

e-Ticketing Across New England



**New England Transportation Consortium
Pavement Construction Symposium
9 February 2022
Matthew Valle, VP Industry Relations HaulHub Technologies**

Current EDC Round

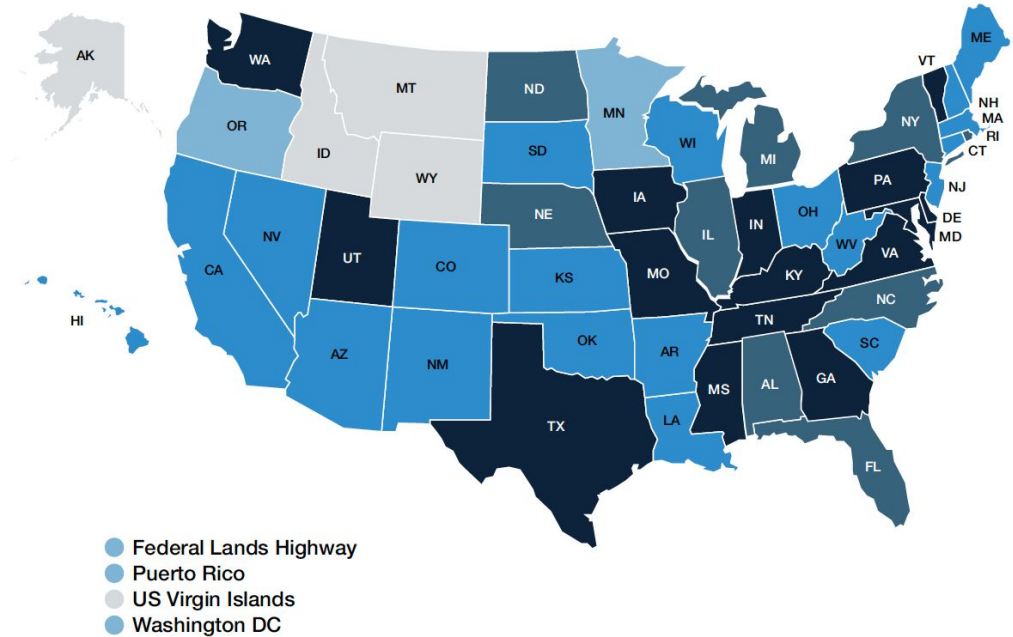
43+ State DOTs Moving ahead with e-Ticketing as an initiative in 2021-2022

- **THE** most adopted EDC Initiatives EVER
- Everybody agrees, paper is a real pain

Immediate value in:

- Transparency Across Stakeholders
- Risk Reduction from Engineers Moving Around Construction Operations to Collect Paper Slips
- Data standardization to build future e-Construction efforts

Goal (December 2022)



Innovation Implementation Stages

Not Implementing	The State is not using the innovation anywhere in the State and is not interested in pursuing the innovation.
Development Stage	The State is collecting guidance and best practices, building support with partners and stakeholders, and developing an implementation process.
Demonstration Stage	The State is testing and piloting the innovation.
Assessment Stage	The State is assessing the performance of and process for carrying out the innovation and making adjustments to prepare for full deployment.
Institutionalized	The State has adopted the innovation as a standard process or practice and uses it regularly on projects.

What Exactly is an e-Ticket?

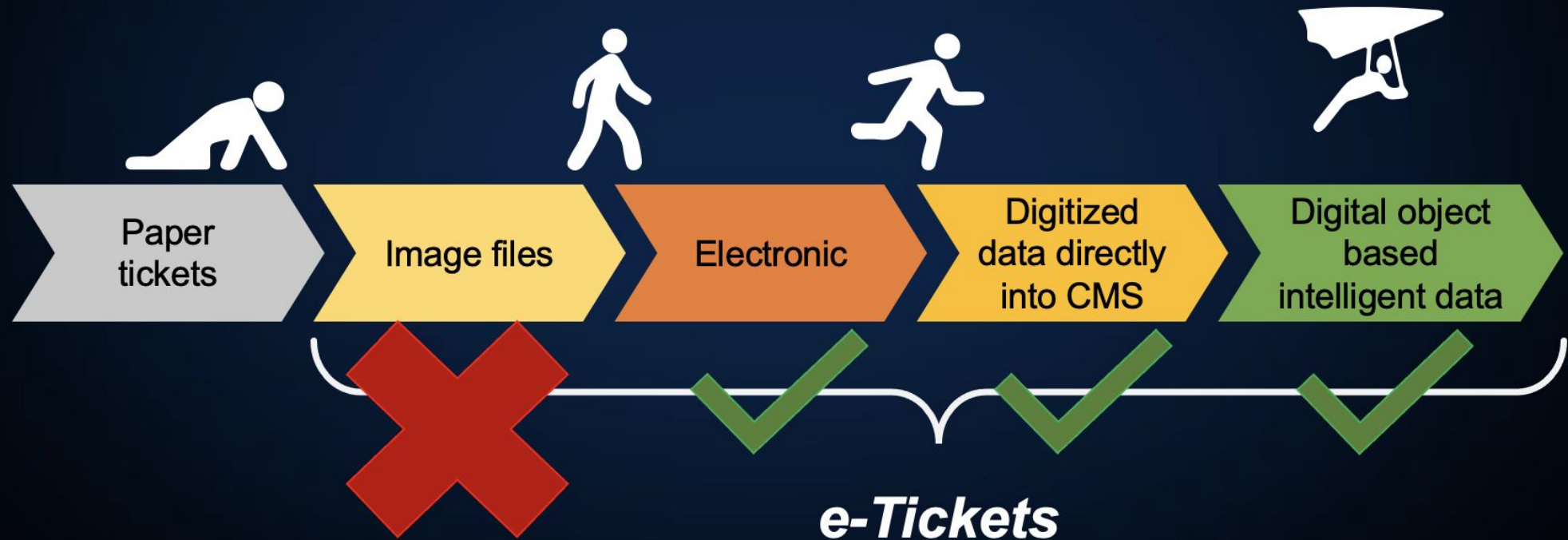
- [From FHWA's website:](#)

Providing all **stakeholders with an electronic means to produce, transmit, and share materials data** and track and verify materials deliveries **enhances safety, streamlines inspections,** and **improves contract administration processing.** Using electronic ticket exchanges enables access via mobile devices and simplifies handling and integration of material data into construction management systems for acceptance, payment, and source documentation.



What an e-Ticket Isn't?

Evolution of e-Tickets



Industry Rally for e-Ticketing

Top 5 Asphalt Pavement Industry Issues



WORKFORCE
RECRUITMENT



FUNDING



WORK ZONE
SAFETY



COVID
MANDATES




E-TICKETING/
BMD



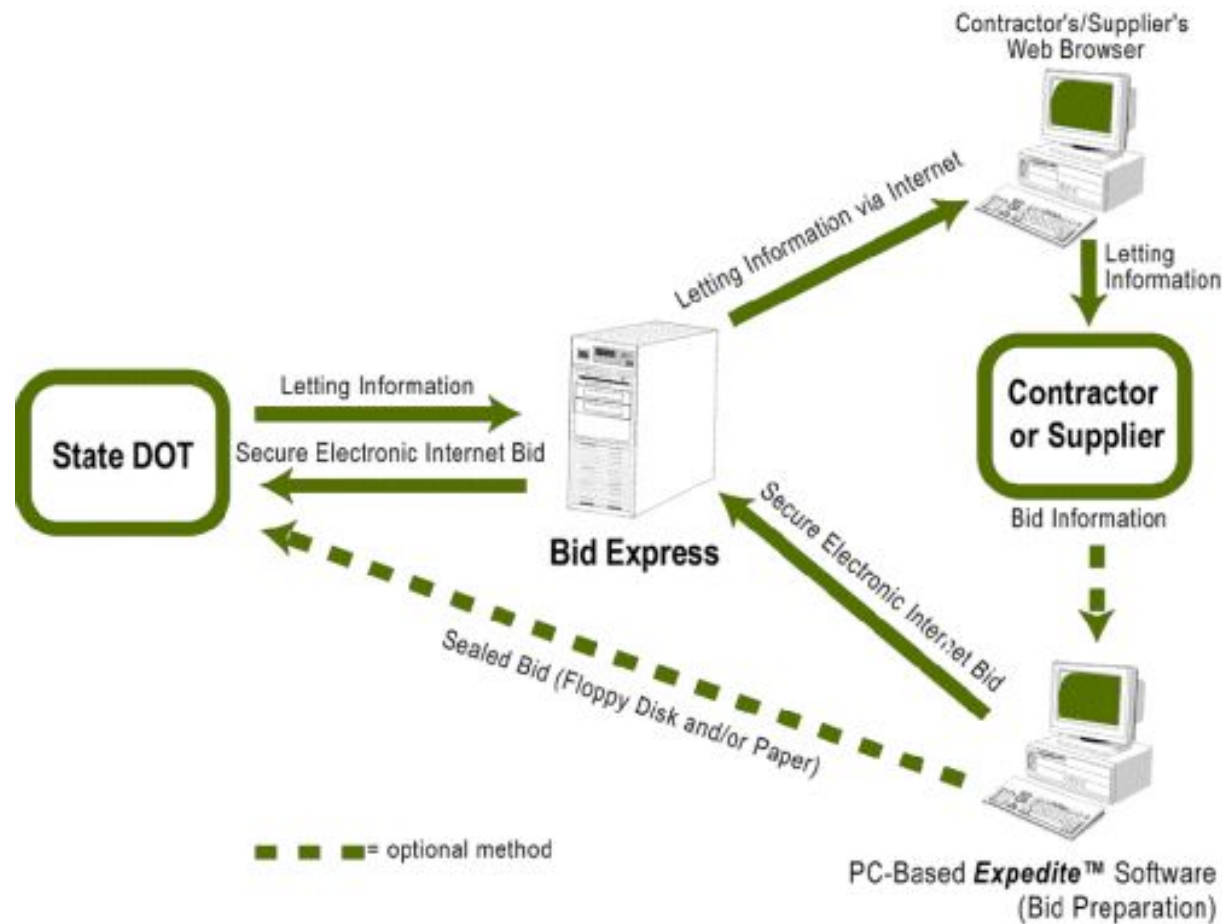
Federal Support for Digital Delivery

11 “(5) ACCELERATED IMPLEMENTATION AND DE-
12 PLOYMENT OF ADVANCED DIGITAL CONSTRUCTION
13 MANAGEMENT SYSTEMS.—

14 “(A) IN GENERAL.—The Secretary shall
15 establish and implement a program under the
16 technology and innovation deployment program
17 established under paragraph (1) to promote,
18 implement, deploy, demonstrate, showcase, sup-
19 port, and document the application of advanced
20 digital construction management systems, prac-
21 tices, performance, and benefits.

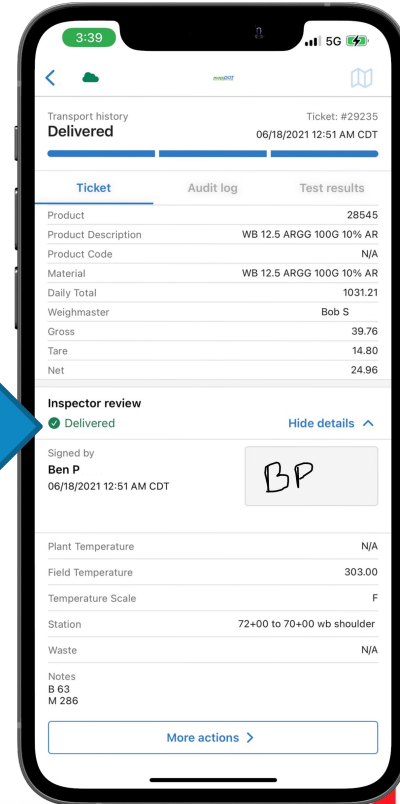
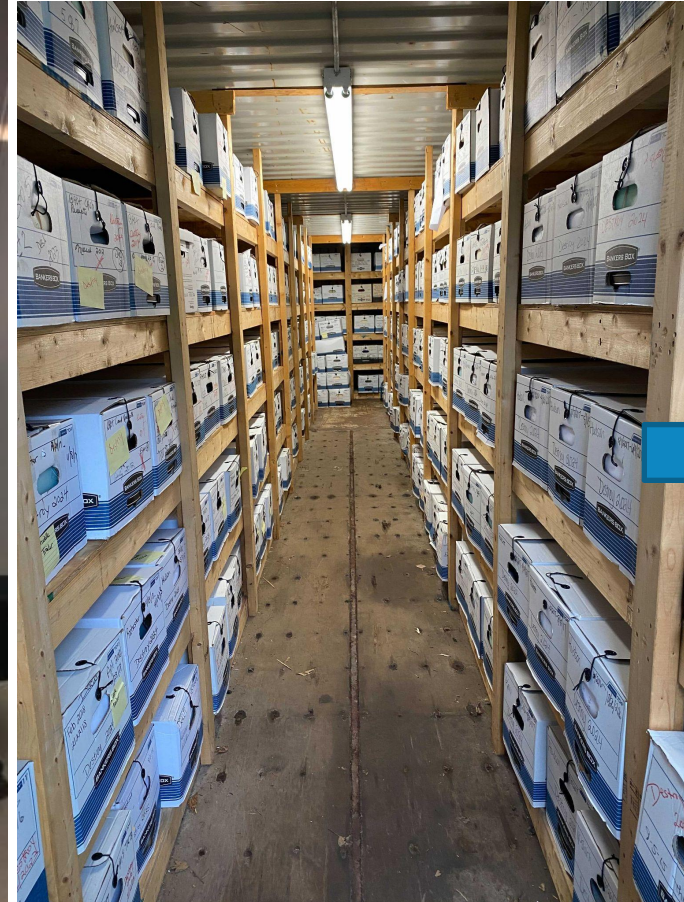
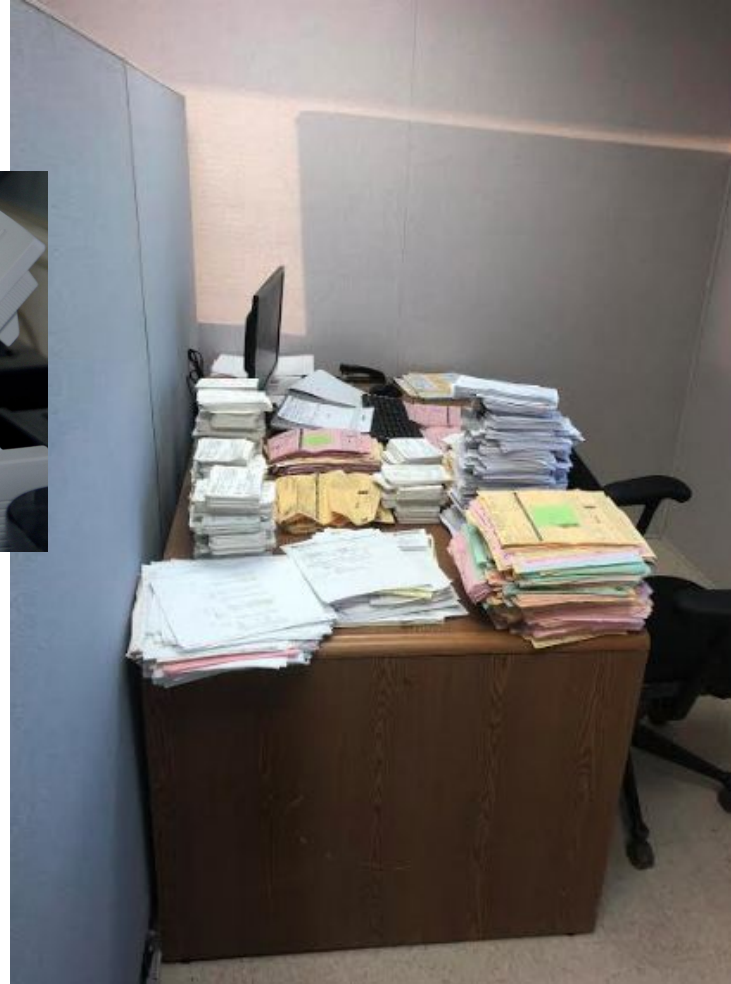
- Infrastructure Investment and Jobs Act (IIJA) - H.R. 3684
 - Section 5113
- 

As an Industry, We've Been Here Before...



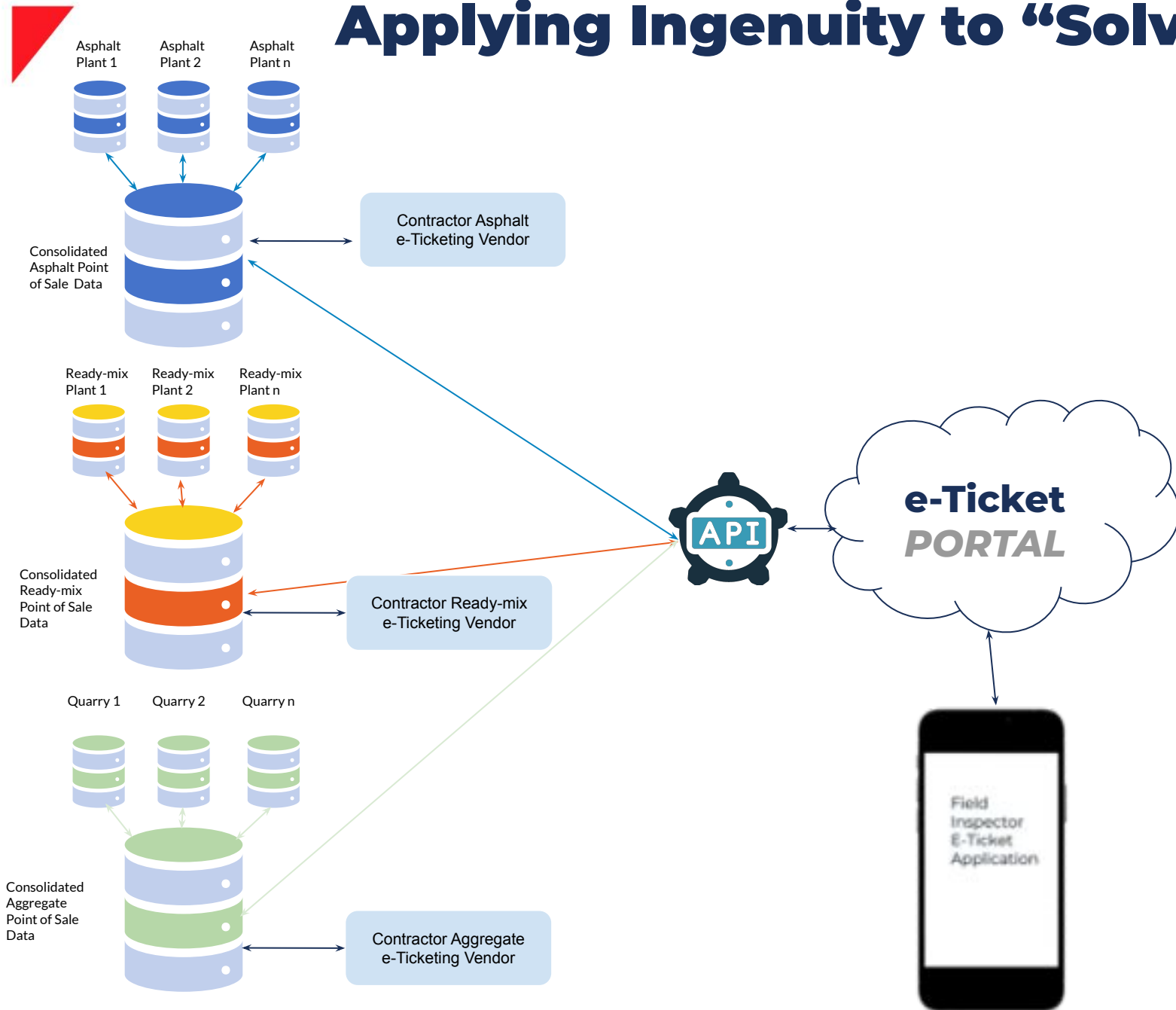
- Electronic Bidding Now the Norm
- Needed to Change Mindset and Perceptions
 - It'll be hard
 - We don't have the software or hardware
 - Our competitors will see our bids
 - We can't teach our estimators how to do this, they've done it the same way for too long
- Most States now thriving with electronic bidding and the benefits it brings

Construction Materials Undergoing a Similar Process...



Look Familiar???

Applying Ingenuity to “Solve” e-Ticketing



- Silicon Valley Doesn't Necessarily Understand Construction
- The best ideas on how to do this come from innovative contractors, producers, and owners
- Everyone in this room has a voice and can help shape the future of construction
- The landscape a connected construction is rapidly changing

States Are Moving Rapidly

FHWA-21-CAI-022
September/October 2021 | V15 | Issue 86

U.S. Department of Transportation
Federal Highway Administration

INNOVATOR



Agencies are enhancing data creation, collection, and sharing for both digital project delivery and asset management.

Credit: Utah Department of Transportation (left) and FHWA (right)

2	e-Ticketing and Digital As-Builts	10	Accelerating Market Readiness Funds Awarded
6	STICs Deploy Homegrown Innovations	11	States Innovate!
8	EDC Legacy: Bridging the Digital Divide	12	EDC Safety Summit Series

Get Innovator on your mobile device! Text "FHWA Innovation" to 468311 Share   



OKLAHOMA
Transportation



Happening in Vermont...



Project Overview:

- **Project Owner:** Vermont Agency of Transportation
- **General Contractor:** Pike Industries
- **Completion Date:** Fall 2022
- **Amount:** \$19.1 M
- **Project Scope:** Resurface VT 113 in Chelsea, Vershire, West Fairlee and Thetford, beginning at the VT 110/113 intersection and extending easterly 14.824 miles to the intersection of VT 113/244

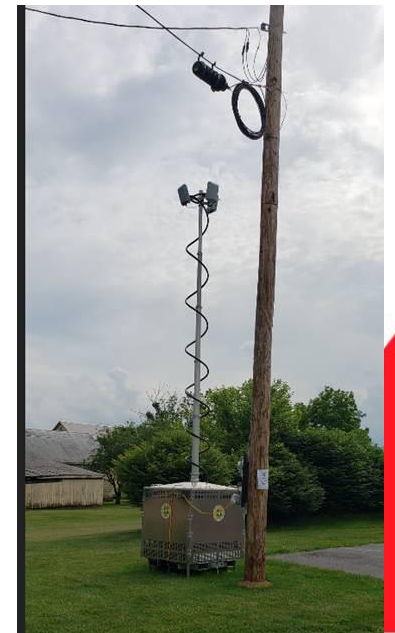
The Challenges and Lessons Learned:

Rural Vermont with Limited to No Cell Coverage

Looked at various connectivity solutions

- WiFi hotspots along corridor
- Starlink

Solution to provide hybrid solution to sync field info to cloud



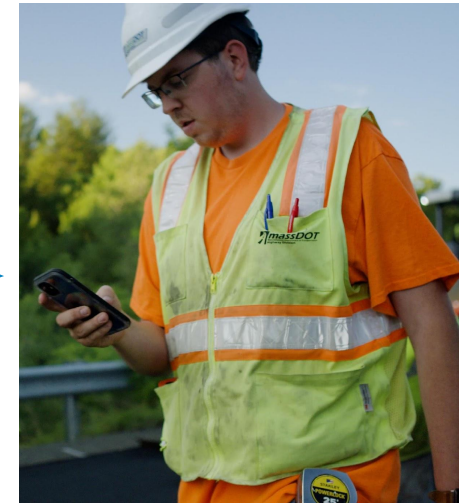
Unlocking the Data

There is a lot of Value to Private Sector:

- Field crews can see live loads off the scale (Paving folks LOVE THIS)
- Trucking insights WITHOUT GPS
- Real Time Yield Check
- Project Managers can track materials for estimates w/o tracking down paper slips

The Value to you:

- You're are now easier to do business with
- Streamline payments
- Reduced Administrative burden
- Keeping Folks out of Harms Way
- Tap into insights never before available



The Coming Challenge

- 41% of the Workforce set to retire in the next decade
- New Graduates looking to tech companies

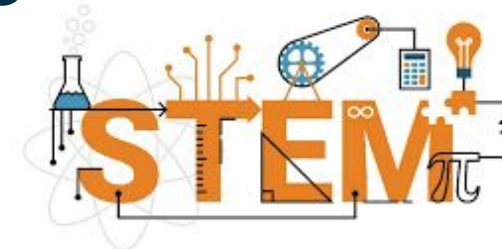
The top 10 jobs new grads are applying for, and what they pay

1. **Software engineer**, \$94,111 per year
2. **Data analyst**, \$60,508 per year
3. **Business analyst**, \$65,267 per year
4. **Data scientist**, \$100,793 per year
5. **Administrative assistant**, \$34,375 per year
6. **Sales representative**, \$28,188 per year
7. **Financial analyst**, \$64,807 per year
8. **Project manager**, \$55,583 per year
9. **Graphic designer**, \$41,347 per year
10. **Software developer**, \$70,000 per year

The top companies new grads are applying to


1. **Amazon**, technology
2. **Microsoft**, information technology
3. **The Goldman Sachs Group**, finance
4. **Apple**, technology
5. **TikTok**, technology
6. **Google**, technology
7. **Ernst & Young**, accounting and legal
8. **Facebook**, technology
9. **Randstad US**, human resources
10. **Salesforce**, technology

- Fortunately, STEM in high school provides a great foundation for success in the era of high-tech construction





Breakout Questions and Discussion

- What is the status of e-Ticketing implementation among New England states?
 - How are the New England states using e-Ticketing?
 - What are the hurdles and breakthroughs that New England states have encountered?
- 



Driving Innovation in the Construction Materials Supply Chain



e-TicketingTaskForce.org

