

# MUNICIPAL ADVISORY COMMITTEE MEETING

KEYSTONE BUILDING 8N1 AND MICROSOFT TEAMS ·· NOVEMBER 2, 2023

# AGENDA

- **Welcome and Updates – Executive Deputy Secretary Cheryl Moon-Sirianni and Deputy Secretary Larry Shifflet** **1:00-1:10**
- **Updates** **1:10-2:00**
  - Municipal Association Updates
    - Pennsylvania State Association of Township Supervisors
    - Pennsylvania State Association of Boroughs
    - Pennsylvania Municipal League
    - Pennsylvania State Association of Township Commissioners
    - County Commissioners Association of Pennsylvania
  - Federal Highway Administration – Veronica Feliciano
  - Department of Community and Economic Development – Rachel Reznick
  - Municipal Research and Outreach – Chris Metka
  - Financial and Contract Services – Kristen Sims
  - Research Implementation – Pat McVeigh
  - Electric Vehicles/NEVI – Natasha Fackler/Colton Brown
  - Multimodal – Dave Bratina
- **Break – 5 Minutes** **2:00-2:05**
- **Presentations**
  - E-ticketing and Design Collaboration – Kelly Barber **2:05-2:35**
  - LTAP Website Update – Mike Dudrich **2:35-2:45**
  - Automatic Work Zone Safety Enforcement – Dan Farley **2:45-3:00**
  - Micromobility: What Is It and Where Can Your Ride It? – Roy Gothie **3:00-3:15**
- **Next Meeting/Adjournment – Chris Metka** **3:15**



# WELCOME AND UPDATES

EXECUTIVE DEPUTY SECRETARY CHERYL MOON-SIRIANNI ·· NOVEMBER 2, 2023

# WELCOME AND UPDATES

DEPUTY SECRETARY FOR PLANNING LARRY SHIFFLET ·· NOVEMBER 2, 2023



# MUNICIPAL ASSOCIATION UPDATES

- Pennsylvania State Association of Township Supervisors
- Pennsylvania State Association of Boroughs
- Pennsylvania Municipal League
- Pennsylvania State Association of Township Commissioners
- County Commissioners Association of Pennsylvania

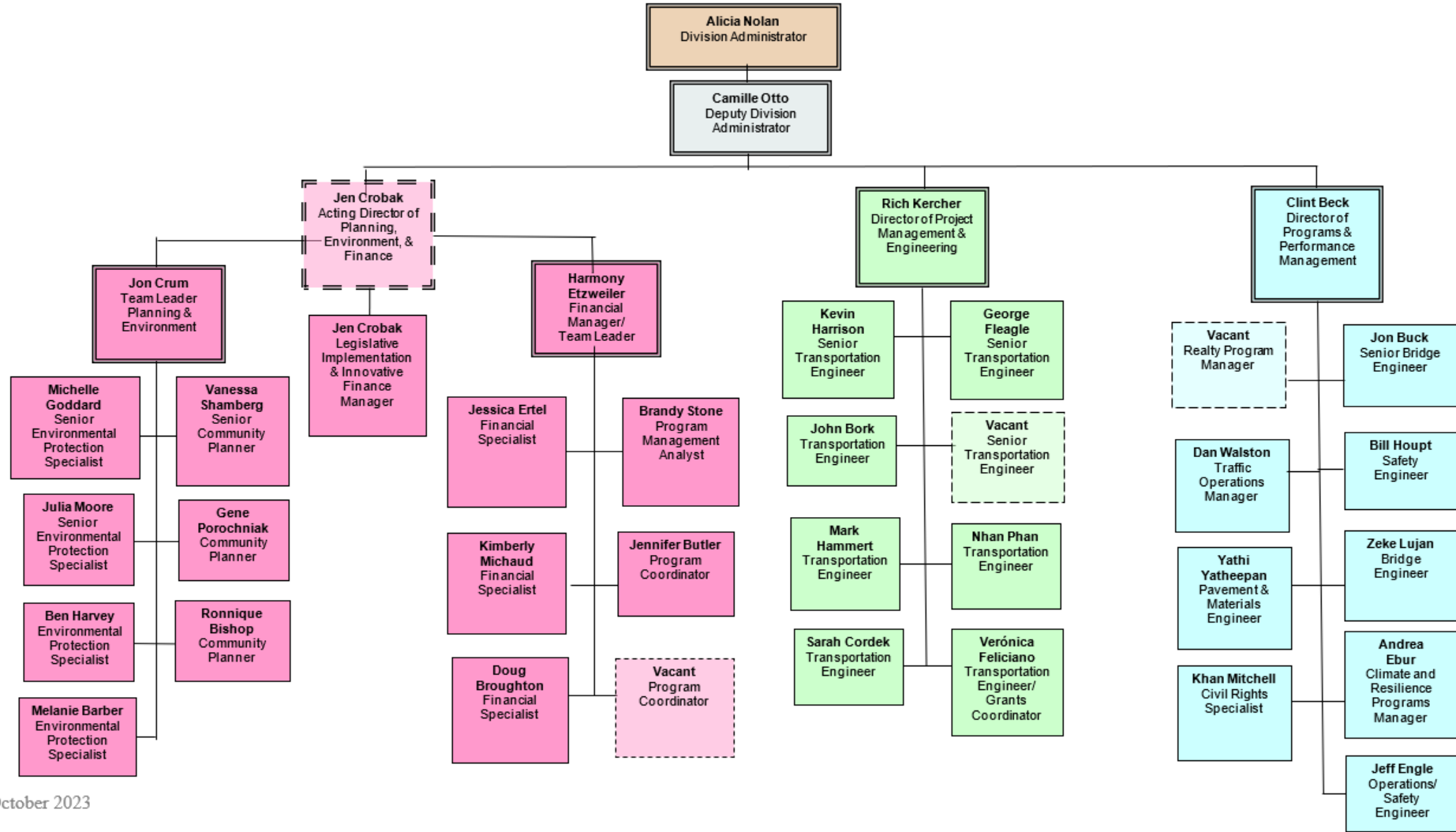


# FHWA UPDATE

VERONICA FELICIANO ·· NOVEMBER 2, 2023

# FHWA PENNSYLVANIA DIVISION ORG CHART

FHWA PENNSYLVANIA DIVISION ORGANIZATIONAL CHART



October 2023



# DCED UPDATE

RACHEL REZNICK ·· NOVEMBER 2, 2023

# PENNDOT UPDATES

# MUNICIPAL RESEARCH AND OUTREACH

CHRIS METKA ·· NOVEMBER 2, 2023

# PENNDOT CONNECTS

- 2024 PennDOT Connects Municipal Outreach
  - District Focus – *coordinated with each District Planner*
    - Executive Staff (if they wish to participate)
    - District Planning and Programming/Planners
    - Municipal Services
    - Others?
  - PennDOT's Strategic Planning and Finance Office
  - PA Department of Health – Resources and Funding
- Resources
  - Planning Assistance
  - Recorded Training
  - Tech Sheets
  - Drop-Ins (live and recorded)



funding

growth and development  
improving safety  
multimodal transportation  
what is penndot connects  
community character  
mobility and efficiency  
natural resources  
active transportation

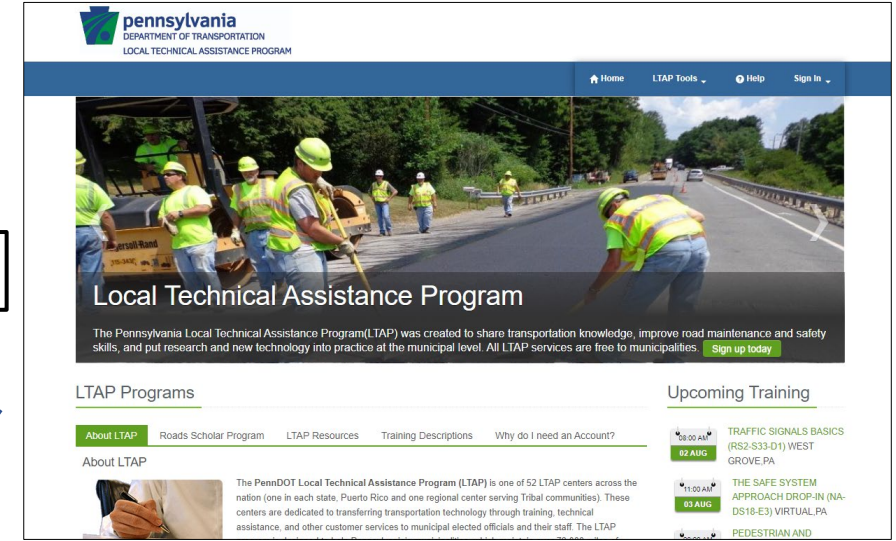
stormwater



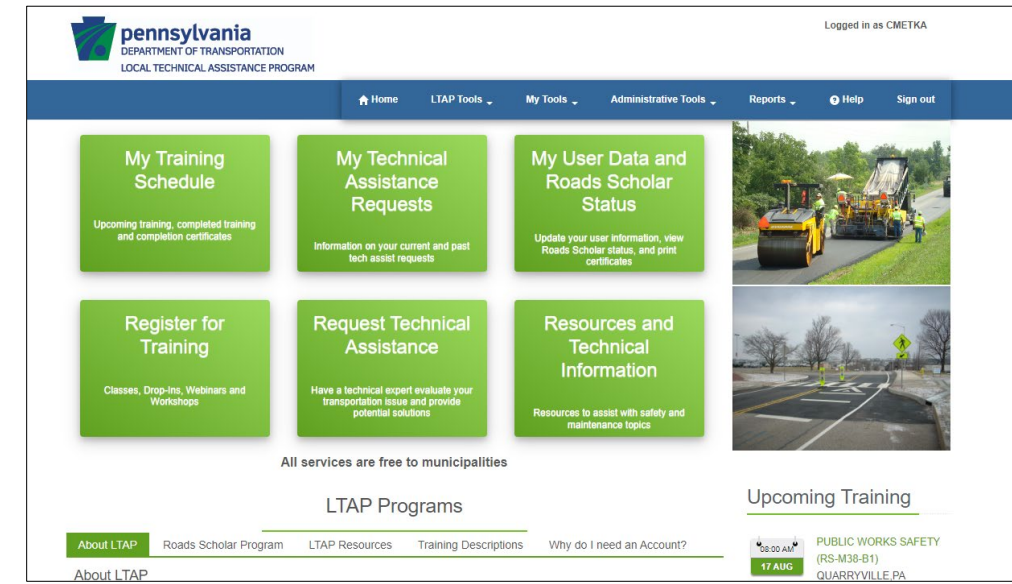
# LTAP WEBSITE UPDATES

- Since 2020
  - More virtual offerings
  - More users doing self-service
- Previous layout
  - Dated, unintuitive
  - Inefficient use of space
  - Needed new features
    - View/Print Class Attendance
    - View/Print Road Scholar Certificates
    - A personalized user dashboard
    - Quick access to commonly-requested services

Before



After





# LTAP – NEW CLASSES IN DEVELOPMENT

- Trucks on Local Roads: Issues and Solutions
  - Dry run – November 29, 2023
  - Pilot – February 6, 2024
- Geographic Information Systems (GIS)
  - Pilot – December 12, 2023
- Drones Basics
  - Dry run – January 10, 2024
  - Pilot – February 20, 2024
- School Transportation Management
  - Kickoff – November 15, 2023
  - Dry Run - TBD
  - Pilot – March 2024



What classes would you like to see?



# BUILD A BETTER MOUSETRAP

- PennDOT has been seeking local roadway innovation since 1989!
- Goals:
  - Improve safety
  - Reduce costs
  - Increase efficiency/save time
- Examples
  - New/modified tools or equipment
  - New process or approach
  - Unique use of technology
    - Computers/Smartphones
    - Apps
    - Drones
- Administered through LTAP
- State and National Challenges

PennDOT's Humble Beginning:  
The Idea Store



2022 NATIONAL Winner: Sidewinder  
South Manheim Township, Schuylkill County



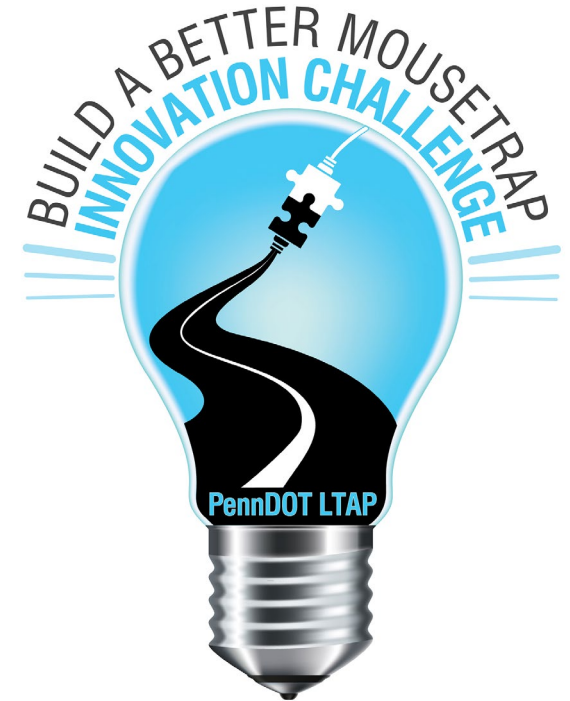
2023 State Winner: Inlet Replacement Tools  
London Grove Township, Chester County



# BUILD A BETTER MOUSETRAP

- New for 2023-2024
  - Name: Build a Better Mousetrap Innovation Challenge
  - Graphic
  - Streamlined Application
  - Collaboration
    - Press Office
    - PennDOT Bureau of Innovations
  - Additional LTAP support
    - Instructors/Technical Experts on the lookout
    - Submit brief description/photos/videos to [ltap@psats.org](mailto:ltap@psats.org)
      - Innovation will be evaluated
      - Assistance provided as necessary

Did you see the press  
release yesterday?



# FINANCIAL AND CONTRACT SERVICES DIVISION UPDATE

KRISTEN SIMS ·· NOVEMBER 2, 2023

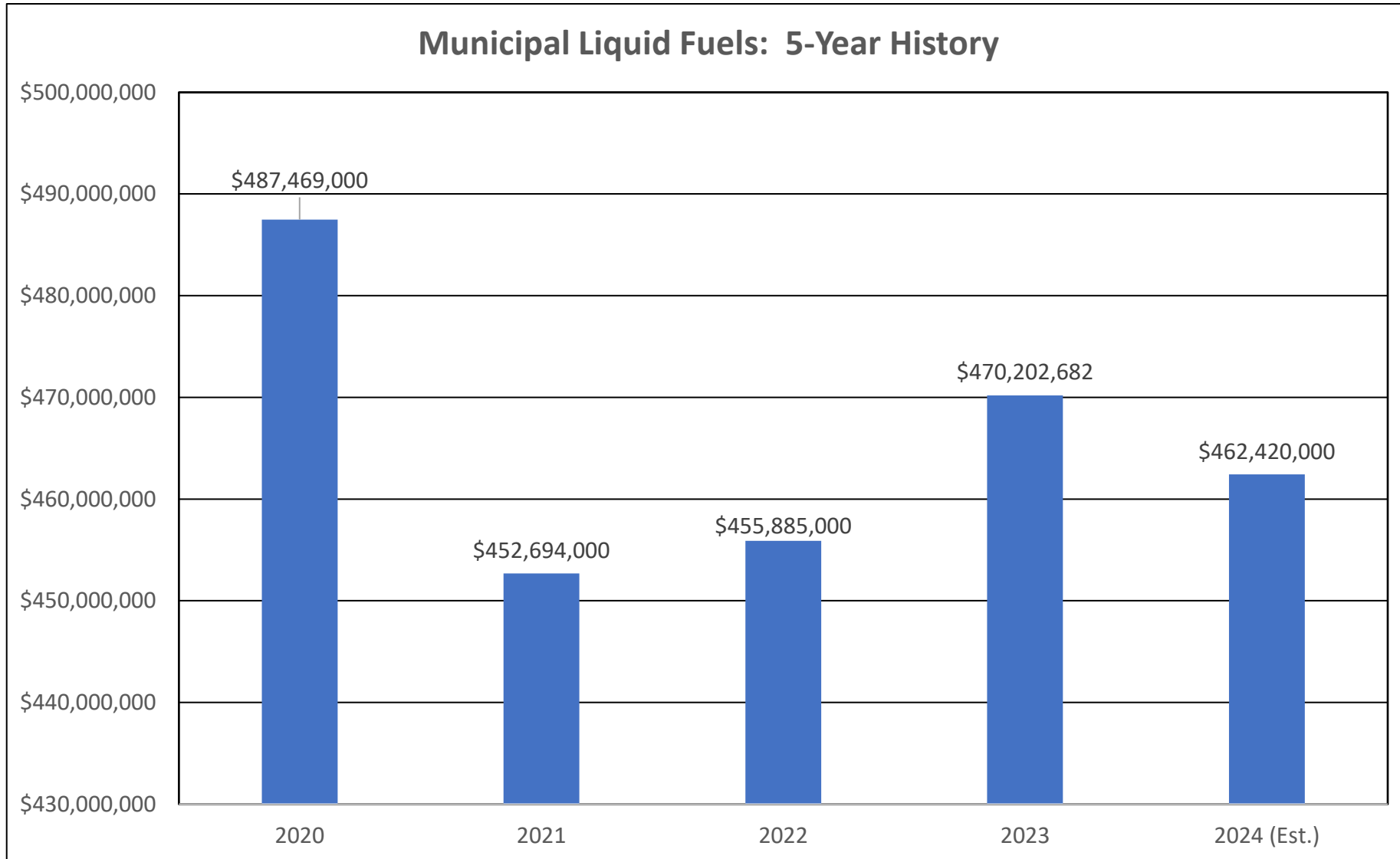


# 2023 MLF ALLOCATION

- 2023 MLF allocation - \$470,202,682
  - 2022 MLF allocation - \$455,885,000
  - \$14,317,682 (3.1%) increase
- As of October 30, 2023 - \$463,811,947.31 released to 2,499 municipalities
  - Payments released as municipalities become certified



# MLF ALLOCATION HISTORY



# PRIOR MLF ALLOCATION

- 2022 MLF allocation - \$455,885,000
  - \$3,191,000 (0.7%) increase
  - As of October 30, 2023 - \$454,030,567.81 released to 2,538 municipalities
  
- 2021 MLF allocation - \$452,694,000
  - As of June 30, 2023 - \$451,329,226.81 released to 2,554 municipalities
  - Allocation lapsed on June 30, 2023
  - One municipality had a CRP block and lost their funds
  - One municipality did not turn in required documentation and funds were never released



# AUGUST ALLOCATION

- 2023 Act 13 Allocation
  - \$25,910,477
  - Paid to counties August 15, 2023





# DECEMBER 2023 PAYMENTS

- The following payments will be allocated on December 1, 2023
  - State Police Fines and Penalties to eligible municipalities - \$3,409,584 (\$2,975,445 to municipalities, \$434,139 to PSP for cadet classes)
  - County Liquid Fuels Tax Fund to all counties - \$14,204,538 (6 on hold)
  - Act 44 to eligible counties (61) - \$5,000,000 (2 on hold)
  - Act 89 to eligible counties (61) - \$4,682,000 (2 on hold)
  - \$5 Fee for Local Use to counties who have passed the required ordinance (26) - \$20,401,445 (4 on hold)



# FHWA FORM 536

- Notification of form was sent July 12, 2023
- Second notice was sent August 23, 2023
- Due date for the form was September 15, 2023
- 1,216 (46.3%) municipalities and counties submitted the form
  - 1,374 (52.2%) submitted the form when collected in 2022
- Final compiled form was submitted to FHWA on October 2, 2023



# FHWA FORM 536 RESPONSES

	2023	2022
1 <sup>st</sup> Class Townships	42	48
2 <sup>nd</sup> Class Townships	745	839
Cities	17	24
Boroughs	383	431
Town	0	1
Counties	29	31
Total	1,216	1,374



# Questions?



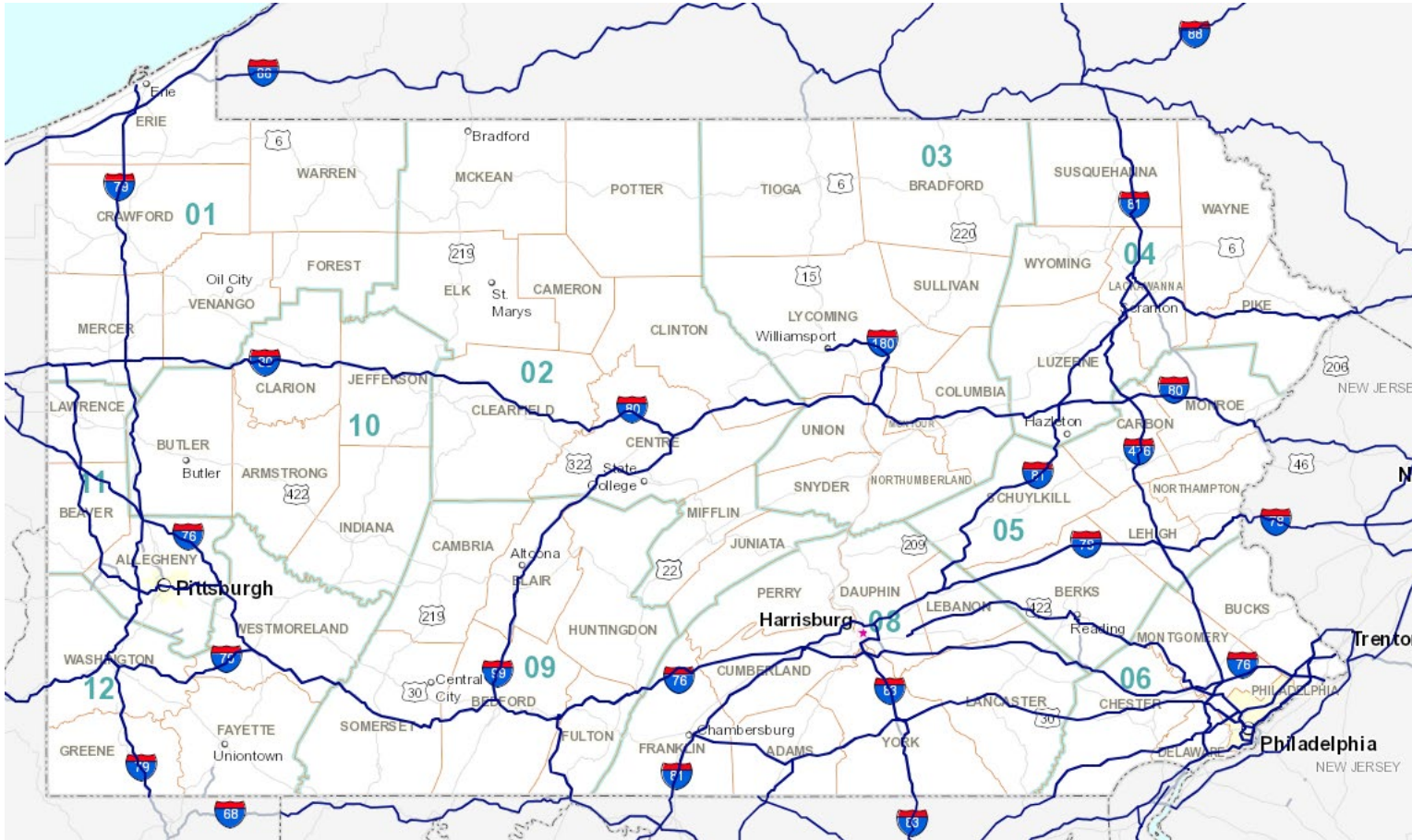
# RESEARCH IMPLEMENTATION

PAT MCVEIGH ·· NOVEMBER 2, 2023

# **NATIONAL ELECTRIC VEHICLE INFRASTRUCTURE (NEVI) UPDATE**

NATASHA FACKLER/COLTON BROWN ·· NOVEMBER 2, 2023

# ALTERNATIVE FUEL CORRIDORS



- PennDOT has nominated corridors over 7 rounds - includes interstates and portions of US 30, US 15, Route 1, Route 422, and Interstate 180 - over 1,800 miles of roadway
- NEVI funding must be applied to AFCs until a “**Build-Out**” certification by FHWA

# YEARS 1-2 CHARGING FOCUS

## DC Fast Charging

Public

4 ports

CCS Connectors

At least 150kw power per port  
(600kw total)

**Within 1-mile of highway**, 50 miles  
of the next station

## How to Charge Your EV



Charge Time



Charging Locations

**Level 1**

**3.5 - 6.5 miles**  
Per Hour

Residential,  
Workplace

**Level 2**

**14 - 35 Miles**  
Per Hour

Residential,  
Workplace,  
Destinations

**DC Fast  
Charge**

**200+ miles**  
Per Hour

Highways,  
Communities,  
Destinations



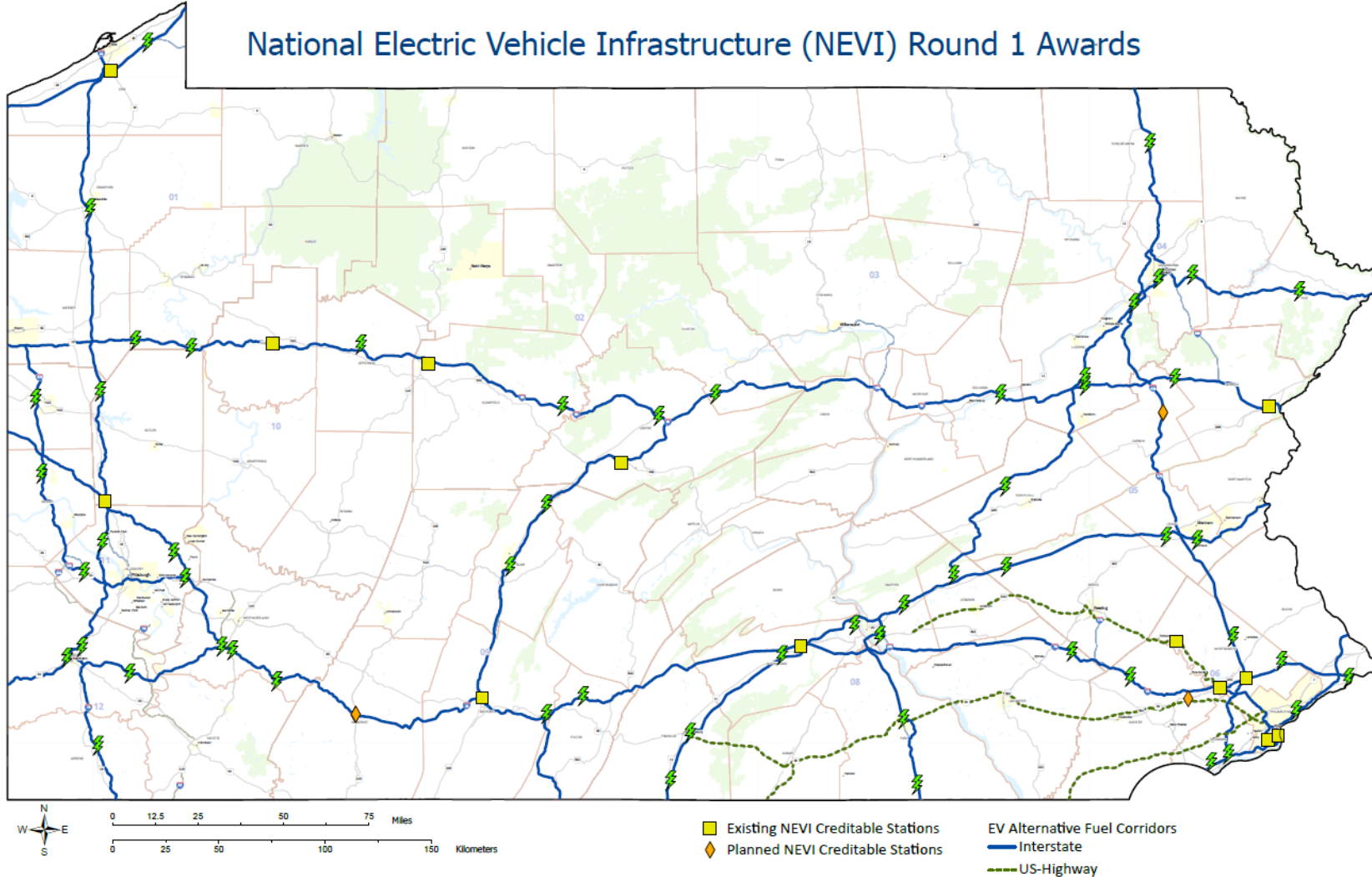


# **PENNDOT NEVI ROUND 1 CONDITIONAL AWARDS**

# ROUND 1 CONDITIONAL AWARDS

## Electric Vehicle Charging Stations 2023

### National Electric Vehicle Infrastructure (NEVI) Round 1 Awards



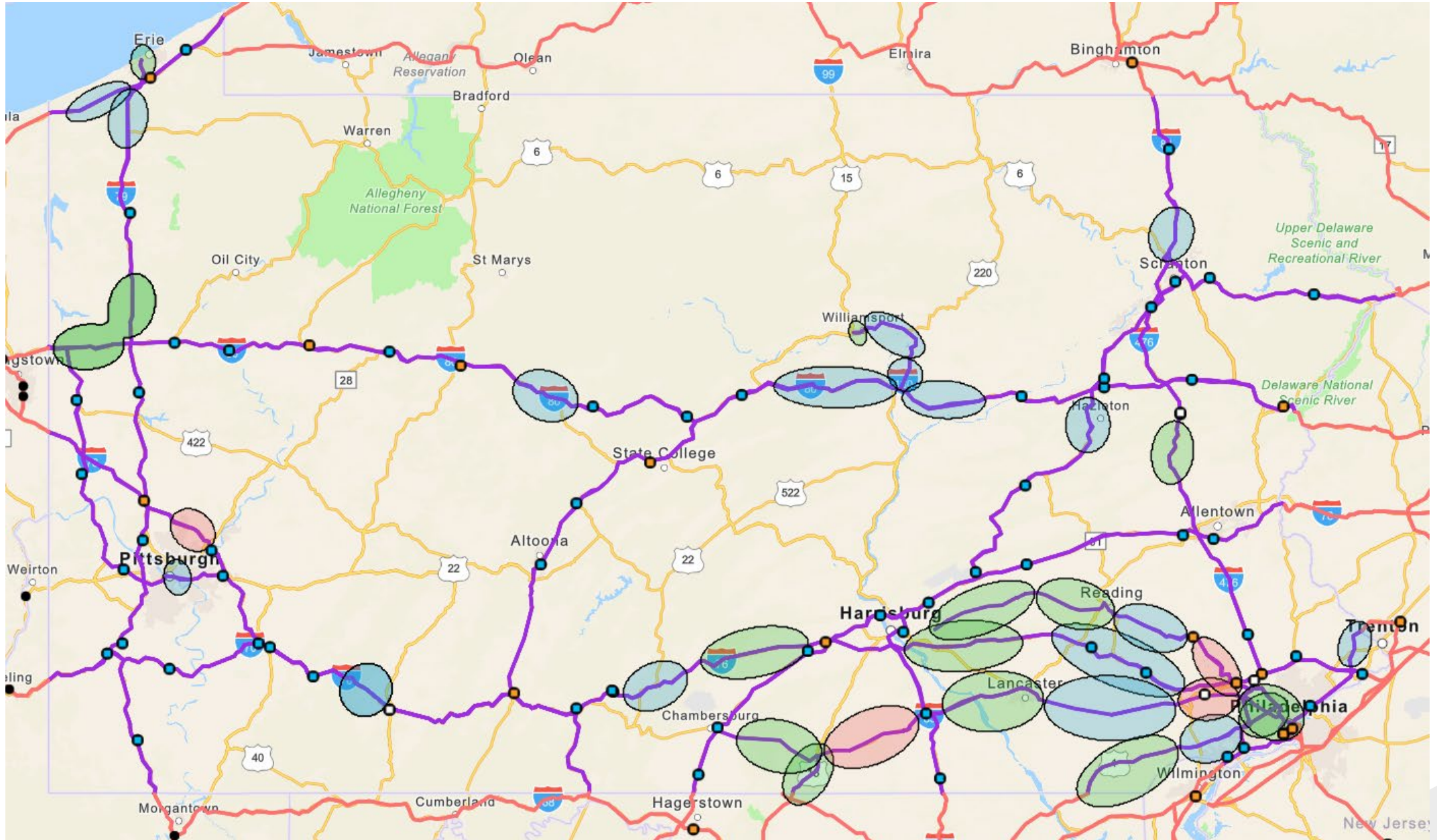
- 56 projects within 37 counties
- \$34.8 million
- 24 projects in or within ½ mile of a Disadvantaged Community
- Typical Project Timeline 18-24 months

# WHAT'S NEXT

- Support and oversee Round 1 projects
- Public outreach
  - 6 in-person community events
- Round 1A - anticipating about 25-30 sites
  - US Highway AFCs
  - Gaps remain from Round 1
  - \$22 million remaining from FFY 23 funds
- Round 1A Informational and Networking In-person Event
  - In Harrisburg, November 13, 1-3pm
  - [NEVI Round 1A Networking Event Registration](#)
- FFY24-26 : Approximately \$106 million for community deployments



# ROUND 1A PRIORITY LOCATIONS



# QUESTIONS?



# MULTIMODAL

DAVE BRATINA ·· NOVEMBER 2, 2023

# 5 MINUTE BREAK

# PRESENTATIONS

- **E-Ticketing, AR, UAS and Design Collaboration** – Kelly Barber
- **LTAP Website Update** – Mike Dudrich
- **Automatic Work Zone Safety Enforcement** – Dan Farley
- **Micromobility: What Is It and Where Can You Ride It?** – Roy Gothie







# Engineering Automation and Services Division

Kelly M. Barber, P.E.

# Agenda

- Digital Transformation
  - e-Ticketing
  - Augmented Reality
  - Uncrewed Aerial Systems
- Bridging Innovations
- Design Collaboration



# The start of PennDOT's Digital Transformation

## Paper, Paper, Everywhere...



### **PennDOT Construction Projects Involve LOTS of Paper**

- 100 to 5,000 associated documents- multi-page plans, shop drawing, requests for information, e-mails, etc.







**Enterprise Application Security Solution (ESEC)**



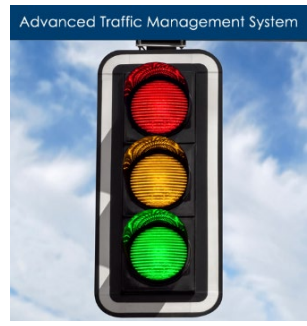
PENNDOT LRFD and Engineering Programs



Enterprise Content Services



PennDOT BRADD Software



PennDOT GCEDMS



Quality Assurance Reporting System (QARS)



Pennsylvania Crash Information Tool

TRANSPORTATION IMPROVEMENT PROGRAM



CRASH REPORTING SYSTEM



Posted and Bonded Viewer

HY-8 Culvert Hydraulic Analysis Program



Electronic Quality Management System

Traffic Monitoring System



# State Transportation Innovation Council

- e-Ticketing
- Augmented Reality
- UAS Implementation
- RFID Tags



Digital Backbone that is  
Platform Inclusive



# e-Ticketing Application



PennDOT e-Ticketing App went live on July 1<sup>st</sup>, 2021

TestFlight 9:14 AM Mon Jun 5

eTicketing 2.1 SYST-(UAT) Dashboard Refresh

Material: Asphalt Ticket Status: All Tickets Show only Offline Select

Filter tickets below

RECEIVED	IN TRANSIT	IN TRANSIT
<p>TRUCK NUMBER: FR103 DATE AND TIME: 01/26/23 8:58 AM ECMS NUMBER: 20204 SR &amp; SECTION: 225-016 MATERIAL TYPE: Asphalt PRODUCERS PRODUCT DESCRIPTION: Anti Skid NET WEIGHT: 21.97 TON SUPPLIER TICKET NUMBER: mlee0222-001 LOAD COUNT: --</p>	<p>TRUCK NUMBER: ML-61 DATE AND TIME: 04/12/23 7:54 AM ECMS NUMBER: 20204 SR &amp; SECTION: 225-016 MATERIAL TYPE: Asphalt PRODUCERS PRODUCT DESCRIPTION: 25MM BASE E 64S-22 25% R B NET WEIGHT: 20.00 TON SUPPLIER TICKET NUMBER: 29819DL8928 LOAD COUNT: --</p>	<p>TRUCK NUMBER: 69 DATE AND TIME: 04/12/23 1:51 PM ECMS NUMBER: 20204 SR &amp; SECTION: 225-016 MATERIAL TYPE: Asphalt PRODUCERS PRODUCT DESCRIPTION: WR19B (19MM &lt;0.3 WMA) NET WEIGHT: 21.79 TON SUPPLIER TICKET NUMBER: 406993 LOAD COUNT: --</p>
<p>TRUCK NUMBER: 69 DATE AND TIME: 04/12/23 1:51 PM ECMS NUMBER: 20204 SR &amp; SECTION: 225-016 MATERIAL TYPE: Asphalt PRODUCERS PRODUCT DESCRIPTION: WR19B (19MM &lt;0.3 WMA) NET WEIGHT: 21.79 TON SUPPLIER TICKET NUMBER: 406993 LOAD COUNT: --</p>	<p>TRUCK NUMBER: SMM1 DATE AND TIME: 05/15/23 1:50 PM ECMS NUMBER: 20204 SR &amp; SECTION: 225-016 MATERIAL TYPE: Asphalt PRODUCERS PRODUCT DESCRIPTION: 25MM BASE E 64S-22 25% R B NET WEIGHT: 25.00 TON SUPPLIER TICKET NUMBER: 00000018 LOAD COUNT: --</p>	<p>TRUCK NUMBER: SMM1 DATE AND TIME: 05/15/23 1:50 PM ECMS NUMBER: 20204 SR &amp; SECTION: 225-016 MATERIAL TYPE: Asphalt PRODUCERS PRODUCT DESCRIPTION: 25MM BASE E 64S-22 25% R B NET WEIGHT: 25.00 TON SUPPLIER TICKET NUMBER: 00000016 LOAD COUNT: --</p>
<p>TRUCK NUMBER: SMM1 DATE AND TIME: 05/15/23 1:50 PM ECMS NUMBER: 20204 SR &amp; SECTION: 225-016 MATERIAL TYPE: Asphalt PRODUCERS PRODUCT DESCRIPTION: 25MM BASE E 64S-22 25% R B NET WEIGHT: 25.00 TON SUPPLIER TICKET NUMBER: 00000015 LOAD COUNT: --</p>		

Search Ticket(s) Add Offline Ticket(s)

pennsylvania DEPARTMENT OF TRANSPORTATION eTicketing

ECMS Number: 37524 From Date: 08/01/2021 To Date: 08/31/2021 Material Type: Asphalt Material Class: [ ]

Status: [ ] Search Clear

ECMS Project: 37524

IN TRANSIT	RECEIVED	REJECTED	VOIDED	SYNC	ALL TICKETS
3	-	-	-	2	5

Export All Ticket(s)

Date and Time	Material	Material Class	Status	Truck #	Supplier Code	Supplier Name
Aug 27 2021 01:30 PM	Asphalt	Unknown	Sync	529	STD28A41	Development
Aug 27 2021 03:43 PM	Asphalt	Unknown	In Transit	247-039	STD28A41	Development
Aug 27 2021 04:04 PM	Asphalt	Unknown	Sync	1193	STD28A41	Development
Aug 27 2021 04:44 PM	Asphalt	Unknown	In Transit	1196	STD28A41	Development
Aug 31 2021 01:01 AM	Asphalt	Unknown	In Transit	321	STD28A41	Development

User ID: [ ] ECMS User ID: [ ] LOGOUT HELP



# PennDOT Portal Connections

## Option 1

### For Producers and Contractors with Internal IT Resources

PennDOT will provide an API key for you to send ticket data to the Pennsylvania DOT Portal



## Option 2

### For Producers and Contractors with existing e-Ticketing Solutions

The e-ticketing provider can forward the tickets via API to the PennDOT Portal. If they are unable to do so currently, HaulHub can assist in establishing the connection.



## Option 3

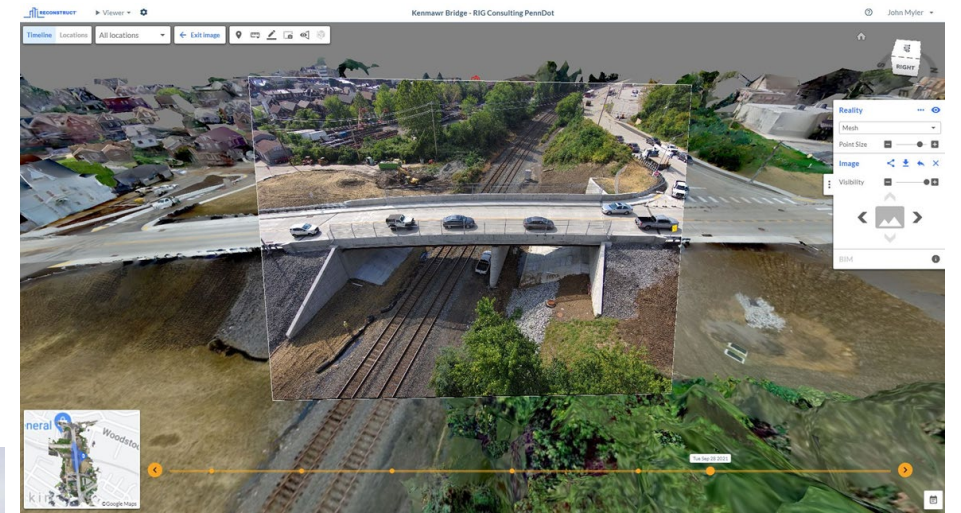
### For Producers with Limited to No IT Resources and no e-Ticketing Solution

Provide a simple solution to get your tickets flowing into the portal at no cost to you.





# Moving into a Virtual World



# Augmented Reality

## Challenges Addressed

- Facilitating multiple, busy schedules.
- Reducing travel time and expenses.
- Expedited problem solving.
- Real-time photo/video/lidar progress documentation and collaboration.
- Single source for all contract documents available at the touch of a button.
- Facetime on steroids



# Augmented Reality

- What is Imajion Project XR?
- District 11 Pilot Project
  - Bridge Inspection
  - Construction
  - Design
  - Materials Testing





# Augmented Reality

hololens headset

Mike Karbowski

Adrian Hatch

Austin Holthaus

John Myler

Zachary Barkley

Tyler Tomasino

steve sneddon

JP Patten

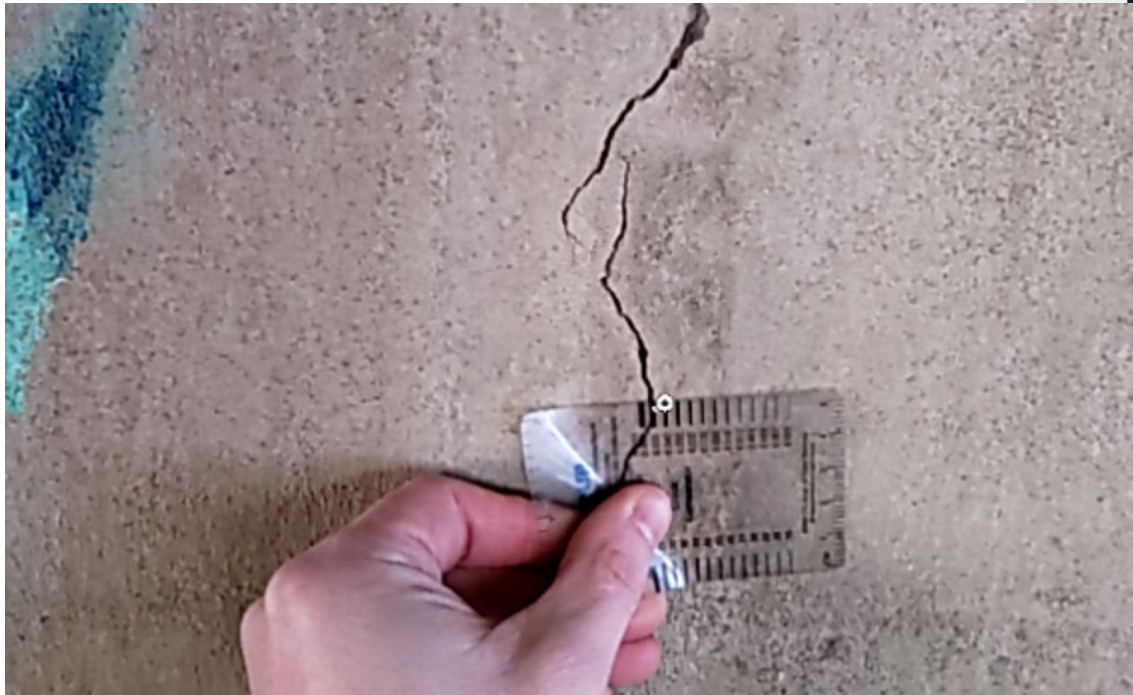
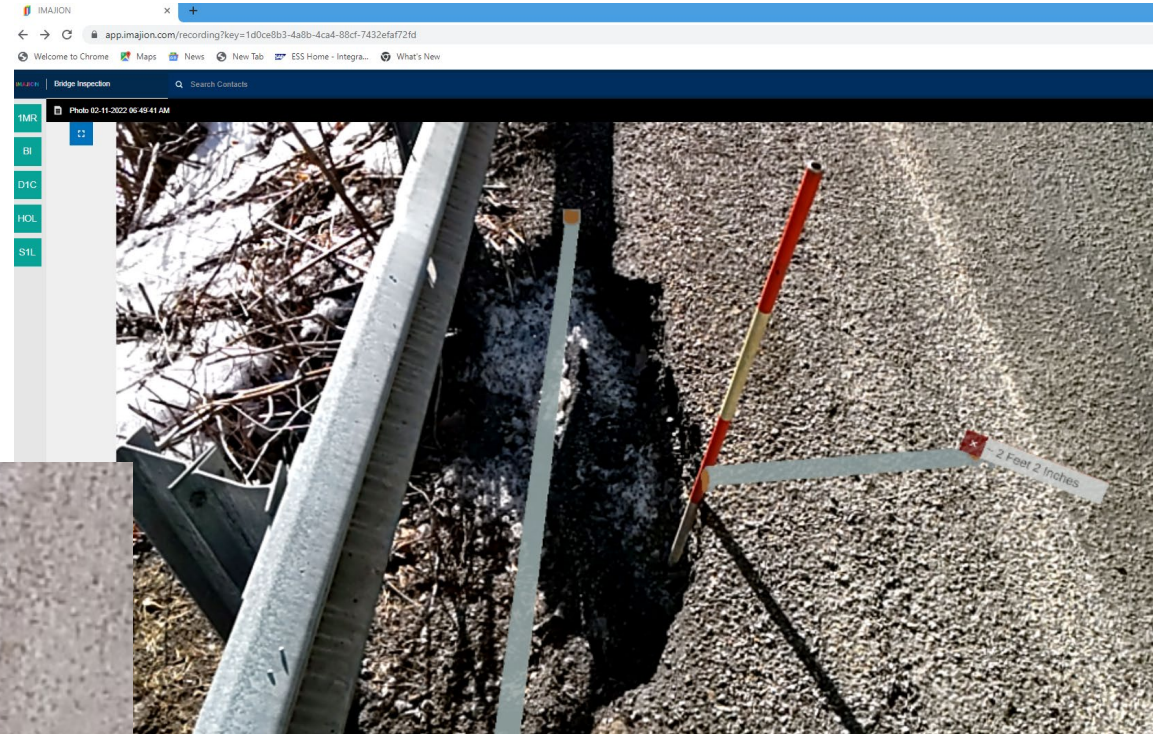
Tim Gollogly

2:53 PM



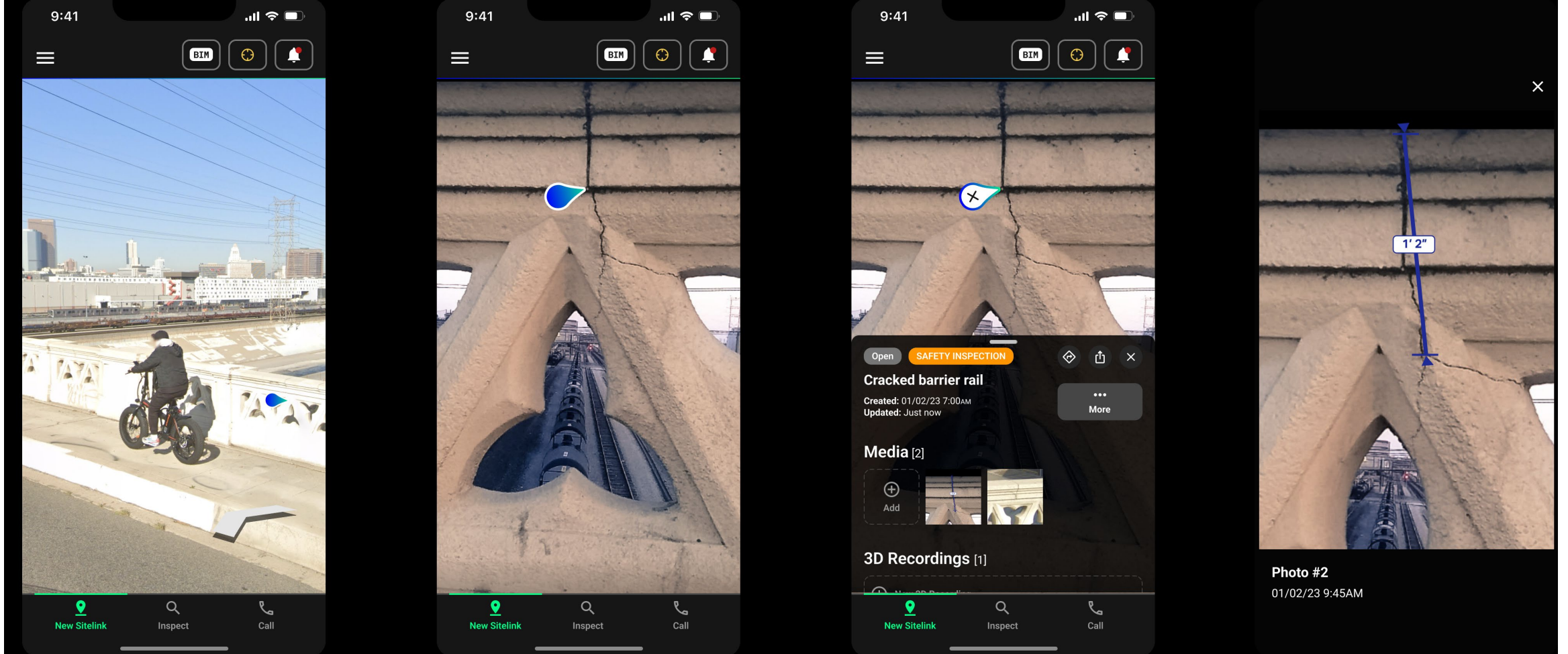
# Bridge Inspection

- Real-time problem solving, inspection.





# SiteLink



# Augmented Reality

- What is AMA Xpert Eye?
- Remote Visual Inspection
- District 11 Pilot Project
- Highway Administration
  - Laboratory Testing Section
  - Structural Materials Section





# Trimble Site Vision

- Brings the 3D model to the field
- Mesh overlay
- Clash Detection
- Ability to walk the project prior to construction
- Department Field Demo

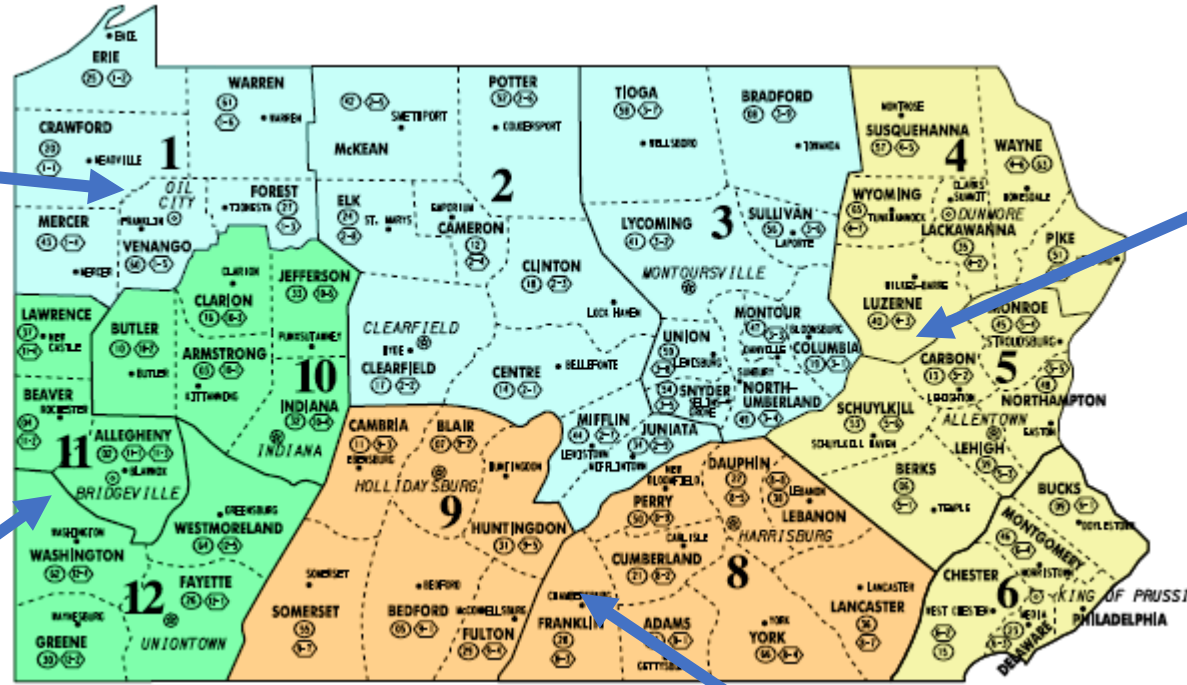




# UAS Efforts

Region 1: Districts 1, 2 & 3  
Vince Mazzocchi  
vmazzocchi@pa.gov

Region 4: Districts 4, 5 & 6  
Rex Alfes  
ralfes@pa.gov



Region 2: Districts 10, 11 & 12  
Kevin Lira  
klira@pa.gov

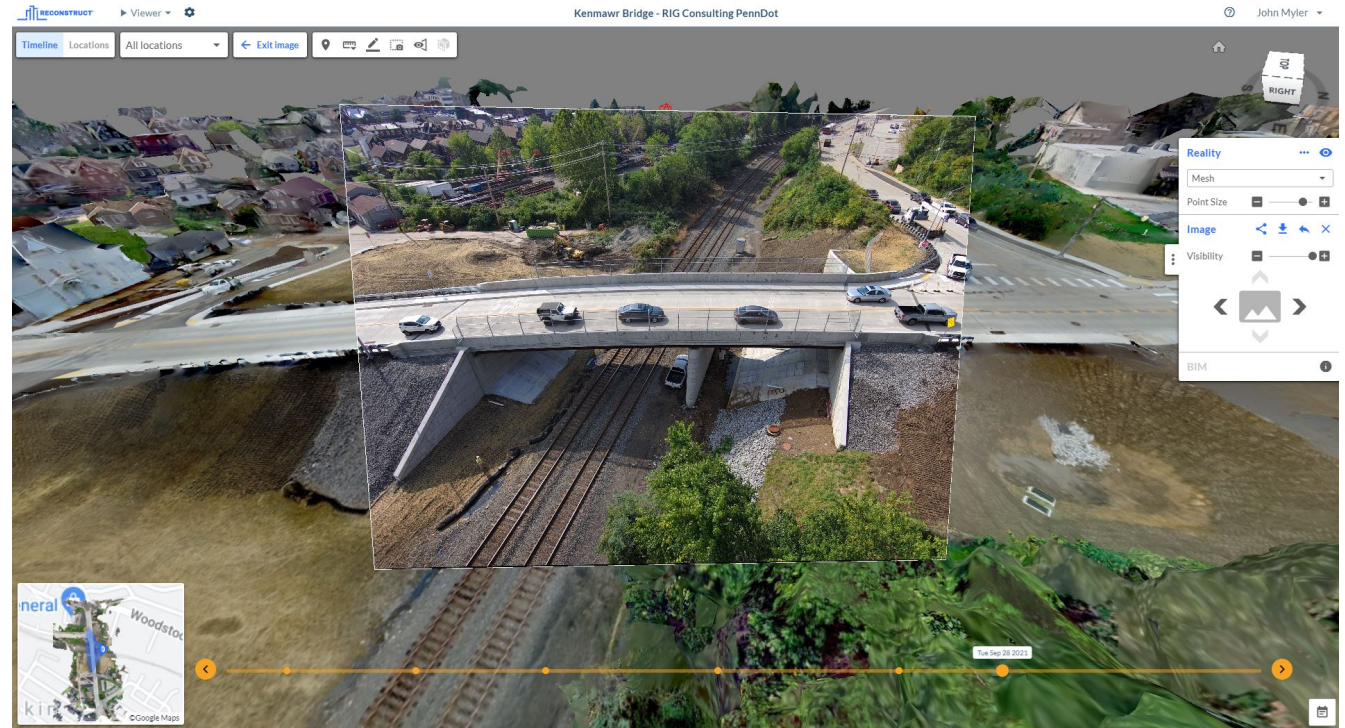
Region 3: Districts 8, 9 & Central Office  
Nicolas Barrelet  
nbarrelet@pa.gov

UAS Regional Coordinators



# Reconstruct

- Currently in use on Two Projects in District 11
  - Kenmwar Bridge Replacement
  - McLaughlin Run Roundabout
- Only Capturing Drone Flight Data
- Limited Use Without 3D Model
- Potential Return on Investment (ROI)
  - Reduced Need for Site Reviews
  - Improved Project Completion
  - Construction Timeline
  - Quick Calculations for Difficult Measurements
  - As Built Records



# Reconstruct: McLaughlin Roundabout

The screenshot displays the Reconstruct web application interface. At the top, the browser address bar shows the URL <https://app.reconstructinc.com/main>. The navigation bar includes the Reconstruct logo, a search bar, and user information for "English US" and "John".

The main content area features two project thumbnails:

- KENMAWR BRIDGE - RIG CONSUL..**: A photograph of a bridge over railroad tracks.
- MICHAEL BAKER INTERNATIONAL..**: An aerial map view of a roundabout with a green circle highlighting the center.

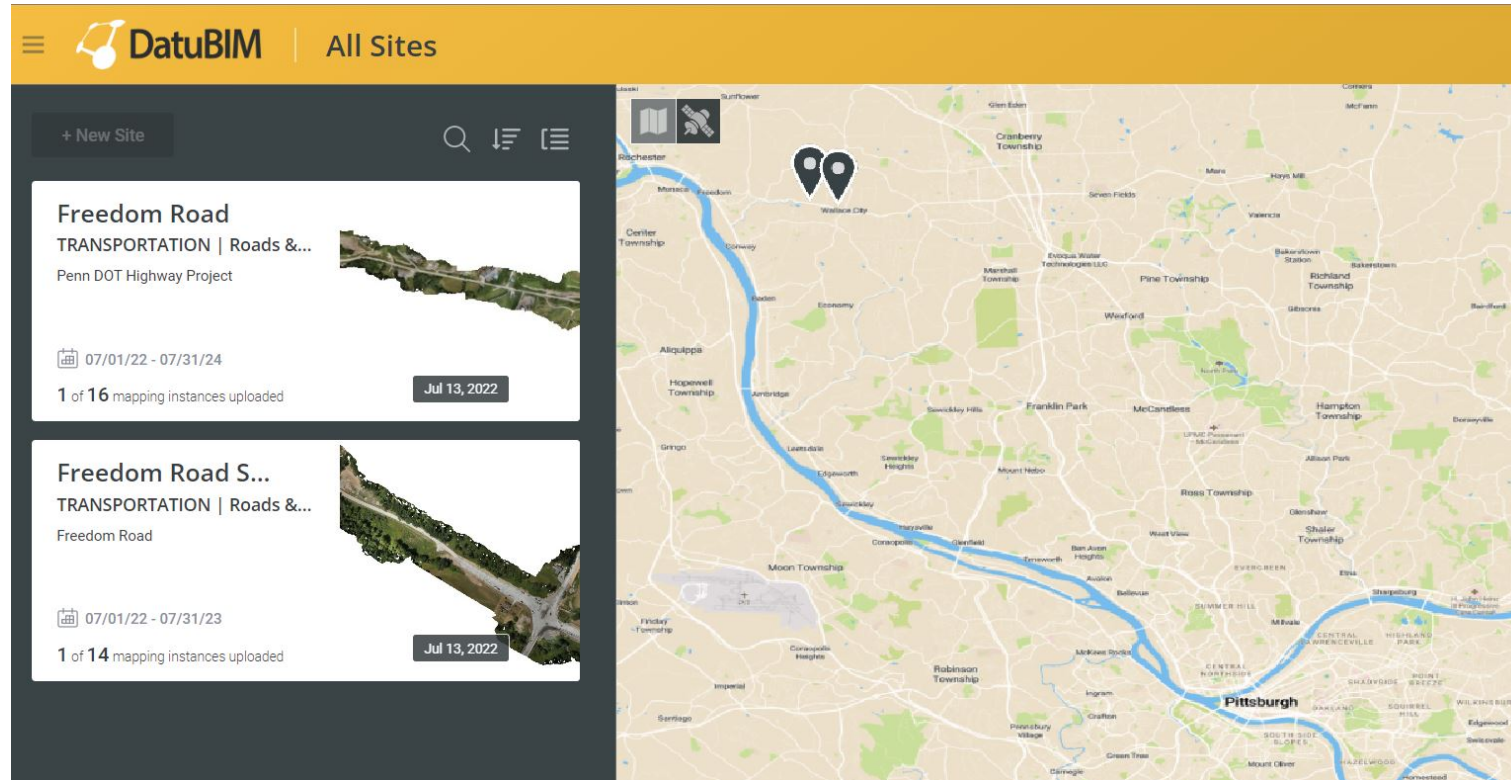
Each thumbnail includes a set of icons for actions like download, share, and refresh. The Windows taskbar at the bottom shows the time as 3:55 PM on 8/1/2022.





# Datumate

- Currently in use on One Project in District 11
  - Freedom Road SR 2004-B06



# Cross Section Trim

The screenshot displays the DatuBIM software interface. The browser address bar shows the URL: `bim.datumate.com/sites/23af6cc3-6743-41a4-8a1f-8de53a2b1b62/tasks/e124251f-088c-4614-9dc0-f6a34a085838`. The application header includes the DatuBIM logo and the project name "Freedom Road".

On the left, the "ANALYTICS" sidebar is visible, containing two sections: "Roundabout Final" and "As Builts", each with an "Analytics" icon and a notification badge. The main workspace shows an aerial photograph of a construction site with a 3D model of a road cross-section overlaid in green and red. A "Tracked since Jul 13, 2022" label is positioned above the model. The top right of the workspace features a toolbar with options: "Snapshot", "2.5D Terrain", "Overlays", "Images", and "Diff".

At the bottom right of the workspace, the coordinates are displayed as: `X: 1,315,798.16 Y: 502,157.75 Z: 920.24ft`. The Windows taskbar at the bottom shows the search bar, system tray with weather (72°F Mostly cloudy) and time (4:08 PM 8/1/2022), and various application icons.





# Cross Section Design

The screenshot displays the DatuBIM web application interface for a project named "Freedom Road". The browser address bar shows the URL: `bim.datumate.com/sites/23af6cc3-6743-41a4-8a1f-8de53a2b1b62/tasks/e124251f-088c-4614-9dc0-f6a34a085838`. The application header includes the DatuBIM logo and the project name "Freedom Road".

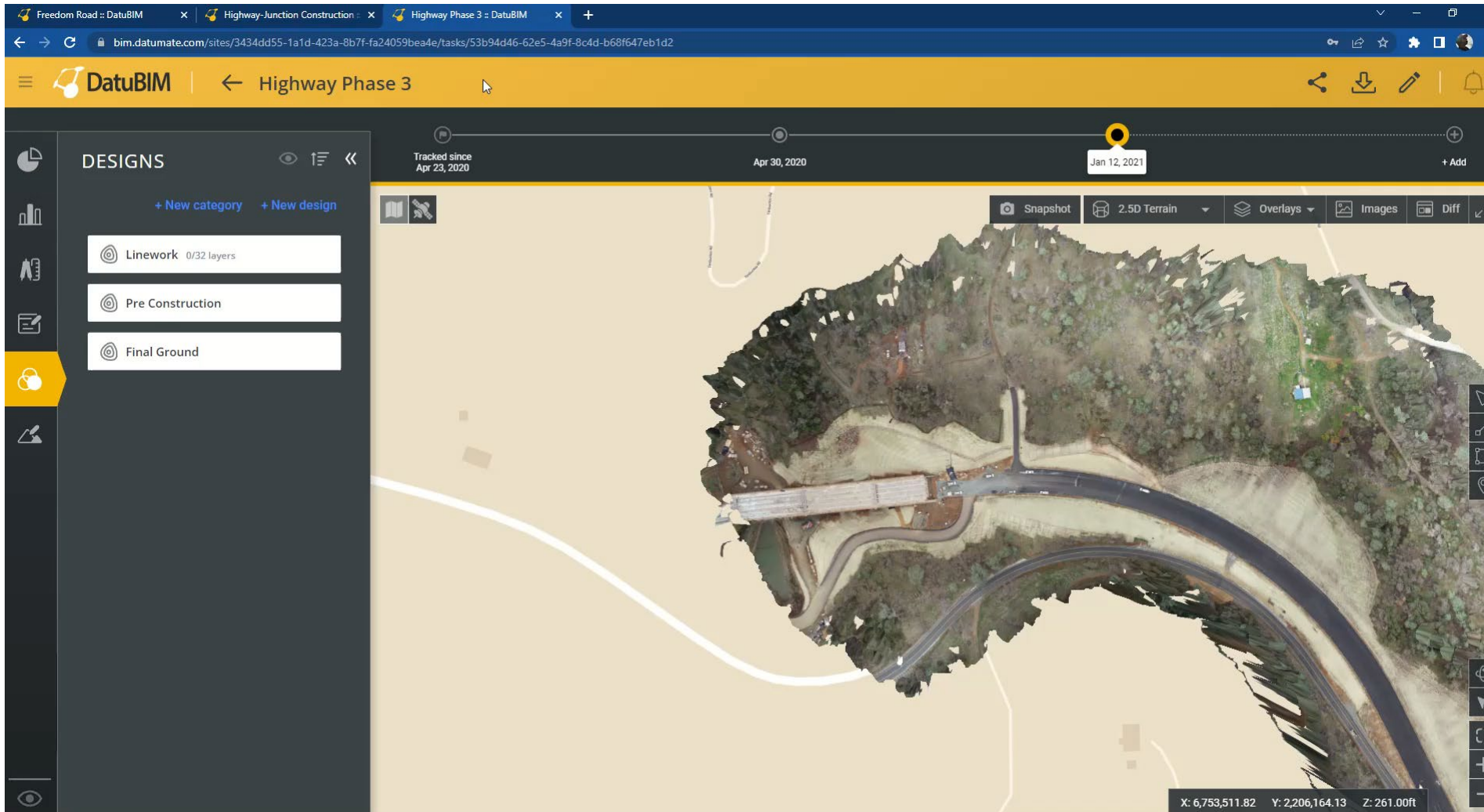
The left sidebar contains a "DESIGNS" panel with the following items:

- + New category + New design
- Align25.dgn 0/8 layers
- AlignEOP.dgn 0/8 layers
- BR1BD01.dgn 0/19 layers
- InRoads\_LandXML
  - Designs
    - Roundabout ... 1/1...
    - Exist as Sur... 1/1 la...
    - Baker Road.x... 0/1 laye...
- Cross sections
  - Designs

The main workspace shows a 3D terrain map with a green road design overlaid. A red rectangular box highlights a specific section of the road. The map includes a "Tracked since Jul 13, 2022" indicator. The top right toolbar contains icons for "Snapshot", "2.5D Terrain", "Overlays", "Images", and "Diff". The bottom right corner displays the coordinates: X: 1,321,668.58 Y: 496,866.17 Z: 758.00ft.



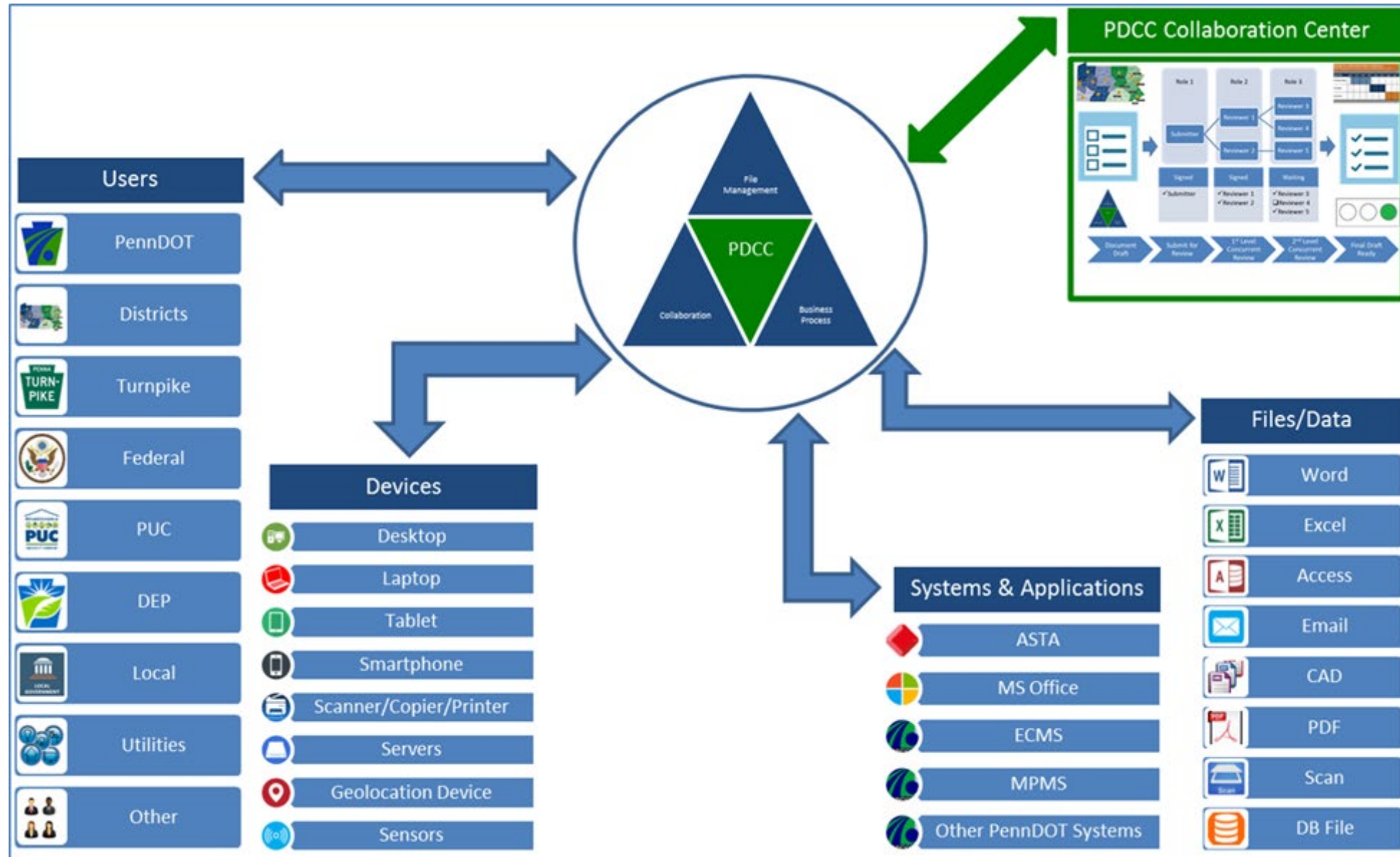
# Slider



Bridging Innovative Opportunities



# Project Delivery Collaboration Center



# Primary Project Goal



Implement a solution to manage the roadway/bridge design process with a focus on the need for collaboration across all project stakeholders



**AUTODESK Construction Cloud** | Insight | PennDOT Stage | New Country Road Bridge | Amy Bell

### My Dashboard

Export | Customize

**Project Address**

Main Street  
Harrisburg, PA 17113

**Weather**

51° Clear

Wed 69° Thu 82° Fri 86° Sat 77°

Powered by Weather

**Approval Reviews By Current Assignment**

No Data  
Data is required for us to provide charts.

**Project Issues**

No Issues  
Go to Issues

**Project RFIs**

No RFIs  
Go to RFIs

**Open RFIs and Submittals**

No RFIs And Submittals  
Data is required for us to provide charts.

**Project Submittals**

No Submittals  
Go to Submittals

**Design Packages**

No Packages  
Go to Design Collaboration

Executive Overview | Data Connector | Reports

# Project Dashboard



AUTODESK Construction Cloud

Docs ▾ 80696 - Houtz ▾ ? KB ▾

Files

Reviews

Transmittals

Issues

Reports

Members

Bridge

Files

Folders

Deleted items

Project Files

Upload files

Export ▾ Search and filter

<input type="checkbox"/> Name ↑	Description	Version	Indicators	Markup	Size	Last up	
<input type="checkbox"/> Agreement	--	--	●	--	--	Sep 19,	⋮
<input type="checkbox"/> Bridge	--	--	●	--	--	Sep 19,	⋮
<input type="checkbox"/> Environmental	--	--	●	--	--	Sep 19,	⋮
<input type="checkbox"/> Estimates	--	--	●	--	--	Sep 19,	⋮
<input type="checkbox"/> General	--	--	●	--	--	Sep 19,	⋮
<input type="checkbox"/> Geotech	--	--	●	--	--	Sep 19,	⋮
<input type="checkbox"/> Grade Crossing	--	--	●	--	--	Sep 19,	⋮
<input type="checkbox"/> Legacy	--	--	●	--	--	Sep 19,	⋮

Showing 14 items

# Folder Structure

AUTODESK Construction Cloud

Barber Test Pilot

# Reviews

+ Create review

Status	ID ↓	Review name	Workflow
--------	------	-------------	----------

### Submit for review

Approval workflow \*  
Select an approval workflow

Review name \*

Files for review \* [Add files](#)

Total: 1 file

- Project Files/General/Project Notes 1 file ^
- ITS SPECIFICATIONS SUSQUEHANNA P3.pdf v1

Notes

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**ITS SPECIFICATIONS SUSQUEHANNA P3**

**DMS Items**

**5230-4800 ITS DYNAMIC MESSAGE SIGN, 18" TEXT, WALK-IN, 30-DEG FULL COLOR FULL MATRIX**

According to Section 1230 and as follows:

**1230.1 DESCRIPTION –**  
Add the following to the end of the second sentence; and Speed Feedback.

**1230.2 MATERIAL – Add the following:**

**1230.2(b) General.** Provide a DMS subsystem compatible with Speed Feedback Detection System Specified in ITEM 9000-0013. Provide a DMS subsystem compatible with existing ATMS color DMS drivers.

**1230.2(c)2.a Lens Panel.** Remove the second paragraph.

**1230.2(a)1. Full Matrix Display Module –** Revise the second sentence to indicate a minimum provision of 18 characters per line at 18" character height

**1230.2(a)3. Optical, Electrical, and Mechanical Specification for Display Modules. –** Revise second paragraph to provide a maximum pixel pitch of 0.79 inches (20mm).

**1230.2(g)2. Sign Controller Communication Interface.** Add the following:  
Provide inputs sufficient to connect speed feedback detector data. Configure controller to provide speed feedback display messages. Coordinate with TMC for message formatting, thresholds, and priority levels.

**1230.3 CONSTRUCTION –** Add the following:  
Install the DMS as directed by the manufacturer. DMS panels need to be tilted, angled, and rotated toward the roadway to maximize visibility per manufacturer's recommendation.  
DMS installation and grounding as per manufacturer's recommendations.

Test



**Issue #1**

Details | Activity log

Unpublish | Delete

Title: Requirement Change

Status: Open

Type: Design > Requirement Change

Description: Unspecified

Assigned to: Unspecified

Watches: Select watchers

Location: Unspecified

Location details: Unspecified

Due date: Unspecified

Start date: Unspecified

Placement: ITS SPECIFICATIONS SUSQUEHANNA P3.pdf

Root cause: Unspecified

References

- Files
- Reviews
- Transmittals
- Issues
- Reports
- Members
- Bridge
- Settings

# Issues

Deleted issues Settings

+ Create issue

Export all Search by issue title or I

ID	Title	Status	Type	Assigned to	Due date	Start date	Placement
#1	Requirement Change	Open	RC Requirement...	-	-	-	ITS SPECIFICATIONS S...



**AUTODESK Construction Cloud** | Build | Barber Test Pilot | In progress | Copy | Export | Save

Forms | PSE Certification List for PM CM form 20210910

**Form Details**

Form date: 10/11/2023

ID: #1

Location: Select a location

Description:

Assigned to: Kelly Barber

Due date: Select date

Visible to 3 members

References: Add references

Notes: Add additional details

Download PDF | Replace PDF | Discard changes | Save

**PS&E Package Delivery Process Policies Manual**

---

**PS&E Certification List**

To be completed by Project Manager and District Contract Management  
Attach to the Project Development Checklist

**Project Information**

ECMS#: [redacted] Date: [redacted]

Anticipated Advertisement Date: [redacted] Scheduled Letting: [redacted]

County (or Counties): [redacted] S.R.: [redacted] Section: [redacted]

Municipality: [redacted]

Funding: [redacted] % Federal, [redacted] % State, [redacted] % Local, [redacted] % Other

Federal Project Number (D-4232): [redacted]

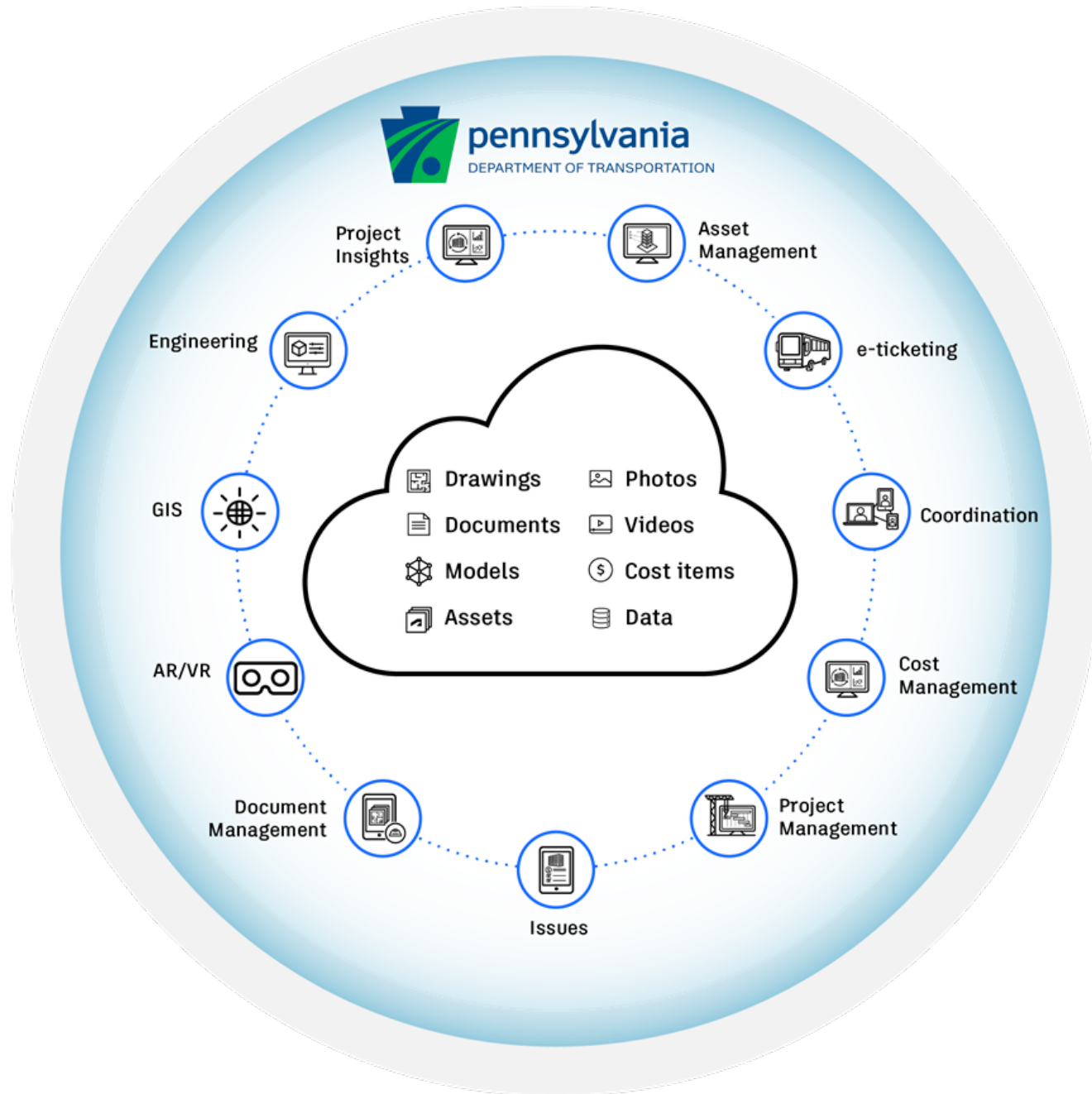
PMC Approved Amount for Construction: [redacted]

Project Manager: [redacted]

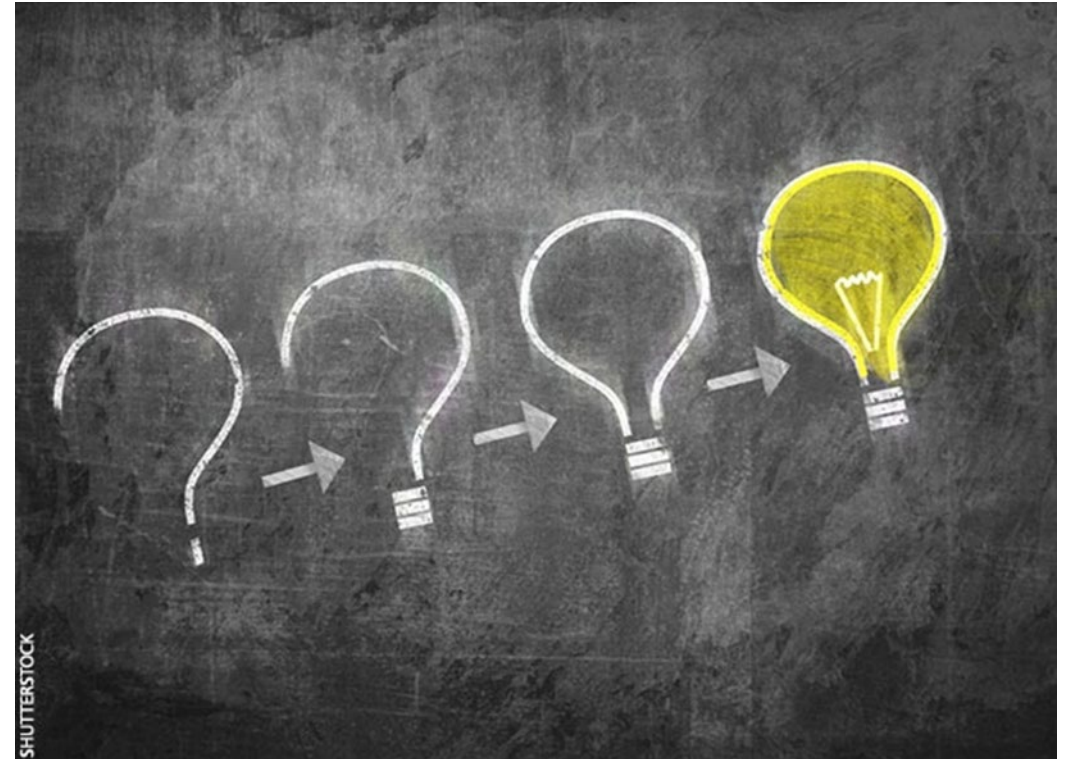
Contract Management Reviewer: [redacted]

Project Specific Design Consultant data, if applicable: [redacted]

Discard | Submit



Kelly Barber, P.E.  
[keluckenbi@pa.gov](mailto:keluckenbi@pa.gov)



# LTAP WEBSITE UPDATE

MIKE DUDRICH ·· NOVEMBER 2, 2023

# WEBSITE UPDATES

Biggest impacts on municipal users:

- New Look Dashboard
- Class Registration Check Box
  - No loss of old functionality



# NEW LOOK



## My Training Schedule

Upcoming training, completed training and completion certificates

## My Technical Assistance Requests

Information on your current and past tech assist requests

## My User Data and Roads Scholar Status

Update your user information, view Roads Scholar status, and print certificates

## Register for Training

Classes, Drop-Ins, Webinars and Workshops

## Request Technical Assistance

Have a technical expert evaluate your transportation issue and provide potential solutions

## Resources and Technical Information

Resources to assist with safety and maintenance topics



All services are free to municipalities

## LTAP Programs

### About LTAP



The PennDOT Local Technical Assistance Program (LTAP) is one of 52 LTAP centers across the nation (one in each state, Puerto Rico and one regional center serving Tribal communities). These centers are dedicated to transferring transportation technology through training, technical assistance, and other customer services to municipal elected officials and their staff. The LTAP program is designed to help Pennsylvania's municipalities, which maintain over 78,000 miles of roadways, make the best use of their roadway maintenance dollars. PennDOT LTAP provides technical information and proven technologies dealing with roadway maintenance and safety methods to meet the growing demands on municipal governments. PennDOT LTAP has provided technology transfer services to

### Upcoming Training

- 08:00 AM  
31 OCT  
WINTER MAINTENANCE (RS-M32-B1)  
WILLIAMSPORT, PA
- 08:00 AM  
31 OCT  
INTRODUCTION TO TRAFFIC STUDIES (RS-S23-D1) VIRTUAL, PA
- 08:00 AM  
01 NOV  
DRAINAGE: THE KEY TO ROADS THAT LAST (RS-M04-B2) NEW PROVIDENCE, PA



# CLASS REGISTRATION

## My Tools

- Home
- Register For Classes
- View My Requests
- View My Schedule
- Change Password
- Update Account Info
- General Comment
- Class / Road Show to be Scheduled
- Request Technical Assistance

## Register for Classes

Session from Date: 10/31/2023 to

Course: Select an Option

Search Reset Print Results

Classes Found:

41 result(s) found

Add to Cart

	ID	Is Pilot?	Is Road Show?	Course	Dates Held	Times Held	Facility	County	Primary Host	Teacher	Status	# Students Registered
<input checked="" type="checkbox"/>	8256	NO	NO	INTRODUCTION TO TRAFFIC STUDIES (RS-S23-D1)	10/31/2023 - 10/31/2023	08:00 AM - 12:00 PM	VIRTUAL TRAINING(VIRTUAL, PA)	UNKNOWN	PSATS	MARVIN TA	OPEN	34
<input checked="" type="checkbox"/>	8183	NO	NO	WINTER MAINTENANCE (RS-M32-B1)	10/31/2023 - 10/31/2023	08:00 AM - 12:00 PM	OLD LYCOMING TOWNSHIP FIRE HALL(WILLIAMSPORT, PA)	LYCOMING	PSATS	SAM GREGORY	OPEN	18
<input type="checkbox"/>	8141	NO	NO	DRAINAGE: THE KEY TO ROADS THAT LAST (RS-M04-B2)	11/01/2023 - 11/01/2023	08:00 AM - 03:00 PM	PROVIDENCE TOWNSHIP MUNICIPAL BUILDING(NEW PROVIDENCE, PA)	LANCASTER	PSATS	JASON SNYDER	OPEN	18
<input type="checkbox"/>	8279	NO	NO	PEDESTRIAN AND CROSSWALKS (RS-S24-D1)	11/01/2023 - 11/01/2023	08:00 AM - 12:00 PM	DILLSBURG BOROUGH OFFICE(DILLSBURG, PA)	YORK	PSATS	PAT WRIGHT	OPEN	18




# FUTURE UPDATES

- More promotion of the Build a Better Mousetrap Innovation Challenge
- Any ideas or features you'd like to see?





A white Jeep SUV is parked on a dirt road at a construction site. The vehicle has a roof rack with various equipment, including a ladder and a sign. In the background, there are construction workers, a large piece of machinery, and a road sign. The scene is slightly blurred, suggesting motion or a focus on the vehicle.

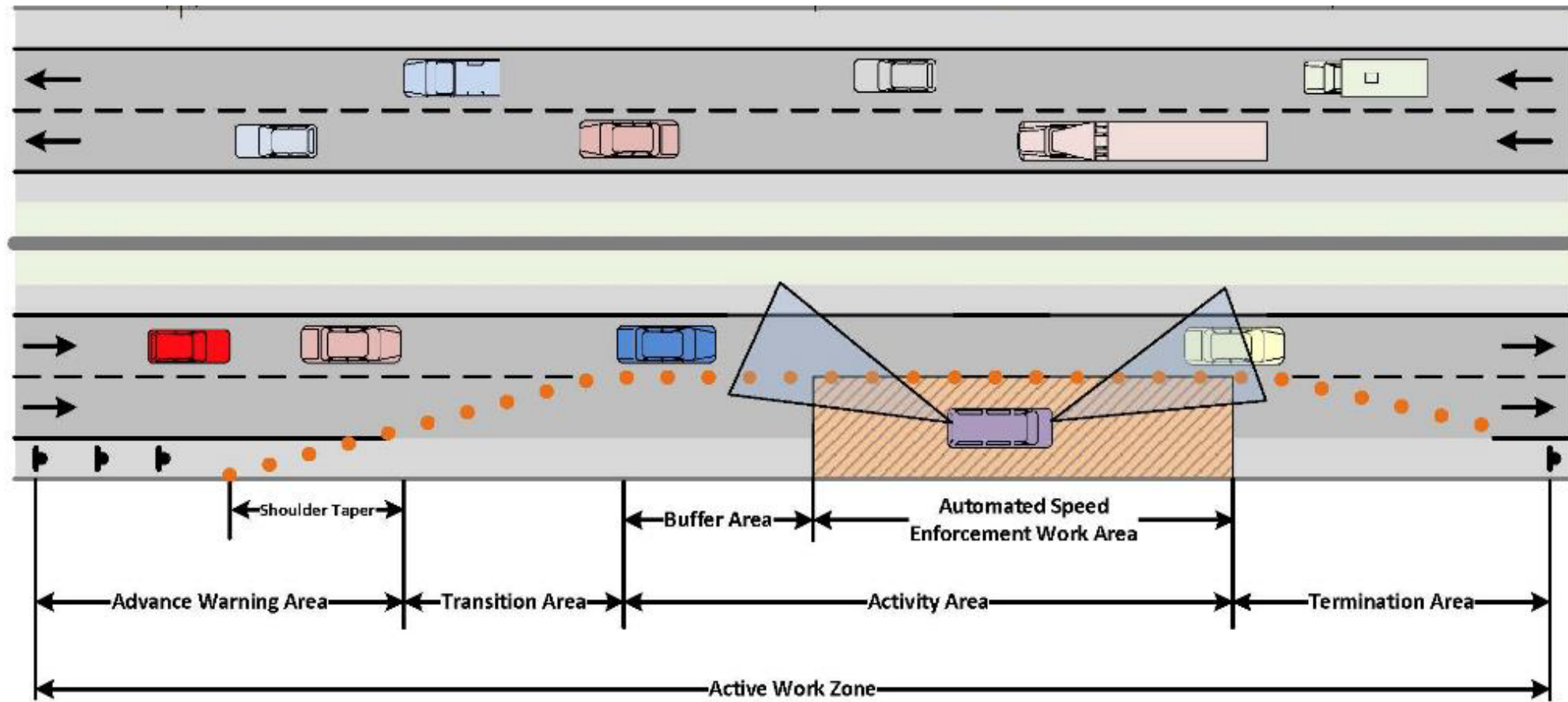
# **Automated Work Zone Speed Enforcement (AWZSE) in Pennsylvania**



# PROGRAM GOALS

- ✓ Reduce speeds in work zones
- ✓ Improve driver behavior
- ✓ Save worker and traveler lives
- ✓ Complement existing enforcement by the Pennsylvania State Police
- ✓ Promote work zone safety

# OPERATION - AWZSE DEPLOYMENT LOCATION



LEGEND	
→	: Direction of Travel
●	: Channelizing Device
▨	: Automated Speed Enforcement Area
▭	: Speed Enforcement Vehicle

# OPERATION - AWZSE UNIT TECHNOLOGY

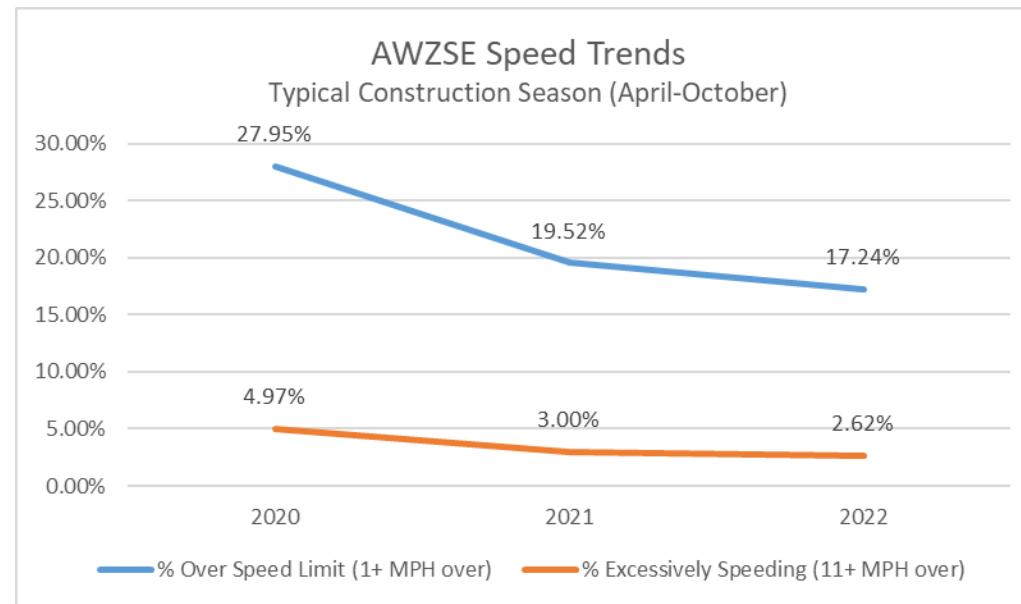


- Self contained mobile unit (SUV)
- Dual radar system
- Both radar readings must agree for violation
- Two cameras – advancing (front), receding (rear) plates
- Field unit software feeds to cloud-based database, processing portals



# PROGRAM EFFECTIVENESS

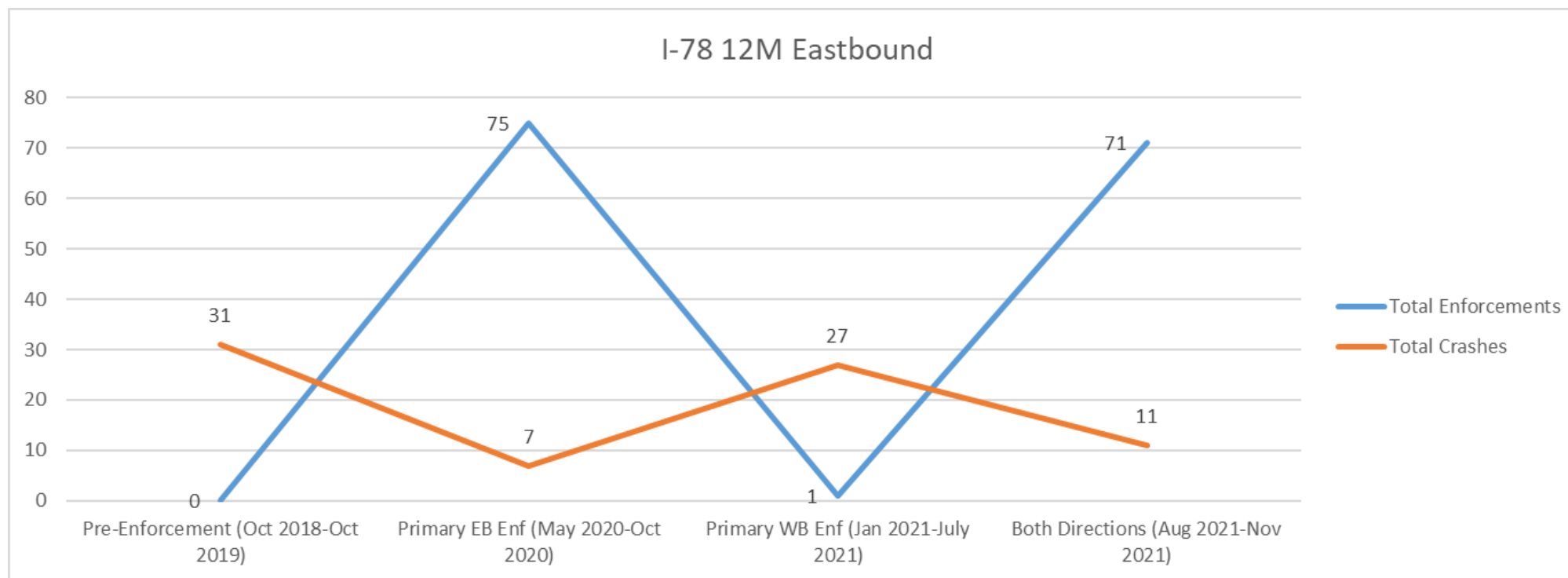
- **THE AWZSE PROGRAM HAS REDUCED SPEEDS WHEN DEPLOYED**
  - **38% REDUCTION IN TRAFFIC TRAVELING OVER SPEED LIMIT**
  - **47% PERCENT REDUCTION IN TRAFFIC EXCESSIVELY SPEEDING (11+ MPH OVER SPEED LIMIT)**
  - **SPEEDS HAVE BEEN HIGHER IN BARRIER PROTECTED WORK ZONES THAN IN UNPROTECTED WORK ZONES**





# PROGRAM EFFECTIVENESS

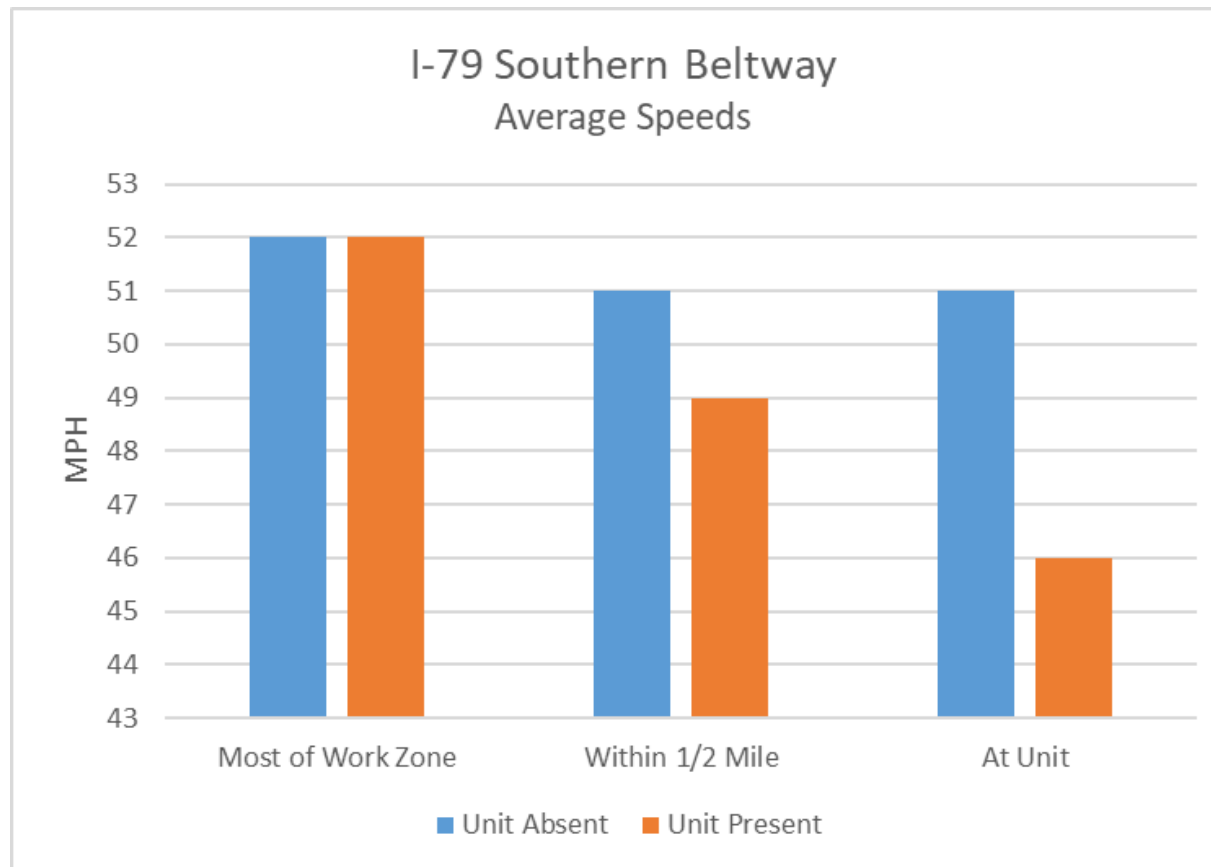
- **THE AWZSE PROGRAM HAS REDUCED CRASHES WHEN DEPLOYED**
  - **PRIMARILY STUDIED FOR LONG-TERM BARRIER PROTECTED WORK ZONES**
  - **15-50% REDUCTION IN CRASHES WHEN PRESENT**



# PROGRAM STATUS

- **PROGRAM STATS**

- **10,000+ DEPLOYMENTS**
- **1,300,000+ VIOLATIONS ISSUED**
- **16.9% REPEAT RATE**

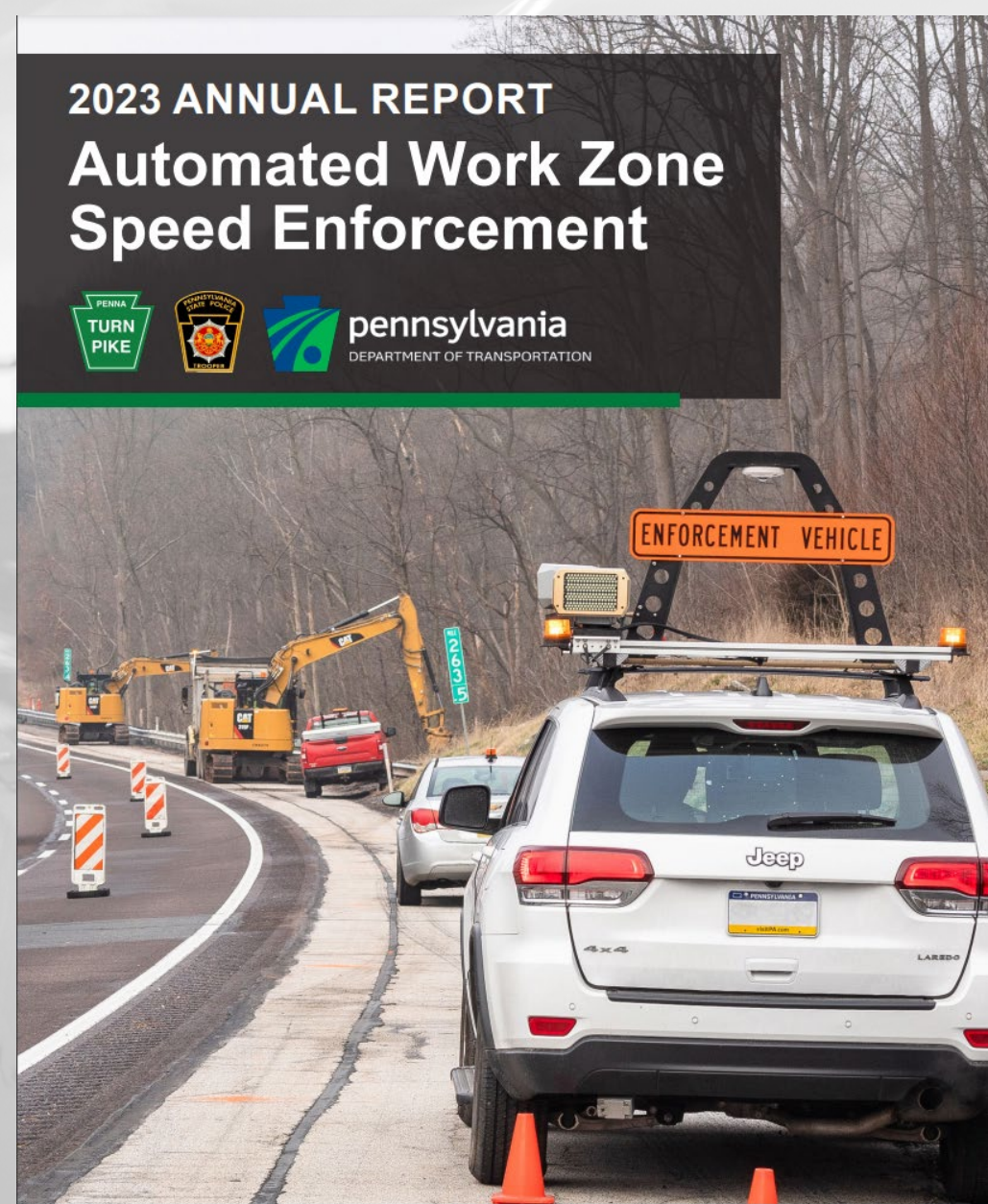


**Dan Farley, PE**  
**Director, Bureau of Operations**  
**PennDOT**  
**dfarley@pa.gov**  
**717-783-0333**

**Key Links**

**[Legislation - Section 3369](#)**

**<https://workzonecameras.penndot.gov/>**





# **MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?**

ROY GOTHIE · NOVEMBER 2, 2023

# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?



Photo by Leonard Bonerak

- **Roy Gothie**
- Executive Policy Specialist
- [rgothie@pa.gov](mailto:rgothie@pa.gov)



# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?

- **The TLDR Version:**

- Micromobility includes a wide range of vehicles under 2200 lbs.
- Many are familiar such as electric motorcycles, mopeds, and bicycles
- Others are less familiar to the public including Pod vehicles, unicycles, commercial cargo bikes, and e-scooters.
- Title 75 (Vehicle Code) controls what is allowed on the roads and in local communities.
- Many new electric form factors aren't covered in Title 75 and are therefore not legal to operate on the roadway.





## The Story:

A car is a bundle of trips – mostly short trips less than five miles

It is also an aspirational purchase – Of course you're going on adventure far away someday.



## The Reality:

For most trips under 3 miles micromobility will work quite well

- Shopping
- Going to school
- Getting to work
- Reaching the bus stop

## Cost are Lower

- An e-bike is about \$250 year to operate
- A Toyota Camry is about \$9,700 per year to operate





## The Reality of Regulation and Legislation

- Not as clear as we might prefer
- Elected Officials, Law Enforcement, and the Public are confused
- Bike shops are trying to educate
- DCNR created an E-Bike Policy
- Researchers are producing some work on the laws and how these vehicles are being used.



# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?

**MOTOR-DRIVEN CYCLE DEFINITION:** A motorcycle, including a *motor scooter*, with a motor which does not to exceed 5 brake horsepower



# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?

- **MOPED DEFINITION:** A motor-driven cycle equipped with operable pedals, a motor rated no more than 1.5 brake horsepower, a cylinder capacity not exceeding 50 cubic centimeters, an automatic transmission, and a maximum design speed of no more than 25 miles per hour, or an electric motor-driven cycle equipped with operable pedals and powered by an electric battery or battery pack powered electric motor with a max design speed of no more than 25 mph.
- From FAQ not Title 75



## Motorized Pedalcycles

A motor-driven cycle equipped with operable pedals and a motor rated no more than 1.5 brake horsepower, a cylinder capacity not exceeding 50 cubic centimeters, an automatic transmission and a maximum design speed of no more than 25 miles per hour

**OR**

an electric motor-driven cycle equipped with operable pedals and an automatic transmission powered by an electric battery or battery pack-powered electric motor And a maximum design speed of no more than 25 miles per hour



# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?





# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?

**The ELF Pedalcycle with Electric Assist**  
**150 lbs. – up to 550 lbs. loaded**



**UPS – Motorized Cycle**  
**400 lbs. unloaded and w/o driver**



# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?








Challenging to operate for new riders  
Higher than expected speeds



Definitely not in Title 75  
Available from Amazon and Target



# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?

 <b>PA MICROMOBILITY FACT SHEET</b>												
DESCRIPTION	MIN AGE	LICENSE	REGISTRATION	INSURANCE	HELMET	PASSENGER	LIGHTS	MAX CAPABLE SPEED	RIDE ON SIDEWALK	RIDE ON BIKE LANE	POSSIBLE DUI	PA VEHICLE CODE
<b>ELECTRIC SCOOTER</b> 	-	-	-	-	-	-	-	-	-	-	Yes	§ 102
Can operate only on private property. Electric scooters, like electric skateboards and electric unicycles, cannot be legally operated on public roadways.												
<b>MOTORIZED PEDALCYCLE</b> 	16	C	Yes	Yes	Yes, under 21	Yes	Yes	25	No	No	Yes	§ 102, § 3523(e), § 1714
Has operable pedals. Design speed of no more than 25 mph. Gas - motor rated 1.5 brake horsepower or less, has an automatic transmission. Electric - powered by an electric battery.												
<b>MOTOR SCOOTER</b> 	16	Class M/Class if >50 cc, Class C if <50cc	Yes	Yes	Yes, under 21	Yes	Yes	Up to 5 brake horsepower	No	No	Yes	§ 102, § 3525
Is a motor-driven cycle. Motor shall not exceed five brake horsepower.												
<b>SEGWAY</b> 	-	No	No	No	Yes, under 12	No	Yes	-	Yes	No	Yes	§ 102, § 3581-3583, § 3703 (c)
Is an electric personal assistive mobility device. An electric, self-balancing, two-nontandem-wheeled device. Lighting must be used when operating between sunset and sunrise. A Segway is allowed on sidewalks unless a municipality prohibits it.												
<b>E-BIKE</b> 	16	No	No	No	No	Yes	Yes	20	Yes, not in business district	Yes	Yes	§ 102, § 3514
Is a pedalcycle with electric assist. Weighs less than 100 pounds. Motor not more than 750 watts. Has operable pedals. Not capable going faster than 20 mph on a level surface when powered by the motor source only. Lighting must be used when operating between sunset and sunrise.												
<b>BICYCLE</b> 	-	No	No	No	Yes, under 12	Yes	Yes	-	Yes, not in business district	Yes	Yes	§ 102, § 3501 et seq., § 3802, § 1547
Is a pedalcycle. Is moved solely by human-powered pedals. Lighting must be used when operating between sunset and sunrise.												



# SUPPORTING RESOURCES

- PennDOT Fact Sheet: Mopeds, Motor-Driven Cycles, and Motorcycles  
<https://www.dot.state.pa.us/public/dvspubsforms/bmv/bmv%20fact%20sheets/fs-momo.pdf>
- PennDOT Micromobility Fact Sheet [https://www.penndot.pa.gov/TravelInPA/active-transportation/Documents/Low Speed FACT Sheet 2021 Final.pdf](https://www.penndot.pa.gov/TravelInPA/active-transportation/Documents/Low%20Speed%20FACT%20Sheet%202021%20Final.pdf)
- DCNR E-Bikes in Pennsylvania State Parks and Forests -  
<https://www.dcnr.pa.gov/Pages/EBikePolicy.aspx>
- *Title 75 ( PA Vehicle Code)* [https://www.dmv.pa.gov/Information-Centers/Laws-Regulations/Pages/PA-Vehicle-Code-\(Title-75\).aspx](https://www.dmv.pa.gov/Information-Centers/Laws-Regulations/Pages/PA-Vehicle-Code-(Title-75).aspx)
- *How and Where Should I Ride This Thing? "Rules Of The Road" for Personal Transportation Devices – Fang, Agrawal, Hooper 2019.* <https://transweb.sjsu.edu/research/1713-Rules-Personal-Transportation-Devices>



# MICROMOBILITY NEWSLETTERS AND PODCASTS

- [Micromobility](#) – very good but technical, focusing on equity investments, product design, systems operations for e-bikes and scooters.
- [The War on Cars](#) – from NYC, very light and airy discussions of issues surrounding the current and past practice of designing public space for cars.
- [The Mobility Podcast](#) – wide range of topics including connected and autonomous vehicles, trains (rail and freight), electrification of buses (and school buses).
- [Talking Headways](#) – more in depth - some transit, some on health-transportation linkages, e-bikes, electrification of cities.
- [Streets Ahead](#) – dedicated to the world of active transportation, livable streets, and people-focused urban design.
- [Arrested Mobility](#) - minority and veteran-owned urban planning, public policy and research firm focused at the intersection of transportation, health and equity



# MICROMOBILITY: WHAT IS IT AND WHERE CAN YOU RIDE IT?

*Contact Information:*

**Roy Gothie**

*Executive Policy Specialist*

*PennDOT Policy Office*

Phone: 717.783.3991

Email – [rgothie@pa.gov](mailto:rgothie@pa.gov)





# NEXT MEETING: JANUARY 18, 2024 MICROSOFT TEAMS (ALL VIRTUAL)

## Draft Topics:

ARLE Updates

UAS/Drones

Dirt and Gravel Roads

Pennsylvania's Master Plan for Older Adults

Legislative Update?