

e-Construction at MDOT

**State Transportation Commission
Michigan Aeronautics Commission**

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Construction Field Services

What is e-Construction?

- **ProjectWise construction document management**
- **Digitally encrypted electronic signatures**
- **Mobile devices in the field – mobility is key!**
- **Innovative training/manuals/instructions**
- **Electronic data gathering**
- **Dramatic construction documentation process improvement**



e-Construction Pilot Projects

- **Pilots projects started construction in October 2012**
 - I-96 Latson Road
 - M-231 Little Robinson Creek
 - M-231 over the Grand River
 - I-75 Zilwaukee Bridge



e-Signature

- **Digitally Encrypted Electronic Signatures**
 - Easy to use
 - Saves everyone money
 - Saves TIME
 - More sustainable (Green)
- **Allowed anywhere a signature is needed**
- **Adobe and Form Signer by Software602**



e-Construction e-fficiencies

- **Document distribution is immediate**
 - No time & money wasted printing and mailing documents
- **Documents approved faster**
- **Original documents available for viewing by all project partners**
 - Not hidden in a filing cabinet & locked in an office
 - Eliminates need for several files/document copies
- **Documents are secure & backed up**
- **Audit – transparency - portability**

Manuals – Help – Training

- **iBooks**
 - Manuals
- **WIKI Site**
 - Instructions & Training
- **Hardware**
 - Tips & Tricks
 - YouTube
- **Software**



e-Construction Printing/Mailing Stats

One Pilot Project Preliminary

Estimated Savings:

- ~170,000 pieces of paper (all parties)
- ~\$300,000 (time, total paper, printing, mail, etc.)
 - ~\$180,000 MDOT savings
 - ~\$120,000 Contractor savings
- Statewide estimate of \$22 million in productivity gains
- Incalculable time savings
 - Contractor interest, bonding, etc.
 - Contracts completed faster



Other Innovations on Deck

- **3D Models**
 - Machine Guidance/
Machine Control
 - On-site inspection
- **Field electronic plan view
& as-built markup**
- **Referencing common plan
& proposal information
(Boilerplate)**
- **Radio Frequency
Identification (RFID)**



Bulldozers often operate equipped with GPS, lasers, sensors, and an onboard computer that models the desired terrain.

The Process...

- **Getting all business areas on board**
- **Developing Standards**
 - Electronic document files
 - Document naming conventions
- **Fillable PDFs**
- **Electronic signature tools**
- **Contractor ProjectWise access**
- **TSC latency**
- **I-96!!**



Statewide Implementation

- **Started January 2014**
 - Statewide implementation for one project in each office to be complete in June 2014
 - After successful implementation of first project, TSCs can add projects on their own through 2014
- **Special provision will be included**
- **TSC / partners training will be included**
- **Additional training offered online**



MDOT Leaders Nationally

- **Multiple speaking engagements at AASHTO & FHWA**
- **Webinars:**
 - Florida
 - North Carolina / Texas
 - Delaware
- **22 states interested in being a champion of this effort**
 - All responded within 3 days

Indiana LISTSERV Response

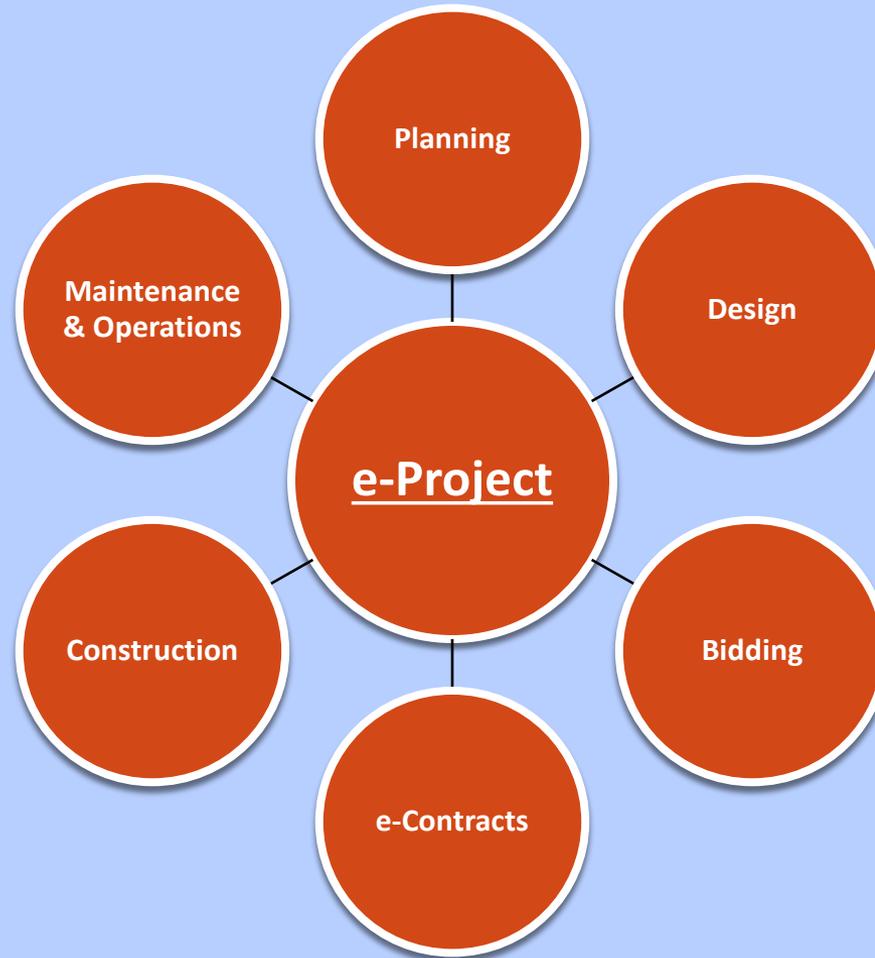
- We're a lot like Michigan in that we have a transition plan to go completely paperless, so the better presentation might be what do the transition plans look like and why are those DOT's taking the route that they are to paperless. (Maybe a roundtable/panel discussion.) Because, anyway you look at it; it is several year's effort to achieve.

Statewide Implementation

MDOT's Goal:

All trunkline projects use ProjectWise Construction Documentation procedure by 2015 Construction Season.

e-Project



Want to Learn More?

- **Questions?**
- **Mobile Devices in the Field Video**
<http://youtu.be/To48dmqgVvI>
- **e-Construction Process at MDOT Video**
https://www.youtube.com/watch?v=2242de_9T7Y

