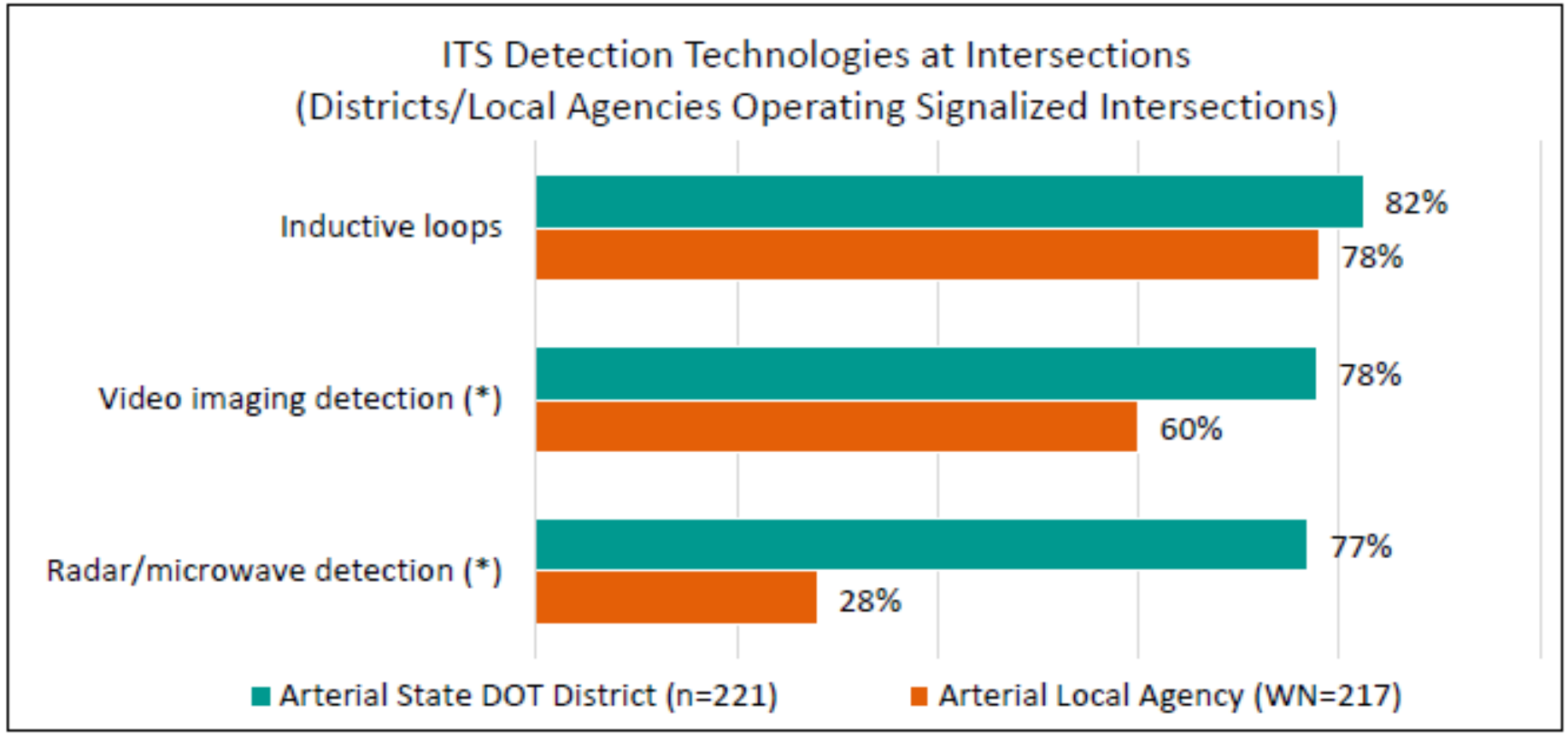
Arterial Management Survey Key Findings



2023 Q18; (WN=97, UWN=97; 0.1% missing) *Source: USDOT*

Figure 46. Percent of Signalized Intersections with a Pedestrian Warning System (Local Agencies with Pedestrian Warning Systems)

Arterial Management Survey Key Findings

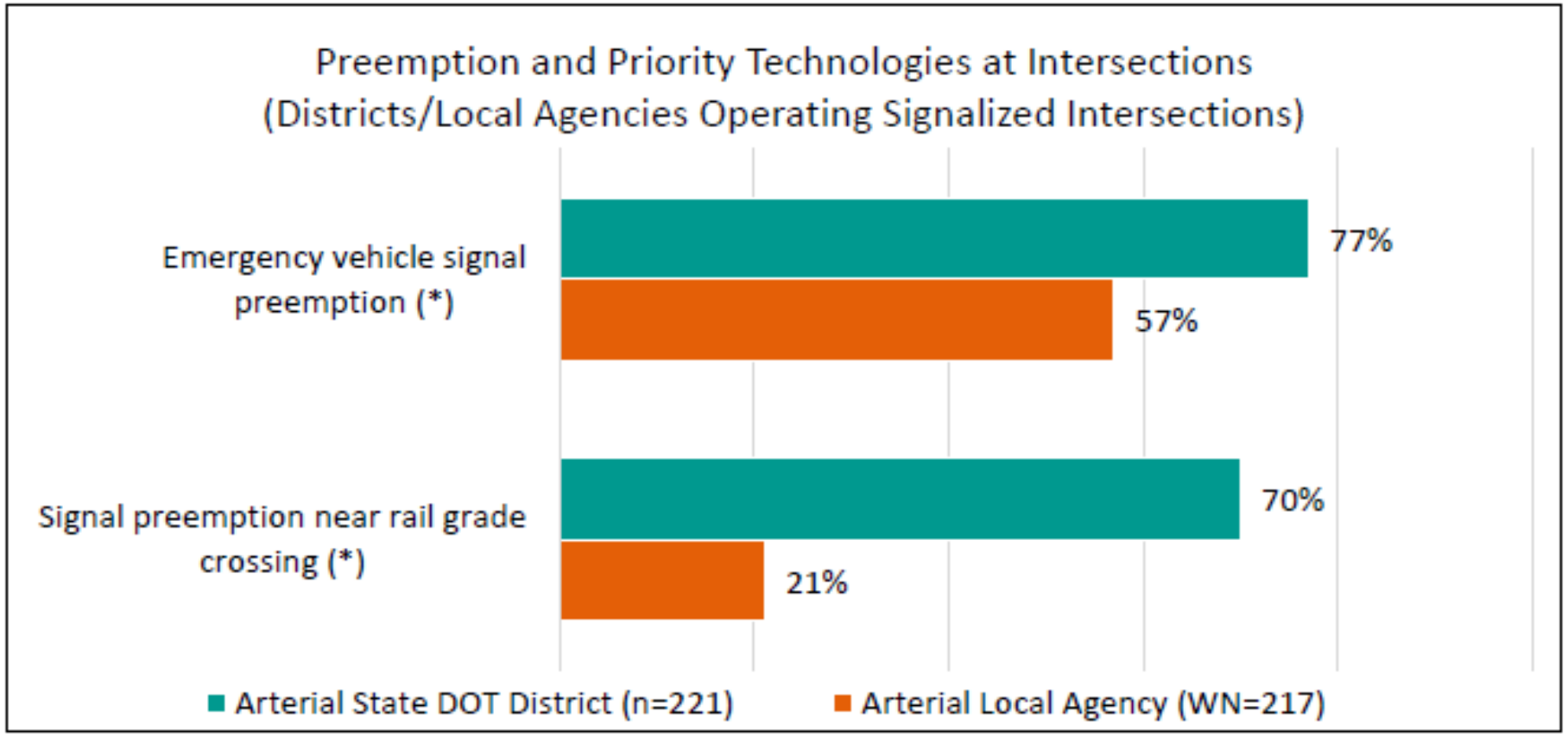


2023 Arterial Survey Q3 *Source: USDOT*

** statistically significant difference between State DOT districts managing arterials and local agencies*

Figure 7. ITS Detection Technologies at Intersections (Districts/Local Agencies Operating Signalized Intersections)

Arterial Management Survey Key Findings



2023 Arterial Survey Q8 *Source: USDOT*

** statistically significant difference between State DOT districts managing arterials and local agencies*

Figure 8. Preemption and Priority Technologies at Intersections (Districts/Local Agencies Operating Signalized Intersections)

Arterial Management Survey Key Findings

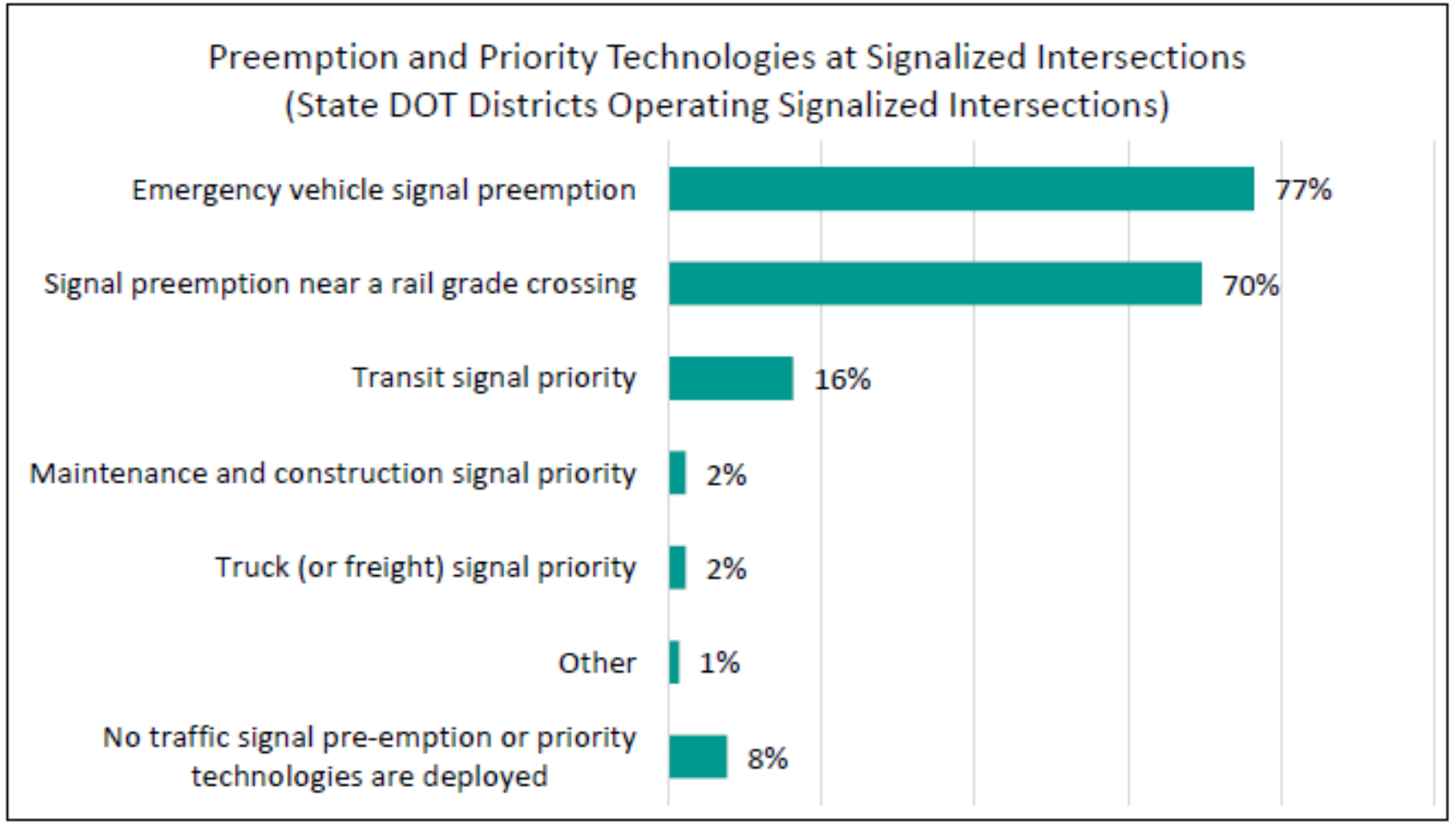


Figure 5. Preemption and Priority Technologies at Signalized Intersections (State DOT Districts Operating Signalized Intersections)

Arterial Management Survey Key Findings

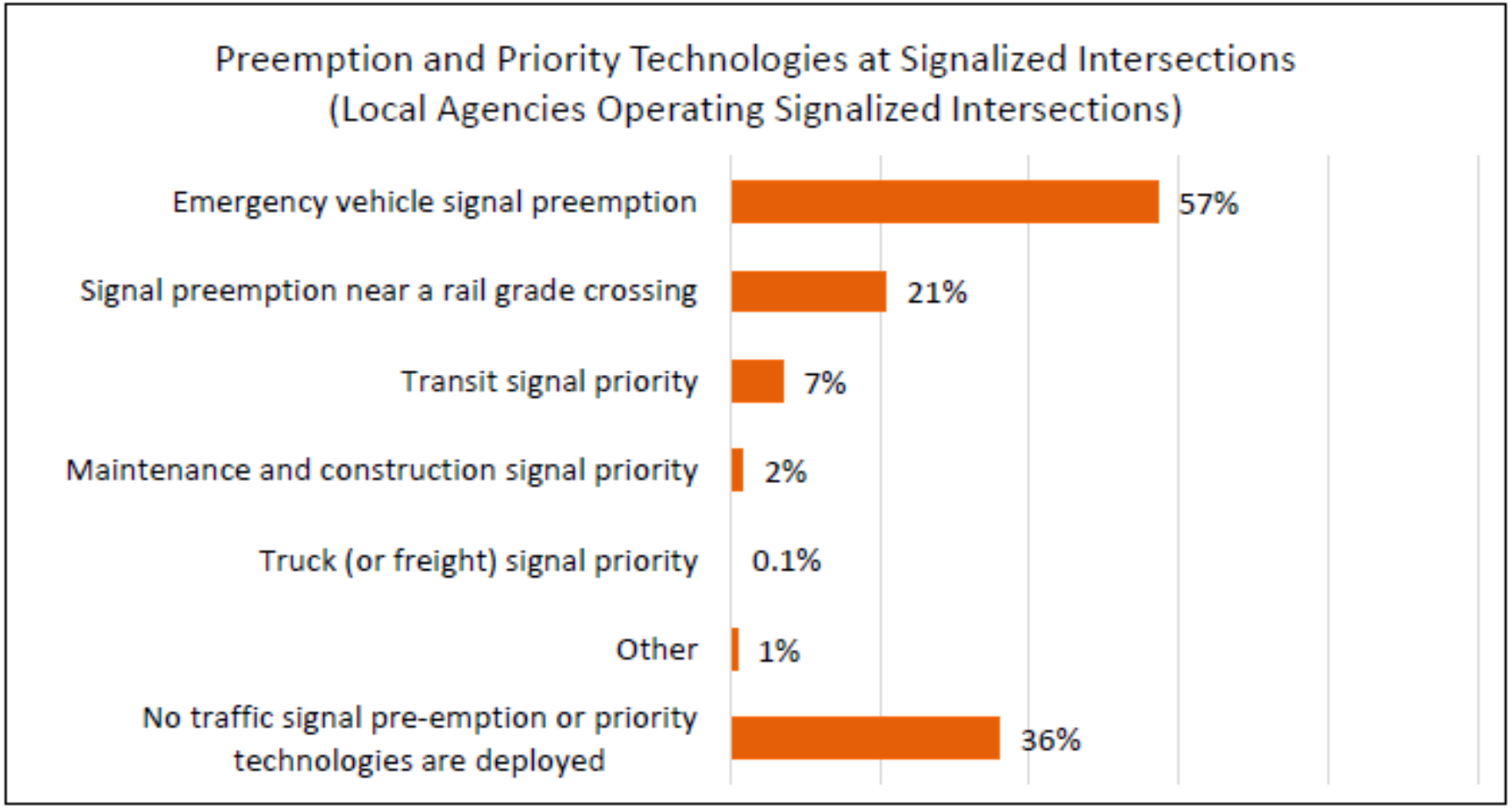
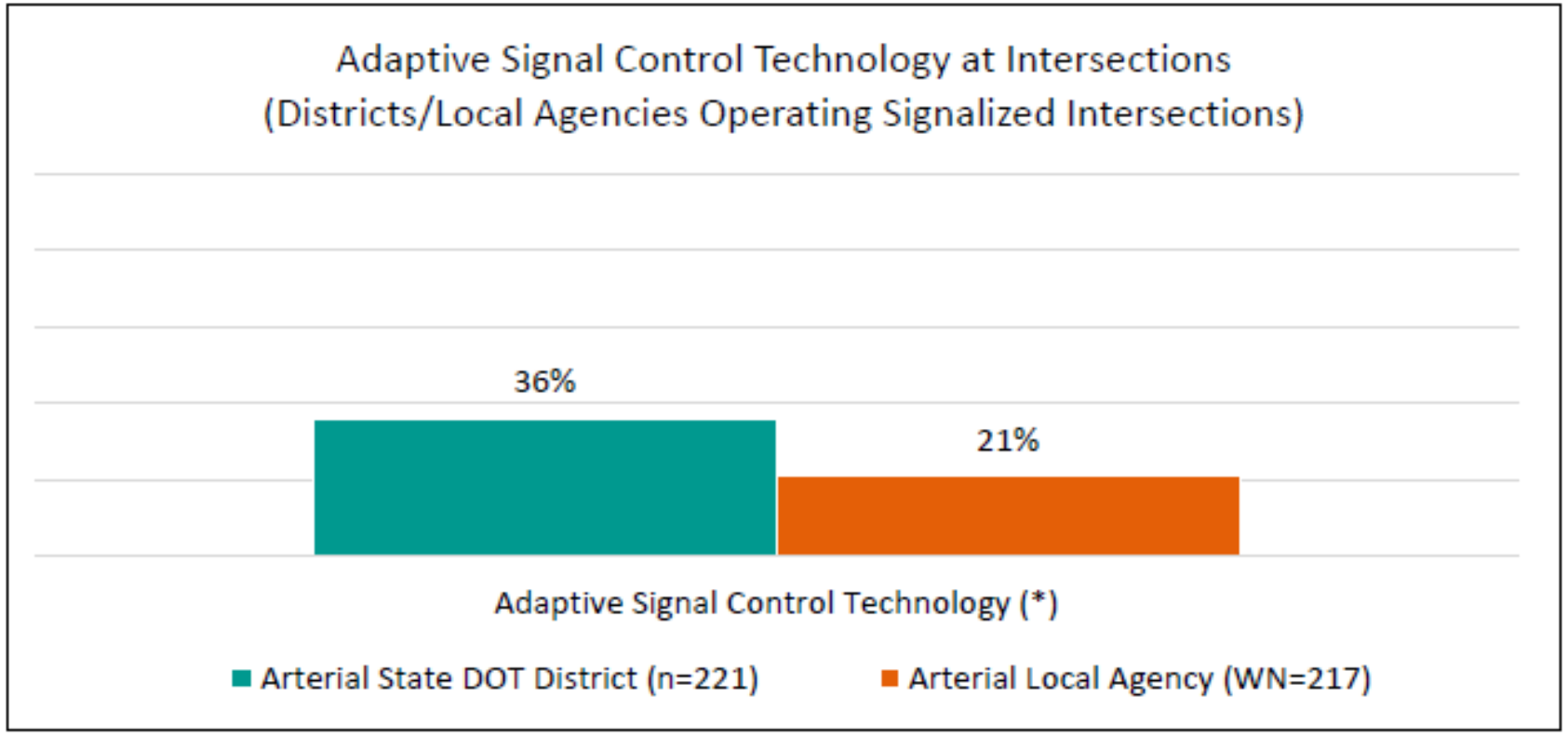


Figure 44. Preemption and Priority Technologies at Signalized Intersections (Local Agencies Operating Signalized Intersections)

Arterial Management Survey Key Findings

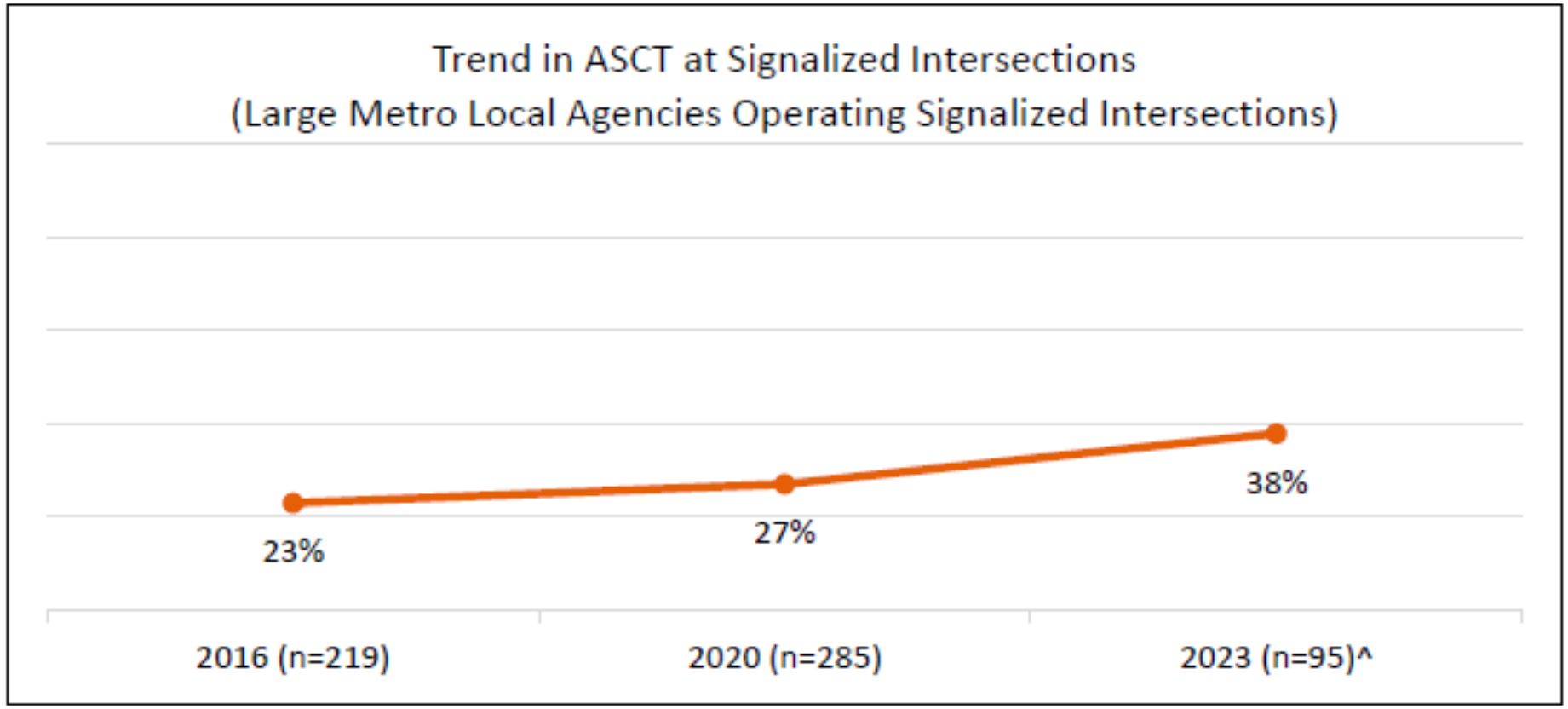


2023 Arterial Survey Q5 *Source: USDOT*

** statistically significant difference between State DOT districts managing arterials and local agencies*

Figure 9. Adaptive Signal Control Technology at Intersections (Districts/Local Agencies Operating Signalized Intersections)

Arterial Management Survey Key Findings

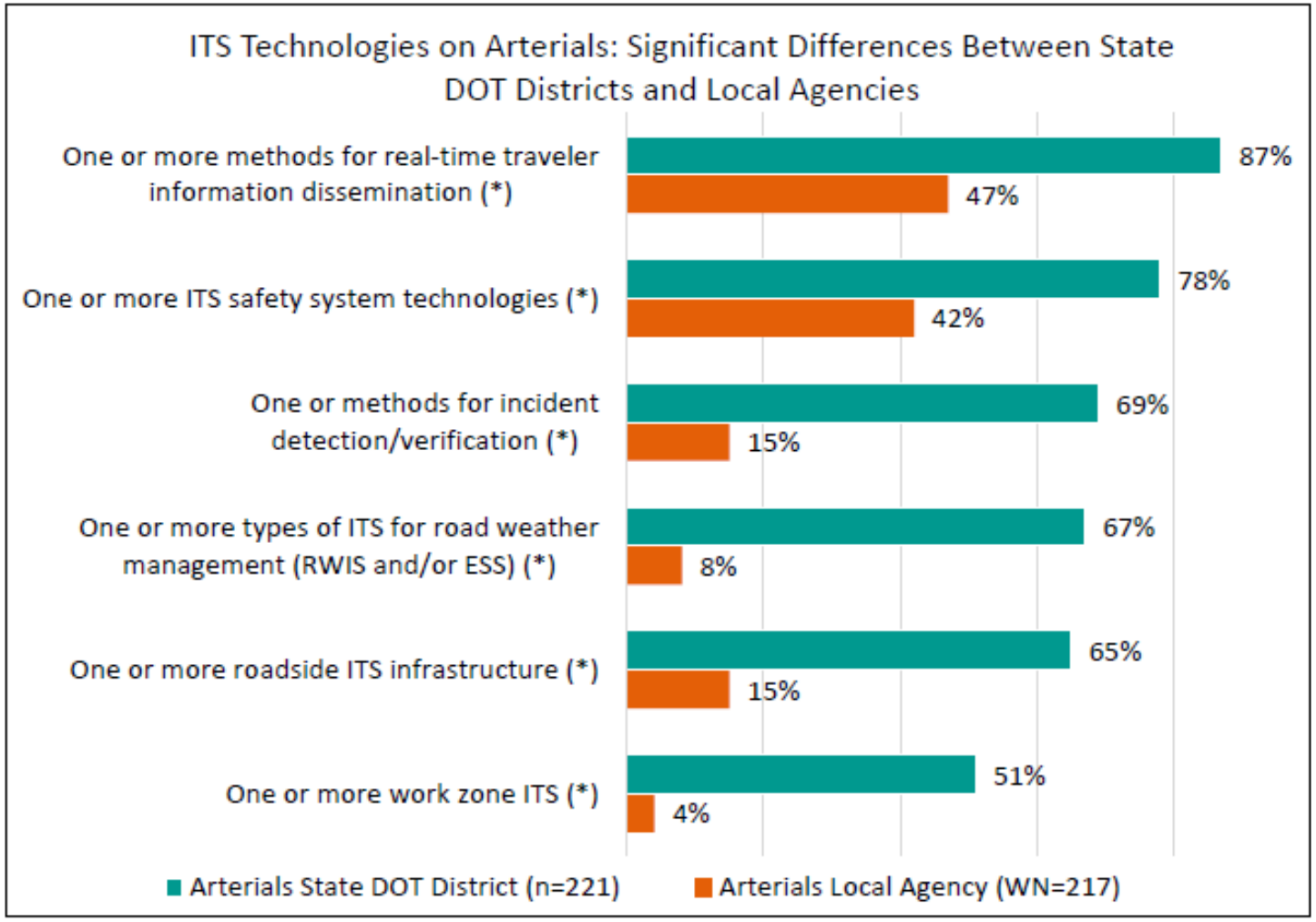


2023 Q5
^statistically significant difference between 2016 & 2023

Source: USDOT

Figure 76. Trend in ASCT at Signalized Intersections (Large Metro Local Agencies Operating Signalized Intersections)

Arterial Management Survey Key Findings



2023 Arterial Survey Q9, Q17, Q19, Q21-Q24 *Source: USDOT*

** statistically significant difference between State DOT districts managing arterials and local agencies*

Figure 10. ITS Technologies on Arterials: Significant Differences Between State DOT Districts and Local Agencies

Arterial Management Survey Key Findings

Table 4. Local Arterial Management Agencies: Comparison of ITS Deployment Between Statistical Areas

Technology/Method	Large Metropolitan Areas (WN=74; UWN=108)	Smaller Urban and Rural Areas (WN=349; UWN=315)
One or more methods for real-time traveler information dissemination *	62%	44%
One or more ITS safety system technologies *	58%	38%
One or methods for incident detection/verification *	40%	9%
One or more roadside infrastructure ITS *	30%	12%
ITS for road weather (RWIS and/or ESS)	13%	7%
One or more work zone ITS technologies	8%	3%

2023 Arterial Survey Q9, Q17, Q19, Q21-Q24 *Source: USDOT*

** statistically significant difference between local agencies in large metropolitan areas and local agencies in smaller urban and rural areas*

Arterial Management Survey Key Findings

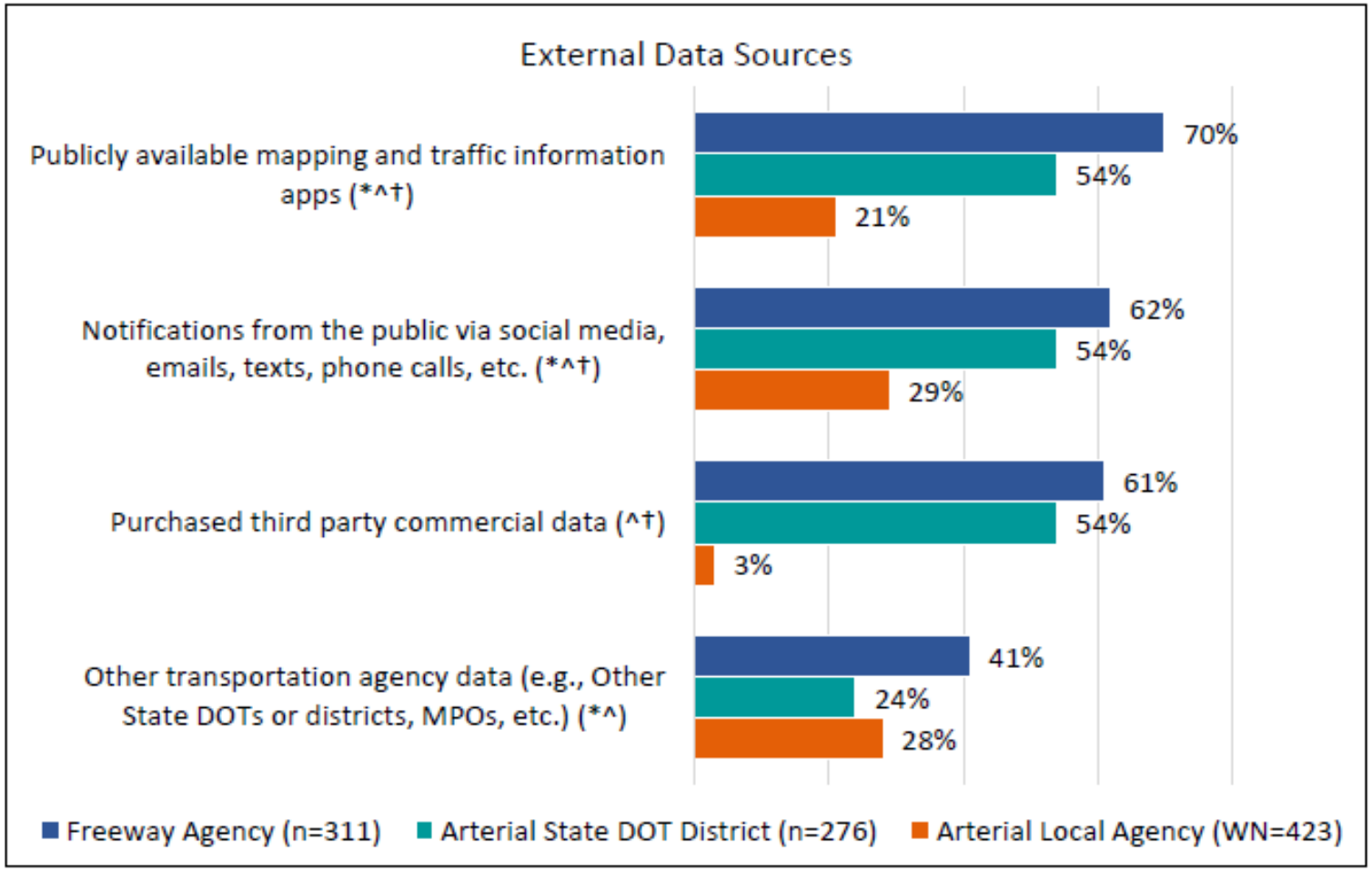
Table 5. ITS Technologies at Signalized Intersections (Local Agencies Operating Signalized Intersections): Significant Differences Between Statistical Areas

Technology at signalized intersections	Large Metropolitan Areas (WN=61; UWN=95)	Smaller Urban and Rural Areas (WN=155; UWN=126)
Inductive loops *	89%	74%
Video imaging detection *	84%	50%
Radar/microwave detection *	56%	18%
Emergency vehicle signal preemption *	76%	50%
Signal preemption near a rail grade crossing *	49%	10%
Adaptive Signal Control Technology *	33%	17%

2023 Arterial Survey Q3, Q5, Q8 *Source: USDOT*

** statistically significant difference between local agencies in large metropolitan areas and local agencies in smaller urban and rural areas*

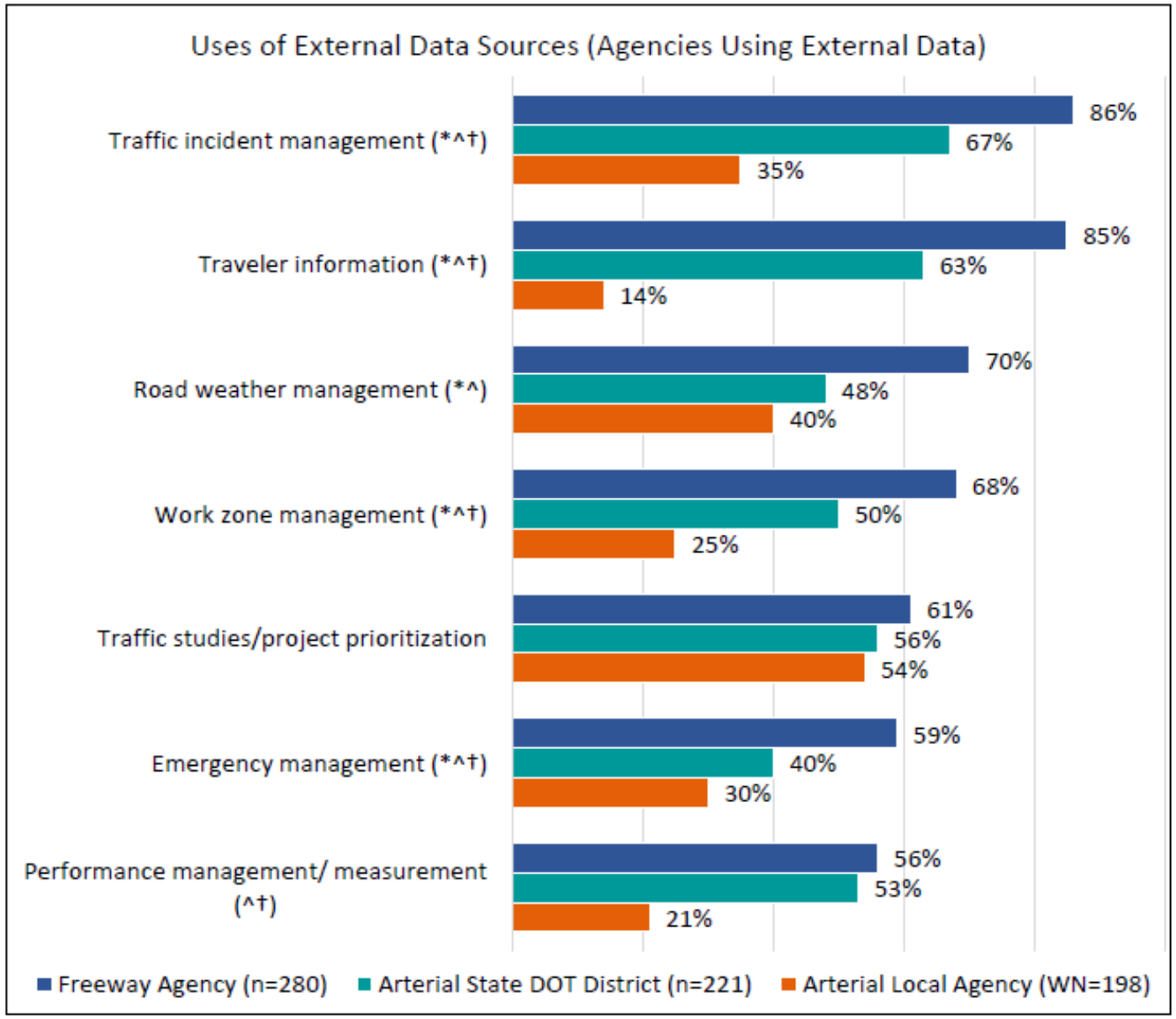
Freeway/Arterial Crosscutting Key Findings



2023 Freeway Survey Q3; Arterial Survey Q11 *Source: USDOT*
** statistically significant difference between freeway agencies and State DOT districts managing arterials;*
^ statistically significant difference between freeway agencies and local agencies;
† statistically significant difference between State DOT districts managing arterials and local agencies

Figure 11. External Data Sources

Freev dings

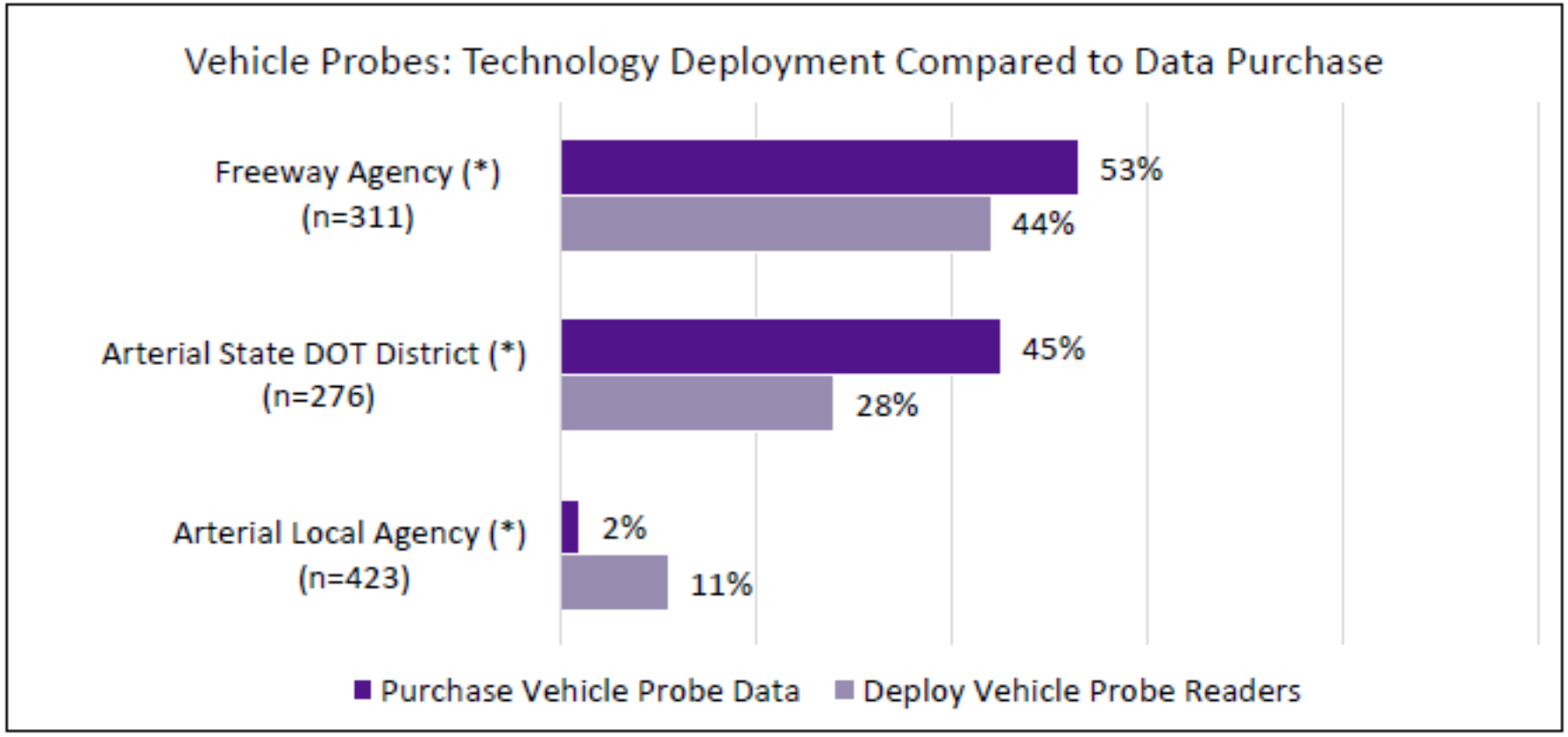


2023 Freeway Survey Q4; Arterial Survey Q12 *Source: USDOT*

** statistically significant difference between freeway agencies and State DOT districts managing arterials;*
^ statistically significant difference between freeway agencies and local agencies;
† statistically significant difference between State DOT districts managing arterials and local agencies

Figure 12. Uses of External Data Sources (Agencies Using External Data)

Freeway/Arterial Crosscutting Key Findings



2023 Freeway Survey Q2, Q5; Arterial Survey Q10, Q13 *Source: USDOT*

Figure 13. Vehicle Probe Data: Technology Deployment Compared to Data Purchase

Freeway/Arterial Crosscutting Key Findings

Table 6. Overlap of Vehicle Probe Deployment and Purchase of Vehicle Probe Data (Agencies Deploying and/or Purchasing Vehicle Probe Data)

Technology/Purchase	Freeway management agencies (n=273)	Arterial State DOT districts (n=38)
Only deploy vehicle probe technology (no purchase of vehicle probe data)	28%	16%
Only purchase vehicle probe data (no deployment of vehicle probe technology)	39%	48%
Both deploy and purchase	33%	36%

2023 Freeway Survey Q2, Q5; Arterial Survey Q10, Q13 *Source: USDOT*

Transit Management Survey Key Findings

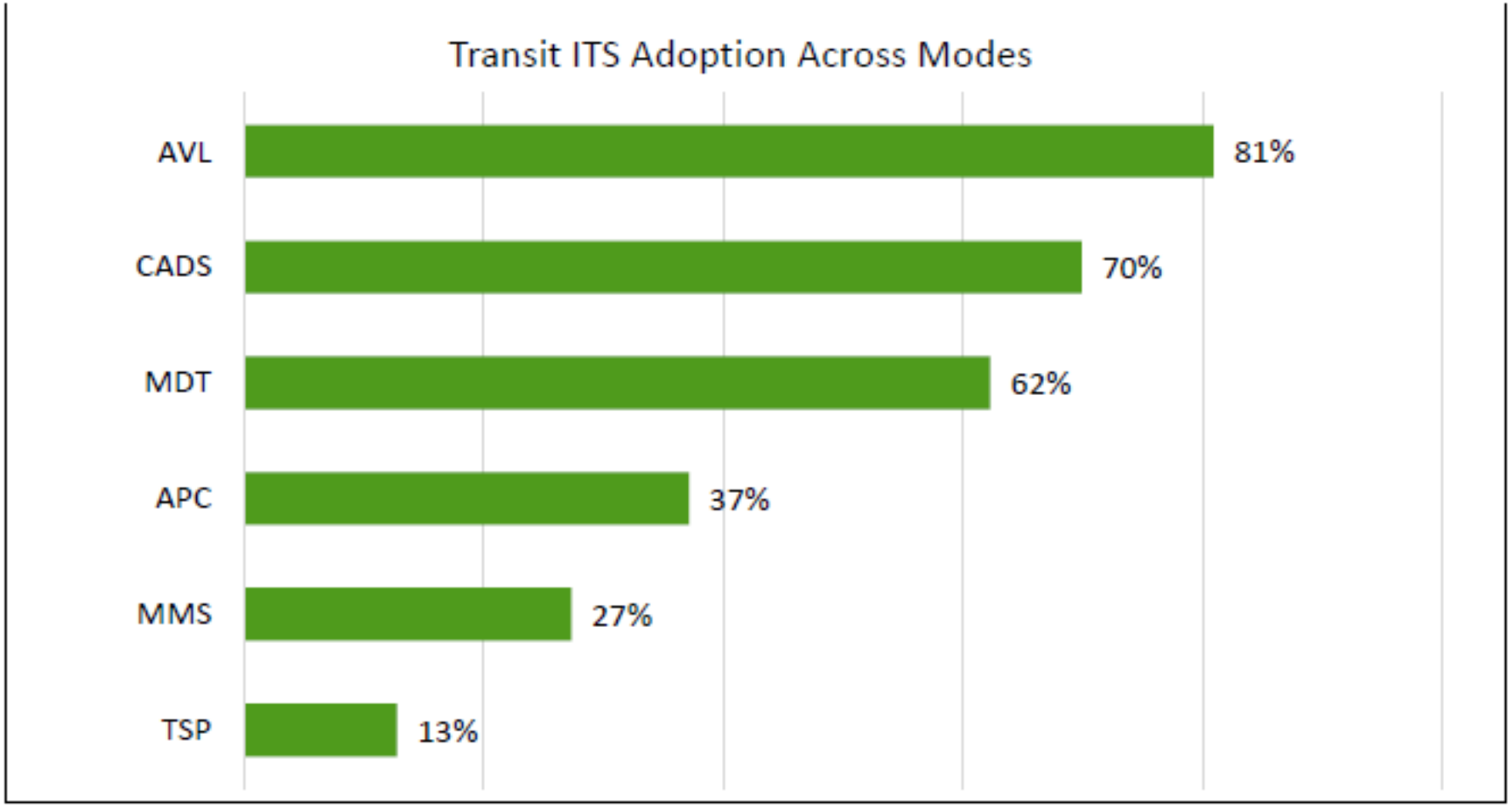
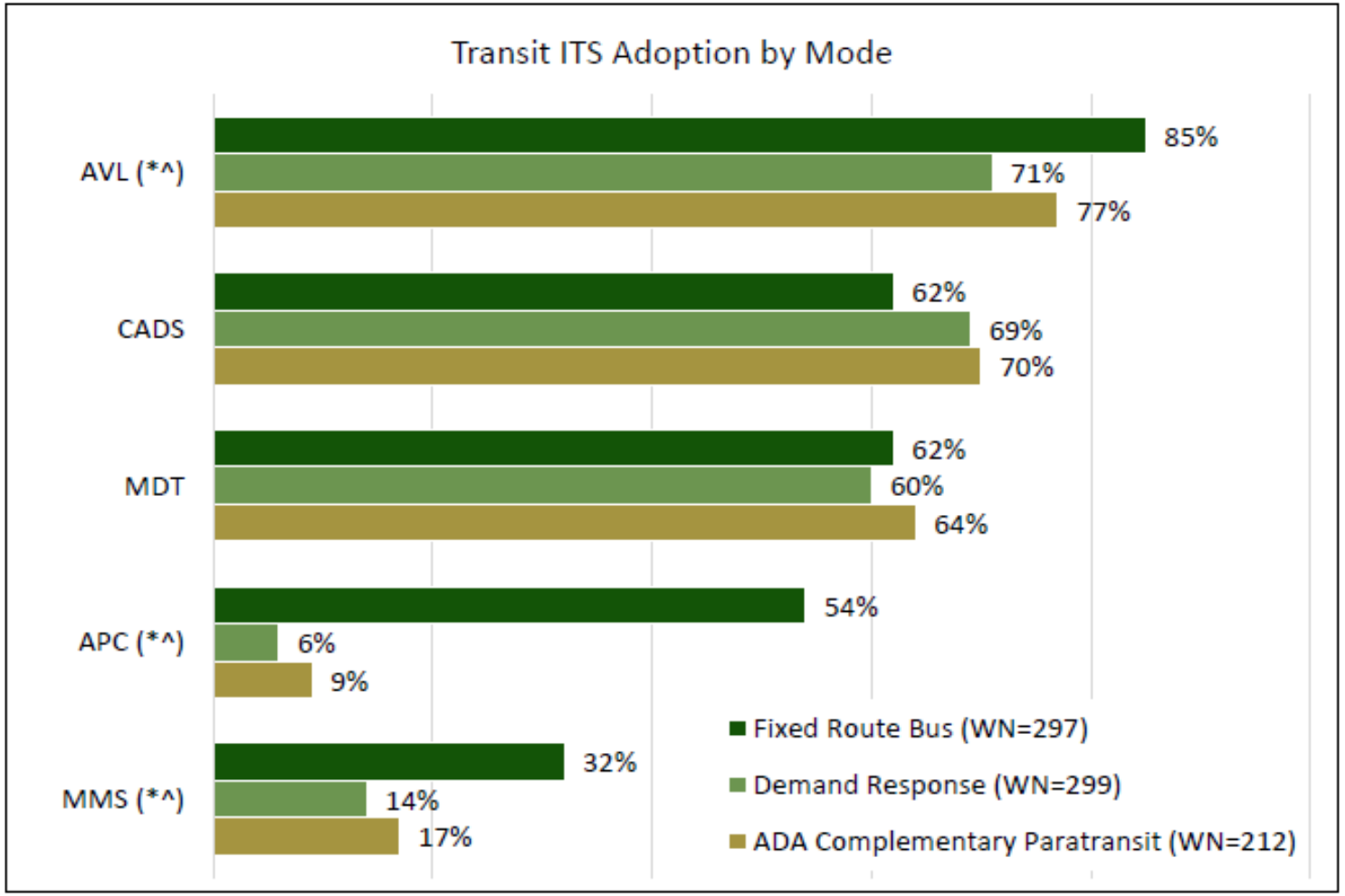


Figure 14. Transit ITS Adoption Across Modes

Transit Management Survey Key Findings



2023 Transit Survey Q3 *Source: USDOT*

**statistically significant difference between deployment on fixed route bus and demand response;*
^ statistically significant difference between deployment on fixed route bus and ADA complementary paratransit

Figure 15. Transit ITS Adoption by Mode

Transit Management Survey Key Findings

Table 7. Transit ITS Adoption: Significant Differences Between Area Types

Technology	Large Urban Area (WN=190; UWN=138)	Small Urban Areas (WN=109; UWN=156)	Rural Areas (WN=166; UWN=170)
AVL	85%	81%	76%
CADS	74%	67%	67%
MDT *	70%	60%	55%
APC *^†	60%	38%	10%
MMS *†	36%	20%	22%
TSP *†	25%	8%	2%

2023 Transit Survey Q3 *Source: USDOT*

** statistically significant difference between large urban and rural transit agencies;*
^ statistically significant difference between small urban and rural transit agencies;
† statistically significant difference between large urban and small urban transit agencies

Transit Management Survey Key Findings

Table 8. Transit Management Agencies: Comparison of ITS Deployment Between Area Types

Technology	Large Urban Area (WN=190; UWN=138)	Small Urban Areas (WN=109; UWN=156)	Rural Areas (WN=166; UWN=170)
One or more traveler information dissemination methods *^	84%	83%	66%
Open data feed *^†	59%	46%	21%
Trip planner *^†	51%	36%	15%
EFP *^	56%	46%	24%
Partner to deploy ICM *†	11%	4%	2%

2023 Transit Survey Q12, Q15, Q24, Q30, Q46 *Source: USDOT*

** statistically significant difference between large urban and rural transit agencies;*

^ statistically significant difference between small urban and rural transit agencies;

† statistically significant difference between large urban and small urban transit agencies

Transit Management Survey Key Findings

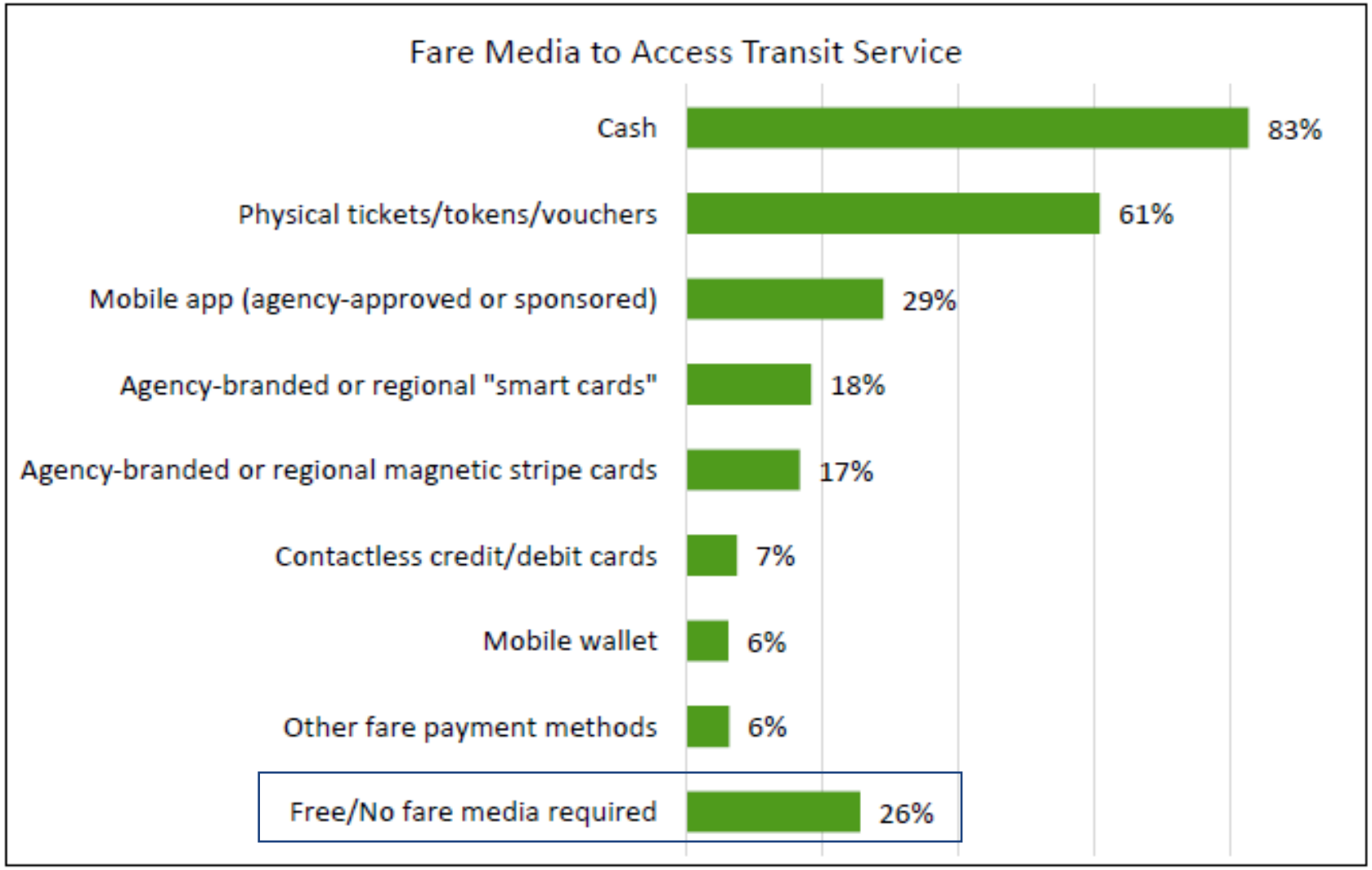


Figure 16. Fare Media to Access Transit Service

Transit Management Survey Key Findings

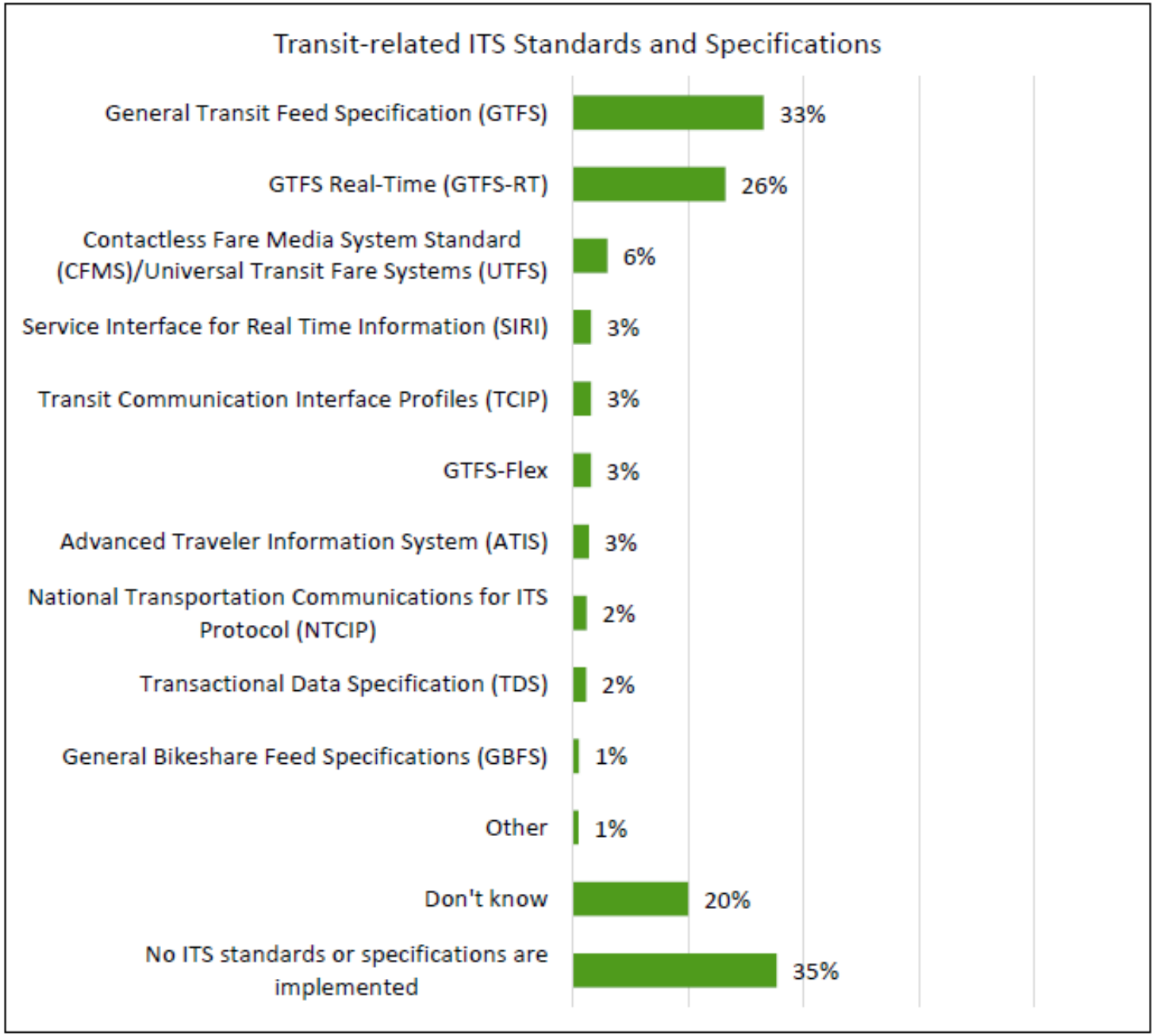
Table 9. Fare Media to Access Transit Service: Significant Differences Between Area Types

Fare Media	Large Urban Area (WN=190; UWN=138)	Small Urban Areas (WN=109; UWN=156)	Rural Areas (WN=166; UWN=170)
Mobile app (agency-approved or sponsored) *^	40%	30%	16%
Agency-branded or regional magnetic stripe cards *^	24%	21%	5%
Agency-branded or regional "smart cards" *^†	33%	12%	5%
Mobile wallet *	11%	5%	1%

2023 Transit Survey Q16 *Source: USDOT*

** statistically significant difference between large urban and rural transit agencies;*
^ statistically significant difference between small urban and rural transit agencies;
† statistically significant difference between large urban and small urban transit agencies

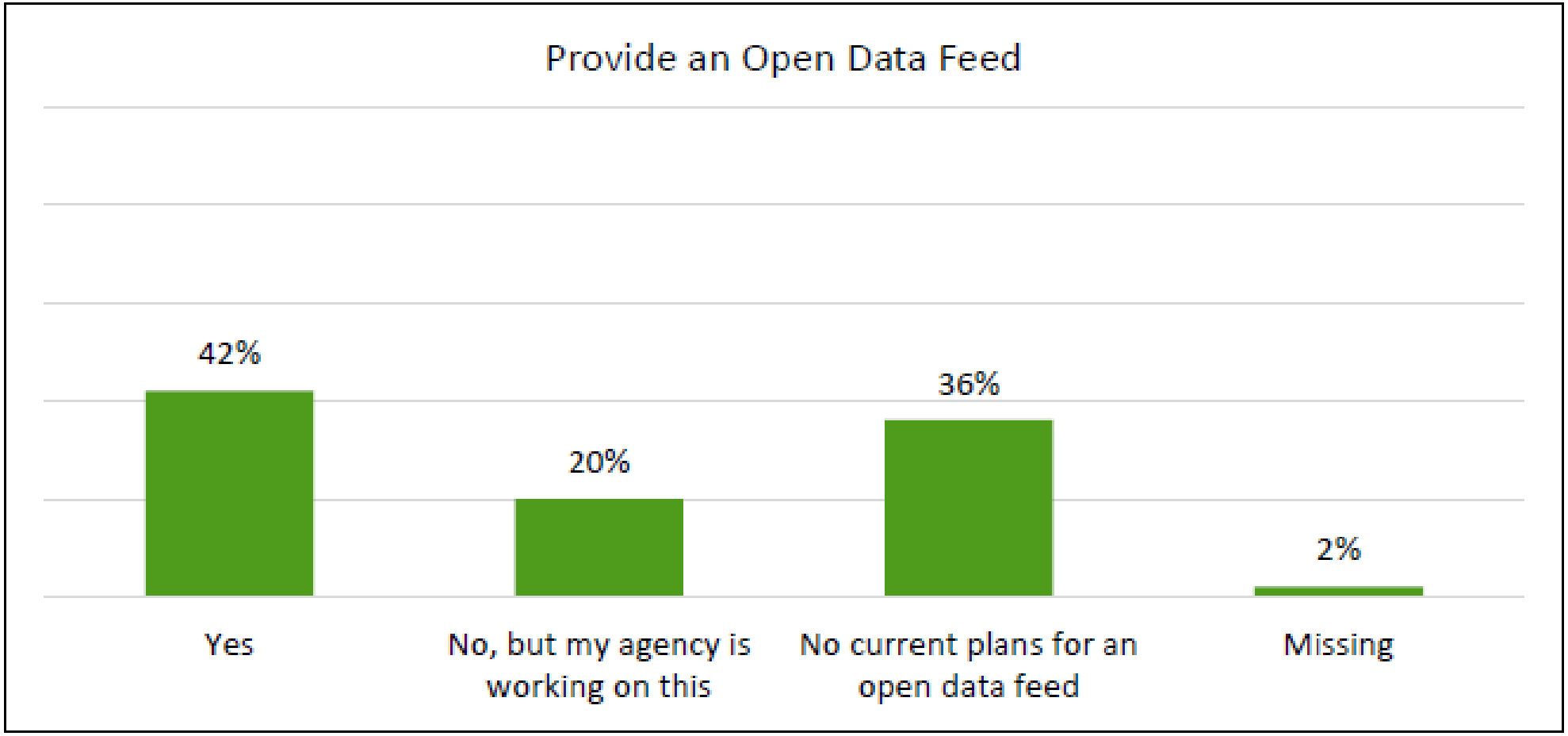
Tra ngs



2023 Transit Survey Q51; (n=464; 3% missing) *Source: USDOT*

Figure 17. Transit-related ITS Standards and Specifications

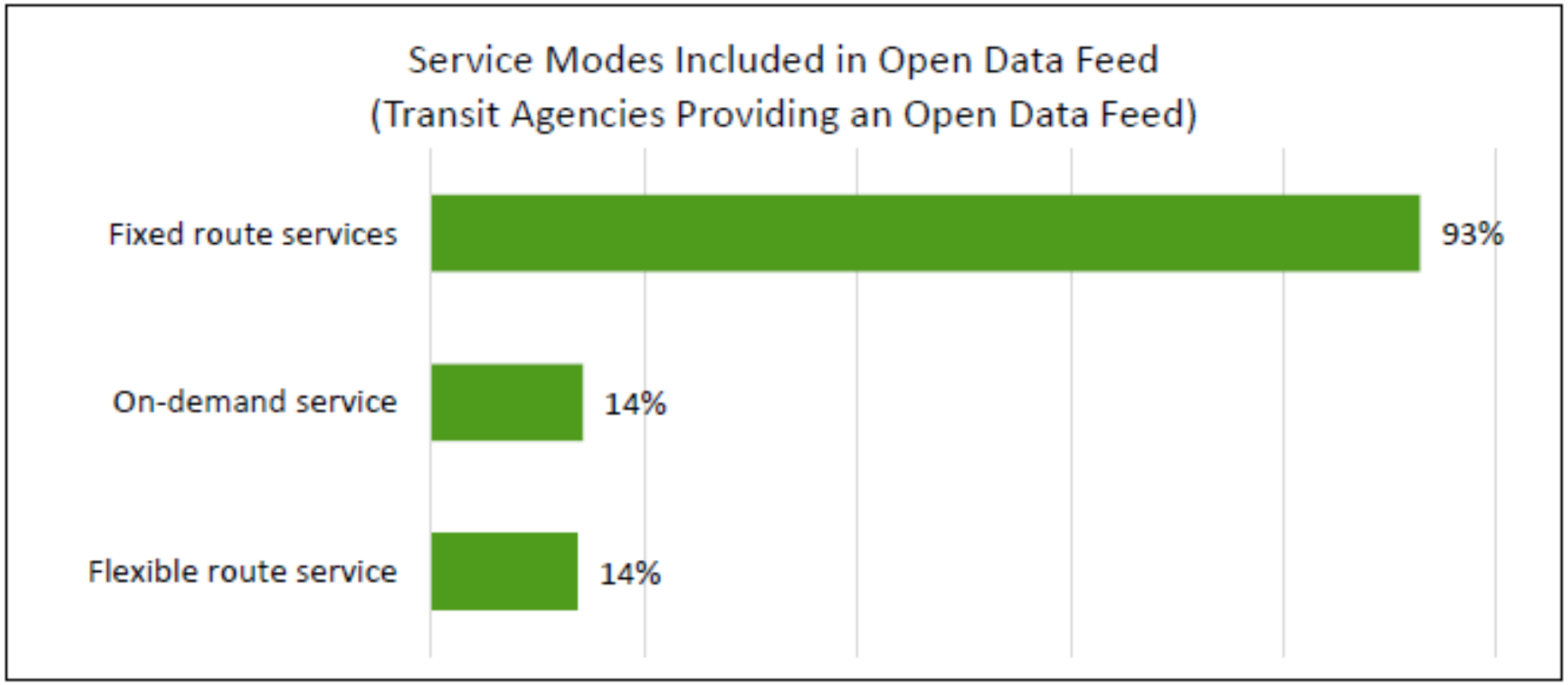
Transit Management Survey Key Findings



2023 Transit Survey Q9; (n=464) *Source: USDOT*

Figure 18. Provide an Open Data Feed

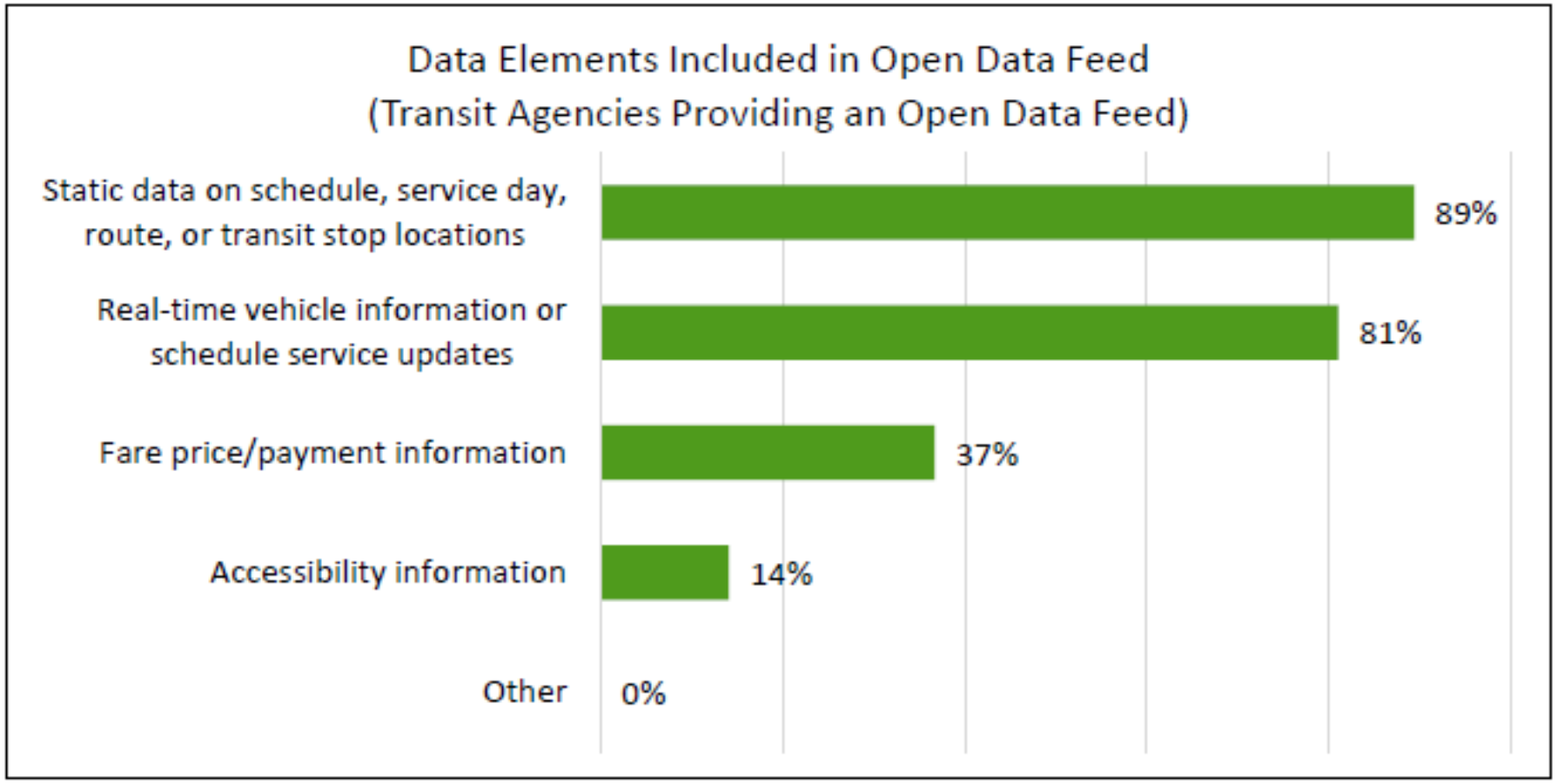
Transit Management Survey Key Findings



2023 Q10; (WN=196, UWN=191; 0% missing) *Source: USDOT*

Figure 19. Service Modes Included in Open Data Feed (Transit Agencies Providing an Open Data Feed)

Transit Management Survey Key Findings



2023 Q11; (WN=196, UWN=191; 1% missing) *Source: USDOT*

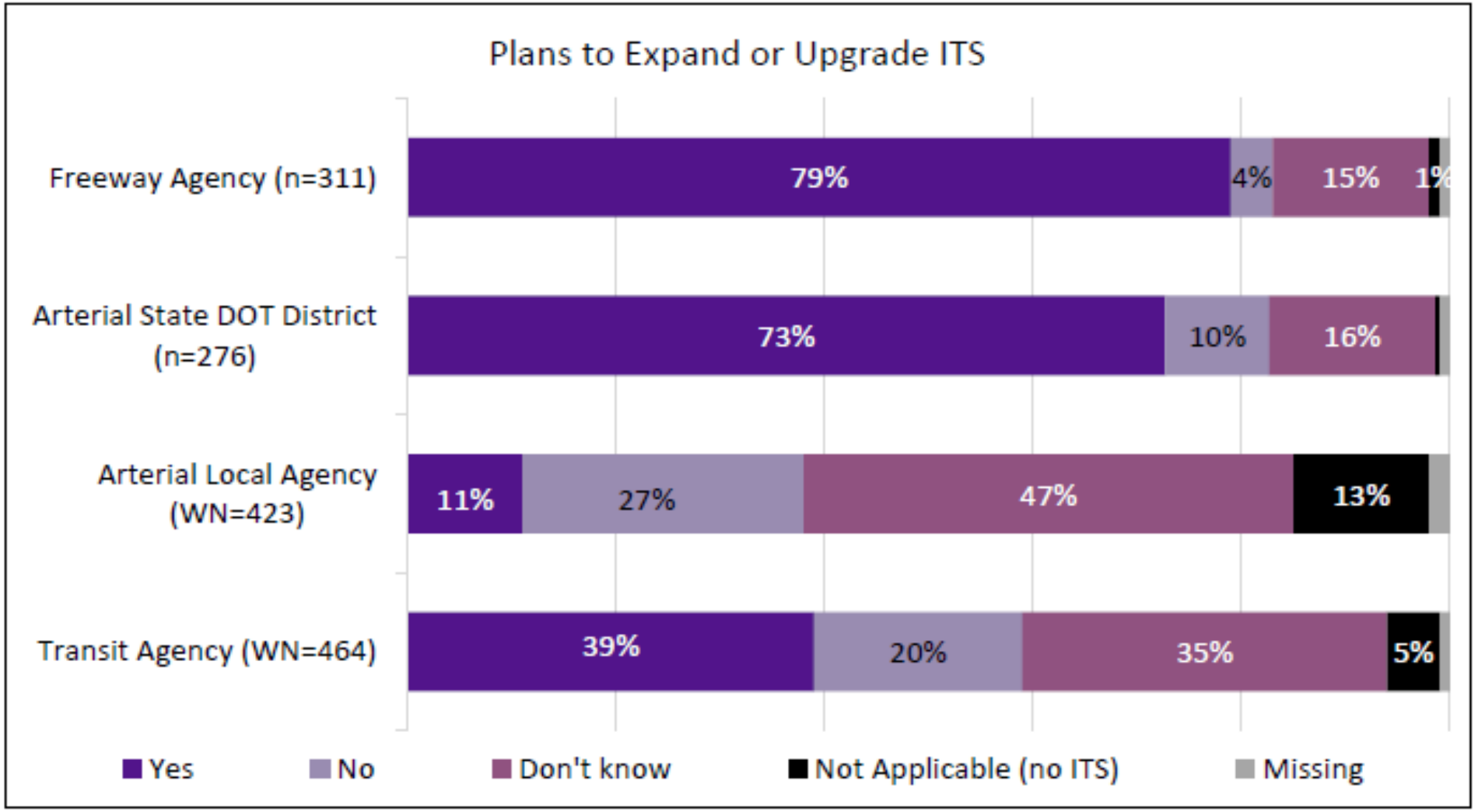
Figure 20. Data Elements Included in Open Data Feed (Transit Agencies Providing an Open Data Feed)

Table 10. Telecommunications Technologies

Response	Freeway Agency (n=311)	Arterial State DOT District (n=276)	Arterial Local Agency (n=423)	Transit Agency (n=464)
Wired technologies (deploy one or more)	82%	74%	19%	43%
Fiber optic cable	79%	70%	17%	31%
Twisted copper pair/Twisted wired pair	32%	25%	6%	8%
Coaxial	21%	15%	3%	11%
Data cable over modem	16%	23%	2%	11%
Digital subscriber line	16%	16%	1%	5%
Wireless (deploy one or more)	82%	78%	14%	64%
Cellular (LTE-4G)	75%	72%	9%	47%
Microwave	33%	27%	1%	2%
5G New Radio and small cell infrastructure	30%	21%	5%	24%
Wi-Fi	16%	12%	4%	37%
Dedicated short range communications	11%	11%	2%	4%
LTE-Cellular V2X	10%	16%	1%	3%
Cellular (GPRS 2G or 3G)	8%	9%	1%	2%
Mobile or Fixed service satellite	2%	1%	1%	3%
Ultra-wideband	2%	4%	1%	2%
Don't know	10%	12%	41%	24%
No telecommunications used to enable ITS	0%	1%	20%	5%
Not applicable, no ITS deployed	1%	3%	17%	3%

2023 Freeway Survey Q35; Arterial Survey Q42; Transit Survey Q36 *Source: USDOT*

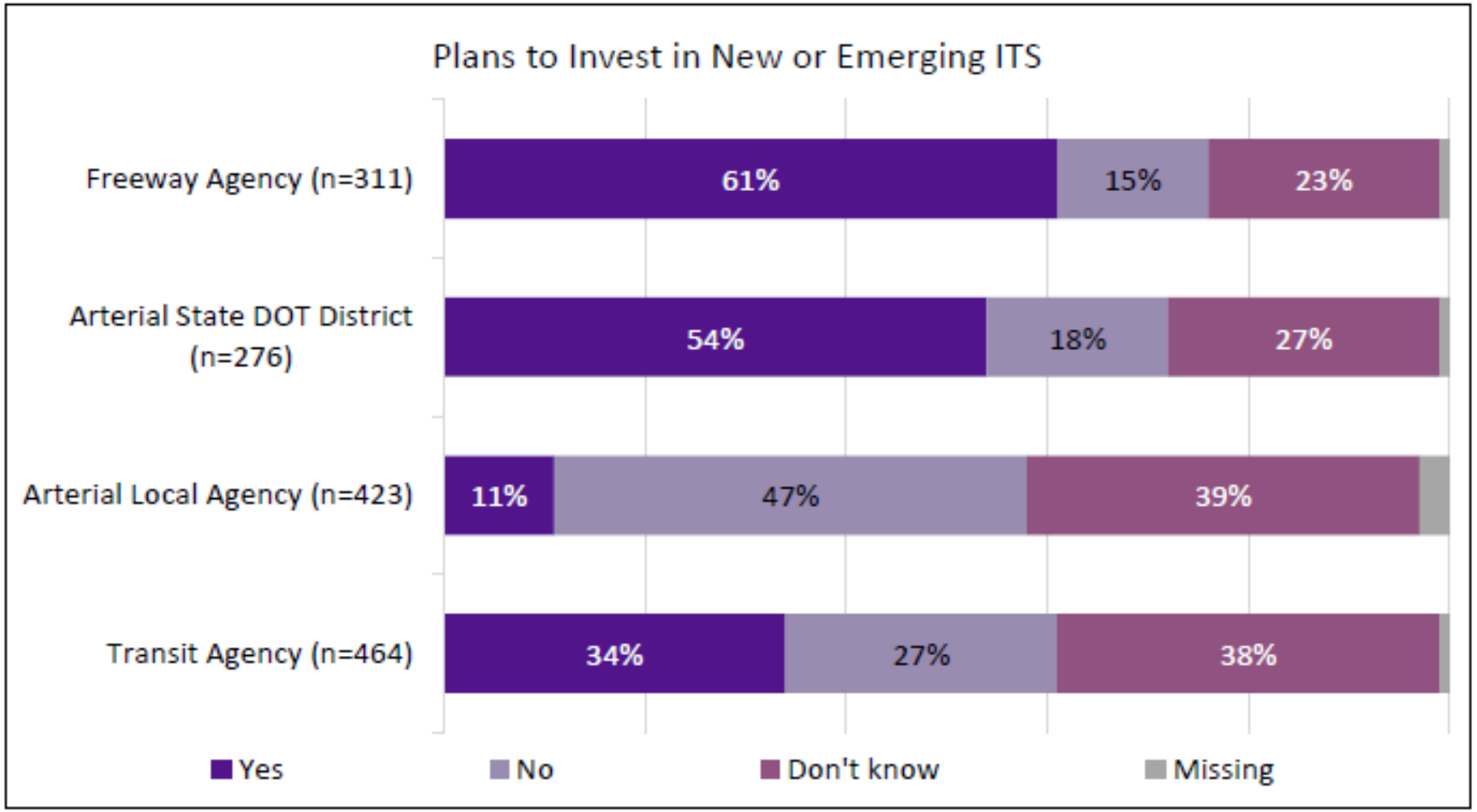
Freeway/Arterial/Transit Key Findings



2023 Freeway Survey Q54; Arterial Survey Q60; Transit Survey Q52 *Source: USDOT*

Figure 23. Plans to Expand or Upgrade ITS

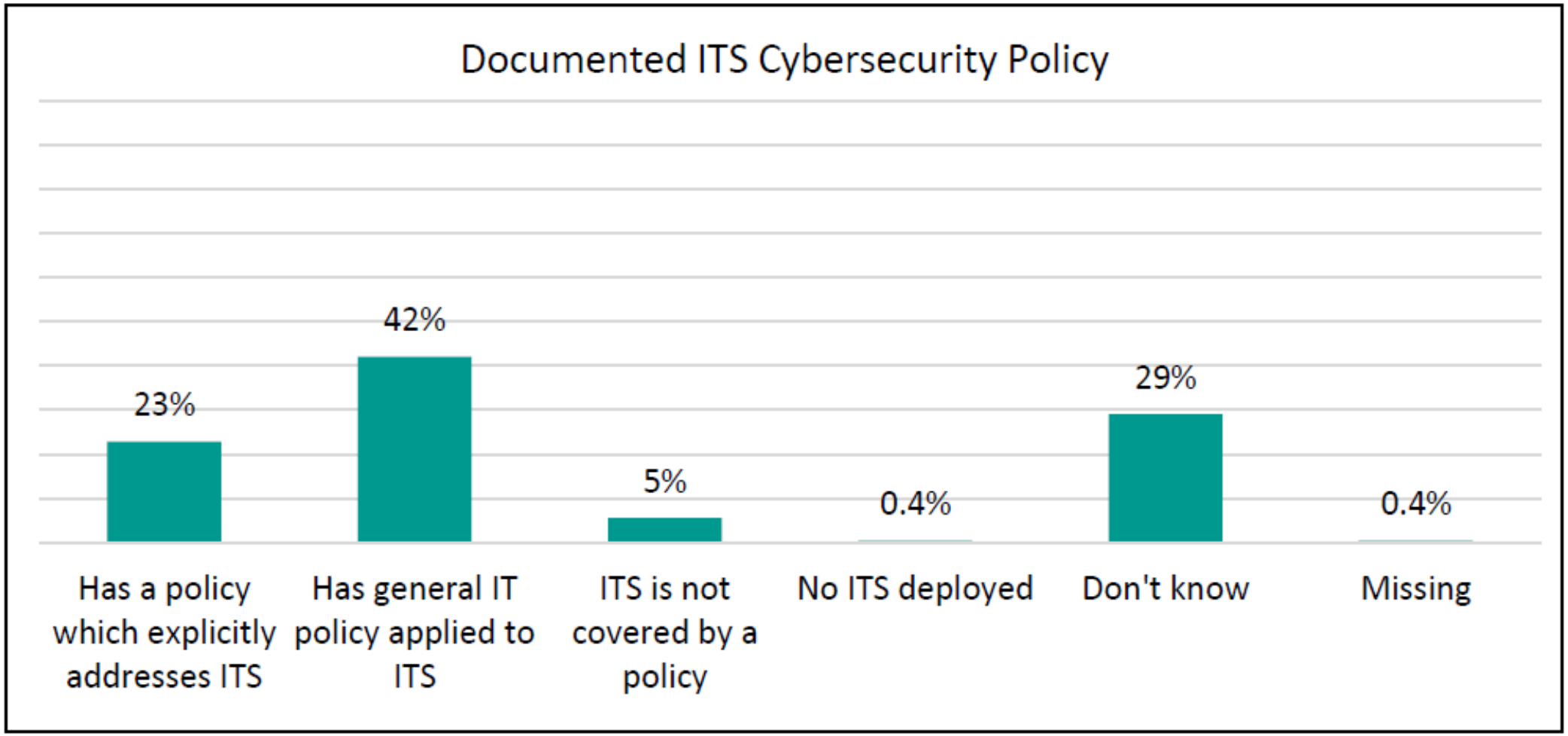
Freeway/Arterial/Transit Key Findings



2023 Freeway Survey Q55; Arterial Survey Q61; Transit Survey Q53 *Source: USDOT*

Figure 24. Plans to Invest in New or Emerging ITS

State DOT Managing Arterials
Cybersecurity Policy

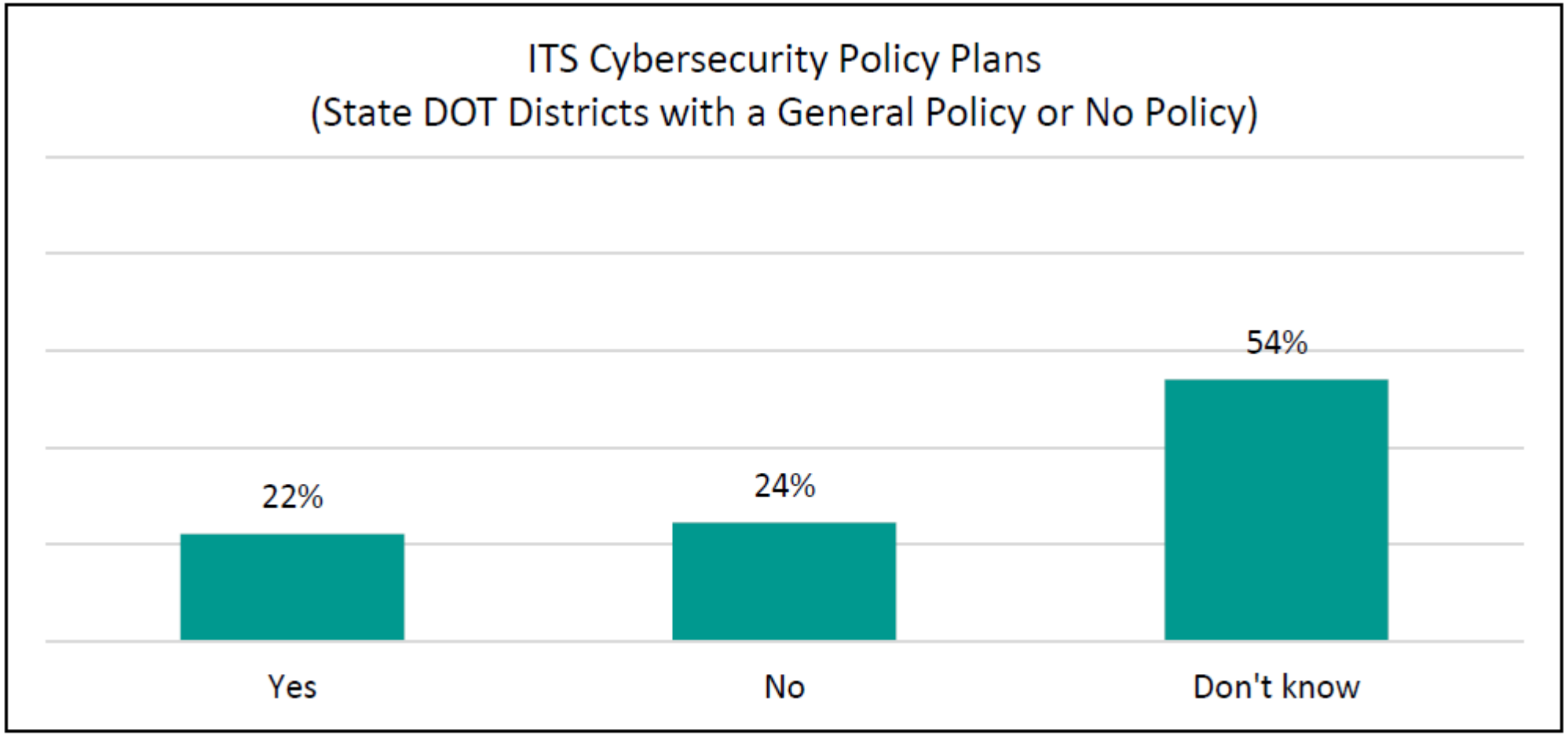


2023 Q48; (n=276)

Source: USDOT

Figure 37. Documented ITS Cybersecurity Policy

State DOT Managing Arterials
Cybersecurity Policy

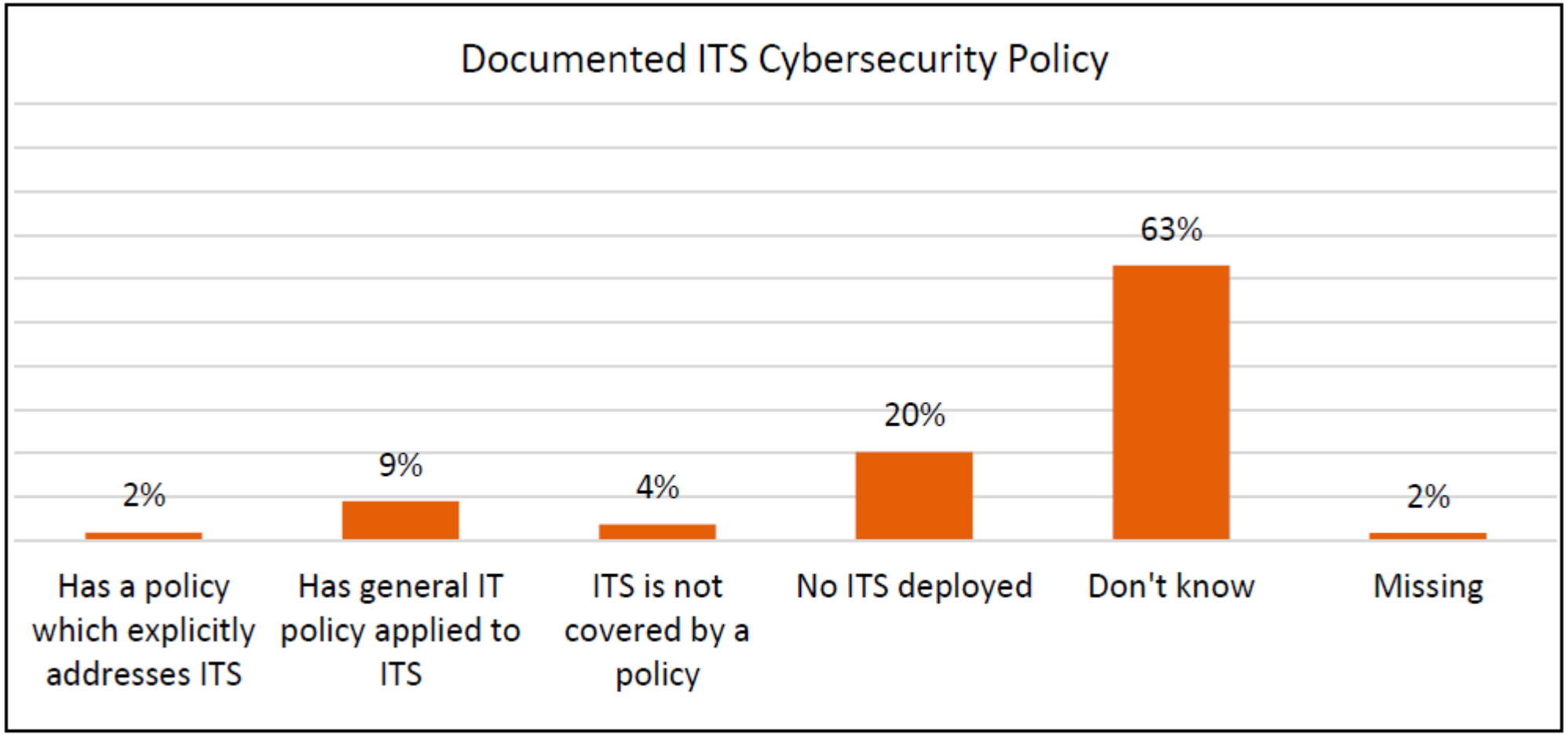


2023 Q49; (n=131; 0% missing)

Source: USDOT

Figure 38. ITS Cybersecurity Policy Plans (State DOT Districts with a General Policy or No Policy)

State DOT Managing Arterials
Cybersecurity Policy

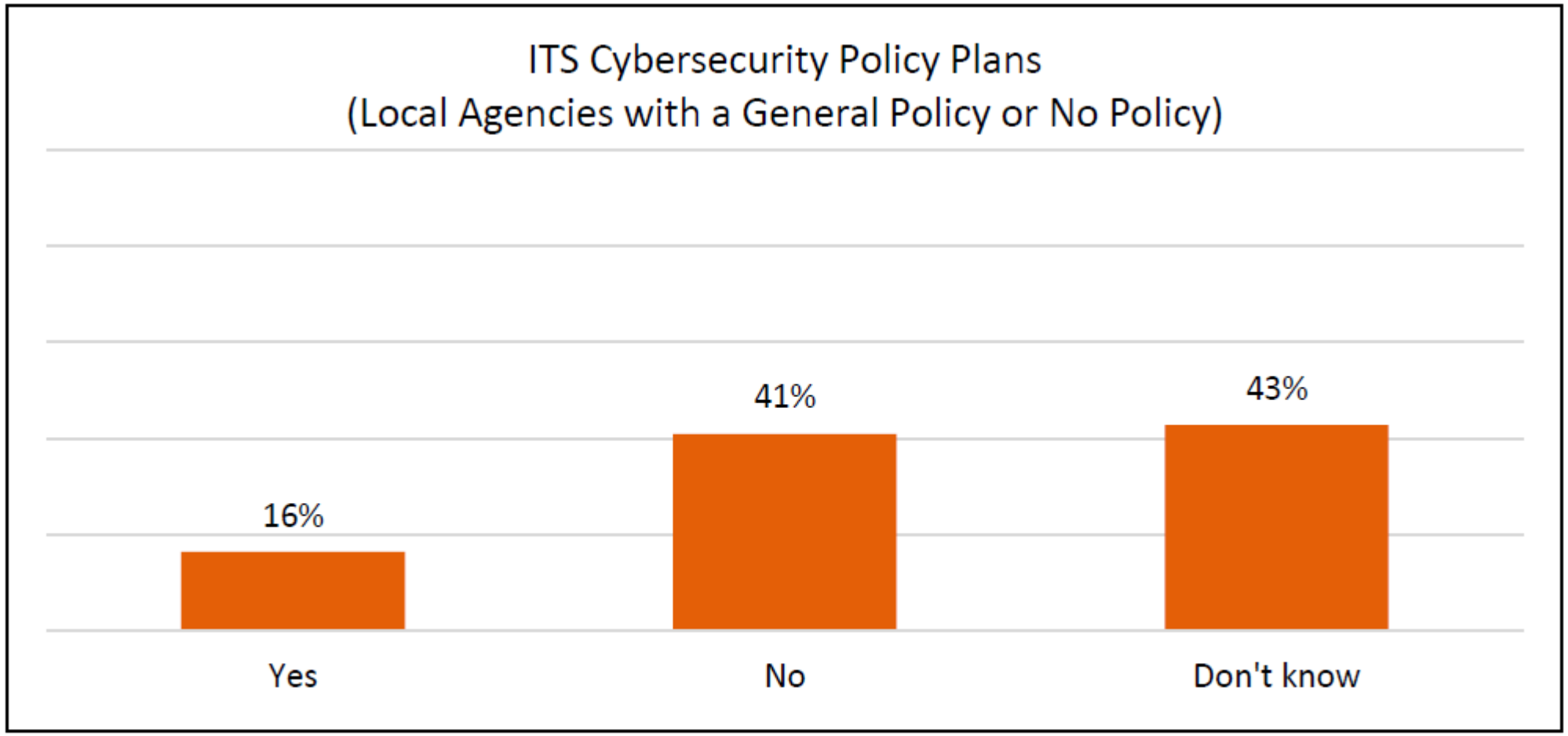


2023 Q48; (n=423)

Source: USDOT

Figure 70. Documented ITS Cybersecurity Policy

State DOT Managing Arterials
Cybersecurity Policy

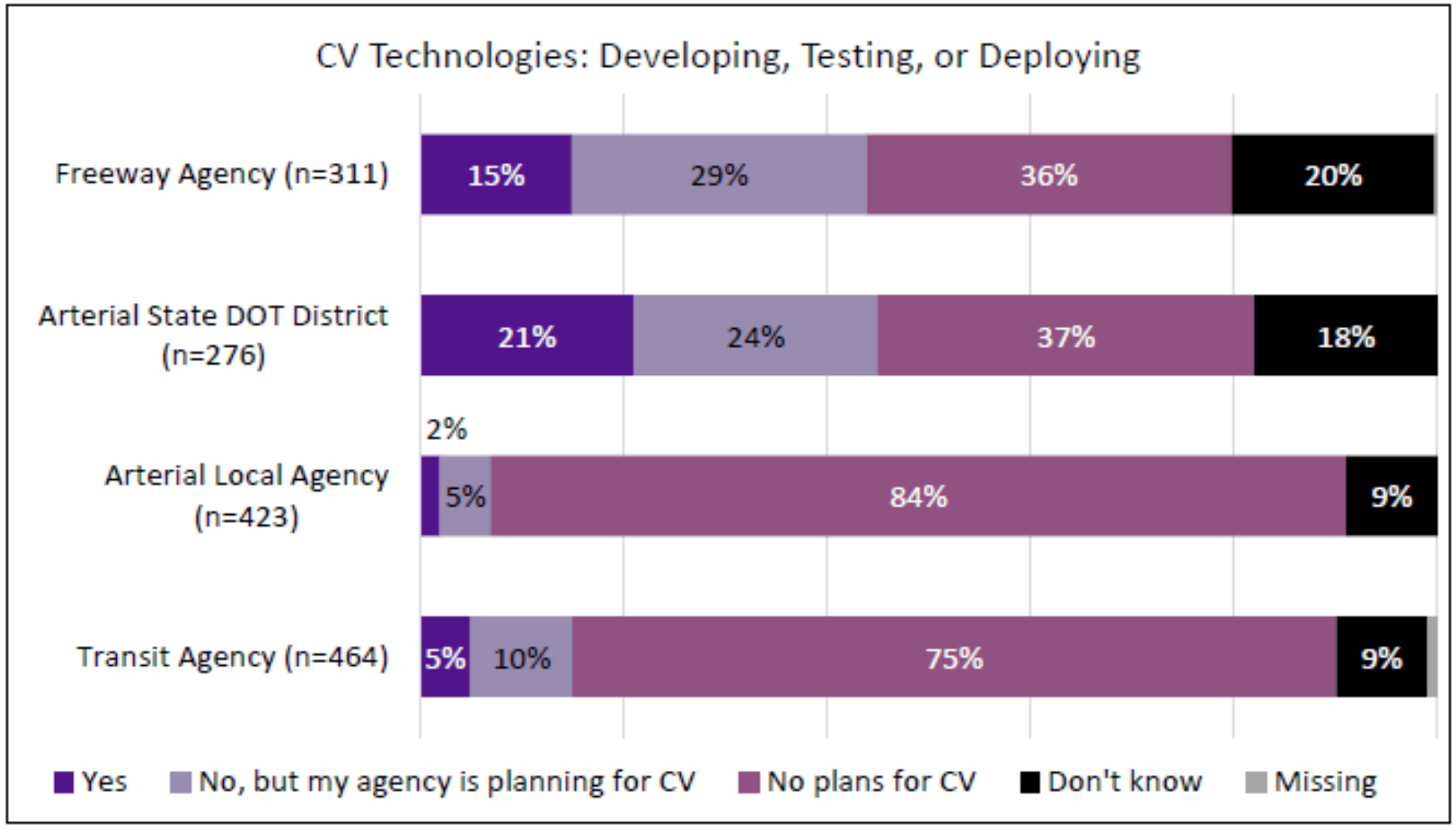


2023 Q49; (WN=54, UN=79; 0% missing)

Source: USDOT

Figure 71. ITS Cybersecurity Policy Plans (Local Agencies with a General Policy or No Policy)

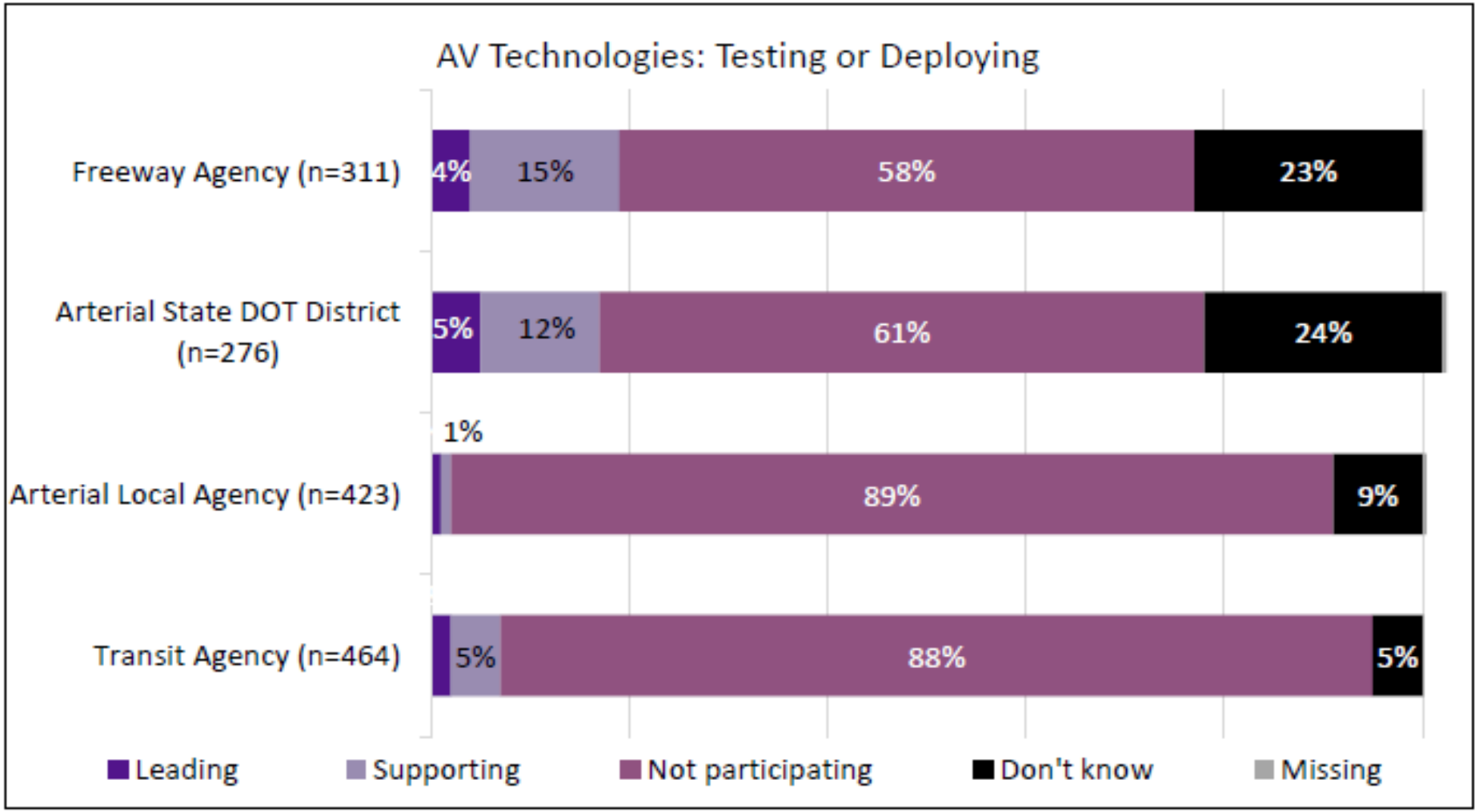
Freeway/Arterial/Transit Key Findings



2023 Freeway Survey Q21; Arterial Survey Q28; Transit Survey Q24 *Source: USDOT*

Figure 21. CV Technologies: Developing, Testing, or Deploying

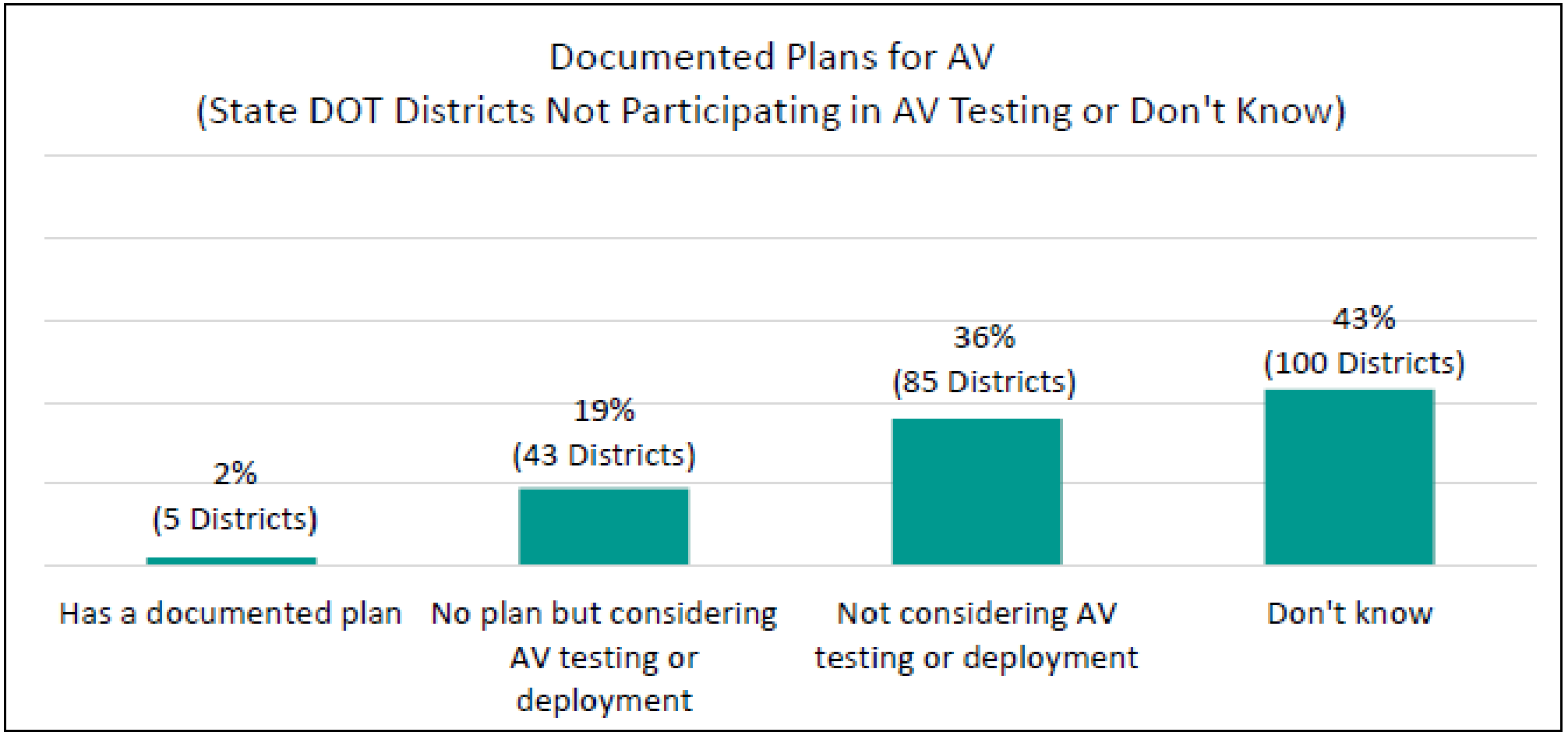
Freeway/Arterial/Transit Key Findings



2023 Freeway Survey Q29; Arterial Survey Q36; Transit Survey Q30 *Source: USDOT*

Figure 22. AV Technologies: AV Testing or Deploying[21]

Freeway/Arterial/Transit Key Findings

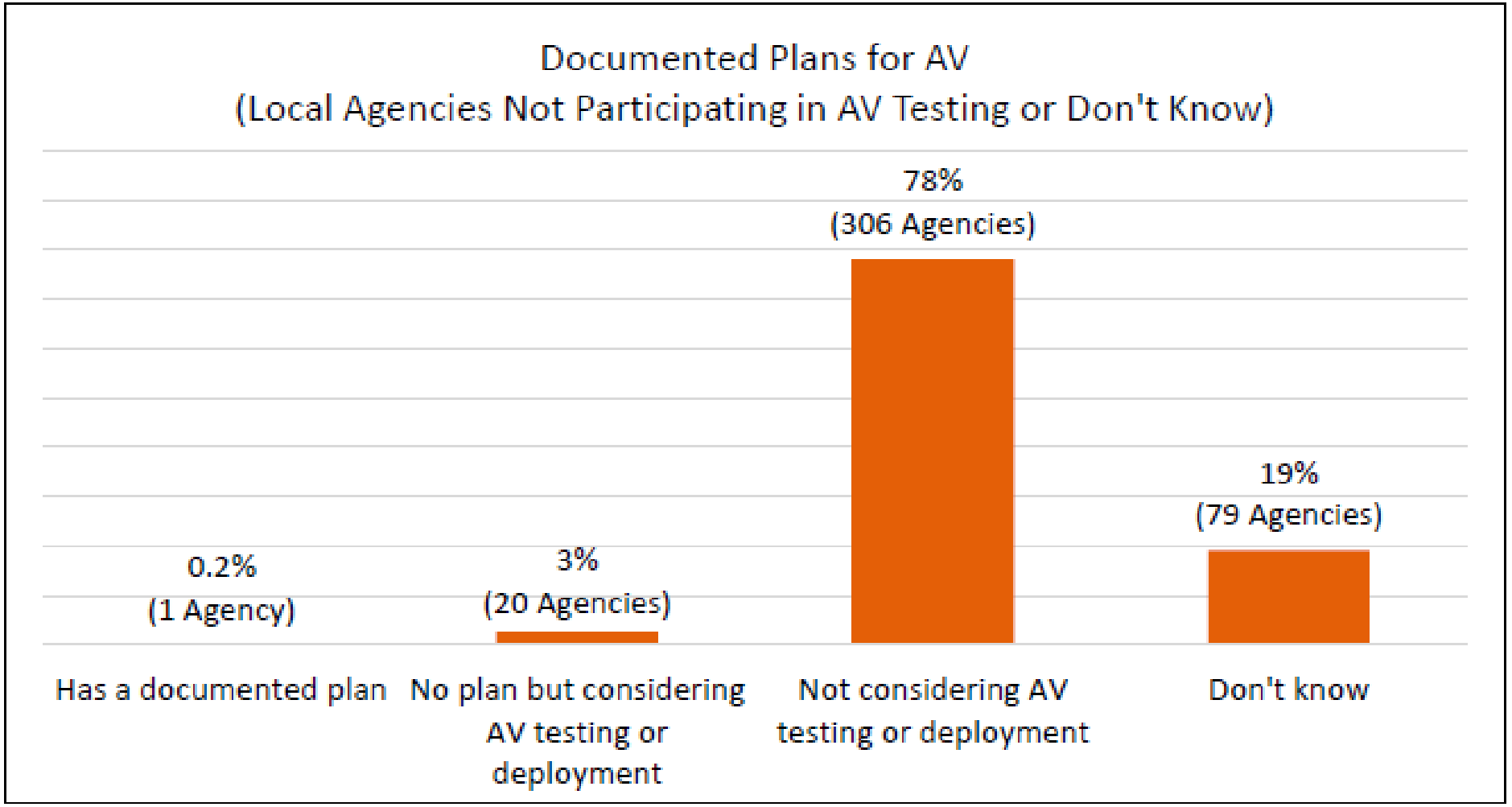


2023 Q37; (n=234; 0.4% missing)

Source: USDOT

Figure 26. Documented Plans for AV (State DOT Districts Not Participating in AV Testing or Don't Know)

Freeway/Arterial/Transit Key Findings



2023 Q37; (WN=416, UWN=406; 0% missing)

Source: USDOT

Figure 60. Documented Plans for AV (Local Agencies Not Participating in AV Testing/Don't Know)

Key Takeaways

- Several ITS technologies have reached maturity
  - Freeway Management
    - DMS, CCTV, Radar/Microwave Detection, RWIS/ESS
  - Arterial Management
    - Inductive loops, Video detection, EVP
  - Transit Management
    - AVL, CADS, MDT
- Freeway and Arterial agencies use external data from variety of sources
- Different deployment rates of telecom technologies suggest varying levels of readiness for ITS deployment
- CAV technologies are in the early stages of deployment

FDOT TSM&O

Transportation Systems Management & Operations

Questions?

FDOT D5 Railroad Crossing Safety Improvements and Monitoring Systems (RCSIMS) Project

FY 23/24 USDOT/FRA CRISI Grant Recipient

Presented By:

Ms. Bjorg Olafs, PE

Senior Project Engineer with HNTB Corporation

TSM&O Consortium

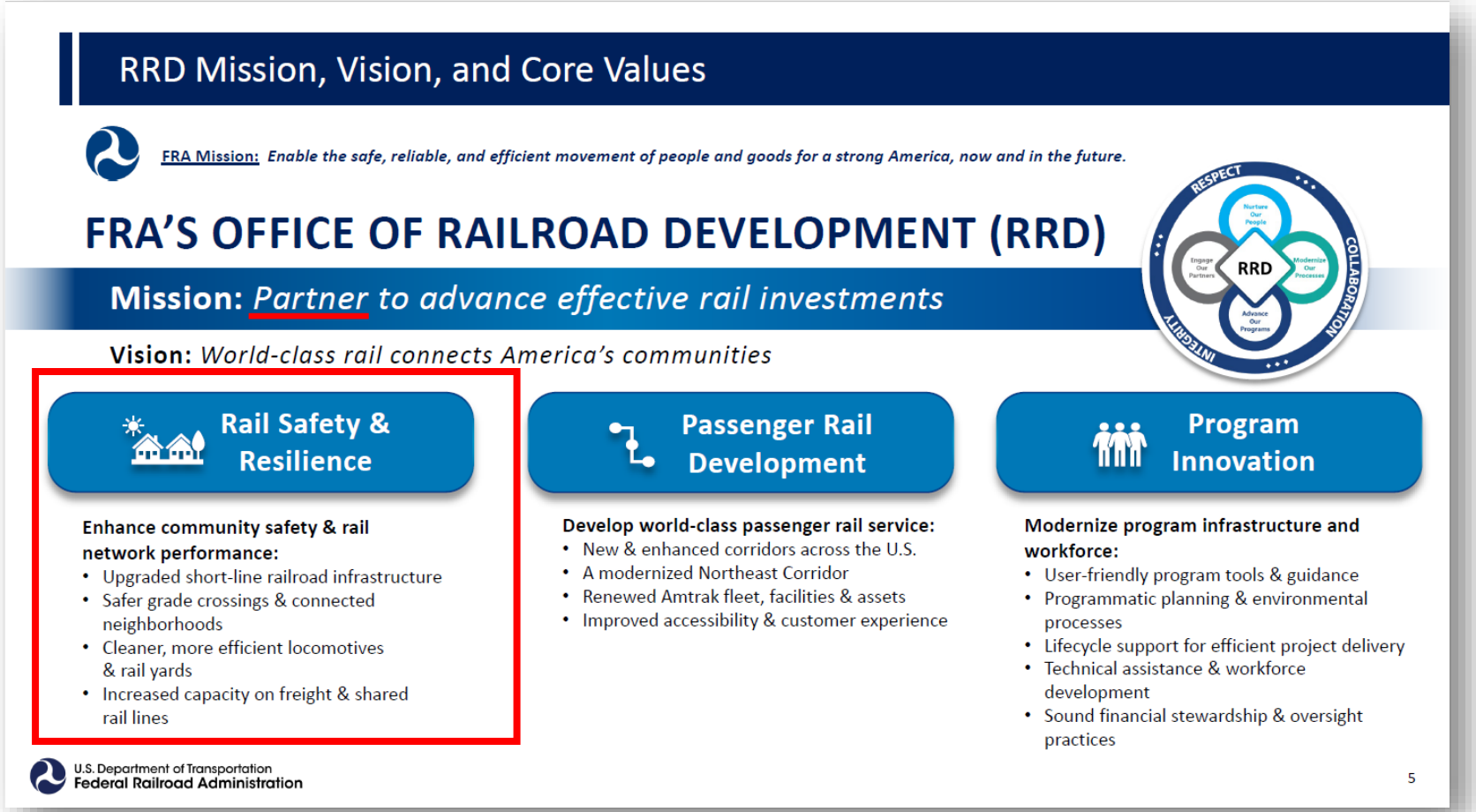
December 12th, 2024

Today's Outline

1. CRISI Grant
   - Background
   - Selections
2. RCSIMS Project
   - Scope & Locations
   - Objectives & Benefits
   - Funding & Timeline

CRISI Grant
FRA

USDOT Federal Railroad Administration (FRA)



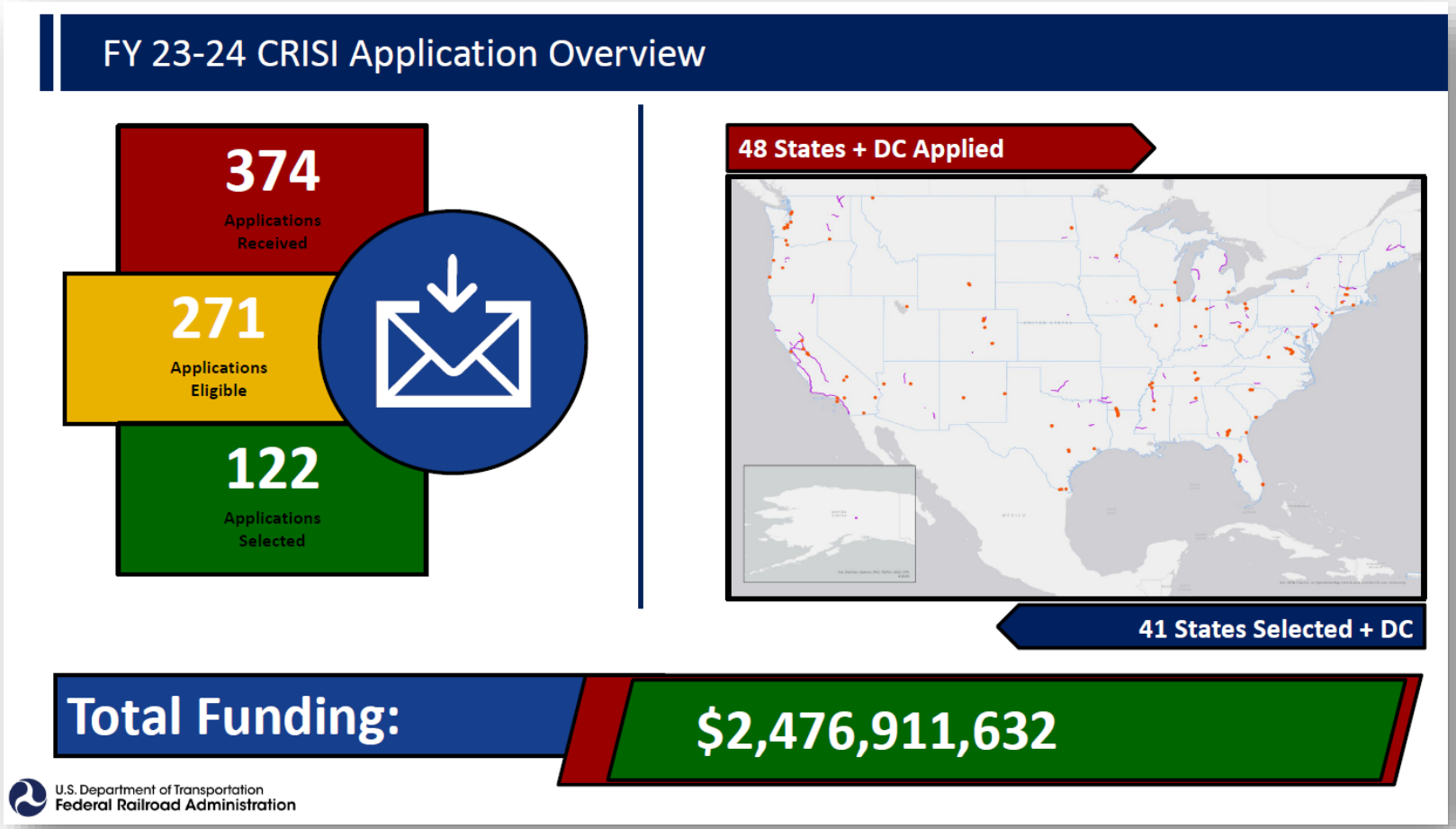
CRISI Grant Funding

Consolidated Rail Infrastructure and Safety Improvements (CRISI) Grant

- Federal Discretionary Grant Program via USDOT/FRA
- Total Funding Available (FY23-24) $2,478,391,050
- Our Application
  - Track 3: Final Design and Construction
  - Project Eligibility Criteria: Highway-rail grade crossing improvement projects
  - Recipient Criteria: State
  - 54% FRA Match / 46% FDOT State Funding
  - Grant Amount: $3.156M
  - Total Estimated Project Cost: $5.819M

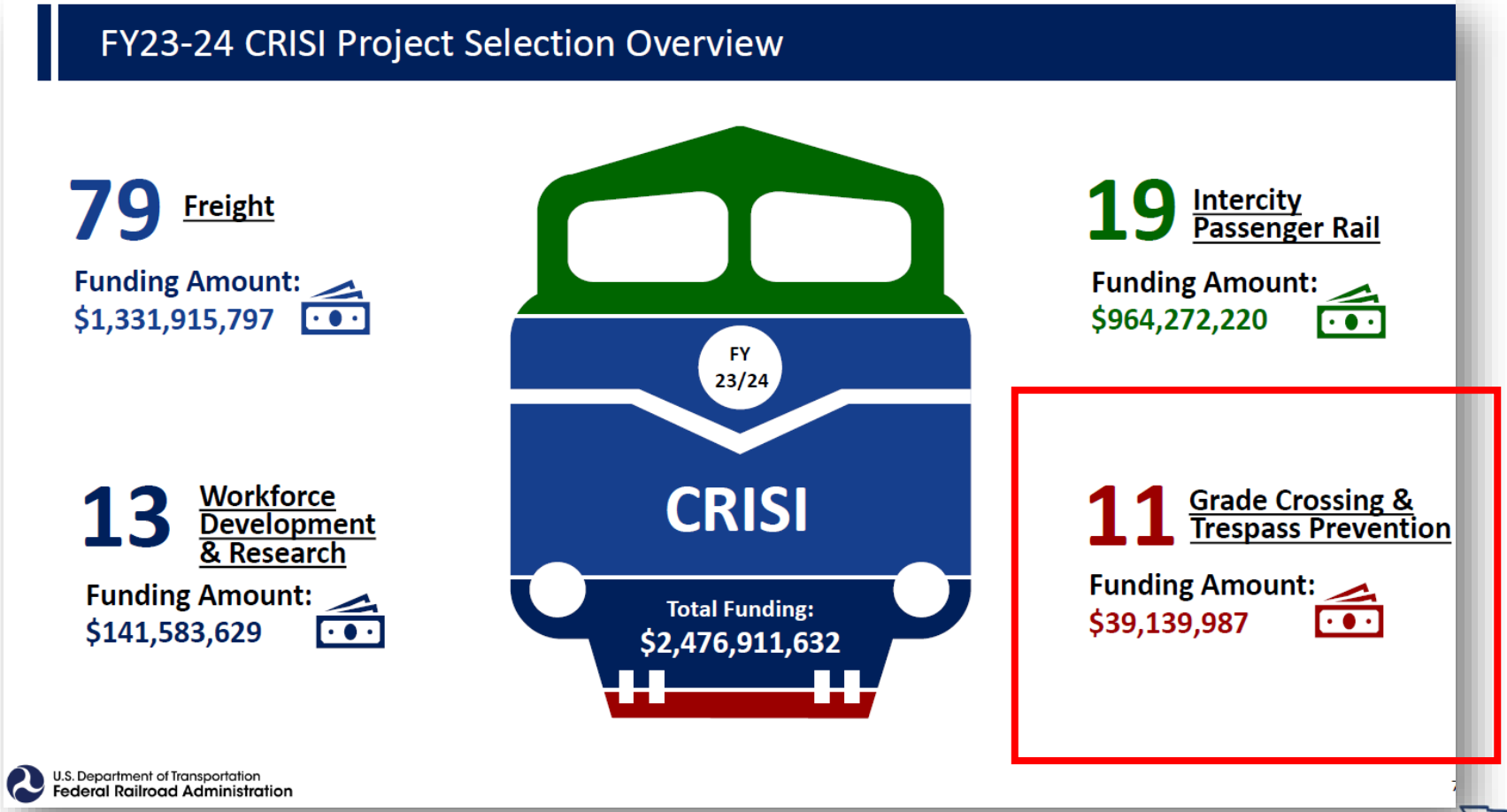
Consolidated Rail Infrastructure and Safety Improvements (CRISI) Grant

CRISI Grant Selections



Consolidated Rail Infrastructure and Safety Improvements (CRISI) Grant

CRISI Grant Selections

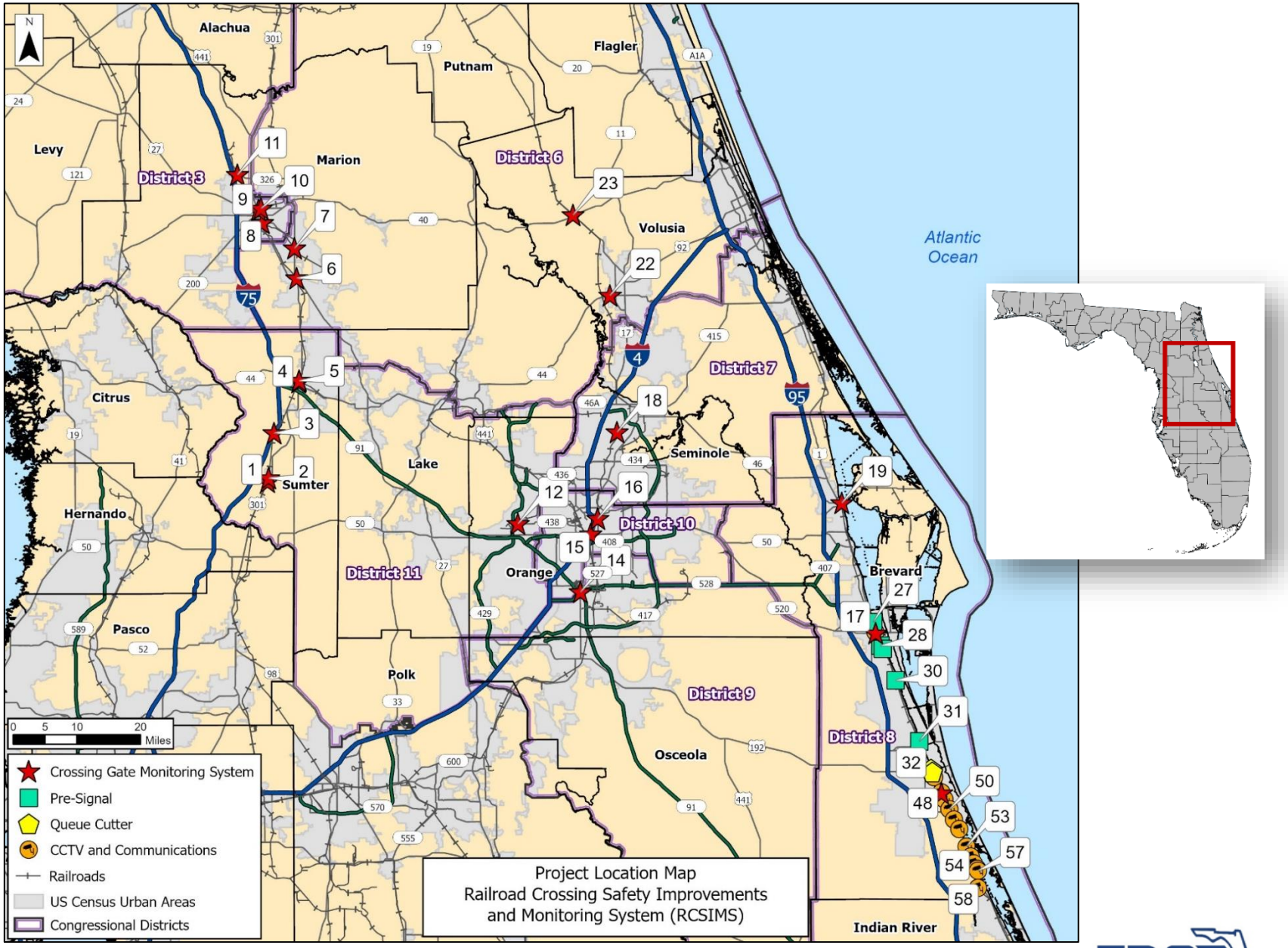


RCSIMS
Scope

Railroad Crossing Safety Improvements and Monitor Systems (RCSIMS) Project

- Improvements at 43 Highway At-Grade Crossing Locations
  - 5 Pre-Signals*
  - 2 Queue-Cutter Signals*
  - 21 RR Gate Health Monitoring Systems
  - 15 CCTV Monitoring Systems*
- *Pre-Signals, Queue-Cutters, and CCTV monitoring systems are all in Brevard County on FEC's line that is used by Brightline, a high-speed passenger rail.
- RR Gate Health Monitoring Systems are proposed at critical arterial locations close to interstate ramps.

RCSIMS
Locations

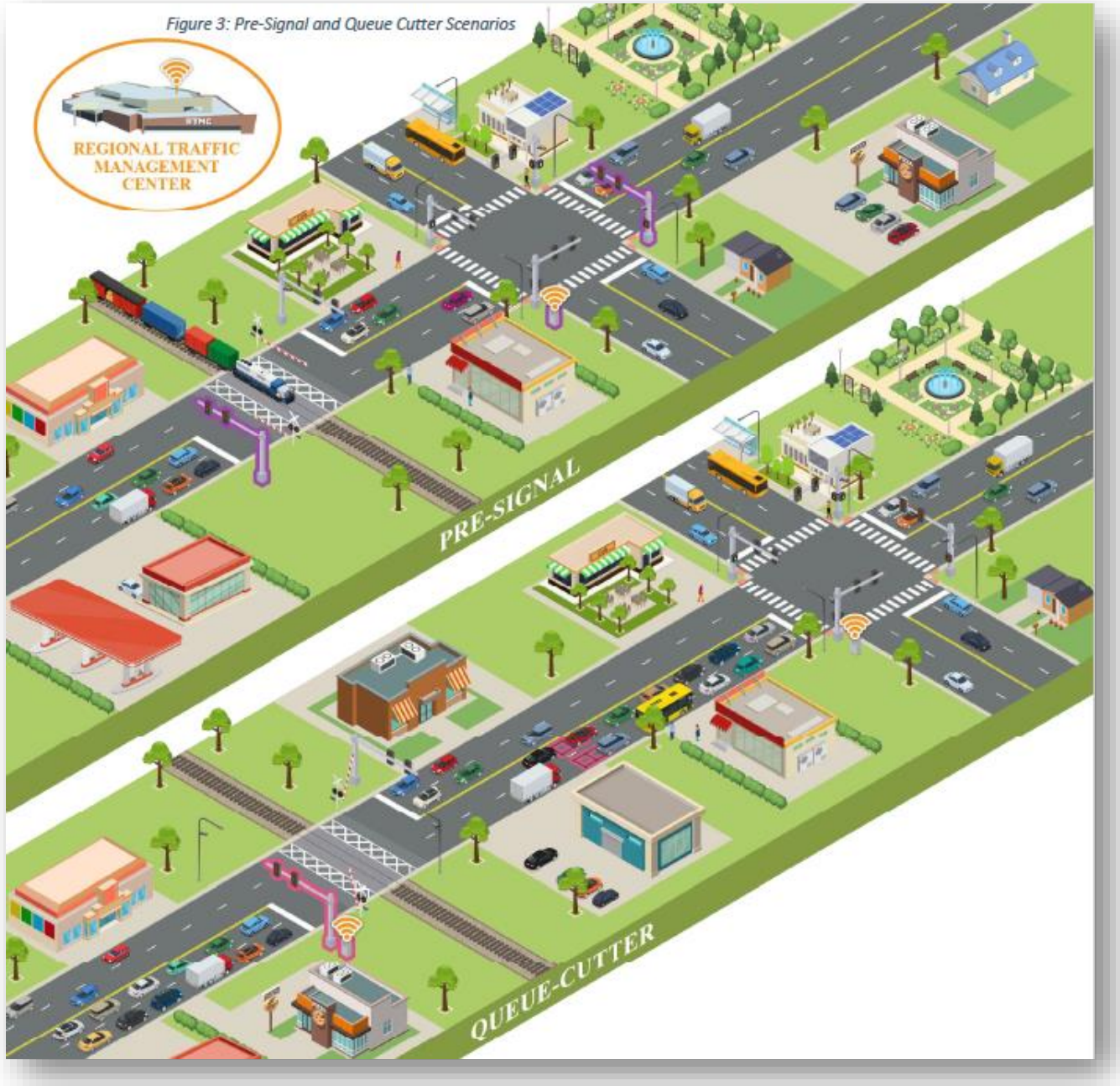


RCSIMS
Stakeholders

Stakeholders

FDOT will perform all tasks required for the project through a coordinated process, which will involve the affected tenant railroads, contract operators, the local jurisdictions, and federal funding partner including, but not limited to: Federal Railroad Administration (FRA), CSX Transportation, Florida East Coast Railroad (FEC), Florida Central Railroad (FCEN), Central Florida Rail Corridor (CFRC/Sunrail), City of Ocala, City of Titusville, City of Orlando, City of Winter Park, City of Daytona Beach, City of Palm Coast, Marion County, Sumter County, Volusia County, Seminole County, and Orange County.

RCSIMS
Scope



RCSIMS
Scope

RCSIMS
Objectives

The objectives of this project are to **enhance safety and operations** at highway at-grade crossings; to **mitigate entrapment** of highway vehicles on railroad tracks; to **reduce the time** it takes to identify faulty gates; to **provide remote surveillance** capabilities; and to **effectively re-route** the motoring public when crossings are closed for long periods due to maintenance activities.

RCSIMS Benefits

- The project benefits include:
  - Reduced loss of life and disabling injuries,
  - Reduced operational delays and enhance safety due to train/vehicle collisions or near-misses with vehicle entrapment on the tracks,
  - Reduced maintenance of way (MOW) response and repair costs from incidents,
  - Enhance movement of motoring public by rerouting traffic during long crossing closures, and
  - Enhance timely notification to railroad maintaining agency of faulty gate closures.

Funding

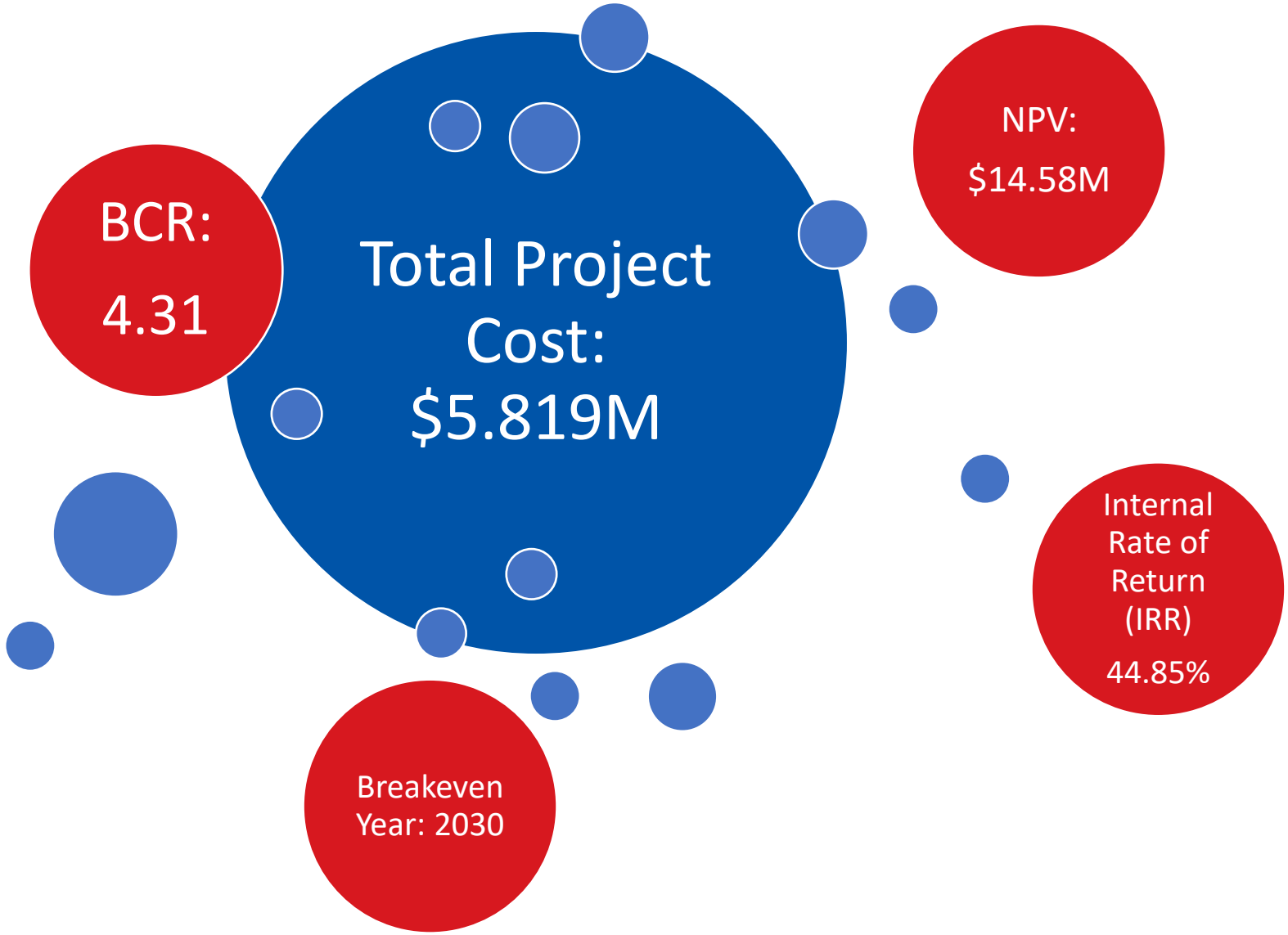
Table 2: Project Budget by Construction Activity

Project Component	Qty	Cost per site	Total Cost**	Percent of Total Cost
Pre-signals	5	$225,000	$1,125,000	19.33%
Queue Cutters	2	$179,000	$358,000	6.15%
CCTV (Traffic Signal Mounted)	5	$13,000	$65,000	1.12%
CCTV (Standalone Mounted)	10	$46,000	$460,000	7.91%
Monitoring Systems (avg. costs)	21	$76,000	$1,596,000	27.43%
Construction Subtotal			**$3,604,000**	**59.51%**
Maintenance of Traffic (10%)			$361,000	6.20%
Mobilization (10%)			$361,000	6.20%
Contingencies (10%)			$361,000	6.20%
CEI (15%)			$541,000	9.30%
Total Deployment Cost			**$5,228,000**	**89.84%**
Design Fee (Preliminary Design, Final Design) *			$528,000	8.72%
Software Development			$100,000	1.72%
Total Project Cost:			**$5,819,000**	**100%**

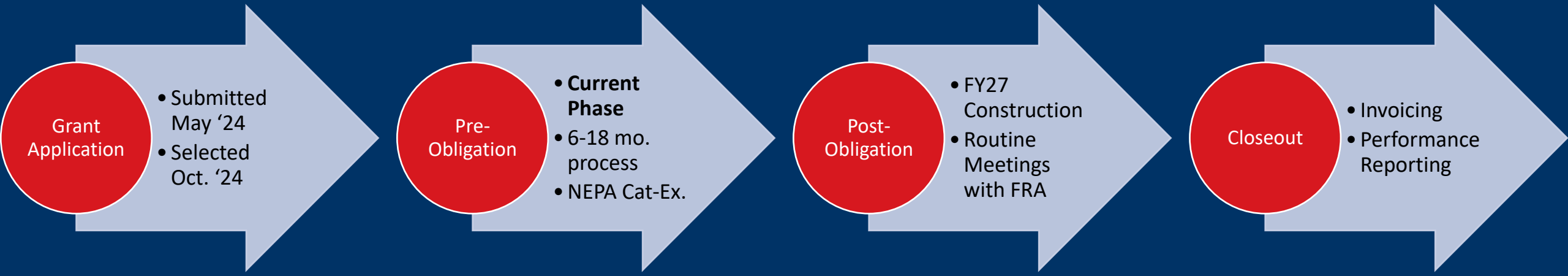
*See Table 1 for breakdown of design activities.

**All costs and subtotals represent current estimates, rounded to the nearest $1,000.

Investment Value



Timeframe


Grant Application
• Submitted May ‘24
• Selected Oct. ‘24
Pre-Obligation
• **Current Phase**
• 6-18 mo. process
• NEPA Cat-Ex.
Post-Obligation
• FY27 Construction
• Routine Meetings with FRA
Closeout
• Invoicing
• Performance Reporting

Contact Information:
Bjorg Olafs, PE
Bjorg.Olafs@dot.state.fl.us
Bolafs@hntb.com
386-943-5316

Thank you!

TSM&O Capability Maturity Model Self-Assessment

David Williams, VHB

Capability Maturity Model

- "The Capability Maturity Model (CMM) is a management tool designed to guide improvement in the effectiveness of TSM&O as a program on a continuous, evolutionary basis."
  - It combines key features of quality management, organizational development, and business process concepts; longstanding tools in transportation agencies

- Intended to guide continual improvement from level to level in six different dimensions of capability

Business Processes
Systems & Technology
Performance Measurement
Culture
Organization & Workforce
Collaboration

Business Processes

- Activities such as planning, programming, agency project development, human resource management, contracting and procurement, agreements
- Business process elements go beyond day-to-day operational activities and require broader institutional support and involvement

Business Processes

- **Level 1** – TSM&O processes ad hoc and un-integrated
- **Level 2** – Multiyear TSM&O plan/program exists with deficiencies, evaluation, strategies
- **Level 3** – TSM&O programming, budgeting, project development processes standardized and documented
- **Level 4** – TSM&O processes streamlined and subject to continuous improvement

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FDOT TSM&O Transportation Systems Management & Operations

Business Processes

- **Level 1** – TSM&O processes ad hoc and un-integrated
- **Level 2** – Multiyear TSM&O plan/program exists with deficiencies, evaluation, strategies

Region (2017) 2.14 | Region (2020) 2.14 | Agency (2020) 2.14

- **Level 3** – TSM&O programming, budgeting, project development processes standardized and documented
- **Level 4** – TSM&O processes streamlined and subject to continuous improvement

Systems & Technology

- Use of **appropriate processes for design and implementation of systems** to ensure the needs are appropriately addressed, that **systems are standardized** and implemented in an efficient manner, and interoperability with other systems is achieved

Systems & Technology

- **Level 1** – **Ad hoc** approaches independent of systems engineering process
- **Level 2** – SE employed and consistently used for ConOps, architecture, and systems development
- **Level 3** – Systems and technology **standardized, documented, and trained,** and new technology is incorporated
- **Level 4** – Systems and technology routinely upgraded and utilized to improve efficiency performance

Systems & Technology

- **Level 1** – **Ad hoc** approaches independent of systems engineering process
- **Level 2** – SE employed and consistently used for ConOps, architecture, and systems development

Region (2017) 2.14 | Region (2020) 2.14 | Agency (2020) 2.14

- **Level 3** – Systems and technology **standardized, documented, and trained,** and new technology is incorporated
- **Level 4** – Systems and technology routinely upgraded and utilized to improve efficiency performance

Performance Measurement

- Means of determining program effectiveness, determining how changes affect performance, and guiding decision-making
- PMs can be used to **demonstrate the extent of transportation problems** and can be **used to make the business case** for operations within an agency, and for decision-makers and public
- PMs can be used to further demonstrate accomplishments of investments on the transportation network

Performance Measurement

- **Level 1** – No regular performance measurement related to TSM&O
- **Level 2** – TSM&O strategies measured largely via outputs, with limited post-deployment analyses
- **Level 3** – Outcome measures identified and consistently used for TSM&O strategies improvement
- **Level 4** – Mission-related outputs/outcomes data is **routinely utilized for management**, **reported internally and externally**, and archive for later use

Performance Measurement

- **Level 1** – No regular performance measurement related to TSM&O

Region (2017)
1.52

- **Level 2** – TSM&O strategies measured largely via outputs, with limited post-deployment analyses

Region (2020)
2.14

Agency (2020)
2.14

- **Level 3** – Outcome measures identified and consistently used for TSM&O strategies improvement

- **Level 4** – Mission-related outputs/outcomes data is **routinely utilized for management**, **reported internally and externally**, and archive for later use

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FDOT TSM&O
Transportation Systems Management & Operations

Culture

- Combination of values, assumptions, knowledge, and expectations of agency considering its institutional and operational context
- Technical understanding, leadership, outreach, and program authority

Culture

- **Level 1** – Value of TSM&O not widely understood beyond champions
- **Level 2** – Agency-wide appreciation of the value and role of TSM&O
- **Level 3** – TSM&O accepted as a formal core program
- **Level 4** – Explicit agency commitment to TSM&O as key strategy to achieve full range of mobility, safety, and livability/sustainability objectives

Culture

- **Level 1** – Value of TSM&O not widely understood beyond champions
- **Level 2** – Agency-wide appreciation of the value and role of TSM&O

Region (2017) 2.44 | Region (2020) 2.14 | Agency (2020) 2.14

- **Level 3** – TSM&O accepted as a formal core program
- **Level 4** – Explicit agency commitment to TSM&O as key strategy to achieve full range of mobility, safety, and livability/sustainability objectives

Organization & Workforce

- Processes supporting effective programs requiring the appropriate combination of **coordinated organizational functions and technical, qualified staff**
- Clear management **authority and accountability**
- Staff development, recruitment, and retention

Organization & Workforce

- **Level 1** – Fragmented roles based on legacy organization and available skills
- **Level 2** – Relationship among roles and units rationalized and core staff capacities identified
- **Level 3** – Top-level management position and core staff for TSM&O processes established
- **Level 4** – Professionalization and certification of operations core capacity positions, including performance incentives

Organization & Workforce

- **Level 1** – Fragmented roles based on legacy organization and available skills
- **Level 2** – Relationship among roles and units rationalized and **core staff capacities identified**

Region (2017)	Region (2020)	Agency (2020)
2.28	2.14	2.14

- **Level 3** – Top-level management position and core staff for TSM&O processes established
- **Level 4** – **Professionalization and certification** of operations core capacity positions, including performance incentives

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FDOT TSM&O Transportation Systems Management & Operations

Collaboration

- Development and implementation of TSM&O requires a collaborative approach; the effectiveness of most strategies is dependent on improving the coordinated performance of each partner

Collaboration

- **Level 1** – Relationships on informal, infrequent, and personal basis
- **Level 2** – Regular collaboration at regional level
- **Level 3** – Collaborative interagency adjustment of roles and responsibilities by formal interagency coordination
- **Level 4** – High level of operations coordination institutionalized among key players (public and private)

Collaboration

- **Level 1** – Relationships on informal, infrequent, and personal basis
- **Level 2** – Regular collaboration at regional level

Region (2017)
2.45

Agency (2020)
2.14

- **Level 3** – Collaborative interagency adjustment of roles and responsibilities by formal interagency

Region (2020)
2.97

- **Level 4** – High level of operations coordination institutionalized among key players (public and private)

Self-Assessment Results

Dimension	2014* / 2017 Regional Assessment	2020 Regional Assessment	Delta (2017 → 2020) Regional Assessment	Composite Score "Public Agency"
Business Processes	1.50 ⇨ 2.14 ⇨	**2.80**	**+0.66, 31%**	**2.20**
Systems & Technology	1.50 ⇨ 2.14 ⇨	**2.70**	**+0.56, 26%**	**2.13**
Performance Measurement	1.33 ⇨ 1.52 ⇨	**2.57**	**+1.05, 69%**	**1.90**
Culture	1.25 ⇨ 2.44 ⇨	**2.77**	**+0.33, 13%**	**2.47**
Organization & Workforce	1.50 ⇨ 2.28 ⇨	**2.53**	**+0.25, 11%**	**2.23**
Collaboration	2.00 ⇨ 2.45 ⇨	**2.97**	**+0.52, 21%**	**2.46**

*Note – 2014 scores are an approximation and were not calculated in the same manner as 2017 and 2020 scores.

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FDOT TSM&O

Transportation Systems Management & Operations

Current Initiatives

Jeremy Dilmore, FDOT District Five

Annual Maintenance Meeting

- Held on November 19, 2024 at the District 5 RTMC
  - Planning to have a follow-up conference call in April
  - Will host another Annual Maintenance Meeting in November 2025

- Intended audience is maintaining agency staff:
  - Senior traffic signal technicians
  - Traffic signal technician managers
  - Traffic Engineering staff
  - Traffic Operations staff

Current Initiatives

- I-4 Express Lanes
- I-4 FRAME
- OBU Deployment

Current Initiatives

- PedSafe II
- Upcoming Grants
  - Saving Lives with Connectivity resubmittal
  - Homeland Security Grant Program (HSGP)

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Current Initiatives

- DANIEL (Digital Analytics Notification for Incident and Event Localization)
- HEIDI (High-Definition Engineering Intersection Data via Integrative Modeling)

FDOT TSM&O

Transportation Systems Management & Operations

THANK YOU!

Next Consortium – February 6, 2025

TSM&O Consortium Meeting

MEETING AGENDA
Teleconference or
FDOT District 5 RTMC (4975 Wilson Rd, Sanford, FL 32771)

December 12, 2024
10:00 AM-12:00 PM

1) FLASH AWARD FOR EMERGENCY REPAIRS – VOLUSIA COUNTY
    - Jack Mackenzie, FDOT District Five Traffic Operations
2) PRIORITIZATION PROCESS PILOT PROGRAM (PPPP) GRANT
    - Eric Hill, MetroPlan Orlando
3) CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (CRISI) GRANT
    - Bjorg Olafs, HNTB
4) 2023 ITS DEPLOYMENT SURVEY (ITS JPO)
    - David Williams, VHB
5) TSM&O CAPABILITY MATURITY MODEL 2024 SELF-ASSESSMENT
    - David Williams, VHB
6) CURRENT INITIATIVES
    - Jeremy Dilmore, FDOT District Five Traffic Operations