

November 2018 ACEC/PA Meeting



**Deputy Secretary for Highway
Administration
George W. McAuley Jr., P.E.**

PennDOT - By the Numbers



► Introduction

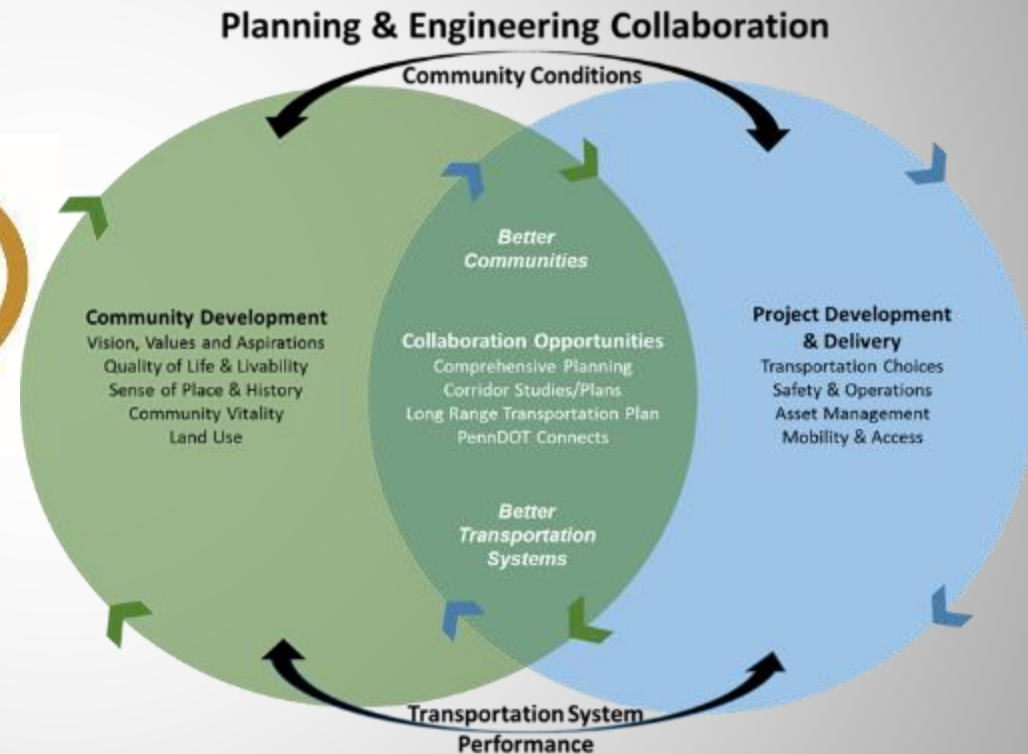
★ Goals & Objectives

- Relationships
 - Diversity and Inclusion
 - Asset Management
 - County Accreditation
 - Innovation
 - RD & D
-
- Accomplishments
 - In the works
 - Focus forward



► Relationships

- ★ Accomplishments
 - PennDOT Connects
 - TQI
 - RAC
 - STIC
 - QICs
- In the works
- Focus forward



► Diversity and Inclusion

- Accomplishments
 - 2017 Industry Outreach
 - 2018 Outreach Sessions
 - ECMS process mapping
- ★ • In the works
 - Small and Diverse Businesses
 - Internal Training
- Focus forward



► Diversity Forum

- Second Annual Diversity Forum held on October 23, 2018 at California University of PA
 - 53 attended
- Second Forum held at Cheyney University on October 30
 - 78 attended

Workshops

- Small Business Enterprise Playbook
- Consultant Agreements
- Business Partner Registration
- Prequalification
- “How to avoid payment issues”
- “How do I bid?”

Sessions

- Panel Discussion
- Networking and Relationship Building

▶ Small Business Set Aside

- Small Business Set Aside
 - Small Business Enterprises (SBE) compete as prime
 - Federally funded pilot
 - Preliminary Engineering and Final Design Agreements
 - 7 pilot projects for non-complex box culverts and single span bridge replacement
 - One Selection Complete
 - Four in Selection Process
 - Two currently Advertised

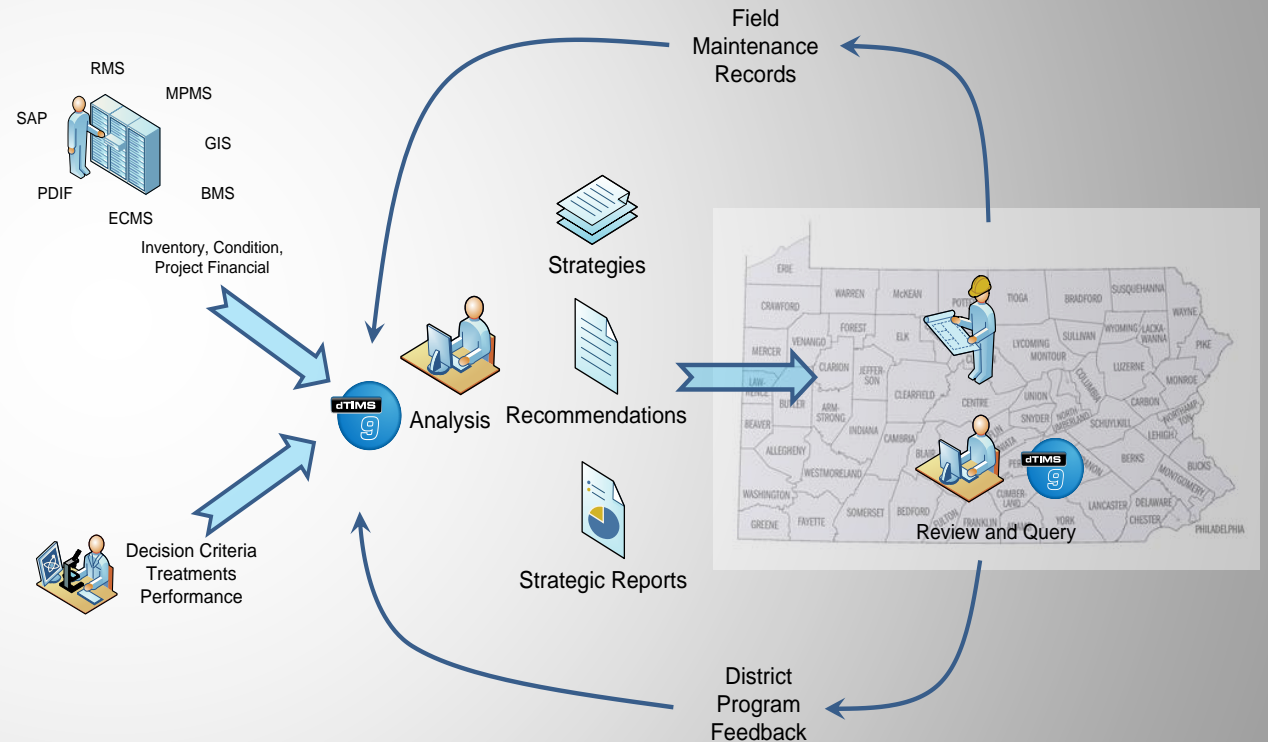
▶ Asset Management

- Accomplishments
 - TAMP
 - PAMS
 - BAMS
- In the works
 - Evolving processes
 - Interstate needs
 - Guiderrail
- Focus forward

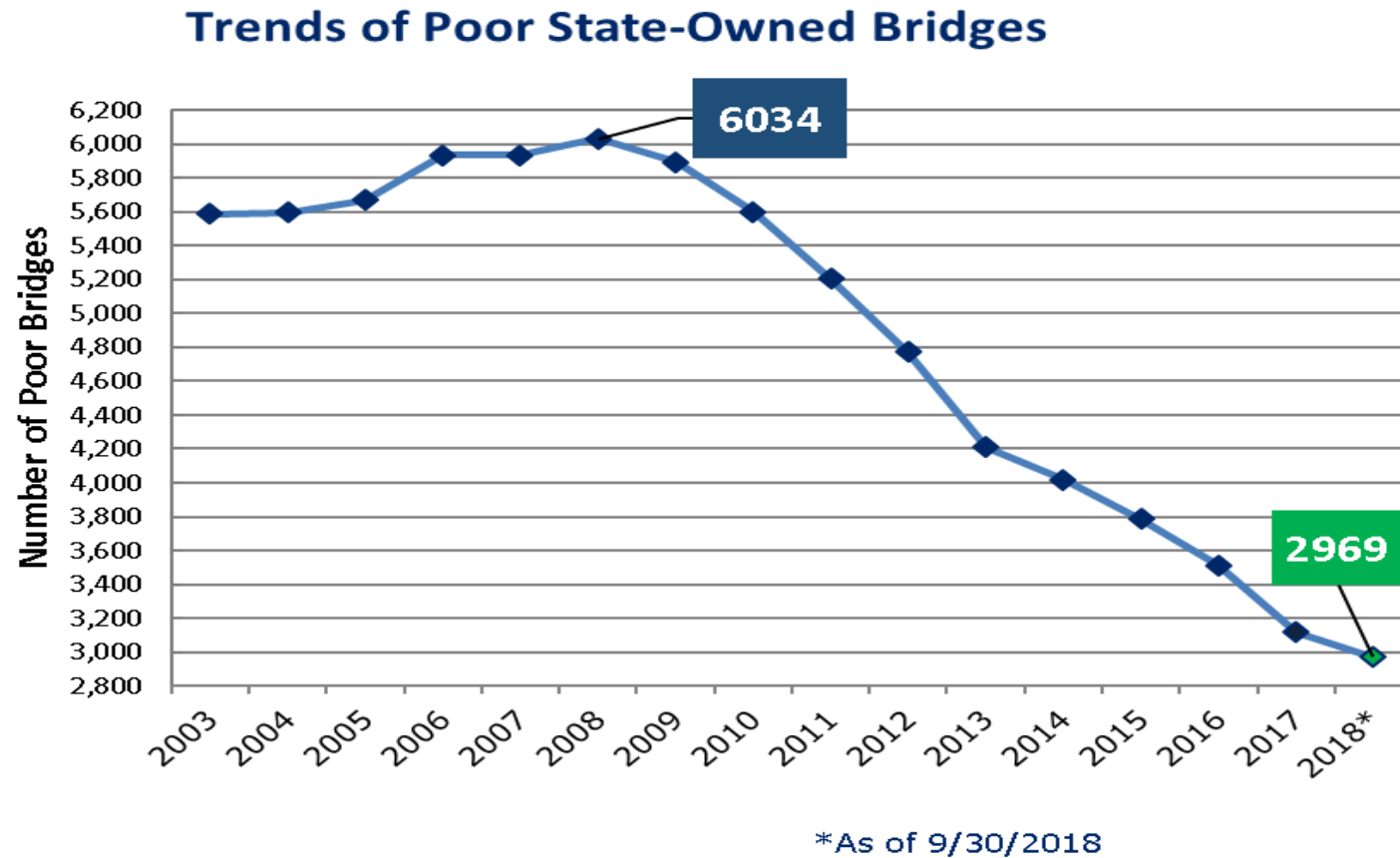


▶ Asset Management

- Transportation Asset Management Plan (TAMP) approved by FHWA
- Performance Metrics – MAP-21
- Pavement Asset Management System (PAMS)
 - Go Live January 19, 2019
 - New Web Based System
- Bridge Asset Management System (BAMS)
 - Web based interface - May 2019

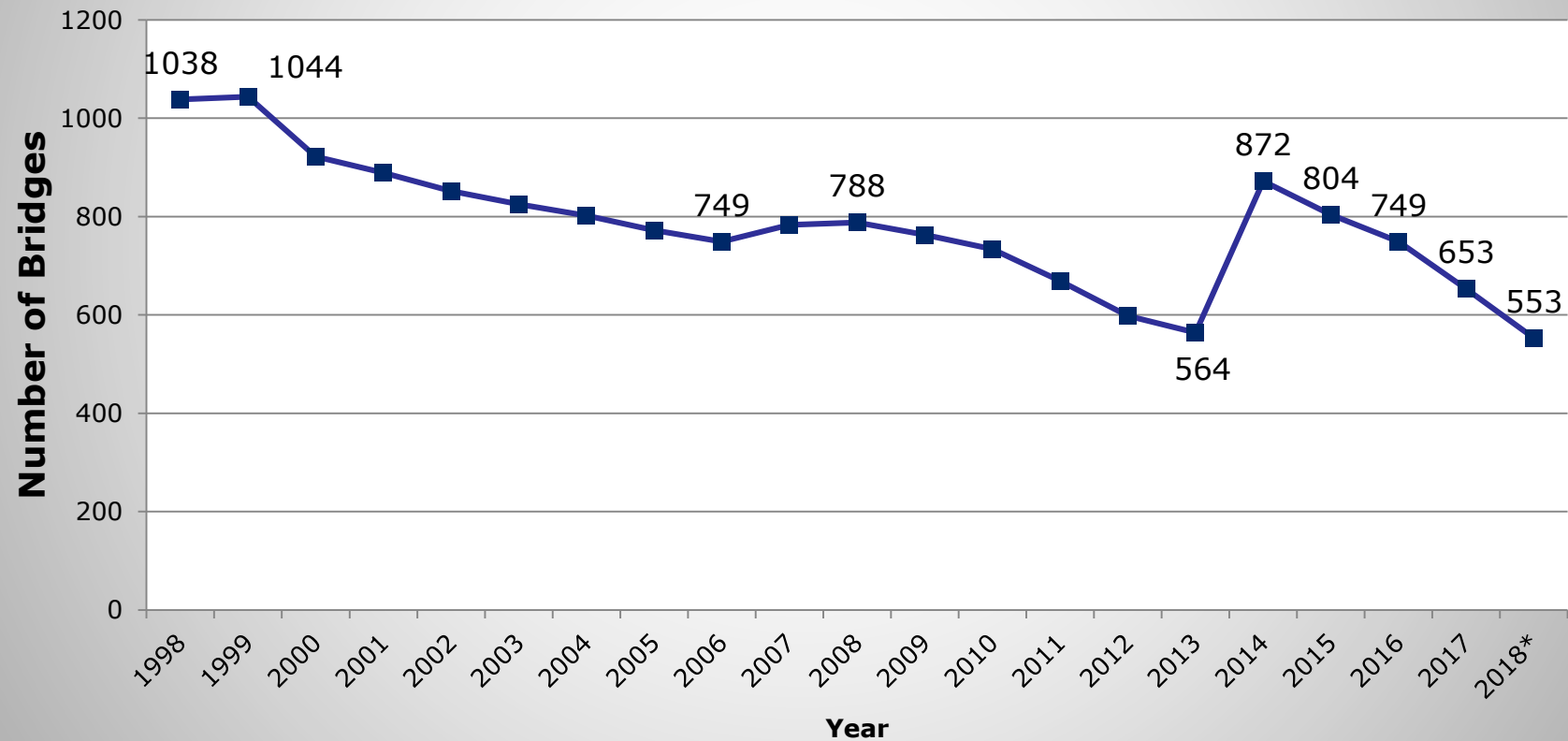


► Poor Condition Bridges



► Posted Bridges

Trend of Posted State Bridges

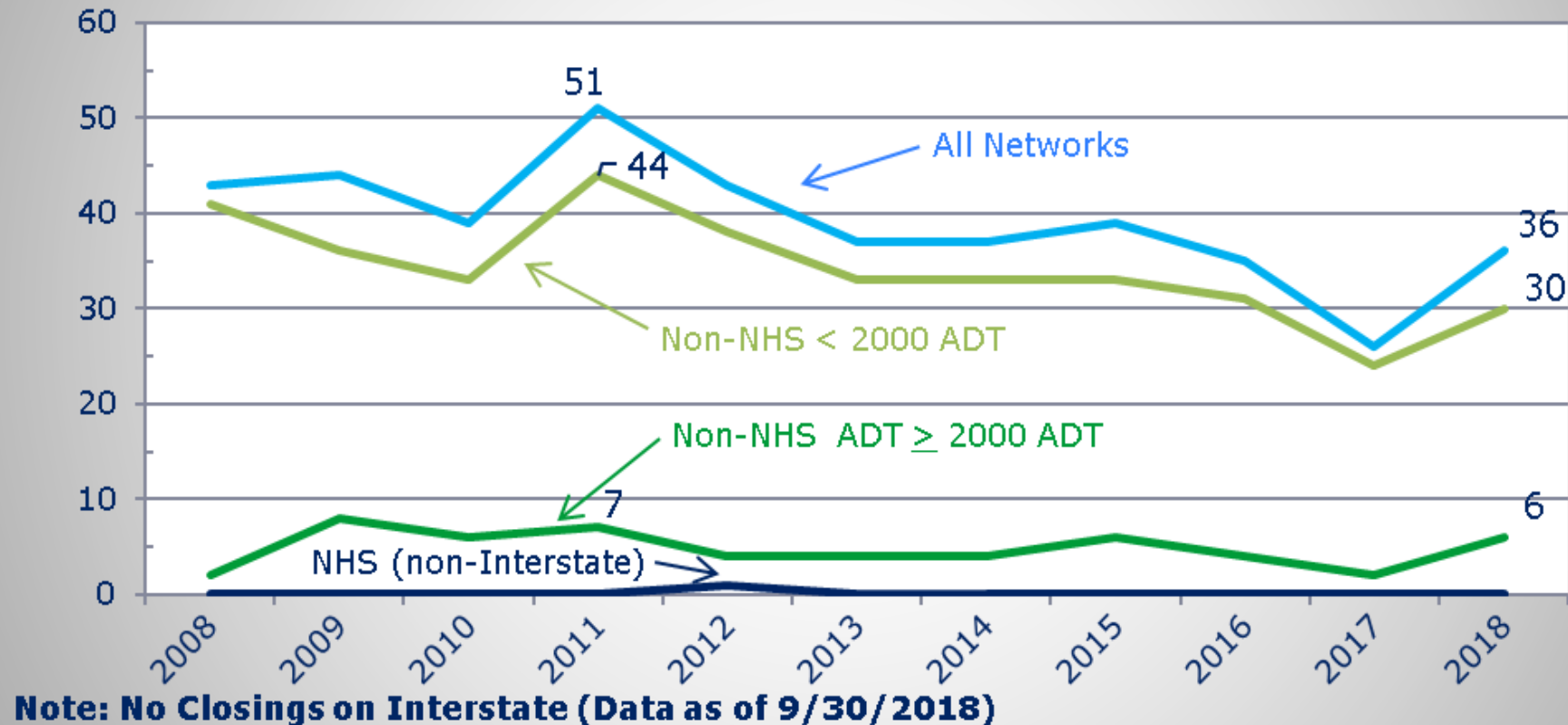


*Posted Count as of 7/1/2018

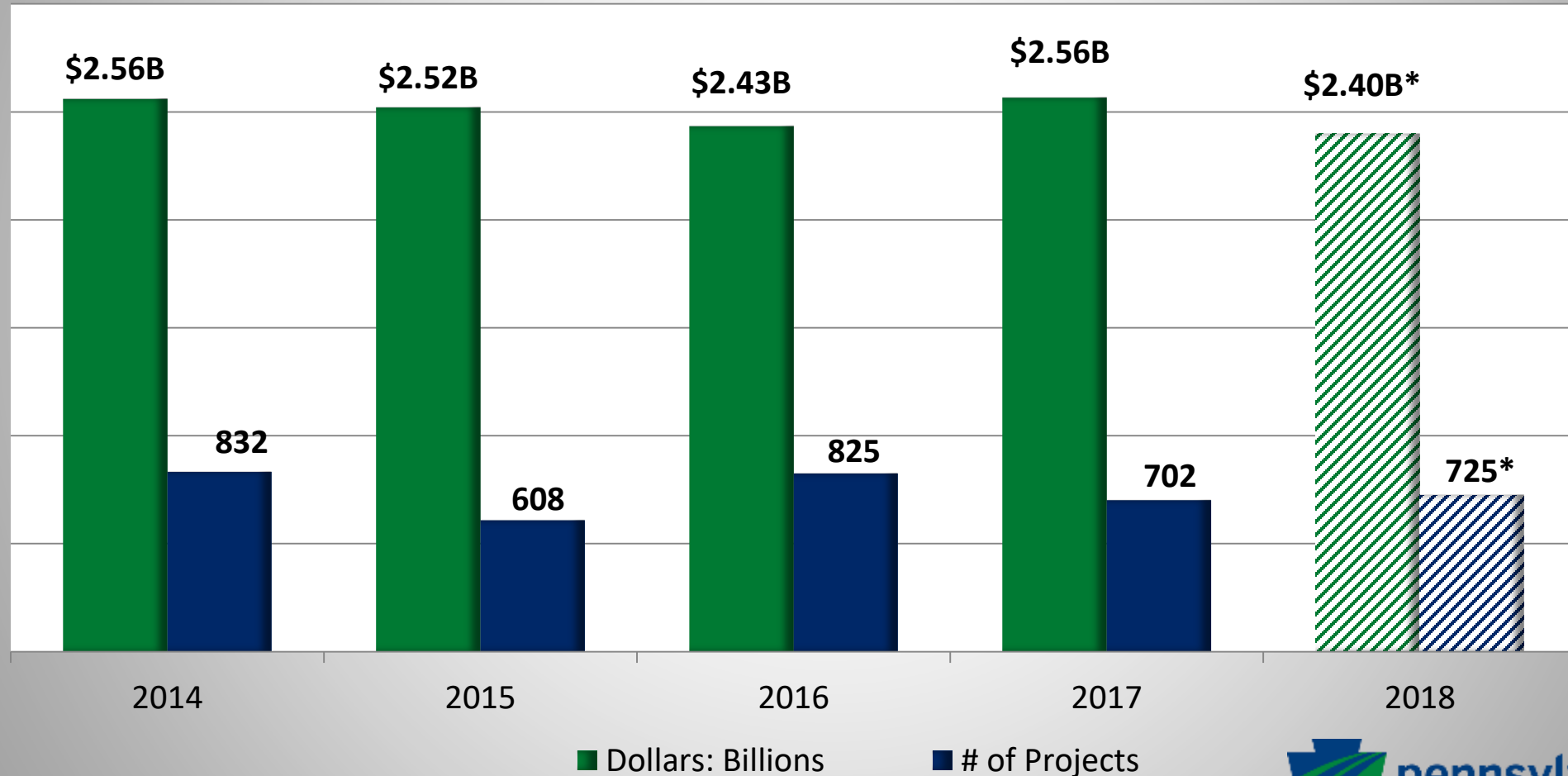
■ Posting Count

► Closed Bridges

Trends of State Closed Bridges



► Construction Program Trends



2018 Projections *

Construction Program - Project Distribution

	Cost Based Percentage					
	2014	2015	2016	2017	2018*	2019**
Highway	59%	69%	53%	64%	60%	50%
Bridge	36%	24%	35%	21%	28%	30%
Other	5%	7%	12%	15%	12%	20%

*Projections for 2018 from ECMS

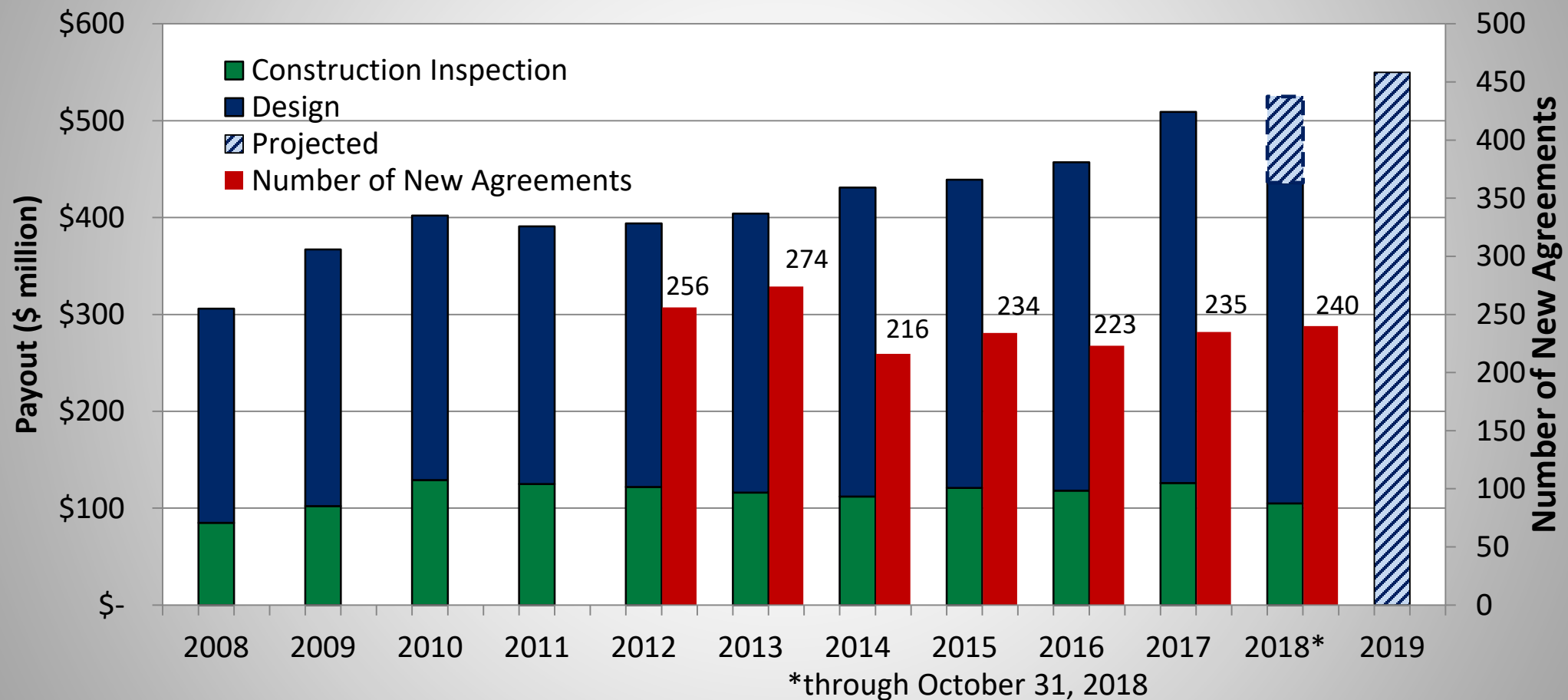
**Projections for 2019 from MPMS

Classification

► Construction Program

For 2019 we anticipate up
to 15 projects will be greater than \$20
Million

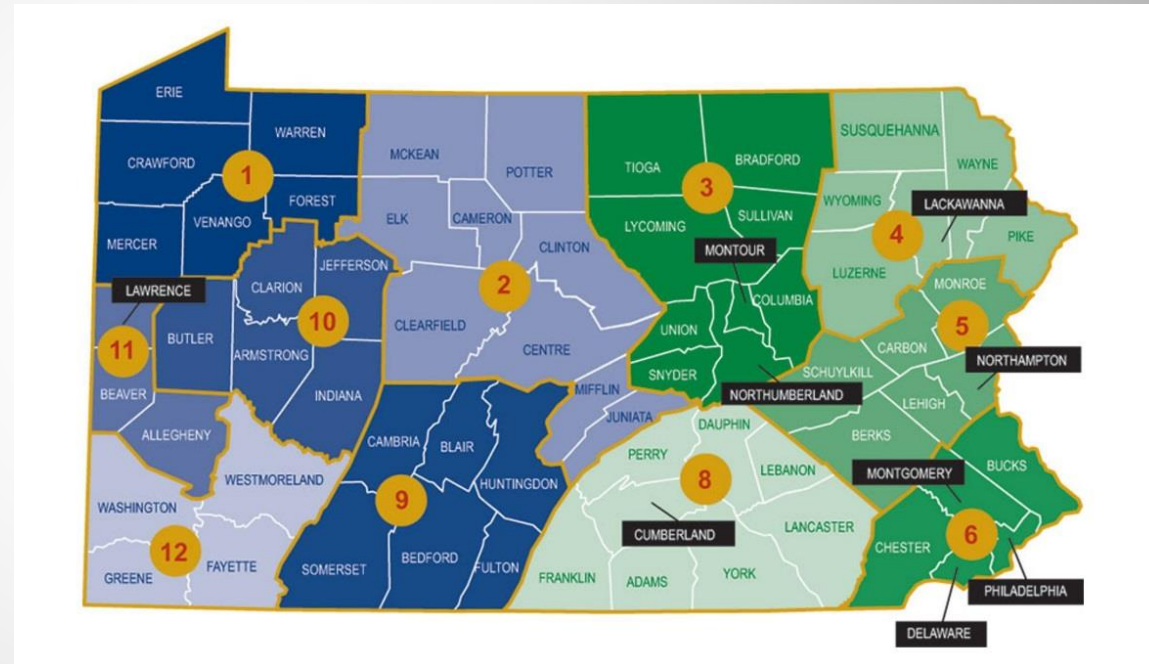
► Consultant Payouts & New Agreements



Projection for 2019: \$550 Million

► County Accreditation

- Accomplishments
 - District Accreditation Plans
 - District Business Plans
 - Secondary Road Improvement
- In the works
 - Office of Operations and Performance
- Focus forward



► Cyclical Maintenance

- Cyclical Maintenance – defined work that requires to be carried out on an agreed cycle and can be preformed annually or on a defined cycle.
- Cycles may vary based on;
 - Geography
 - Climate
 - Budget
 - Treatment Life Expectancies
- Long Term Cost Savings



► Surface Improvement Miles

	2014	2015	2016	2017	2018
Structural restoration	94	63	70	80	228
Resurfacing	1,253	1,769	1,785	2,360	2,571
Surface repairs	3,270	3,367	3,444	3,376	3,348
Total miles of state maintained highways improved	4,618	5,199	5,299	5,816	6,147

► Innovation – RD&D

- Accomplishments
 - STIC processes
 - NPI
 - New QICs
 - Late Season Paving
- In the works
 - Constructability Review
 - Specifications
- Focus forward



Bridge Innovations



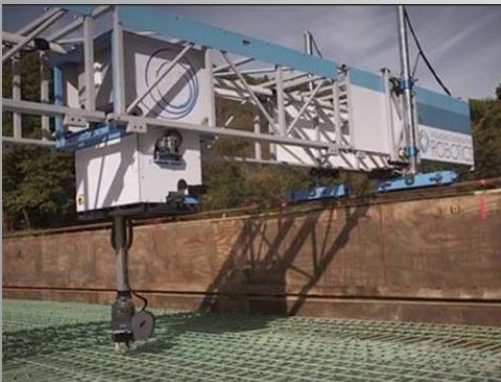
Plastic Post-Tensioning Ducts

- Electrically-Insulated Tendons (EIT)



Non Destructive Paint Testing

Infrared Camera
Eliminates the need to repaint test locations
(Photo courtesy of Fuchs Consulting, Inc.)



Tybot

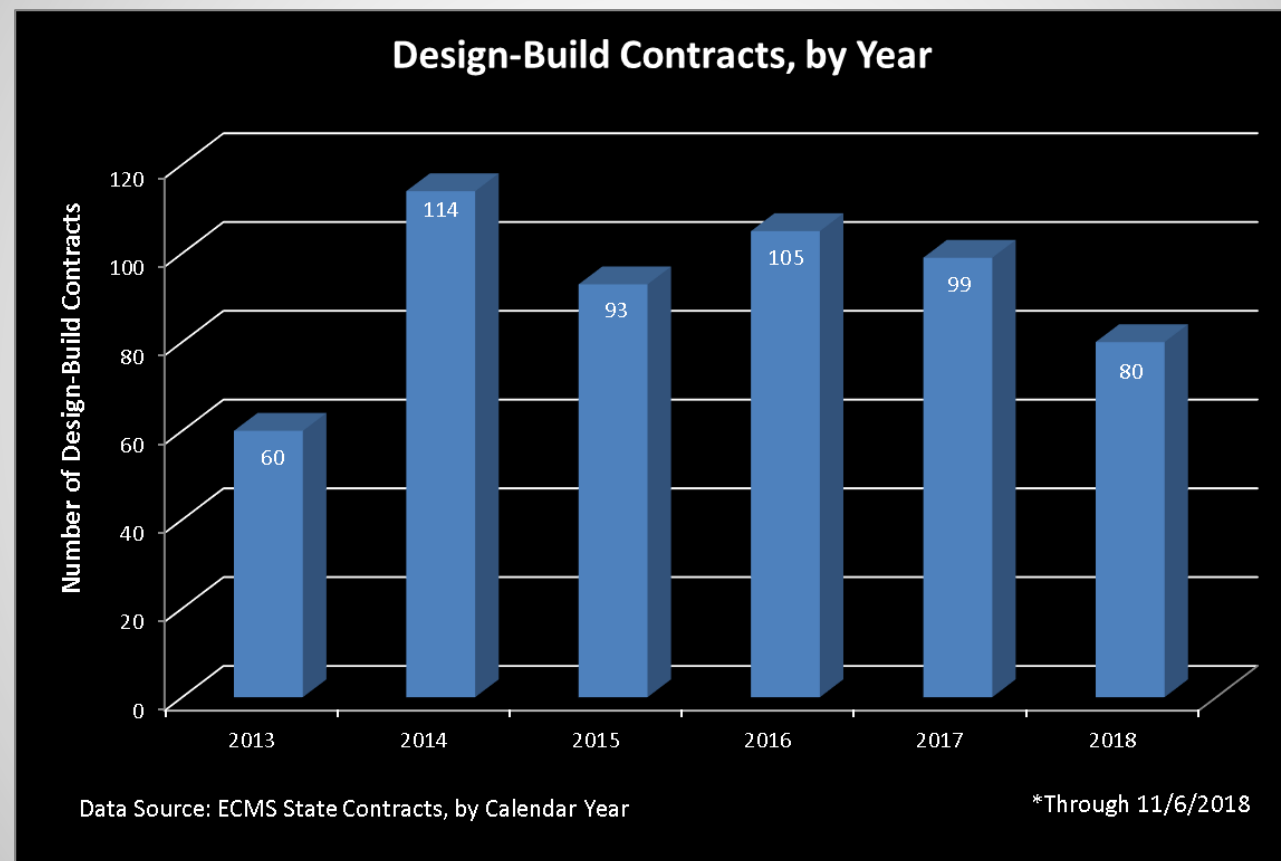
Developed by
Advanced
Construction
Robotics



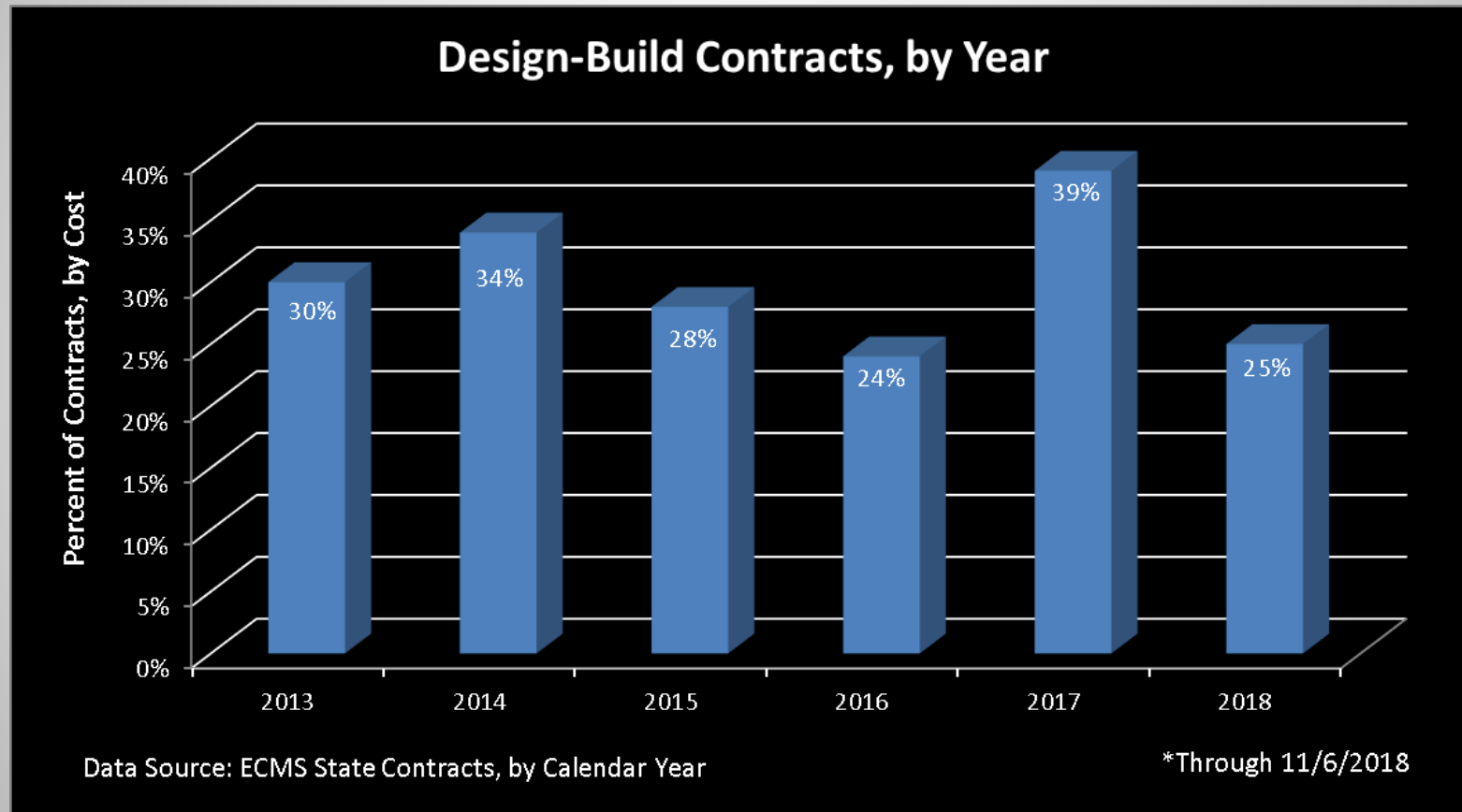
Accelerated Bridge Construction

Superstructure
Replacement
performed in just
57 hours

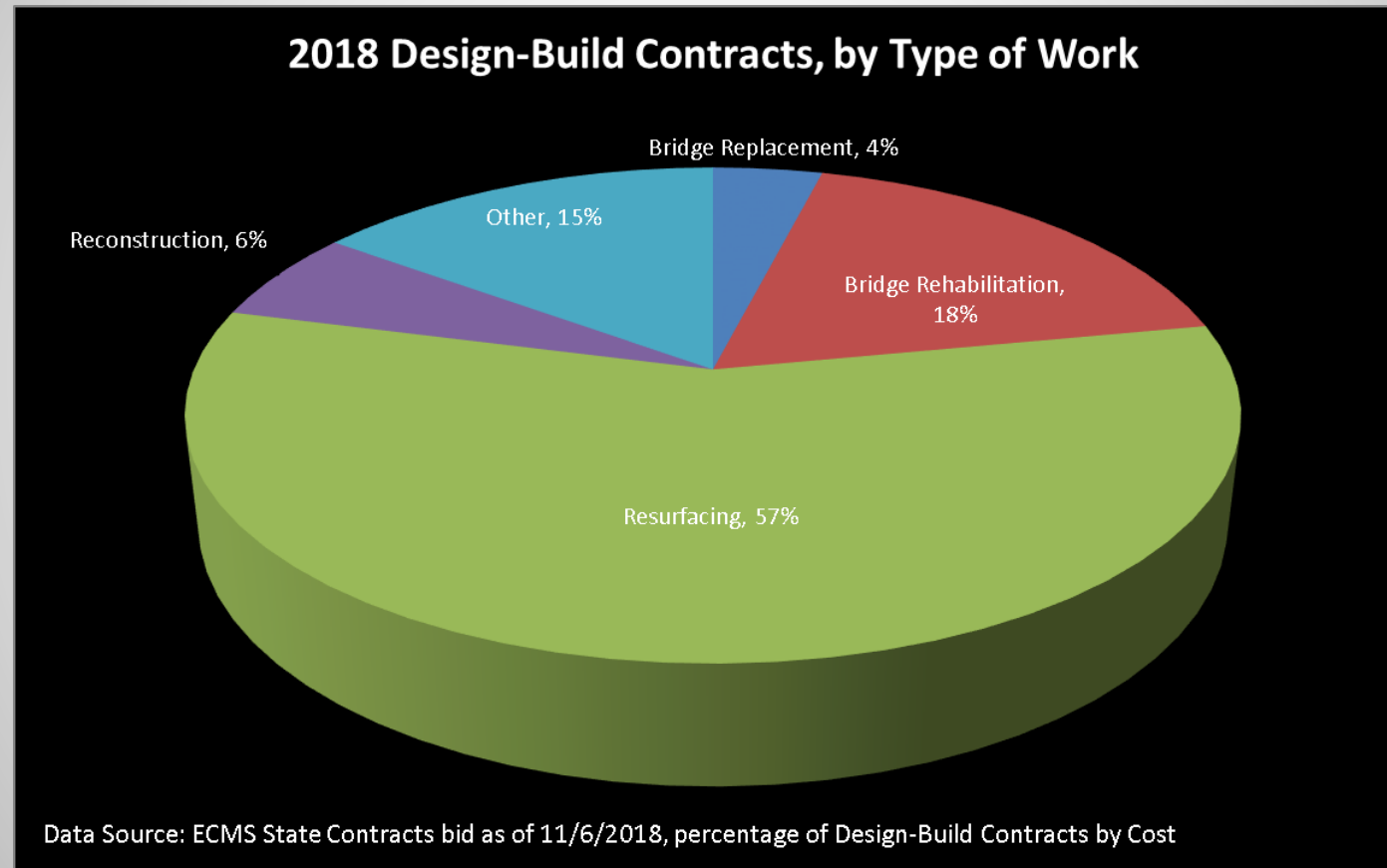
Construction Program - Design/Build



► Construction Program - Design/Build



► Construction Program - Design/Build



► Automated Speed Enforcement (ASE)

What's different in PA?

- System Administrator paid flat fee not per violation
- Finalizing statewide work zone speed limit policy to provide consistency amongst all work zones
- Requires 2 sets of warning signs in work zone and must be identified on agency's website
- Legislation requires daily testing and annual calibration
- PennDOT/PTC officials will oversee program and PA State Police will verify all ASE violations
- Violators have a 2-step appeal process (System Administrator and Magisterial)
- All violation information/images to be destroyed within 1 yr and can only be used for automated speed enforcement

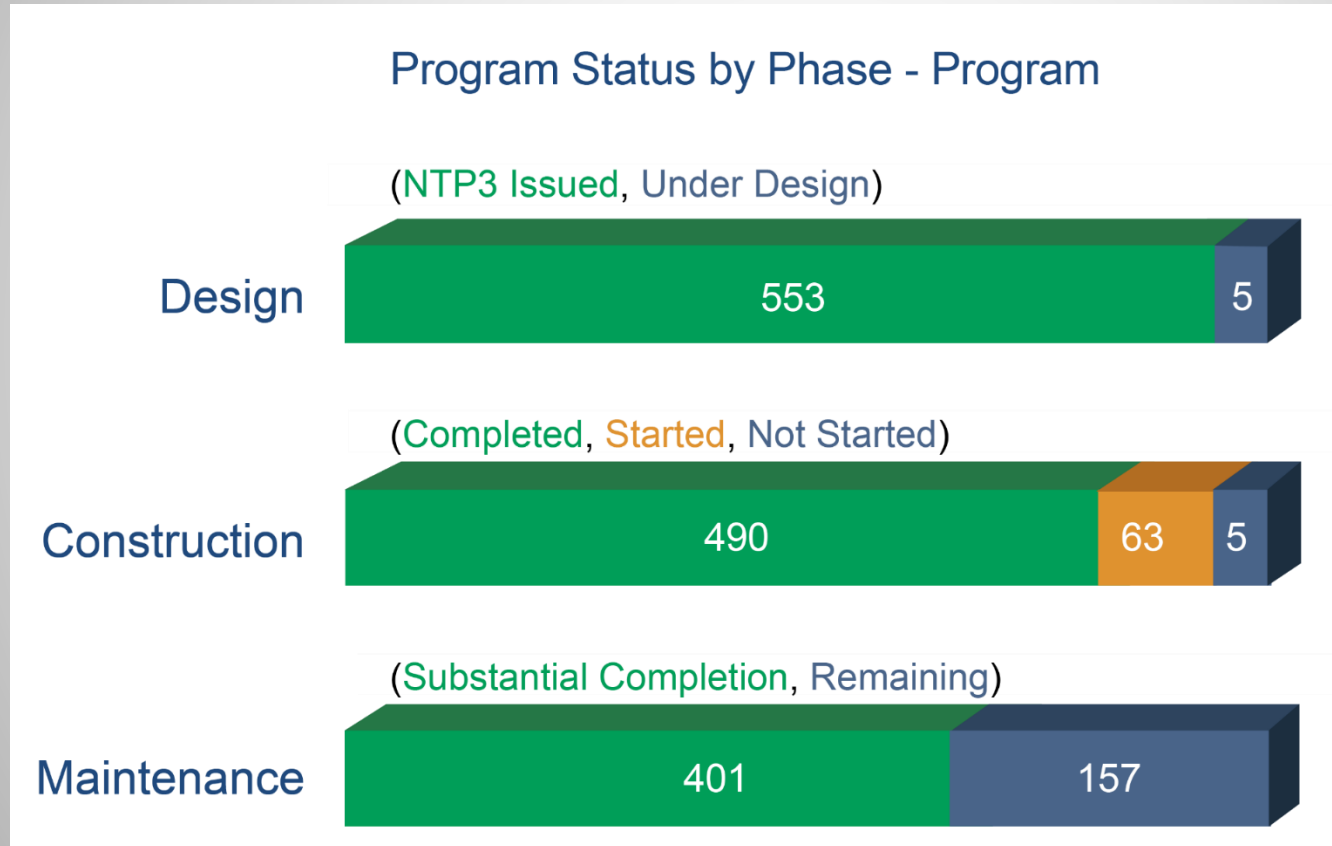
► RBR Construction Update



Construction Year	Bridges Completed
2015	44
2016	127
2017	217
2018	158 (anticipated)
2019	12 (anticipated)



► Rapid Bridge Replacement (RBR) Overall Project Status



Data as of 10/30/18

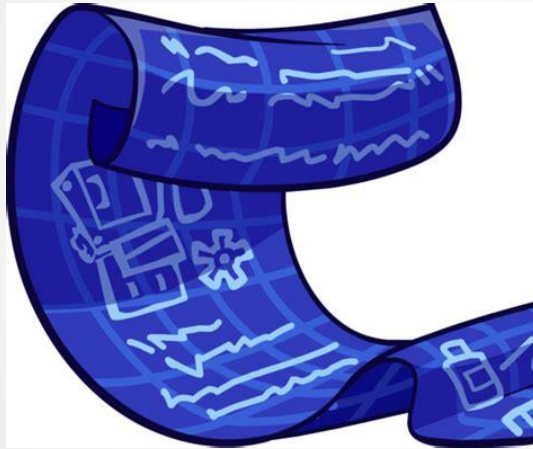
► P3 in PA: More than Just Bridges

Project Name	Unsolicited Proposal By:	P3 Action
PennDOT Truck Parking Expansion Program	Truck Specialized Parking Services, Inc.	Tentative RFI Release: November 19, 2018
PTC Tunnel Rehabilitation Project	Kiewit Infrastructure Co.	Tentative RFI Release: December 17, 2018
Wetlands Mitigation Bank Project	Magnolia	Tentative RFQ Release: November 27, 2018

Design Manual and Standards Changes

- **Several DM changes in September**

- Design Manual 2 – Bridge Geometry – rumble strips
- Design Manual 1C – Design Criteria Matrix
- Design Manual 1X – Design Exceptions, Roundabouts, Risk Mgt.



- **RC Standards coming**

- rumble strips
- approach slab joints
- Type 1-F and 6-F shoulder wearing surfaces
- bonded concrete overlays
- geotextile classes
- underdrain details & metal pipes
- Guiderail related changes

► Utility IT system/ SHRP 2

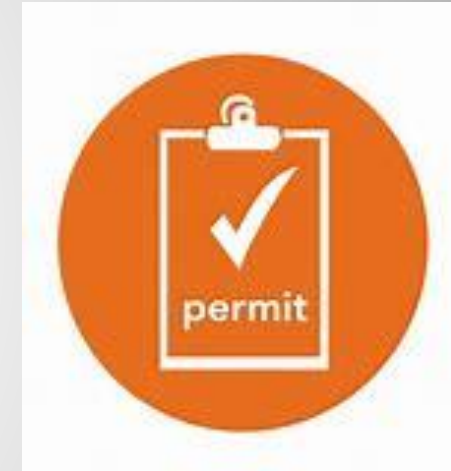
- Utility PNG Team completed 21 initiatives to improve process
 - Manhole/Valve Box Adjustments
 - Utility Relocation Activities during Preliminary Eng
 - Improved D-419 information
 - Contractor Accountability /Scheduling
- Piloting Conflict Resolution Matrix
- Developing Utility IT system “one stop shop”



► Keystone Environmental ePermitting System (KEES)



- All GP permits are now functional in the system
- EX-9999 are currently being worked on
- 102 (earth disturbance activities) will now be in KEES
- Still need to work out how CCC will be onboarded to review 102 permits



▶ Drones

- Commonwealth Policy Developed
- Draft Policy to be shared with APC and ACEC/PA
 - Winter 18/19
- Piloting use of UAS in Western Districts



▶ 3D Designs – Looking Forward

- Evolving 3D Designs
- Open Road Connects – April 2019
- 3D Bridge Designs
 - Evaluating Fall 2018
- Mutual Gains discussions (integrating 3D design)
 - Kick Off Spring 2019



We Look Forward to Working with ACEC/PA in 2019!



Any Questions?