Cloud and Mobile Solutions for Construction

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8:15 a.m. to 9:45 a.m.

Session 46, Speaker 1A
Current Industry Situation

- Lack of communication
  - The blame game
- Changes in the workforce
- Increased oversight from stakeholders
- Increase in regulatory complexity
- Lack of time
  - Do more with less
- Sustainable infrastructure
FHWA Everyday Counts

Efficiency through technology and collaboration

Many elements with a goal to shorten project development and delivery

Some include:

- e-Construction
- Regionals modules of cooperation
- 3D engineering models
- Smart work zones
- Scheduling and cost data
The New Buzzword: e-Construction

Per FHWA, "e-Construction is the collection, review, approval, and distribution of highway construction contract documents in a paperless environment."

- Electronic capture of construction data
- Electronic submission of construction documentation
- Increased use of mobile devices
- Increased automation of document review and approval
- Use of electronic signatures by all parties
- Secure document and workflow management, accessible to all stakeholders on any device
Who is Info Tech?

- Founded in 1977
- Info Tech has been applying the latest technology to the construction industry for almost 40 years
- Develops, maintains, implements and supports construction administration and inspection, Internet bidding and document workflow management solutions
- More than 20,000 users of Info Tech-developed software in 45 states
  - DOTs, Local government agencies, consulting firms, and contractors
Technology Trends for Construction

- Cloud
- Mobile
- Data analytics/ big data
What Does This Mean for Construction?

- Streamline project communication with all stakeholders
- Reduce overhead costs for contract administration and inspection
- Keep your inspectors in the field
Cloud-based Offerings

- Installed and managed outside an organization's data center
- Examples:
  - Salesforce, Facebook, Gmail, Netflix, Dropbox, Appia
- Accessible from anywhere on Internet
- Nothing to install and pre-configured
  - In app configurations
  - Many benefits
  - Reduction in hardware, IT, scalable....
Mobile Today

- 49% of Internet traffic is mobile
- 7.19 billion mobile devices in the world
- 66% of emails are opened on a mobile device
- More people around the world have cell phones than ever had landlines
- 90% of time on mobile is spent in apps vs. browser
- Selfies
Mobilize Your Agency

- B.Y.O. DEVICE
- Staff already has one in their pocket
- Lower hardware costs
- No training required
Issues with Field Data Collection

GOAL:
Keep inspectors in the field
Mobile Solutions
Mobile Device Considerations

- B.Y.O.D. vs. agency issued
- Personal use
- Blocking/banning sites
- Security
- Litigation
- Repair/replacement
- Upgrades/updates
- Connectivity
- Operation system
PAPERLESS CONTRACTING

DOCUMENT MANAGEMENT

PROPOSAL DEVELOPMENT → BID MANAGEMENT → CONSTRUCTION ADMINISTRATION AND INSPECTION → MOBILE FIELD DATA COLLECTION
Success Stories

- Ohio Department of Transportation (ODOT)
  - Mobile field app
- Montgomery County
  - Cloud-based construction administration and inspection
ODOT Mobile Usage

- Over 300 inspectors
- Use with Construction system
- iOS and Android devices
- Keep inspectors in the field
Montgomery Co Keys to Successful LPA Projects

- Consistent project management from scoping a project to the completion of the final punch list
  - Includes project managers, engineers, consultants, utilities, inspectors, contractors, ODOT, and other staff
  - Includes a realistic schedule and monitoring of the project
- Uniform file management and procedures
  - Easier for stakeholders to work on a project
  - One file location
  - Maintain a high level of compliance with federal, state and local requirements.
Construction Administration

- Complete daily diaries are an integral part and helps protect the LPA against potential contractor claims, disputes and audits
- Use of construction administration and inspection software provides:
  - Source data entry from the field
  - Central location for all project information
  - Effective daily reporting, items, funding, change orders, and payments
  - Makes audits easy
Why Montgomery County uses the software

- Effectively manages daily reports, funding, items, change orders, payments...
- Web based, mobile accessible, real-time and easy to use
- The inspectors can enter data from the job site, as it happens
- Gives county engineers the ability to work remotely
- Review and approve daily reports, estimates, and change orders from almost anywhere
- Saves a lot of time, since inspectors and construction administrator mostly in the field and not at the desk
- Helps in disputes, claims and questions
- Gives read only access to stakeholders
Why Montgomery County uses the software

- Multiple funding sources
  - Projects with multiple fund sources, including North Dixie Drive Roadway Improvements (5.3 million, five funding sources) and the Ridge Avenue Bridge Project (5.2 million, two funding sources)

- Contractors benefit from prompt, accurate payments

- Fewer trips to the job site since implemented

- ODOT and FHWA has more confidence in their funds being used according to standards

- Successful audits with ODOT and FHWA

- Accurate tracking pay quantities and change order information keeping costs down
Parting Thoughts

- Many other locals and consultants have implemented
- New jobs and technologies that didn’t even exist five years ago are driving business today
- What are your pain points?
- Changing work force?
- How can these technologies be leveraged?