Rail Programs Office Technology Upgrades

Purdue Road School
Wednesday, March 6
Multimodal Department

- Multimodal Department
  - Transit
  - Aviation
  - Rail
  - Freight
- Central Office only - 21 employees
- Operating Budget - $2.1M
- Program Budget - $190M state and federal funds
Rail Programs Office

Recent Technology Upgrades:

• Rail Crossing Locator Map
• Arc Collector
  • Field inventory data collection
• GRIP System
Rail Programs Office Responsibilities

• Regulatory
  • Code Enforcement
  • Petitions
  • Railroad 12-Month Orders
  • Crossing Inventory

• State Grant Programs
  • Industrial Rail Service Fund
  • Railroad Grade Crossing Fund

• State Rail Plan

• Passenger Rail
  • Amtrak Hoosier State
Freight Rail in Indiana

- 3 Class I (large) railroads
- 39 Class II and III (small) railroads
- Operate over 4,000 miles of active rail lines
- Indiana ranks 4th in nation in number of railroads operating, 7th in carloads handled and 10th in millions of tons handled.

Sources: INDOT Data, Association of American Railroads
Rail Crossing Locator Map
Rail Crossing Locator

- Original Rail Crossing Locator
- Custom-built application
- Major update or rebuild needed
Rail Crossing Locator

- New Rail Crossing Locator
  - ESRI ArcGIS Online
  - Advantages
    - Quickly build application
    - Hosted in the cloud (ESRI servers)
    - Mobile friendly
    - Platform keeps up with browsers
  - Disadvantages
    - Customization is a bit limited
    - Some tools may not function as desired
- Available INDOT’s public website
  - www.in.gov/indot
Arc Collector
Field Inventory Data Collection
State of the State

- 5,700 at-grade public crossings
- Inspected every 3 years
- 2 inspectors for the entire state
- Cumbersome image capture and storage
- No integration with other INDOT systems
Project Objectives

- Automate process of submission to the FRA
- Streamline internal documentation (photos and reporting)
- Rail crossings will be maintained as a GIS inventory
- Support the Multi-Modal Division Strategic Plan by becoming “totally electronic in our updated record retention processes. No more paper.”
Prior Process

Manual Workflow
• Search FRA website for crossing form
• Print crossing form
• Update paper form in the field
• Take pictures
• Update form on website back in the office
• Submit form
• Download images
• Create image directories
• Rename images
• Store images
New Workflow
• Update electronic form in the field
• Take pictures; associated with each crossing
• Save changes to each crossing
• Photos saved to the new Rail Locator Map
• Automated nightly sync with FRA database (push and pull)
New Process

In Action

• Color-coded crossings by type
• Navigate to the exact location of each crossing
• Editing enabled for all crossings and applicable fields
• Updates are automatically saved to the INDOT GIS inventory
Photo Log

- All photos are gathered in a particular order at each crossing.
- Photo 1 is on the West end approach on a line that runs north/south or on the South end approach on a line that runs east/west.
Results

Benefits

✓ Uses mostly COTS (Commercial Off-The-Shelf) solution

✓ Saved INDOT staff time, reduced redundancy

✓ Confidence in having the latest, most accurate data

✓ Easier to view both current and historical inventory

✓ Achieves the “No Paper” objective

✓ Integration of crossing inventory with other GIS data
“The Federal Railroad Administration (FRA) introduced the Grade Crossing Inventory System (GCIS) in 2015 for States and Railroads to update the national railroad crossing inventory. GCIS allows users to submit data directly to FRA via a secure Application Programming Interface (API), one of four data submission options. Indiana DOT is one of only eight states that have successfully utilized the API.”

~Lindsay Peters-Dawson, FRA Office of Railroad Safety
GRIP System
GRIP

• What is GRIP?

Grant
Rail
Improvement
Project
GRIP

• GRIP Functions
  • Application submittal for state funded rail grant programs; Railroad Grade Crossing Fund (RRGCF) and the Industrial Rail Service Fund (ISRF)
  • Scoring and selections for grants
  • Grant financials, tracking and storage
  • Reports
Grant Process Improvements

Prior Process
• Paper Applications
• Manual Application Tracking
• Manual Scoring Process
• Grant Financials- multiple spreadsheets
• Grant Reports- manual process

Current Process (GRIP)
• Electronic applications
• GRIP tracks applications
• Scoring/Selections completed in GRIP
• Grant financials- one source
• Reports- generated in GRIP
Railroad Grade Crossing Fund (RRGCF)

- RRGCF program provides grants to local governments and short line railroads to develop and implement passive (non-train activated) safety projects at public rail-highway crossings.
- INDOT Rail Programs Office administers this fund as a cost reimbursement grant program. The grants provided can be used for material and some labor costs associated with the projects.

- 100% funding for advance warning signs, pavement markings, median barriers, & illumination
- Maximum award $45,000
- Crossing closures eligible; award between $10,000 - $50,000
- Apply through GRIP system
- FY20 Applications accepted beginning on May 31, 2019
GRIP Access

• Must have an ITAP account to request access
• Once an ITAP account is created for your business, users will need to request access to GRIP
• An approval email will be sent to the requestor from ITAP Customer Support confirming GRIP access
• Displays each user’s past applications
• New Application submittal
• Update Contact Information
On the application selection page, GRIP gives the available fund selections with a brief description.
GRIP- RRGCF Application

• Four part application
  • Basic Information
    • Applicant information
    • Grant application contact
    • Billing questions contact
    • Project manager contact
  • Improvement Details
  • Attachments
  • Summary
Any questions?
Contacts

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