



# Utilizing Emerging Technologies to Improve WVDOT's Efficiency and Productivity

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## Agenda

- Applications of Information Technology
- Applications of Geospatial Technology
- Near Future Plan
- Qs & As

## Agenda

### Applications of Information Technology

- Dashcam (AI Vision Detection & Processing of Live in motion Video)
- AI Assistants (Public Chat Bots and Private Assistants)
- Application Dashboard (Windows Application)
- Timekeeper
- EAA (Employee Access & Assets)
- OnBase (EDMS Paperless Office with Dynamic Workflows, Electronic Forms & Case Management Applications)

# Dashcam (AI Vision Detection & Processing of Live Video)

The interface features a top navigation bar with the following items: Upload, Viewer, **Map**, Label, Annotations, Users, Tags, Processing, and a LOGOUT button. A search bar on the left contains the text "Search routes (e.g. I 77, CR 10 Lewis)" and shows "1248 routes".

The left sidebar lists several routes with their details:

- US US 50 WB** Ritchie, 16.55 mi, 16 captures, Nov 6, 2025
- US US 50 EB** Ritchie, 0.27 mi, 2 captures, Oct 22, 2025
- US US 50 WB** Ritchie, 0.21 mi, 2 captures, Nov 6, 2025
- WV WV 16 00** Ritchie, 22.34 mi, 23 captures, Nov 6, 2025
- WV WV 16 00** Ritchie, 27.96 mi, 26 captures, Jan 8, 2026
- WV WV 16 SB** Ritchie, 0.05 mi, 1 capture, Oct 9, 2025
- WV WV 31 00** Ritchie, 0.04 mi, 1 capture, Oct 22, 2025
- WV WV 31 00** Ritchie, 13.85 mi, 9 captures, Oct 31, 2025
- WV WV 47 00** Ritchie, 28.59 mi, 30 captures, Oct 31, 2025
- WV WV 47 00** Ritchie, 28.6 mi, 52 captures, Oct 31, 2025

The main area is divided into three sections:

- Map:** A topographic map showing a route highlighted in blue. A blue dot on the route indicates the current video location. The map includes a scale bar for 100m and a "Leafletmap OFF" button.
- Video 1 (Top Right):** A dashcam video from "WV 47 00" at "MP 24.747" (3208/9493) on "Oct 30, 2025 | 10:05". The video shows a road with trees and a house on the left.
- Video 2 (Bottom Left):** A dashcam video from "WV 47 00" at "MP 24.747" (3208/9493) on "Aug 26, 2025 | 07:08". The video shows a road with trees and a house on the left.
- Video 3 (Bottom Right):** A dashcam video from "WV 47 00" at "MP 24.747" (3208/9493) on "Oct 26, 2025 | 09:01". The video shows a road with trees and a house on the left, with a bright sun flare on the right side.

At the bottom, there is a video player control bar with a play/pause button, a "1x" speed selector, a progress bar, and a "NEXTBASE" label.

# AI Assistants (Prompt Engineering & Chat Assistants)

## Why the Prompt Is the Most Critical Variable

- Reduces hallucinations
- Ensures clarity
- Maintains consistency

## Where AI Adds Value

- Drafting and Visioning
- Research acceleration
- Data summarization
- Scenario exploration
- Editing & quality control

## Core Prompt Patterns

- Role + Task + Context + Constraints
- Give examples
- Step-by-step reasoning

## Data Security & Responsible Use

- Avoid entering confidential or regulated data into AI tools
- Use approved platforms
- Provide human review of content

# Application Dashboard (Windows Application)

The screenshot displays the wvoOASIS Application Dashboard. The top navigation bar includes the wvDOT logo, the title "Application Dashboard", and utility buttons: "AI Assistants", "Contacts", "Back", "Forward", "Reload", and "Open in Web Browser". Below this, a secondary navigation bar shows "IT APPS", "GIS / LRS", "TAMS / OASIS", and "MISC.", with the user profile "RB Robert".

A green "Security Factor" banner contains the text: "We recommend all OneLogin users have at least 2 security factors and encourage one of the factors should be email in case of phone issues. To add an additional factor, please click your name, go to profile, security factors and add security factor." A search bar is positioned below the banner.

The main content area is titled "wvoOASIS: Applications Menu" and features a "Frequents" tab. It displays a grid of application tiles:

- wvoOASIS Profile**: Represented by a blue tile with a person icon.
- Cycle Operations Dashbo...**: Represented by a dark grey tile with a cycle icon.
- Employee Self Service**: Represented by a green tile with the "ESS" logo.
- HUB PRD CLONE**: Represented by a white tile with a black circle containing the number "1".
- HUB Production**: Represented by a white tile with a black circle containing the number "1".
- myApps**: Represented by an orange tile with a person icon.
- VISTA**: Represented by a blue tile with the text "VISTA".
- wvoOASIS Forms**: Represented by an orange tile with a document icon.

The left sidebar menu lists the following applications under "TAMS / HUB / WVOASIS":

- MMS I-TICKET
- DTIMS OM
- DTIMS BA
- HUB / WVOASIS** (highlighted)
- ONBASE UNITY CLIENT
- OASIS FINANCE FORM
- ONLINE PERMIT PORTAL

# Timekeeper Application



- Accounts
- Time Entries
- Workday Issues
- Reports



## Reports Dashboard

Select a category below to generate reports.

- Attendance Reports
- Employee Reports
- Section Reports

### Comprehensive Attendance Report

Generate attendance logs filtered by Organization, Section, or a specific Employee. Leave fields blank to see all available data.

Section

Select options

Employee

Select options

Start Date

02/25/2026



End Date

03/04/2026



Generate Attendance Report

# EAA (Employee Access & Assets)

**BRYANT,  
ROBERT**

Edit  
Employee

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Notes
		7:00AM-5:30PM	7:00AM-5:30PM	7:00AM-5:30PM	7:00AM-5:30PM		

Deprovision  
Complete

<b>Expiration:</b>	2/27/2026	<b>Class:</b>	Auto, trucks and others not	<b>Status:</b>	EXPIRED	<b>Last Updated:</b>	3/3/2026 5:01:35 AM
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Inventory

Software Licenses System Access wvOasis Access P-Card State ID Access Card Parking Pass Contact Info Emergency Contacts Committees

Create New

Show Reassigned Items

Select a Category

Filter

Reset

Departure Report

Employee Report

Category	Serial No.	Tag No.	Manu.	Model	Device Class / Loc.	Desc.	Install Issue Date	Retire Date	Comments
Monitor	CN-0787XX-FCC00-1CF-GRLX-A00			E2422H		Dell			
Monitor	CN-0787XX-FCC00-1BT-AWEX-A00			E2422H		Dell			
Monitor				E2422		HP			
Monitor				E2422		HP			
Desktop Scanner	55063415	0002364		I2429		Kodak			
Laptop	5CD9087TZF	0003291		2YS50AV		HP ZBook Studio x360 G5 T20DO...			
Docking Station	5CG845V2VC			3TR87AA#ABA		HP THUNDERBOLT			

# OnBase (EDMS Paperless Office with Dynamic Workflows, Electronic Forms & Case Management Applications)

The screenshot displays the OnBase (OBPROD) web interface. The top navigation bar includes tabs for File, Home, ePermits, Right of Way, Project Details, Folder, Document, and Image. The 'Folder' tab is active, showing a 'Folder Tree' on the left with a list of permit folders. The 'Document' view on the right shows an email notification with the following details:

**From:** donotreply.WVDOTportal@wvoasis.gov  
**Sent:** Mon, 8 Jul 2024 13:27:08 +0000  
**To:** LEIGH.VREDEVELD@FTR.COM  
**Subject:** Right of Way MM109 Permit Application Received - 01-2024-1003  
**Importance:** Normal

Your application number 01-2024-1003 has been received and is in process. To check the status of your application, you can login to the online portal with your Member Log In or contact the District that is processing your application.

The Contact below can help you determine who at the County is processing your application.

Bill Dorsey  
District Permit Supervisor  
304-205-8044  
bill.l.dorsey@wv.gov

Icon	Document Name	Document Type
<input type="checkbox"/>	EP MM109 ROW Entry Permit Application - 01 - 01-2024-1003 - - 7/8/2024	EP MM109 ROW E
<input checked="" type="checkbox"/>	EP MM109 OnBase Email Notifications - 01-2024-1003 - MM109 RECEIPT CONFIRMATION (TO APPLICANT) - 7/8/2024	EP OnBase Email
<input type="checkbox"/>	EP MM109 OnBase Email Notifications - 01-2024-1003 - MM109 INCOMPLETE DATA (TO DS) - 7/8/2024	EP OnBase Email

## Agenda

Applications of Information  
Technology

**Applications of Geospatial  
Technology**

- **Transportation Request Infrastructure Portal (TRIP)**
- **WVDOT Projects Dashboards**
- **State Road Search by Address**
- Geometry & Measures
- OM-79 Application
- PJ 101 Application
- WVDOT Self-Service Report Portal

# Transportation Request Infrastructure Portal (TRIP)



WVDOT Request Statistics

County: All | Status of Request: All | Request Category: All | Name of Requester: All

Requests Under Assessment

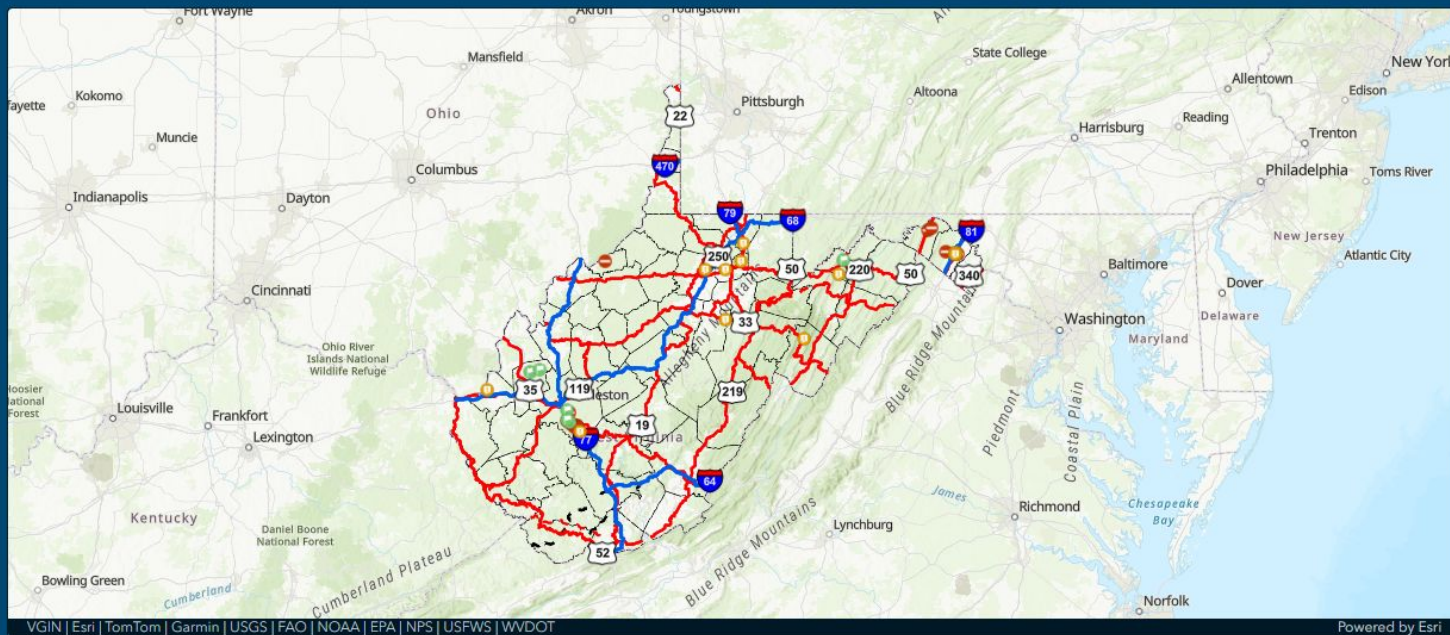
15

Requests Continuing to Construction

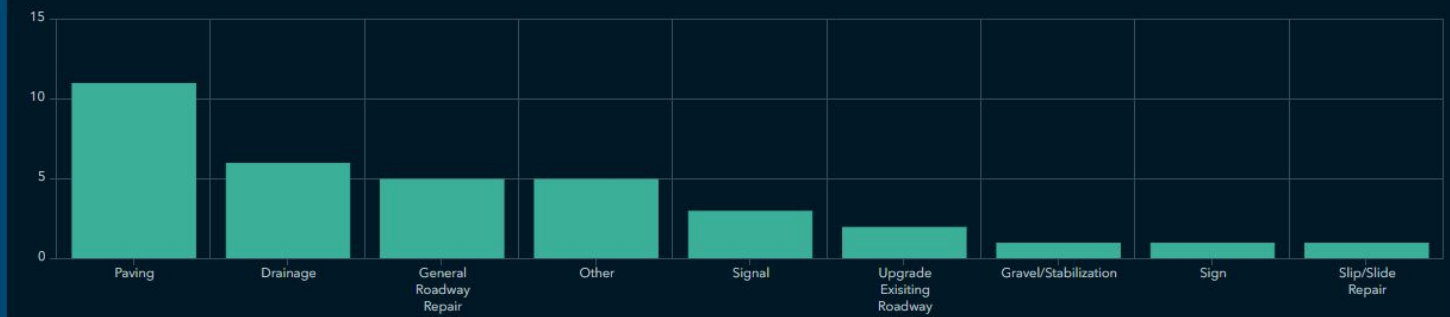
6

Requests Not Continuing to Construction

14



VGIN | Esri | TomTom | Garmin | USGS | FAO | NOAA | EPA | NPS | USFWS | WVDOT | Powered by Esri



Requests (newest listed first)

Search...

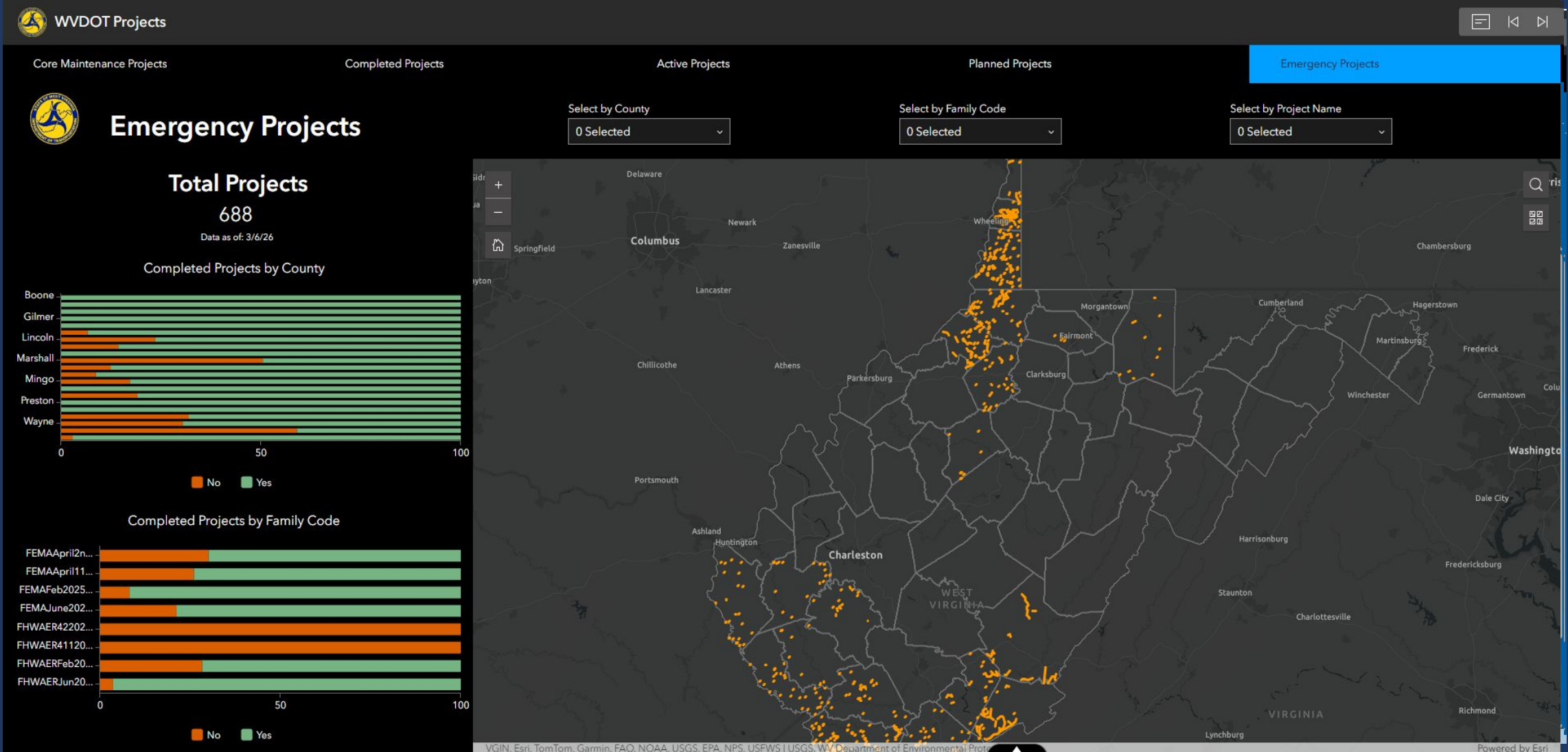
- Richard Dennis**  
 Berkeley County  
 Status - Under Review  
 Cost - Pending
- Richard Dennis**  
 Berkeley County  
 Status - Under Review  
 Cost - Pending
- Tresa Howell**  
 Kanawha County  
 Status - Moving to Construction  
 Cost - \$0
- Glenn Jefferies**  
 Cabell County  
 Status - Assigned  
 Cost - Pending
- Michael B Hite**  
 Berkeley County  
 Status - Assigned  
 Cost - Pending
- Michael B Hite**  
 Berkeley County

Requests with Assessed Cost

20

Total Cost of Assessed Requests  
**\$9,310,631**

# WVDOT Projects Dashboards



# State Road Search by Address

State Road Search by Address

Use the search bar below to locate an address near a state owned route

230 MAIN LODGE RD, DAVIS, WV, 26260

Adjust the buffer distance for the address search and press Enter

10 Miles

↓ State Owned Route Name(s) Below ↓ 148

Back Hollow Rd	1 mi
No value	1.08 mi
Flat Ridge Rd	1.11 mi
Appalachian Hwy	1.13 mi
Freeland Rd	1.13 mi
Timberline Rd	1.43 mi
Laneville Rd	1.63 mi
Cortland Rd	1.9 mi
Bensland Rd	2.02 mi
Dry Fork Rd	2.27 mi
Weiss Knob Ski Rd	2.3 mi
Butchers Ridge Rd	2.38 mi
Sapling Ridge Rd	2.44 mi
Jenningston Rd	2.62 mi
Windwood Dr	2.72 mi
Flanagan Farm Rd	2.78 mi
French Raines Rd	2.86 mi
Cessna Ln	2.89 mi
Whites Rd	2.95 mi

Esri, NASA, NGA, USGS | VGIN, Esri, TomTom, Garmin, SafeGraph, METI/NASA | USGS, EPA, NPS, USDA, USFWS

Powered by Esri

# Geometry & Measures

The image displays a map of West Virginia with a blue route overlaid. The route starts in the north near Weirton and follows major highways including I-76, I-77, I-78, I-80, I-81, and I-82. A red box highlights a 'Find Measure' dialog box on the right side of the map. This dialog box contains the following fields and controls:

- Find Measure** (Title)
- Enter Milepoint (e.g. 1.54), Place (e.g. "Kimball, WV"), or leave blank for full route.
- 1. Route ID:**
- 2. Start Reference:**
- 3. End Reference:**
- 

Another red box highlights a 'Route Information' dialog box in the bottom right corner. This dialog box contains the following text and controls:

- Route Information** (Title)
- Click a route on the map or use the Search tool to see details.
- 

At the bottom of the map, there is a small logo for WVDT and a footer text: "WVDT | This map was developed by the West Virginia Department of Transportation Geospatial Transportation Information Division. It is provided for general reference and is not warranted in any way. Errors from non-coincidence of features from different sources may exist. The West Virginia Department of Transportation shall not be held responsible for inappro... Powered by Esri"

# OM-79 Application



OM-79

[Home](#)

[Resources](#)

[My Submissions](#)

[My Archive](#)

[Pending Signatures](#)

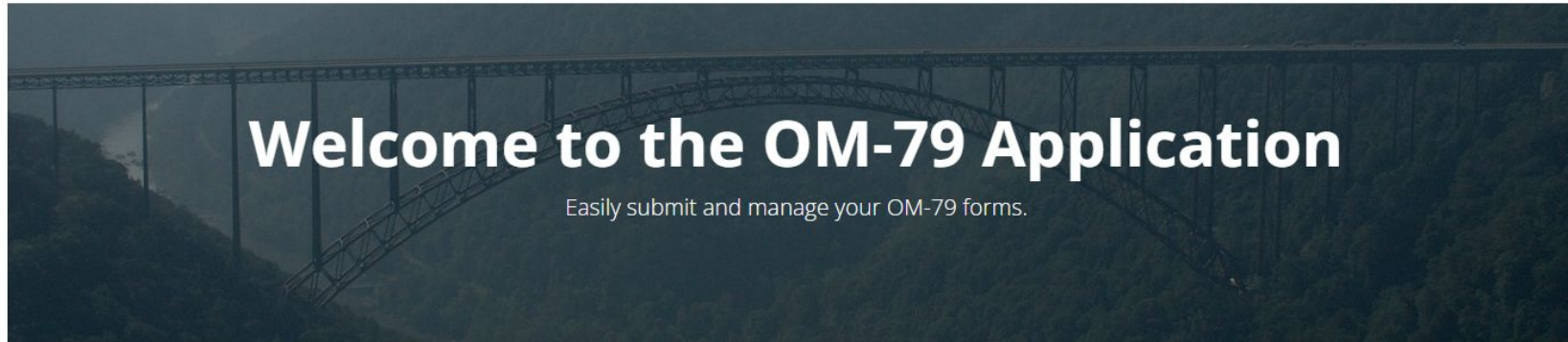
[OM-79 Records \(Public\)](#)

[OM-79 Records \(Role Required\)](#)

[Administrator](#)

[Toggle Workflow Manager](#)

PRODUCTION ENVIRONMENT - You are using the live and official version of the application.



## Welcome to the OM-79 Application

Easily submit and manage your OM-79 forms.



Create New OM-79 Package  
Start a new OM-79 form submission.

[Create New OM-79](#)



Need Help Getting Started?  
Visit our resources page for guides, support, and more.

[Go to Resources](#)

### OM-79 Workflow Manager

To start a new OM79, follow the instructions below:

1. Click on the **"Home"** button in the navigation bar above.
2. Select the **"Create New OM-79 Form"** link on the homepage.
3. Fill out all required information in the form and click **"Create"**.

To continue working on an active OM-79, follow the instructions below:

1. Click on the **"My Submissions"** button in the navigation bar above.
2. Locate the OM79 entry you wish to work on from either the awaiting submission or awaiting requested changes section.
3. Click on the **"Details"** button for the selected OM79.

# PJ 101 Application

The screenshot displays a web application interface for the PJ-101 Application. The background is a map of West Virginia with various cities labeled, including Ringfield, Columbus, Newark, Zanesville, Wheeling, Chambersburg, Hagerstown, Martinsburg, Frederick, Germantown, Sterling, Reston, Centerville, Dale City, and Frederickburg. A search bar at the top right contains the text "Find address or place" and a magnifying glass icon. A central modal window is overlaid on the map, containing the following text:

**PJ-101 Application**

This mapping application is for the submission of PJ-101 information.

Additional information regarding roadway attributes and statistics can be found in the [Road Inventory Log](#).

To check if a submitted form has been added to the dataset, check the [PJ-101 Dashboard](#).

Instructions for usage of this application can be found at [this link](#).

If you require support, please send an email to [PJ101forms@wv.gov](mailto:PJ101forms@wv.gov)

An "OK" button is located at the bottom right of the modal window. In the bottom right corner of the map area, there is a small black box with the text "App State" and "Click to restore the map extent and layers visibility where you left off." At the bottom of the map, there is a scale bar showing 20 miles and a footer with the text "Esri, HERE, Garmin, USGS, EPA, NPS | Esri, HERE, NPS | USGS, WV Department of Transportation".

# WV DOT Self-Service Report Portal

### WV DOT Self-service Report Portal

- General
- Road Summary
- Pavement Condition
- LRS Road Inventory Log**
- LRS Overlay Report
- QA
- HPMS
- Misc (Internal)

#### 1 Layer (Attribute) Selection

- AADT
- ACCESS\_CONTROL
- ALT\_ROUTE\_NAME
- AT\_GRADE\_OTHER
- AVG\_LANE\_WIDTH\_FT
- CENSUS\_URBAN\_CODE
- CRACKING\_LENGTH
- CRACKING\_PERCENT
- CURVE\_CLASS
- DES\_TRUCK\_ROUTE
- DISTRICT
- FACILITY
- FAULTING
- FEDERAL\_AID
- FOREST\_ROUTE
- GRADE\_CLASS
- GRADE\_WIDTH\_FT
- HPMS\_SAMPLE
- IRI
- MAINT\_OPERATIONS
- MEDIAN
- NAT\_FUNCTIONAL\_CLASS

#### 2 Sign System Selection

- 1 Interstate
- 2 US
- 3 WV
- 4 CO
- 6 State Park and Forest Rd
- 7 FANS
- 8 HARP
- 9 Other
- 0 Municipal Non-State
- R Railroad
- T Trail
- U US Forest Rd

#### 3 County Selection

- All
- 01 - Barbour
- 02 - Berkeley
- 03 - Boone
- 04 - Braxton
- 05 - Brooke
- 06 - Cabell
- 07 - Calhoun
- 08 - Clay
- 09 - Doddridge
- 10 - Fayette
- 11 - Gilmer
- 12 - Grant
- 13 - Greenbrier
- 14 - Hampshire
- 15 - Hancock
- 16 - Hardy
- 17 - Harrison
- 18 - Jackson
- 19 - Jefferson
- 20 - Kanawha
- 21 - Lewis

#### 4 Summary Options

- County
- AADT
- AADT\_YEAR
- ACCESS\_CONTROL
- DISTRICT
- FACILITY
- FAS\_TYPE
- GRADE\_WIDTH\_FT
- MEDIAN\_WIDTH\_FT
- HPMS\_MEDIAN\_BARRIER\_TYPE
- NAT\_FUNCTIONAL\_CLASS
- NHS
- ORIG\_SURVEY\_DIRECTION
- PAVEMENT\_WIDTH\_FT
- SPECIAL\_SYSTEM
- STATE\_FUNCTIONAL\_CLASS
- SURFACE\_TYPE
- NUM\_THROUGH\_LANES
- URBAN\_CODE

#### 5 GIS Output

None  FGDB  Shapefile

#### 6 Email

Yueming.Wu@wv.gov

Go

## Agenda

Applications of Information  
Technology

Applications of Geospatial  
Technology

**Near Future Plan**

- **Coming Major Releases**
  - Revamping of the DocuSign Contract
  - WVDOT Technology (IT & Geospatial) Strategic Plan
  - Migration of DOT's Website to Drupal
  - Development of the Transportation Citizen Concerns (TCC) Portal
  - Compliance with Web Content Accessibility Guidelines (WCAG) Requirements
  - WVDOT Public Chatbot Assistant
  - WVDOT Employee Chatbot Assistant
  - Migration of GIS Infrastructure to Data Center 2.0
- **Strategically**
  - Develop the WVDOT Data Governance Plan
  - Develop the WVDOT AI Governance Plan
  - Build up the WVDOT AI Infrastructure, Including the AI Team

Agenda

Applications of Information  
Technology

Applications of Geospatial  
Technology

Near Future Plan

**Questions & Answers**

# Questions & Answers



# Thank You!



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Please feel free to reach out to us at [DOTSupport@wv.gov](mailto:DOTSupport@wv.gov)!