Leveraging ArcGIS Online for Roadside Feature Inspections

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Tablet Deployment

- Building tablet usage to integrate into field maintenance processes
- Maintenance Tablets in the field = 180 multiple iPad Gen4/Air2 tablets are deployed to our 109 garages
- Maintenance field management using tablets
- Construction staff have 90 to do the paperless plan management – using DocExpress and ProjectWise Explorer to manage documents in the field
What is Asset/Feature Management for the Field?

- Infrastructure Based Assets – Things you can see and touch in the field (roads, signs, bridges, etc.).
- Things that can impact the safety of the traveling public.
- Information collected about those features – design data, GPS data, business data such as physical attributes, current condition, etc.
Field Data Inspections
Production Application Development

• Contracted with Elecdata out of Idaho in March 2014 to develop a production series of ArcGIS Collector Tablet Applications which ties into our Oracle and ArcGIS Server infrastructure.

• The phase one focus is on inspection of a series of roadside features: culverts, signs, guardrail/crash cushions. Phase two will cover fence, lighting, and additional features as identified.

• Tablet testing/support/training is being provided by the Office of Maintenance team and IT staff collaboratively.
ArcGIS Collector Application

Login to DOT ArcGIS Online Account - View of Culvert Application Start Menu

- Doing a primary inventory
- Doing inspections over time
- Using a series of pick lists
Menu provides data driven forms to minimize typing.

Add a photo to record and submit.
As a result of a guardrail lawsuit the inventory of 9000+ guardrails on the primary system was possible this winter because this tool was ready.
Sign Inventory Data
Sign Interface
Data Inspection
Beyond Inspections

- Databases are being developed which allow information to be consumed at other points in the data life-cycle.
- It is also expected in the future to be able to leverage inventory information stored during design tabulation at letting as well as from as-built updates in the field.
- The hope is that the Collector Apps being built for inspections can be spun off for use by Construction in their As-built process for the 2016 construction season.
Trials and Tribulations

- It is ALWAYS going to be more difficult and take longer than you think it will
- Hooking Up Oracle
- Related tables
- Collector vs a viewer vs reporting and analysis

Other Useful Information
- Make sure you team is complete
- Engage the stakeholders
Iowa DOT Online Resources

Shawn Blaesing Thompson and Brad Cutler
Iowa Department of Transportation
Rest Services Available

CARS 511
http://services.arcgis.com/8lRhdTsQyJpO52F1/ArcGIS/rest/services/CARS511/FeatureServer

Snow Plows
http://services.arcgis.com/8lRhdTsQyJpO52F1/ArcGIS/rest/services/Operations/FeatureServer

Cameras
http://services.arcgis.com/8lRhdTsQyJpO52F1/ArcGIS/rest/services/cameras/FeatureServer

Local projects
https://geonexusr.iowadot.gov/arcgis/rest/services/Local_Projects

Bridge data
https://geonexusr.iowadot.gov/arcgis/rest/services/Bridges_Structures/NBI/MapServer

Main Service Links
http://services.arcgis.com/8lRhdTsQyJpO52F1/ArcGIS/rest/services
https://geonexusr.iowadot.gov/ArcGIS/rest/services
GIS Technologies Available

GIS Site has an applications menu on the left and services menu.

http://www.iowadot.gov/gis/default.htm
ArcGIS Online Portal

We have several interactive map available through our ArcGIS Online portal

http://iowadot.maps.arcgis.com/home/
Track a Plow App

Shows current plow locations, road conditions, weather and what plows are doing. Some trucks have a photo out the front window of the plow (400 of 900 trucks have cameras)
QUESTIONS?

Thank you!

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