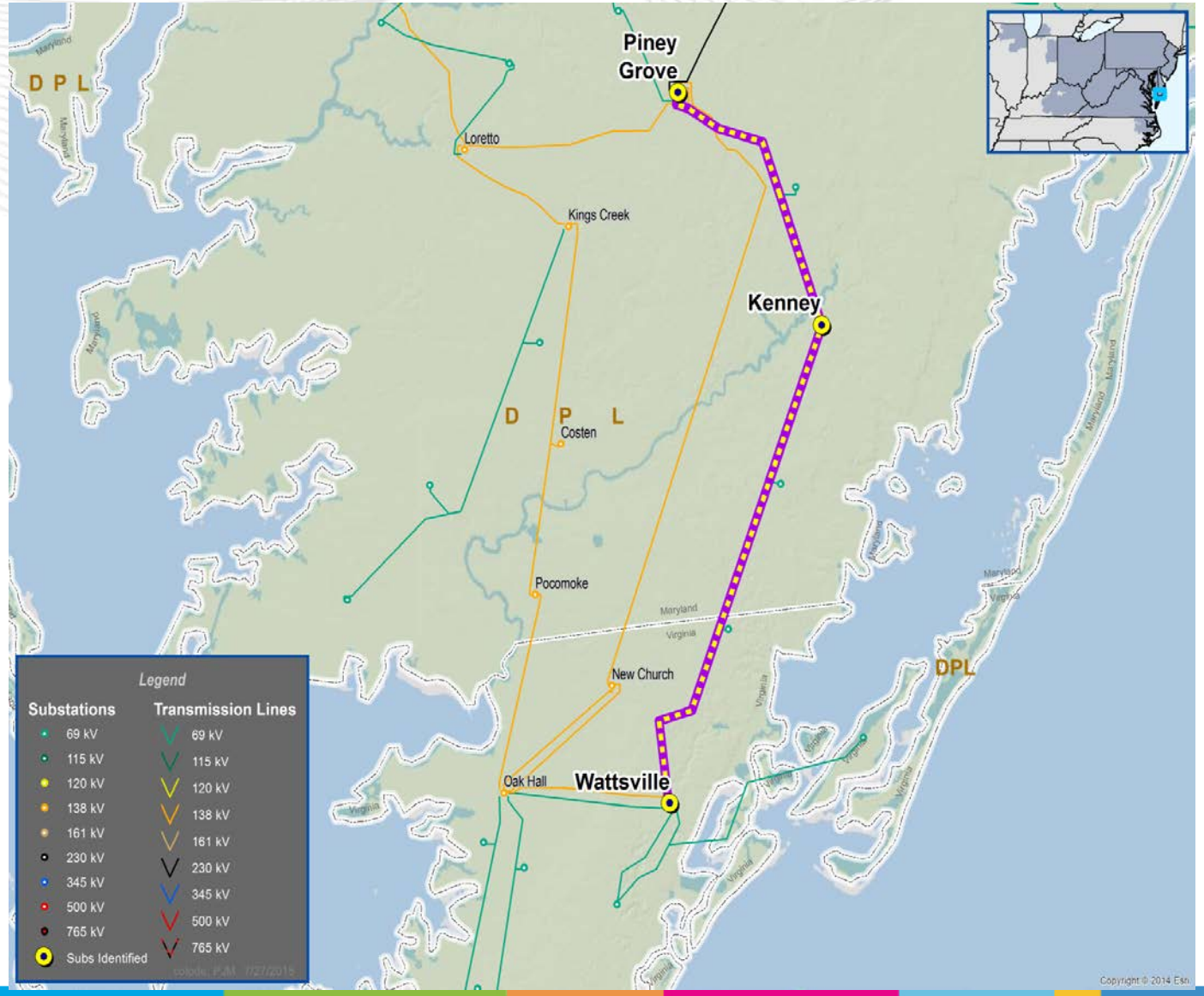
Sub Regional RTEP Committee
Mid-Atlantic

July 29, 2015

Reliability Analysis Update

DPL Transmission Zone

- Cancel B1603 and modify the scope of the existing B2288 baseline reliability project:
- Old scope:
  - B1603 (Upgrade 19 miles conductor of the Wattsville - Signepost - Stockton - Kenney 69 kV circuit. $15 M)
  - B2288 (Build a new 138kV line from Piney Grove – Wattsville, $25 M)
- New Scope:
  - B2288 (Rebuild the Wattsville – Kenney – Piney Grove 69 kV and build a new 138 kV line from Piney Grove – Wattsville on the same tower).
- Estimated Project Cost:
  $ 45.7 M
- Projected IS Date:
  5/31/2018



PPL Baseline Reliability Projects

Cancel the following PPL upgrades		
UpgradeID	Description	Cost Estimate ($M)
b0605	Stanton-Old Forge 69 kV Line: Rebuild 6.4 Miles Single Circuit	4.8
b1893	Swap the Staton - Old Forge and Stanton - Brookside 69 kV circuits at Stanton (138 kV Conversion from Lackawanna to Jenkins)	0.4
b1894	Rebuild and re-conductor 8.1 miles of the Stanton - Avoca 69 kV line	2.4
b1895	Rebuild and re-conductor 4.9 miles of the Stanton - Providence #1 69 kV line	6.93
b2406.5	Create Providence - Scranton 69 kV #1 and #2, 3.5 miles with 795 ACSR	3.9
b2406.7	Install 2 - 10.8 MVAR capacitors at EYNO 69 kV	2

PPL Supplemental projects

Update the Scope of Work and/or Cost Estimate for the following PPL upgrades				
UpgradeID	OLD Scope	Old Cost Estimate (M)	New Scope	New Cost Estimate (M)
b2406.1	Rebuild Stanton-Providence 69 kV 2&3 9.5 miles with 795 SCSR	20.5	Rebuild Stanton-Providence1 and Stanton - Brookside 69 kV lines (8.73 mi)	25.5
b2406.2	Reconductor 7 miles of the Lackawanna - Providence 69 kV #1 and #2 with 795 ACSR	15.1	Rebuild Lackawanna - Providence 1&2 kV lines (7.3 mi)	16.9
b2406.3	Rebuild SUB2 Tap 1 (Lackawanna - Scranton 1) 69 kV 1.5 miles 556 ACSR	1.5	Rebuild SUB2 Tap 1 (Lackawanna - Scranton 1) 69 kV 1.5 miles	2.5
b2406.4	Rebuild SUB2 Tap 2 (Lackawanna - Scranton 1) 69 kV 1.6 miles 556 ACSR	1.6	Rebuild SUB2 Tap 2 (Lackawanna - Scranton 1) 69 kV 1.6 miles	2.6
b2406.6	Rebuild Providence 69 kV switchyard	4	Retire Providence 69 kV switchyard	0.9

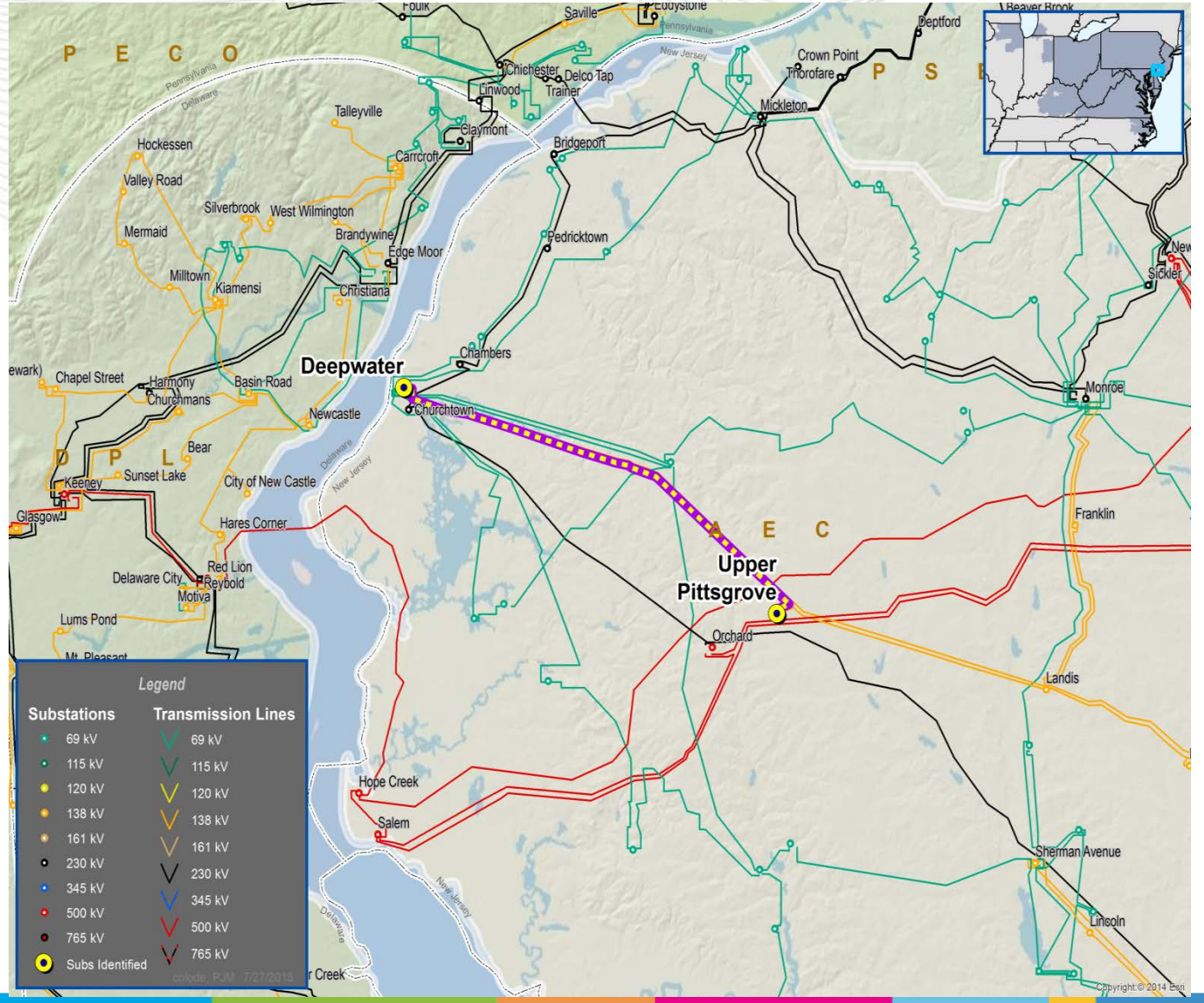
Supplemental Projects

AE Transmission Zone

- Supplemental Upgrade:
- Improve reliability due to aged infrastructure.
- Proposed Solution:
  - Rebuild the 1404 and 1405 138 kV double circuit from Deepwater – Upper Pittsgrove (17.47 mi). (S0978)
- Estimated Project Cost:

  $ 23.8 M
- Projected IS Date:

  12/31/2015

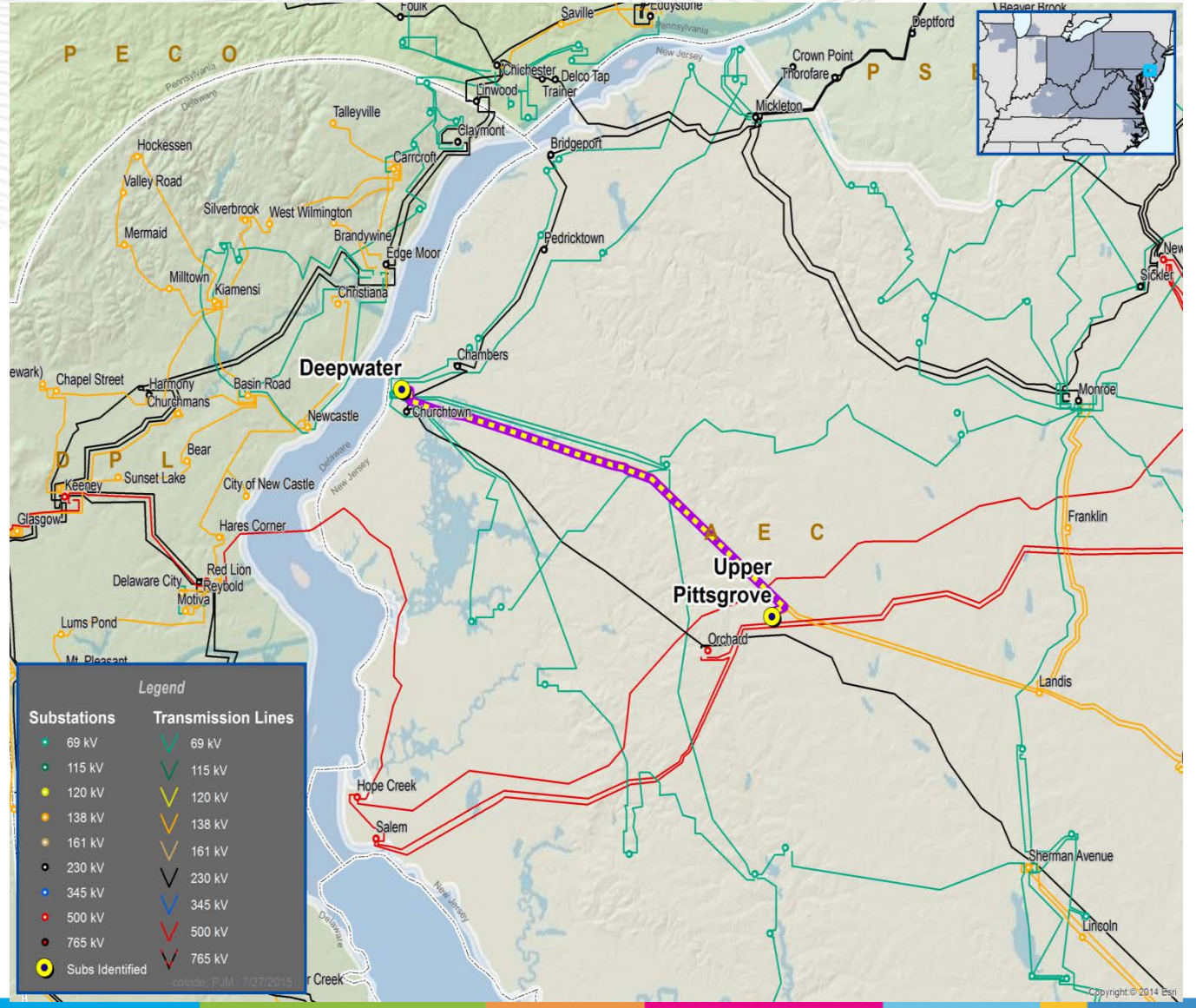


AE Transmission Zone

- Supplemental Upgrade:
- Due to the Deepwater station retirement.
- Proposed Solution:
  - Re-terminate the Deepwater – Upper Pittsgrove 138 kV circuit at Churchtown (Churchtown – Pittsgrove)138 kV. (S0979)
- Estimated Project Cost:

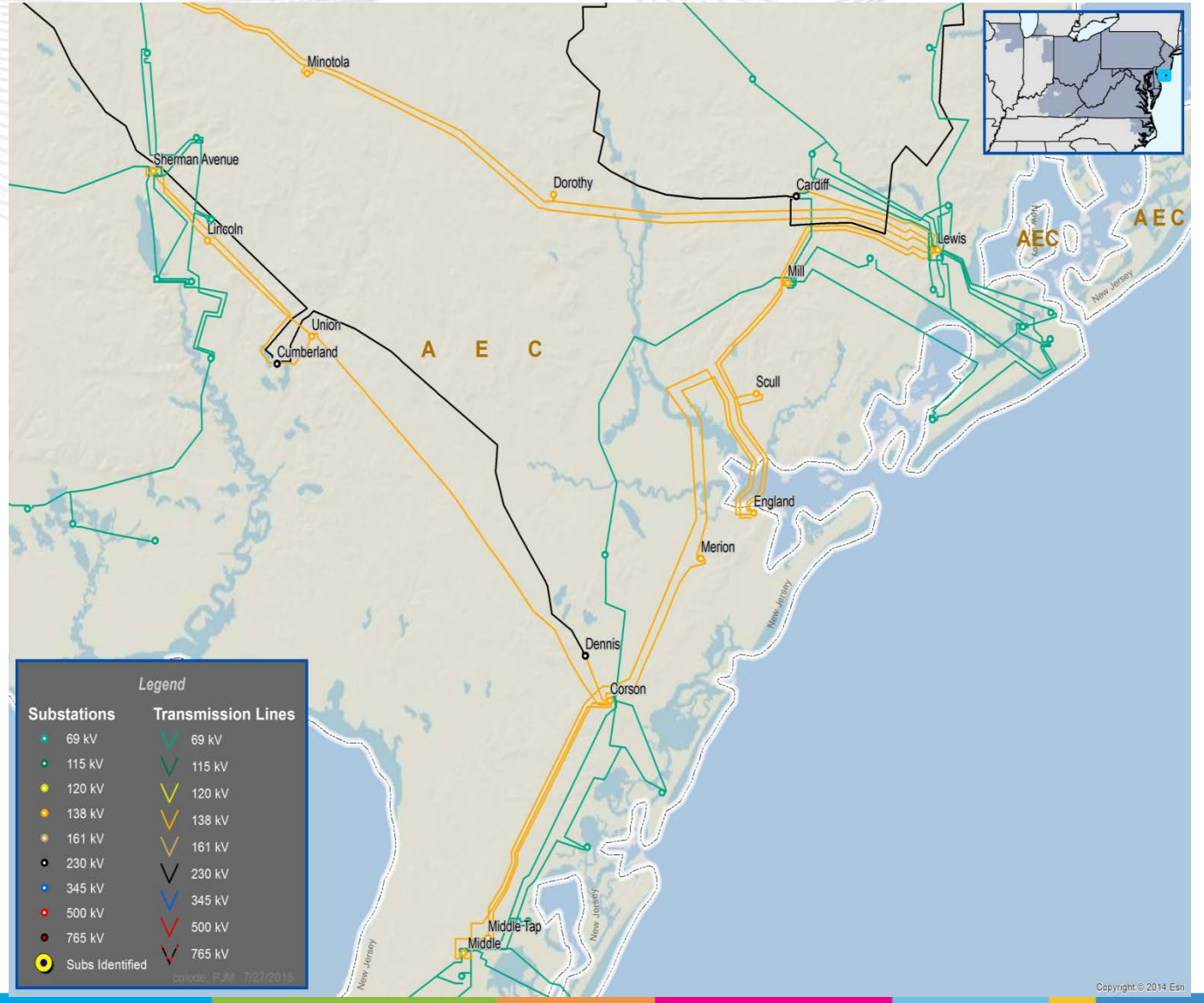
  $ 3.39 M
- Projected IS Date:

  5/31/2016



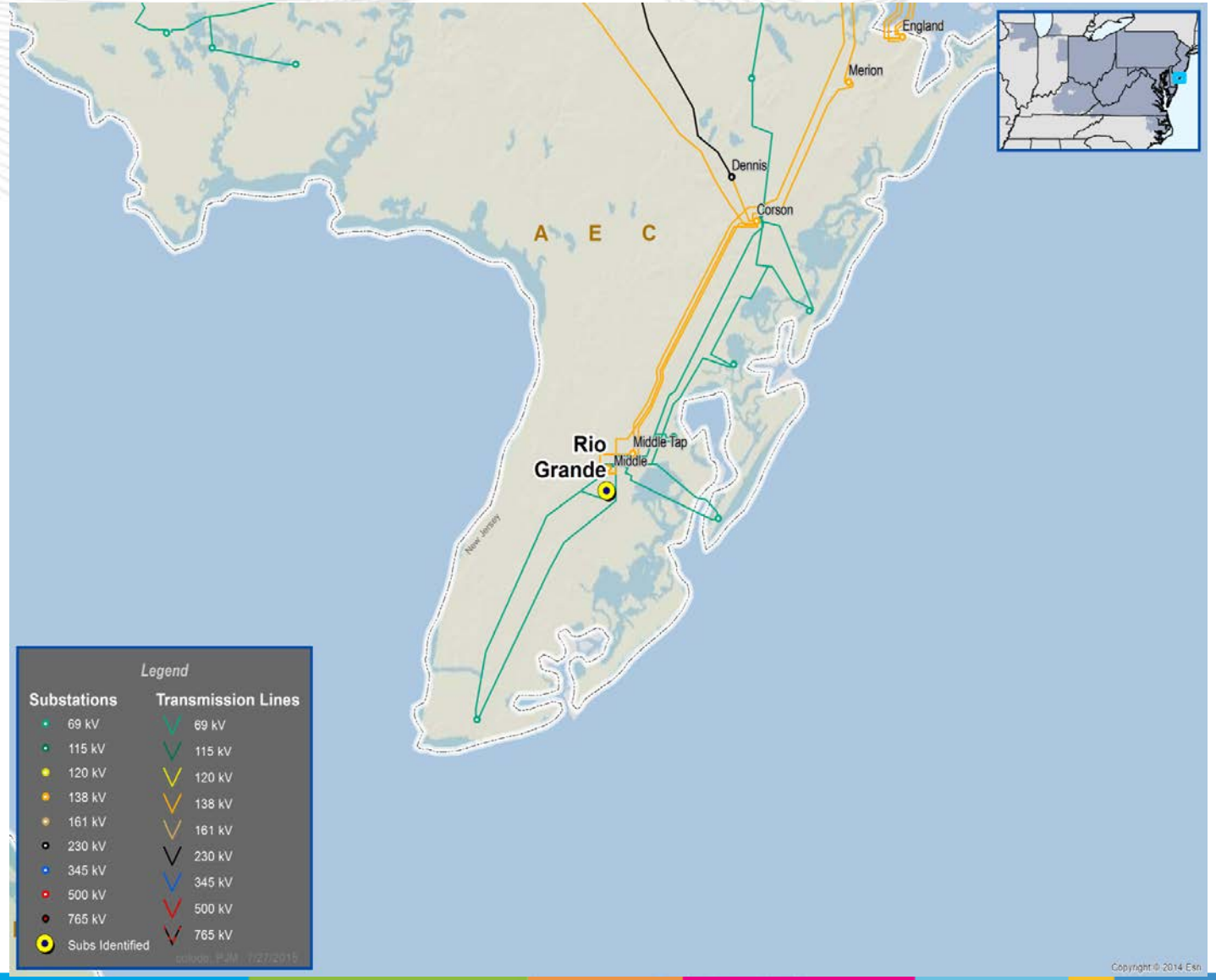
AE Transmission Zone

- Supplemental Upgrade:
- The two submarine cables and the 23kV equipment at Ocean City substation are reaching the end of life. In addition the island may exceed its firm capacity in 2019.
- Proposed Solution:
  - Upgrade the Ocean City 12 kV to 138/12 kV substation, and install two 138/12 kV transformers
  - Build two new 138 kV feeders from BL England and Merion to the Ocean City substation.
  - Establish a new Ocean City terminal at BL England 138 kV substation
  - Establish a new Ocean City terminal at Merion 138 kV substation. (S0980)
- Estimated Project Cost:
  $ 64 M
- Projected IS Date:
  5/31/2020



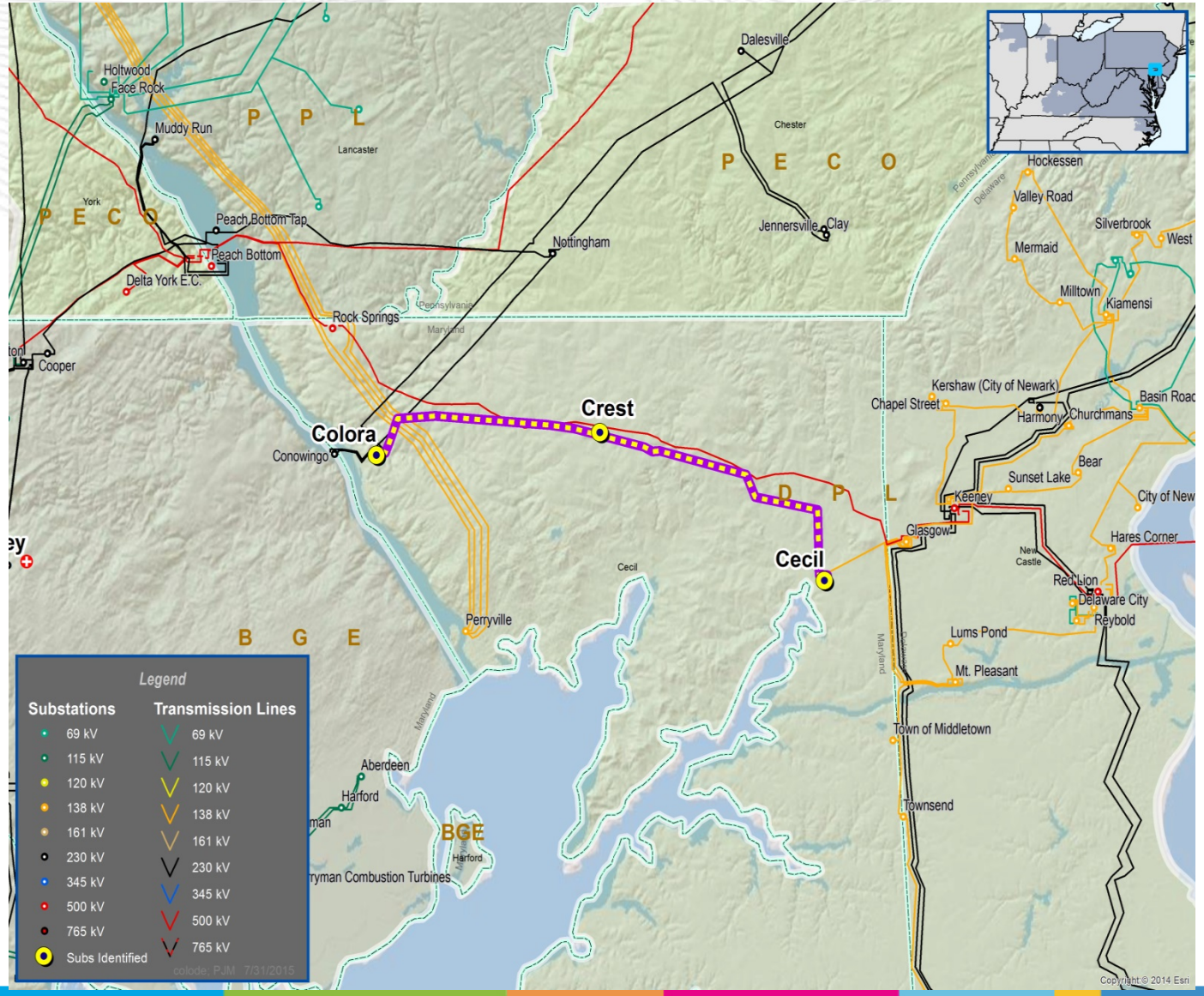
AE Transmission Zone

- Supplemental Upgrade:
- To improve reliability by isolating faults in the Rio Grande and Cape May vicinity.
- Proposed Solution:
  - Reconfigure the Rio Grande 69 kV substation to a seven breaker ring bus configuration. (S0981)
- Estimated Project Cost:
  $ 5.98 M
- Projected IS Date:
  5/31/2018



DPL Transmission Zone

- Supplemental Upgrade:
- To improve reliability due to anticipated load growth in the Cecil vicinity.
- Proposed Solution:
  - Build a new 230/34 kV substation (Crest substation) and loop the Cecil – Colora 230 kV circuit into the new substation.
  - Install four 230 kV breaker ring bus configuration at Crest substation
  - Install six 34 kV breaker – breaker and half configuration at substation
  - Install two 230/34 kV transformers at Crest substation (S0982)
- Estimated Project Cost:
  $ 17.33 M
- Projected IS Date:
  12/31/2018



PPL Supplemental projects

- Development of the PPL Electric Utility 10 year plan: 2015-2024
- Aging Infrastructure
  - A majority of PPL EU's transmission system was installed during expansion periods and it is now approaching the time where structures should be replaced to maintain integrity.
- Increase system reliability
  - Using latest PPL specifications in rebuilds will decrease the frequency and duration of outages due to failed components, lightning, and other weather-related events.
  - Rebuilding facilities to current standard designs will eliminate line tapped transformers at regional substations.
- Reduction in Maintenance Costs
- Combat specific line failure concerns
  - Particular assets though the industry standard at the time, such as cellon treated poles, wood upswept arms, conductor splices, were prone to increase in degradation.

PPL Supplemental projects

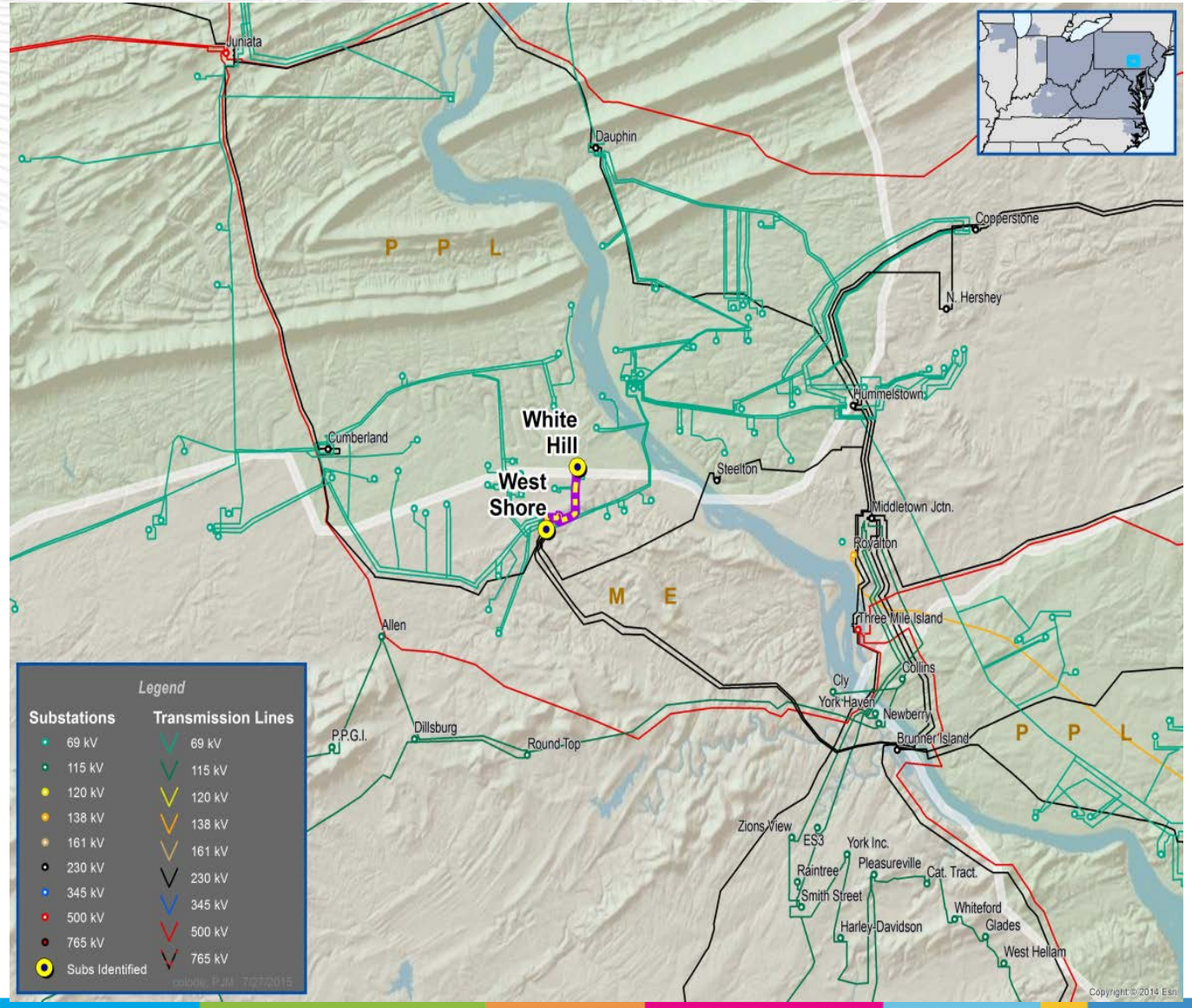
- Address Worst Performing Circuits
  - PPL has identified worst performing circuits which increase customer outages. Improvement on these lines will improve quality of service
- Increase in capabilities of equipment
  - Rebuilds utilizing new technology will provide better communication, analytics and operations that will restore customers in shorter periods of time.
- Work Efficiency
  - Bundling of work together will reduce outage impact to customers
- Relays and Control Houses
  - Reduced maintenance, remote monitoring, improved data recording, supports PPL EU fiber, upgrades, and upgraded battery systems.

PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the West Shore 230/69 kV substation
  - Rebuild the West Shore - White Hill 1 & 2 69 kV lines (3.85 mi). (S0944)
- Estimated Project Cost:

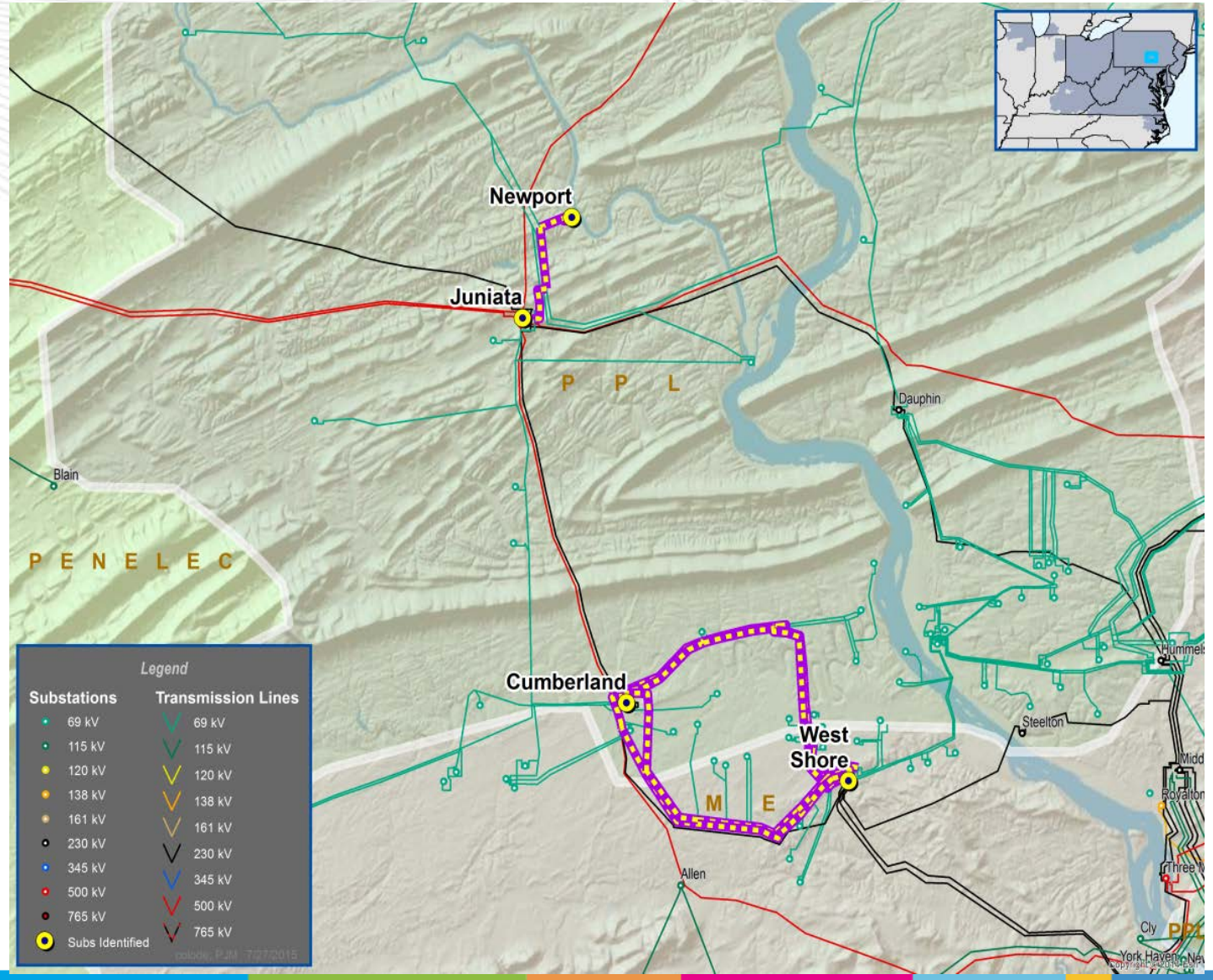
  $ 39.6 M
- Projected IS Date:

  12/31/2020



PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Juniata 230/69 kV Substation
  - Rebuild the Juniata - Richfield/Newport 69 kV lines (3.5 mi)
  - Rebuild the Juniata - Shermansdale 69 kV line (13 mi)
  - Rebuild the Cumberland 230/69 kV Substation
  - Rebuild the Cumberland - West Carlisle 1 & 2 69kV line (10.5 mi)
  - Rebuild the Cumberland - West Shore 1 & 2 69 kV lines (14 mi)
  - Rebuild the Cumberland - West Shore 3 & 4 69 kV lines (5 mi) (S0945)
- Estimated Project Cost:
  $ 184.6 M
- Projected IS Date:
  12/31/2021

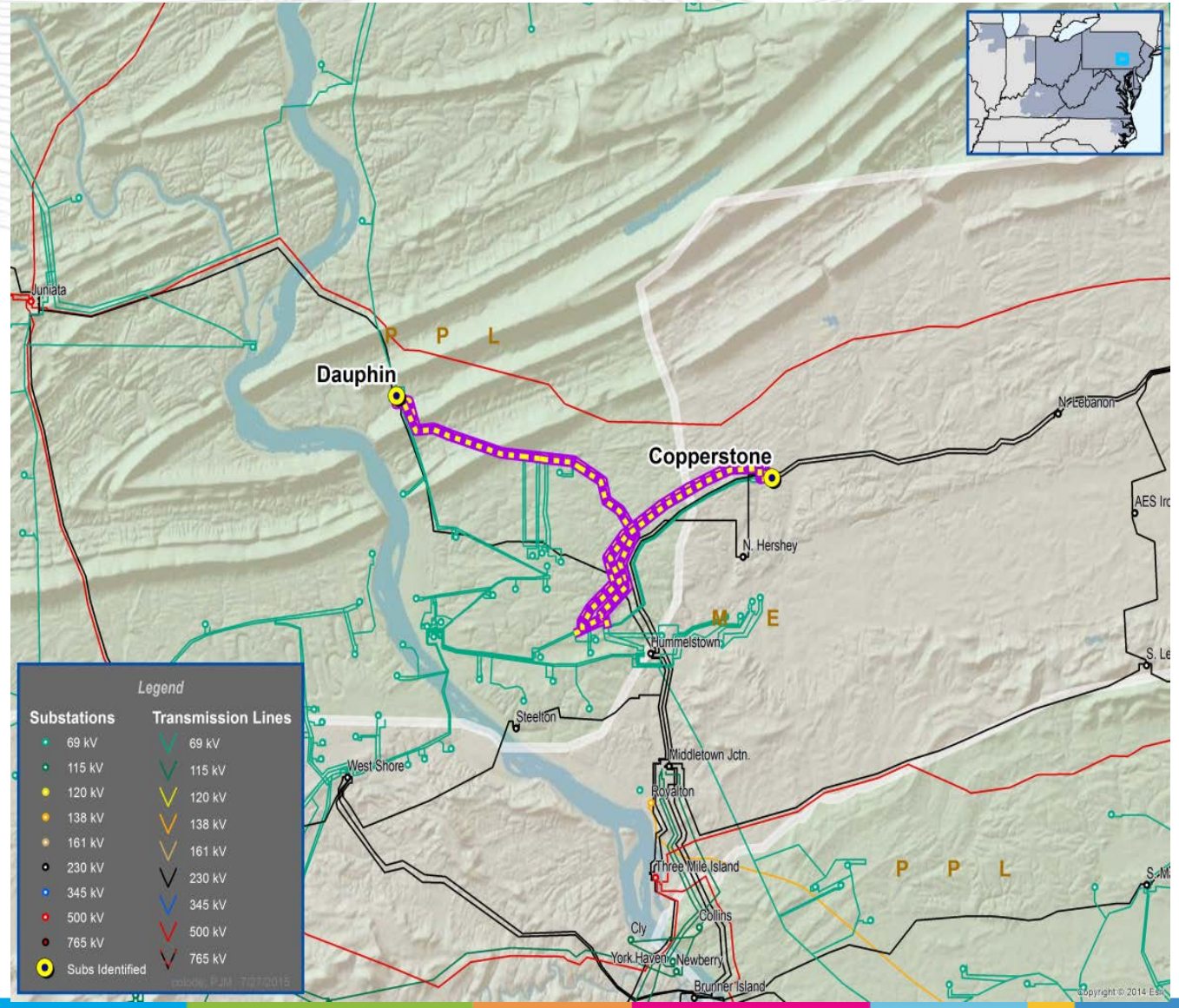


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Dauphin-Copperstone 1 & 2 69 kV lines (6.2 mi). (S0946)
- Estimated Project Cost:

  $ 8.5 M
- Projected IS Date:

  12/31/2018



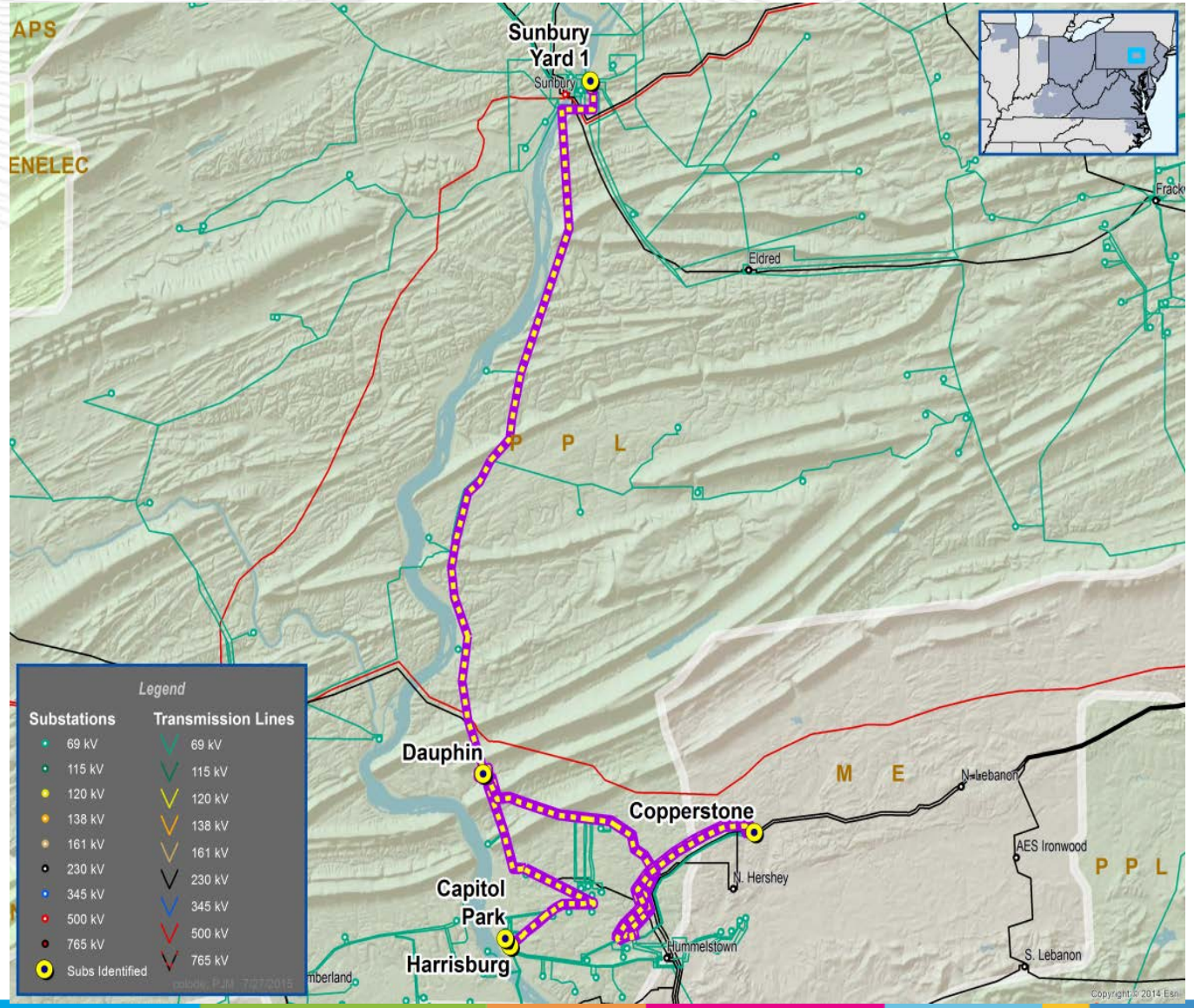
PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild Dauphin - Capital Park 1 & 2 69 kV lines (1 mi)
  - Rebuild Harrisburg - Capital Park 1 & 2 69 kV lines (1 mi)
  - Rebuild Dauphin - Copperstone 1 & 2 69 kV lines (3.8 mi)
  - Rebuild Harrisburg Substation to 230/69 kV GIS
  - Rebuild Sunbury - Dauphin 69 kV line (47 mi)

  (S0947)
- Estimated Project Cost:

  $ 121.2 M
- Projected IS Date:

  5/31/2024

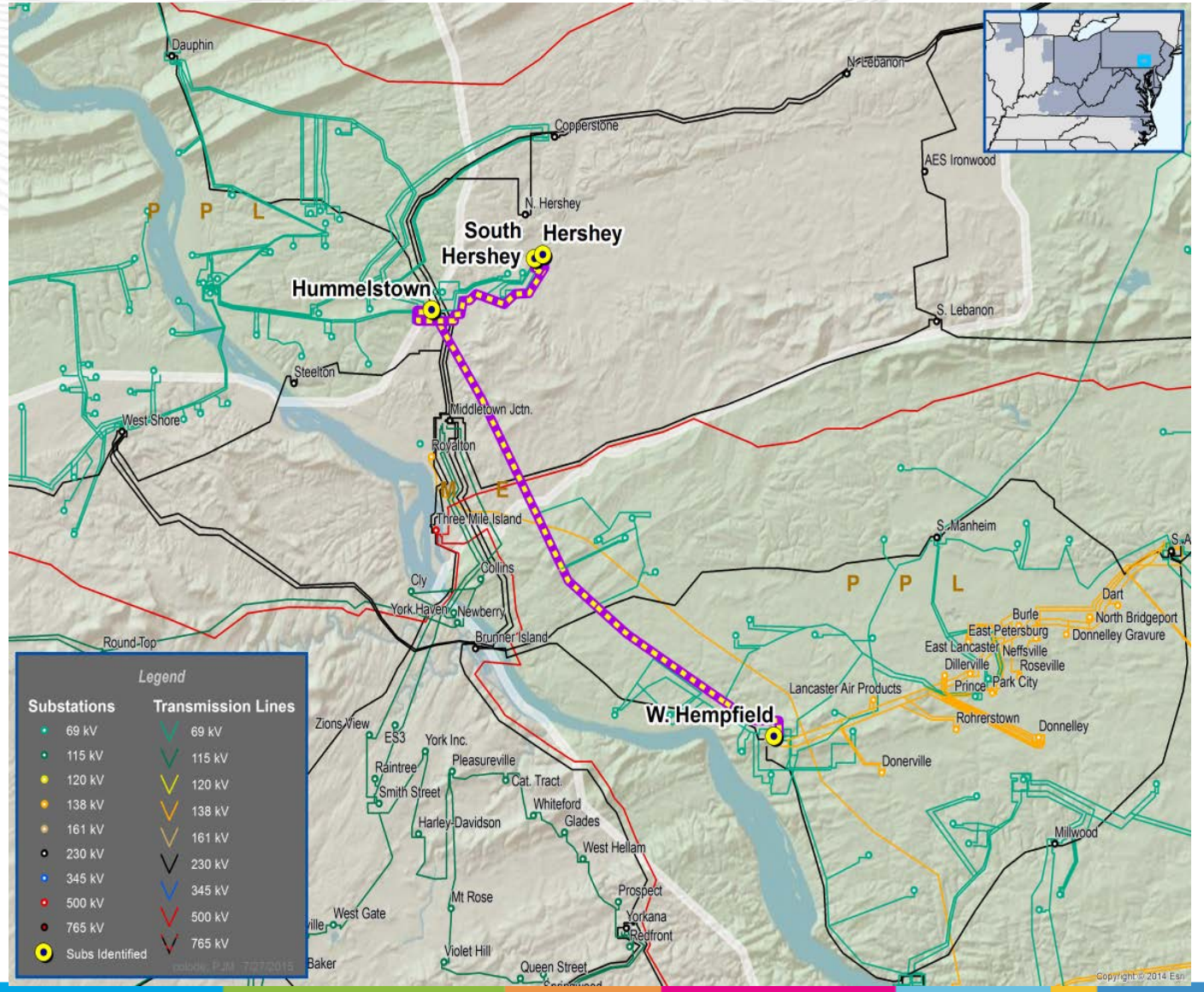


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild Hummelstown - South Hershey 69 kV line (4.7 mi)
  - Rebuild Hummelstown - Hershey 69 kV line (8.3 mi)
  - Rebuild South Hershey-Hershey 69 kV line (3.5 mi)
  - Rebuild West Hempfield-Hummelstown 69 kV line (10.6 mi) (S0948)
- Estimated Project Cost:

  $ 64.5 M
- Projected IS Date:

  12/31/2018

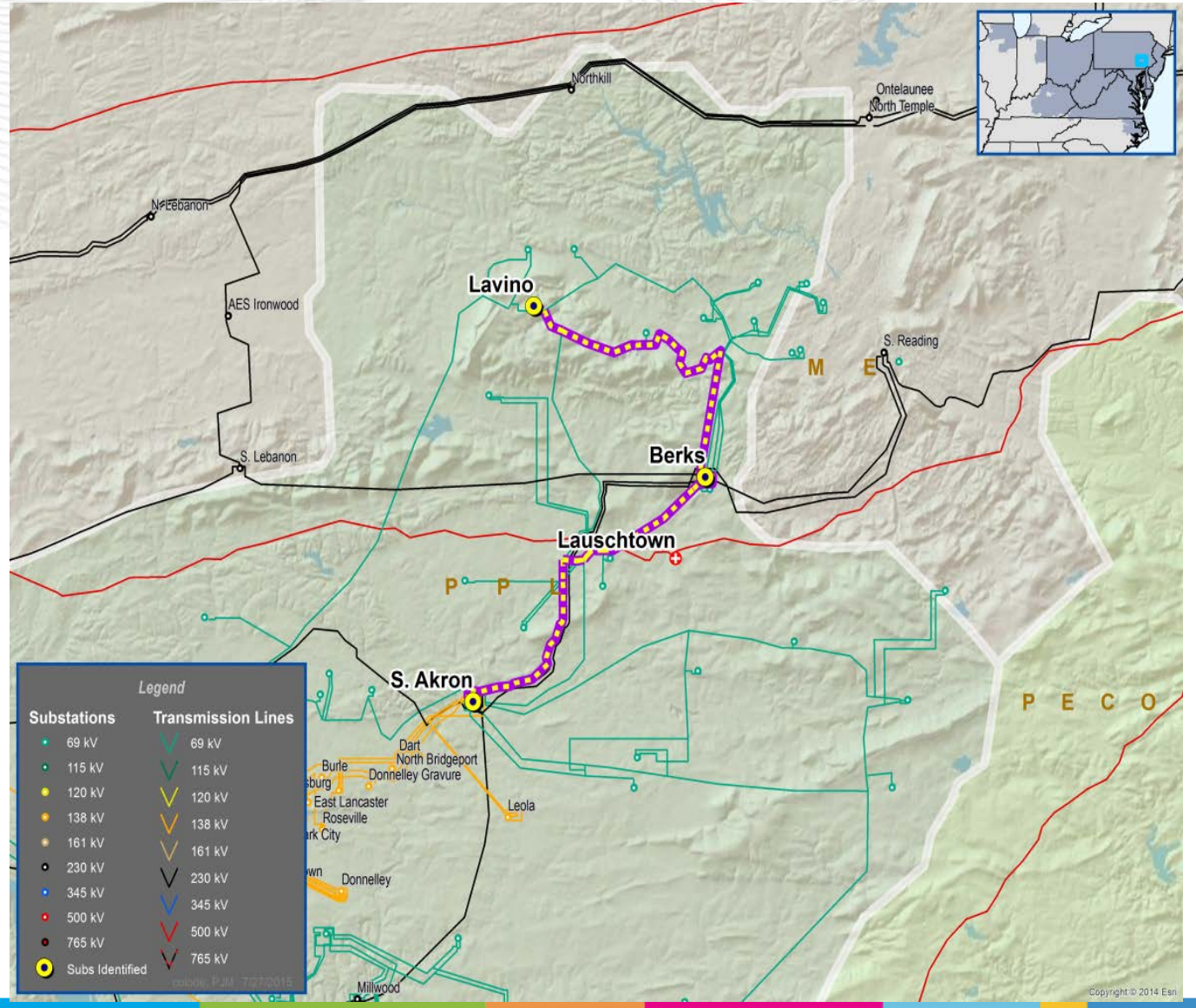


PPL Transmission Zone

- Supplemental Upgrade:
  - Build new State Hill - Berkshire Mall 1 & 2 69 kV line (5 mi)
  - Build new Lauschtown - Berks 1 & 2 69 kV line (5 mi)
  - Rebuild Berks - South Akron 69 kV line (5 mi)
  - Build new Lauschtown - Wyomissing 69 kV line (14 mi)
  - Rebuild Berks 230/69 kV Substation
  - Rebuild Berks - Lavino 69 kV line (8 mi) (S0949)
- Estimated Project Cost:

  $ 112 M
- Projected IS Date:

  12/31/2021

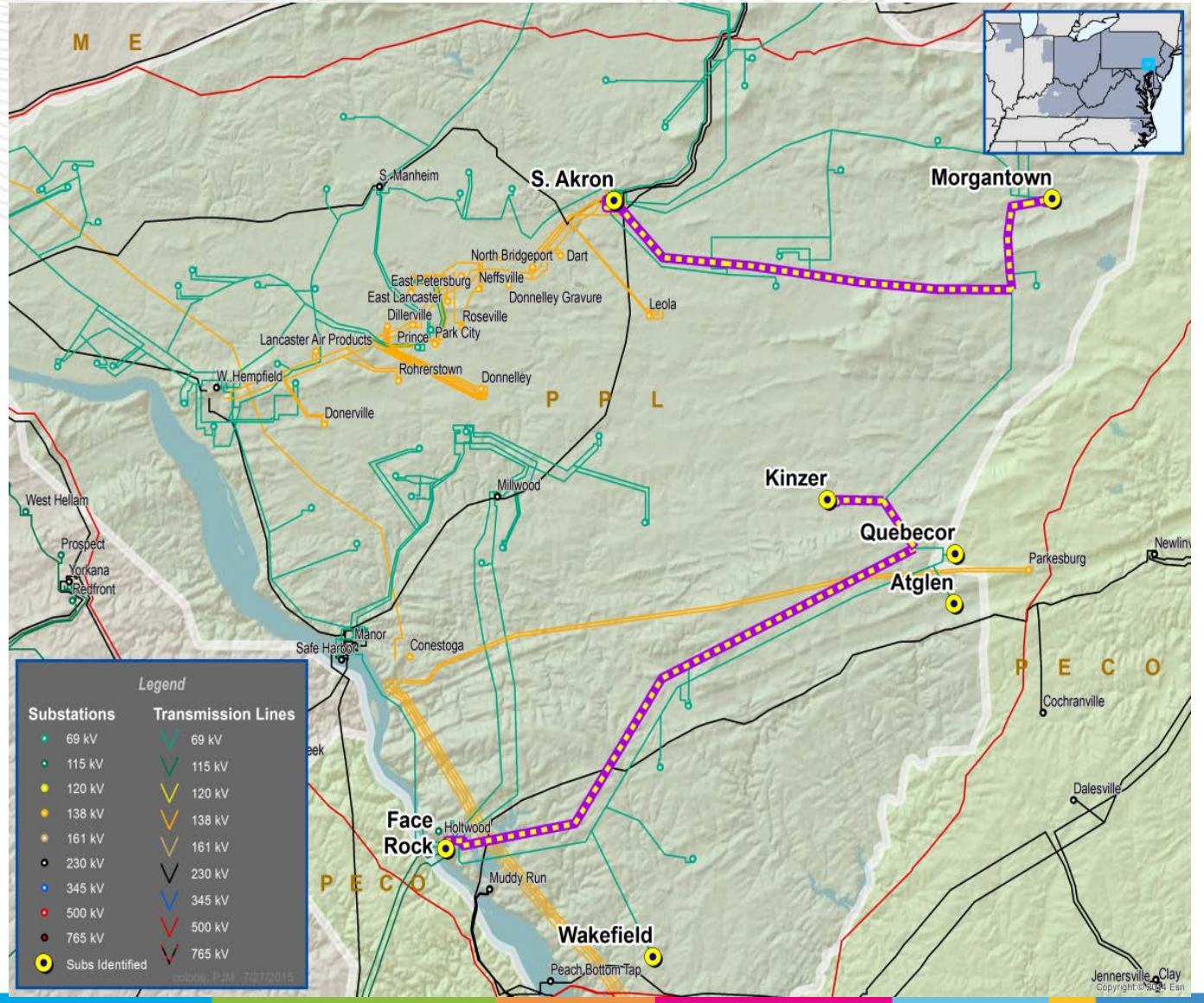


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild Kinzer Tap 69 kV (7.3 mi)
  - Rebuild South Akron - Morgantown 2 69 kV line (27.5 mi)
  - Rebuild Face Rock - Kinzer 13 & 14 69 kV lines (18.6 mi)
  - Rebuild Face Rock - Millwood 2 69 kV line (8.8 mi)
  - Rebuild Atglen, Quebecor, Wakefield and Chester Water 69 kV Taps (17 mi) (S0950)
- Estimated Project Cost:

  $ 55.9 M
- Projected IS Date:

  12/31/2019

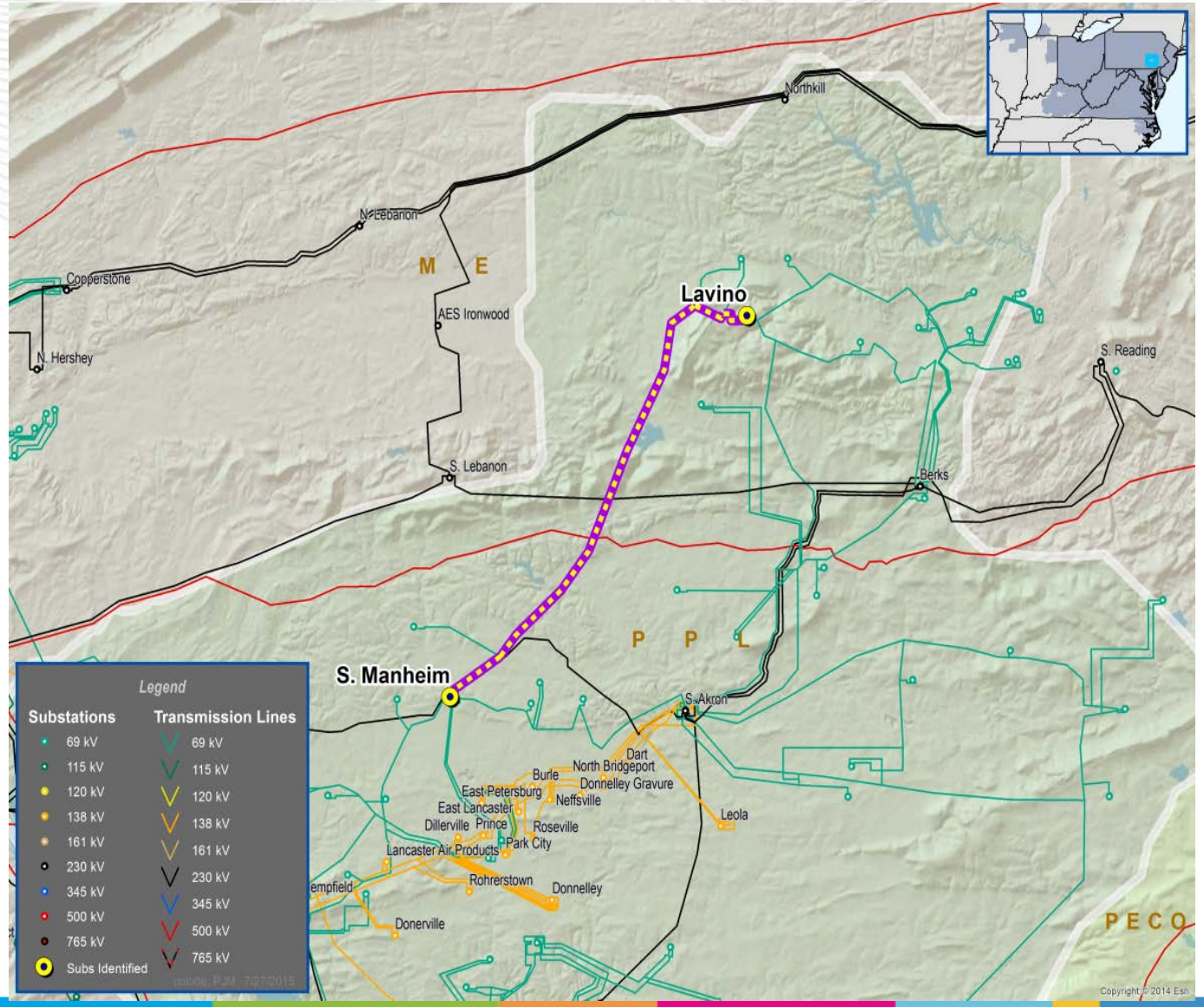


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild South Manheim - Lavino 69 kV line (20.7 mi)
  - Rebuild South Manheim 69 kV Yard (S0952)
- Estimated Project Cost:

  $ 49.1 M
- Projected IS Date:

  12/31/2021

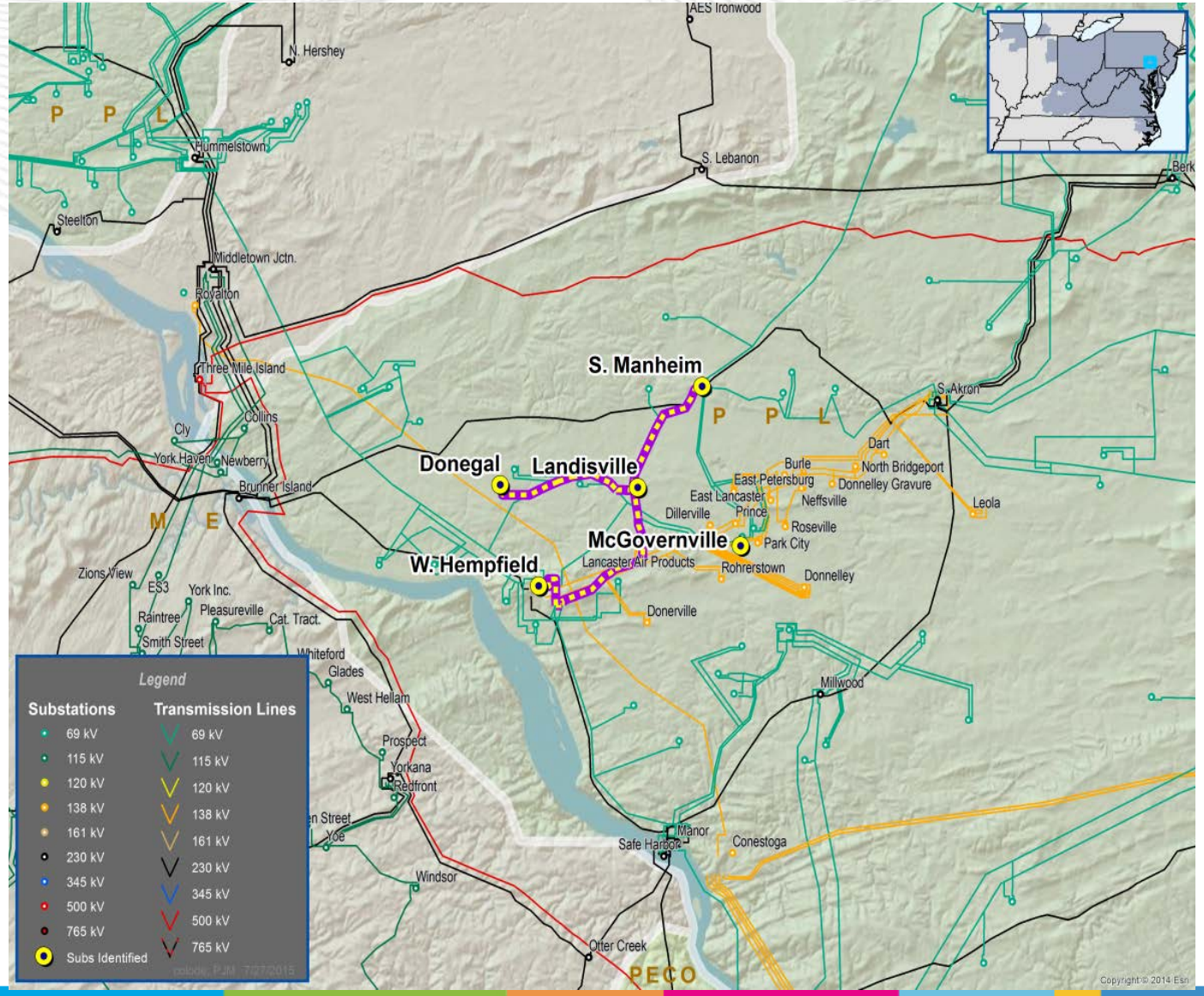


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild McGovernville 69 kV Tap (1.2 mi)
  - Rebuild West Hempfield - South Manheim 69 kV Line between McGovernville and Silver Springs (4.4 mi)
  - Rebuild West Hempfield - South Manheim 69 kV Line between West Hempfield and Silver Springs (4.9 mi)
  - Rebuild Donegal 1 & 2 – Landisville 69 kV Tap (4.9 mi) (S0953)
- Estimated Project Cost:

  $ 35.4 M
- Projected IS Date:

  12/31/2018

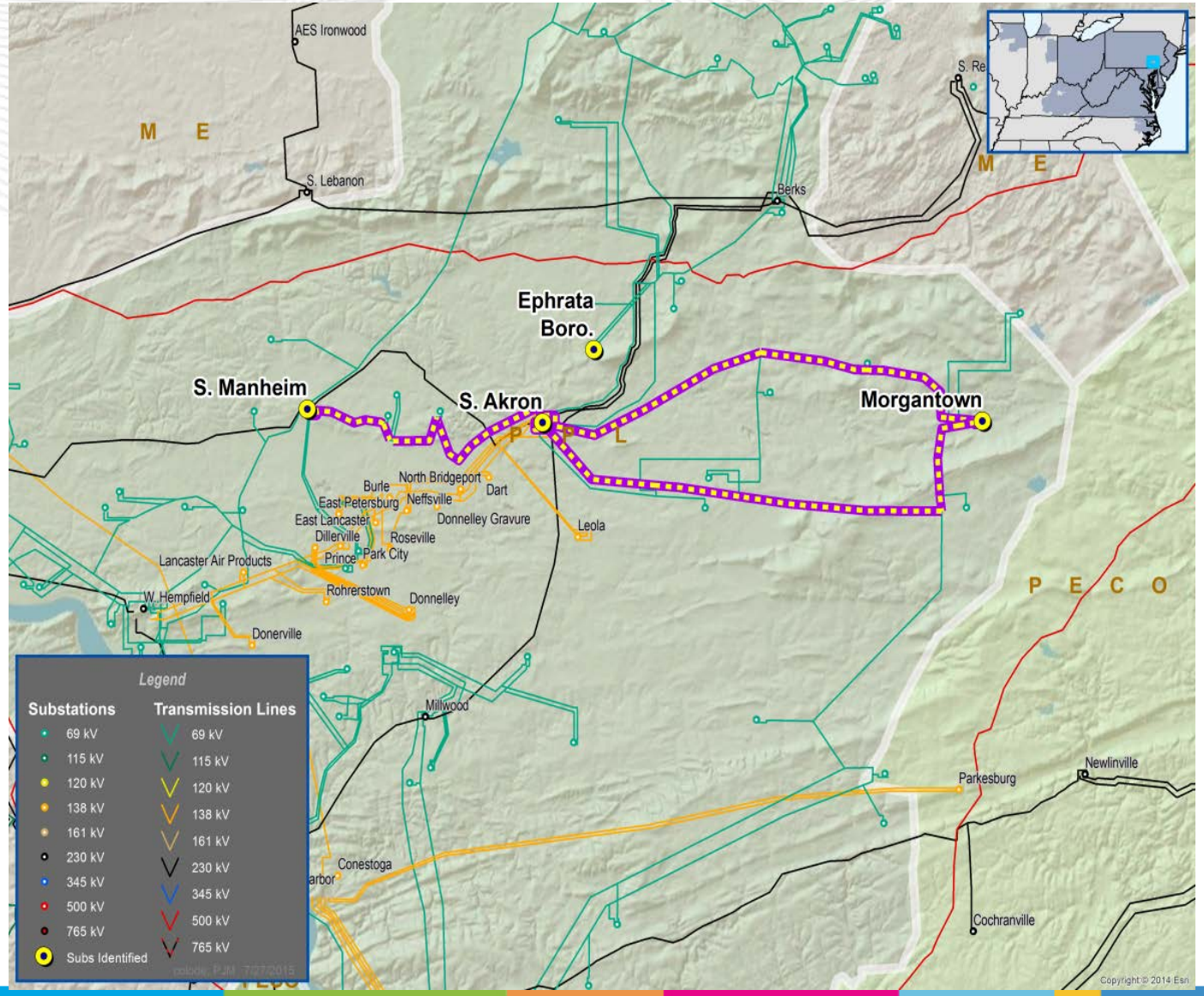


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild South Akron - Morgantown 1 69 kV line (1.2 mi)
  - Rebuild South Akron - Morgantown 3 69 kV line (7.5 mi)
  - Rebuild Ephrata 69 kV Tap (1.9 mi)
  - Rebuild South Akron 230/69 kV Substation
  - Rebuild South Akron - South Manheim 3 69 kV line(9.5 mi) (S0954)
- Estimated Project Cost:

  $ 77.5 M
- Projected IS Date:

  12/31/2022

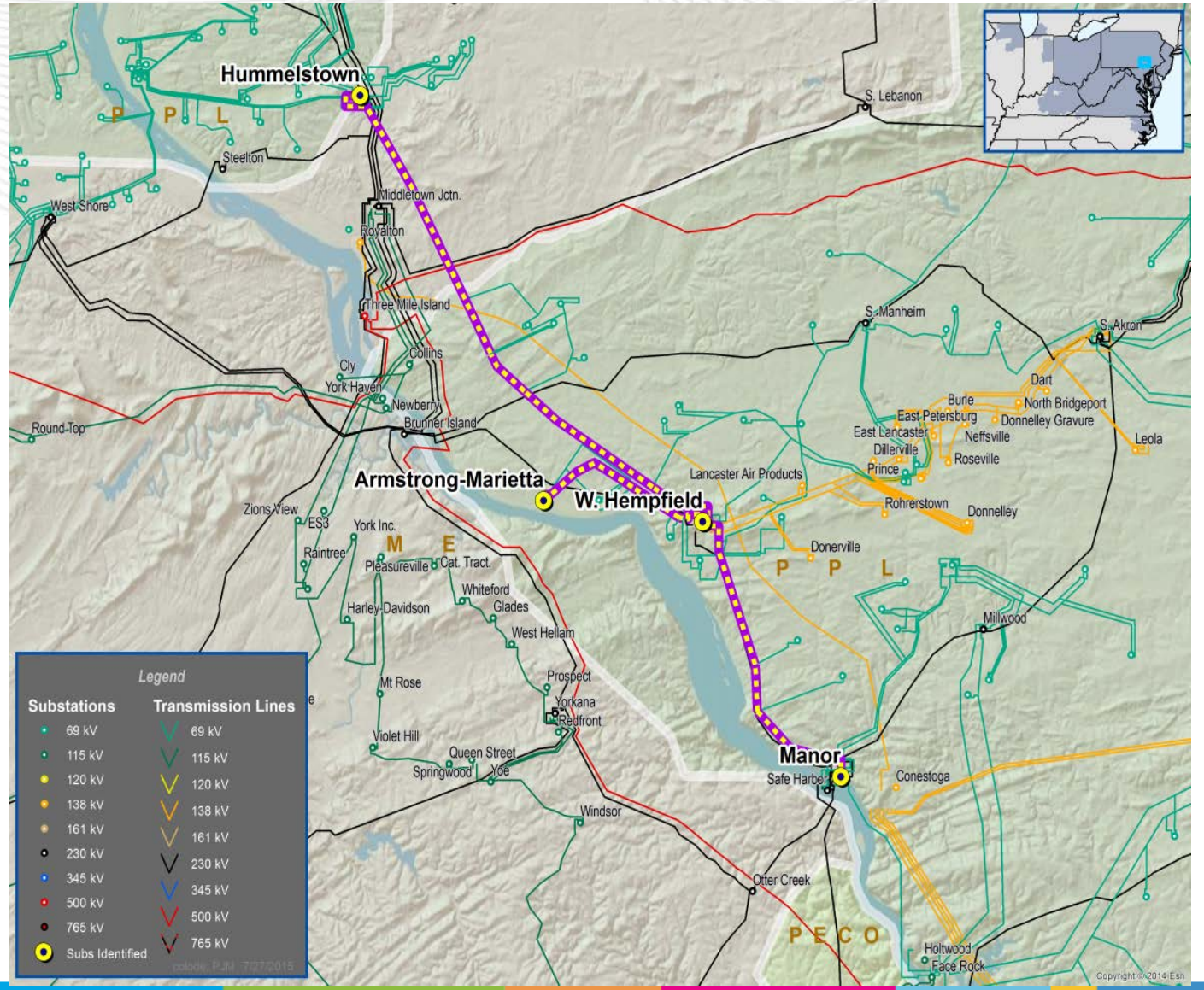


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild West Hempfield 230/69 kV Substation
  - Rebuild Manor 230/69 kV Substation
  - Rebuild West Hempfield - Manor 1 69 kV line (8.5 mi)
  - Rebuild West Hempfield - Hummelstown and West Hempfield - Armstrong Marietta 69 kV lines (10.9 mi) (S0955)
- Estimated Project Cost:

  $ 66.1 M
- Projected IS Date:

  11/30/2023

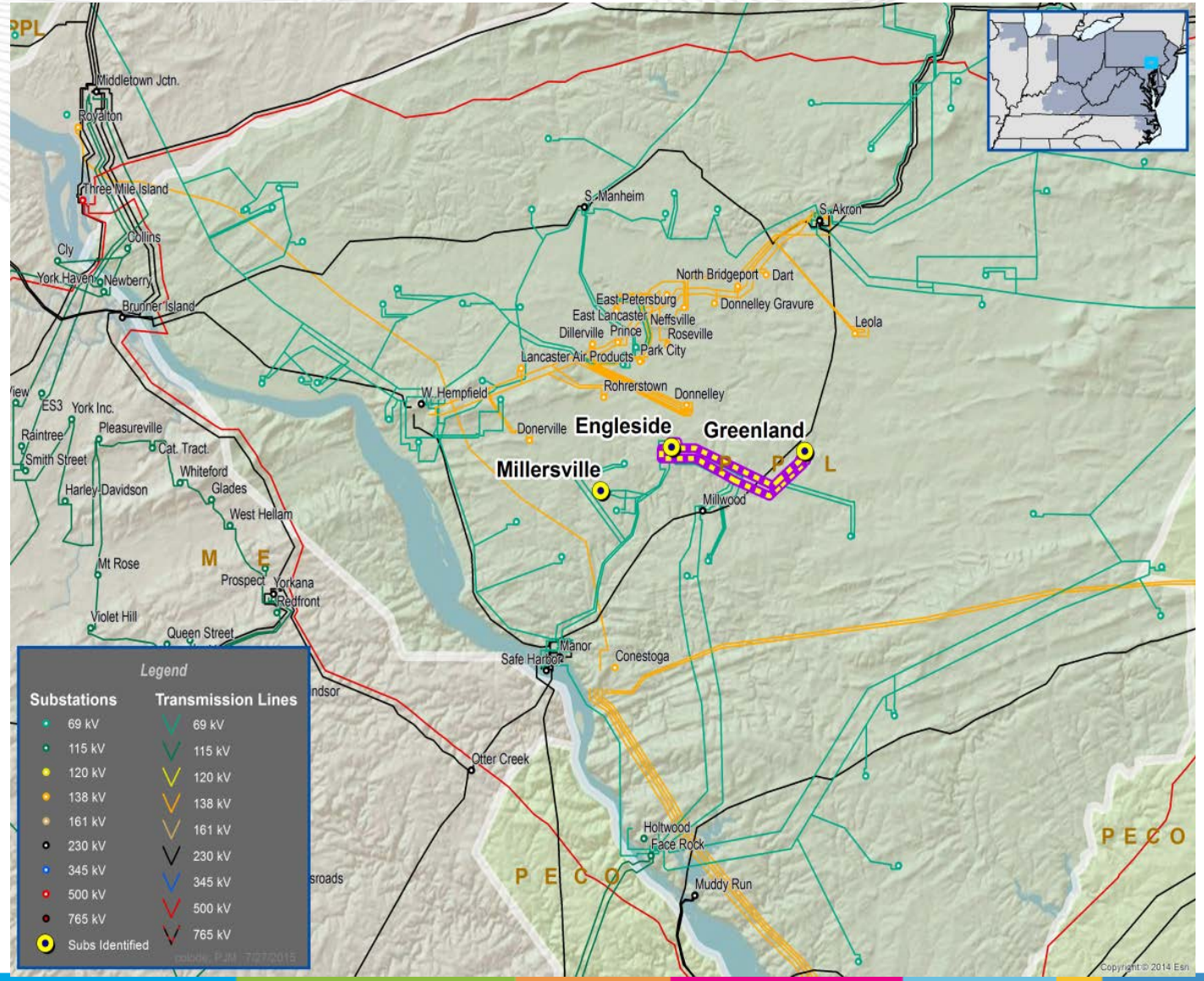


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the taps to Millersville Sub and Millersville University off Manor - Engleside 1 & 2 69 kV line (0.6 mi)
  - Rebuild Engleside - Greenland 1 & 2 69 kV line (1.7 mi)
  - Upgrade Engleside 69 kV switchyard (S0956)
- Estimated Project Cost:

  $ 12.1 M
- Projected IS Date:

  12/31/2019

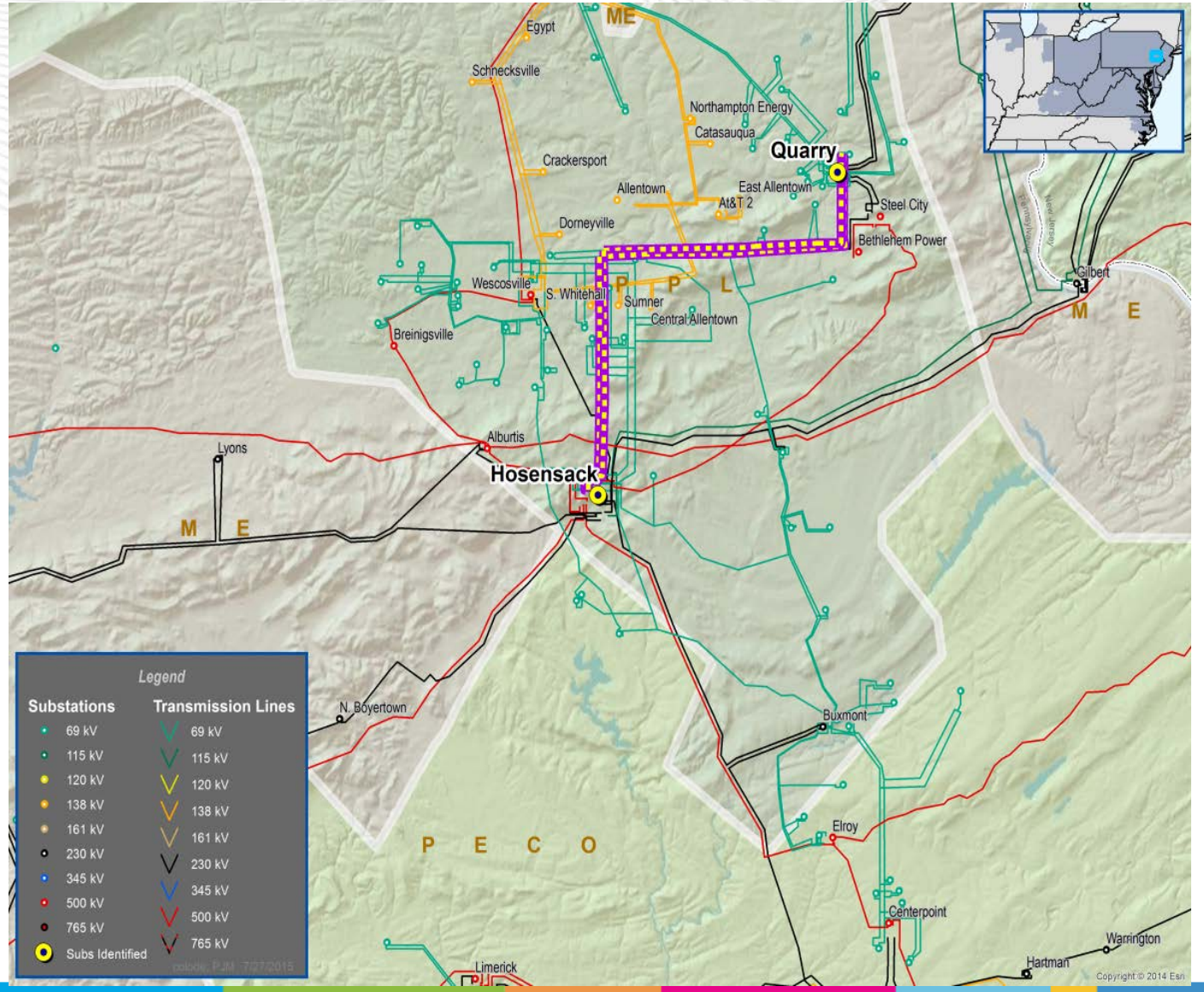


PPL Transmission Zone

- Supplemental Upgrade:
  - Upgrade the Quarry 230/69 kV Substation
  - Rebuild the south section of Hosensack - Quarry #1 and #2 69 kV lines (15 mi) (S0957)
- Estimated Project Cost:

  $ 71 M
- Projected IS Date:

  5/31/2018



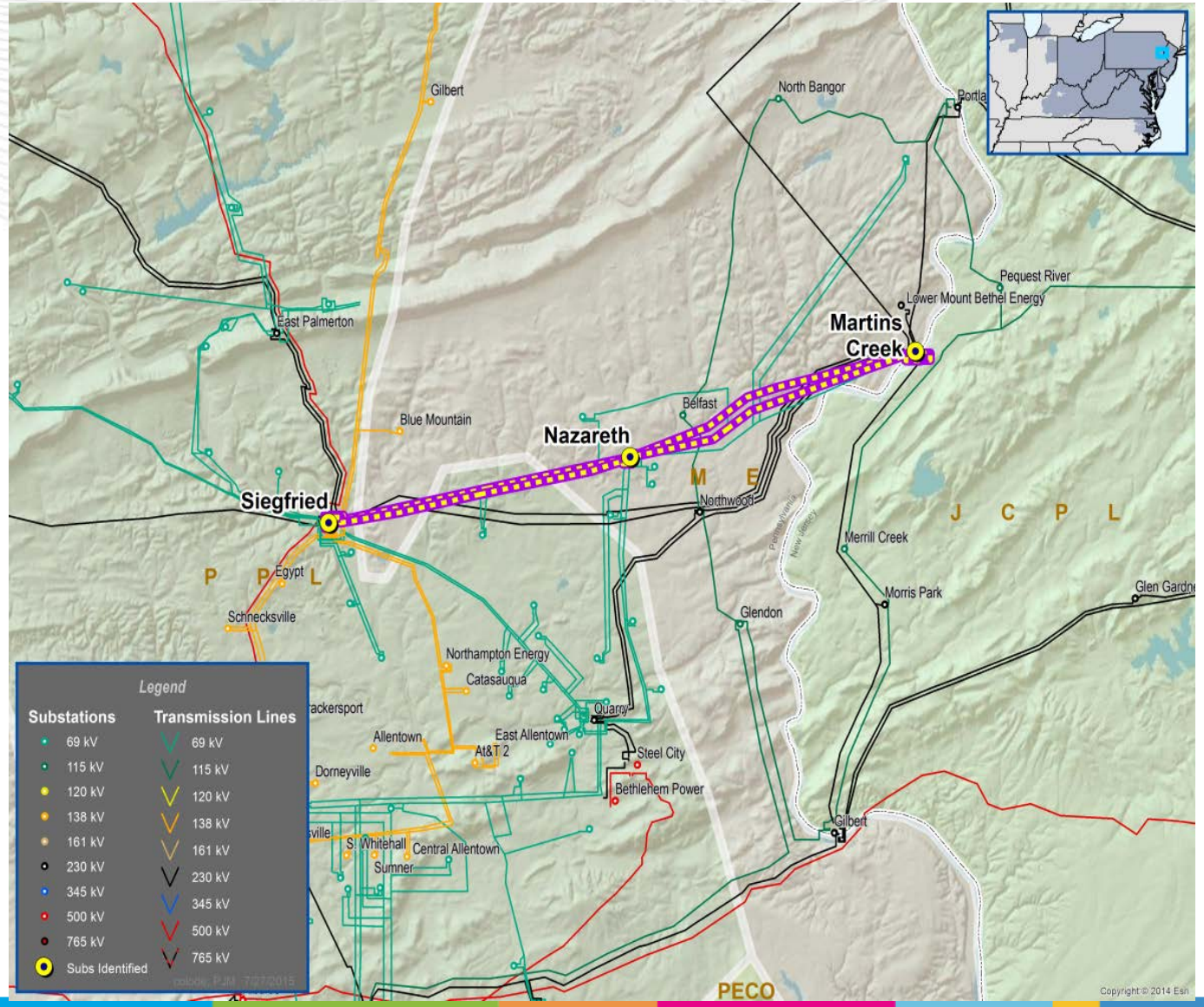
PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Siegfried 230/69 kV Substation
  - Rebuild the Siegfried - Nazareth #1 and #2 69 kV lines (11 mi)
  - Rebuild the Martins Creek - Nazareth #1 and #2 69 kV lines (13 mi)

    (S0958)
- Estimated Project Cost:

  $ 112.9 M
- Projected IS Date:

  6/30/2021

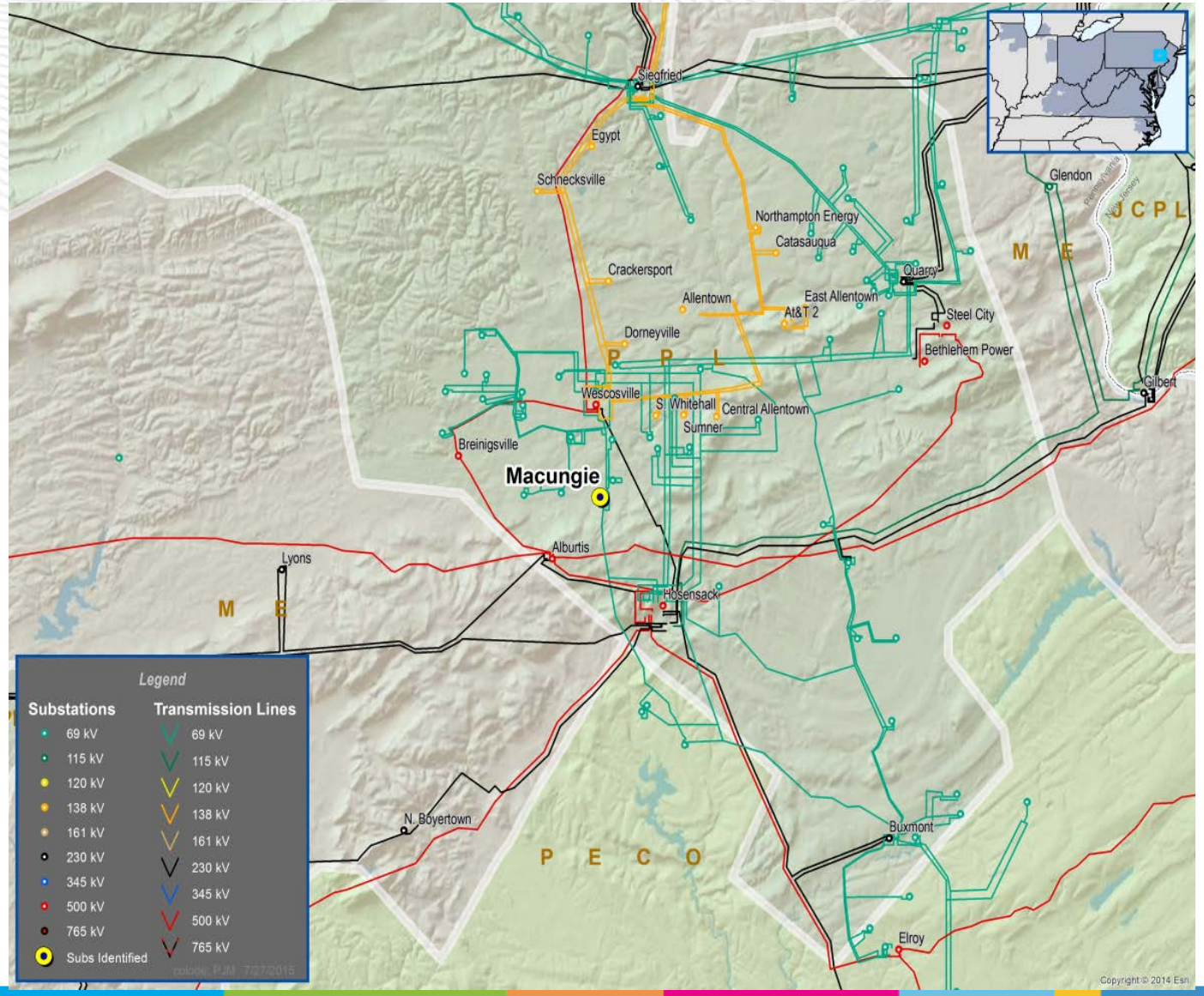


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Macungie 69 kV tap (1.8 mi) (S0959)
- Estimated Project Cost:

  $ 3.5 M
- Projected IS Date:

  5/31/2019

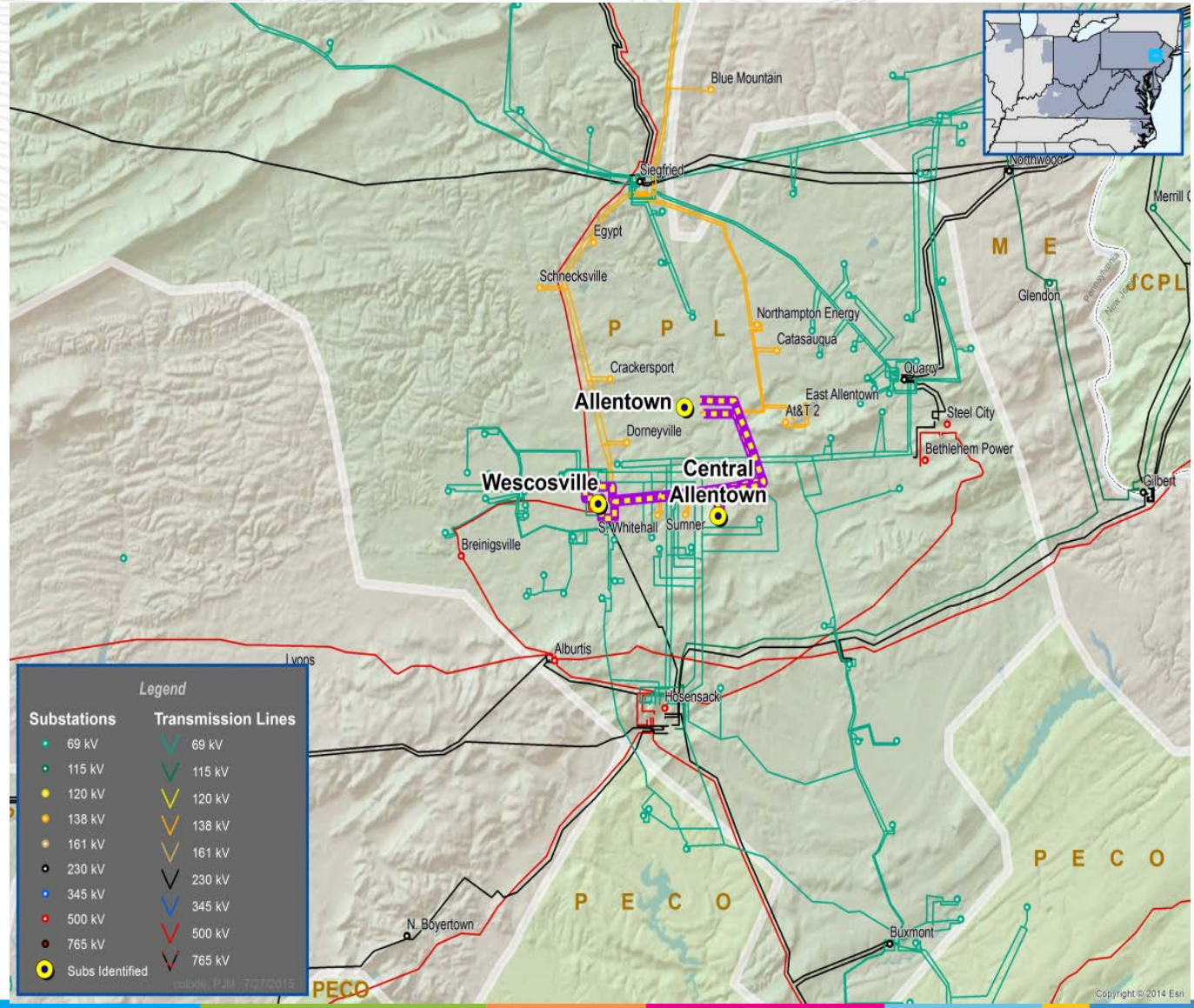


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the underground cable sections of Wescosville - Central Allentown #2 (1.3 mi) and Allentown - Central Allentown #1 & #2 (0.8 mi) 138 kV lines (S0960)
- Estimated Project Cost:

  $ 11.1 M
- Projected IS Date:

  12/31/2016



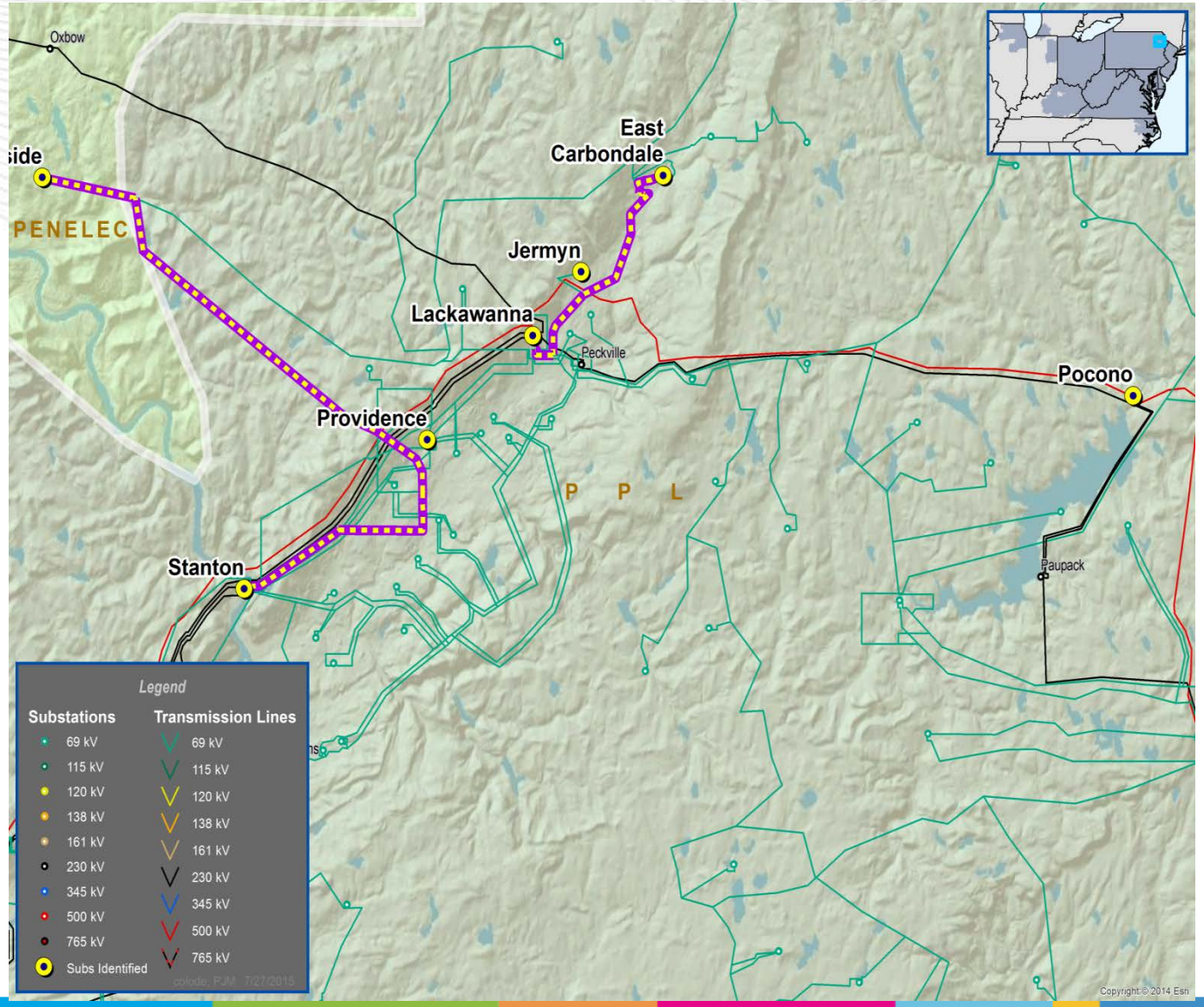
PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Lackawanna - East Carbondale 69 kV line (19 mi)
  - Rebuild the Lackawanna - Pocono and Lackawanna – Varden 69 kV line (3 mi)
  - Rebuild the Stanton - Brookside and Providence1 - Morgan 69 kV line (10 mi)
  - Rebuild the East Carbondale Tap and install Jermyn 69 kV cap (7 mi)

  (S0961)
- Estimated Project Cost:

  $ 94.3 M
- Projected IS Date:

  6/30/2021

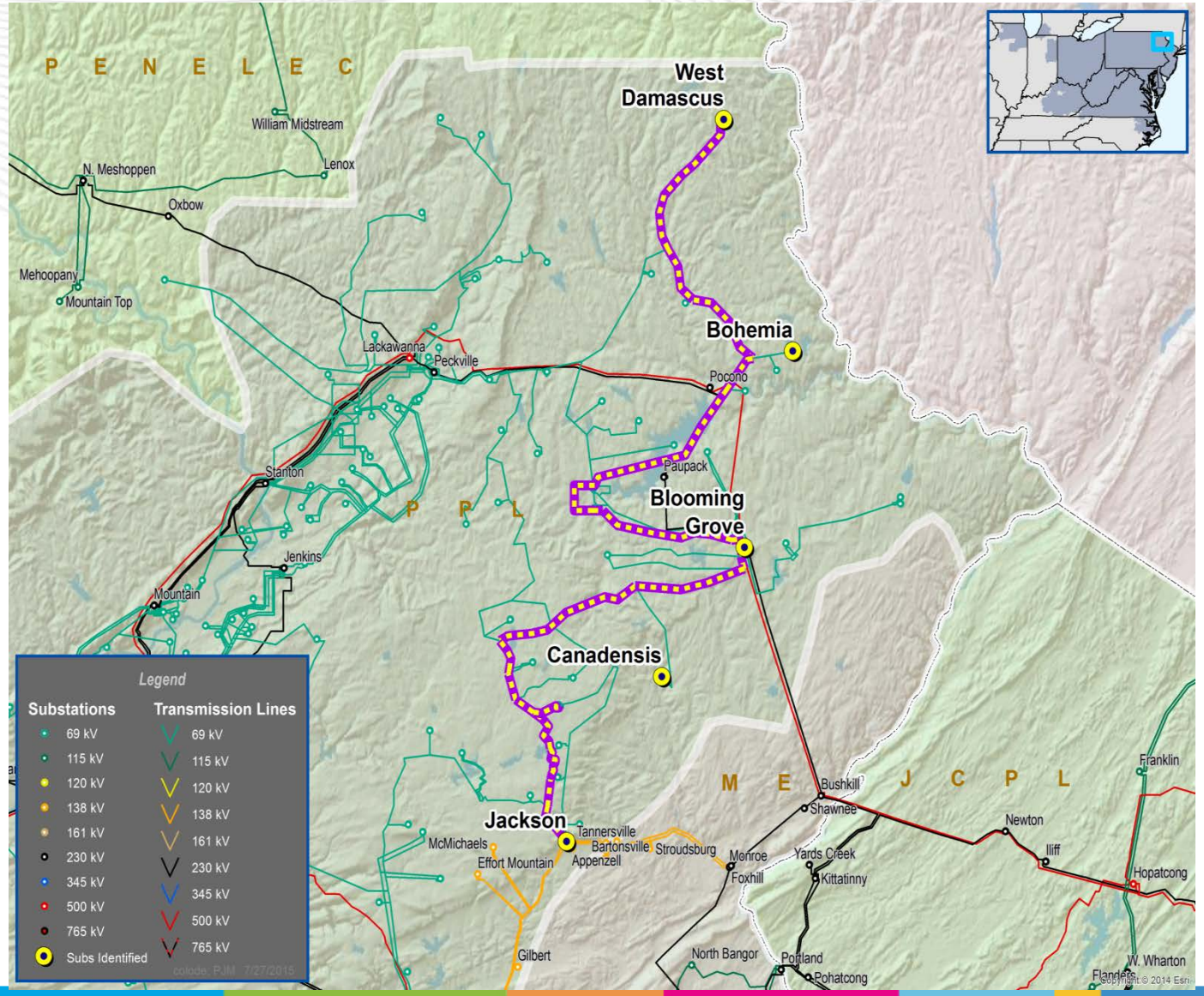


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Blooming Grove - West Damascus 69 kV line (8.4 mi)
  - Rebuild the Blooming Grove - Jackson 69 kV line (21 mi), rebuild the Canadensis Tap 69 kV line (8.2 mi)
  - Install second circuit on the Blooming Grove - West Damascus 69 kV line (2.3 mi), Install second circuit on Bohemia 69 kV Tap (3.9 mi) (S0962)
- Estimated Project Cost:

  $ 87 M
- Projected IS Date:

  12/31/2019



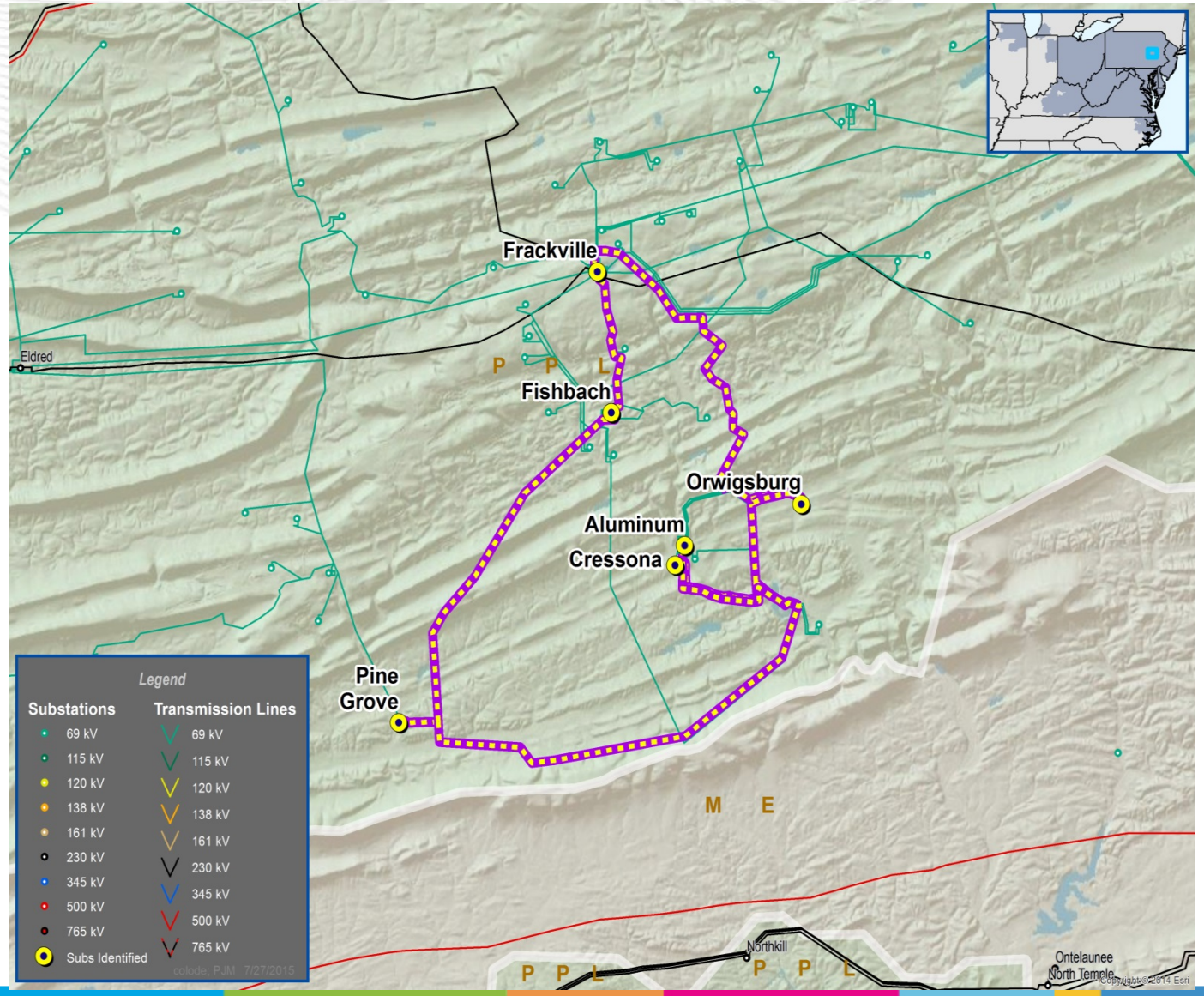
PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Pine Grove - Cressona 69 kV Line (3.1 mi)
  - Rebuild the Orwigsburg - Cressona 69 kV Tap & Pine Grove - Aluminum 69 kV Tap (0.4 mi)
  - Rebuild the Frackville - Orwigsburg 69 kV Line (10.3 mi)
  - Rebuild the Fishbach - Pine Grove 69 kV Line (8.8 mi)
  - Rebuild the Frackville - Fishbach 3 69 kV Line (8.5 mi)
  - Rebuild the Orwigsburg 69 kV Tap (2.6 mi)
  - Rebuild the Frackville - Fishbach 1&2 69 kV Lines (7.2 mi)

  (S0963)
- Estimated Project Cost:

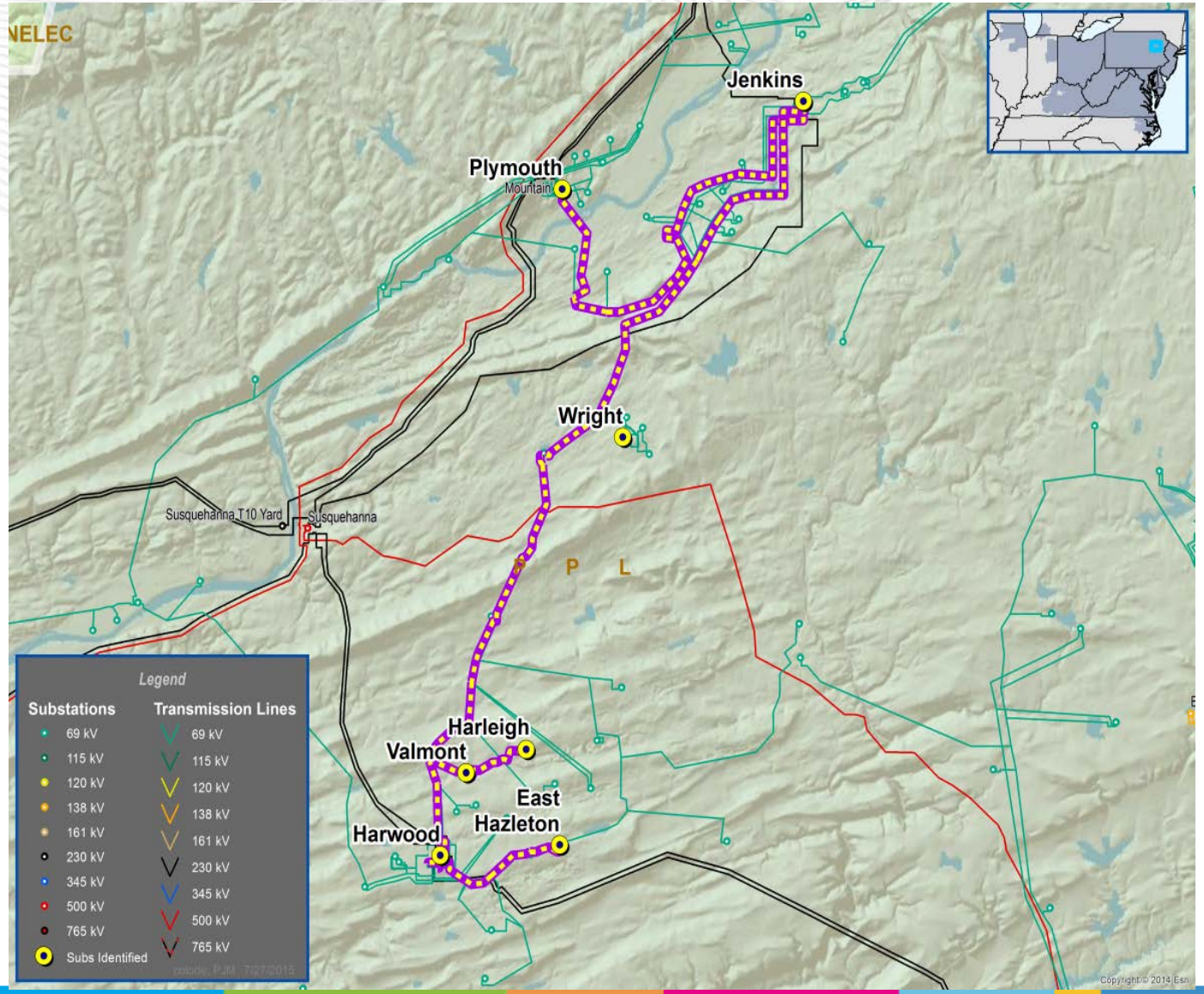
  $ 81.4 M
- Projected IS Date:

  8/31/2018



PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Wright 69 kV Tap 1&2 (2.3 mi)
  - Rebuild the Harwood - Valmont 69 kV Line & Valmont 69 kV Tap 2 & Harleigh 69 kV Tap (4.8 mi)
  - Rebuild the Harwood - East Hazleton 1&2 69 kV Lines (1.4 mi)
  - Extend the Harwood - East Hazleton 1&2 69 kV Lines (7.9 mi)
  - Rebuild the Harwood - Jenkins 1&2 69kV lines (11.2 mi)
  - Rebuild the Jenkins - Plymouth 69 kV line (3.4 mi)
  - Install three 5% Series Reactors for the 3 Jenkins 230/69 kV transformers
  - Upgrade the Jenkins 69 kV Yard to Double Breaker, Double Bus (S0964)
- Estimated Project Cost:
  $ 63.5 M
- Projected IS Date:
  10/31/2019

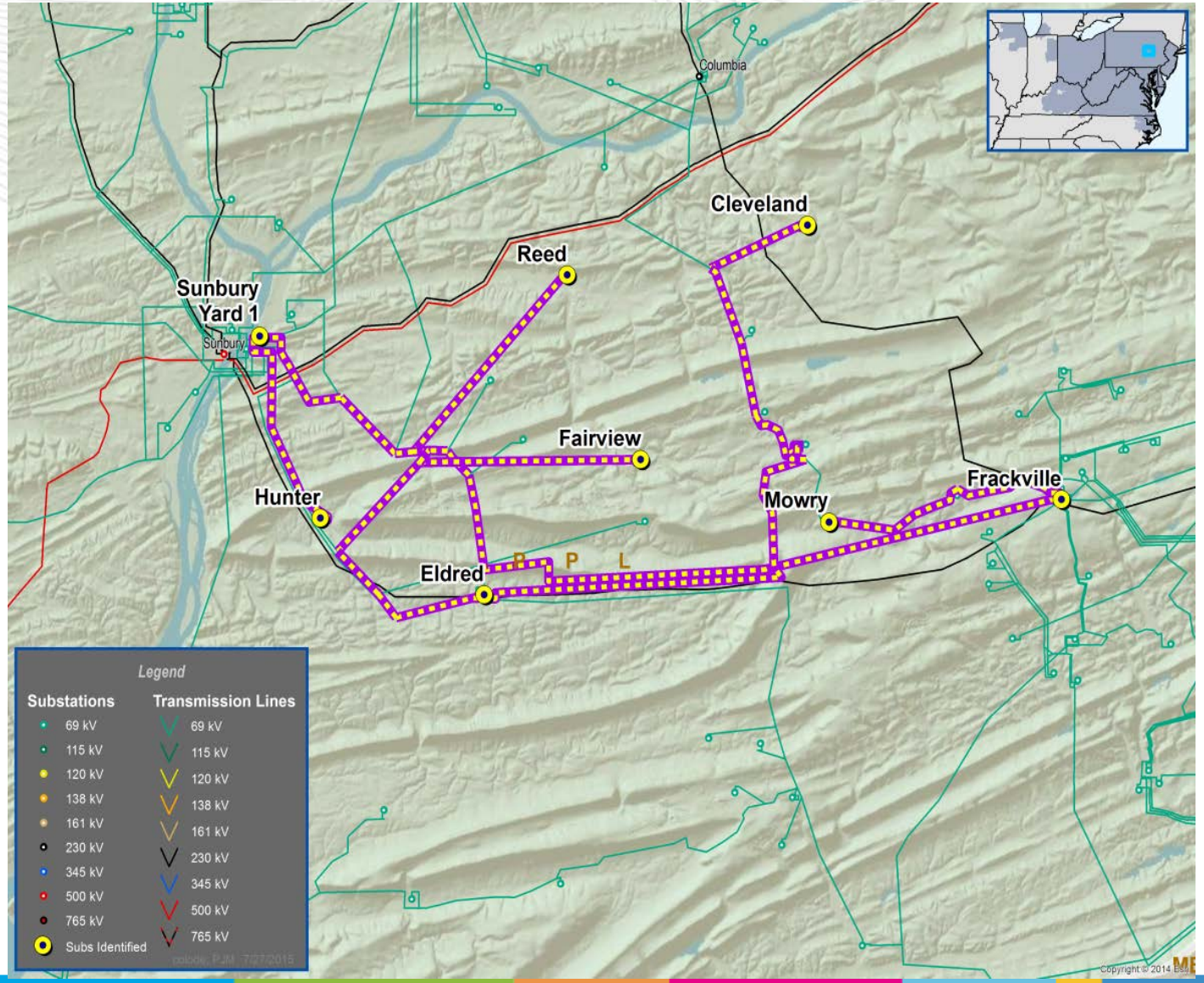


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Frackville - Mowry 69 kV Line & Frackville - Reed 69 kV Tie (11 mi)
  - Rebuild the Eldred - Cleveland 69 kV Line (9.7 mi)
  - Upgrade the Eldred - Fairview 69 kV Line (7.8 mi)
  - Rebuild the Eldred - Reed 69 kV Line (12.9 mi)
  - Rebuild the Sunbury - Reed 69kV Line (5.5 mi)
  - Rebuild the Sunbury - Hunter 69 kV Line (16.6 mi) (S0965)
- Estimated Project Cost:

  $ 110.7 M
- Projected IS Date:

  2/28/2022

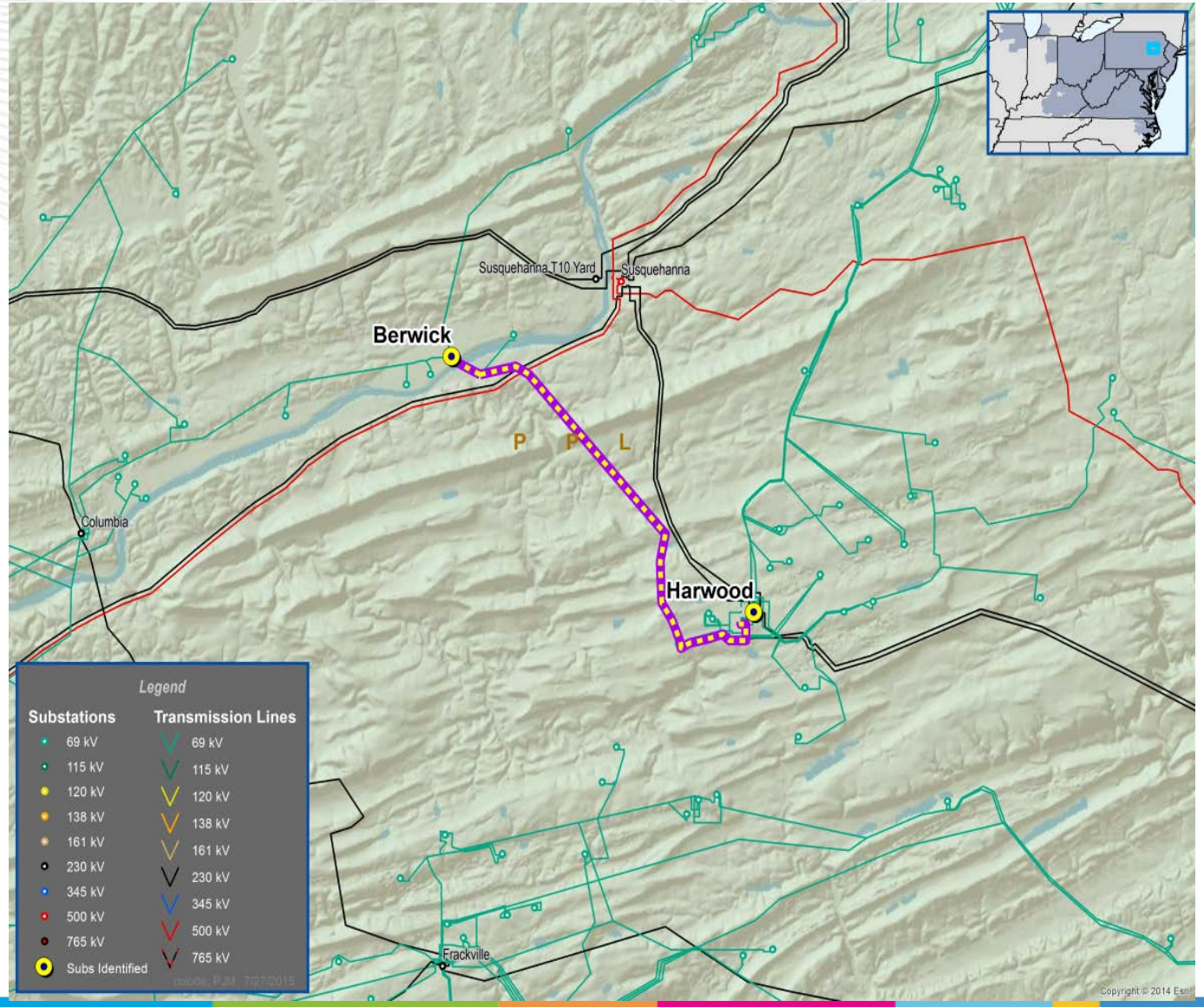


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Harwood - Berwick 69kV (0.5 mi)
  - Build a new Humboldt Loop 69 kV (2.5 mi) (S0966)
- Estimated Project Cost:

  $ 7.1 M
- Projected IS Date:

  7/31/2016

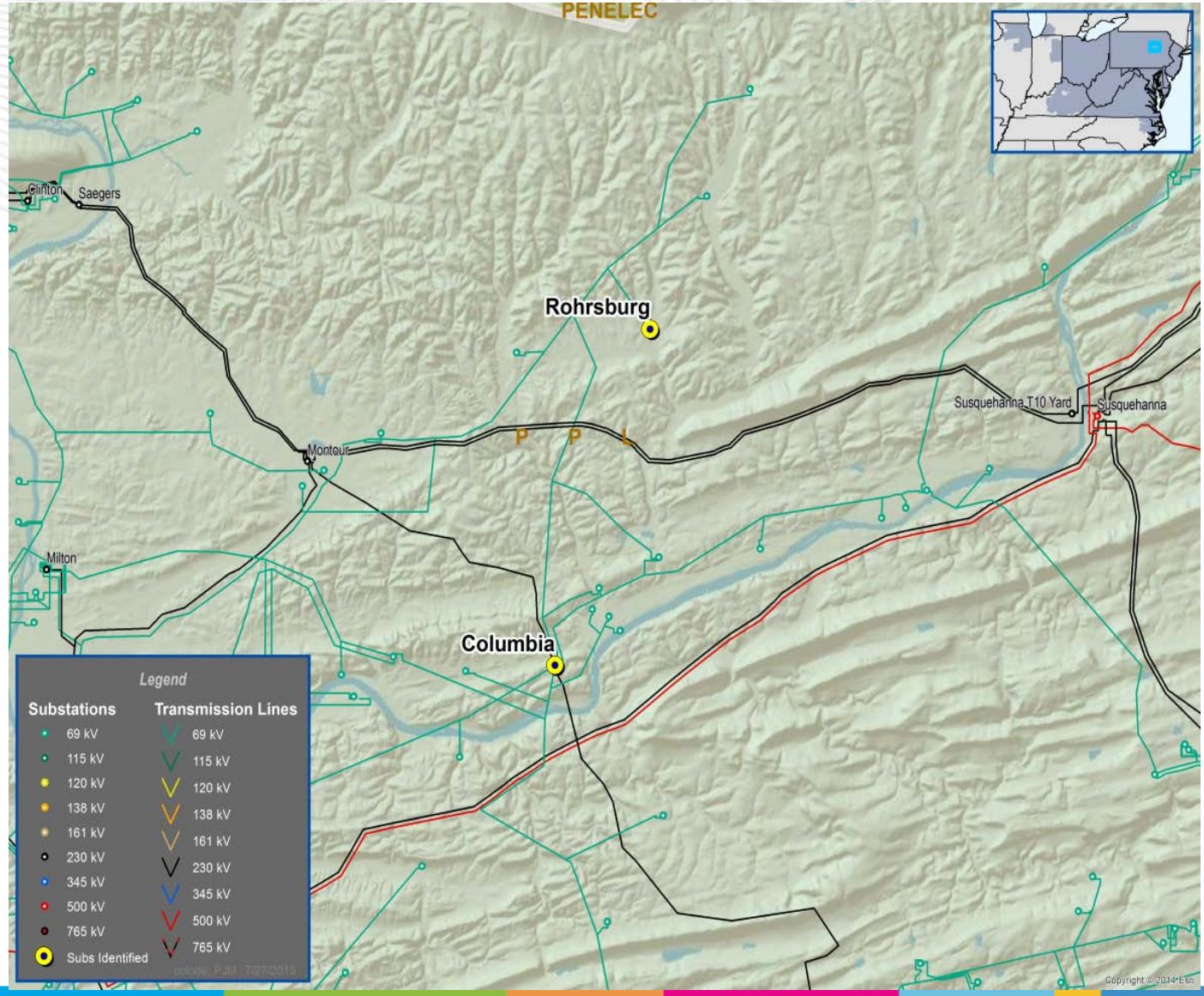


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Rohrsburg 69kV Tap (7.2 mi)
  - Build a new Williams 69 kV Tap (1.8 mi) by tapping the Columbia - Scott 69 kV line
  - Install a new 32.4 MVAR, 69 kV Capacitor at Columbia Substation (S0967)
- Estimated Project Cost:

  $ 12.4 M
- Projected IS Date:

  12/31/2017



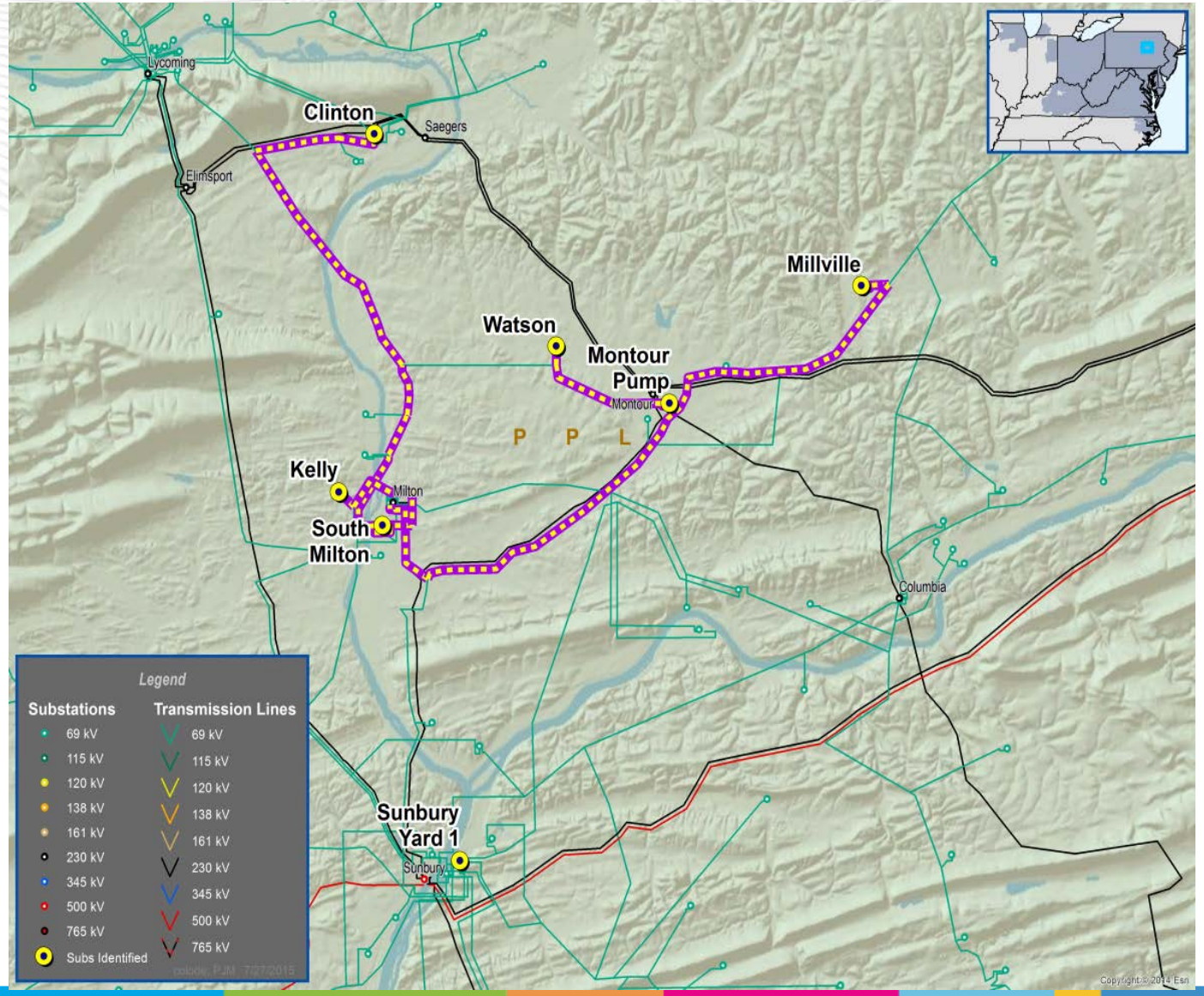
PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Clinton - Milton 69kV Line (19.1)
  - Rebuild the Watson 69kV Tap & Montour Pump 69 kV Tap (5.1 mi)
  - Rebuild the Clinton - Kelly 69 kV line & Millville - Kelly 69 kV Tap (1.9 mi)
  - Build new 69 kV line from Kelly substation/Kelly tap to Lewisburg Substation (5.1 mi)
  - Rebuild the Sunbury - Lewisburg 69kV Line (8.8 mi)

  (S0968)
- Estimated Project Cost:

  $ 77.6 M
- Projected IS Date:

  3/31/2020

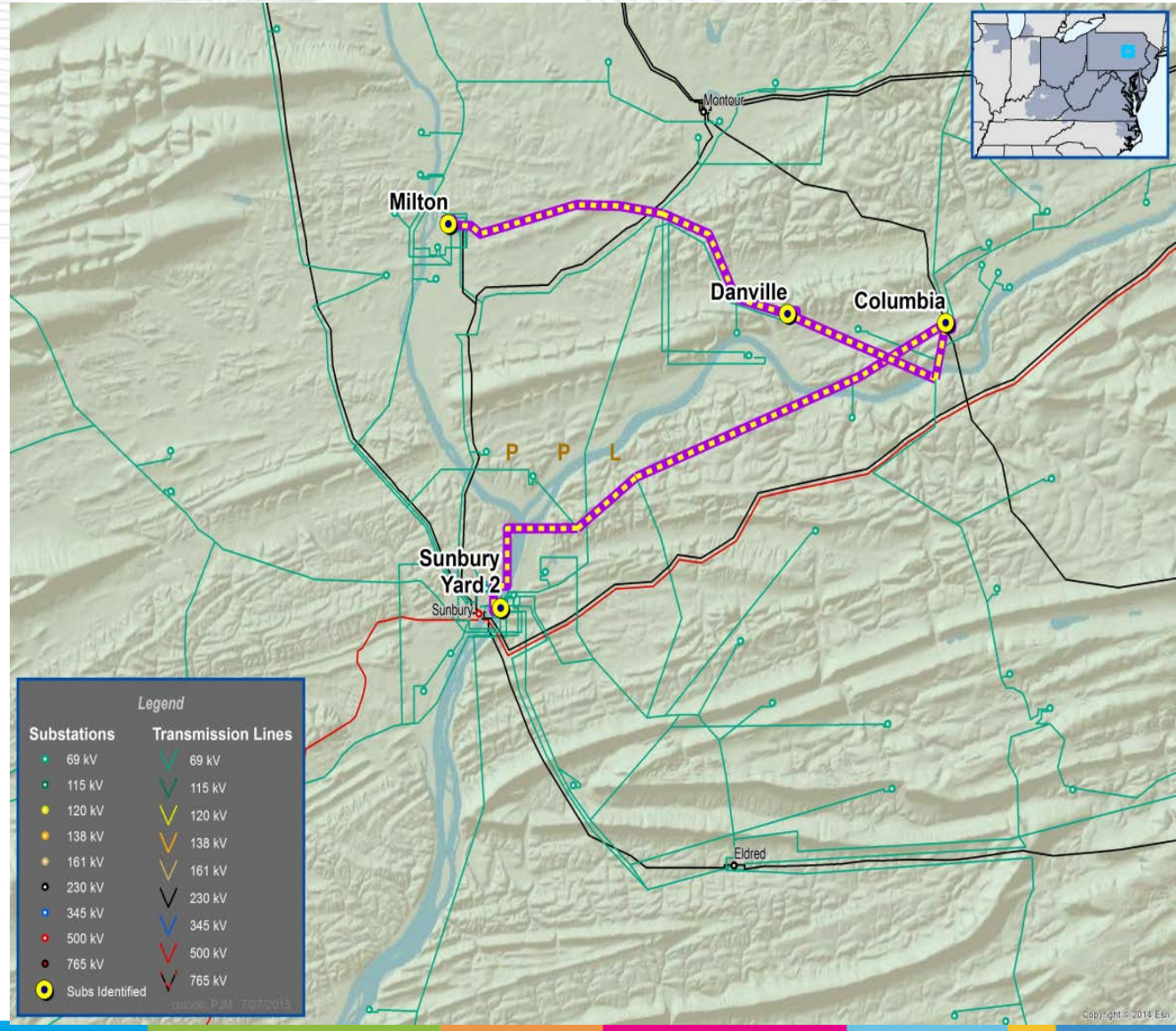


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild the Columbia - Danville 69kV Line (11.6 mi)
  - Rebuild the Danville - Milton 69 kV Line (1.4 mi)
  - Rebuild the Sunbury - Columbia 69 kV Line (24.5 mi) (S0969)
- Estimated Project Cost:

  $ 68.3 M
- Projected IS Date:

  10/31/2021

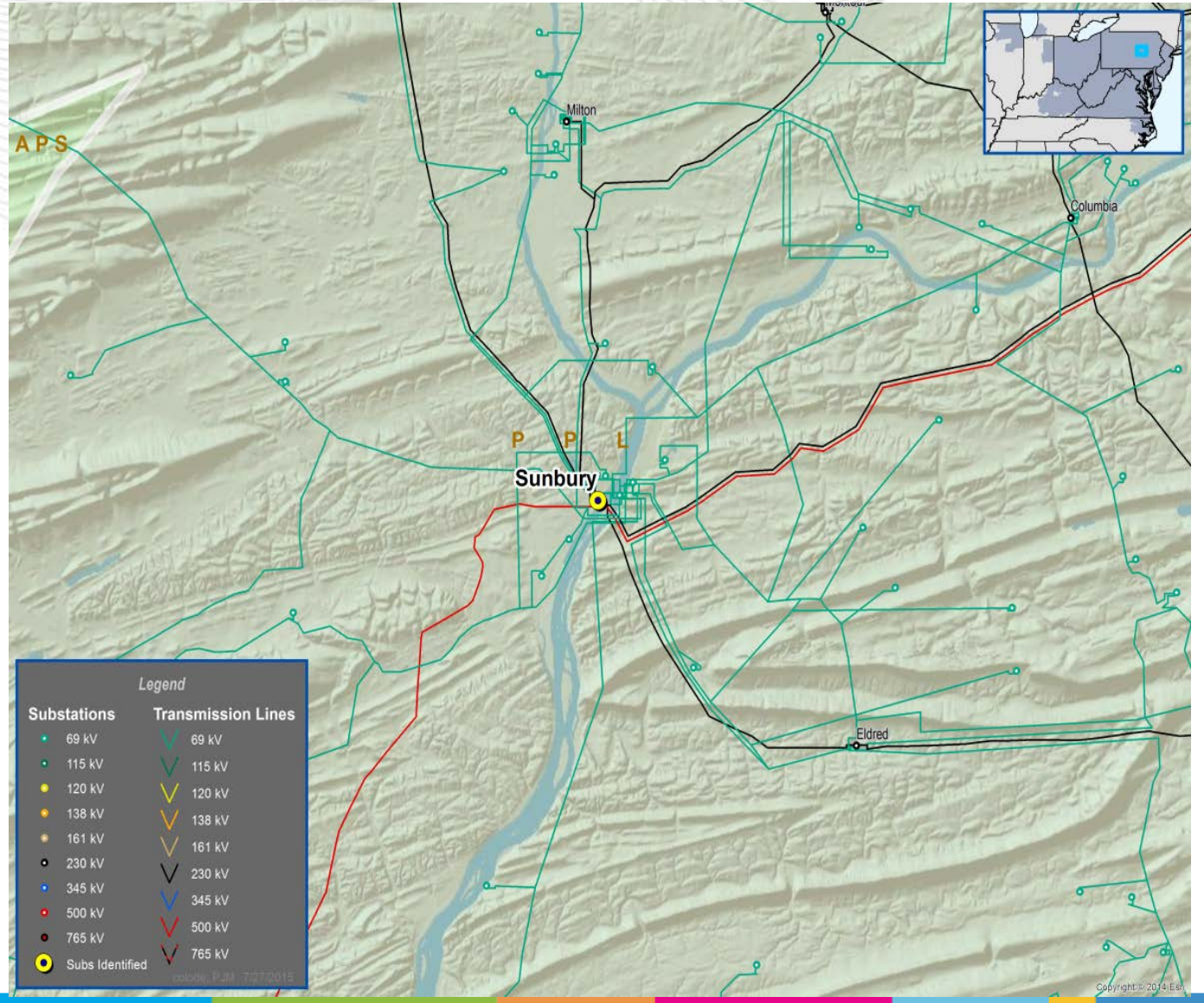


PPL Transmission Zone

- Supplemental Upgrade:
  - Install a 3rd 230/69 kV Transformer at Sunbury 500/230/69 kV substation (S0970)
- Estimated Project Cost:

  $ 10.4 M
- Projected IS Date:

  7/31/2017

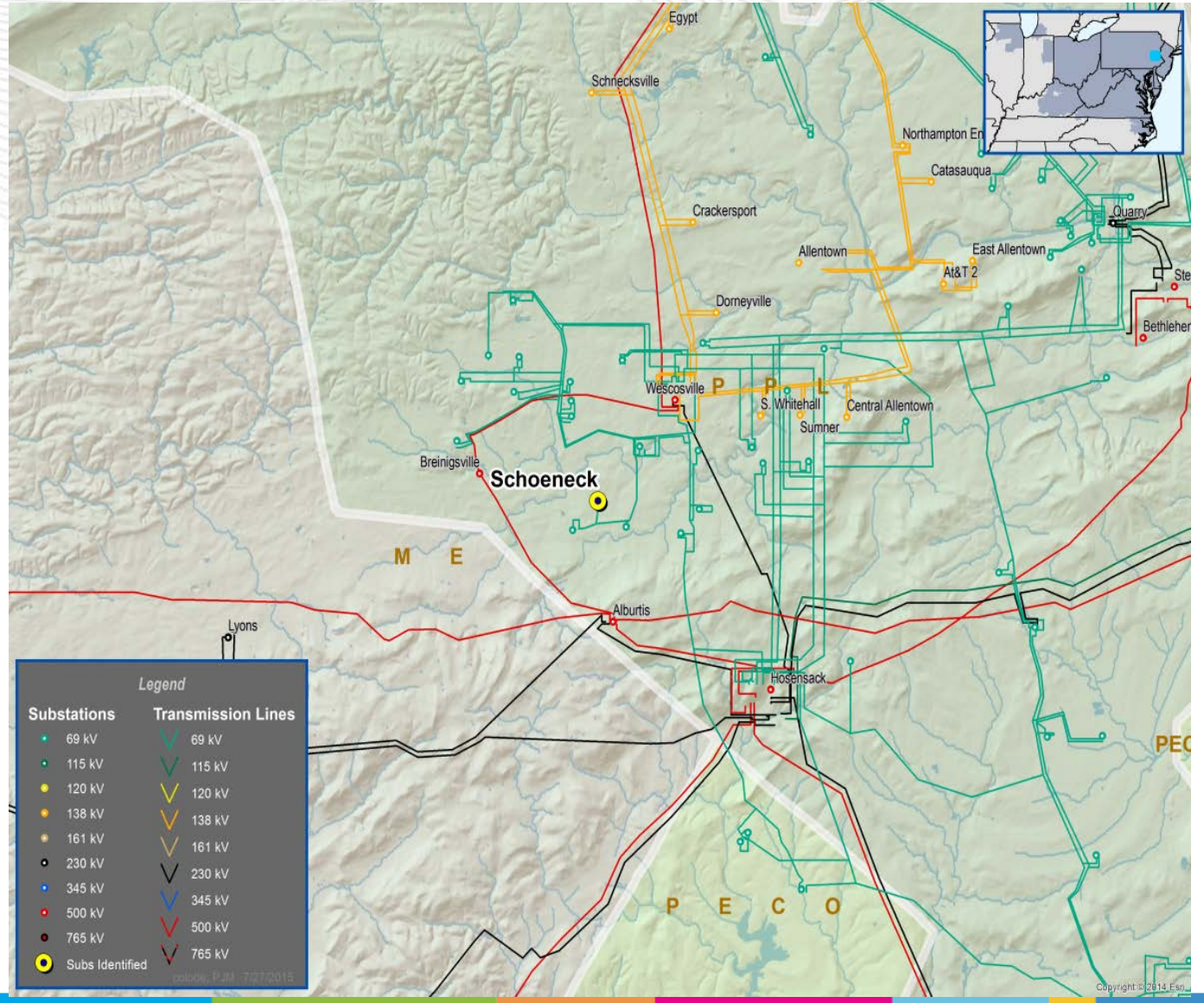


PPL Transmission Zone

- Supplemental Upgrade:
  - Install a 2nd 69kV Tap to Schoeneck 69/12kV Substation (S0971)
- Estimated Project Cost:

  $ 1.3 M
- Projected IS Date:

  11/30/2016

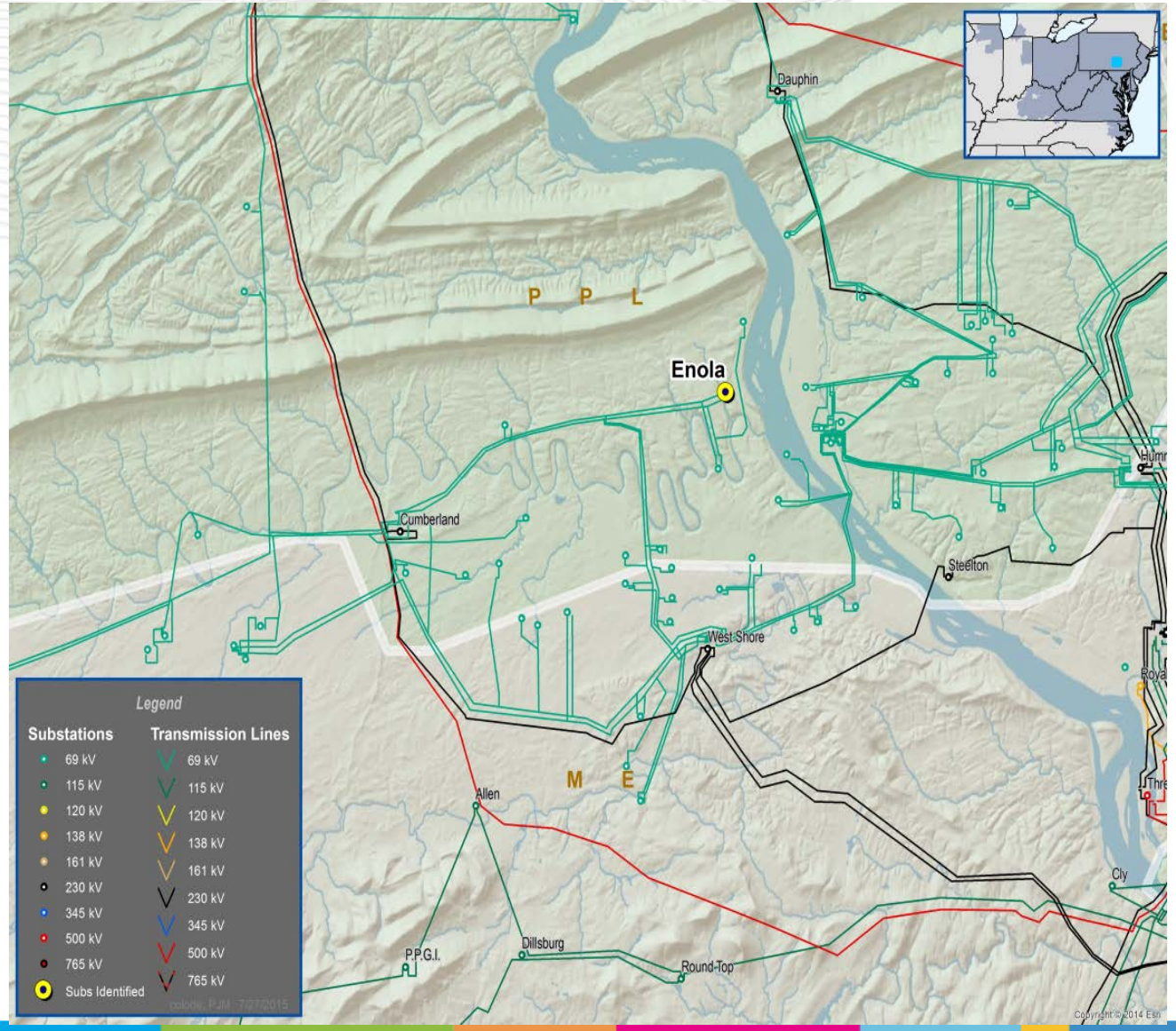


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild Enola 69 kV Taps off the Cumberland - West Shore 1 & 2 69 kV lines (4 mi) (S0972)
- Estimated Project Cost:

  $ 10 M
- Projected IS Date:

  12/31/2017

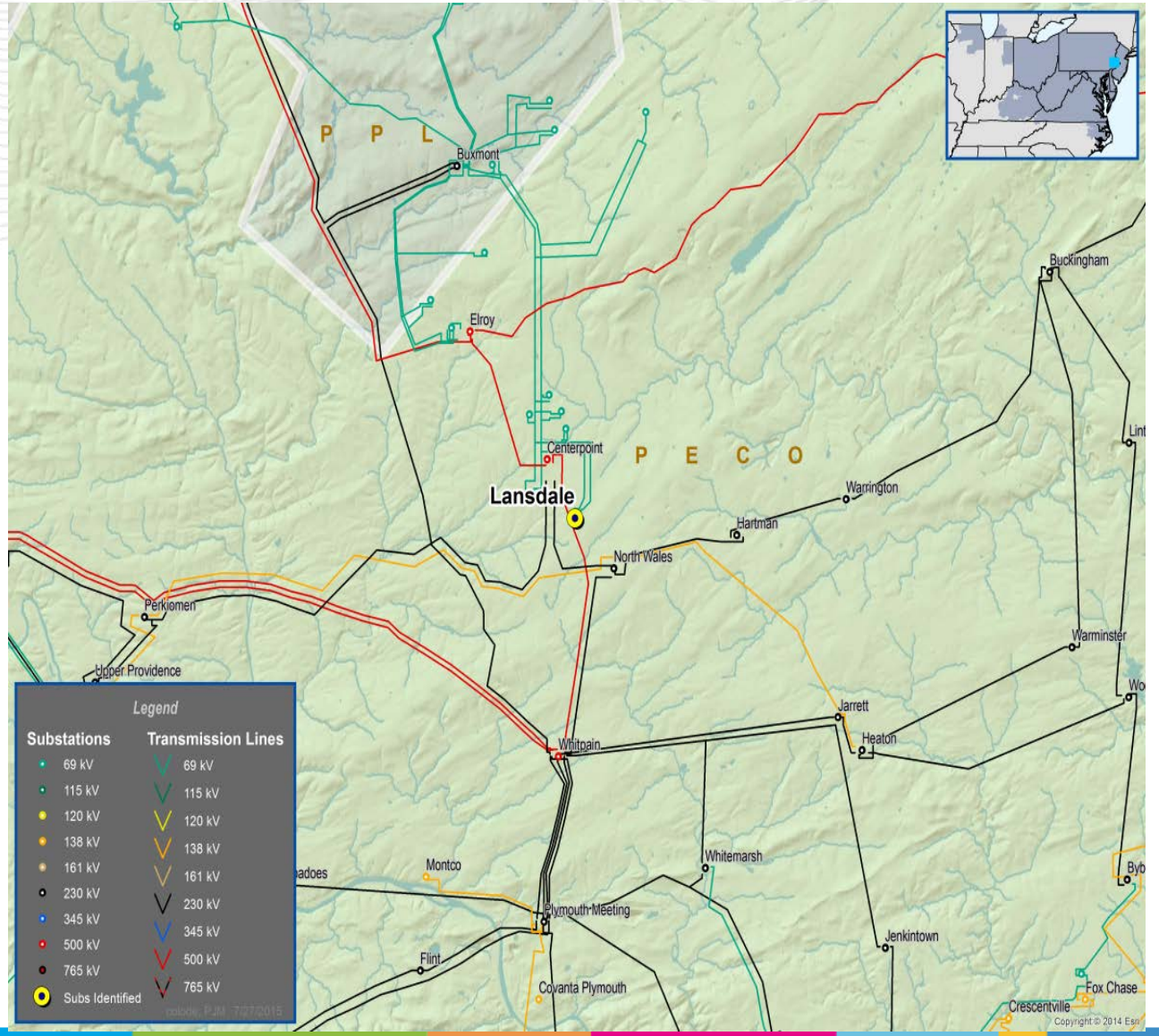


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild Lansdale 69 kV Taps off the Buxmont - Elroy 1 & 2 69 kV lines (2.5 mi) (S0973)
- Estimated Project Cost:

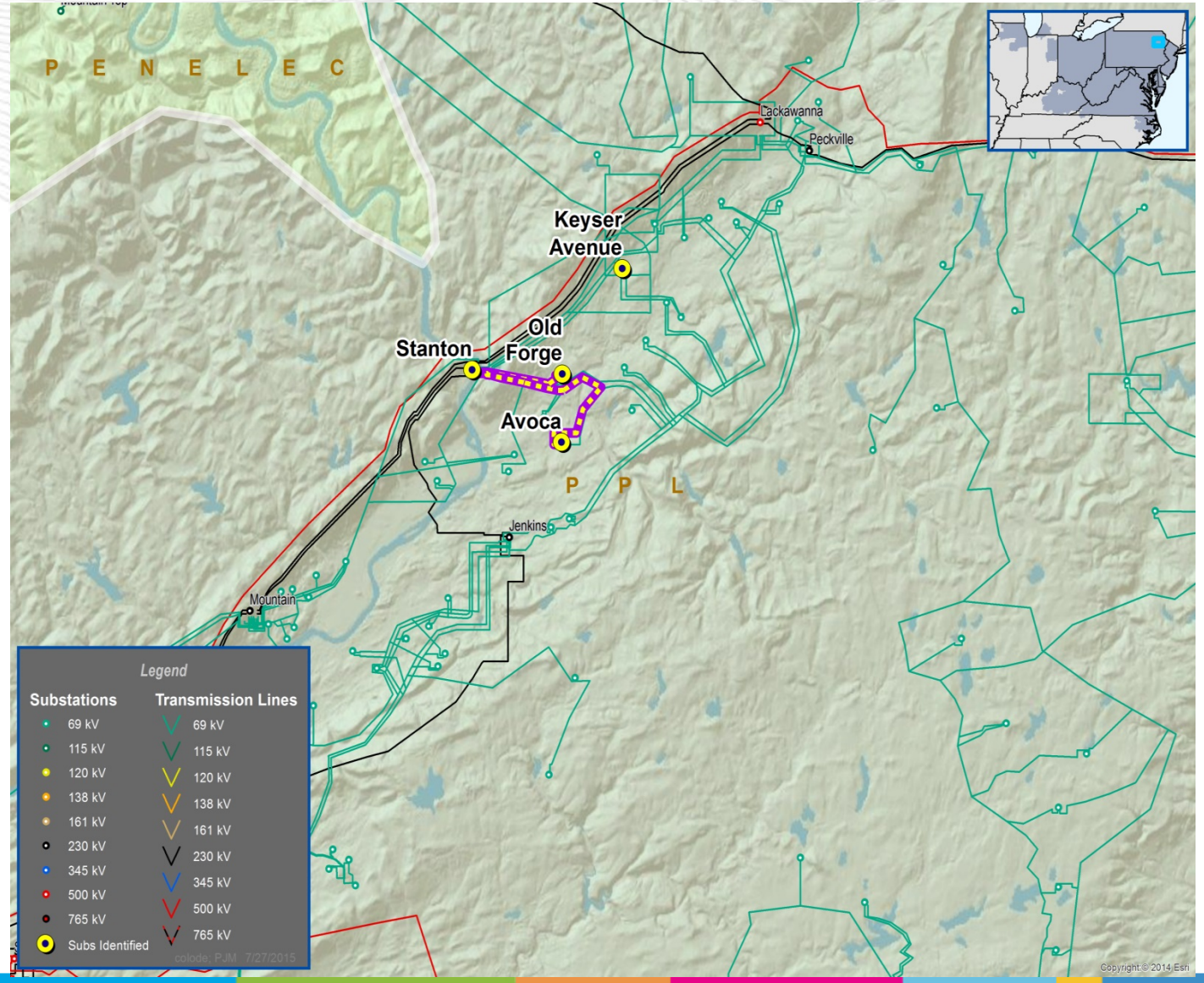
  $ 7 M
- Projected IS Date:

  12/31/2017



PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild Stanton - Old Forge 69kV line (3.57 mi)
  - Rebuild Stanton - Avoca 69kV line (6.41 mi), rebuild part of Avoca Tap to double circuit (0.4 mi), re-configure Avoca Substation
  - Build Summit 230/69kV Substation
  - Extend Keyser Avenue tap line (2 mi) (S0974)
- Estimated Project Cost: $ 92.9 M
- Projected IS Date: 5/31/2018

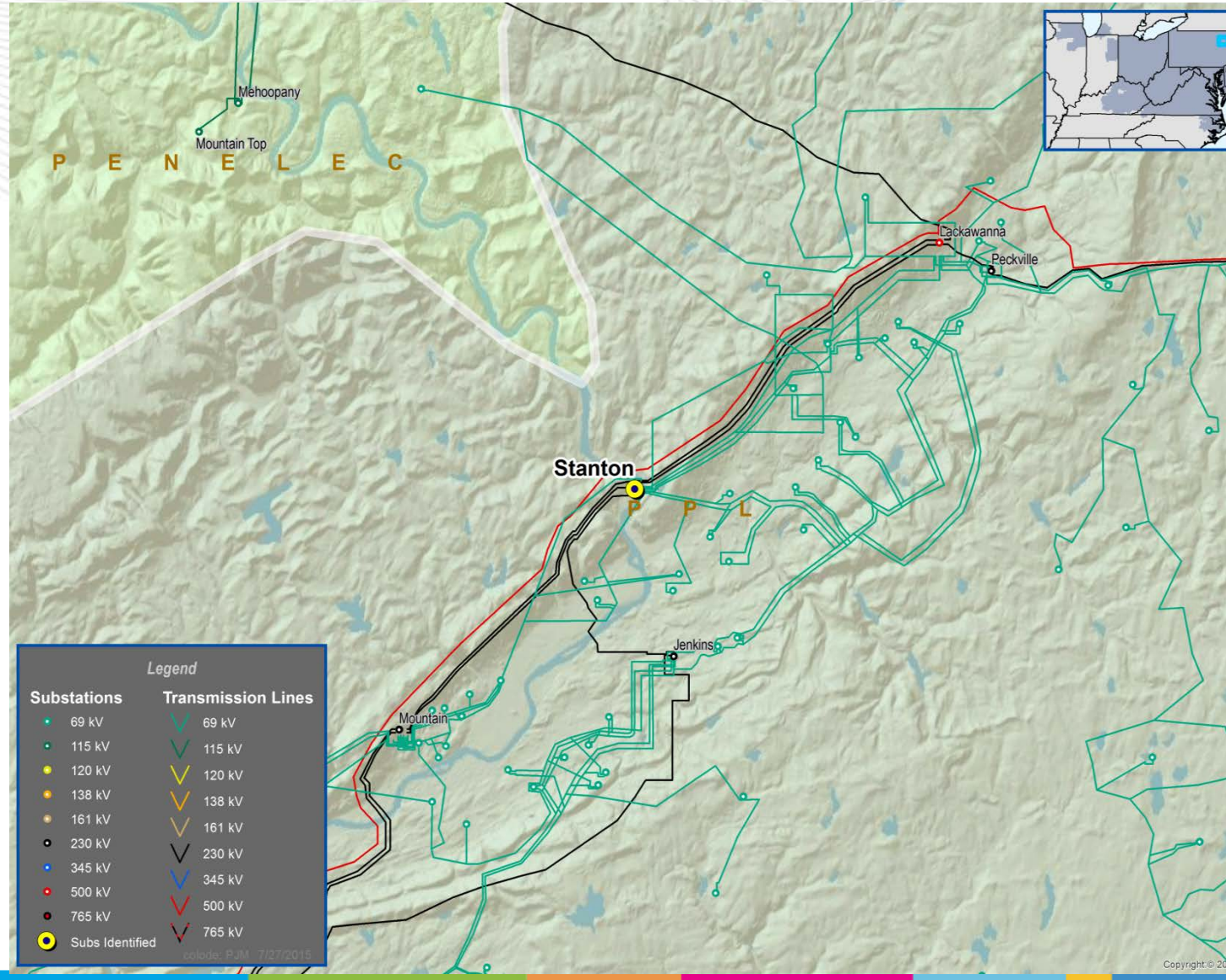


PPL Transmission Zone

- Supplemental Upgrade:
  - Rebuild Stanton 230/69 kV substation (S0975)
- Estimated Project Cost:

  $ 52.2M
- Projected IS Date:

  11/30/2017

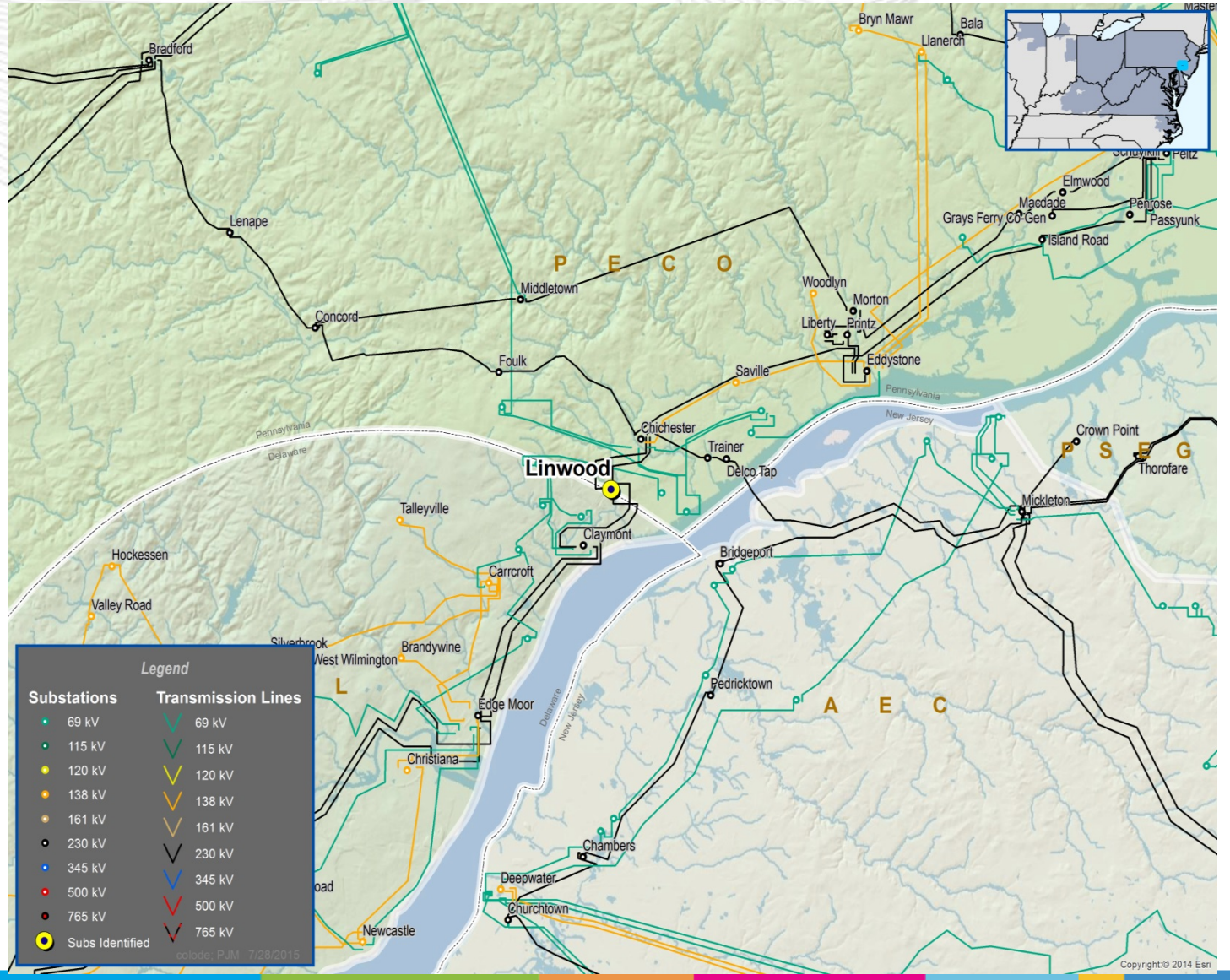


PECO Transmission Zone

- Supplemental Upgrade:
- Improve reliability due to load growth.
- Proposed Solution:
  - Build a new 230/13 kV distribution substation (Post substation) near Linwood. (S1002)
- Estimated Project Cost:

  $ 51.9 M
- Projected IS Date:

  10/1/2016

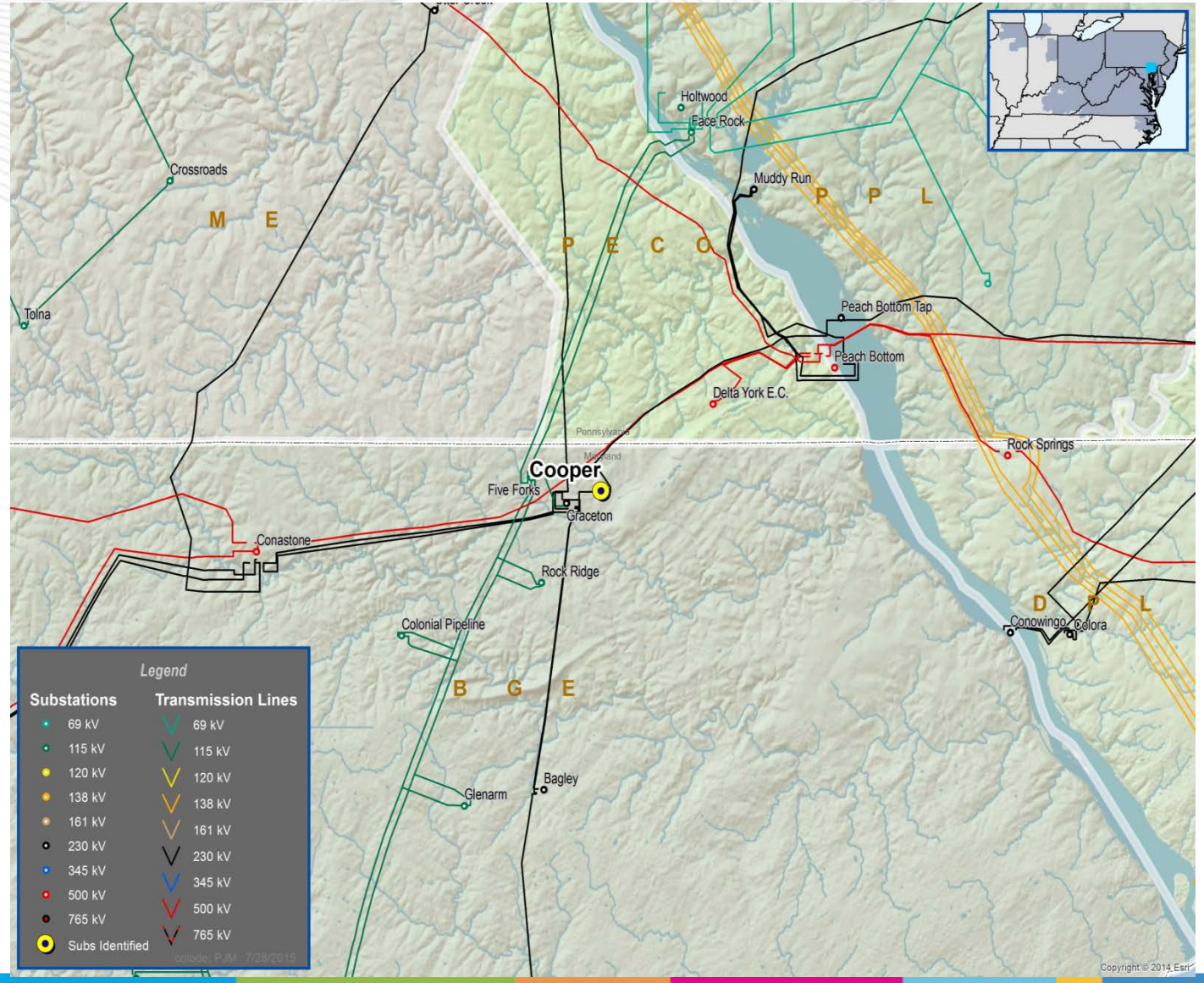


PECO Transmission Zone

- Supplemental Upgrade:
- Improve reliability due to load growth.
- Proposed Solution:
  - Expand Cooper substation with additional 230/34 kV transformer . (S1003)
- Estimated Project Cost:

  $ 10.4 M
- Projected IS Date:

  12/1/2016

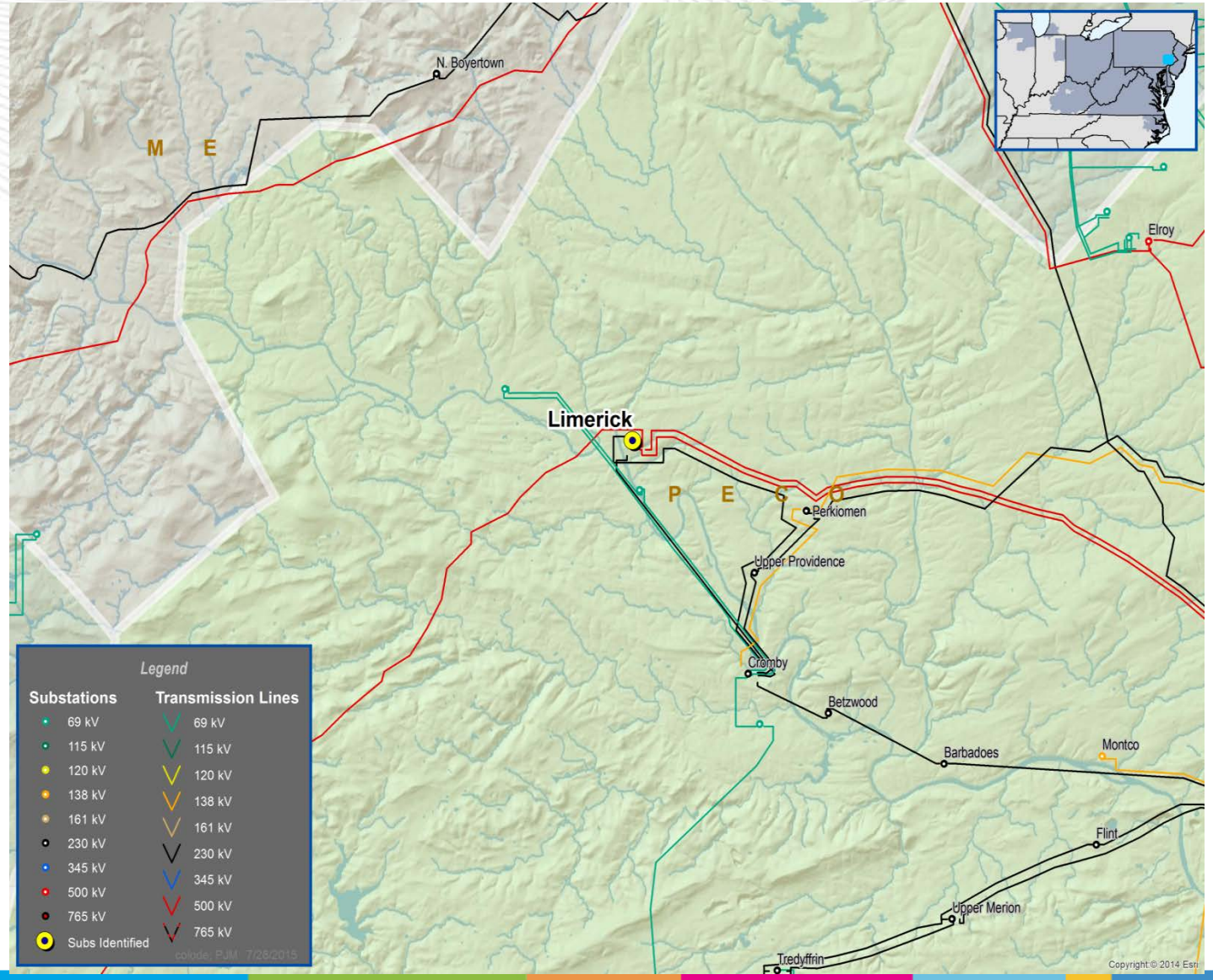


PECO Transmission Zone

- Supplemental Upgrade:
- Improve reliability due to load growth.
- Proposed Solution:
  - Build a new 230/34 kV distribution substation (Lock substation) near Limerick. (S1004)
- Estimated Project Cost:

  $ 24.6 M
- Projected IS Date:

  6/1/2018

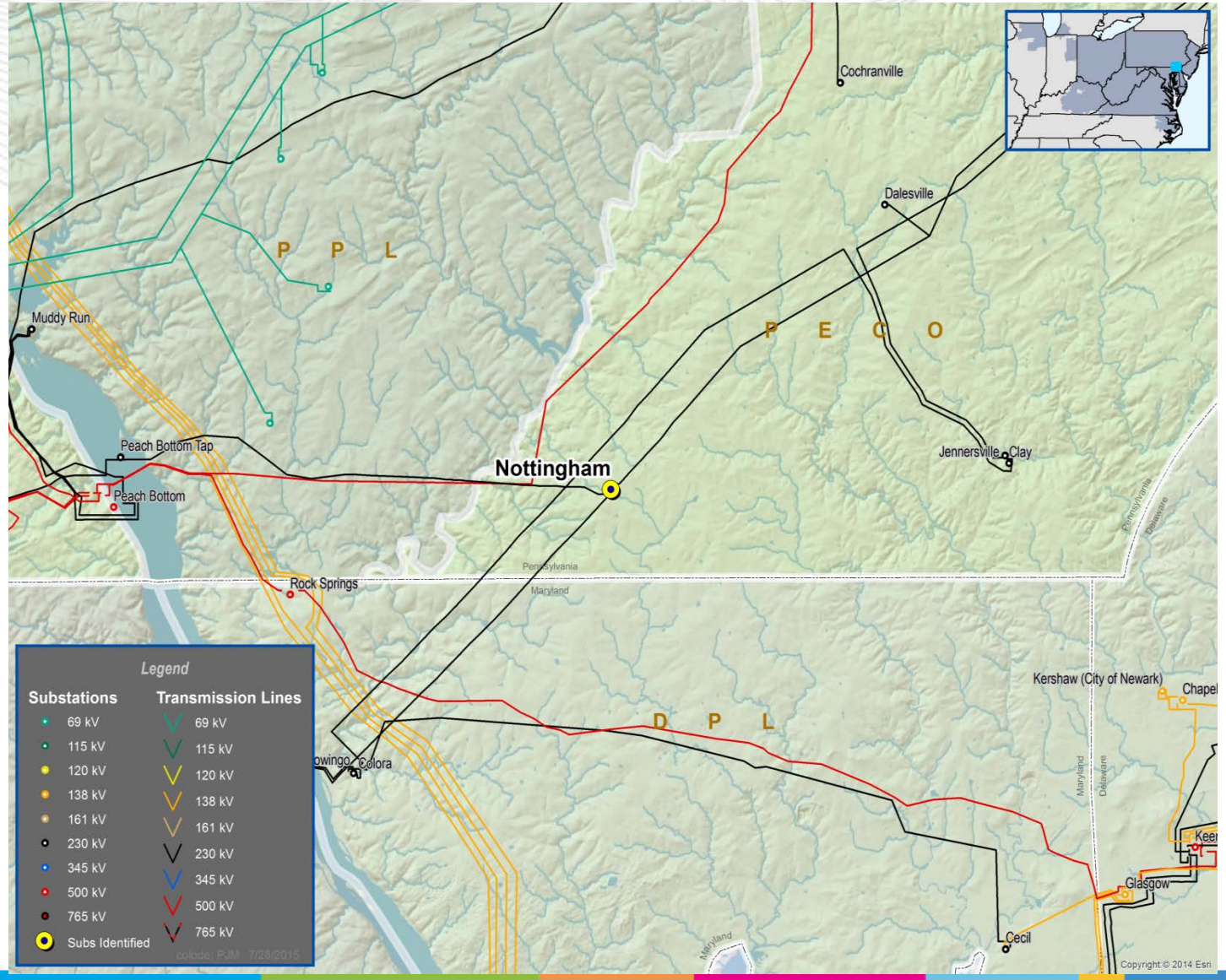


PECO Transmission Zone

- Supplemental Upgrade:
- Improve reliability due to load growth.
- Proposed Solution:
  - Expand Nottingham substation with 230/34 kV additional transformer. (S1005)
- Estimated Project Cost:

  $ 23 M
- Projected IS Date:

  6/1/2018

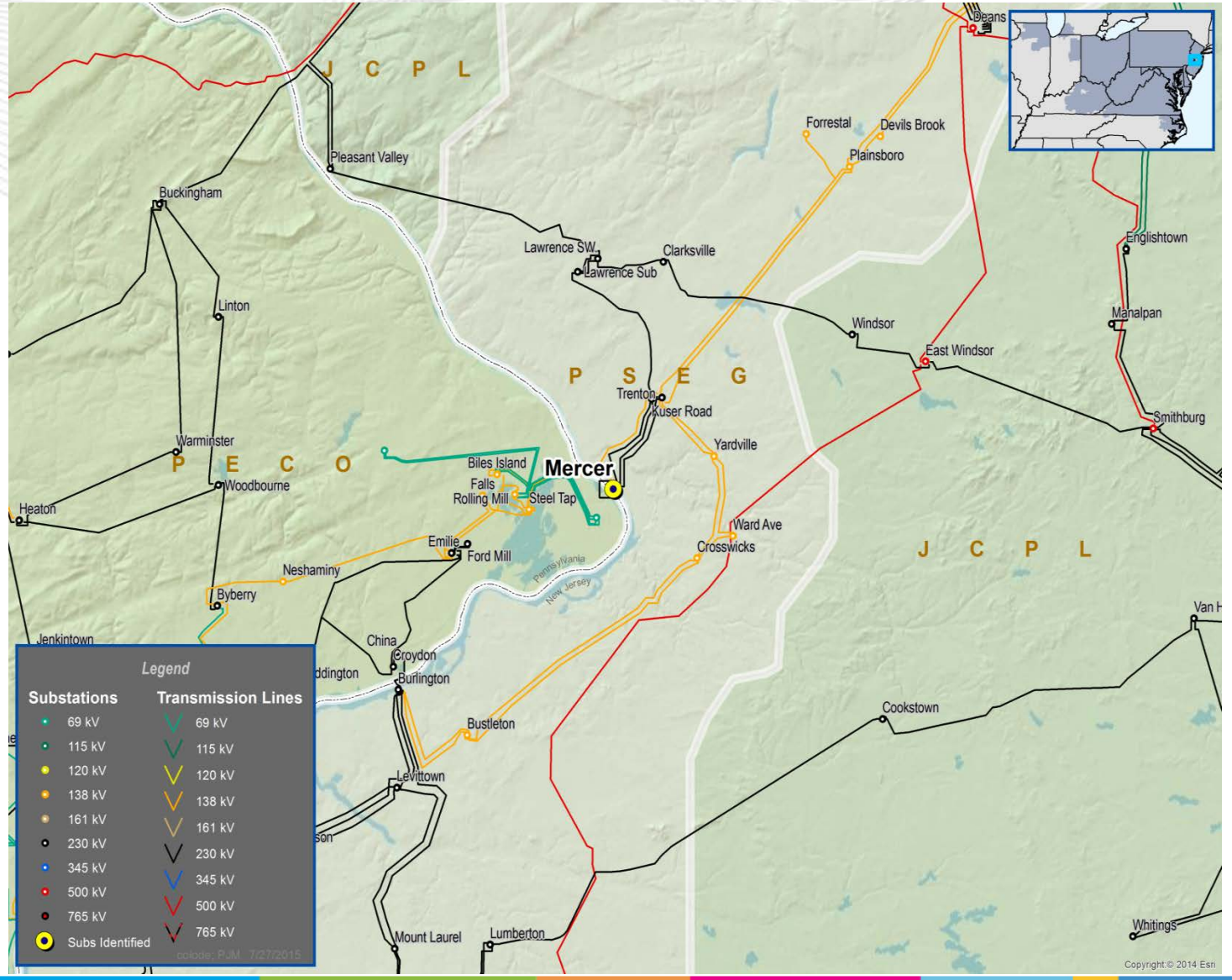


PSEG Transmission Zone

- Supplemental Upgrade:
- To improve reliability by providing additional capacity due to load increase in the Lamberton Rd vicinity.
- Proposed Solution:
  - Install one 230-13kV transformer at the new Lamberton Rd substation and connect the high side to the Mercer 230 kV bus. (S0917)
- Estimated Project Cost:

  $ 8 M
- Projected IS Date:

  12/31/2016



PSEG Transmission Zone

- Supplemental Upgrade:
- Improve reliability by establishing 69 kV network.
- Proposed Solution:

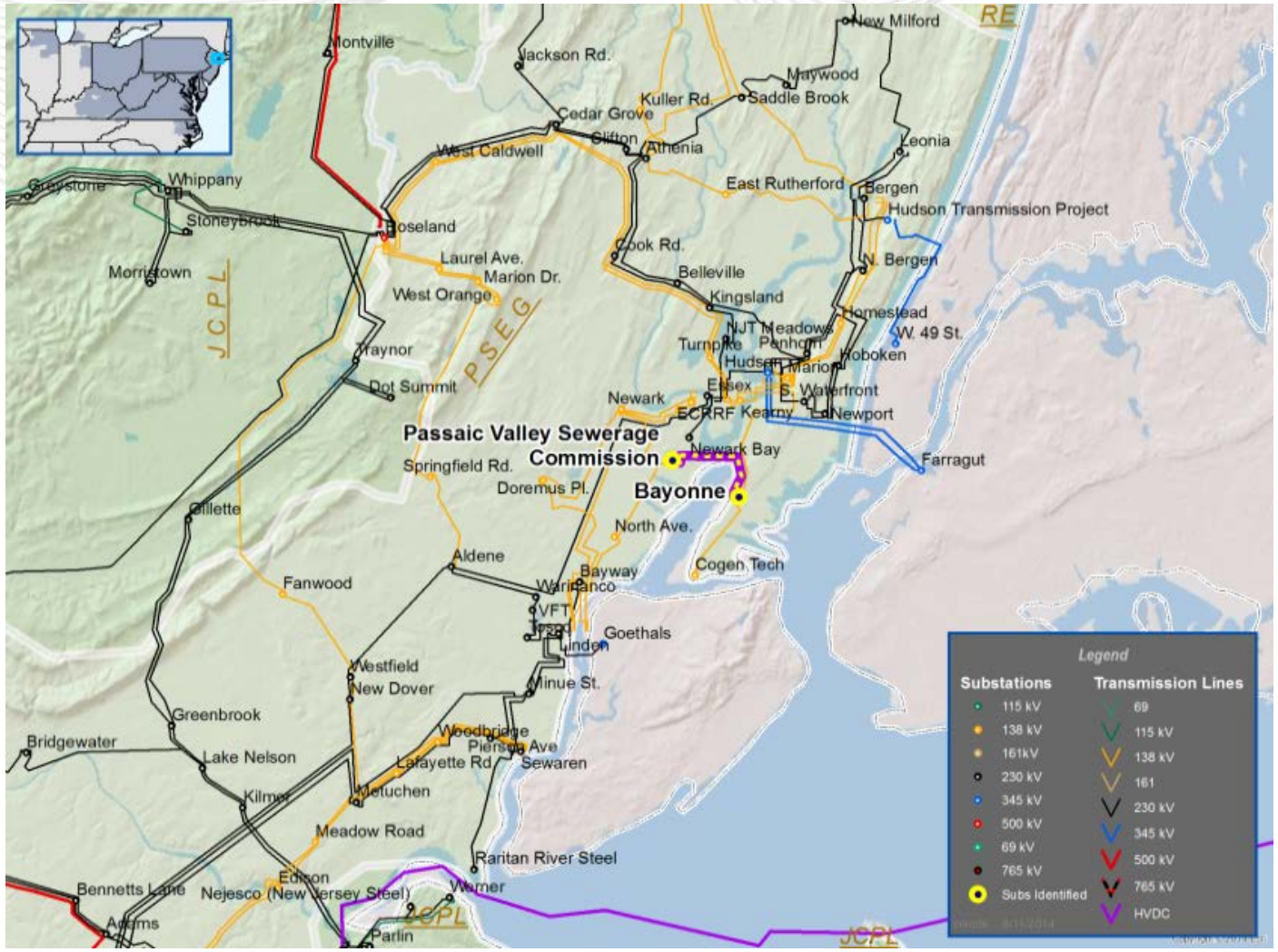
  -Modify PVSC 138 kV station and PVSC – Bayonne 138 kV circuit to 69 kV operation.

  -Install two new circuit breakers at PVSC.

  -Build a new 69 kV circuit from PVSC – Federal Square and PVSC – Foundary Street. (S0928)
- Estimated Project Cost:

  $ 49.6 M
- Projected IS Date:

  6/1/2017

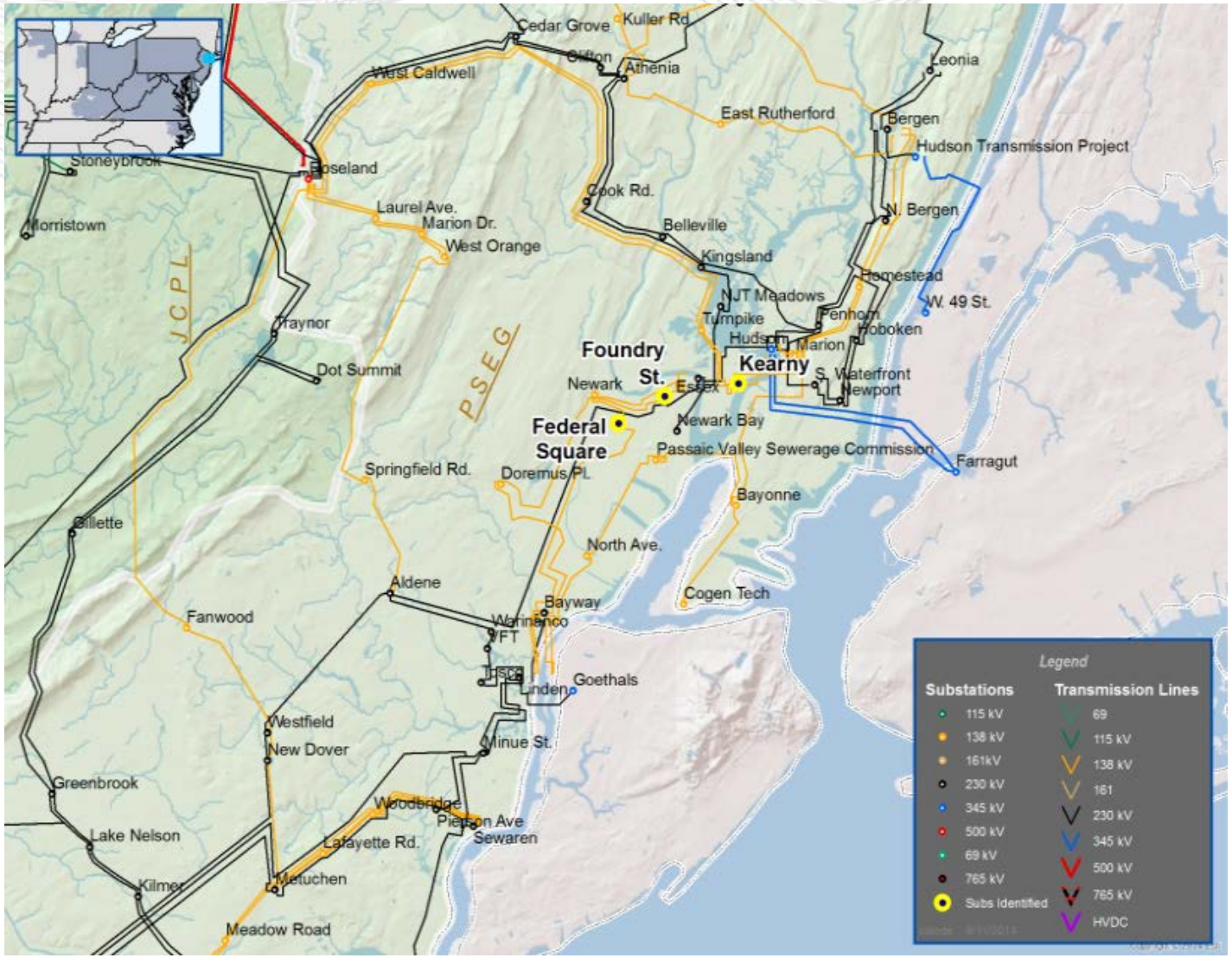


PSEG Transmission Zone

- Supplemental Upgrade:
- Improve reliability by establishing 69 kV network.
- Proposed Solution:
  - Build 69 kV ring bus at Federal Square and install one 138/69 kV transformer.
  - Build 69 kV circuit from Federal Sq to Foundry St. (S0929)
- Estimated Project Cost:

  $ 66.2 M
- Projected IS Date:

  6/1/2017



PSEG Transmission Zone

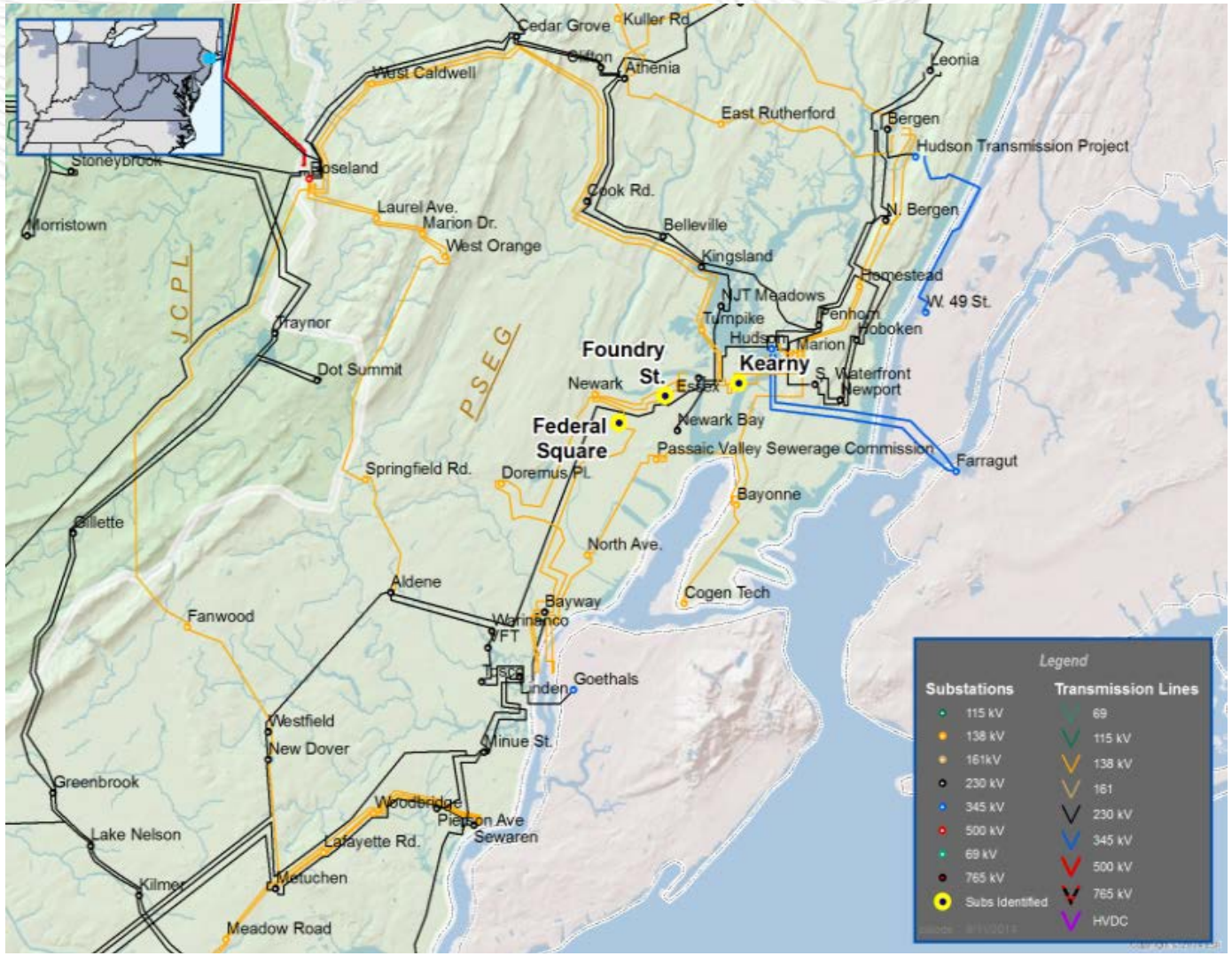
- Supplemental Upgrade:
- Improve reliability by establishing 69 kV network.
- Proposed Solution:

  -Build 69 kV ring bus at Foundry Street and install one 138/69 kV transformer.

  - Build 69 kV circuit from Foundry Street to Kearny. (S0930)
- Estimated Project Cost:

  $ 66.9 M
- Projected IS Date:

  6/1/2017



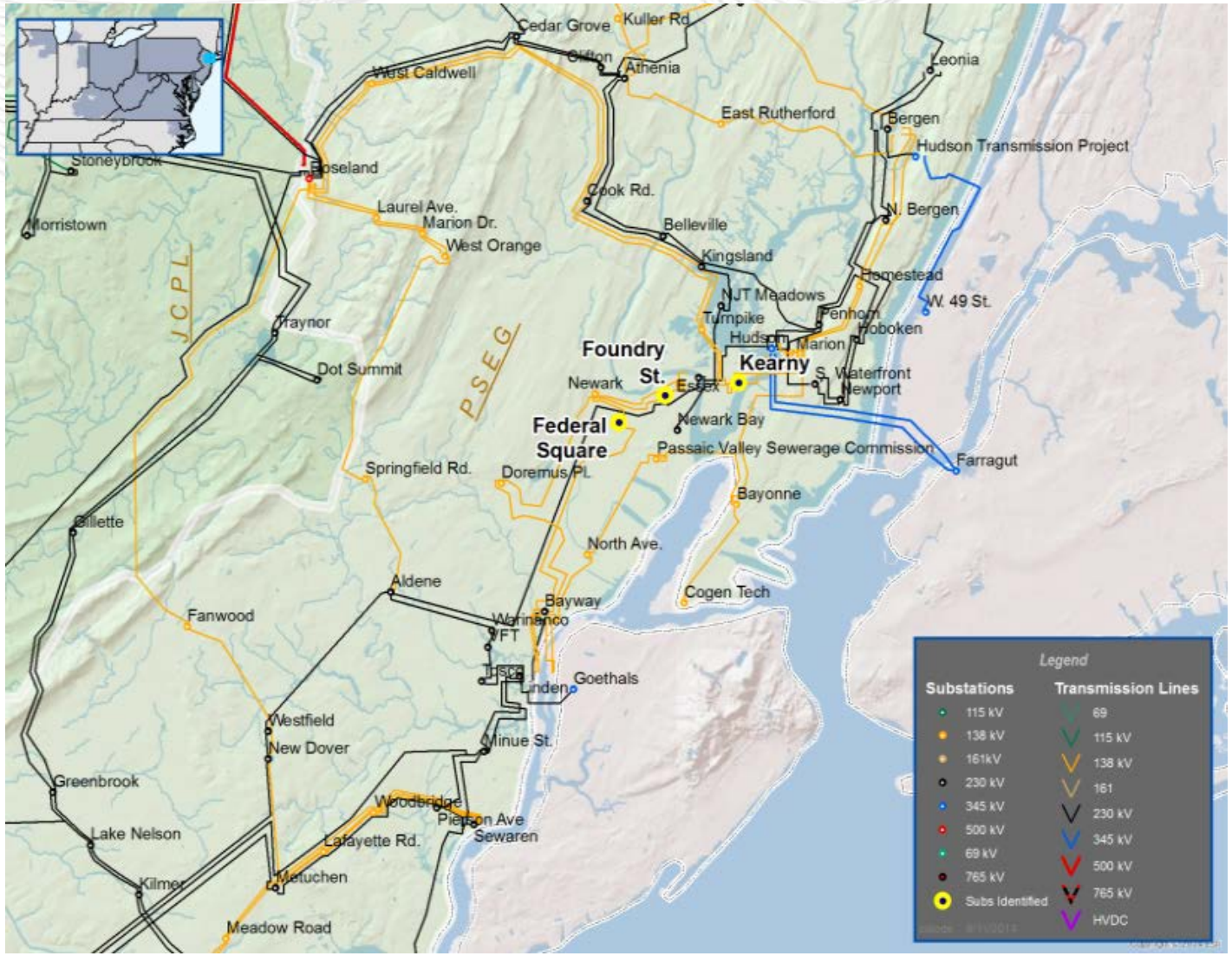
PSEG Transmission Zone

- Supplemental Upgrade:
- Improve reliability by establishing 69 kV network.
- Proposed Solution:

  - Build 69 kV circuit from Clay Street to Federal Square. (S0931)
- Estimated Project Cost:

  $ 36.9 M
- Projected IS Date:

  6/1/2017

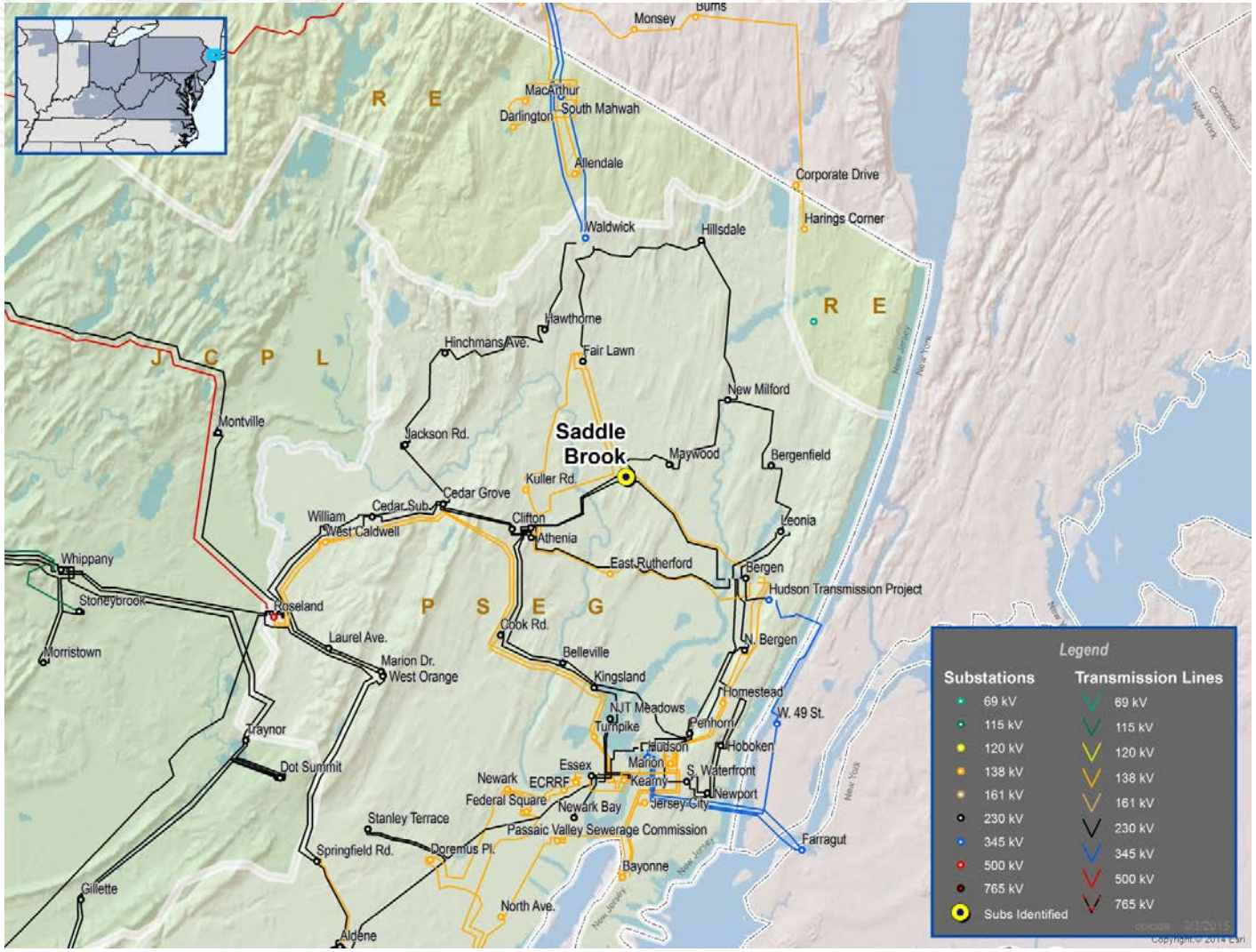


PSEG Transmission Zone

- Supplemental Upgrade:
- To improve reliability due to aging infrastructure.
- Proposed Solution:
  - Replace Saddle Brook T-2 and T-3 138/13 kV transformers (S0933).
- Estimated Project Cost:

  $ 10 M
- Projected IS Date:

  12/31/2018

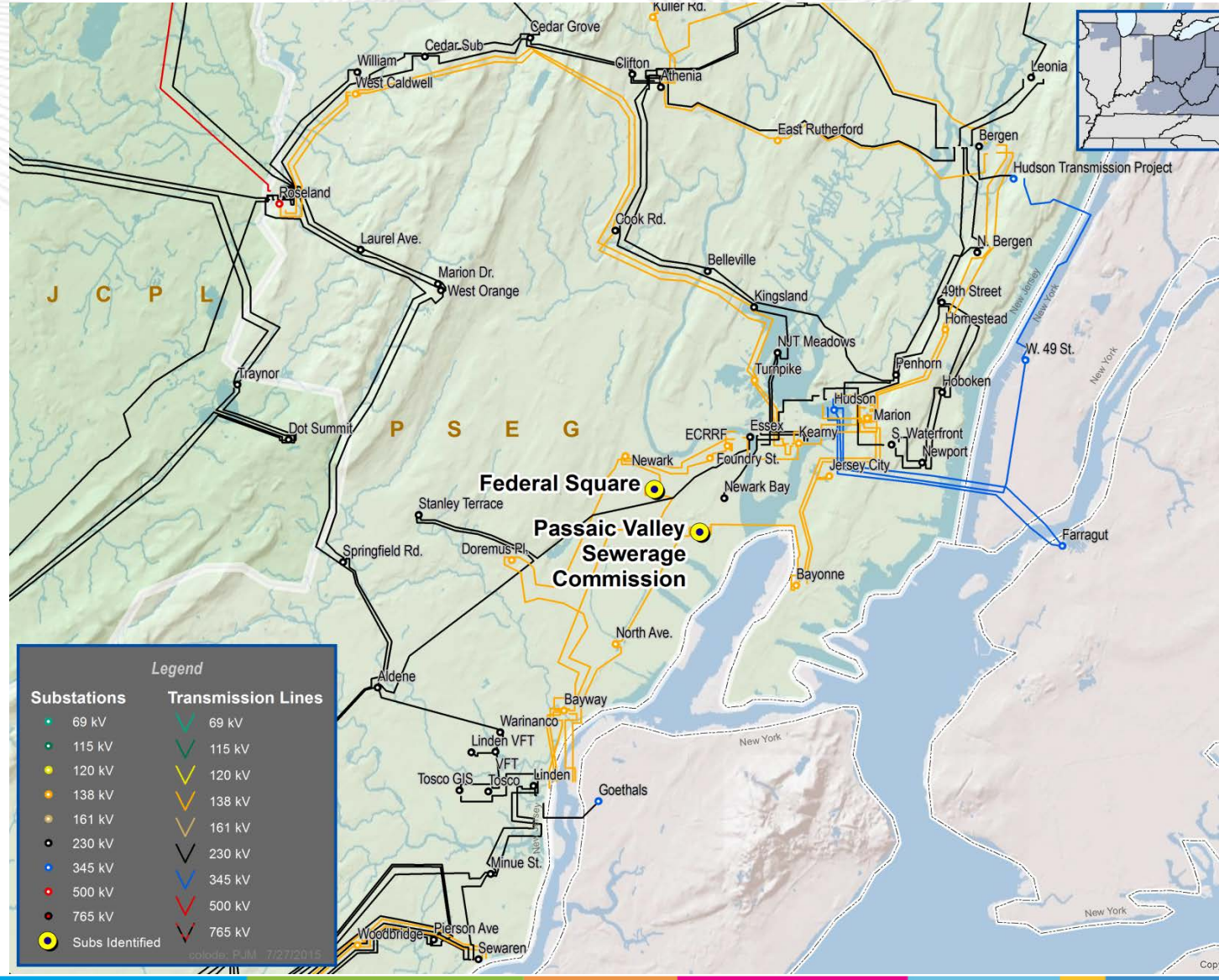


PSEG Transmission Zone

- Supplemental Upgrade:
- Improve reliability due to aging equipments. Increase operational flexibility and eliminate extensive 26 kV circuit exposures.
- Proposed Solution:
  - Build a new Port Street 69 kV substation
  - Install two Port Street 69/13 kV transformers
  - Loop the Federal Square - P.V.S.C. 69 kV circuit in to the Port Street 69 kV station
  - Build a new Port Street - Ironbound 69 kV circuit (S0934)
- Estimated Project Cost:

  $ 67.5 M
- Projected IS Date:

  6/1/2019

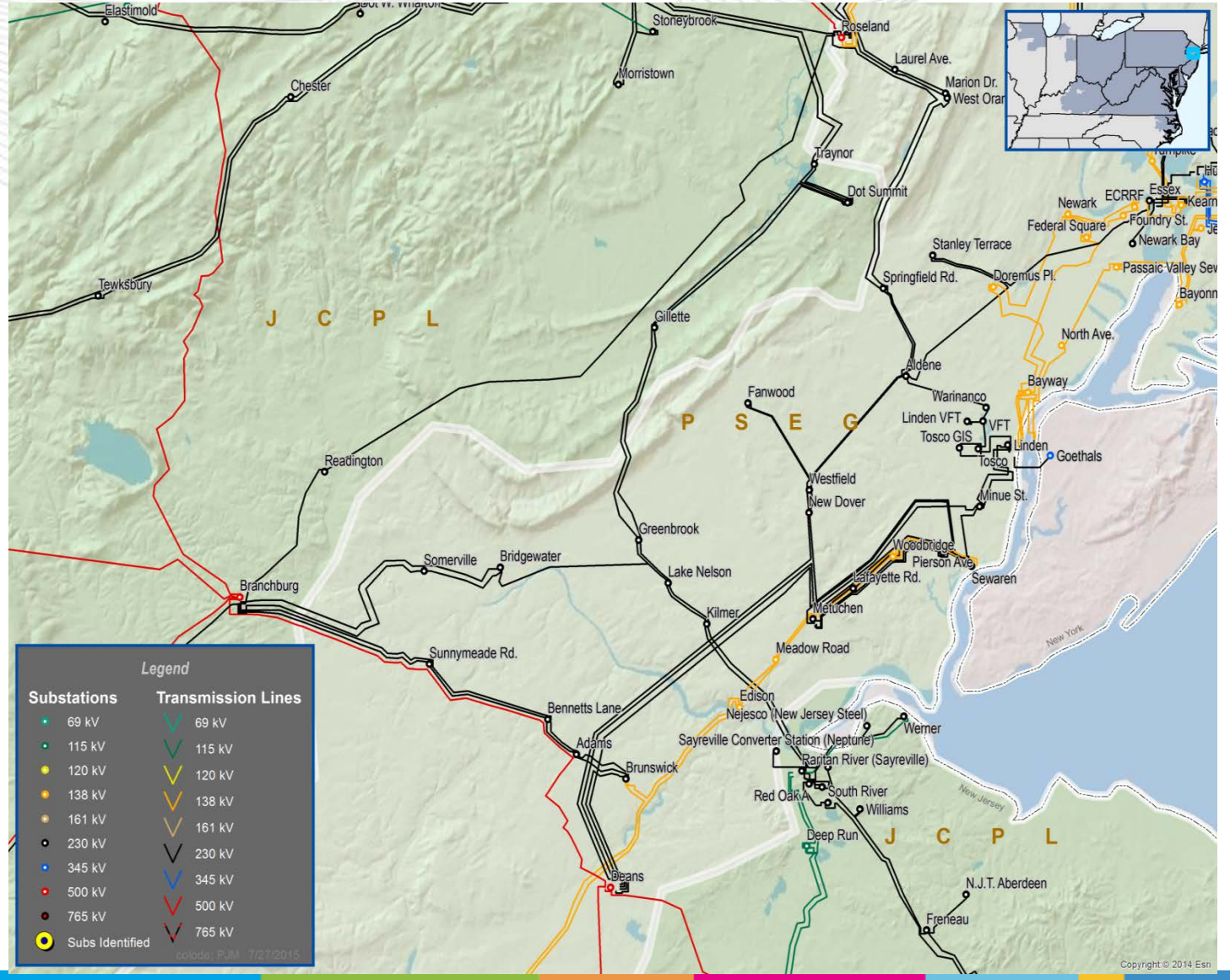


PSEG Transmission Zone

- Supplemental Upgrade:
- Improve reliability by establishing 69 kV network.
- Proposed Solution:
  - Build a new 69kV substation at McCarter by installing 2 breaker and a half bay and one 230/69kV transformer.
  - Build a new 69 kV circuit from McCarter to Branch Brook. (S0938)
- Estimated Project Cost:

  $ 38.5 M
- Projected IS Date:

  6/1/2018

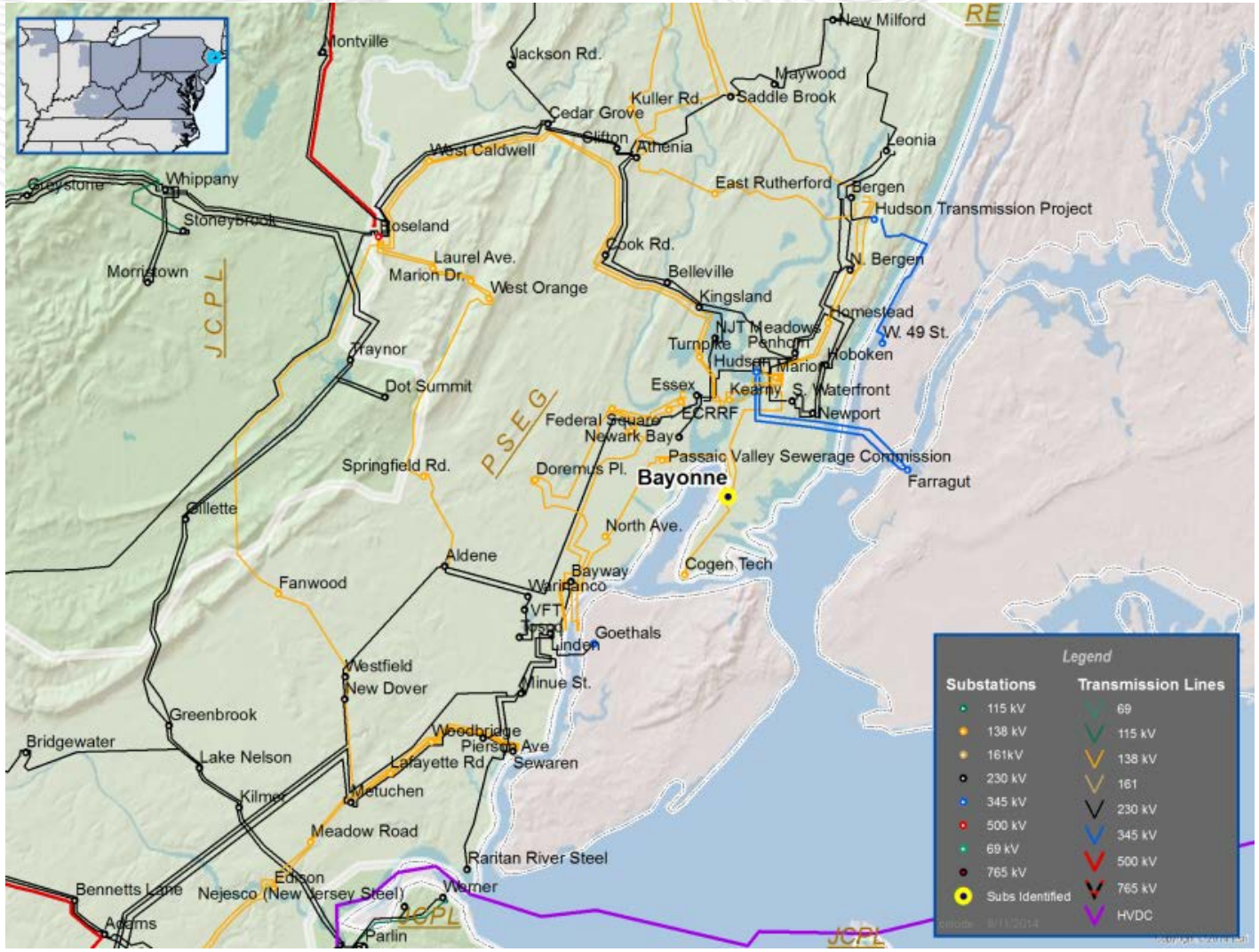


PSEG Transmission Zone

- Supplemental Upgrade:
- Improves reliability due to age and condition of the Greenville station. To relieve heavily loaded Bayonne 26 kV grid.
- Proposed Solution:
  - Convert the 138 kV Bayonne station to 69 kV operation and install one 345/69 kV transformer.
  - Replace the Greenville station with 69 kV six breaker ring bus configuration and install 3 - 69/4 kV transformers.
  - Build two 69 kV circuits from Greenville to Bayonne. (S0939).
- Estimated Project Cost:

  $ 95 M
- Projected IS Date:

  6/1/2018

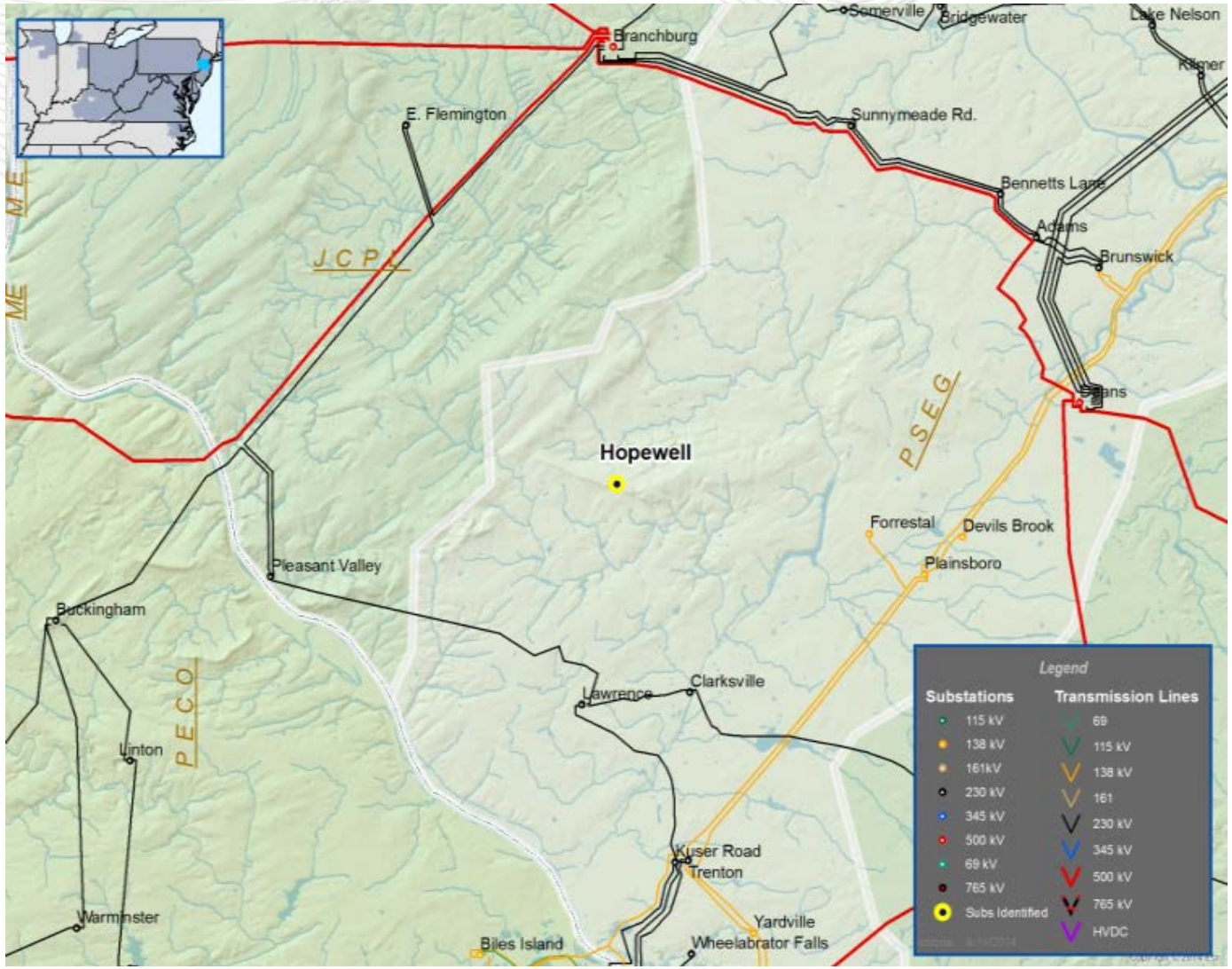


PSEG Transmission Zone

- Supplemental Upgrade:
- To improve reliability by adding a source to the Hopewell area. To remove/break the three–end lines along the Lawrence – Mount Rose 69 kV line.
- Proposed Solution:
  - Build Hopewell 230/69 kV station by tapping the Lawrence – Pleasant Valley 230 kV circuit and installing two 230/69 kV transformers, and building 69 kV breaker and half configuration.
  - Reconfigure the Transco 69 kV to five breaker ring bus.
  - Build 69 kV circuit from Transco to Mt. Rose and install 36 MVAR capacitor at Mt. Rose.
  - Reconfigure the P614 and Z650 69 kV circuits connected to Transco to eliminate three ended lines. (S0940).
- Estimated Project Cost:

  $ 110 M
- Projected IS Date:

  6/1/2018



Questions?

Email: RTEP@pjm.com

Revision History

- Revision History
  - V1: Original version distributed to the PJM Sub-regional TEAC - 7/28/2015
  - V2: Slide #11, added location on map and slide #19, changed cost and projected IS date – 7/31/2015