



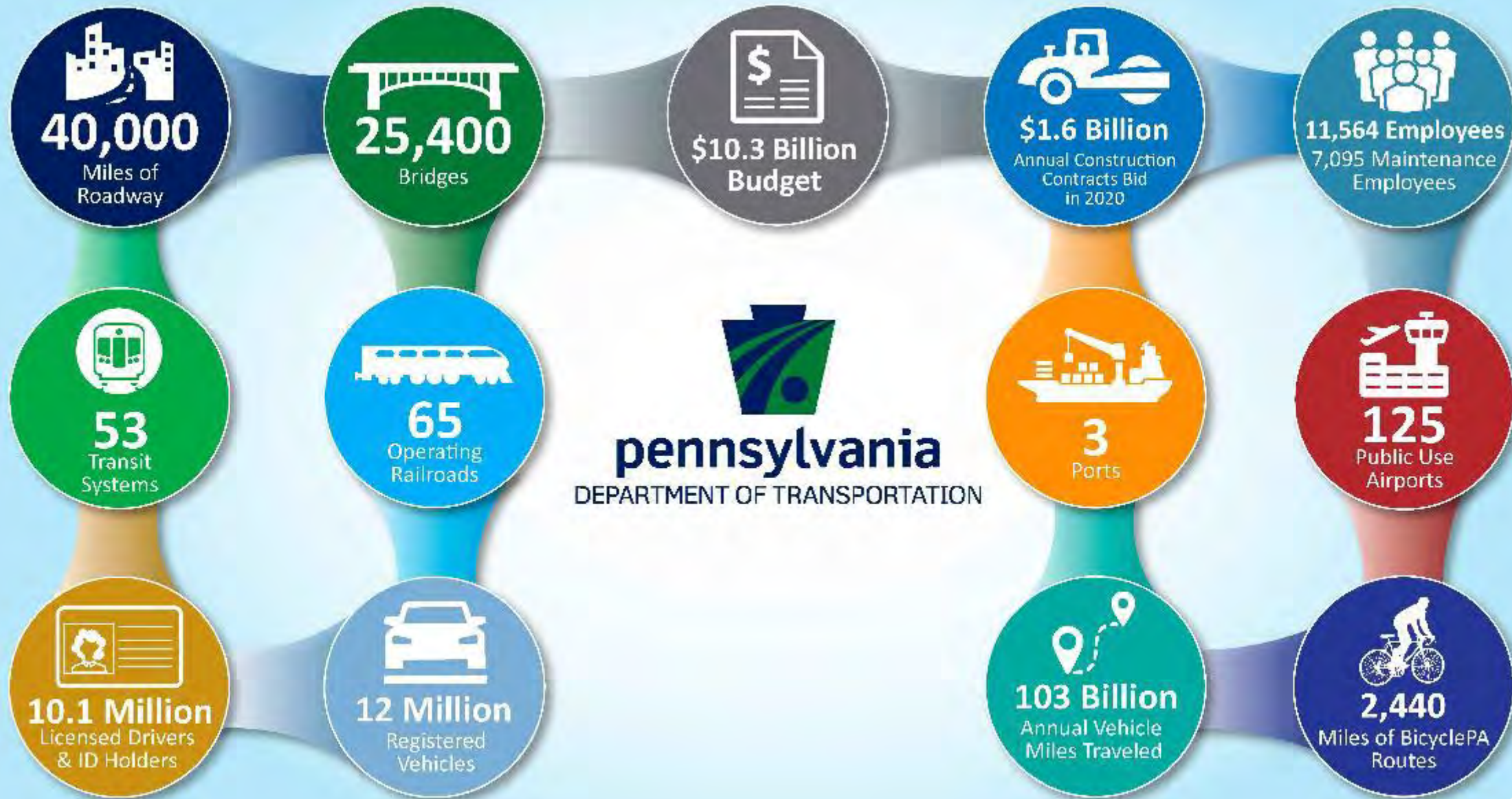
**Pennsylvania Asphalt
Pavement Association**
Pennsylvania Rides on US.



JANUARY 17-19, 2022

**MIKE KEISER, P.E.
DEPUTY SECRETARY FOR HIGHWAY ADMINISTRATION**

PENNDOT BY THE NUMBERS




pennsylvania
DEPARTMENT OF TRANSPORTATION

*Total miles on all PA roadways



FOCUS AREAS: ABOUT PEOPLE

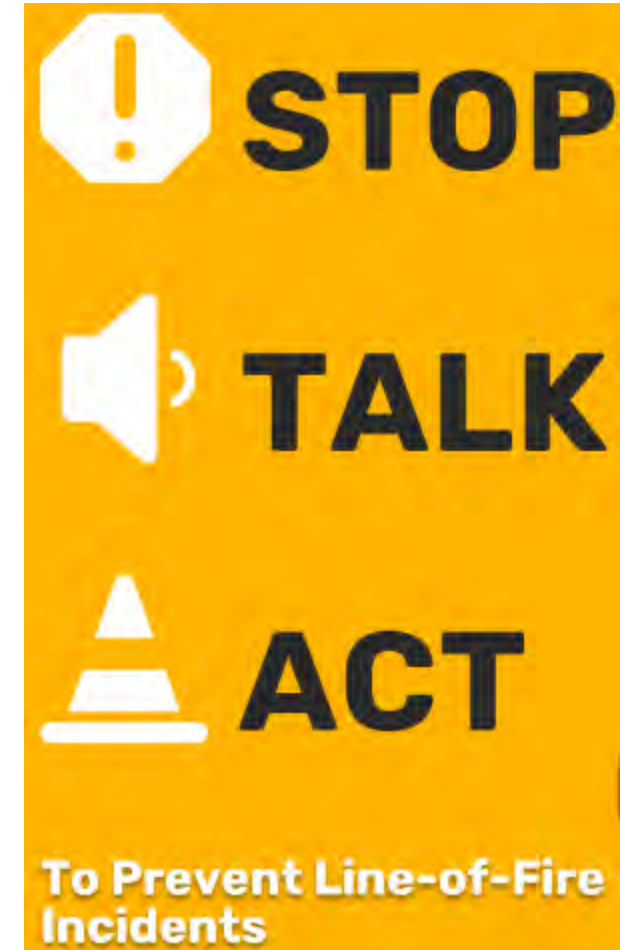
- Safety
- Relationships
- Program Delivery
 - Asset Management
 - Pavement Updates
 - Innovation
 - Program
- Funding
- Cash Flow
- 2022 Program Outlook



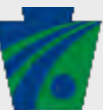
SAFETY:

- WORKFORCE
- WORK ZONES
- FAMILIES
- PUBLIC

INDUSTRY-WIDE SAFETY STAND-DOWN



#StandDown2SaveLives



MENTAL HEALTH STATISTICS

1 in 5 U.S. adults experience mental illness

Approximately 1 suicide every 11 minutes

Stigma prevents 40% of people with anxiety or depression from seeking help

Construction suicides are 5x greater than all fatal construction injuries (2018)

The suicide rate among men in construction is about 4x higher than the general population

From 2000-2016, the working age adult suicide rate increased 34%

If you or someone you know is in crisis, please contact the

National Suicide Prevention Lifeline



- Call 1-800-273-TALK (8255)
- Use the online Lifeline Crisis Chat
- www.suicidepreventionlifeline.org

**Text HOME
to 741741**

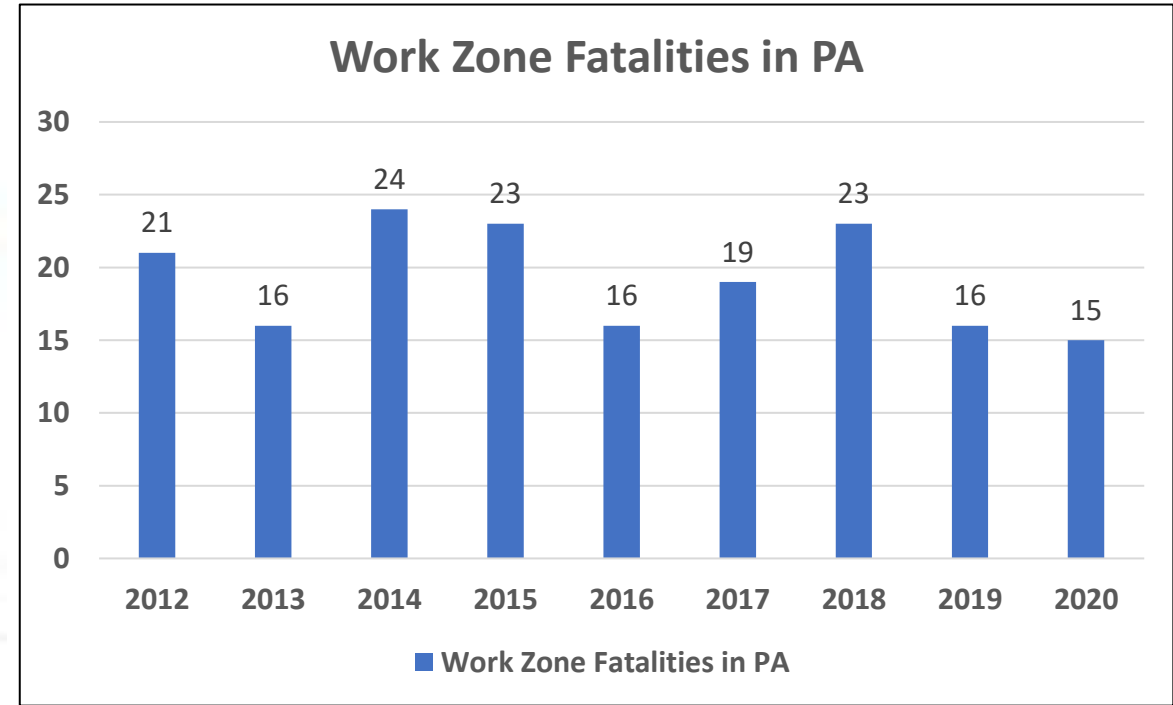
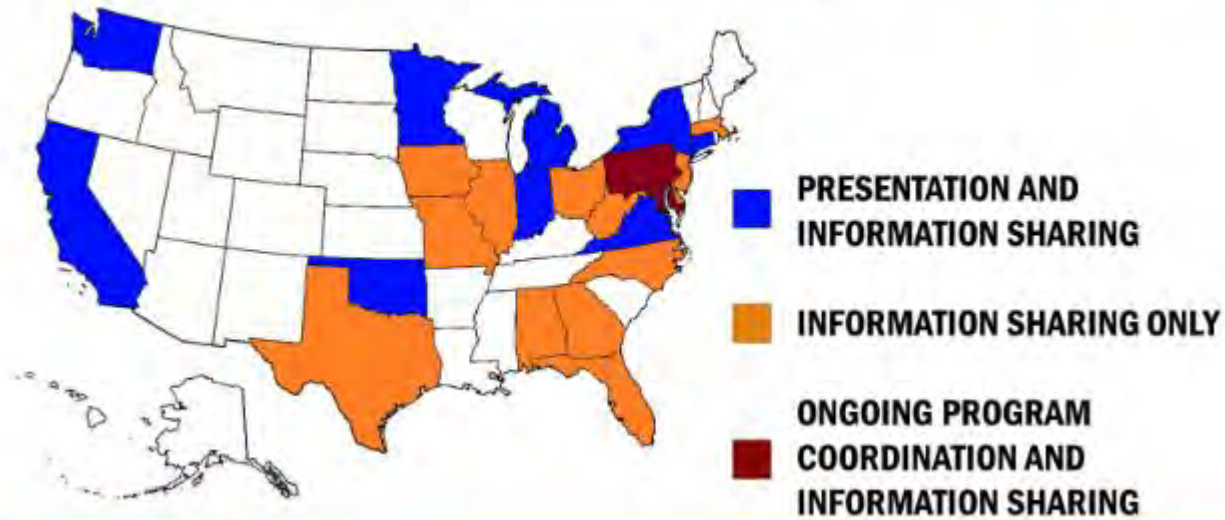
for free, 24/7 crisis
support in the US.



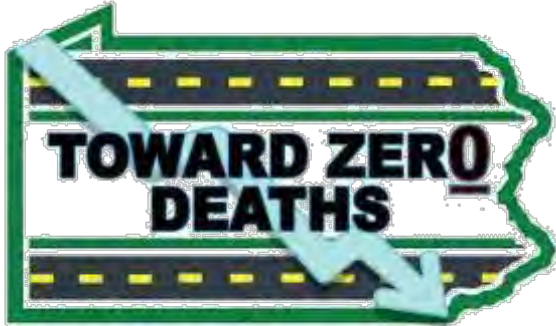
AUTOMATED WORK ZONE SPEED ENFORCEMENT

➤ AWZSE

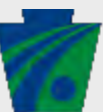
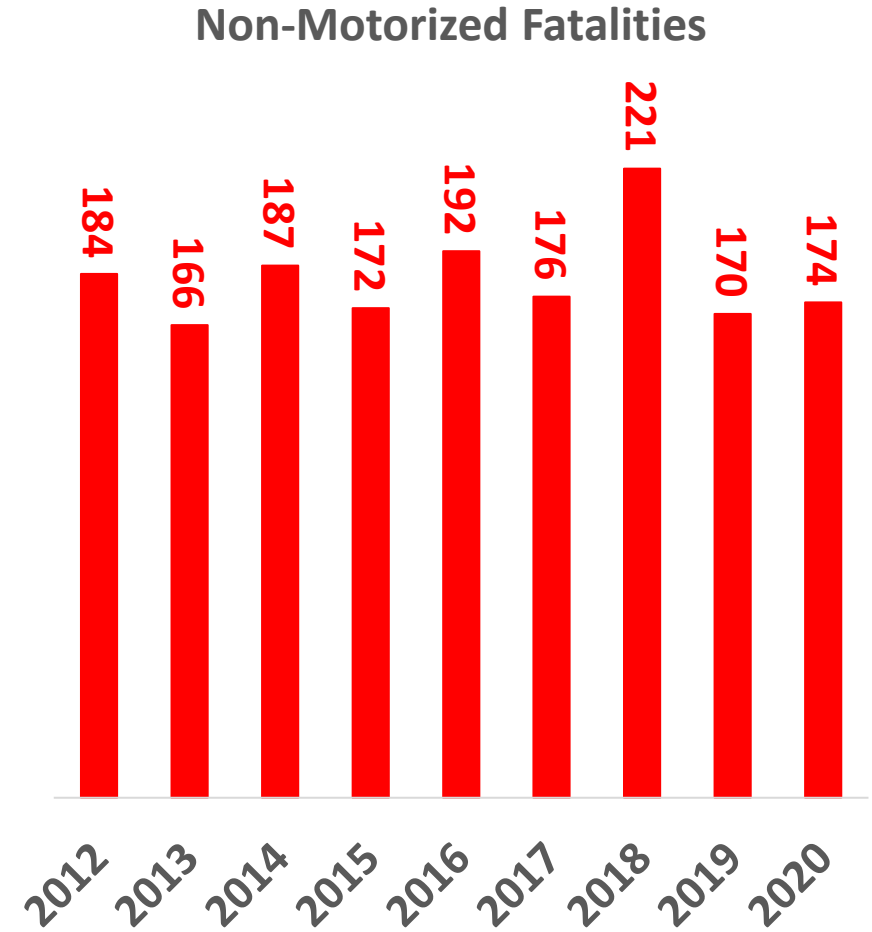
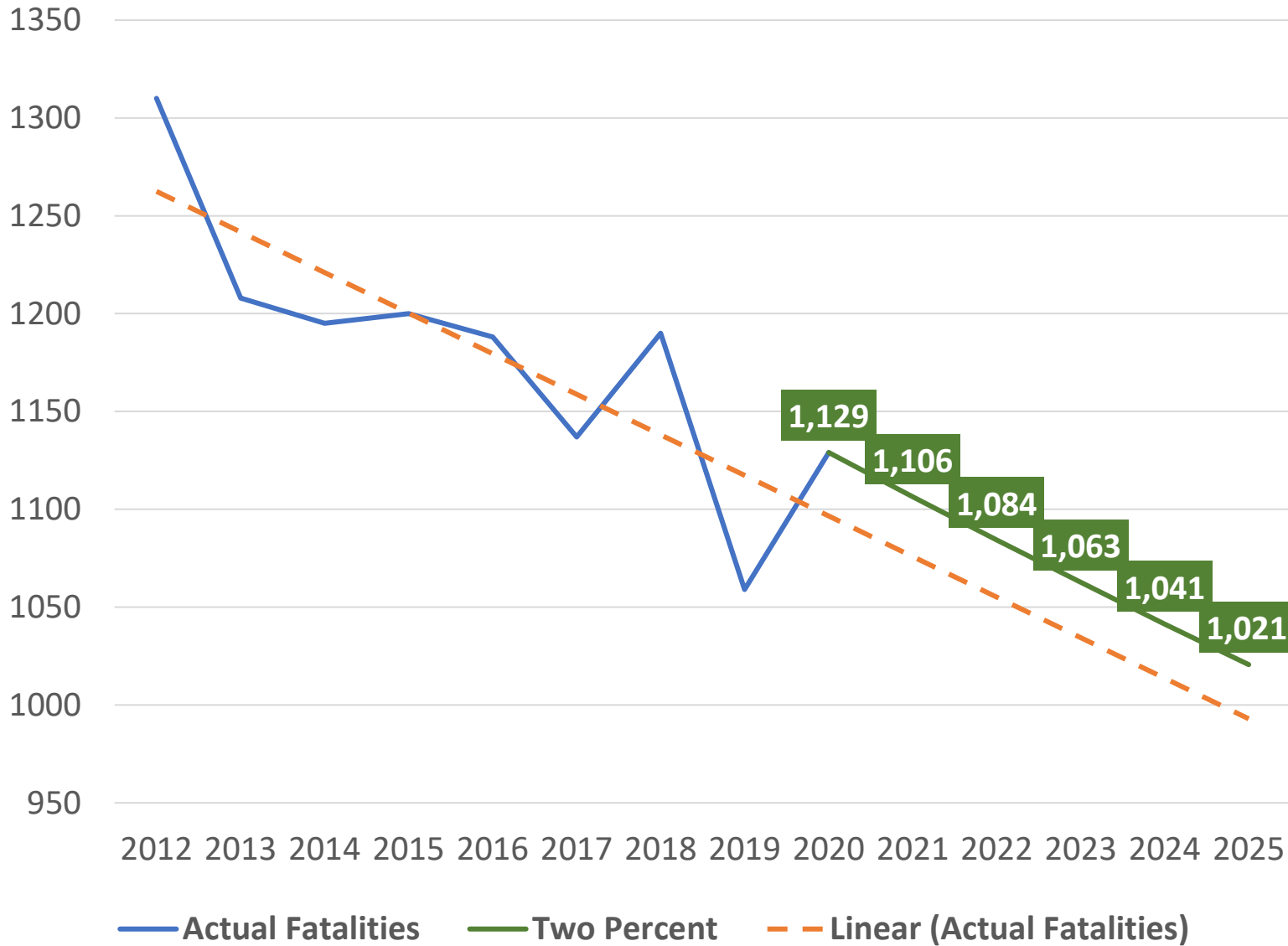
PROGRAM OUTREACH – PEER-TO-PEER MEETINGS



RESULTS:
Excessive Speeds (>11 mph)
~10% April 2020
<3% June 2021



FATALITIES



RELATIONSHIPS:

- Industry Partners
- Elected Officials
- Public
- State/Federal Agencies

DIVERSITY, EQUITY AND INCLUSION

- ✓ Mentor-Protégé Program
- ✓ Major Bridge P3 DBE Program
- ✓ On the Job Training Program



<https://www.penndot.gov/about-us/EqualEmployment/Pages/default.aspx>

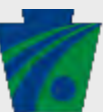
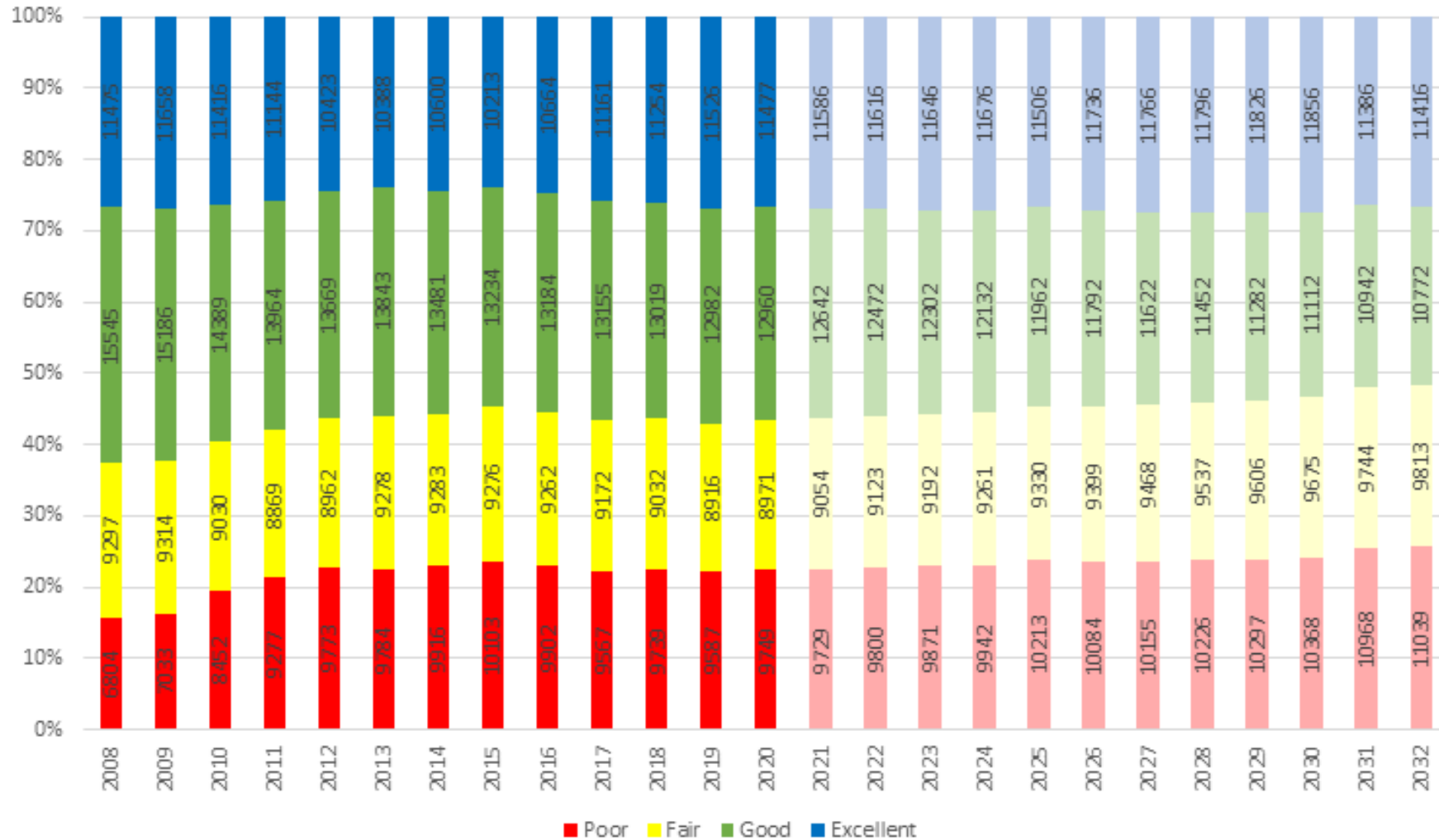


PROGRAM DELIVERY:

- ASSETS
- PAVEMENT UPDATES
- INNOVATION
- PROGRAM

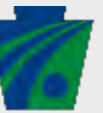
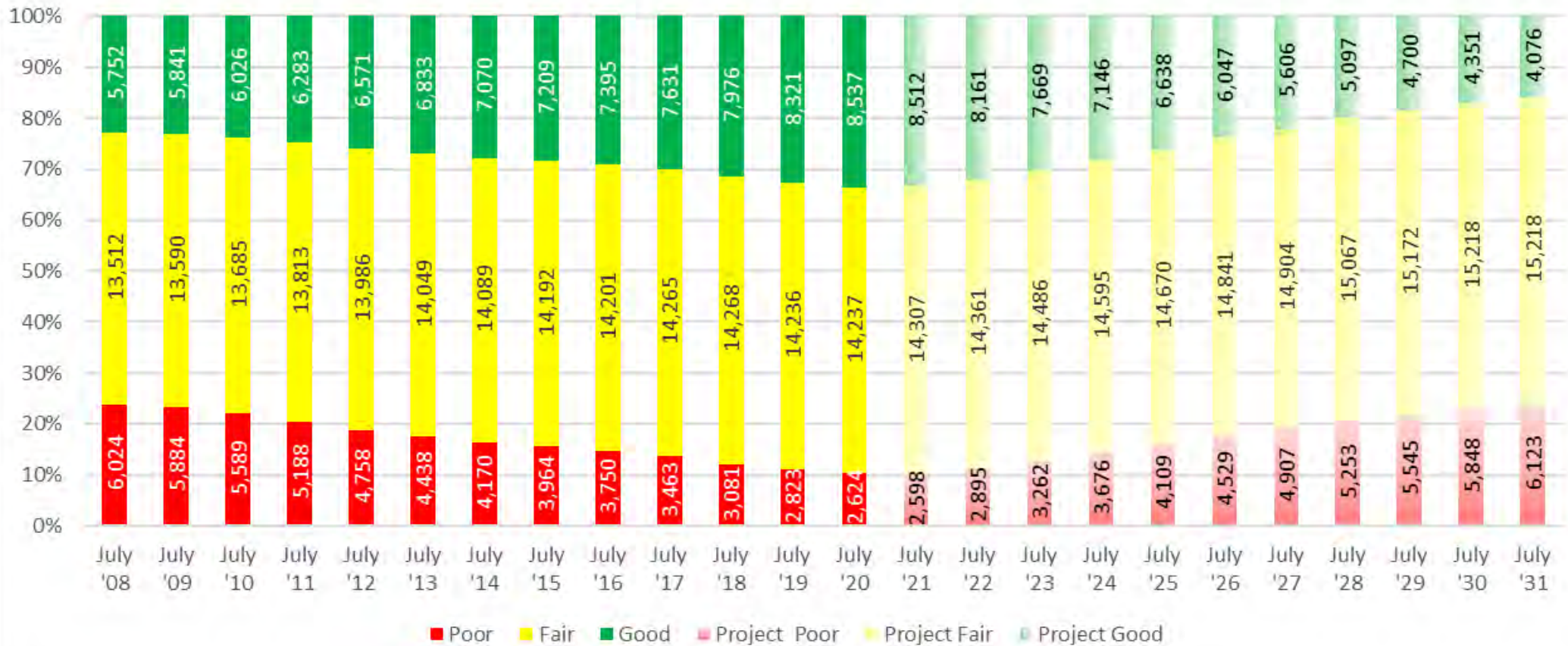
ROADWAYS- STATE OF GOOD REPAIR

Statewide - Pavement Condition 2008-2020 Actual
2021-2032 Projects
(Miles of Pavement)



BRIDGES- STATE OF GOOD REPAIR

Statewide - Bridge Condition 2008 - 2020 Actual
2021 - 2031 Projected
(Number of Bridges)



ASSET MANAGEMENT



2019 FHWA Certification

- Pavement Asset Management System
- Bridge Asset Management System
- Adding Guiderail, Drainage, other features
 - Future Options
- Adjust Program Process for Roads & Bridges
- Improved Rehabilitation Techniques
- Better Preservation Tools
- Improved Process

Pennsylvania Department of Transportation

Transportation Asset Management Plan 2019

June 28, 2019



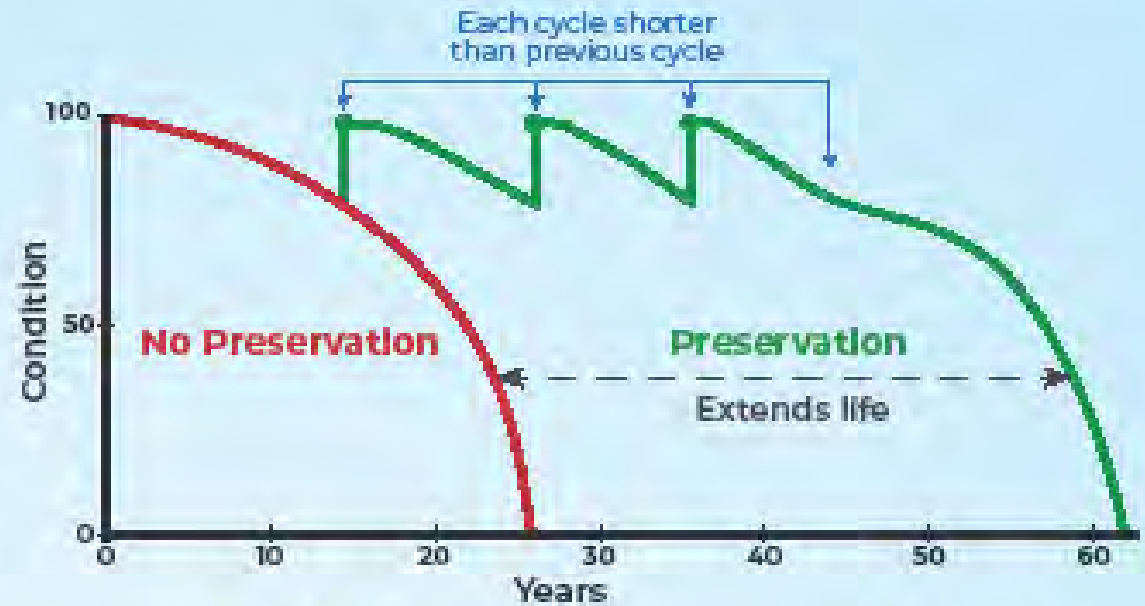
Lowest Life Cycle Cost (LLCC)



What is LLCC?

With the passing of MAP-21 and FAST ACT, states are now required to manage the NHS to the Lowest Life Cycle Cost (LLCC) and document this in their risk-based Transportation Asset Management Plans (TAMPs).

LLCC is a process designed to maximize the life of an asset at the lowest cost through a risk-based prioritization of preservation, rehabilitation, and reconstruction. It promotes the right treatment at the right time (with an emphasis on preservation) rather than focusing too heavily on assets in poor condition (e.g., worst-first).



No Preservation

VS



Preservation

A series of well-timed preservation activities extends life, maintains the asset at a higher performance level for longer, and lowers the total cost per year.

Why is it Beneficial?



Extended life of

INDUSTRY INTERACTION

Quarterly Industry Forum

- Meeting with Deputy Secretary and Industry Association Executives

Quality Improvement Committees

- Asphalt Paving Quality Improvement Committee (APQIC)
- Concrete Paving Quality Improvement Committee (CPQIC)
- Aggregate Quality Improvement Committee (AQIC)
- Concrete Quality Improvement Committee (CQIC)
- Pennsylvania Association of Asphalt Material Applicators Quality Improvement Committee (PAAMA-QIC)
- Cement Quality Improvement Committee (CEMQIC)
- Slag Quality Improvement Committee (SlagQIC)



ASPHALT PAVING QIC (APOIC)

Activities and Accomplishments

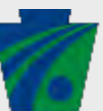
- e-Ticketing Pilots & Special Provision
- Mixture Performance Testing Pilots & Special Provision (Hamburg Wheel Track Testing and CT_{Index} Testing)
- Hands On Local Acceptance (HOLA) for SMA – Pub. 408/2020-2
- Foamed Asphalt for Cold-Recycled Base Courses (SSP & Pub. 408/2020-4)
- Balanced Mix Design Implementation Plan (JMF Performance Testing Data Collection & Limits Timeline) – June 8, 2021 Letter to Producers
- Plastics in Asphalt Binder Pilot Projects & Research Study Project (1st project Aug. 2021)



ASPHALT PAVING QIC (APOIC)

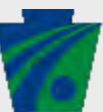
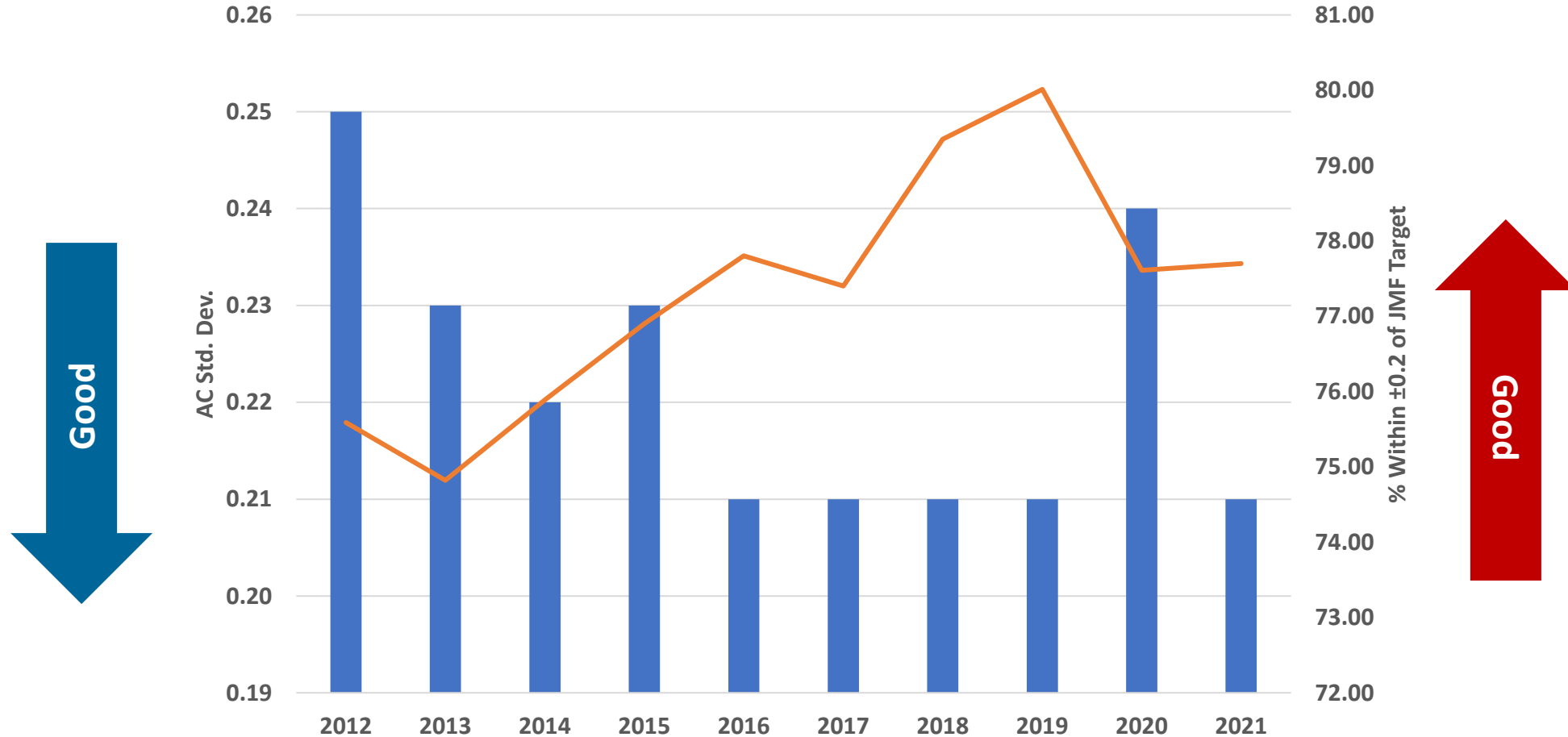
Activities and Accomplishments (Continued)

- Hi-Polymerized Asphalt Binder
- Virtual Asphalt Acceptance Testing (VAAT) HOLA Pilot & AAR
- Superpave Asphalt Rich Base Course (SSP & Pub. 408/2020-4, Section 314)
- Reduction of Mix Designs
 - Reduced Gyration Levels for Superpave Courses - SOL 481-21-02, Dated 11/30/2021
- Post-Consumer Recycled Asphalt Shingles –Research Study & Development of Pilot Special Provision
- Subcommittees
 - NECEPT
 - Mixture Performance Testing
 - Research



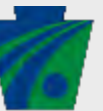
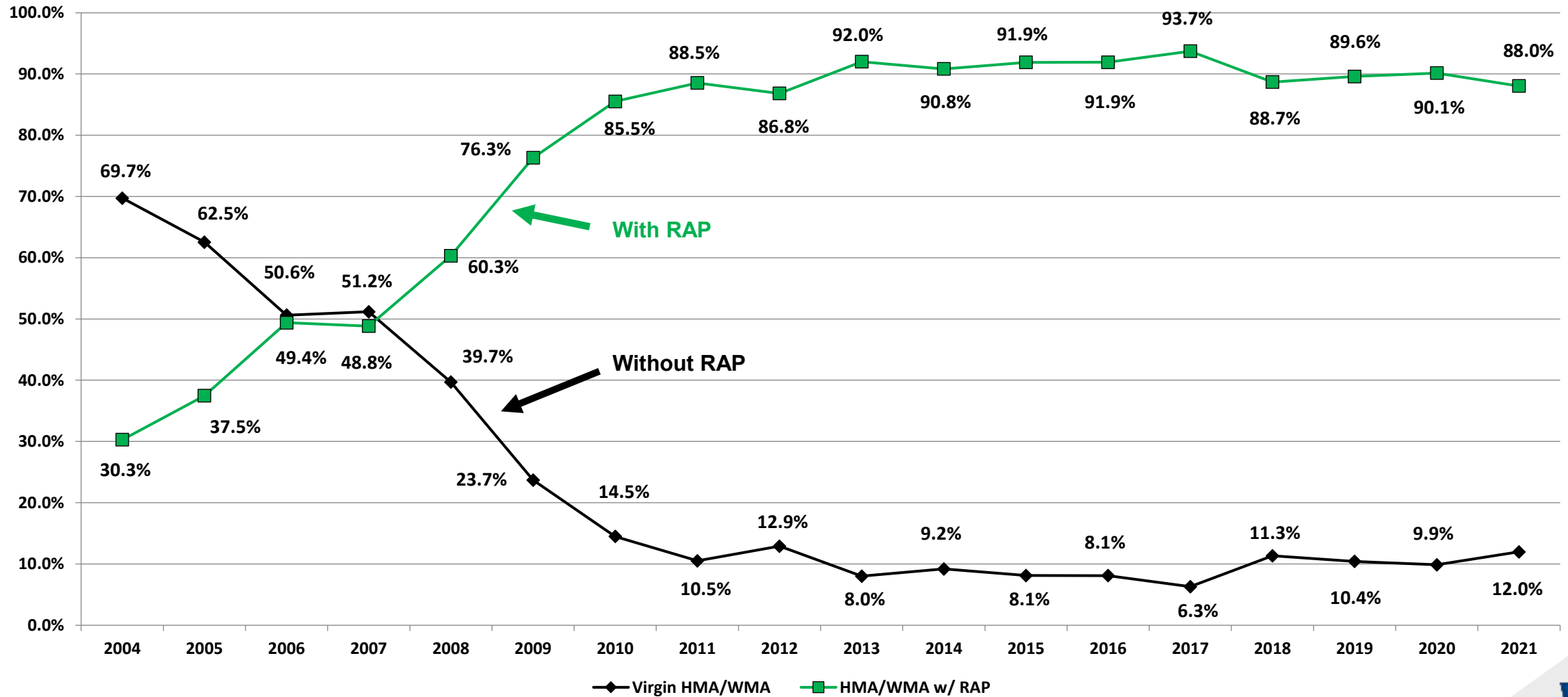
QUALITY – TRENDS & TARGETS

2020 - All 9.5 mm Wearing Courses – Std. Dev. for Asphalt Content



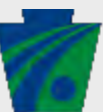
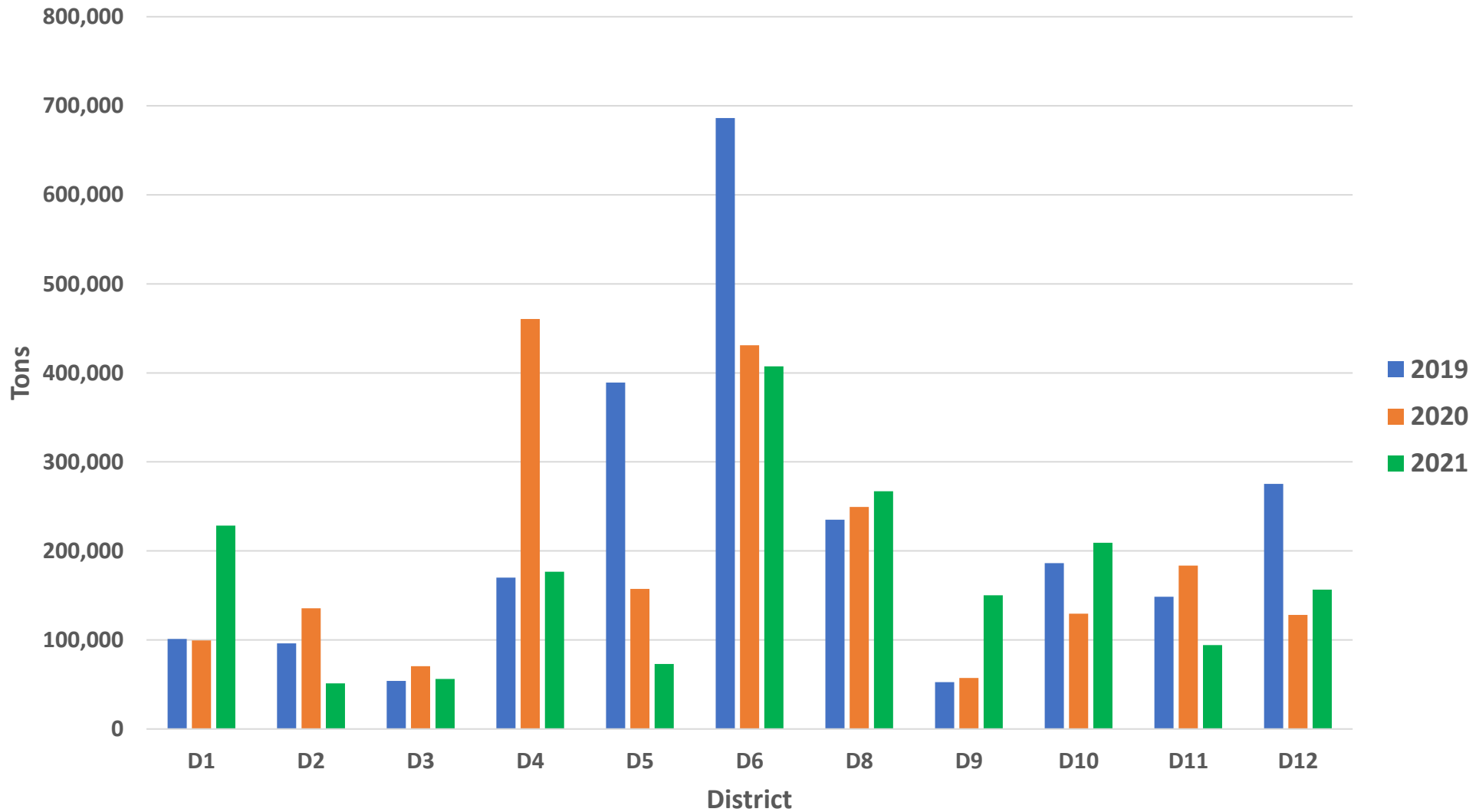
GREEN INITIATIVES - RAP

Reclaimed Asphalt Pavement (RAP) Usage Trend in HMA & WMA



GREEN INITIATIVES - RAP

Amount of RAP Milled from Pavements



LONG LIFE ASPHALT PAVING (LLAP)

Many Best practices

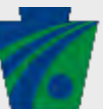
- MTV required
- Tack Every Layer
- PWL spec
- Incentives
- Longitudinal Joint Spec.

Balanced Asphalt Mix Design Program

- Predict and balance rutting and cracking through performance testing
- New Strike Off Letter is an incremental approach for balanced mix design implementation

Future Direction

- Robust research and piloting effort
 - Select best performance related test(s)
 - Identify performance related spec. limits



INNOVATION

MOBILE APPLICATIONS (APPS)



MC DOCs



CID



Sample ID



PSA



MPT



Dept. ePayroll
On Hold



Punchlist



CMH Mobile



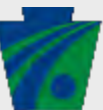
E-Ticketing



Force Account



Visual Site Inspection Report

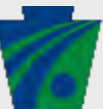


MOVING INTO A VIRTUAL WORLD

Augmented Reality & Virtual Inspections



Unmanned Aircraft Systems



CONNECTED AND AUTOMATED



\$8.4 Million US DOT Grant - Safe Integration of Automated Vehicles into Work Zones

Goal:

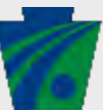
Develop a consistent approach to allow for AVs to safely operate in work zones.

Approach:

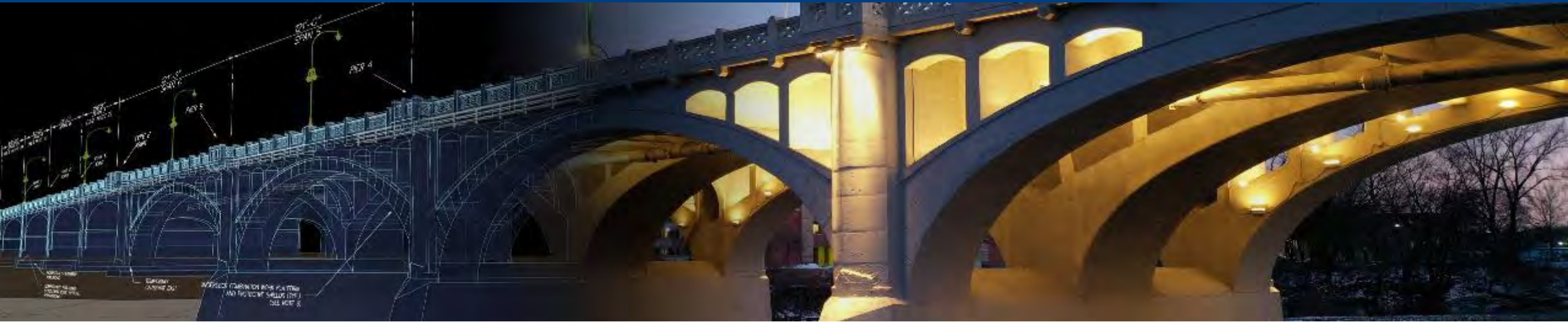
Evaluate the impact of **connectivity** between AVs and the work zone.

Evaluate the impact of innovative coatings on pavement markings and work zone artifacts to improve **machine visioning**.

Evaluate the impact of providing **high definition mapping** of work zone.



DIGITAL DELIVERY DIRECTIVE 2025 (3D2025)



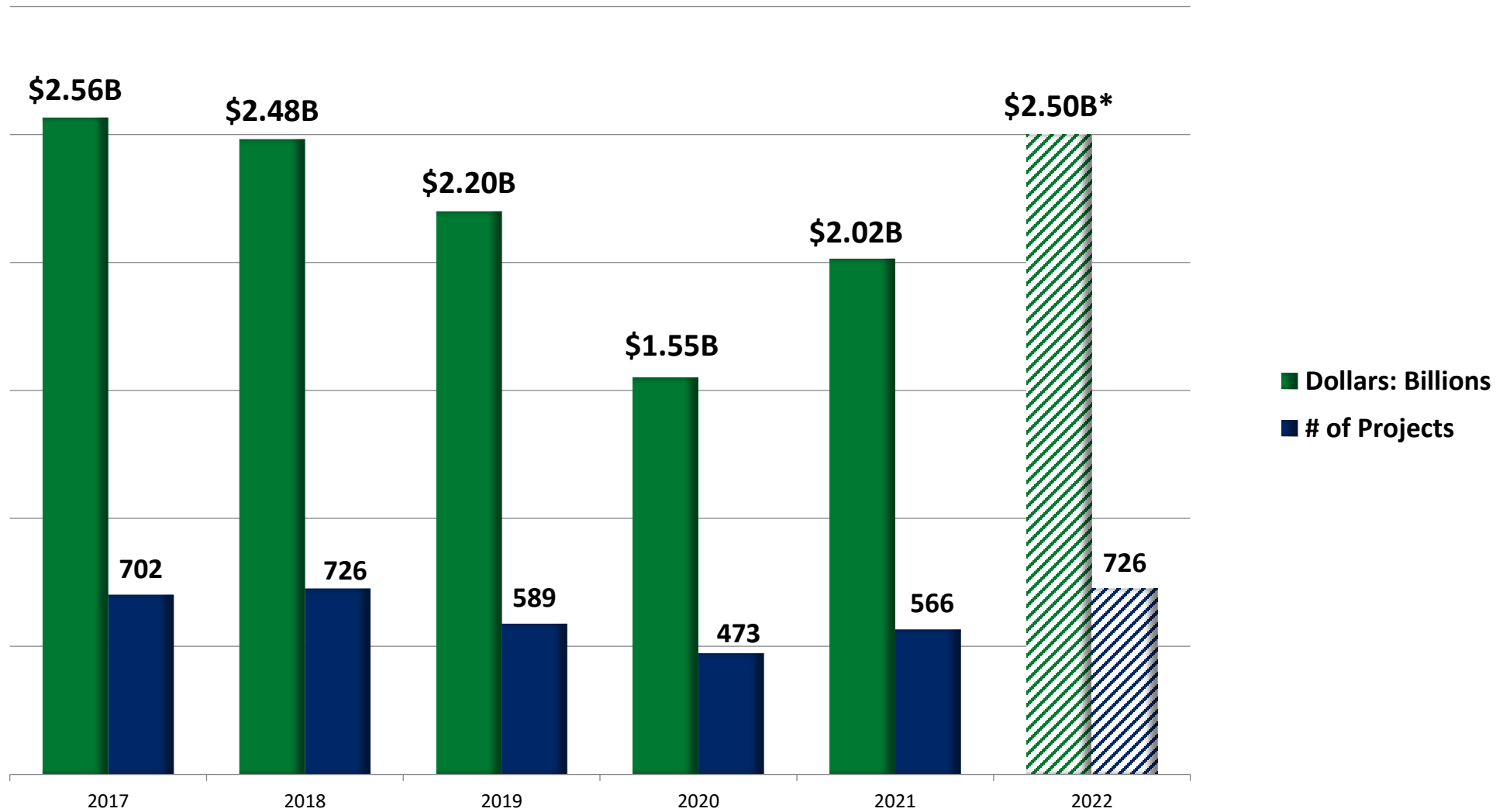
Vision: By 2025, construction projects will be bid using 3D technology and no longer be in a traditional construction plan format.

- Phase II (Development) of the Directive
- Pilot Projects
 - Digital As-Builts/Single Project PDF/Roadway & Bridge Modeling
- Stakeholder Coordination

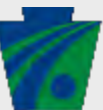


PROGRAM

PROJECT LETTING TRENDS



2022 Projected *



PROGRAM DISTRIBUTION

	Cost Based Percentage						
	2016	2017	2018	2019	2020	2021	2022*
Highway	53%	64%	60%	70%	61%	71%	72%
Bridge	35%	21%	28%	19%	24%	17%	20%
Other	12%	15%	12%	11%	15%	12%	8%

*2022 Projected



CONSTRUCTION MATERIAL QUANTITIES

Material	2017	2018	2019	2020	2021	2022*
Asphalt (Tons)	7,591,403	7,182,059	6,667,762	4,240,700	4,252,700	5,770,200
Structural Concrete (CY)	359,393	404,844	266,941	217,000	205,500	212,300
Concrete Paving (SY)	801,621	674,394	439,828 CSVT delayed	532,700	785,500	607,200
Aggregate (Tons)	10,807,613	8,996,689	8,271,575	5,388,700	5,408,300	6,032,300
Maintenance Asphalt (Tons)	2,398,100	1,559,600	1,152,100	585,700	964,000	

* Estimated Projections



CENTRAL OFFICE ORG CHANGE

- Chief Engineer

- Bureau of Maintenance
- Bureau of Operations
- Strategic Development & Implementation Office
- Bridge Office
- Bureau of Construction & Materials
- Bureau of Design & Delivery



FUNDING

FAST ACT?

Potential “New” Federal Funds

Year	Current Funding	Highway Funds	Special Bridge	Total Add'l Funds
2022	\$1.8 Billion	\$377 M	\$262 M	\$639 M
2023	\$1.8 Billion	\$421 M	\$294 M	\$715 M
2024	\$1.8 Billion	\$465 M	\$327 M	\$792 M
2025	\$1.8 Billion	\$510 M	\$360 M	\$870 M
2026	\$1.8 Billion	\$557 M	\$392 M	\$949 M
				\$3.965 B

*\$1.0 Billion in matching State Dollars

*Must also fund pre-construction phases



TRANSPORTATION REVENUE OPTIONS COMMISSION

PA



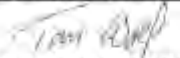
WHY WAS TROC ESTABLISHED?

Rate of Inflation

MLF Revenue



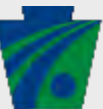
The Commission
for addressing

Executive Order	
Commonwealth of Pennsylvania Governor's Office	
Subject: Governor's Transportation Revenue Options Commission	Number: 2021-02
 By Direction of: Tom Wolf, Governor	Date: March 12, 2021

- WHEREAS, The Commonwealth of Pennsylvania, through the Department of Transportation (PennDOT) manages nearly 40,000 miles of roads and more than 25,400 bridges, key components of a transportation system that is vital to the economic well-being of Pennsylvania; and
- WHEREAS, the local governments of Pennsylvania manage over 77,000 miles of roads, more than 6,400 locally owned bridges and approximately 14,000 traffic signals, while facing significant funding challenges for the maintenance of their systems; and
- WHEREAS, the Commonwealth's 35 fixed transit route operators, which provide more than 300 million rides annually to the people of Pennsylvania, along with the Commonwealth-supported Amtrak services in the state, face operational and capital impacts if funding commitments of Act 44 of 2007 and Act 89 of 2013 are altered to remove stable funding; and
- WHEREAS, Pennsylvania has aggressively assisted private sector operators in enhancing their systems, since effective use of rail freight corridors significantly eases congestion, especially on interstates, yet operators continue to need and seek support from state and federal governments



proposal
sylvania.

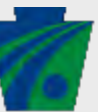
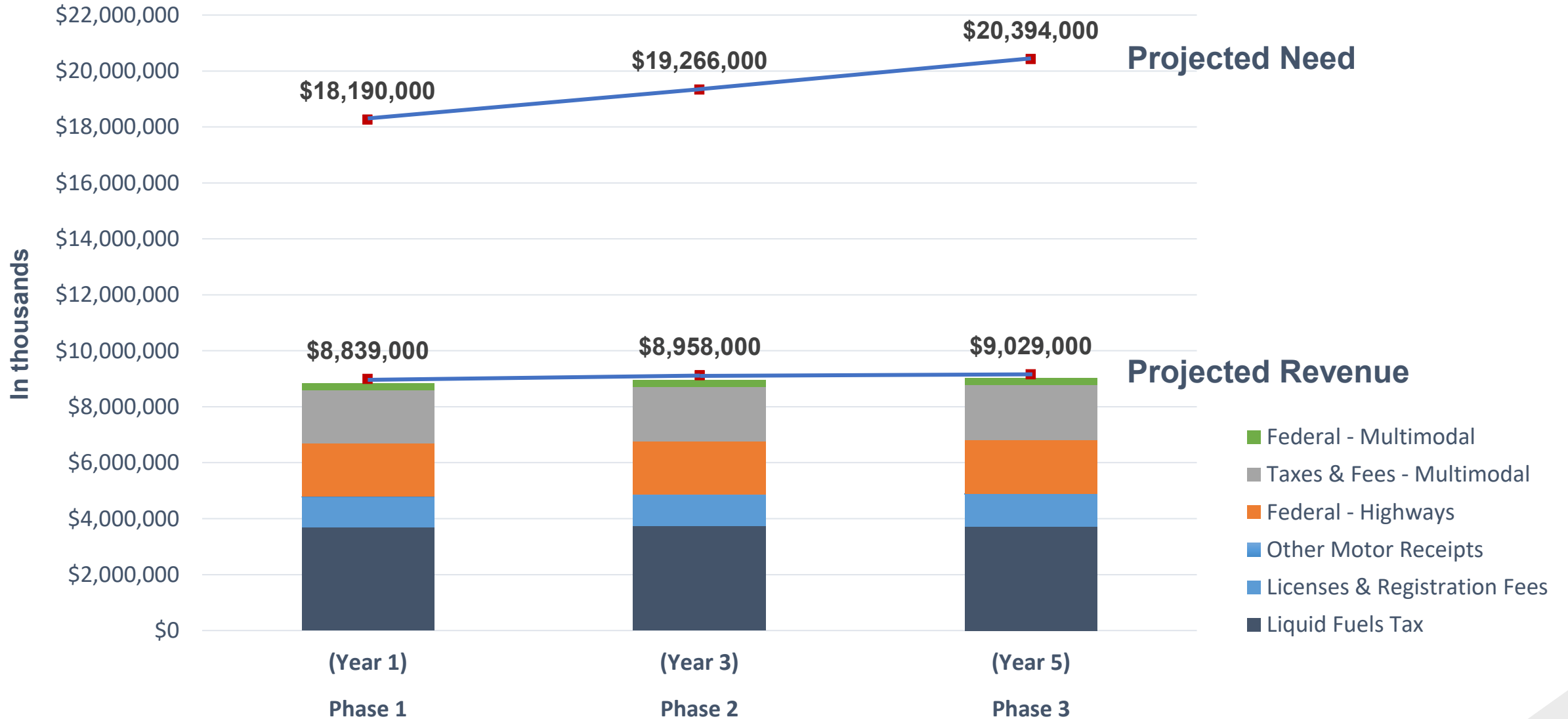


WHY WAS TROC ESTABLISHED?

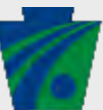
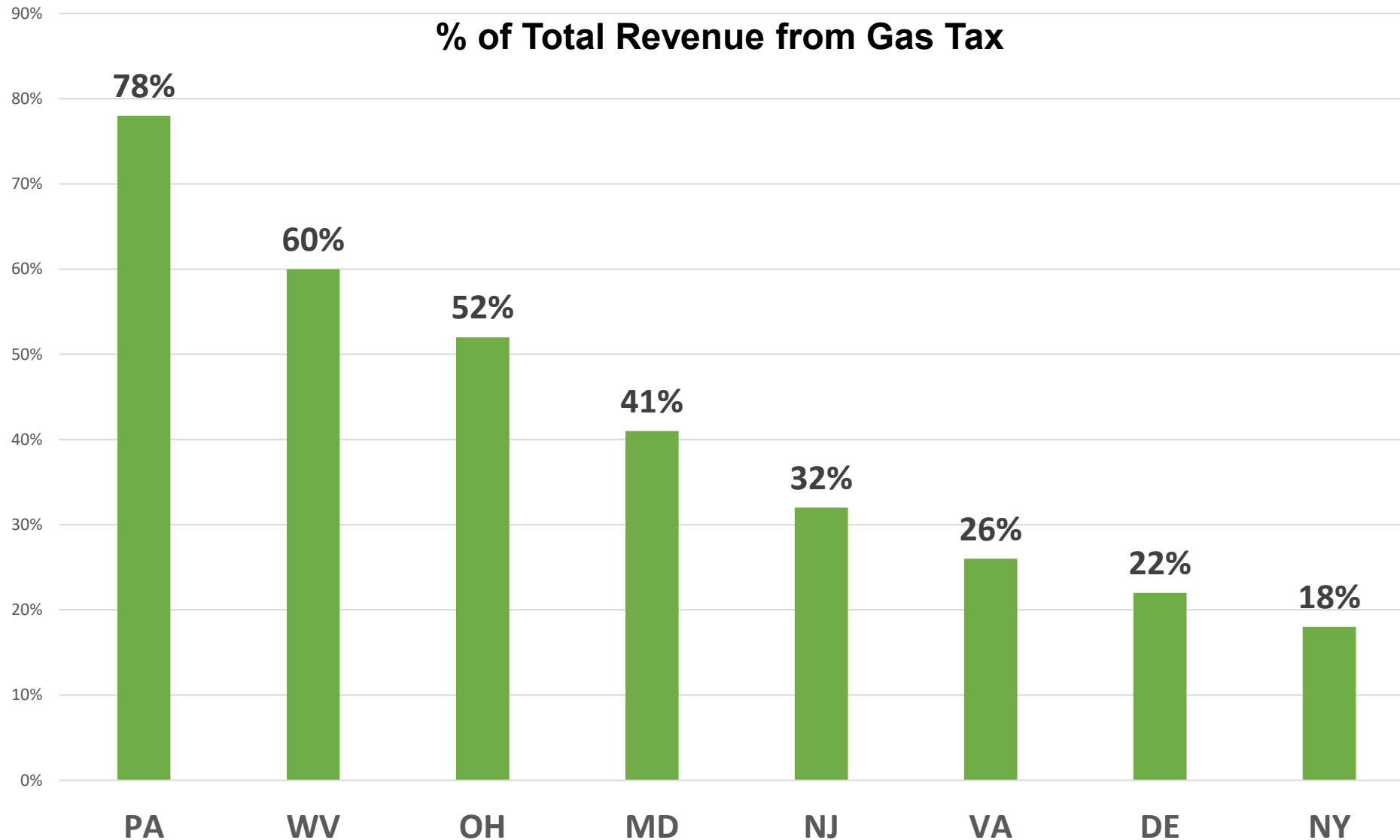
Recognition that now is the time to fundamentally change the Commonwealth's transportation funding strategies:

- Align revenue with the costs of sustaining the multimodal transportation system.
- Fairly share costs among those who directly and indirectly benefit.
- Modernize and restructure transportation funding for the long term, while rapidly adopting near- and medium-term changes.

WHY WAS TROC ESTABLISHED?



THERE ARE OPTIONS!



CONSEQUENCES OF INACTION



Greater Congestion



Closures and Detours



Impacts on Reliability



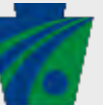
Deferred Maintenance



Decreased Competitiveness



Diminished Quality of Life

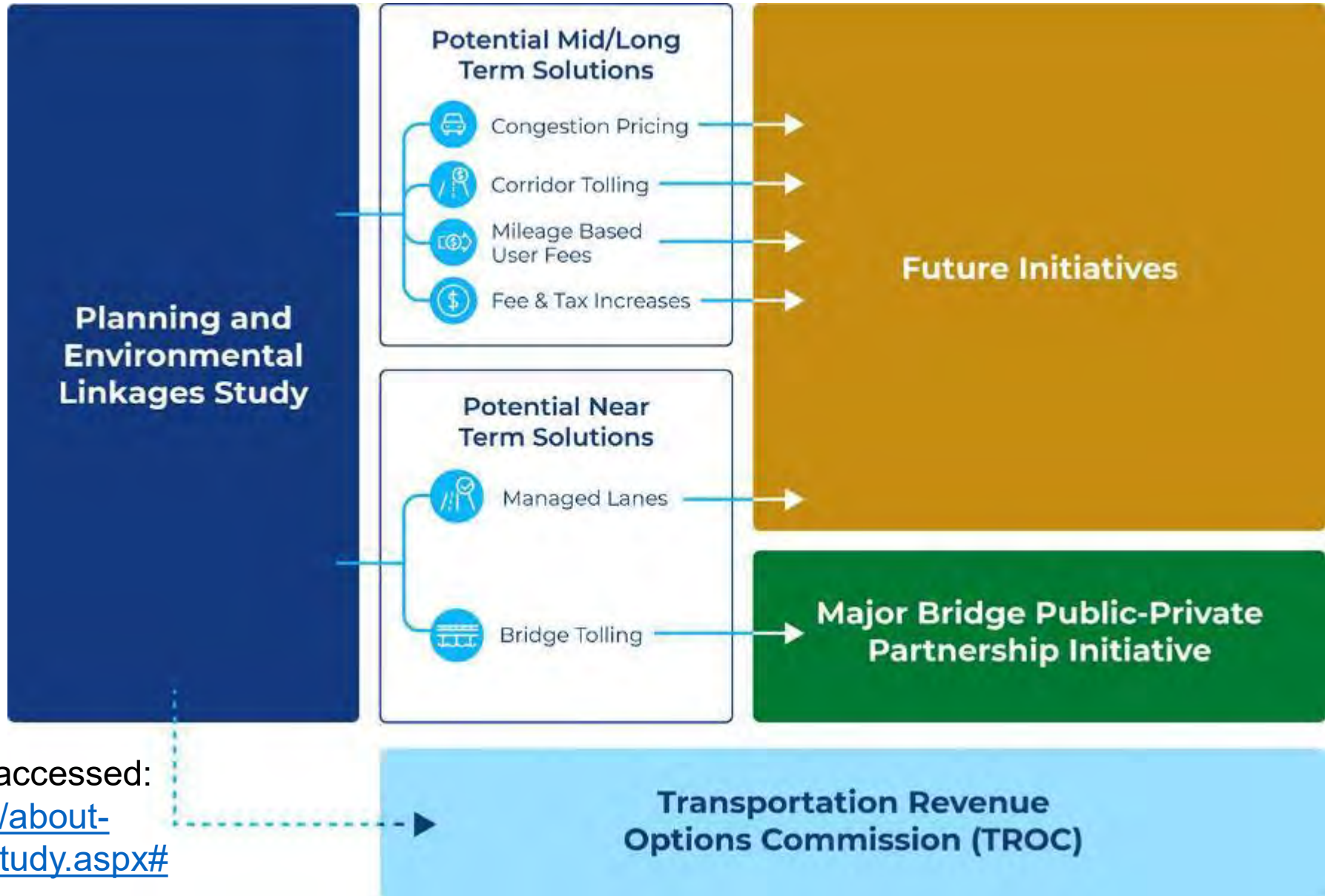


PENNDOT PATHWAYS

PennDOT PAtHways



A long-term program to analyze and implement new future-focused sources of funding for our highways and bridges that could better serve our communities and all Pennsylvanians for the next generation.



Final PEL Study can be accessed:
<https://www.penndot.gov/about-us/funding/Pages/PEL-Study.aspx#>

Bridge Locations



Candidate Bridge Projects ●



- A I-81 Susquehanna
- B I-80 Nescopeck
- C I-78 Lenhartsville
- D I-80 Lehigh
- E I-95 Girard Point
- F I-83 South Bridge
- G I-80 Canoe Creek
- H I-80 North Fork
- I I-79 Bridgeville

Anticipated Procurement Schedule



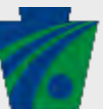
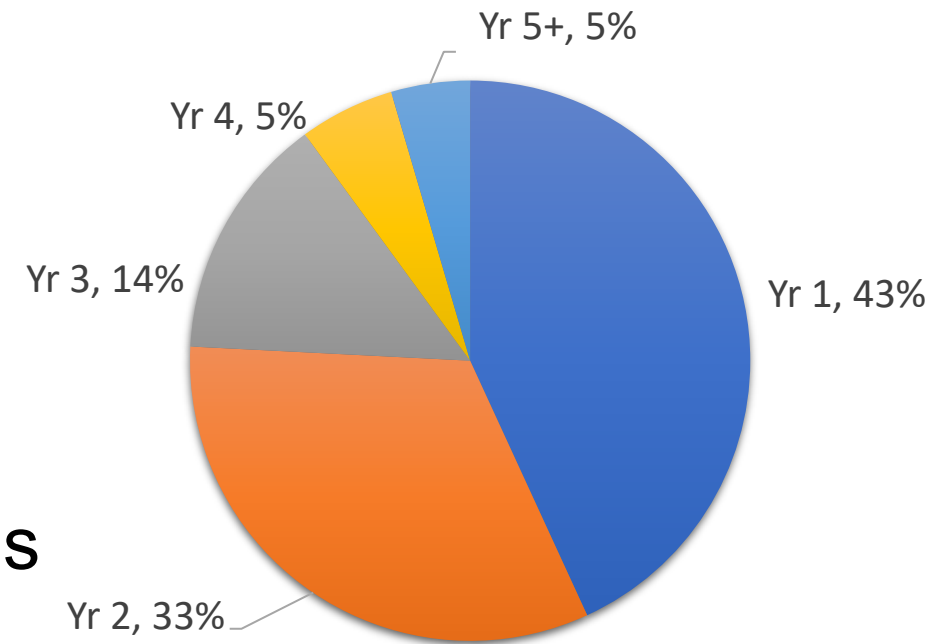
Date	Milestone
September 2021	First Draft RFP issued to Shortlist
November 2021	DBE Outreach Event
December 2021	Final RFP issued to Shortlist
January 2022	Proposals Due
February 2022	Proposer Selected
February/March 2022	PDA Commercial Close
Summer / Fall 2022	Commercial Close for 1st DBFM Package
December 2022	Financial Close for 1 st DBFM Package

CASH FLOW

FUNDING PROJECTS- CASH FLOW

- Projects are often Multi-year
- Dollars not “banked” when bid
- Leverage Cashflow based on Future Revenue Projections
- Program adjustments only partially address cashflow
 - Only 43% of project expensed year 1
 - 33% expensed in year 2

Project Expenditures by Year

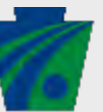


2022 PROGRAM

\$2.5 BILLION

CONSTRUCTION PROGRAM

For 2022 we anticipate up
to 13 projects will be greater than \$20 Million



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www.PennDOT.gov



www.DMV.pa.gov



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[PennsylvaniaDOT](https://www.instagram.com/PennsylvaniaDOT)



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[/company/PennDOT](https://www.linkedin.com/company/PennDOT)



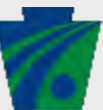
[PennDOTSec](https://twitter.com/PennDOTSec)



[PennsylvaniaDOT](https://www.youtube.com/PennsylvaniaDOT)

MOVING FORWARD INTO 2022

We look forward to working with PAPA and its members in 2022!



BE SAFE ON OUR ROADWAYS!



AASHTO TransComm 2020 Award: Marketing/Advertising
(Print and Electronic Marketing)

