WV Planning Conference 2017
Interactive Mapping – WV’s Focus and Beyond

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West Virginia DOH

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GeoDecisions
Topics/Discussions

- PA’s Act89 Transportation Bill (“Decade of Investment”)
- Interactive Mapping and the Roads to Prosperity Initiative
- Interactive STIP/TIP
  - State Focus
  - Planning Organizations
- Where to Go From Here
PA’s Act 89: “Decade of Investment”

On Nov. 25, 2013, House Bill 1060 was signed into law, creating Pennsylvania’s most comprehensive piece of state transportation legislation in decades. This legislation will invest an additional $2.3 to $2.4 billion into transportation by the fifth year of the plan.

The plan, Act 89, provides resources for all transportation modes. In 2014, more than $600 million of the $2.4 billion invested in highway and bridge projects across the state came from Act 89.

This site shows highway and bridge projects being made possible because of Act 89’s historic investment. The projects are categorized as follows:

- Completed Projects
- Underway (Projects currently under construction)
- Four Year Plan (Projects to start in the next 4 years)
- Twelve Year Plan (Projects to start in the 8 years following the Four Year Plan)
- Under Development (Dates not yet established)
- Rapid Bridge Replacement (Public-Private Partnership)

Act 89 also brought benefits for transit providers and non-highway modes, which are described in this transit and multimodal summary. Here is a list of transit-project examples from 2014 through 2016.
## Road & Bridge Progress

### Project - I-70 MP 4.5-10 Restoration

- **Project ID:** 91558
- **Title:** I-70 MP 4.5-10 Restoration
- **Type of Work:** Restoration
- **PennDOT District:** 12
- **Planning Partner:** Interstates
- **State Representative:** Jim, III Christiana, (R)
- **State Senator:** Camera C. Bartolotta, (R)
- **US Representative:** Tim, F. Murphy, (R)
- **County:** Washington
- **Route:** 70
- **Project Manager:** Ronald Murray
- **Name:** ronmurray@pa.gov
- **Phone:** 724-430-7312
- **Street View:** Click for Google Street View
- **Project Images:** No Images available
- **Report:** Click to view report

### Project - 12-14 DIST S112

### Project - 12-14 DIST S112

### Project - SR 3047 or I-70

### Project - SR 3047 or I-70

### Project - SR 3047 or I-70

### Project Status:
- **Completed or Underway**
- **County:** Washington
- **Project ID:** 91558
- **Title:** I-70 MP 4.5-10 Restoration
- **Route:** 70
- **Improvement Type:** 670 Pavement Preservation/ Bridge Preservation
- **Work Can Begin:** 03/30/2017 (Actual)
- **Completion Date:** 11/04/2017 (Estimated)
- **Project Limits:** mile post 4.5 (segment 0044 offset 0100 - 0116) mile post marker 10 (segment 0045 offset 0100 - 0116) in Buffalo & Donalgul Townships & claysville Borough, Washington Township.
- **Narrative:** 670 Pavement Preservation/ Bridge Preservation (MP 4.5-10)
- **Buffalo & Donalgul Townships & claysville Borough, Washington Township
- **Current Contract Amount:** $16,680,232.80

### Data Table

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<tr>
<th>District</th>
<th>Total Projects</th>
<th>Total Cost</th>
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### Project Details

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<tr>
<th>Project ID</th>
<th>Title</th>
<th>County</th>
<th>Improvement Type</th>
<th>Cost</th>
<th>Primary Project</th>
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Roads to Prosperity
An Opportunity for West Virginia
ROADS TO PROSPERITY

For a list of candidate projects

[Click here to view a project list for the ROADS TO PROSPERITY]
Interactive R2P Initiative - Now
Interactive R2P Initiative - Mapping

- Display and Query Wave Projects
- Mobile-Friendly Map Viewer
- Filtering by Regions
- Reports
- Share and Print Maps

### WV Roads to Prosperity Projects in RIC (Charleston) Planning Partners

<table>
<thead>
<tr>
<th>District</th>
<th>County</th>
<th>Route</th>
<th>Total Cost</th>
<th>Total Construction Miles</th>
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<tbody>
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<td>01</td>
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<td></td>
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<table>
<thead>
<tr>
<th>District</th>
<th>County</th>
<th>Route</th>
<th>Total Cost</th>
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<td></td>
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<td></td>
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<td>Project Name: SEERNG FORX - TAPPERS OR REMOVE WARRANTY</td>
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</table>
West Virginia Transportation Projects

The West Virginia Division of Highways (WVDOH) is directly responsible for more than 35,000 miles of state roads and 6,958 bridges in West Virginia. Maintaining our transportation network takes strong partnership among the Division, the federal and local governments, the planning partners and our communities.

This Projects page demonstrates West Virginians’ investments in the transportation network serving them. You can see active construction projects that are underway, beginning this year or being bid this year on the Highways Projects.

Projects are identified through a rigorous planning process that maps out our investments over six year period. The Six Year Plan section shows you highway, bridge, transit and aviation projects identified on our 2016-2021 State Transportation Improvement Program (STIP). West Virginia also has a Multi-Modal Statewide Transportation Plan covering years 2010-2034 long term plans.

To view news and traffic alerts from a WVDOT region near you, visit the applicable district’s page. If you would like to report a concern on state-owned road conditions, construction projects, signs or signals, or other topics related to state roads, please visit our Road Repair request page.
WVDOT’s STIP

• What is STIP?
  - The DOT’s Capital Plan for Projects for the next 6 Years

• What is WVDOT’s Process?
  - Manual Handshake Between the MPOs and DOT
  - Create and send “Cut Sheets” to MPOs for Public Comment
  - MPO Manages own TIP based on the STIP

• Current Technology and Shortcomings?
  - Mainly MS Access and Excel
  - Soon to be CPMS as part of the overall ERP implementation
  - STIP Book is created and maps are part of that. Very manual.
WVDOT’s Interactive STIP Viewer

- Display and Query STIP Projects
- Provide Information on the STIP Program
- Mobile-Friendly Map Viewer
- Summary Reports
  - Project Info
  - Funding Streams
- Share and Print Maps
- Subscribe to Project Updates
MPO/RPO TIP Management

TIP/LRTP Management and Workflows
WV’s MPO/RPO TIP/LRTP Process

- **What is TIP and LRTP at the MPO/Local Planning Level?**
  - MPO Manages own TIP based on the STIP
  - Public comment and involvement, amendments, etc.

- **What is WVDOT’s Role?**
  - TIP, included into STIP, is submitted by WVDOT to FHWA & FTA for approval
  - Push down projects to the MPO
    - Most MPOs do not have local funding to do projects outside the STIP from the DOT

- **Current Technology and Shortcomings?**
  - MS Excel
  - TELUS
Examples for TIP/LRTP Management
Functions / Tools

• TIP and LRTP Management
  - New Project Creations
  - Amendments
  - Agency Level Permissions and Control

• Map Engine for Display/Query

• Reporting Engine for Analysis and Project Reports

• Import of DOT Projects

• Audit Log of Changes/Access

• Benefit: Time Savings and Paperless!!
Possible Workflows for STIP Management

• Completely Electronic Workflow Solution Between the MPOs and WVDOT
  - Remove the need to create and send cut sheets and spec sheets
  - Online commenting and management of the whole lifecycle of a STIP/LRTP project
  - Push data via one system and data model between all entities
  - Model it on the workflows in the Online Grants Management System at WVDOT
  - Checkpoints and Notifications at Each Workflow Step
    - Look to possibly use Workflow Manager from Esri or another solution
Esri Roads & Highways Integration
Where to Go From Here
Path Forward

• Interactive Mapping Development
  - ArcGIS Online for WVDOH
  - Continue Development of Roads to Prosperity Viewer
  - Future of WVDOT’s STIP
  - Look at Web AppBuilder options

• Mobile
  - Collector – more use
  - Survey123 – how can it be used versus Collector

• Interactive GIS for Environmental Impacts
AGOL / Portal WebMap Integration
Mobile Field Data Collection

SEPTA
World Meeting of Families and Papal Visit

Regional Rail Station Traffic and Parking Planning

SEPTA coordinated with local officials and public safety agencies to determine safe and easy ways for train riders using SEPTA’s system to get to and park at the designated regional rail stations.

The map to the right allows you to zoom into the train station at which you purchased your special train tickets. Please take care to note the planned vehicle and pedestrian traffic plan, as well as anticipated parking options, prior to your trip to the station to make your experience comfortable.
Use Subtypes for CollectionAreas to limit RouteID domain options

Red symbology indicates which roads need to be collected.

Items to Collect:
- Turning Lanes
- Passing Zones
- Widening Potential & Obstacles
- Intersections
  - Signaled
  - Stop Signs
  - At Grade Others
- Maintenance Needs
GDB setup in ArcCatalog
Add features to AGOL, create + configure webmap, Share maps
Data is collected
Download collected data from AGOL
Post-process (manage attachments, add + calculate fields)
Locate Events
Append Events into R&H
Dashboards and Insights

• Operations Dashboard and Esri Insights Integration
  • Show status of data process or collection techniques
  • ArcGIS 10.5 opens the door for more visualization of stats and status through web enabled tools
  • Dissect past HPMS data with other historical data for better analysis
Web AppBuilder Custom Widgets and Add-Ons
Questions? Thank You!

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