Michigan Geographic Framework Geospatial Data Hub

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IMAGIN Conference - June 10, 2019



Presentation Agenda

- Project Status
- MGF as Geospatial Data Hub for Michigan
- Example of Data Contributor Roads and Culverts MDOT
- Demo of MGF Technology



Project Timeline

- RFP Published in Fall 2016
- Contract Awarded Spring 2017 ESRI and 1Spatial
- June-October 2017 Phase 1 Planning
 - Deliverables Completed
 - Geodatabase Design
 - Data Upload Workflows
 - Business Rules Design
 - Architecture Design
- January 2018-Present Phase 2 System Configuration and Implementation
- October 2018-Present Testing
- June ESRI Roads and Highways Integration Re-Design, Testing Summer
- June/July Test Additional Data Layers (Boundaries, Hydrography, Parcels, Address Pts) – Go Live
- Next MGF version release late summer 2019



MGF Distributed Editing





HELP. CONNECT. SOLVE.

Guiding Principles to MGF Geospatial Data Hub

- Create data once, use many times
- Data from authoritative sources
- Data classification by data owners
- Regular data updates and maintenance
- Effective metadata
- Partnerships and data sharing agreements
- Consistent data for decision making
 - Local, state, federal, public



MGF Geospatial Data Hub Road Centerline Data Flow





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MDOT - Roads & Highways

- What is Roads & Highways?
 - Developed by ESRI this is an Enterprise Linear Referencing System
 - A database where we store, maintain, and edit our three LRNs
 - The database contains over 100 registered events
 - Each consists of one normalized data item
 - An event is registered to the network based on the PR and Mile Point
 - Common events include Legal System, Lane, and Traffic Segment
 - The GIS Unit maintains the "shells", while the business area maintains the data through an editing workflow





MDOT - Roads & Highways







10 mi



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MDOT - Linear Referencing and Event Maintenance

- Making edits to the road network
 - Typically occur for road additions, retires, and alignment corrections
- What does an editing workflow look like?
 - Any edits made to a road segment migrate through different business areas that have events registered to that segment
 - Notifications are received from upstream business areas

























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MDOT - Transportation Asset Management System (TAMS)

- Life cycle management of MDOT assets by combining location information with business intelligence
- Enterprise geodatabase infrastructure for business areas to store and manage data
 - Planning Design Construction Operations Maintenance
- Data published for stakeholders to perform analysis and make better informed decisions through suite of user-friendly webbased applications
 - Road Analyzer Road Video Viewer Validation Assistant Segment Analyzer – Report Engine – Roadway Reporter
- Maintenance Management System (MMS) integration allowing real-time service and work order requests be communicated efficiently for staff and management to most effectively resolve

- VueWorks





MDOT - Transportation Asset Management System (TAMS)

- Statewide Asset Collections
 - Culverts (2017-2019)
 - 2017-2018: ~35,000 collected in 69 counties
 - 2019: Grand Traverse, Leelanau, Wexford, Wayne, and 10 U.P. counties
 - ArcGIS Collector used with high-accuracy GPS
 - Guardrail and Cable Barriers (2017)
 - ~30,000 Guardrails & 680 Cable Barriers collected statewide
 - Photography with field identification spot checks
 - Future Assets
 - Bridge Mounted Signs & Structures
 - Cantilevers
 - Pump Stations
 - Signs
 - Trusses







MGF Geospatial Data Hub Culverts Data Flow and Use Cases





Access to Geospatial Data Hub





GIS Coordination and Integration





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esri



MGF Portal Site

Home Gallery Map Scene Groups My Organization

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MGF Contribution Dashboards



ETMB

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