

Submission of Supplemental Projects for Inclusion in the Local Plan

Dayton Local Plan - 2026

Need Number: Dayton-2021-003

Previously Presented: Need Meeting, 4/16/2021, Solution Meeting, 2/13/2026

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 07/16/2026

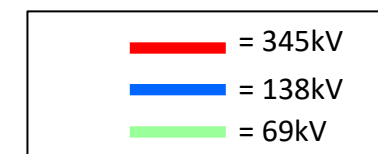
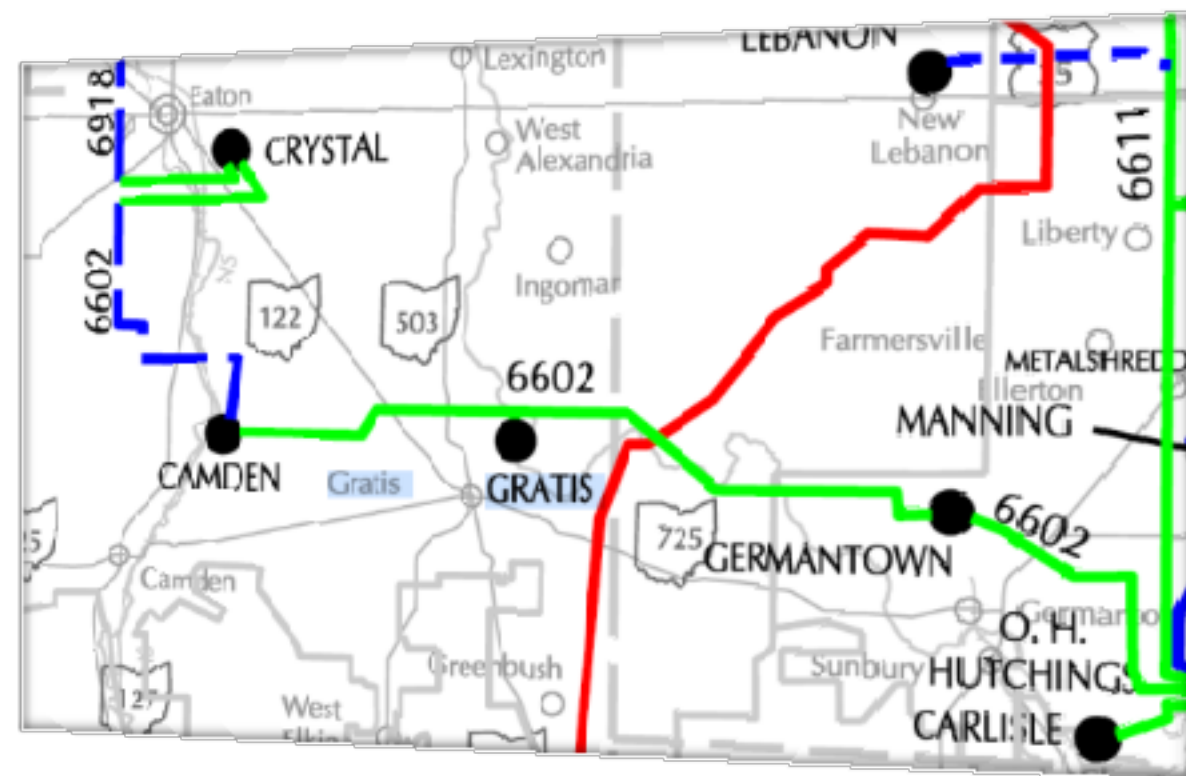
Project Driver: Operational performance

Specific Assumption Reference:

Dayton Local Plan Assumptions (Slide 5)

Problem Statement:

- The existing 30.88-mile 69kV transmission line (6602) from Hutchings-Germantown-Gratis-Camden-Crystal was primarily constructed using wood pole, cross-arm and brace design in 1964.
- This line provides transmission and distribution level service to 5 different substations serving approximately 11,500 customers in Montgomery and Preble Counties totaling approximately 33MW of load.
 - A fault occurring anywhere on this line will result in at least a temporary outage and possible permanent outage to all 11,500 customers.
- This line is one of the worst performing 69kV transmission lines in the Dayton zone.
 - The line has experienced 25 outages (3 permanent and 22 momentary) since 2016.
 - Equipment related issues are the primary cause of permanent outages on the line and weather has been the primary cause of momentary issues.
- There are two existing automatic sectionalizing switches at Germantown to help reduce outage time, but the switches have not operated reliably during outage conditions due to alignment issues and the switches are not centrally located on the circuit.



Need Number: Dayton-2021-003

Previously Presented: Need Meeting, 4/16/2021, Solution Meeting, 2/13/2026

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 07/16/2026

Project Driver: Operational Performance

Specific Assumption Reference: Dayton Local Plan Assumptions

Proposed Solution:

Germantown 69 kV Substation Expansion (s3846.1):

- AES will install one new 69kV circuit breaker to establish a bus-tie breaker. **Estimated Cost:** \$1.3M

Gratis 69 kV Substation Expansion (s3846.2):

- AES will install two new 69kV circuit breakers to establish two line-breakers. **Estimated Cost:** \$2.6M

Camden 69 kV Substation Expansion (s3846.3):

- AES will install one new 69kV circuit breakers to establish a bus-tie breaker. **Estimated Cost:** \$1.3M

Crystal and Hutching Substations Remote-End (s3846.4):

- AES will refurbish the protection and controls at Crystal and Hutching substations. **Estimated Cost:** \$1M

Total Estimated Transmission Cost : \$6.2M

Project In-Service Date : 12/1/2028

Alternatives Considered:

➤ Rebuild the existing~30-mile long 6602 69 kV Line

- AES will rebuild 30 miles of 69 kV. While the condition of the line is a concern, it will not be addressed at this time. This scope was not included due to the incremental benefit of the substation expansions.

➤ Full Ring Bus at Germantown, Gratis, and Camden

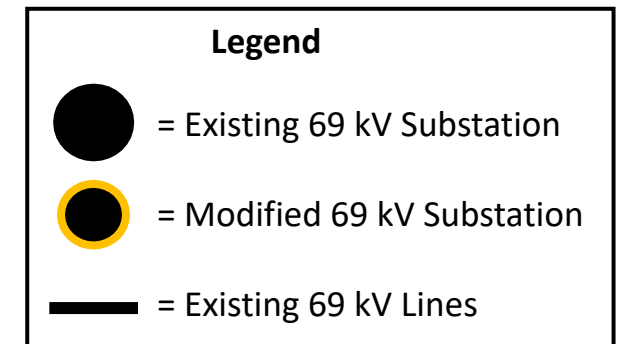
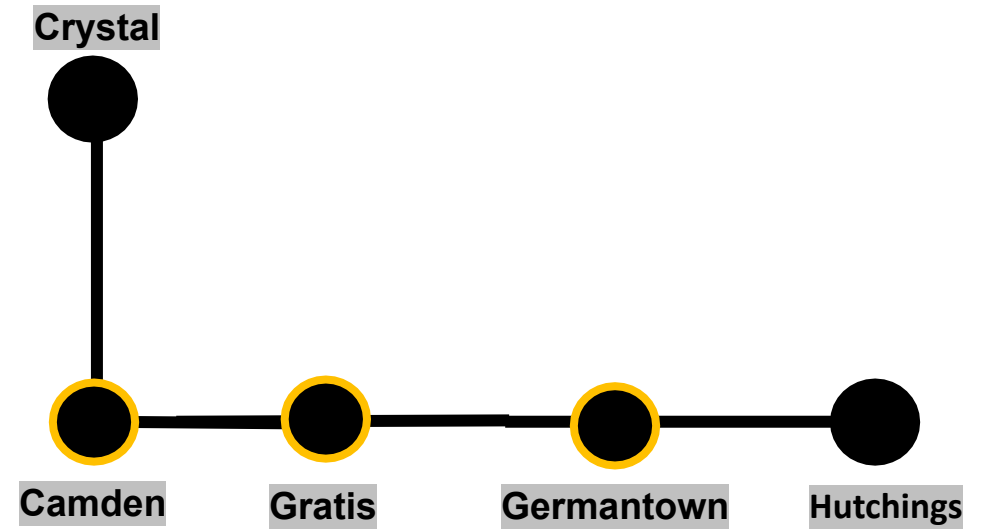
- Convert Germantown, Gratis, and Camden to full ring buses. This scope was not included due to the incremental benefit of the substation expansions.

Project Status: Conceptual

Supplemental Project ID: s3846.1 – .4

Model: 2022 RTEP Series, 2027 Summer Case

Dayton Transmission Zone M-3 Process



Need Number: Dayton-2025-011

Previously Presented: Need Meeting, 11/14/2025, Solution Meeting, 2/13/2026

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 07/16/2026

Project Driver: Equipment Material Condition, Performance and Risk.

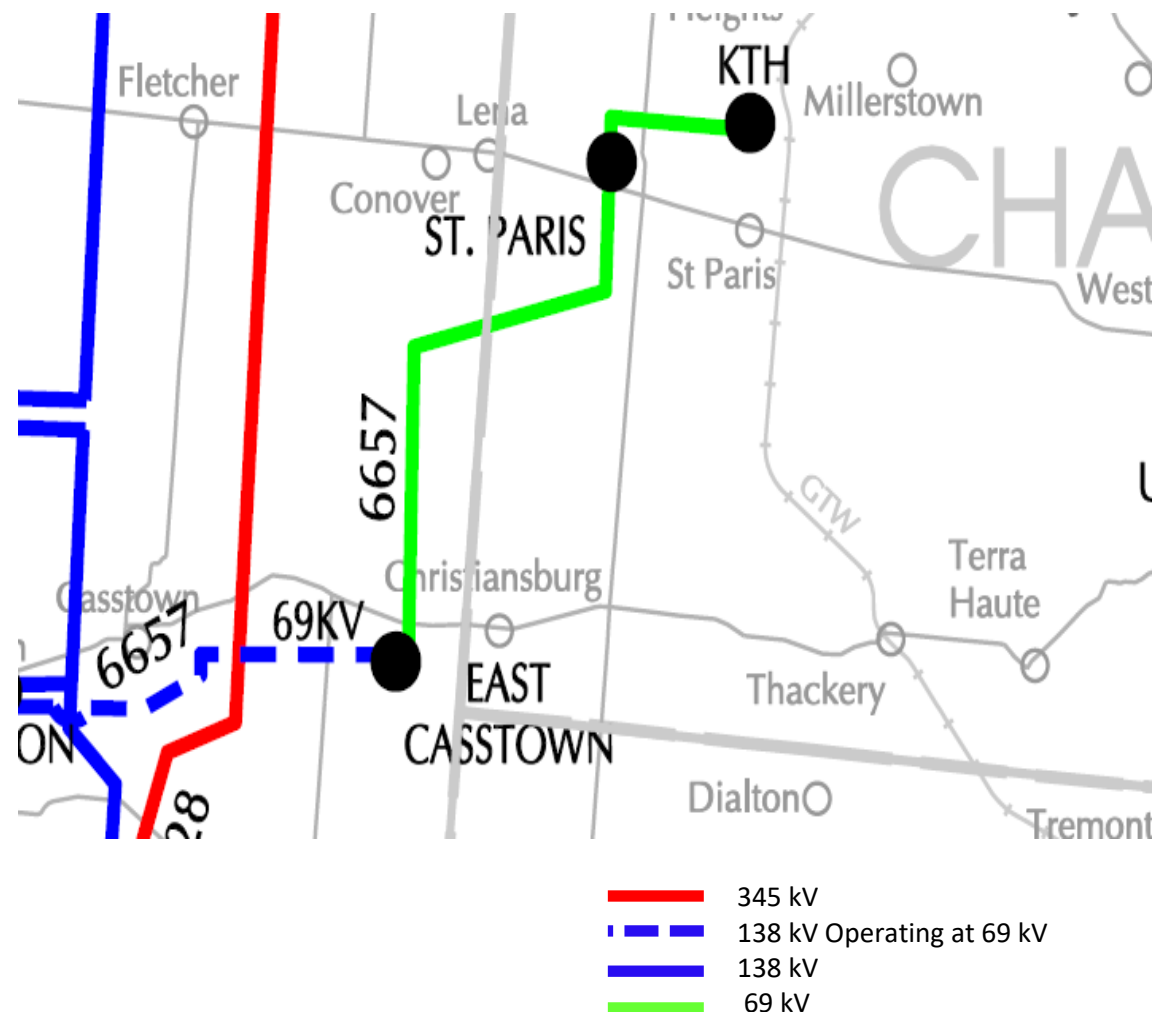
Specific Assumption Reference: Dayton Local Plan Assumptions

Problem Statement:

- The East Casstown–St. Paris segment contains wood poles and hardware from the 1960s–1970s, indicating aging infrastructure in need of replacement. Additionally, emerging operational constraints and the need to preserve continuity of the communication path further support the necessity to replace this section of the line.

Existing Facility Ratings:

Branch 69 kV	SN/SE/WN/WE (MVA)
East Casstown - St. Paris	45/53/61/66



Need Number: Dayton-2025-011

Previously Presented: Need Meeting, 11/14/2025, Solution Meeting, 2/13/2026

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 07/16/2026

Project Driver: Equipment Material Condition, Performance and Risk.

Specific Assumption Reference: Dayton Local Plan Assumptions

Solution:

Rebuild East Casstown to St Paris with 1351 ACSR conductor with OPGW (\$3847.1).

New Line Ratings: SN:153 SE:190 WN:213 WE:238

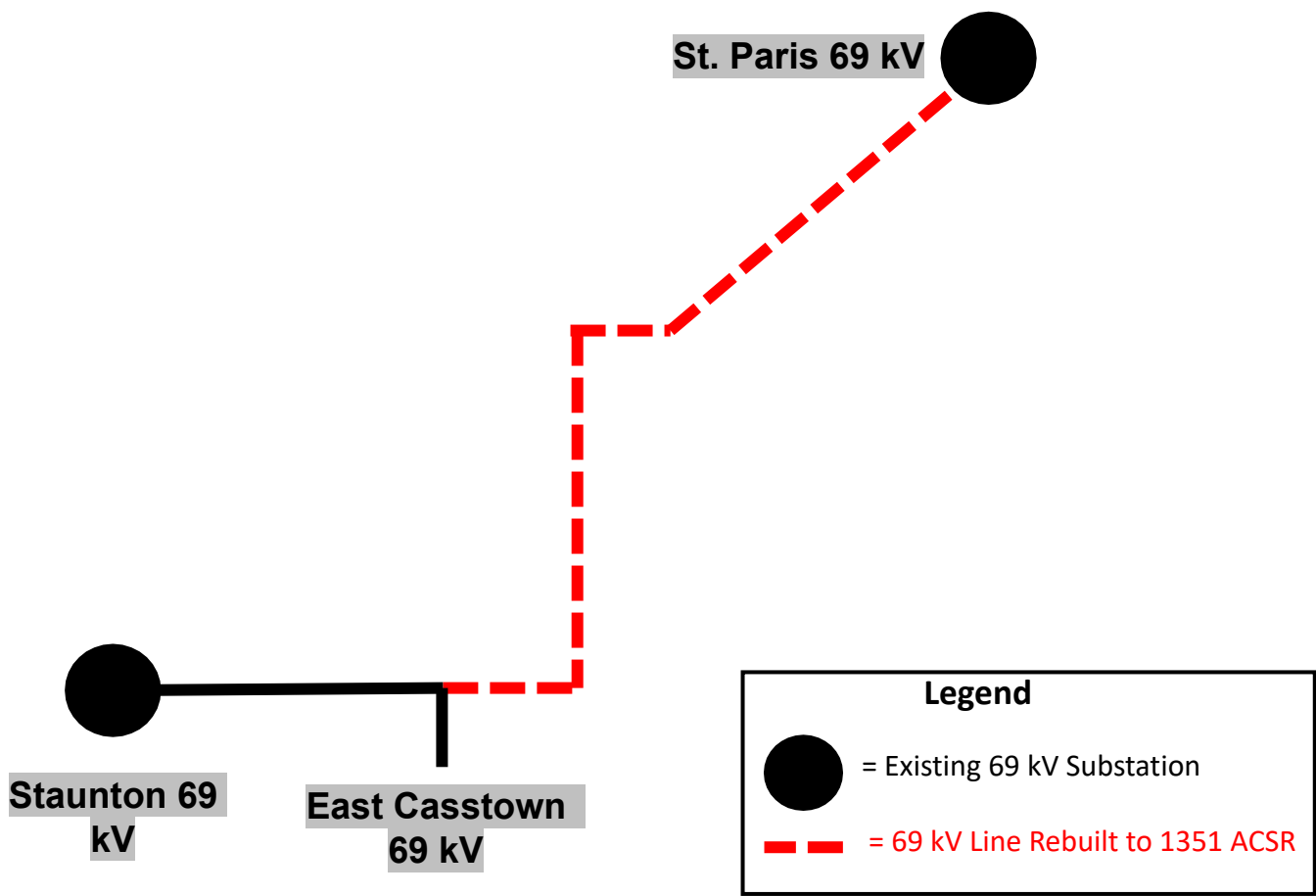
In-Service Date: 12/31/2027

Total Transmission Estimated Cost: \$8M

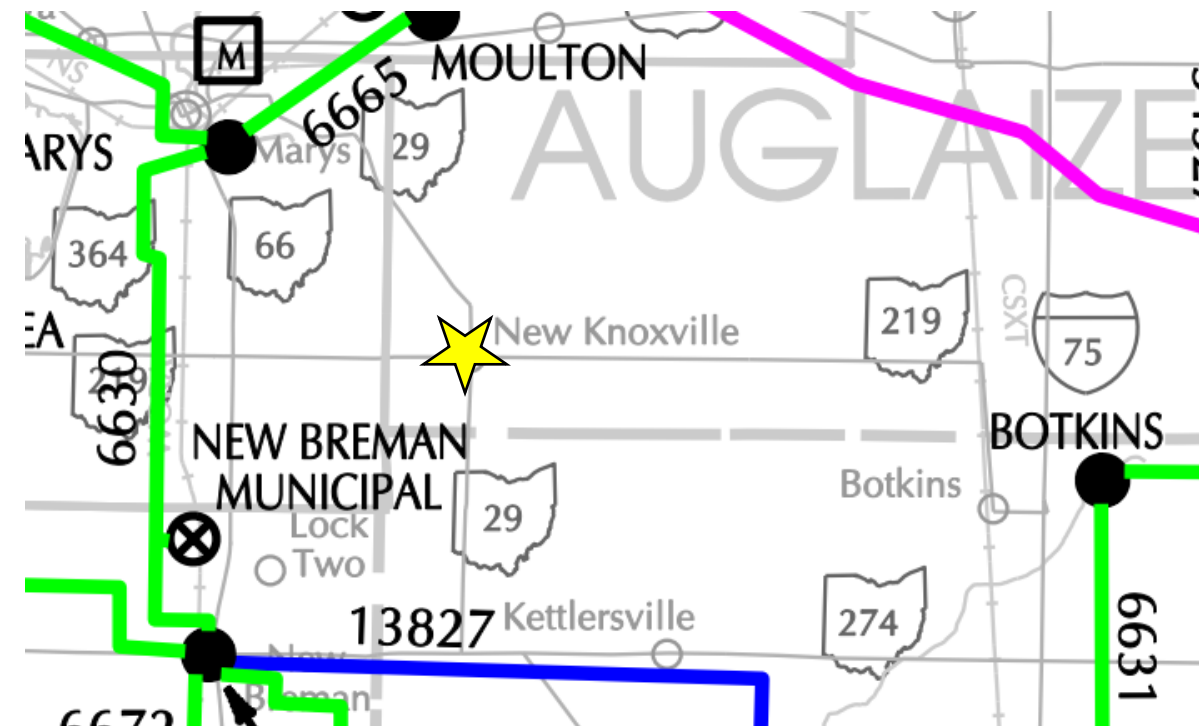
Alternatives Considered: N/A

Supplemental Project ID: S3847.1

Model: 2024 RTEP Series, 2029 Summer Case



- **Need Number:** Dayton-2023-003
- **Previously Presented:** Need Meeting, 4/21/2023, Solution Meeting, 9/19/2025
- **Process Stage:** Submission of Supplemental Project for Inclusion in the Local Plan 01/13/2026
- **Project Driver:** Customer Service, Operational Flexibility and Efficiency
- **Specific Assumption Reference:** Dayton Local Plan Assumptions (Slide 5)
- **Problem Statement:**
 - AES Ohio transmission has received multiple customer requests for a transmission delivery point in the vicinity of New Knoxville
 - AES Ohio's Botkins substation currently serves over 2300 customers with ~16MW of peak load. A breaker failure at Botkins today can cause a loss of both transformers, resulting in a temporary loss of all 16MW of load. Between the two transformers at Botkins, we have seen a total of 35 momentary and 13 permanent outages over the past 5 years.
 - The 8-mile, 6930-transmission circuit from Jackson Center to Botkins was built in 1955 with a wood pole crossarm design.
 - The 8.5 mile, 6630-transmission circuit from Amsterdam to St. Mary's was built in 1991 with a wood pole crossarm design.

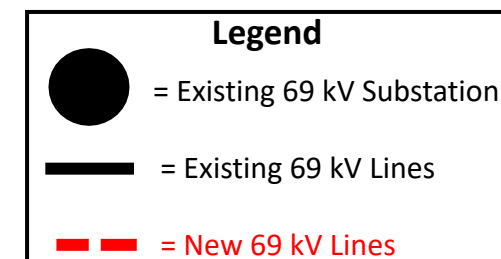
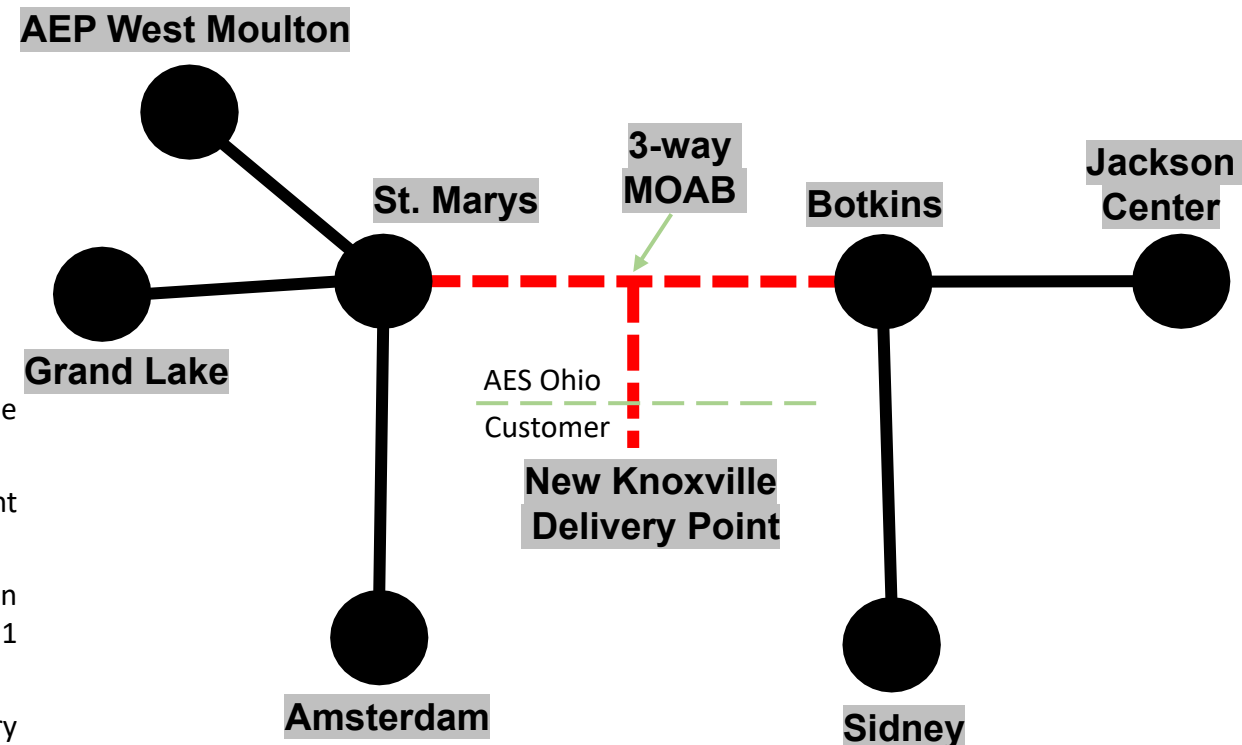


- **Need Number:** Dayton-2023-003
- **Previously Presented:** Need Meeting, 4/21/2023, Solution Meeting, 9/19/2025
- **Process Stage:** Submission of Supplemental Project for Inclusion in the Local Plan 01/13/2026
- **Project Driver:** Customer Service, Operational Flexibility and Efficiency
- **Specific Assumption Reference:** Dayton Local Plan Assumptions
- **Solution:**
 - **St. Marys Substation:** Install 2 new 69 kV breakers at St. Marys substation to accommodate the new 69 kV line. **Estimated Cost:** \$4 M (s3752.1)
 - **Botkins Substation:** Reconfigure Botkins 69 kV substation into breaker-and-a-half arrangement to accommodate the new 69 kV line. **Estimated Cost:** \$13 M (s3752.2)
 - **St. Marys – Botkins:** Construct a new 16-mile 69 kV single circuit line from St. Marys substation to Botkins substation. New expected ratings, St. Marys 69 kV to Botkins 69 kV **SN:** 111 MVA, **SE:** 136 MVA **WN:** 153 MVA **WE:** 171 MVA. **Estimated Cost:** \$25.6 M (s3752.3)
 - **New Knoxville Delivery Point:** Constructing three 69 kV MOAB switches with supervisory control, two with auto-sectionalizing capability, approximately 6.3 miles from the St. Marys substation to facilitate the New Knoxville Delivery Point. Approximately 0.25 miles from Tap to Delivery Point. . **Estimated Cost:** \$0.6 M (s3752.3)

- **Total Estimated Transmission Cost :** \$ 43.2 M
- **Projected In-Service:** 10/2029
- **Project Status:** Conceptual
- **Supplemental Project ID:** S3752.1 - .3

Model: 2024 RTEP Series

Dayton Local Plan - 2026



Need Number: Dayton-2021-004

Previously Presented: Need Meeting, 5/21/2021, Solution Meeting, 9/19/2025

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 01/13/2026

Project Driver: Customer Service; Operational Flexibility and Efficiency

Specific Assumption Reference:

Dayton Local Plan Assumptions (Slide 5)

Problem Statement:

- AES Ohio Distribution has requested a new 69kV delivery point to provide a new source on the North side of Indian Lake. The new source will help ensure load developing on the North side lake can be reliably served
- Indian Lake –Waynesfield 33kV circuit
 - The Line was primarily constructed in the 1930s with wooden cross arm construction and is located near railroad ROW which makes access challenging during outage restoration
 - Over the last three years, the 10.3 mile Indian Lake – Waynesfield 33kV circuit has experienced 17 forced outages
 - 8 permanent outages were primarily caused by insulator, cross arm, primary wire, station equipment, pole failure, and a tree from outside the ROW.
 - 9 momentary outages were primarily caused by lightning, animals, galloping and insulator flashover.
 - The currently line serves two existing delivery points , New Hampshire (AES Ohio) and Wanesfield Municipal Electric.
 - 33kV systems are not standard on the AES Ohio system and spare/replacement parts are limited since this is one of the last remaining 33kV facilities on the system.

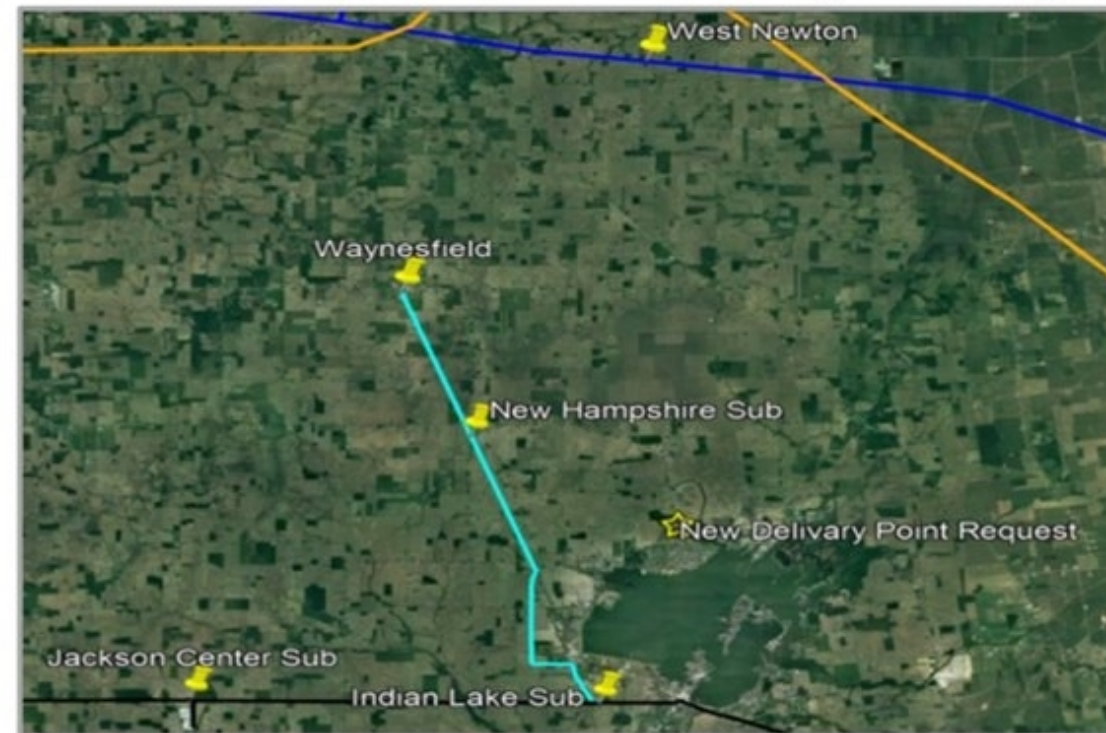
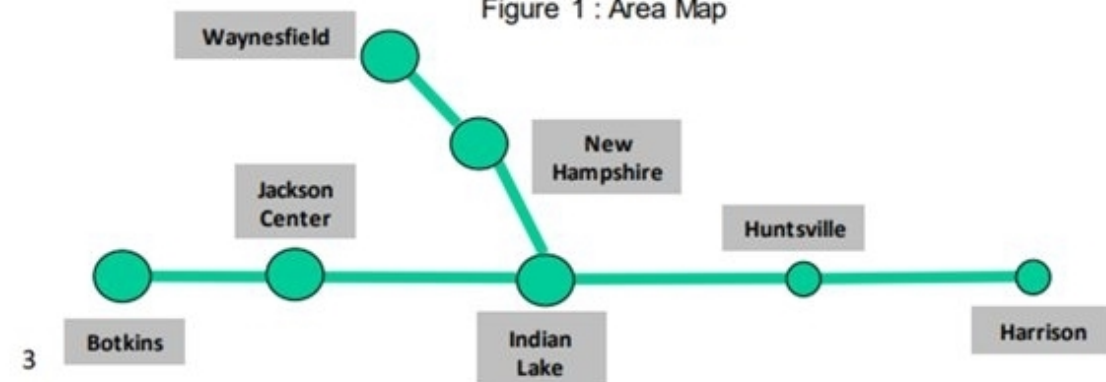


Figure 1 : Area Map



Need Number: Dayton-2021-004

Previously Presented: Need Meeting, 5/21/2021, Solution Meeting, 9/19/2025

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 01/13/2026

Project Driver: Customer Service; Operational Flexibility and Efficiency

Specific Assumption Reference: Dayton Local Plan Assumptions

Selected Solution:

➤ **Phase 1:**

- Add 69kV, single straight bus substation “Chippewa” with one 69kV/12kV 30MVA transformer. (s3751.1)
- Add an additional 69kV breaker position at Indian Lake substation (s3751.3)
- Construct New 13 Miles Single Circuit T-Line using 795 ACSR from Chippewa to Indian Lake. (s3751.2)
- Estimated Cost : \$29.0M, ISD 12/31/2027

➤ **Phase 2:**

- Add 69kV, single straight bus substation “Wrestle Creek” with one 69kV/12kV 30MVA transformer. (s3751.4)
- Construct New 8 Miles Single Circuit T-Line using 795 ACSR from Wrestle Creek to Tap Point and Install 2 69kV Reclosers. (s3751.5)
- Estimated Cost : \$22.2M, ISD 4/31/2029

➤ **Phase 3:**

- Add a second 69kV bus to Indian Lake and convert to double breaker double bus configuration
- Retire 33kV system
- Estimated Cost : \$10.1, ISD 4/31/2030 (s3751.6)

➤ **Total Estimated Transmission Cost :** \$61.3M

➤ **Projected In-Service:** 4/01/2030

➤ **Project Status:** Conceptual

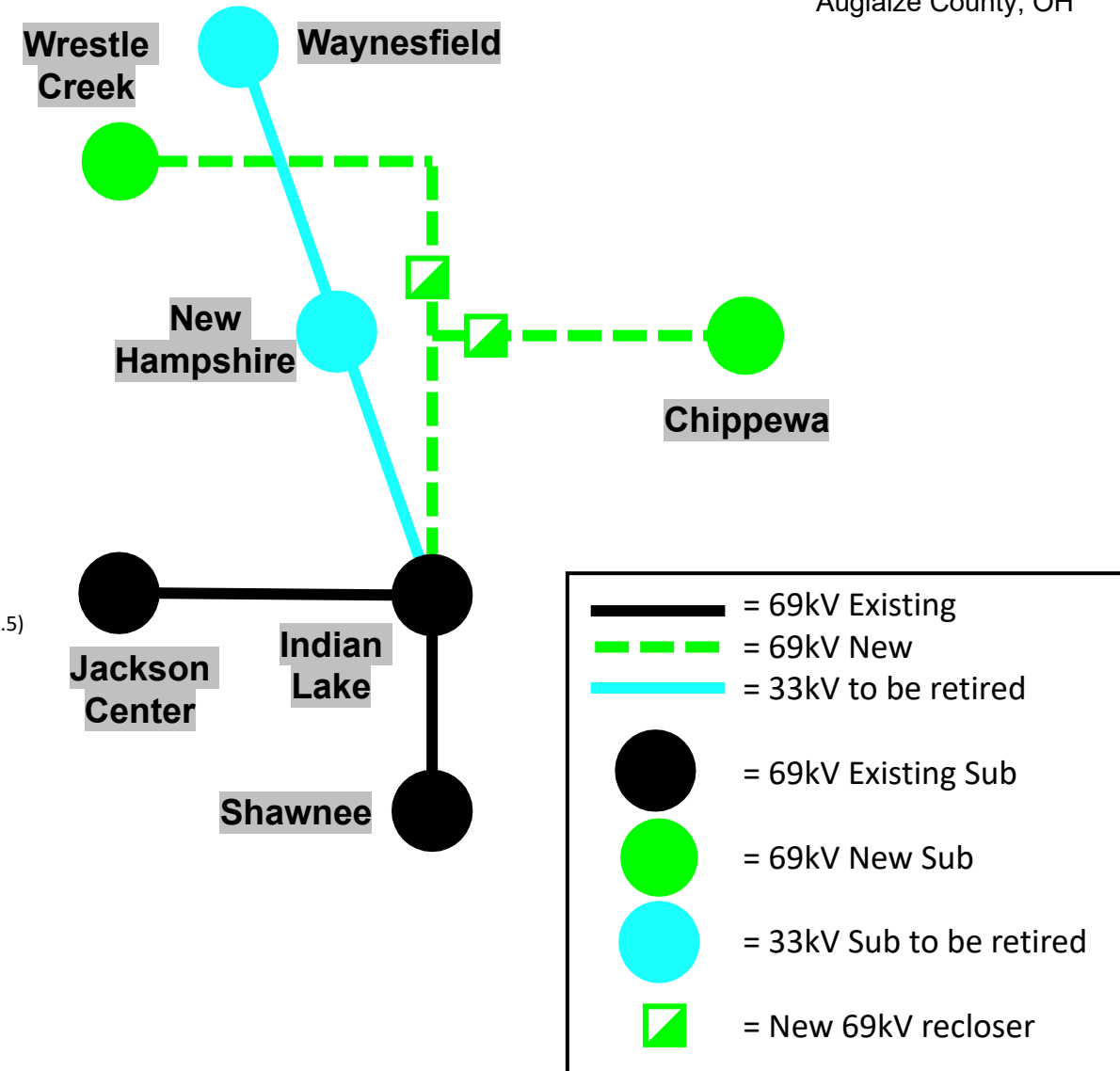
➤ **Alternatives Considered:**

- New 69kV tie line North to AEP. Not selected due to high cost.

Supplemental Project ID: S3751.1 - .6

Dayton Local Plan - 2026

Model: 2024 RTEP Series



Need Number: Dayton-2025-001

Previously Presented: Need Meeting, 02/04/2025, Solution Meeting, 04/01/2026 and 07/07/2026

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 09/15/2026

Project Driver: Customer Request

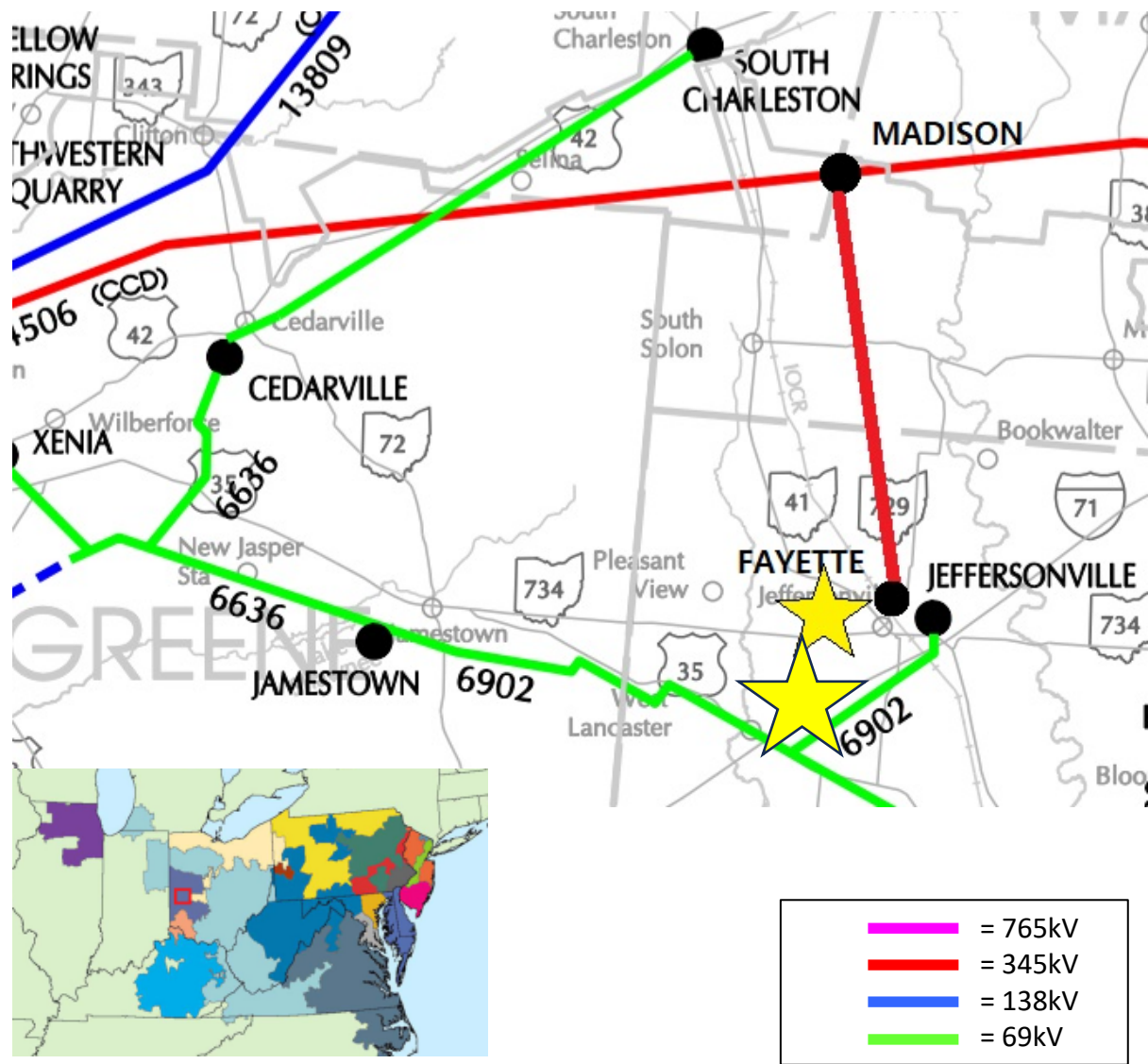
Specific Assumption Reference: Dayton Local Plan Assumptions (Slide 5)

Problem Statement:

- AES Ohio has a customer request for service in the vicinity of its Fayette Substation in Jeffersonville, OH.
- Total MW load requests, associated timelines, & load totals

Requested In Service Date	Total Requested New Load
9/2026	35 MW
9/2028	480 MW
1/2031	1.5 GW

Model: 2024 RTEP Series, 2029 Summer Case



Need Number: Dayton-2025-002

Previously Presented: Need Meeting, 02/04/2025, Solution Meeting, 04/01/2026 and 07/07/2026

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 09/15/2026

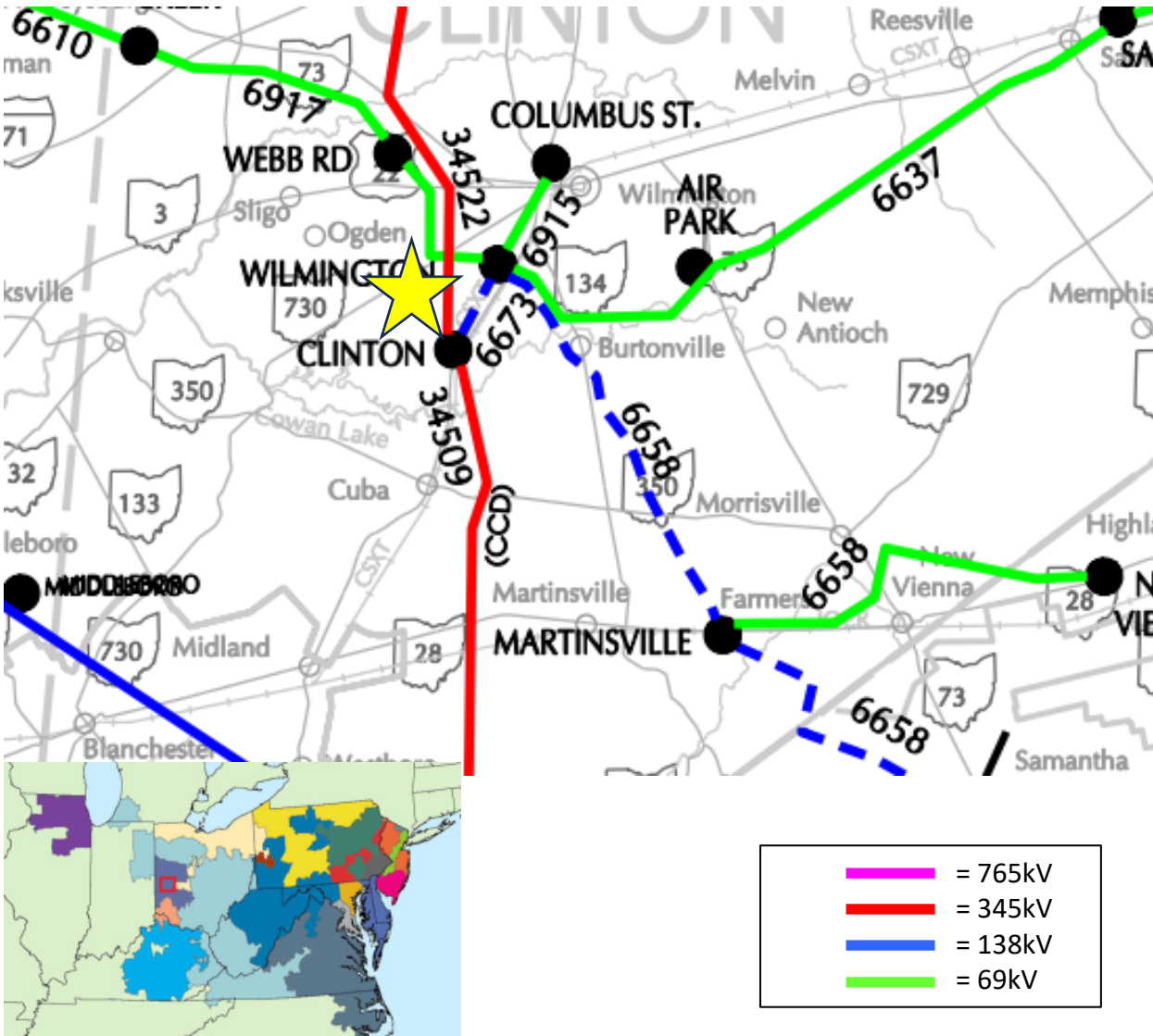
Project Driver: Customer Request

Specific Assumption Reference: Dayton Local Plan Assumptions (Slide 5)

- Problem Statement:**
- AES Ohio has a customer request for service in the vicinity of its Clinton Substation near Wilmington, OH.
 - Total MW load requests, associated timelines, & load totals

Requested In Service Date	Total Requested New Load
1/2028	35 MW
4/2028	100 MW
1/2029	300 MW
1/2030	500 MW

Model: 2024 RTEP Series, 2029 Summer Case



Need Number: Dayton-2025-001, Dayton-2025-002

Previously Presented: Need Meeting, 02/04/2025, Solution Meeting, 04/01/2026 and 07/07/2026

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 09/15/2026

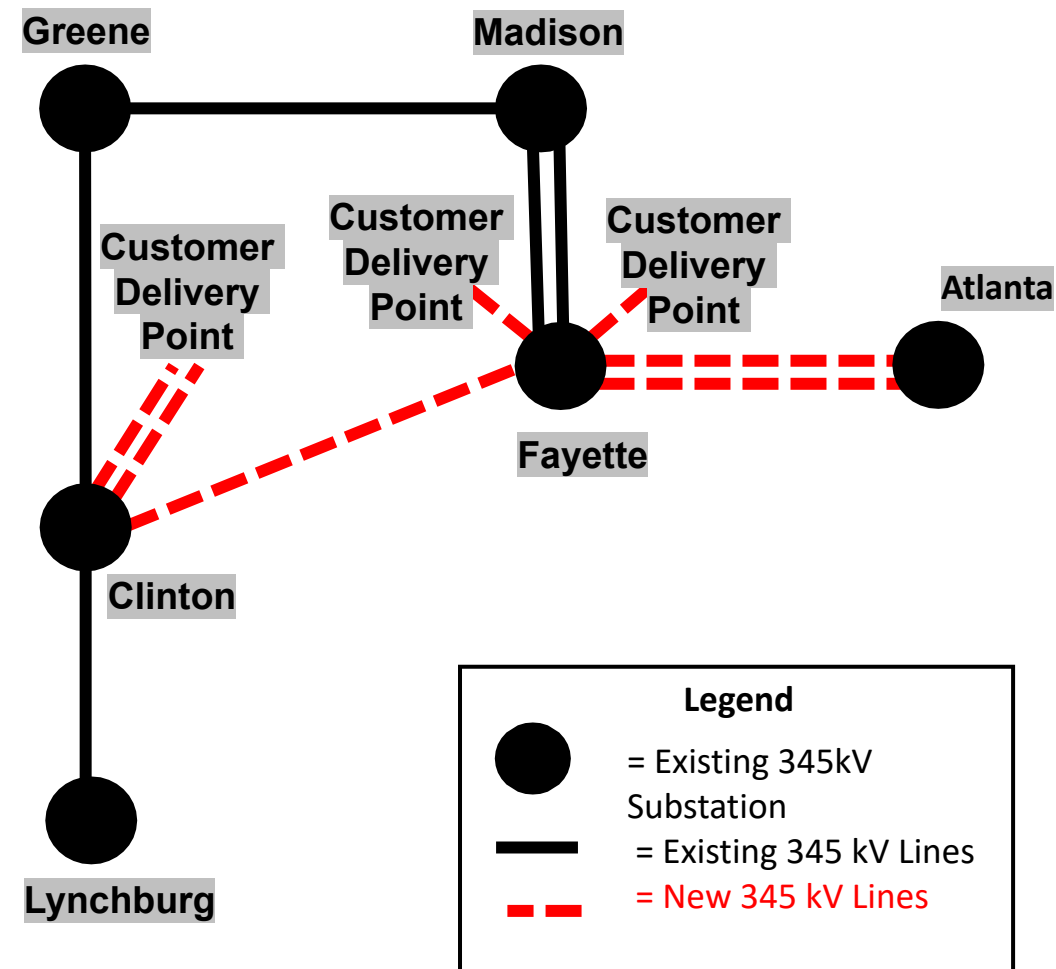
Project Driver: Customer Request

Specific Assumption Reference: Dayton Local Plan Assumptions (Slide 5)

Selected Solution:

- **Fayette Substation:** Expand the Fayette 345 kV substation to breaker-and-a-half arrangement to accommodate the additional 345 kV lines and the customer feeds. Projected ISD: 10/30/2026 and a 300-MVAR capacitor (two steps of 150 MVAR) Projected ISD: 1/1/2030 **Estimated Cost : \$ 51.9M (s3898.1)**
- **Atlanta Substation:** Reconfigure the Atlanta 345kV substation into a breaker-and-a-half arrangement to accommodate the 2 additional 345 kV lines. **Projected ISD: 04/13/2029 Estimated Cost : \$ 24.3M (s3898.2)**
- **Atlanta – Fayette 1 & 2:** Construct an ~ 25-mile 345 kV double circuit line from Atlanta substation to Fayette substation. The line is projected to be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. New expected ratings, Fayette 345kV – Clinton 345kV **SN: 1263 MVA, SE: 1561 MVA WN: 1750 MVA WE: 1954. Projected ISD: 04/13/2029 Estimated Cost : \$ 220.7M (s3898.3)**
- **Customer Service Lines from Fayette 1-4:** Establish four ~0.5-mile 345 kV feed to the customer substations from AES's Fayette substation. These lines will be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. **Projected ISD: 09/15/2026 Estimated Cost : \$9 M (s3898.4)**
- **Clinton Substation:** Expand the Clinton 345 kV substation to accommodate the additional 345 kV line, 2 customer feeds, one 300-MVAR capacitor (two steps of 150 MVAR) **Projected ISD: 12/31/2028** and anew one 150-MVAR STATCOM, **Projected ISD: 12/1/2030 Estimated Cost :\$ 65.4M (s3898.5)**
- **Clinton - Fayette:** Construct an ~ 27-mile 345 kV single circuit from Clinton substation to Fayette substation. These lines will be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. New expected ratings, Fayette 345kV – Clinton 345kV **SN: 1263 MVA, SE: 1561 MVA WN: 1750 MVA WE: 1954. Projected ISD: 01/18/2030 Estimated Cost : \$ 187 M (s3898.6)**

Model: 2024 RTEP Series, 2029 Summer Case



- **Customer Service Lines from Clinton 1 & 2:** Establish two ~2-mile 345 kV single circuit feeds to the customer substation from AES's Clinton substation. These lines will be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. **Projected ISD: 12/31/2028 Estimated Cost : \$ 20 M (s3898.7)**
- Relocating the existing Clinton – Clay 345 kV transmission Line. Projected ISD: 4/30/2028 Estimated Cost : \$ 3.2 M (s3898.8)
- Relocating the existing Clinton – Greene 345 kV transmission Line. Projected ISD: 4/30/2028 Estimated Cost : \$ 8.3M (s3898.9)

Total Estimated Transmission Cost : \$589.8 M

Projected In-Service: 01/2031

Supplemental Project ID: s3898.1 – .9

Project Status: Engineering

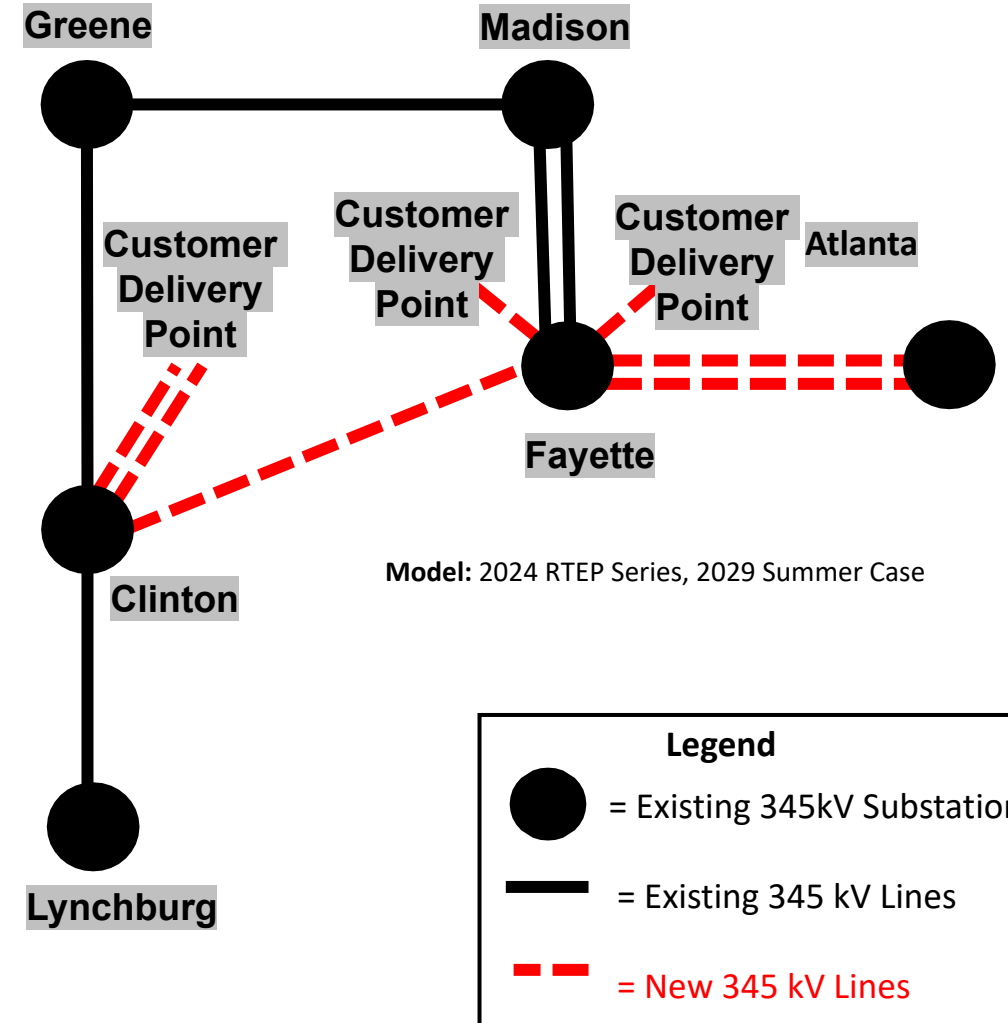
Alternatives Considered:

- **Alternative 1:** Adding a second circuit between Clinton and Fayette, was not selected because adding a Static VAR Compensator at Clinton is more cost effective.
- **Alternative 2:** A single circuit from Atlanta to Fayette, was not selected because it would require significant reactive support at both Clinton and Fayette and causes overloads on the nearby AEP system.
- **Alternative 3:** Adding a Static VAR Compensator at Fayette, was not selected since it would require significantly more reactive support than at Clinton.

Supplemental Project ID: S3898.1 - .9

Notes:

- The original presentation of Dayton-2025-001 and Dayton-2025-002 were based on preliminary estimations, both cost and schedule.
- The driver to represent Dayton-2025-001 and Dayton-2025-002 were based changes to scope based on engineering studies, with a particular view at voltage stability; concluding with changing the technology of SVC to a capacitor and STATCOM combination.
- Changes to the preliminary schedule estimate of Dayton-2025-001 and Dayton-2025-002 are based on project capability, not at the request of customer, and is not a driver to project cost.
- Changes to the preliminary cost estimate of Dayton-2025-001 and Dayton-2025-002 are based on changes due to real estate.



Need Number: AMPT-2024-001

Previously Presented: Solution Meeting – 2/14/2025, Need Meeting – 4/19/2024

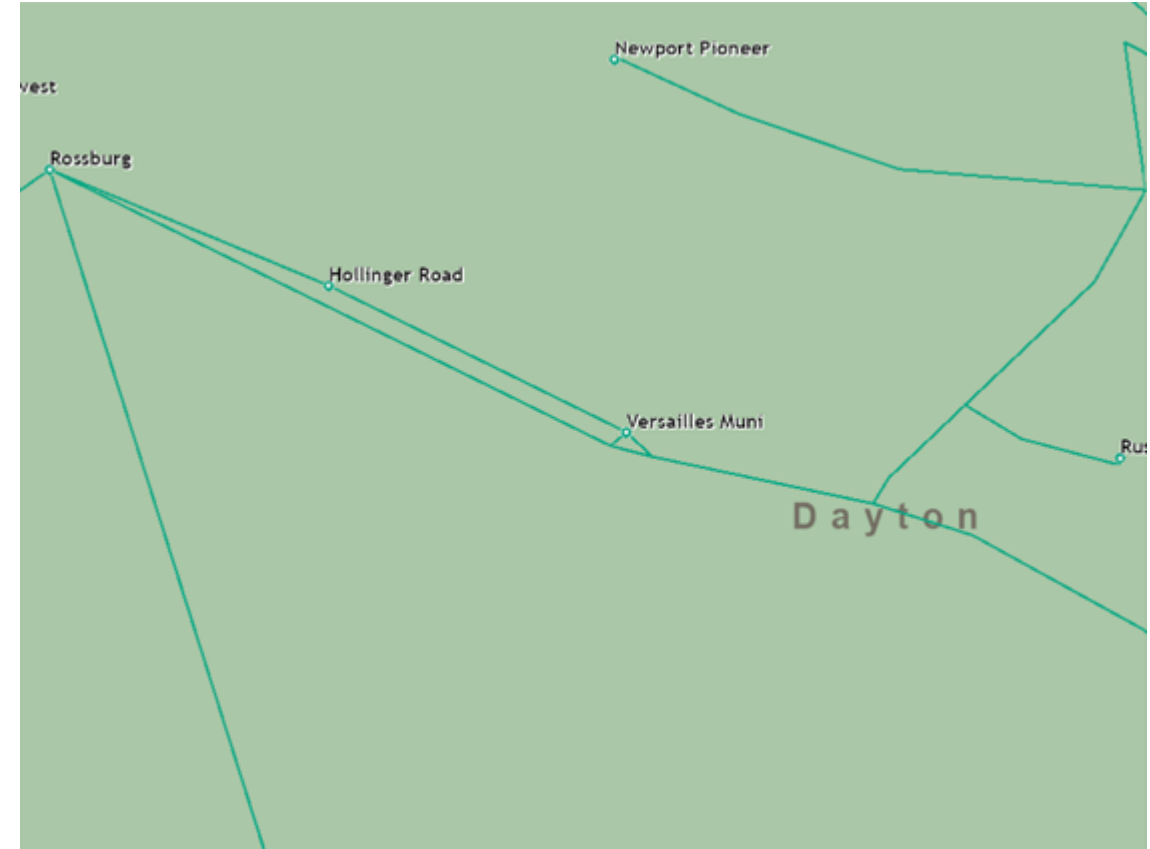
Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan – 07/16/2026

Supplemental Project Driver(s): Customer Service

Specific Assumption Reference(s): AMPT Transmission Facilities Interconnection Requirements document

Problem Statement:

New Customer Connection – The Village of Versailles has submitted a request for a new 69kV service point near the AMPT owned 69kV stations and transmission line, which is served off of AES' 6625 69kV line. The request was made to support new load increases in the area that totals approximately 6 MW. The City has requested an in-service date of 3/1/2027. Additionally, the village of Versailles has requested a 2nd supply to support the load. The radial supply presents a single point of failure that jeopardizes the reliability for the village. The existing interconnection is a radial 69kV tap off the 6625 69kV line. The current peak load at the Village of Versailles is 16 MW. AMPT's Transmission Facilities Interconnection Requirements specify looped facilities for loads exceeding 5 MW or 35 MW-mile radial thresholds.



AMPT Projects in DAY Transmission Zone M3 Process Versailles, OH

Need Number: AMPT-2024-001

Previously Presented: Solution Meeting – 2/14/2025

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan – 07/16/2026

Supplemental Project Driver(s): Customer Service

Proposed Solution:

AMPT Identified Scope (\$51.4 M)

McGreevey Road Station: Build a new greenfield 69 kV station with two 69 kV circuit breakers and associated relays. Station should be able to accommodate one new distribution transformer. **(s3734.1)**

Water Street Station: Rebuild existing Water Street 69 kV station to a three-breaker ring bus to accommodate two 69 kV lines and one distribution transformer. **(s3734.2)**

Water Street – McGreevey Road 69 kV: Build approximately 1.2 miles of new single circuit 69kV line using 795 ACSR Drake conductor from the Water Street 69 kV sub to the new McGreevey Road sub. **(s3734.3)**

Greenlawn – McGreevey Road 69 kV: Build approximately 6.0 miles of new single circuit 69kV line using 795 ACSR Drake conductor from the Greenlawn 69 kV sub to the new McGreevey Road sub. Install line sectionalizing MOAB toward McGreevey Road. **(s3734.4)**

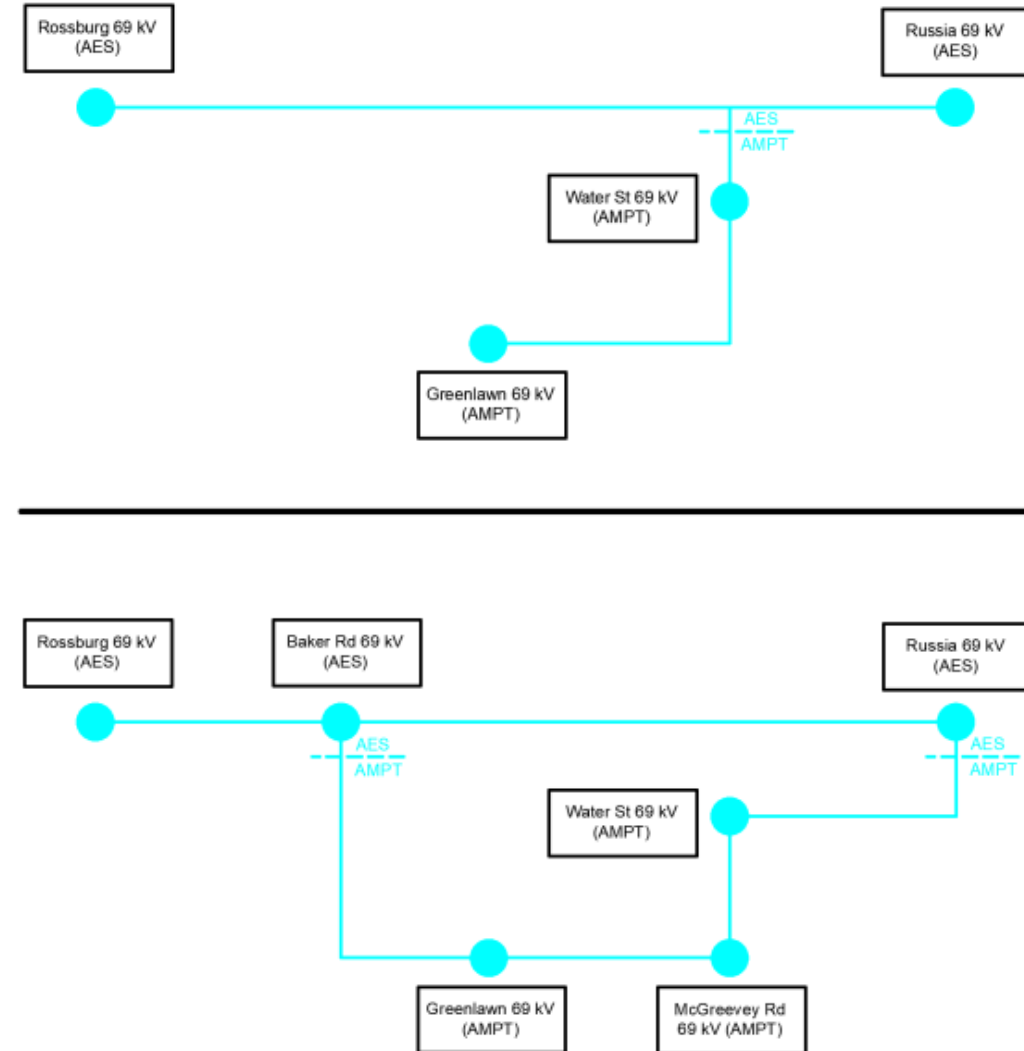
Greenlawn - Baker Road 69 kV: Build approximately .8 miles of new single circuit 69kV line using 795 ACSR Drake conductor from the Greenlawn 69 kV sub to the new McGreevey Road sub. Install a line sectionalizing MOAB toward Baker Road. **(s3734.5)**

Water Street - Russia 69 kV: Build approximately 5.5 miles of new single circuit 69kV line using 795 ACSR Drake conductor from the Water Street 69 kV sub to the AES Russia sub. **(s3734.6)**

AES Identified Scope (\$15.2 M)

Baker Road Station: Build new 3 breaker ring bus at Baker Road. Retire Water Street Tap. **(s3734.7)**

Russia Station: Expand the existing ring bus at Russia substation to accommodate the new line to Water Street. **(s3734.8)**



AMPT Projects in DAY Transmission Zone M3 Process Versailles, OH

Need Number: AMPT-2024-001

Previously Presented: Solution Meeting – 2/14/2025

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan – 07/16/2026

Supplemental Project Driver(s): Customer Service

Alternatives Considered:

- Bring the existing AES 69 kV Rossburg – Russia line in and out of the AMPT Water Street 69 kV station. AES transmission interconnection requirements do not allow for other TO's to own within their throughpath. This required AMPT to develop a new connection back to AES Russia.

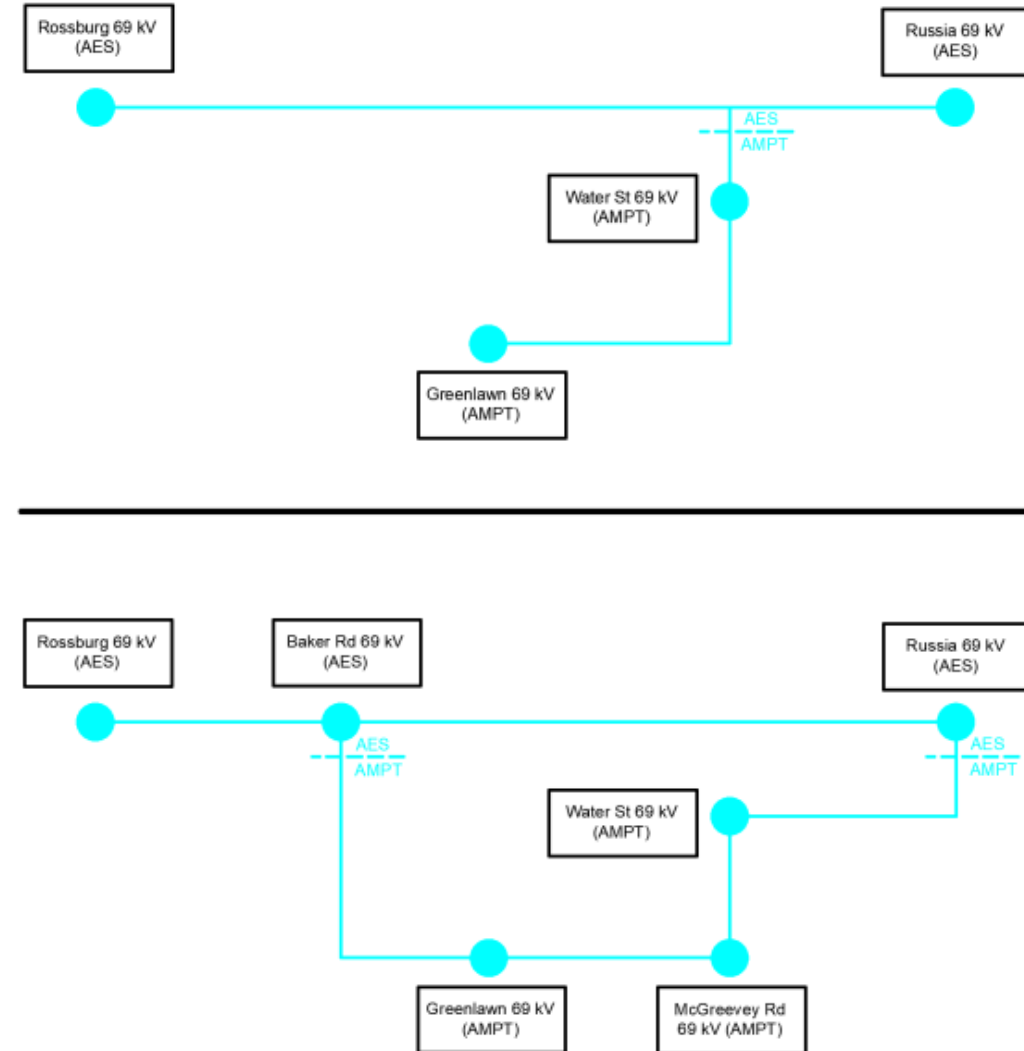
Total Estimated Transmission Cost: \$66.6 M

Projected In-Service: 6/30/2028

Supplemental Project ID: s3734.1 (AMPT), s3734.2 (AMPT), s3734.3 (AMPT), s3734.4 (AMPT), s3734.5 (AMPT), s3734.6 (AMPT), s3734.7 (AES), s3734.8 (AES)

Project Status:

- Engineering



Revision History

7/16/2026 – V1 –Added Slides #2-5, s3846, s3847, s3734

9/23/2026 – V2 – Added slides #6-16, s3752, s3751, s3898, s3734