Next Steps for Data Interchange for Geotechnical and Geoenvironmental Specialists (DIGGS)

TRB Workshop
Advances in Geotechnical Data Management and Visualization

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Ohio DOT Contract
Caltrans Experience

- 30,000 project files
- 2 million documents
- 300 projects/year
- 80 years of data
- Difficult to access information
Ohio DOT Experience

- 20-30 person hours per week to retrieve information
What is DIGGS?

- XML (Extensible Markup Language), Geography Markup Language (GML) compliant Standard for Geotechnical and Geoenvironmental Data
- Ongoing Effort Since 2005 – Pooled Fund Study
- Partners: USGA, EPA, COSMOS, AGS, UK-HA, UF, GINT, KeyNetix, State DOTs, FHWA, EarthSoft
DIGGS Schema Includes...

- Borehole Location and Site Information
- Borings & Sampling
DIGGS Schema Includes...

- Test pits
- In-situ testing
- Borehole Geophysics
- Laboratory Data
- Geoenvironmental
- Groundwater
The DIGGS Advantage
Interoperability
DIGGS Advantages

- Share Data within states between different databases Saving $Millions
  - Allows investigators to do work in best manner, but share required information

- Transfer of Data to Other Users, States, FHWA

- New uses for existing data
Cost Savings

- Ohio DOT:
  - 10-20% less drilling, savings $12-24M per year

- Florida DOT:
  - Fewer borings saving $250,000 - $500,000 on one project

- Missouri DOT:
  - 10-15% fewer borings per bridge
  - $81,000 savings per year in boring log preparation by using electronic data entry in the field

- California DOT:
  - 20% savings ($200k/year) with laboratory data management system implementation
DIGGS Current Status

- DIGGS Version 2.0α - July 2012
  - Update of Data Dictionary
  - Update of Schema
  - Creation of “DIGGS to Excel” Tool
  - Creation of “DIGGS to KML” Tool
  - DIGGS Website Update
Next Steps
DIGGS Implementation

- ODOT Contract with Geo-Institute-2 years
  - October 2013 – October 2015

- Goals of Contract
  - Finalization of DIGGS Schema standard from 2.0α to 2.0β and Public Release of DIGGS 2.0
  - Transition of ownership to Geo-Institute
  - Development of Long Term Business Plan, Management Structure, and Adoption Strategy
DIGGS Implementation

- Engagement of DIGGS Advisory Board
- Survey of DIGGS User Community
- DIGGS Training Materials
- Pilot Testing of DIGGS 2.0α
  - State DOTs & EPA, Software/Hardware Vendors, Federal Agency
- Update XML/GML Schema and Data Dictionary
DIGGS Tools Development

- Refining of existing “DIGGS to Excel”, and “DIGGS to KML”

- AGS 4.3 to DIGGS

- Excel to DIGGS

- Validation
Implementation Timeline

- Community Survey – Jan/Feb 2014

- Training Materials – Webinars
  - Jan-March 2014 – High Level and DIGGS Structure
  - Pilot Testers Training Webinar – How to Use DIGGS and Do Pilot

- Tool Development – February-July 2014
Implementation Timeline

- Pilot Testing – July-November 2014
- Final Release of DIGGS 2.0 – Nov. 2015
Questions