

e-Construction

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<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)

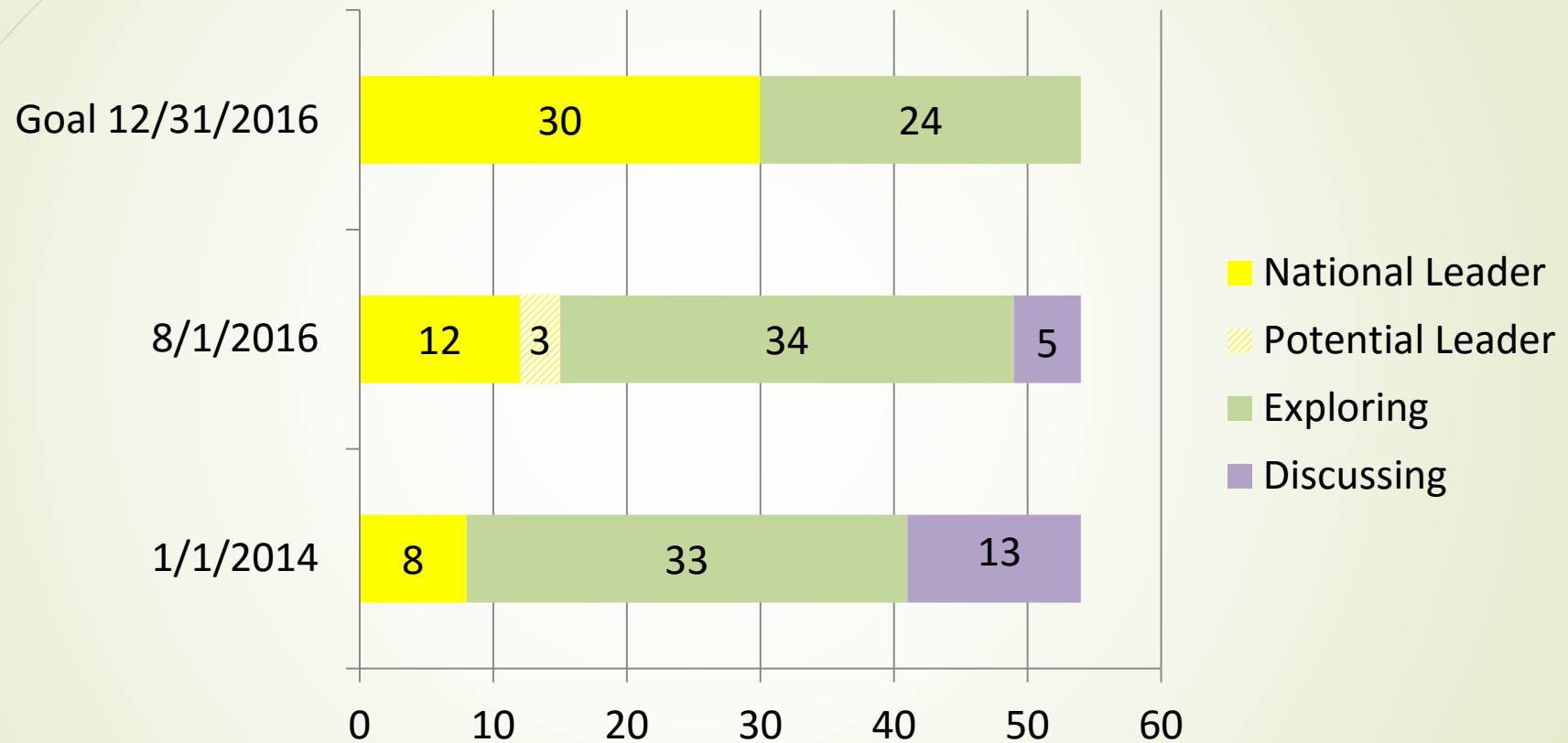


Definition

- ▶ 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



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

<http://www.cts.virginia.edu/events/>

<https://www.fhwa.dot.gov/construction/econstruction/>



FHWA Division Office Pilot

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



Performance Measure	Measured Value (August 17, 2015 through January 18, 2016)
Number of paper plan sets eliminated through access to electronic versions via tablet	47,815 pieces of paper
FMIS and change order approval time savings (estimated hours)	655 hours saved
Number of times electronic files are accessed from the field due to increased availability of data (data plan use)	183 times files accessed
Number of hours of tablet use	4,760 hours of use
Number of documentation photos taken using tablet	287 photos taken

- Pilot Expanded to include PA, VA, NC, and MO



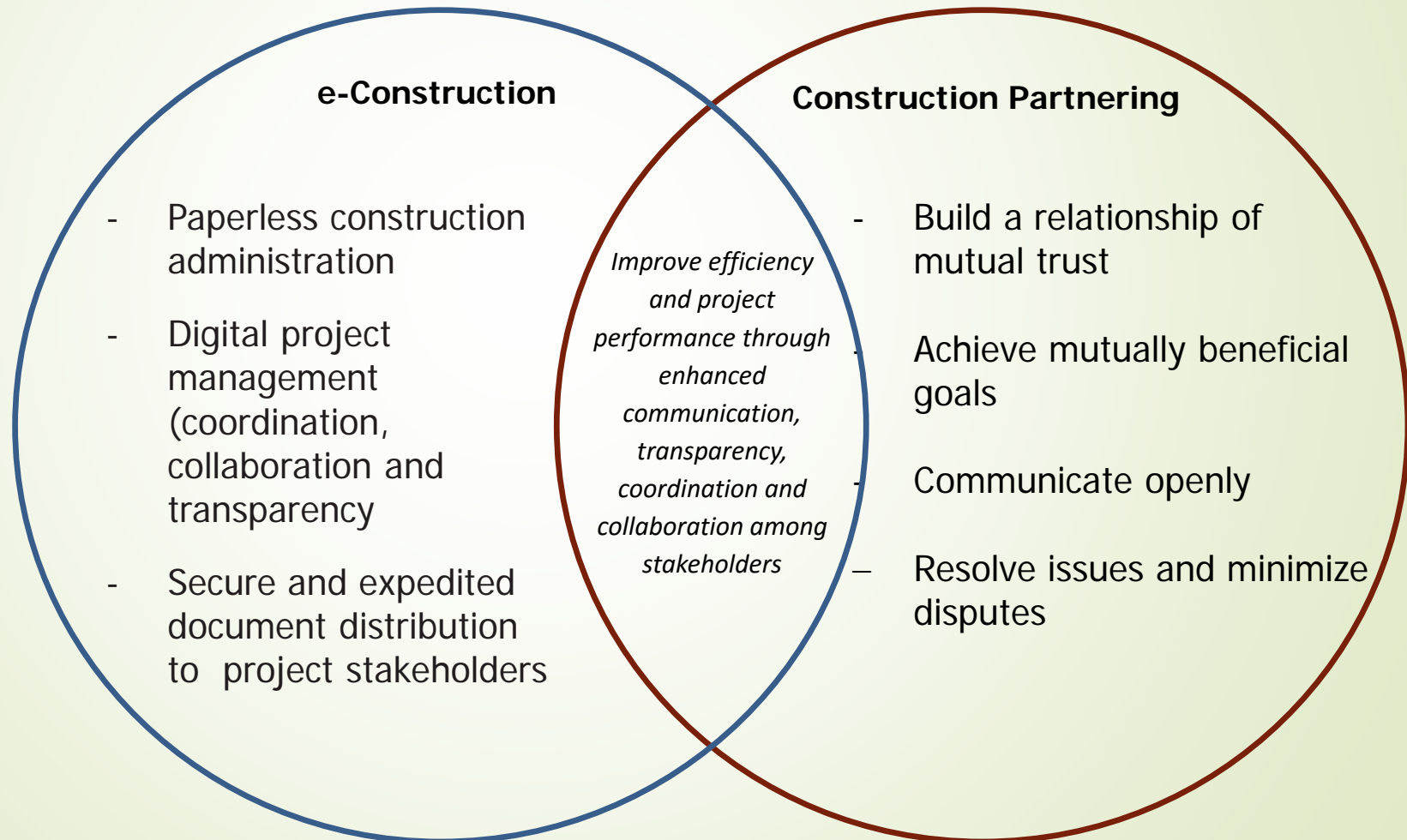
What does the future look like for e-Construction

- ▶ 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





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 Aerial 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.



