e-Construction

Bryan Cawley
Construction Management Team Leader
Office of Infrastructure, FHWA (202) 366-1333
bryan.cawley@dot.gov
https://www.fhwa.dot.gov/construction/
Objective

- Definition of e-Construction
- Performance measures and goals
- EDC-3 activities to accelerate national deployment of e-Construction
- What does the future look like for e-Construction
- Unmanned Aerial Vehicles (UAV)
e-Construction is the collection, review, approval, and distribution of highway construction documents in a paperless environment.

- electronic submission of all construction documentation by all stakeholders,
- electronic document routing and approval (e-signature), and
- digital management of all construction documentation in a secure environment allowing access to all stakeholders through mobile devices.
Performance Measure and Goals

Definitions:
- National Leader – Has constructed 2 or more projects using technology
- Potential Leader – Coordinating lead state profile
- Exploring – Investigation and/or piloting EDC-3 technology
- Discussing – Not taking part in national EDC-3 technology

Goal 12/31/2016

- National Leader: 30
- Potential Leader: 24

8/1/2016

- National Leader: 12
- Potential Leader: 3
- Exploring: 34
- Discussing: 5

1/1/2014

- National Leader: 8
- Potential Leader: 33
- Exploring: 13
Definitions:
National Leader – Has constructed 2 or more projects using technology
Potential Leader – Coordinating lead state profile
Exploring – Investigation and/or piloting EDC-3 technology
Discussing – Not taking part in national EDC-3 technology
e-Construction How-To Guide (FL DOT)

- The Construction Process
- Potential Obstacles and Solutions
- Benefits of e-Construction
- FL DOT Case Study
- Getting Started Guide

https://www.fhwa.dot.gov/construction/econstruction/
Peer to Peer Exchanges

- In-Person
  - Oregon and Michigan DOT
  - Massachusetts and Florida DOT,
  - Arkansas and West Virginia DOT,
  - Texas and Montana DOT,
  - North Dakota and Iowa DOT,
  - Illinois and Missouri DOT,
  - Colorado and Missouri DOT
  - California and Michigan DOT
  - Arkansas DOT and Nebraska DOR

- Virtual
  - Florida and Maine DOT
  - PA DOT and LTAPs and TTAPS

https://www.fhwa.dot.gov/construction/econstruction/
Webinars (MI DOT)

- Recorded Webinars:
  - Webinar 1: Introduction to e-Construction
  - Webinar 2: Building the Technology and Policy Base
  - Webinar 3: Piloting e-Construction
  - Webinar 4: e-Construction for Contractors and Consultants
- 4 more Webinars scheduled for Nov, Dec 2016 and Jan, Feb 2017.

https://www.fhwa.dot.gov/construction/econstruction/
Regional Workshops

Utah DOT Host
March 1 & 2, 2016
e-Construction and 3, 4, 5, and xD

Michigan DOT Host
March 30 & 31, 2016
e-Construction

Virginia DOT Host
October 26 & 27, 2016
e-Construction and 3, 4, 5, and xD

https://www.fhwa.dot.gov/construction/econstruction/
FHWA Division Office Pilot

- FHWA Division Offices in FL, MI, IA, TX, UT, and WV

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Measured Value (August 17, 2015 through January 18, 2016)</th>
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</thead>
<tbody>
<tr>
<td>Number of paper plan sets eliminated through access to electronic versions via tablet</td>
<td>47,815 pieces of paper</td>
</tr>
<tr>
<td>FMIS and change order approval time savings (estimated hours)</td>
<td>655 hours saved</td>
</tr>
<tr>
<td>Number of times electronic files are accessed from the field due to increased availability of data (data plan use)</td>
<td>183 times files accessed</td>
</tr>
<tr>
<td>Number of hours of tablet use</td>
<td>4,760 hours of use</td>
</tr>
<tr>
<td>Number of documentation photos taken using tablet</td>
<td>287 photos taken</td>
</tr>
</tbody>
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- Pilot Expanded to include PA, VA, NC, and MO
What does the future look like for e-Construction

- Peer exchanges being planned or organized
  - RI and WV, Maryland, Tennessee, Nevada
- Eastern Workshop – Being Organized by VDOT
  - October 26 and 27, 2016
  - Registration: http://www.cts.virginia.edu/events/
Every Day Counts - 4 (EDC-4)
e-Construction and Partnering: A Vision for the Future

- Paperless construction administration
- Digital project management (coordination, collaboration and transparency)
- Secure and expedited document distribution to project stakeholders

- Build a relationship of mutual trust
- Achieve mutually beneficial goals
- Communicate openly
- Resolve issues and minimize disputes

http://projectteamintegration.com/home-2/innovative-effective-partnering/
Every Day Counts - 4 (EDC-4)
Pavement Preservation “How”

- How to construct pavement preservation treatments
  - Asphalt: ultra thin lift, micro surfacing, slurry seals, and chip seals
  - PCC: full and partial depth repairs, dowel bar retrofit, cross stitching, and grinding
- Owner and contractor best practices
  - Construction means, methods, and materials
Unmanned Arial Vehicles (UAV)

- FHWA Team to Investigate
  - Possible Uses.
  - Identify operational and technical issues.
  - Identify federal and in particular FHWA laws, regulations, policies, and guidance for potential inhibiting factors.
  - Recommend modifications to FHWA laws, regulations, policies, or guidance to allow the use of the technology.
  - Develop market readiness plan.