

Facilities & Energy Management Operations (FEMO)

FUTURE DIRECTION OF FACILITIES

PTC Facilities Overview

- ▶ 2045 Employees
- ▶ 138 Separate work locations or sites
- ▶ 700+ Buildings ranging from toll plazas to tunnels
- ▶ Approximately 2.8 million square feet of interior space
- ▶ 552 miles of roadway, 1,150 bridges, and 5 tunnels
- ▶ 550K Average daily traffic volume



Facilities Facts

- ▶ 85 Tradesmen – Carpenters, Plumbers, Electricians, & HVAC
- ▶ \$6.4M Annual electric bill
- ▶ 125 Generators provide electricity during power loss
- ▶ 68 Fare collection facilities
- ▶ 29 Communication towers
- ▶ 27 Waste water treatment plants



PTC Facilities



- ▶ 5 Office/Administrative Facilities
- ▶ 22 Maintenance Facilities
- ▶ 29 Communications Towers
- ▶ 5 Tunnels
- ▶ 2 Training Sites
- ▶ 68 Fare Collection Facilities
- ▶ 17 Service Plazas

Administrative Facilities



- ▶ Central Administration Building
- ▶ Turnpike Industrial Park Building & Traffic Operations Center 24/7/365
- ▶ East Park Drive
- ▶ Eastern Regional Office
- ▶ Western Regional Office

Maintenance Facilities



- ▶ 22 Maintenance Sites aka "Sheds"
- ▶ Personnel and equipment needed to maintain our system
- ▶ Maintain drainage, guiderail, median barriers, and lighting
- ▶ Paint road markings, seal cracks, and fill potholes
- ▶ Winter maintenance
- ▶ Debris removal, turf and tree upkeep
- ▶ Maintain fleet of equipment

Maintenance Facility Features



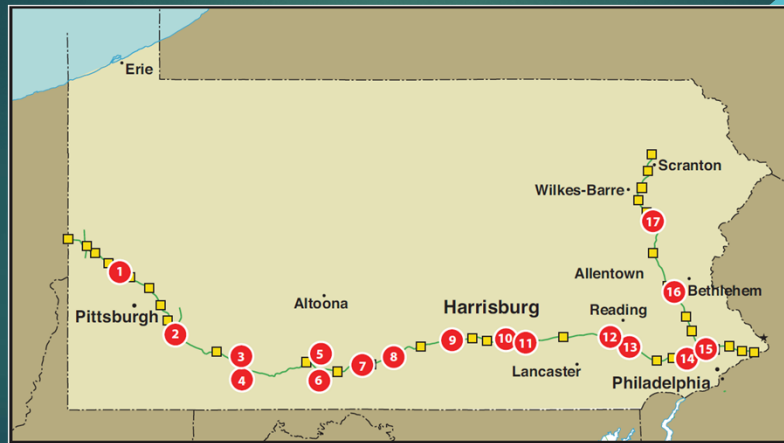
- ▶ Equipment storage and repair
- ▶ Heavy equipment bays
- ▶ Wash Bays
- ▶ Fleet fueling stations
- ▶ Inventory (guiderail, pipe, lights, signs, posts, paint, etc.)
- ▶ Salt storage & brine making
- ▶ Trades offices
- ▶ Shared space with other agencies (PA State Police & PennDOT)

Tunnels



- ▶ Five tunnels:
 - ▶ Allegheny
 - ▶ Tuscarora
 - ▶ Kittatinny
 - ▶ Blue Mountain
 - ▶ Lehigh
- ▶ Staffed by Maintenance employees 24/7/365
- ▶ Maintenance and Operations shared by Engineering and FEMO

17 Service Plazas across the Mainline and Northeast Extension



Service Plazas - Partnership



Lease Properties



Operate Plazas



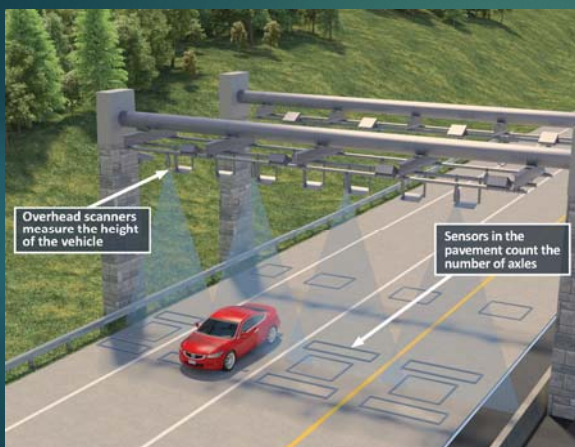
Fuel & Mini-marts

Fare Collection Facilities



- ▶ Traditional Interchange (ticket system)
- ▶ Mainline Toll Plaza (barrier type)
- ▶ Electronic Interchanges (E-ZPass only)
- ▶ Ramp Toll Plazas (unstaffed coin drop)
- ▶ Cashless Tolling (Toll by Plate)

Cashless Tolling



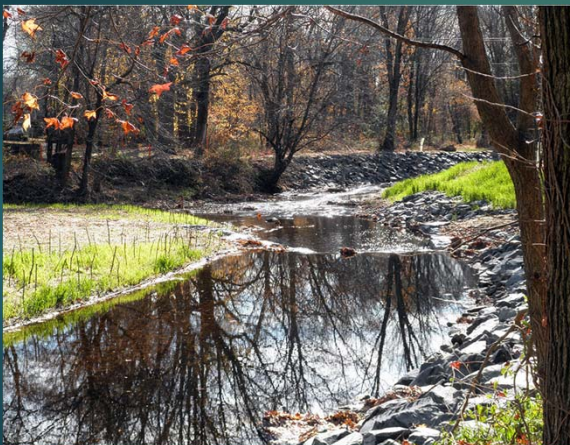
- ▶ Migrating from staffed tolling locations to un-staffed cashless tolling
- ▶ New cashless facilities
- ▶ Existing interchange buildings
- ▶ Security systems, HVAC, utilities, generators, and electronics in un-staffed locations need monitored remotely.



Internet of Things (IOT)

- ▶ Internet connected devices attached to utility meters, equipment control boards, etc.
- ▶ Building Automation Systems (BAS)
 - ▶ HVAC
 - ▶ Fire alarms
 - ▶ Security systems
 - ▶ Other sensors
- ▶ BAS Vendors
 - ▶ Automated Logic
 - ▶ Johnson Controls
 - ▶ Siemens

Energy Savings & Green Initiatives



- ▶ LED lighting installations
- ▶ Utility Auctions
- ▶ EnergyCAP software
- ▶ LEED Buildings
- ▶ Recycling Programs
- ▶ Compliance
 - ▶ Fuel Tank Monitoring
 - ▶ Waste water
 - ▶ Storm water/MS4

Project Delivery

- ▶ Trades/Internal PTC Staff
- ▶ Commission Bid Spec
- ▶ Job Order Contracting



Facilities Staff



- ▶ Trades staff
 - ▶ Carpenters
 - ▶ Electricians
 - ▶ HVAC
 - ▶ Plumbers
 - ▶ BAS Controls Technicians
- ▶ Engineering/Design
- ▶ Security Staff
- ▶ Administrative/Budget
- ▶ Concession Services (HMS Host/7-Eleven)

Penn State College of Engineering Facilities Engineering Institute

- ▶ Facility Condition Assessments
- ▶ Safety Inspections
- ▶ Energy Management
- ▶ Facility Design Review
- ▶ Training/Education

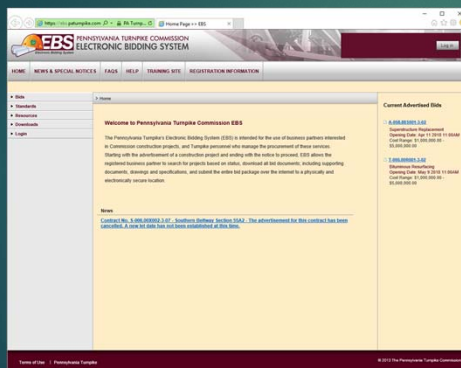


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**FACILITIES ENGINEERING
INSTITUTE**

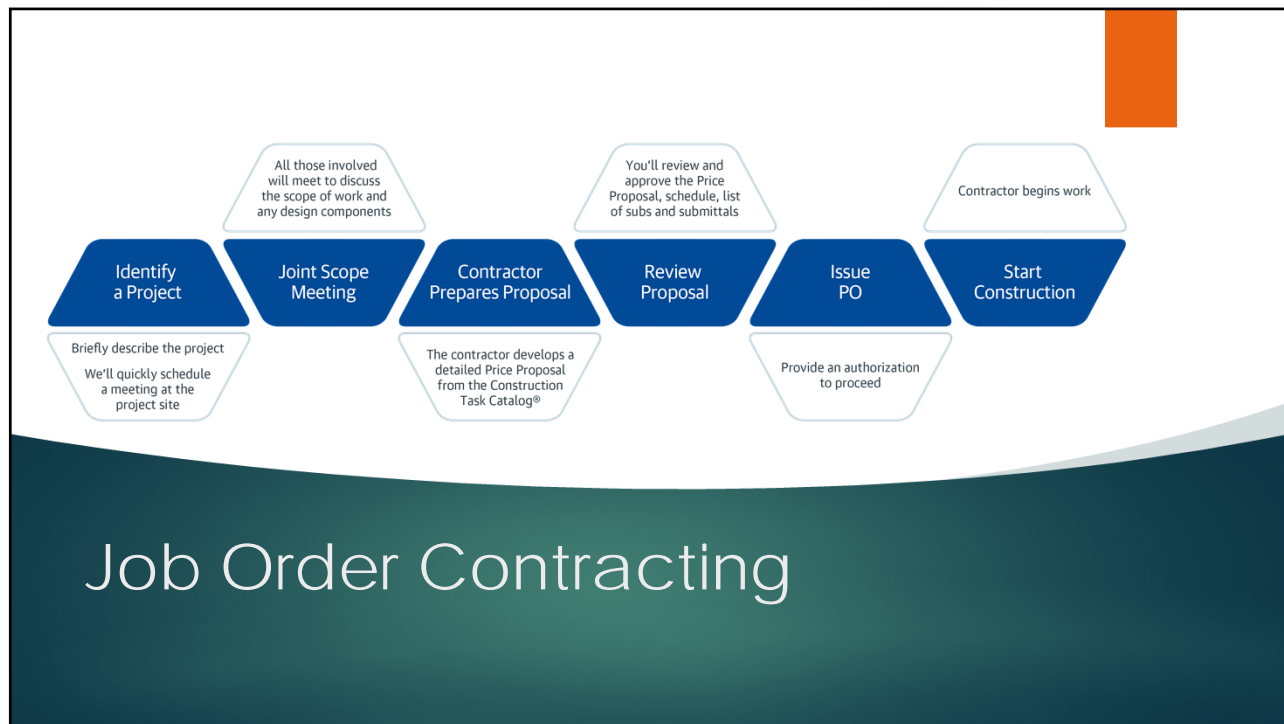
Commission Bid Spec

PTC Electronic Bidding
System (EBS)



PennDOT Engineering and
Construction Management
System (ECMS)





Job Order Contracting Diverse Business Participation

- ▶ Increases use of local subcontractors and/or diverse businesses (DBs)
- ▶ The absence of pre-established quantities can inhibit trade staffing by the prime contractor
- ▶ Responsiveness can require the prime to use multiple local subcontractors
- ▶ No bonding requirement for the sub, faster payment, and less red tape, thereby expanding business opportunities for small businesses
- ▶ The PTC reviews and approves all DB submittals prior to issuing job orders to track compliance with goals
- ▶ All PTC Job Order Contracts have DB participation goals

Questions?

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