The Eastern Transportation Coalition
Virtual Information Exchange: Considerations for Digital Infrastructure - Project Examples and Planning for the Future
June 28, 2023

Note: Results from polling questions asked during this virtual information exchange are at the bottom of the document.

Resources for Participants

- Roadway Automated Driving Systems Integration: https://ops.fhwa.dot.gov/publications/fhwahop22052/fhwahop22052.pdf
- Digital Infrastructure: Technology as a Force Multiplier for A Safer, Greener, Smarter, More Equitable Future: https://itsa.org/advocacy-material/digital-infrastructure-technology-as-a-force-multiplier-for-a-safer-greener-smarter-more-equitable-future/

Digital Infrastructure Projects at Pennsylvania DOT

Q: **Dwayne Cook (Virginia DOT):** Is your statewide ITS network isolated or inter-connected to other things (i.e. traditional IT networks)? I'm approaching this from a cybersecurity standpoint.

A: Gunnar Rhone (Pennsylvania DOT): I'm not entirely sure. We allow third-party developers to get different data from the network. We also interact with the Genentec network. They run our camera system. We do have others connected to our network. PennDOT has many different security protocols**.**

Q: **Amy Getchell (Massachusetts DOT):** At MassDOT, we are doing a web-based work zone management pilot with HNTB. I'm curious to find out what consultant/platform are you using at PennDOT.

A: Gunnar Rhone (Pennsylvania DOT): SwRI is the consultant/developer on the lane reservation system. FREEVAL assisted too.

Q: **Russell Holt (Rhode Island DOT):** Can you share how PennDOT prioritized deployment of the CMS Queue warning systems (i.e., which facilities first)?

A: Gunnar Rhone (Pennsylvania DOT): We identified safety corridors via a few crash and incident parameters, others were identified by weather safety data where we have a higher prevalence of long-term closures, and others were constructions projects on limited access routes that wanted a queue protection system

Georgia's Digital Infrastructure Corridor

Q: **John Corbin (Federal Highway Administration):** The applications illustrated can all arguably be provided more immediately and ubiquitously through existing cellular network capabilities and industry solutions. Is The Ray focused exclusively or primarily on dedicated-spectrum connected vehicle schemes, or are you also integrating cellular network solutions?

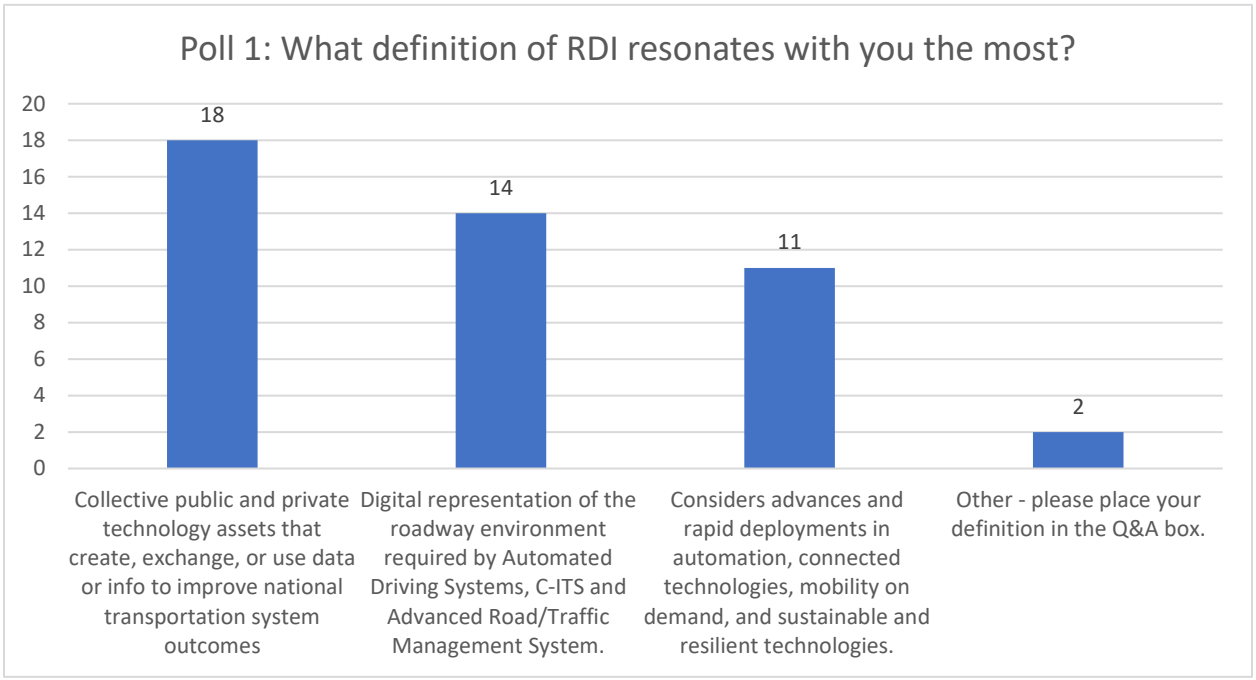
A: Allie Kelly (The Ray): We are interested in integrating cellular network solutions as well.

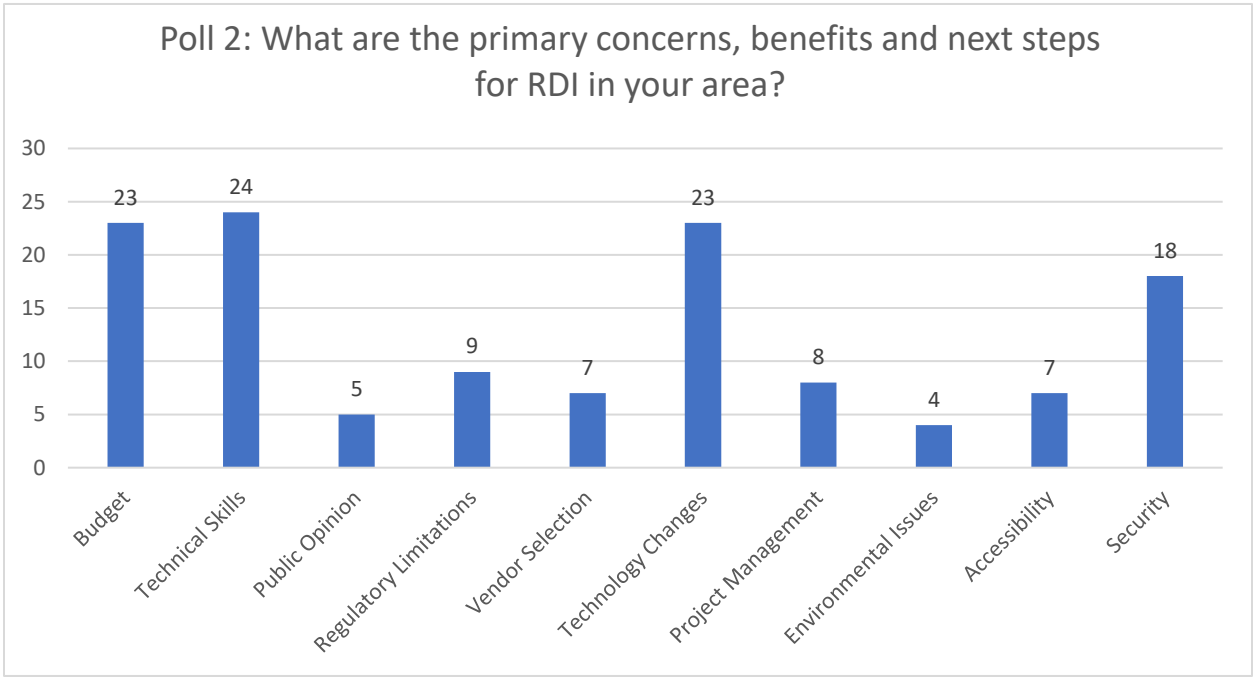
Q: **Russell Holt (Rhode Island DOT):** Any negative experiences to share yet regarding the alerting of upstream travelers of hard braking downstream? A concern might be that some road users over time will disregard (or turn off) such alerting if they aren't finding it valuable to them.

A: Allie Kelly (The Ray): No negative experiences with driver response yet.

Q: **Dwayne Cook (Virginia DOT):** Are these data flows/networks isolated and secure? As they become more prevalent, the risk of exposure and manipulation increases.

A: Allie Kelly (The Ray): Yes, there is end-to-end security. It tracks message sources for message authenticity and allows authorized actions only. No message alterations are allowed en route.


Poll 1: What definition of RDI resonates with you the most?
20
18
16
14
12
10
8
6
4
2
0
18
14
11
2
Collective public and private technology assets that create, exchange, or use data or info to improve national transportation system outcomes
Digital representation of the roadway environment required by Automated Driving Systems, C-ITS and Advanced Road/Traffic Management System.
Considers advances and rapid deployments in automation, connected technologies, mobility on demand, and sustainable and resilient technologies.
Other - please place your definition in the Q&A box.


Poll 2: What are the primary concerns, benefits and next steps for RDI in your area?
30
25
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15
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5
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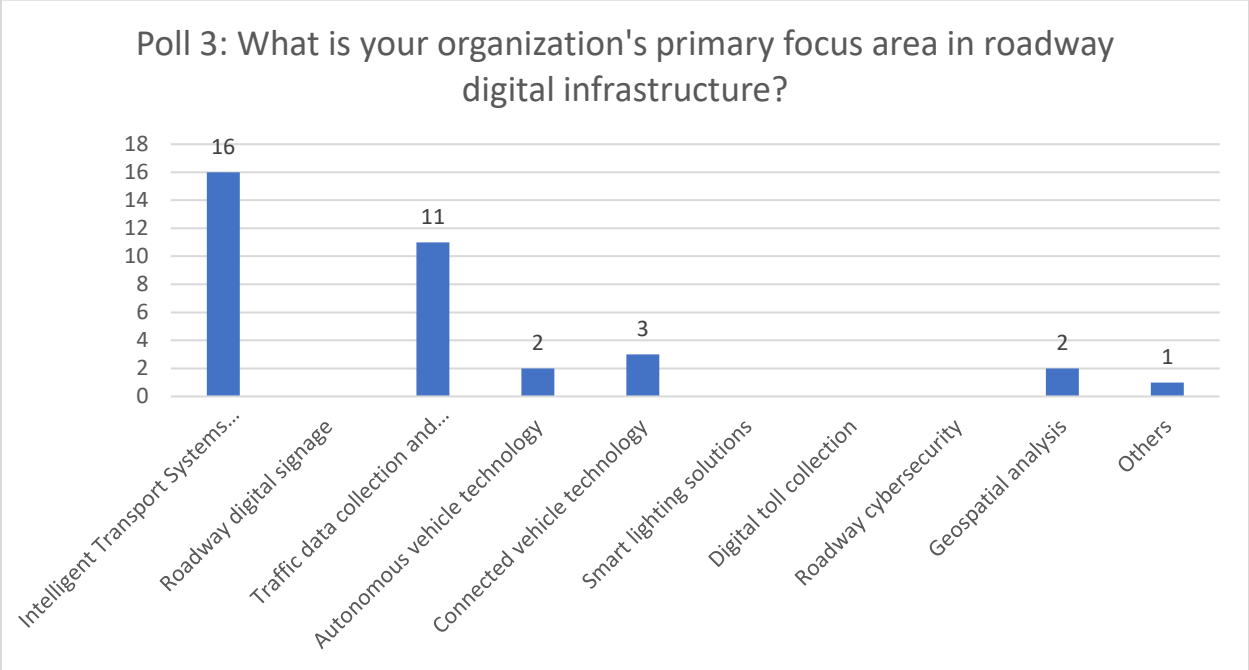
23
24
5
9
7
23
8
4
7
18
Budget
Technical Skills
Public Opinion
Regulatory Limitations
Vendor Selection
Technology Changes
Project Management
Environmental Issues
Accessibility
Security


Poll 3: What is your organization's primary focus area in roadway digital infrastructure?
18
16
14
12
10
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6
4
2
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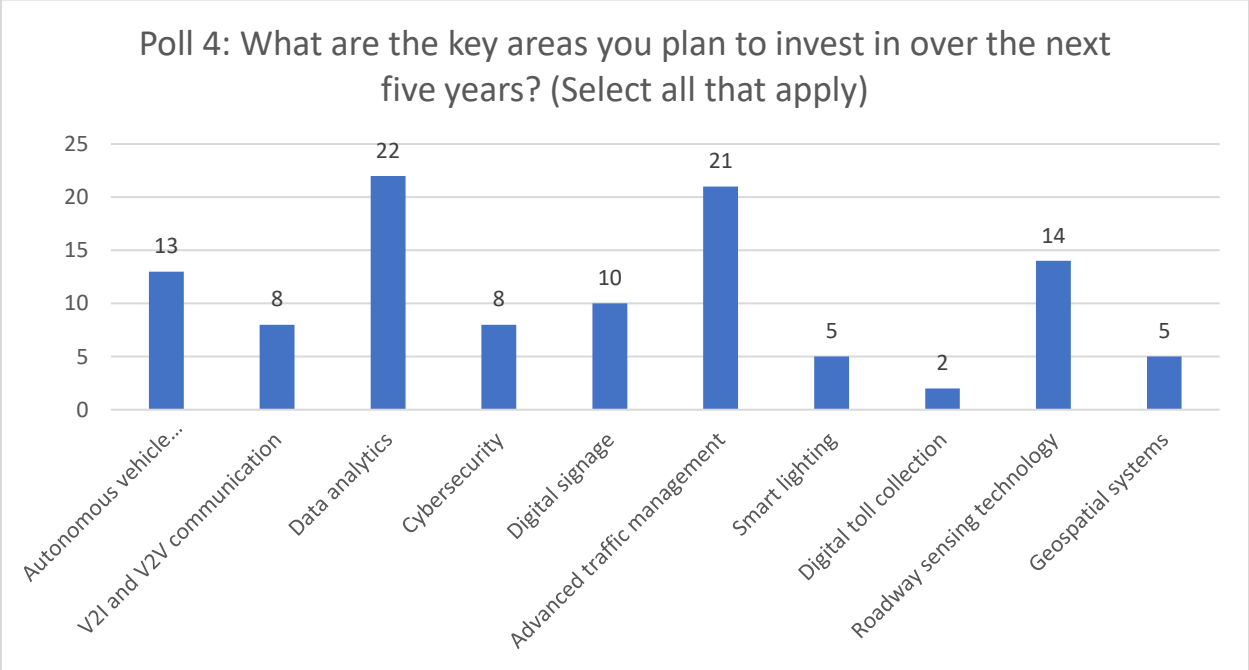
16
11
2
3
2
1
Intelligent Transport Systems...
Roadway digital signage
Traffic data collection and...
Autonomous vehicle technology
Connected vehicle technology
Smart lighting solutions
Digital toll collection
Roadway cybersecurity
Geospatial analysis
Others


Poll 4: What are the key areas you plan to invest in over the next five years? (Select all that apply)
25
20
15
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13
8
22
8
10
21
5
2
14
5
Autonomous vehicle...
V2I and V2V communication
Data analytics
Cybersecurity
Digital signage
Advanced traffic management
Smart lighting
Digital toll collection
Roadway sensing technology
Geospatial systems