

Reliability Analysis Update

Matthew Wharton

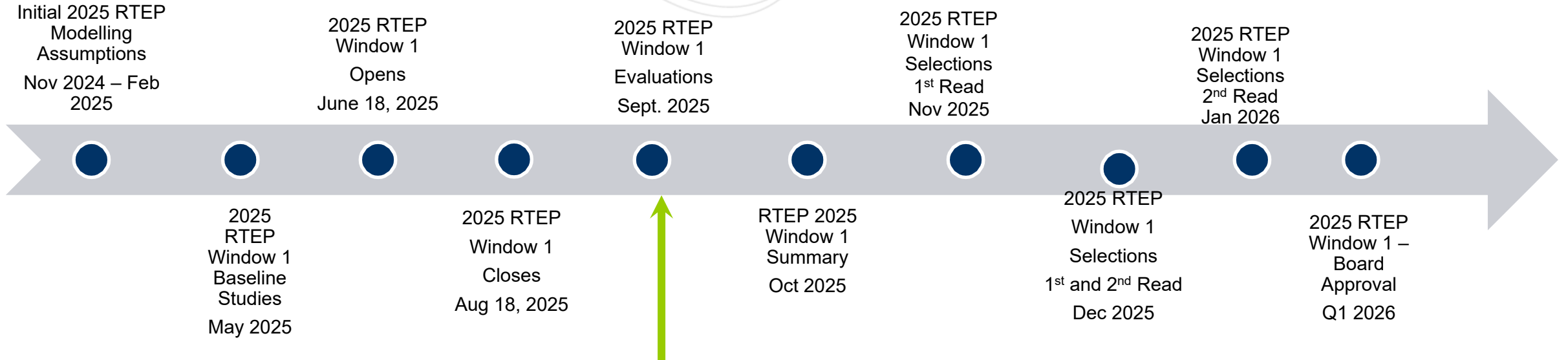
Manager, Transmission Planning - MAAC & South

Transmission Expansion Advisory Committee

September 9, 2025

2025 RTEP Window 1 Update

2025 RTEP Window 1 – Timeline





2025 RTEP Assumptions - Load and Gen Dispatch Increase

Summer 2029 to 2030

PJM	MW Increase LOAD
Dominion	1,760
MAAC	5,043
West	11,482
Grand Total	18,285

Winter 2029 to 2030

PJM	MW Increase LOAD
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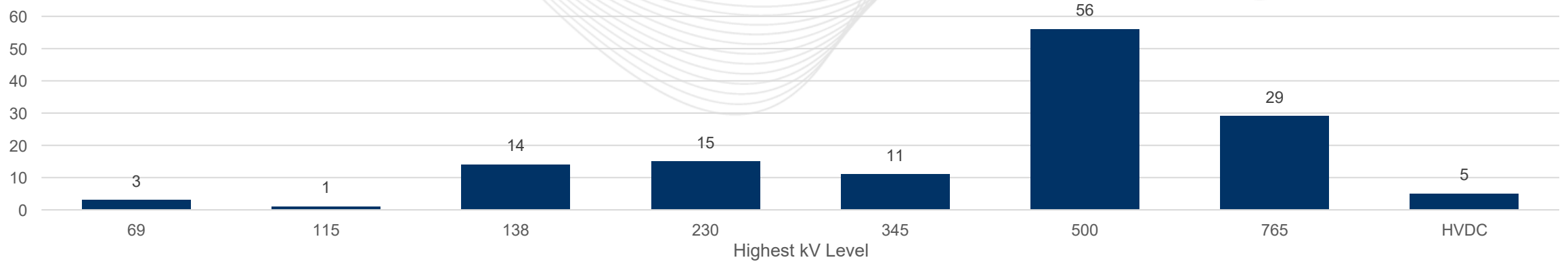
- Strong load increase in new zones/regions (including West and MAAC).
 - Net increase between 15 GWs and 24 GWs depending on season/year.
- The 2025 RTEP case included 3,764 MWs of generation retirements (not modeled in 2024W1 RTEP)
- Additional details can be found in the TEAC's [May 6, 2025](#) and [June 5, 2025](#) Reliability Analysis Update item

- Window opened on 6/18/2025
- Window closed on 8/18/2025
- 134 total proposals submitted from 19 entities (includes combined/portfolio proposals)
 - 57 Greenfields
 - 77 Upgrades
- Proposal Cost Estimates: Approximates range from \$1.65 M to \$6,730 M
- 90 proposals with cost containment (Some hard-capped)
- Grid Enhancing Technologies:
 - HVDC: 5 proposals
 - Advanced Conductors: 5 proposals

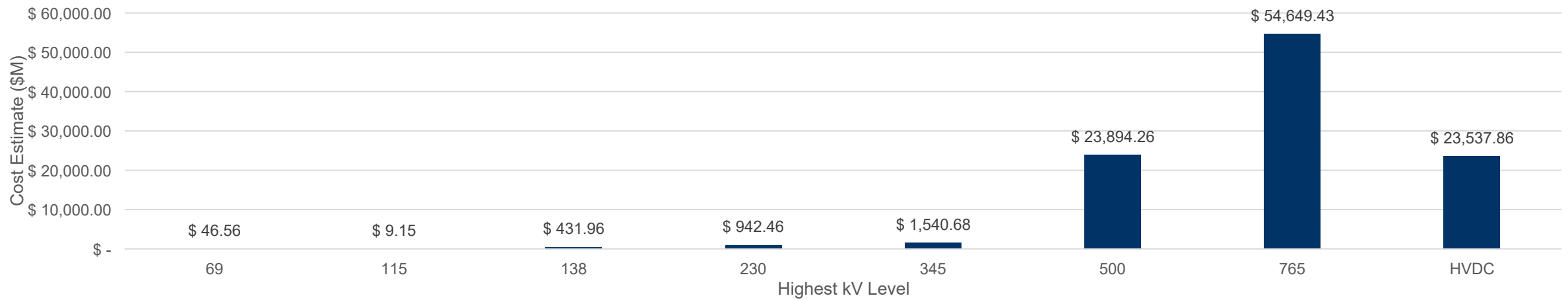
- **Strong Stakeholder Participation and Collaboration - 15 Joint Proposals submitted to the PJM 2025 RTEP. The following are highlights:**
 - Joint venture between TRAIL and Transource.
 - FirstEnergy submitted joint proposals with AEP.
 - NXTMID (NextEra) proposal benefits are standalone but additional benefits if paired with Exelon proposals.
 - Exelon submitted joint proposals intended to be paired with NextEra proposals.
 - PSEGRT submitted proposals are PSEG, PPL, and AES (Dayton) joint proposals.

Proposals by Voltage Level

Number of Proposals by kV Level

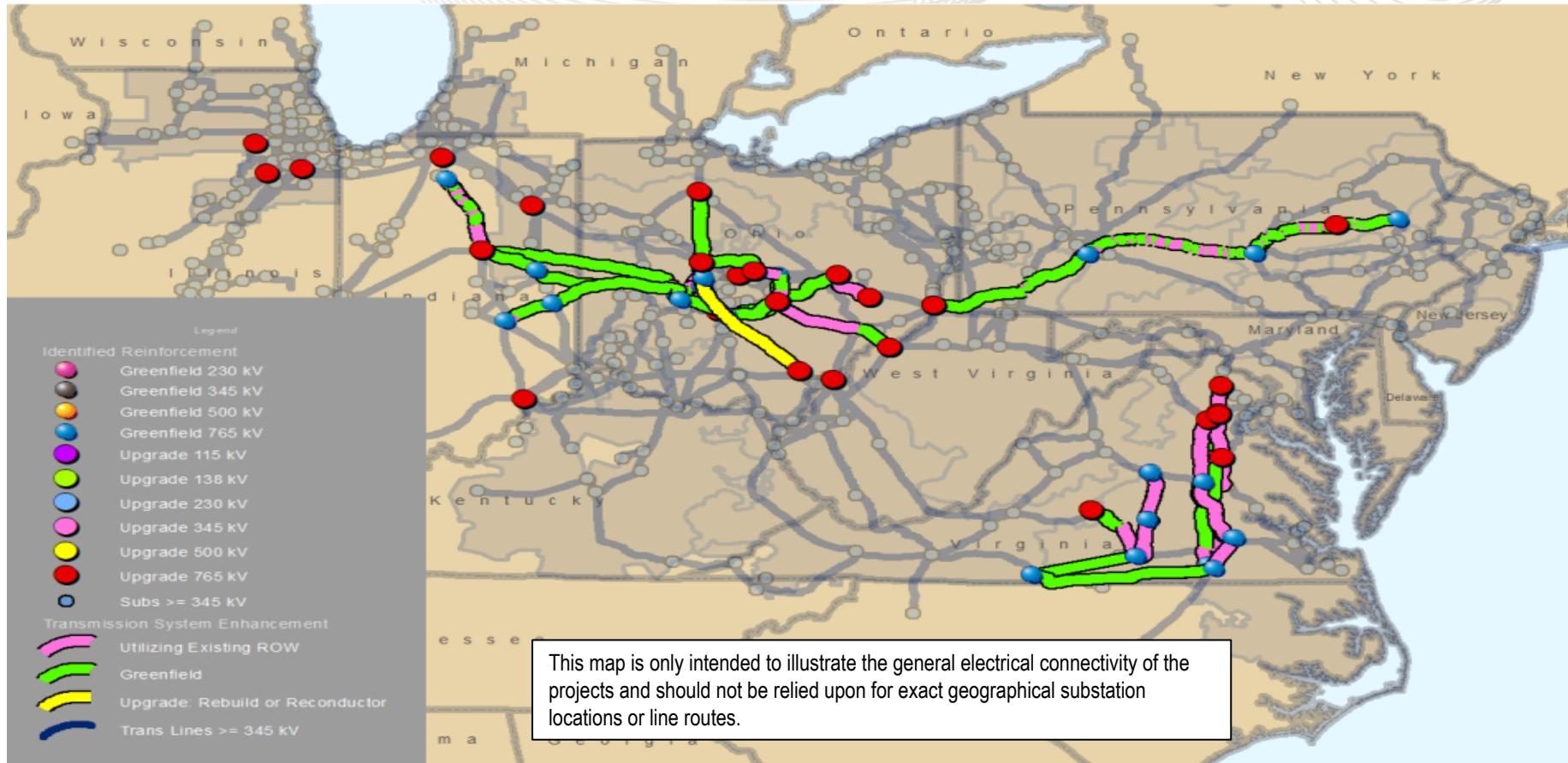


Total Proposal Costs by kV Level

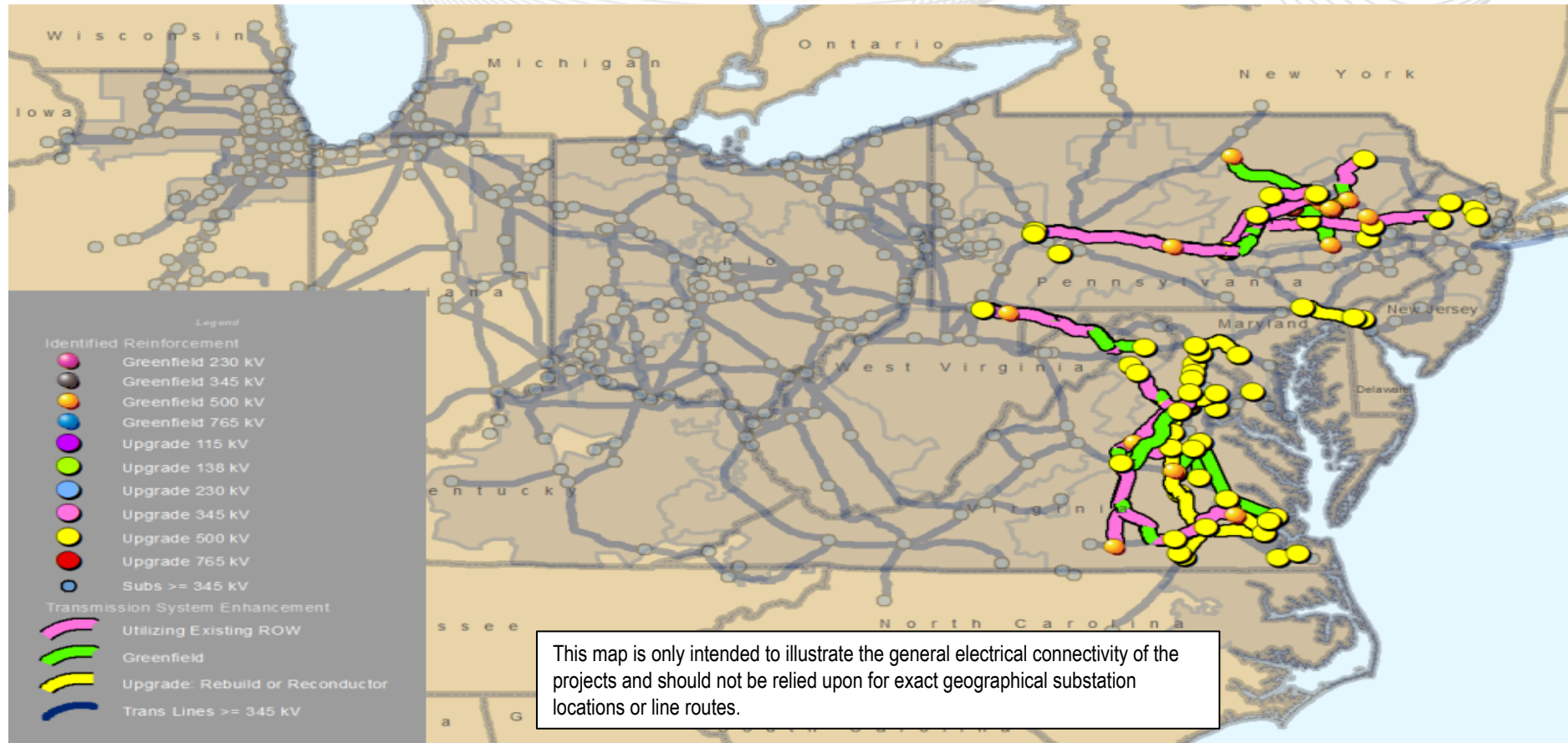


- Maps for all proposals, portfolios, and groups (by kV, Cluster, Need) are being created – samples provided
- Deficiency review is complete
 - Entities have been notified of deficiencies
 - PJM is waiting for responses back
- PJM and developer meetings are expected to conclude on September 5
- The Generation Deliverability studies have been started for projects that are complete (non-deficient)
- PJM is targeting to bring proposals first read for non-competitive baseline projects at the October TEAC/SRRTEP meetings

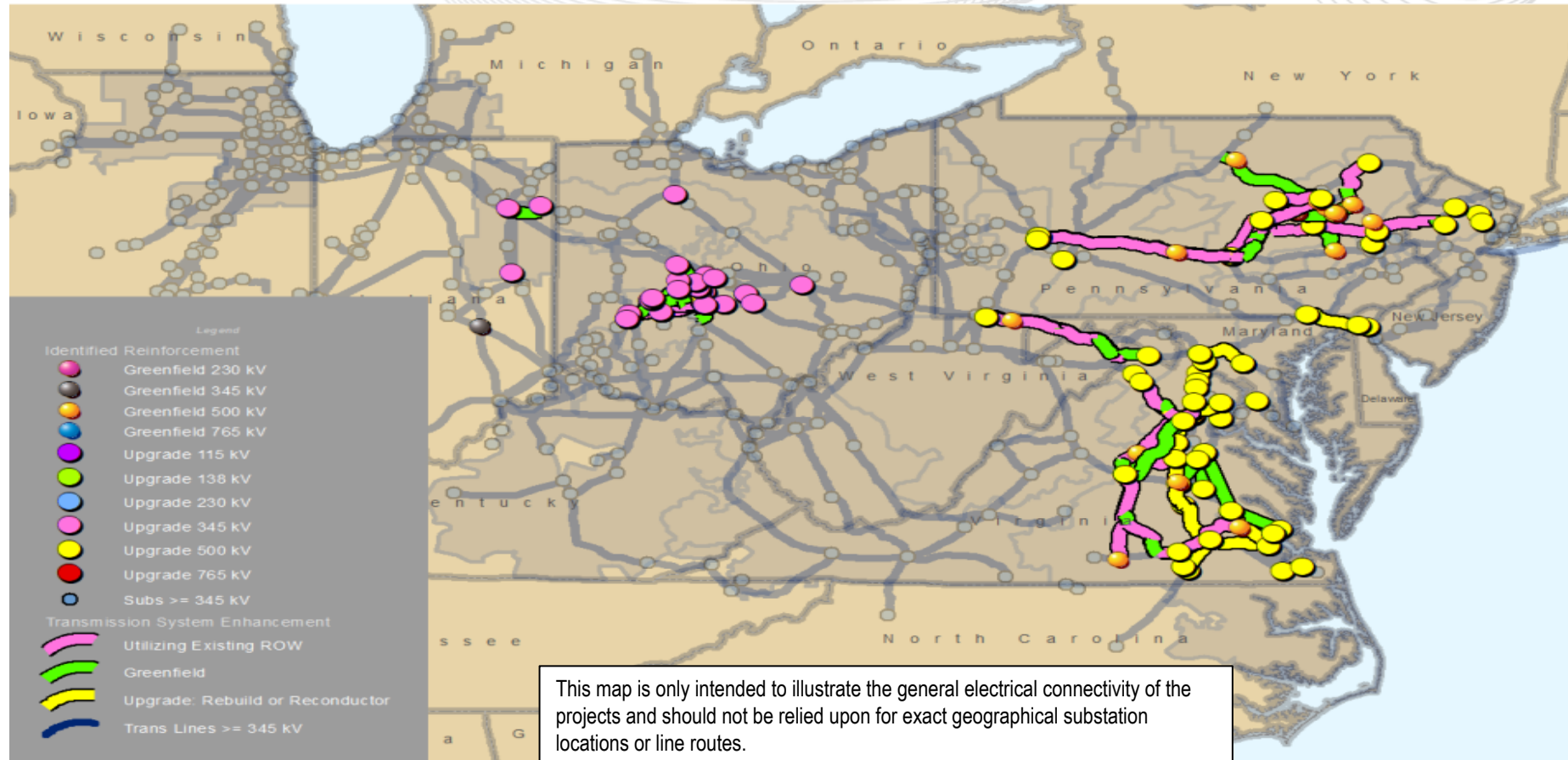
Higher kV Overview



- Need and scope of solutions remains consistent to support backbone West-East and South-North Transmission corridors
- Need for West-East bulk transfer enhancement needs extend towards MAAC
- Similarity of submitted proposals indicate type and nature of expected final solutions (to be confirmed in Oct-Dec of 2025)

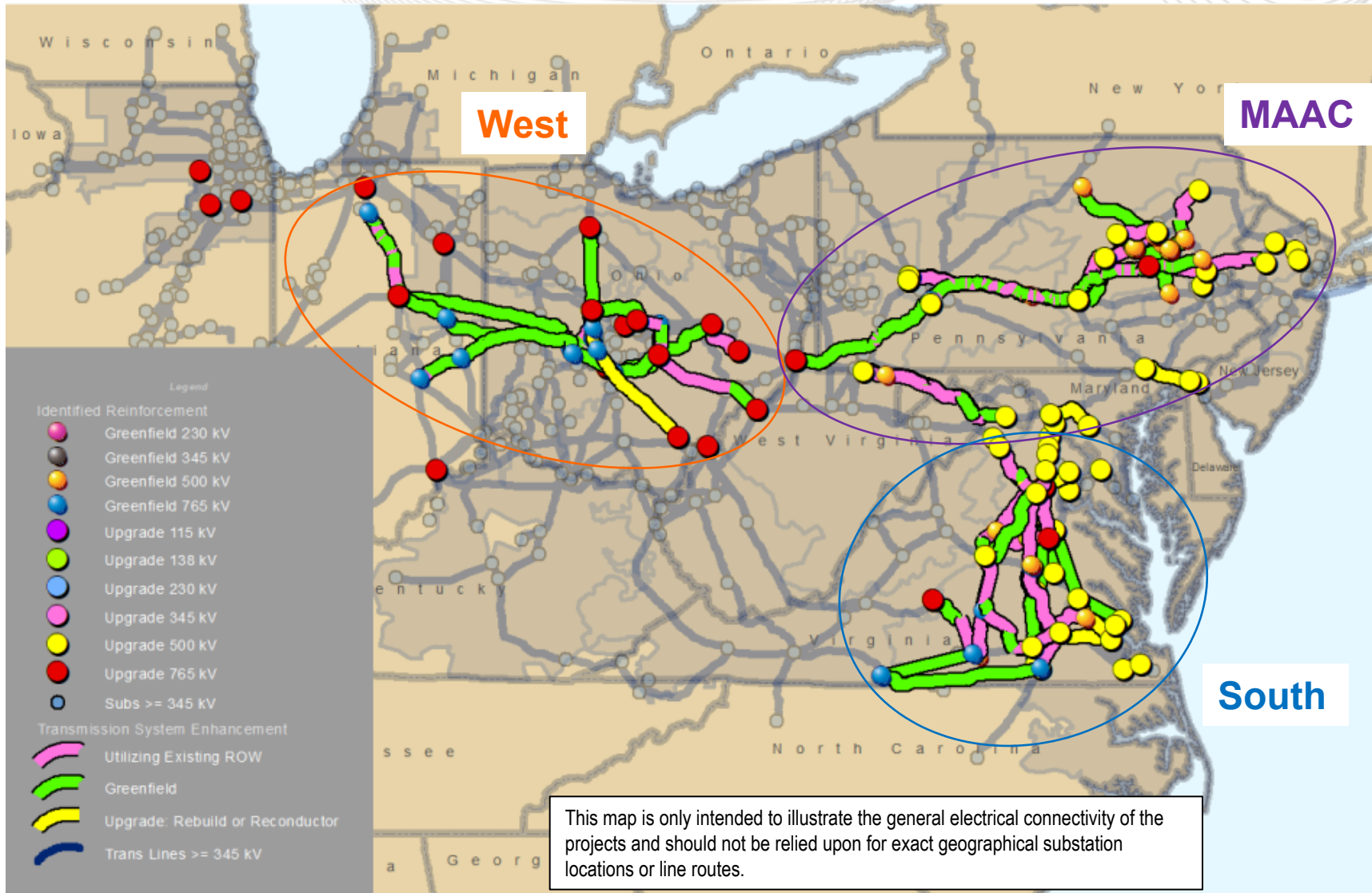


- PJM-West backbone proposals are primarily focused on 765kV developments
- Need for West-East bulk transfer enhancement needs extend towards MAAC – here multiple 500kV options proposed and overlapping
- Similarity of submitted proposals indicate type and nature of expected final solutions (to be confirmed in Oct-Dec of 2025)

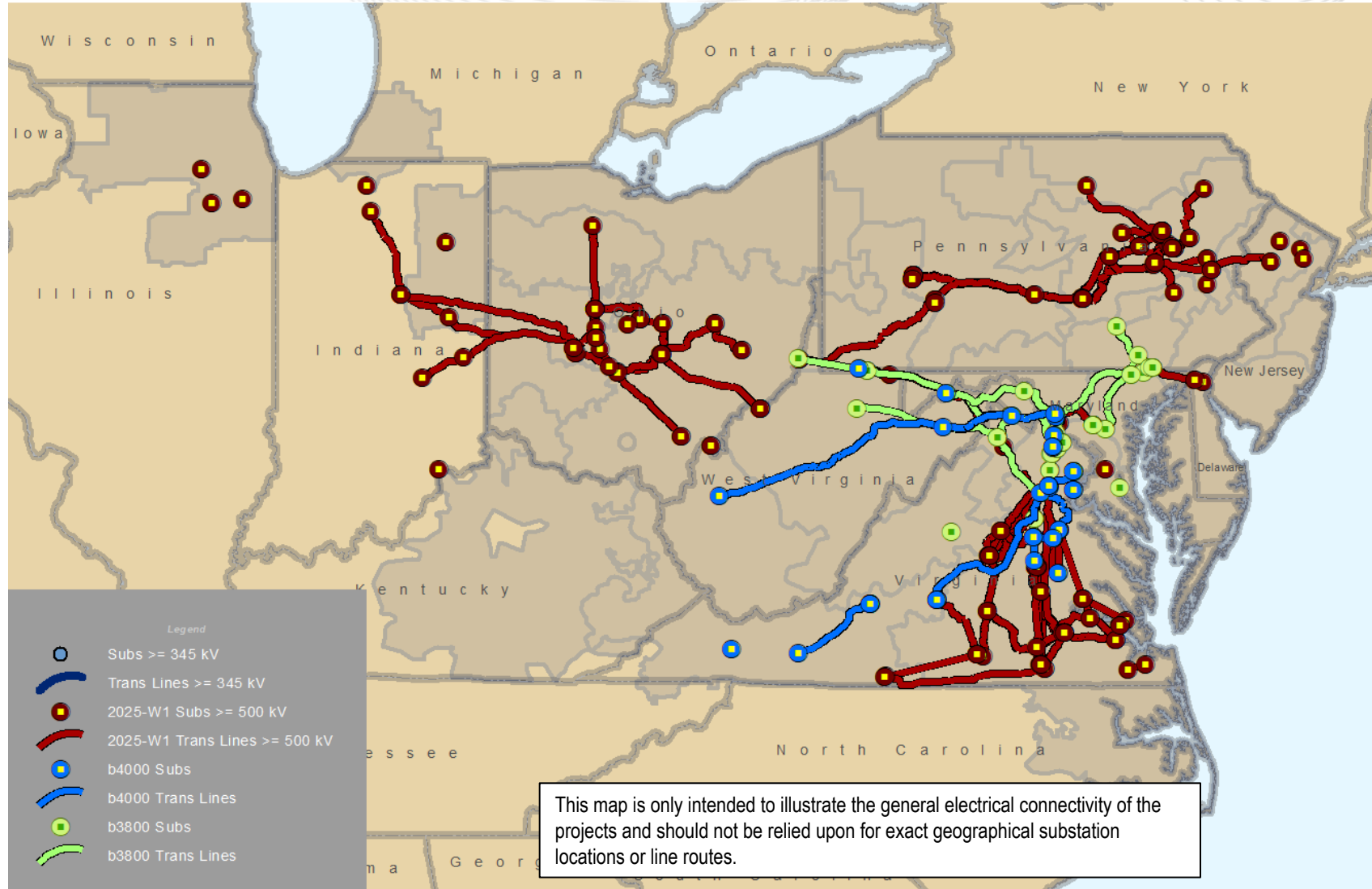


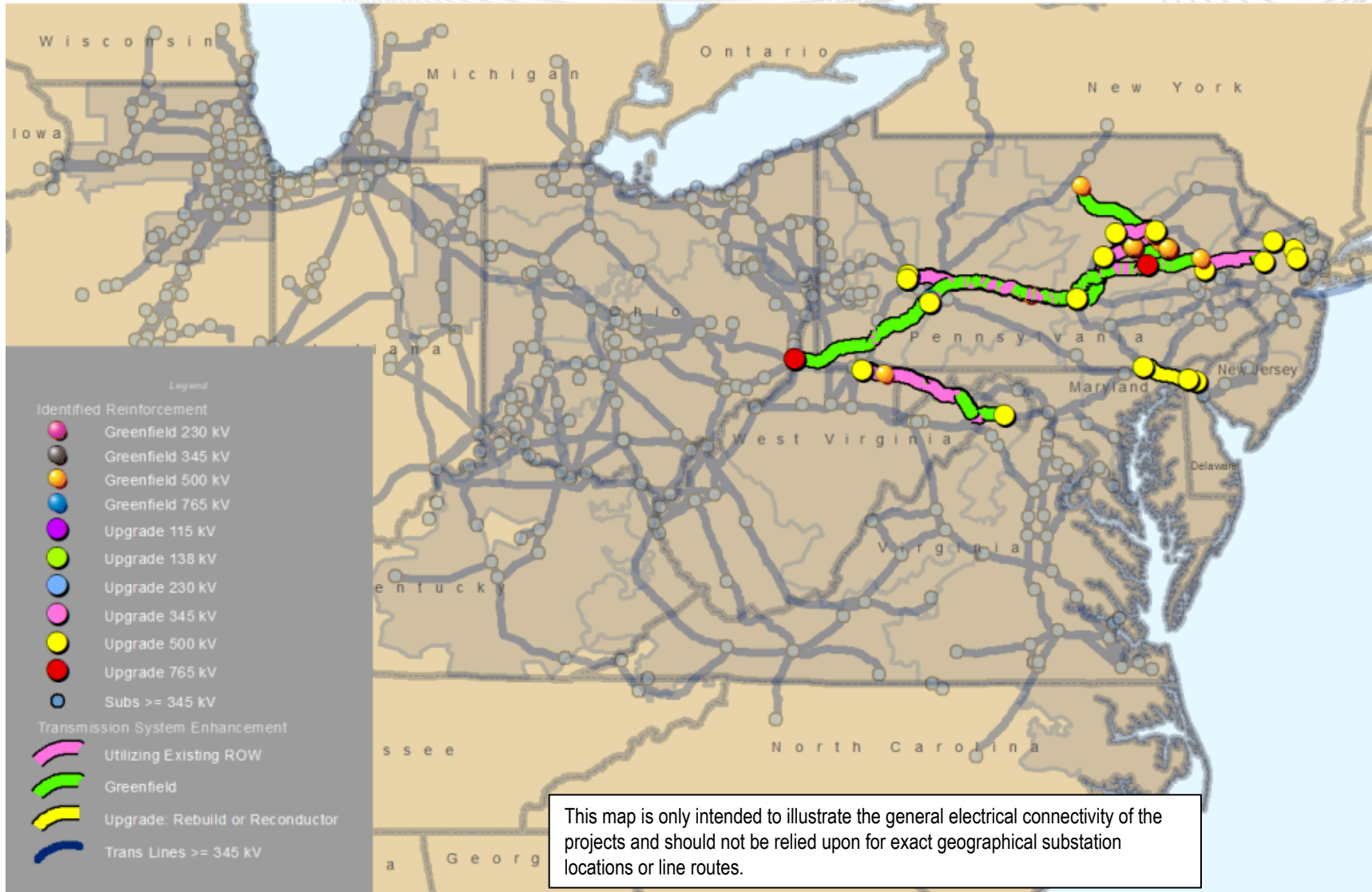
- Much smaller 345 kV proposals in Western PJM compared to overall 500 kV and 765 kV proposals.

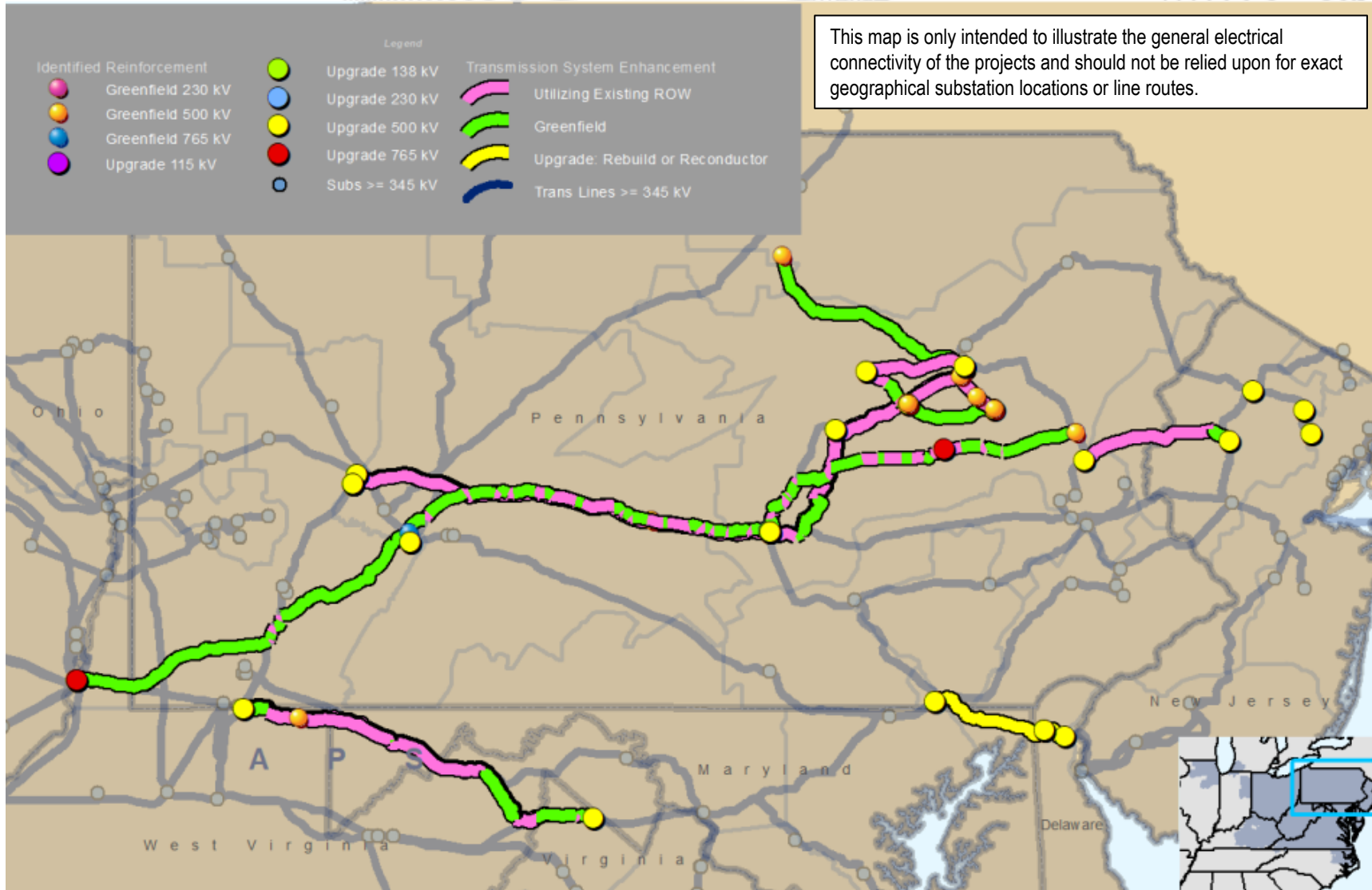
Preliminary Clusters (only 765 & 500 kV proposals shown)

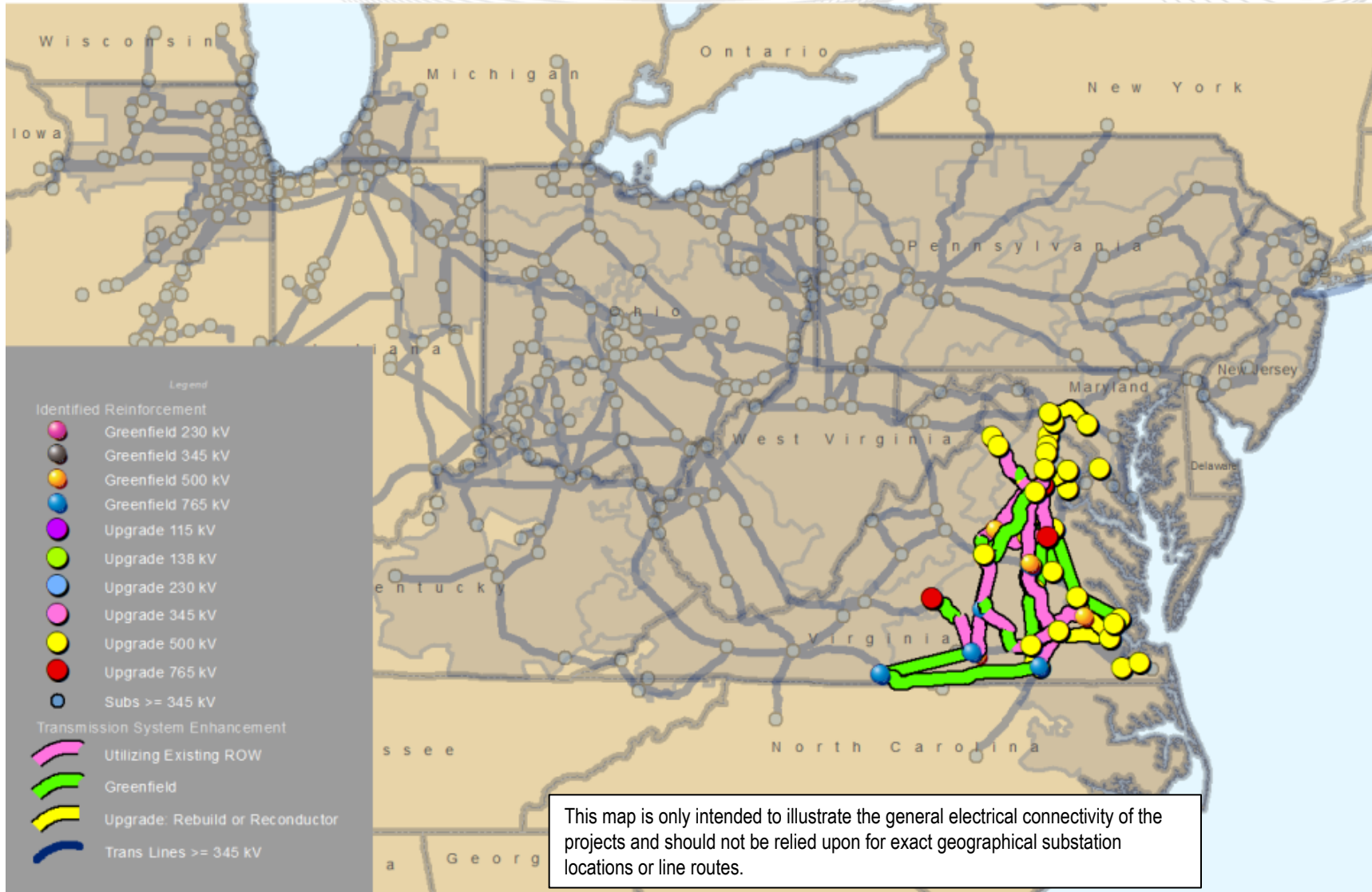


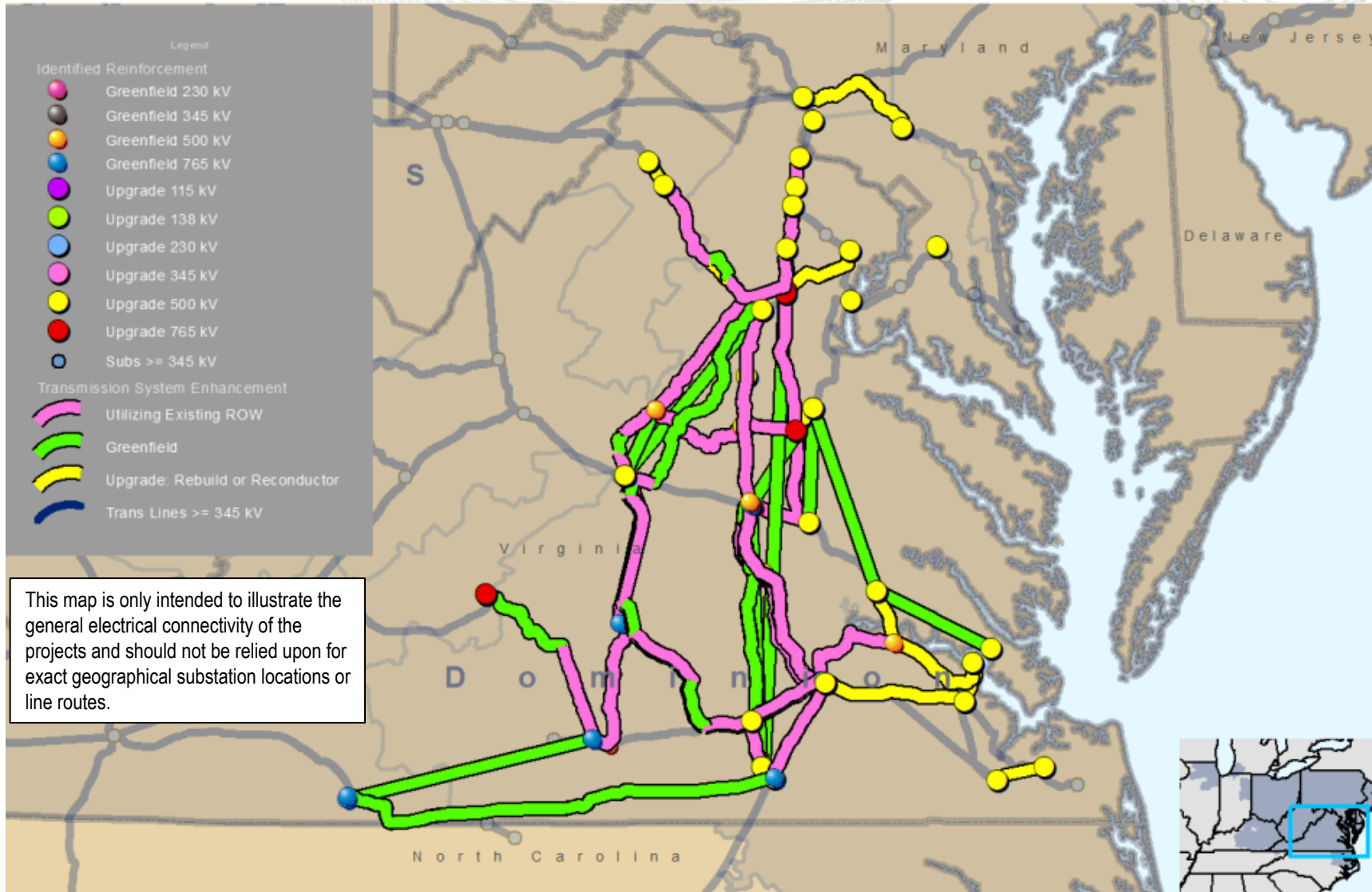
2025 RTEP W1 Proposals Complementing 2022W3 and 2024W1

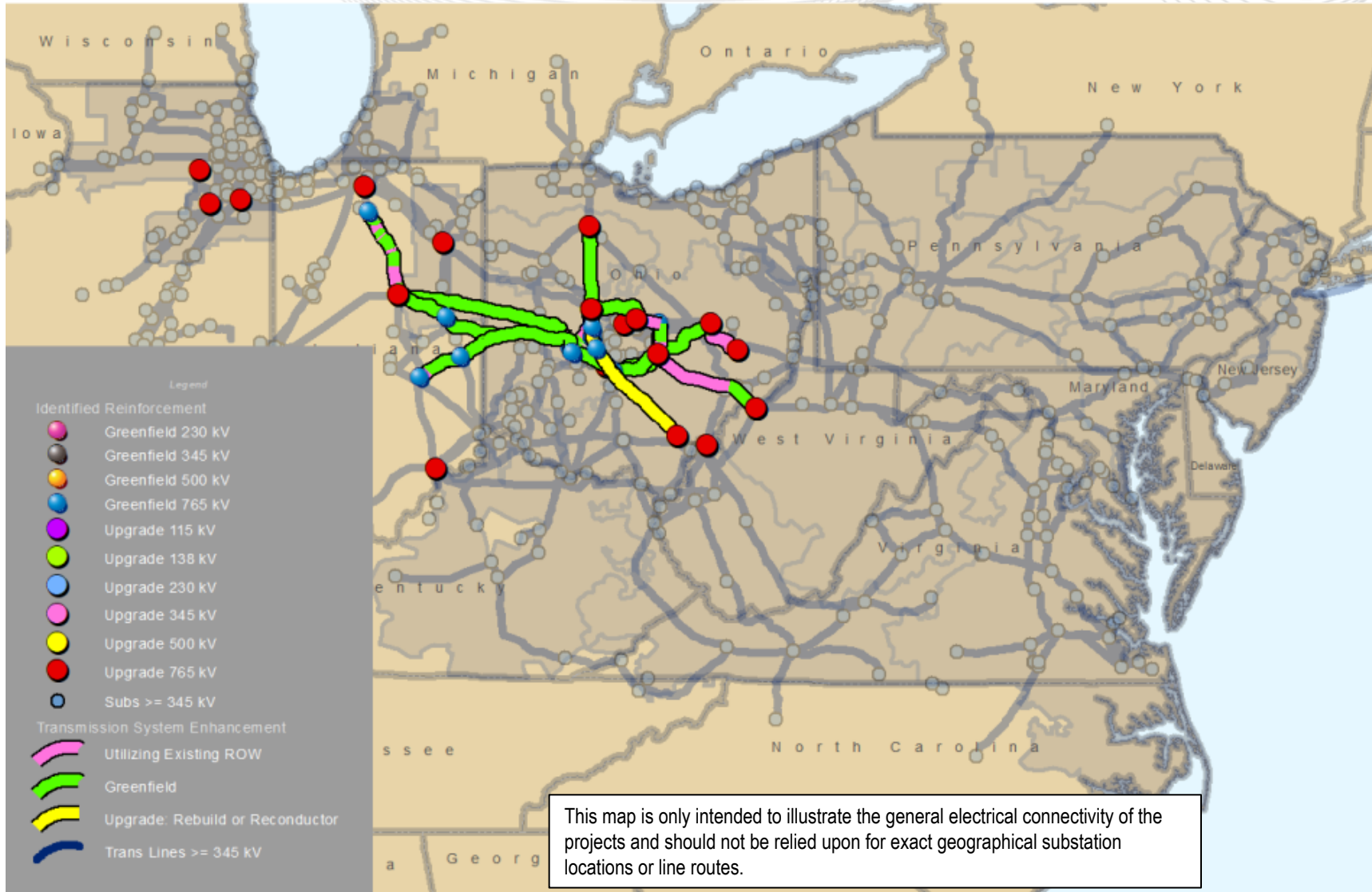


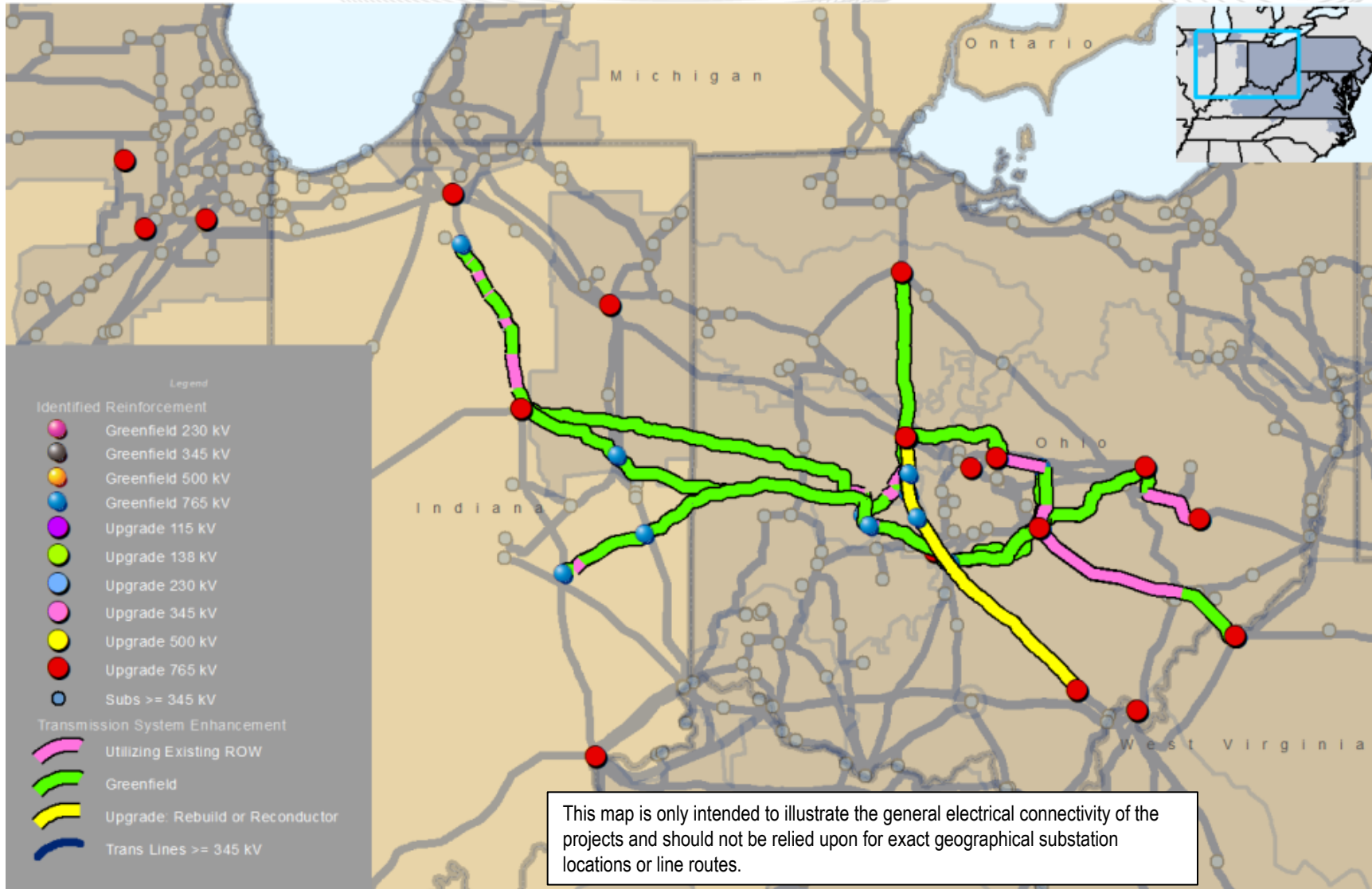












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SME/Presenter:
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Member Hotline

(610) 666 – 8980

(866) 400 – 8980

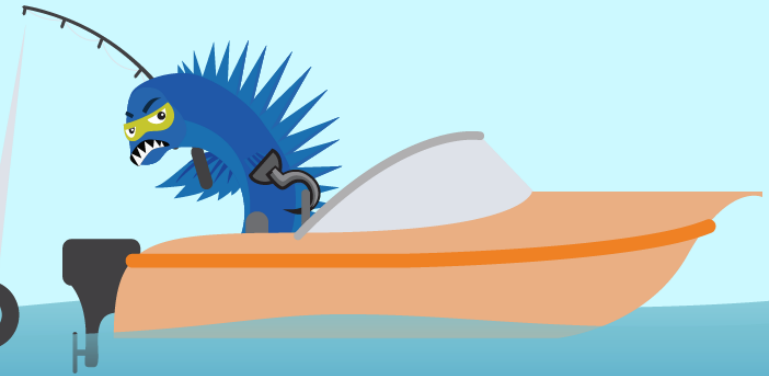
custsvc@pjm.com

Version No.	Date	Description
1	September 4, 2025	<ul style="list-style-type: none">Initial slides posted
2	September 6, 2025	<ul style="list-style-type: none">Updated slides to include additional information on the projects

**PROTECT THE
POWER GRID**
**THINK BEFORE
YOU CLICK!**



**BE ALERT TO
MALICIOUS PHISHING
EMAILS**



Report suspicious email activity to PJM.
Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com

Appendix

Appendix: 2025 RTEP Assumptions - Load and Gen Dispatch Increase

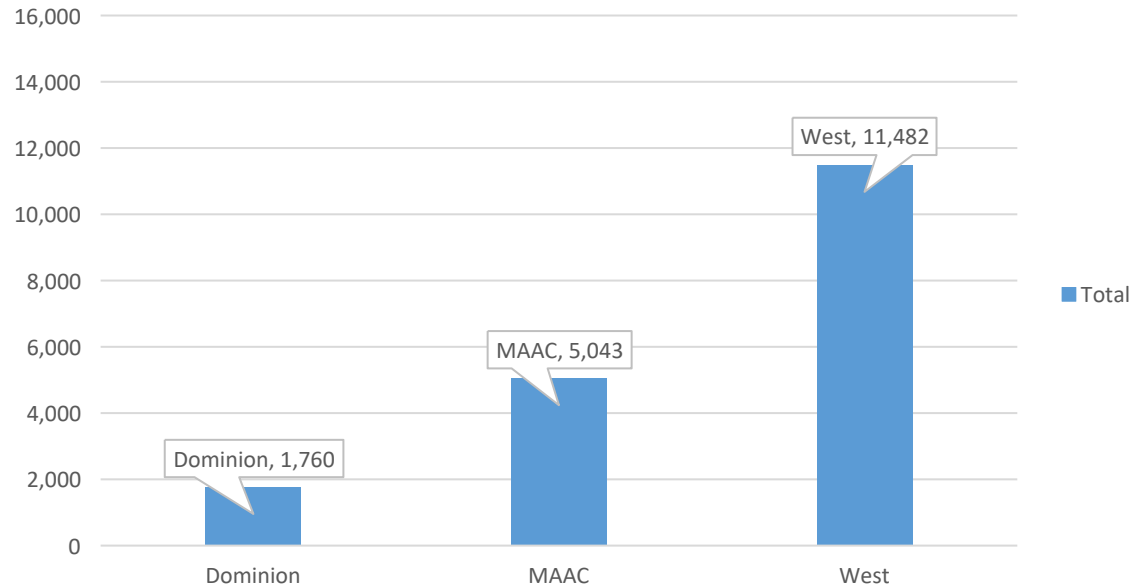


Load and Gen Dispatch Increase – Summer (2029 to 2030)

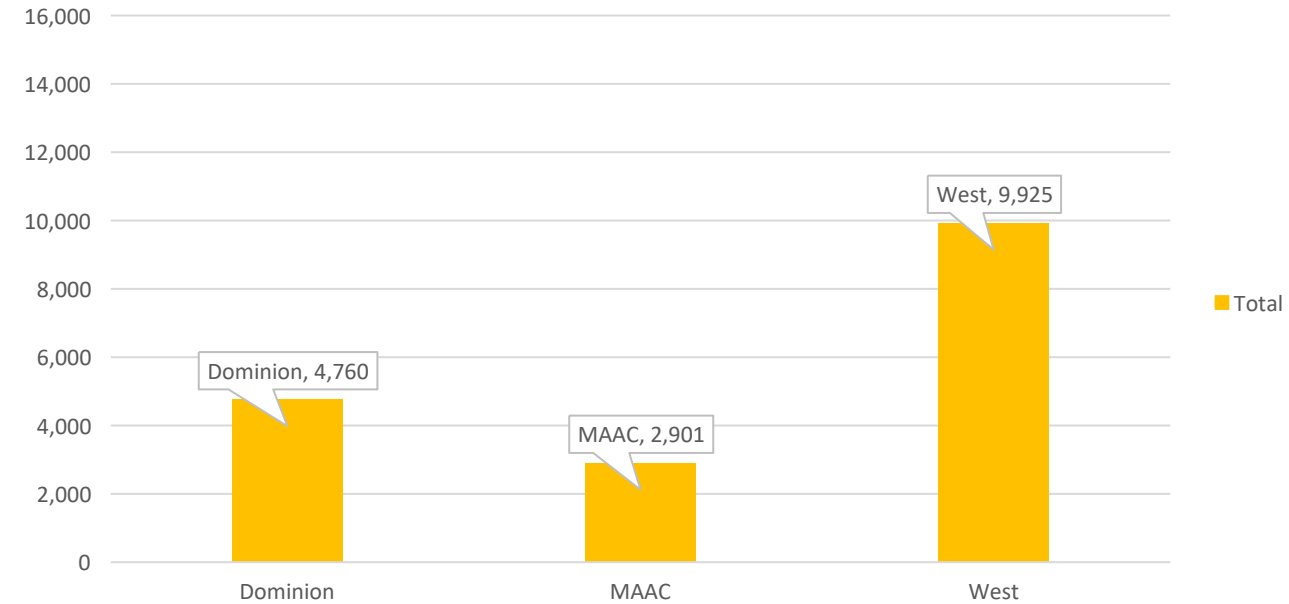
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Year Over Year Load Increase



2029 - 2030 Summer
Year Over Year Generation Increase

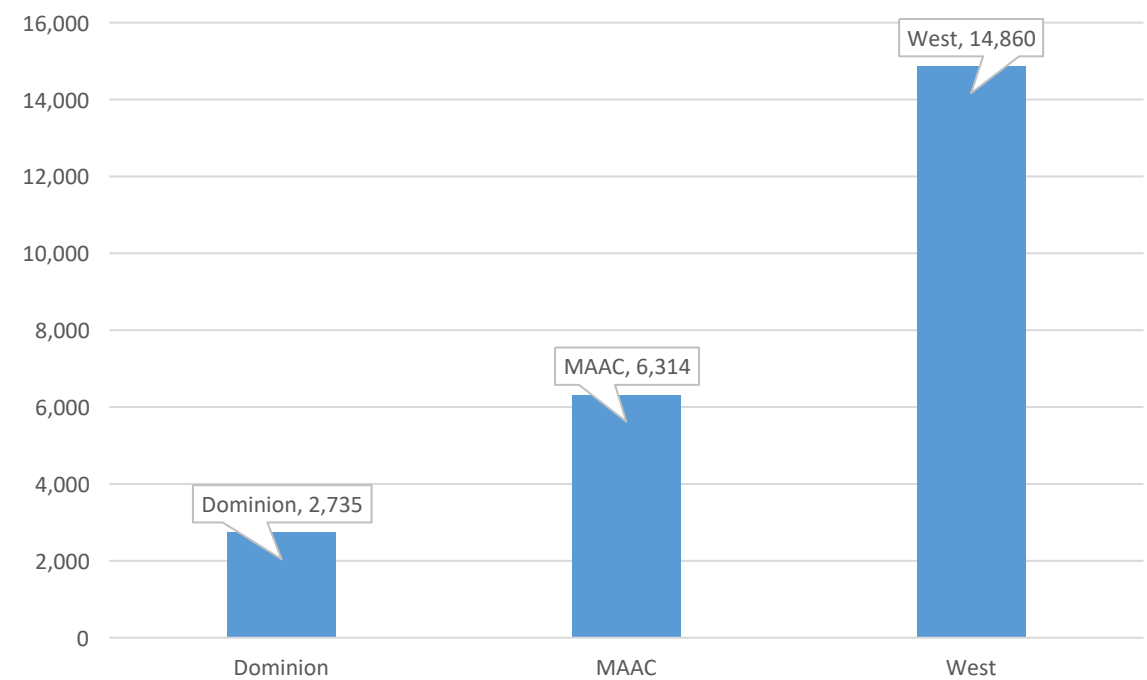




Load and Gen Dispatch Increase – **Winter** (2029 to 2030)

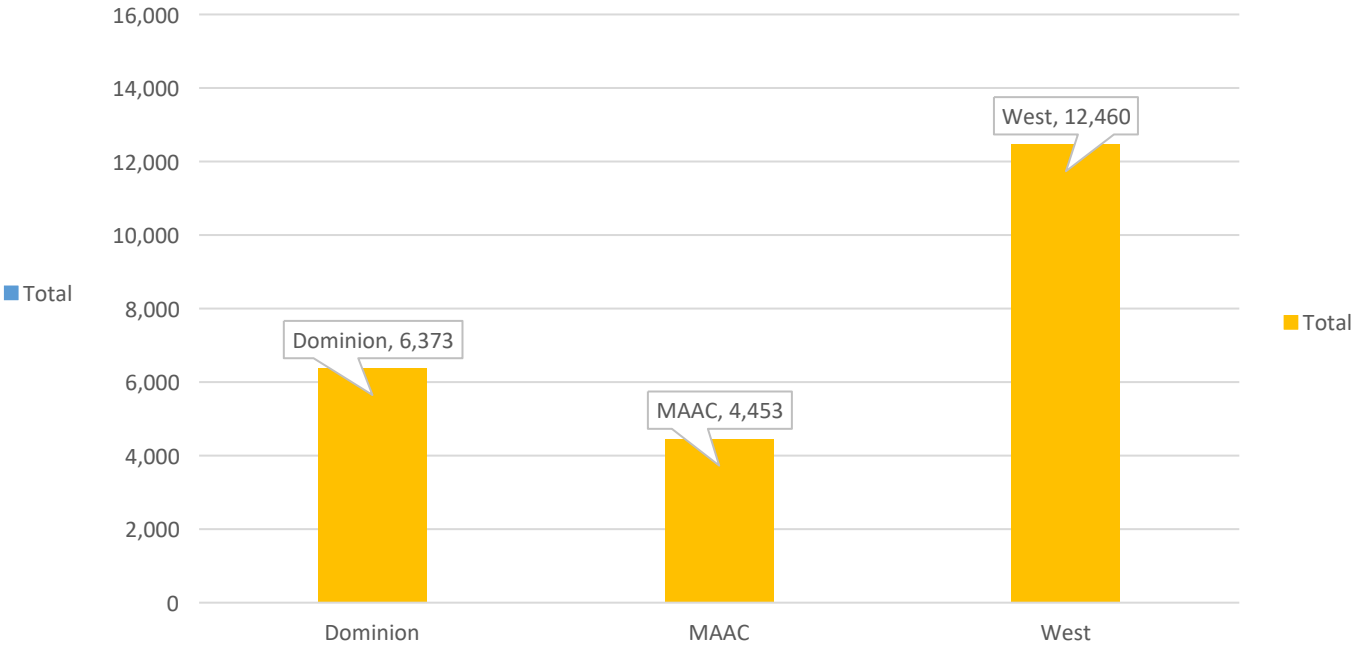
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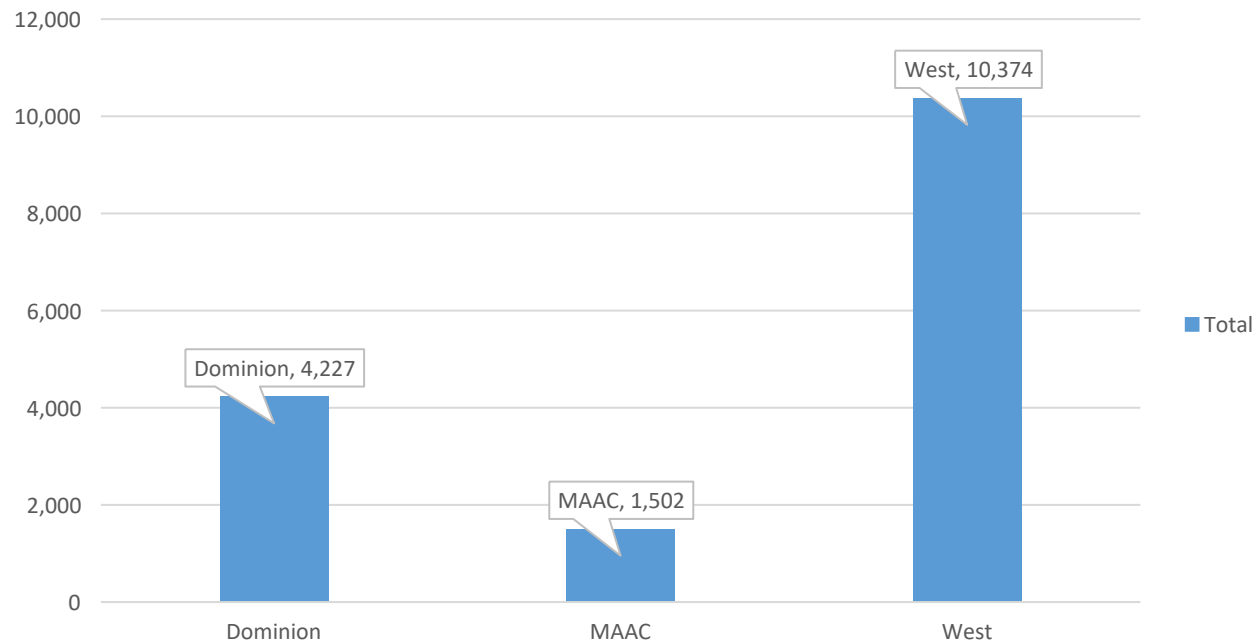




Load and Gen Dispatch MW change – Summer (2030 to 2032)

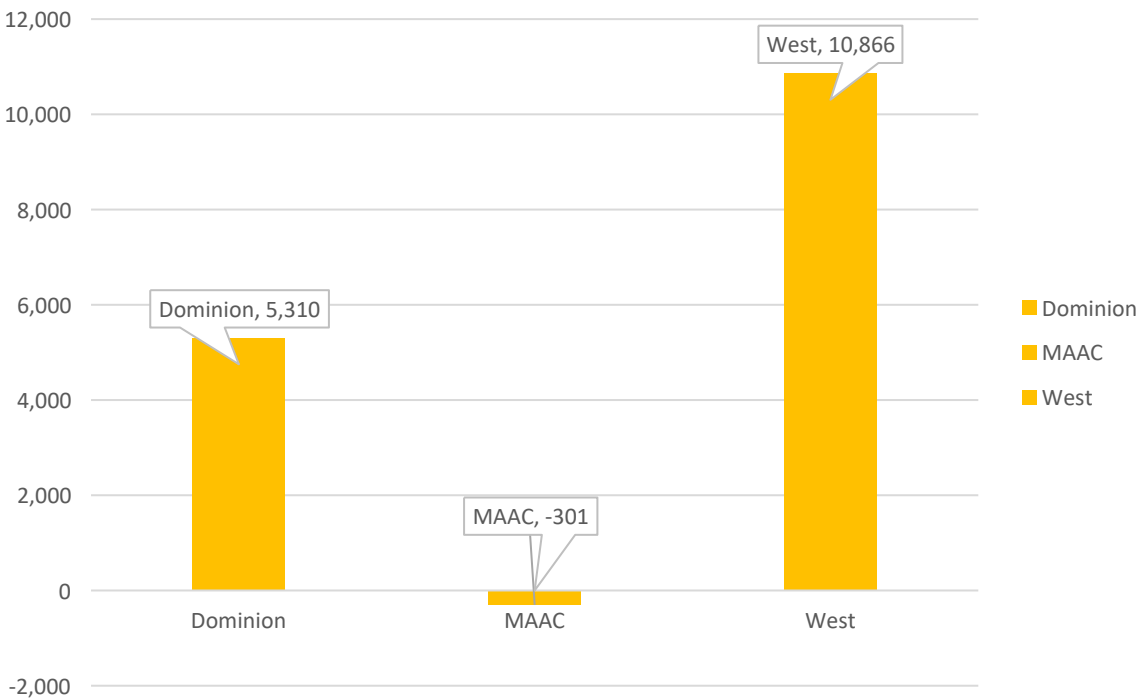
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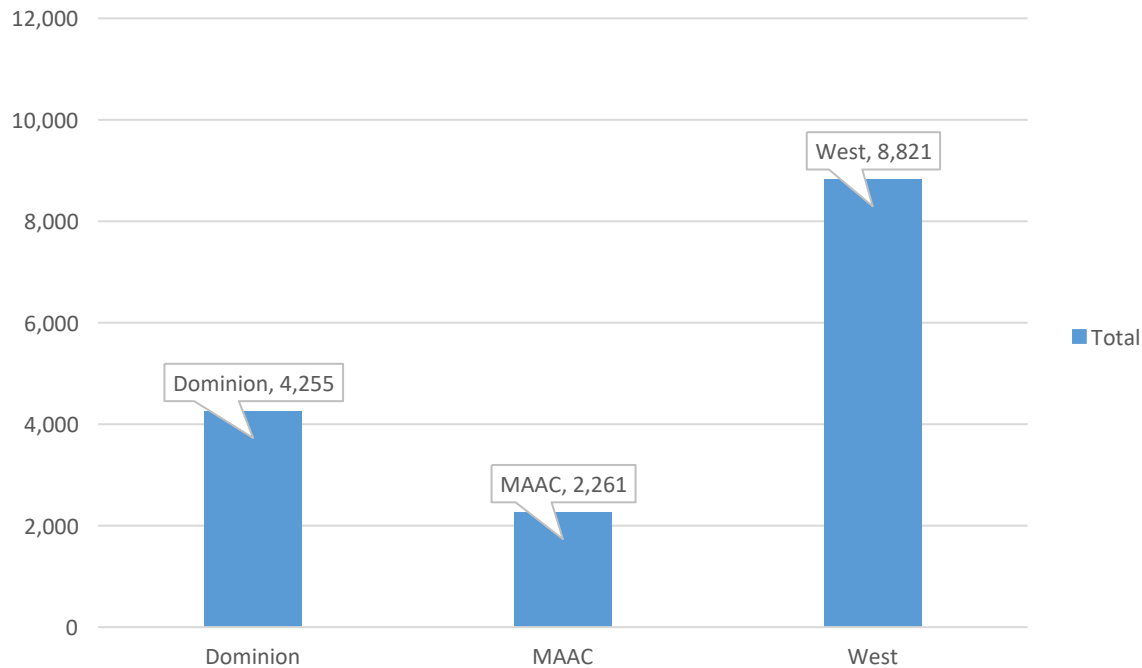
2030 to 2032 Summer
MW Generation Increase



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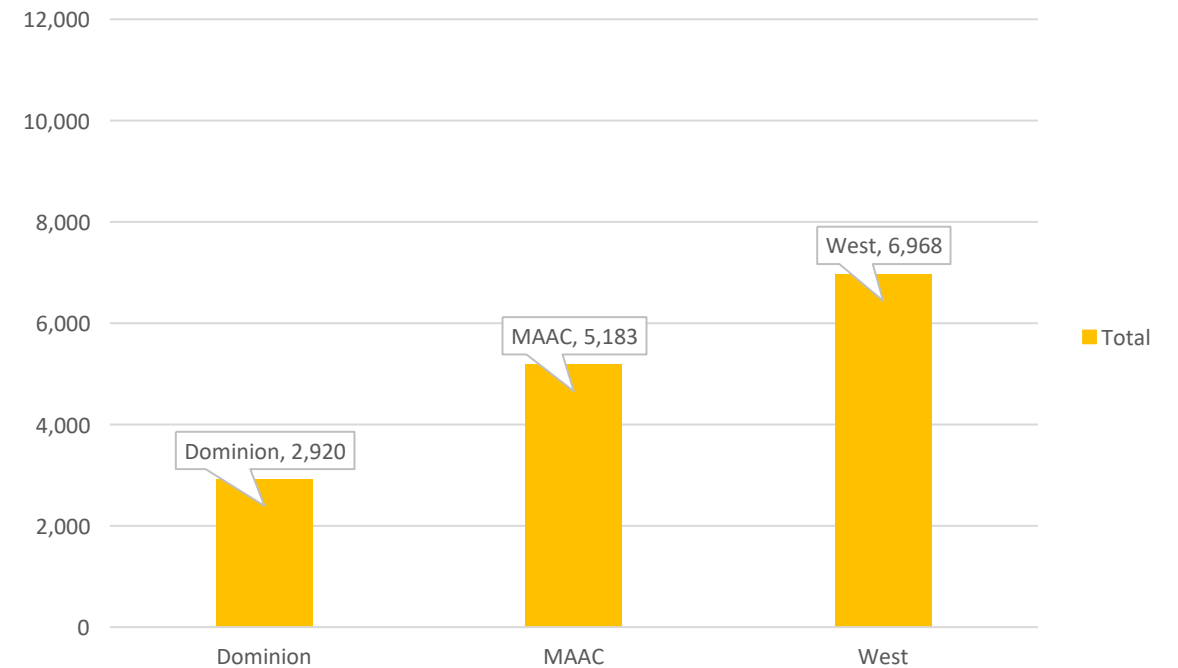
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MW Generation Increase



Deactivation Changes from 2024 RTEP

Additional Deactivation units currently considered in 2025 RTEP: Total 1384MW

Unit	Capacity (MW)	Trans Zone	State
CATES ROAD SOLAR	2.6	ACE	NJ
MANCHESTER (MRPC) NUG	4	JCPL	NJ
INDIAN RIVER 10	16.1	DPL	DE
MORRIS ROAD 1 D	2	PECO	PA
WARRIOR RUN 2 BT	5	APS	MD
ELWOOD CT 9	150	ComEd	IL
ELWOOD CT 8	150	ComEd	IL
ELWOOD CT 7	150	ComEd	IL
ELWOOD CT 6	150	ComEd	IL
ELWOOD CT 5	150	ComEd	IL
ELWOOD CT 4	150	ComEd	IL
ELWOOD CT 3	150	ComEd	IL
ELWOOD CT 2	150	ComEd	IL
ELWOOD CT 1	150	ComEd	IL
GRAND RIDGE 6 BT	4.5	ComEd	IL

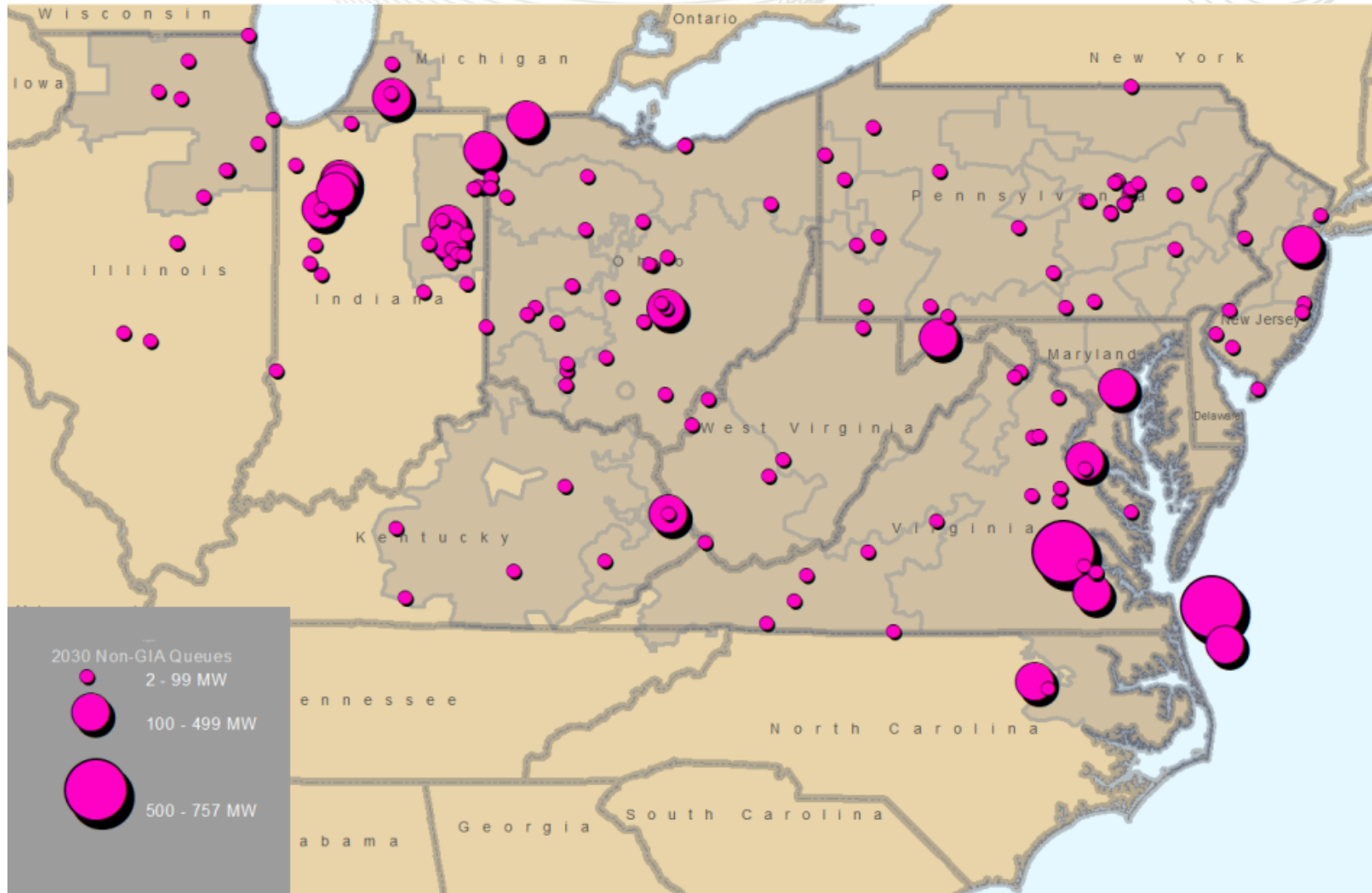
Recent Major Deactivation units will be considered in 2025 RTEP: Total 2380MW

Unit	Capacity (MW)	Trans Zone	State
ROCKPORT 1	1380	AEP	IN
ROCKPORT 2	1300	AEP	IN
ROCKFORD CT 11	179	ComEd	IL
ROCKFORD CT 12	178	ComEd	IL
ROCKFORD CT 21	180	ComEd	IL

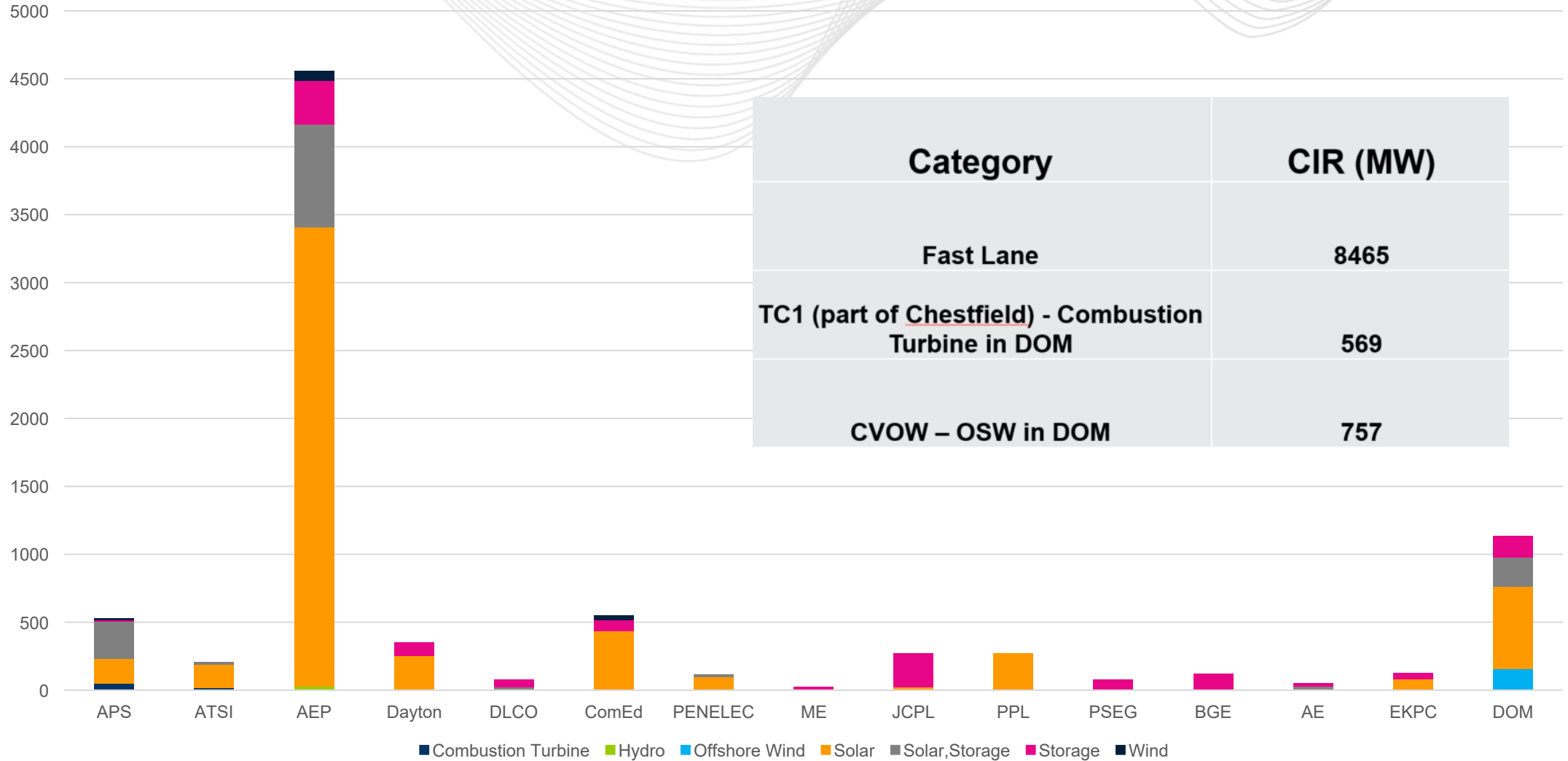
Added back to 2025 RTEP due to the withdrawal of deactivation: 1425MW

Unit	Capacity (MW)	Trans Zone	State
KENILWORTH NUG	15	PSEG	NJ
FISK CT 31	49.1	ComEd	IL
FISK CT 32	50.8	ComEd	IL
FISK CT 33	47.9	ComEd	IL
FISK CT 34	22.9	ComEd	IL
WAUKEGAN CT 32	48.9	ComEd	IL
WAUKEGAN CT 31	52.5	ComEd	IL
PERRYMAN 6	54.9	BGE	MD
ELGIN CT 4	121	ComEd	IL
ELGIN CT 3	120	ComEd	IL
ELGIN CT 2	121	ComEd	IL
ELGIN CT 1	121	ComEd	IL
SAYREVILLE C-4	48.5	JCPL	NJ
SAYREVILLE C-3	54.6	JCPL	NJ
SAYREVILLE C-2	56.7	JCPL	NJ
SAYREVILLE C-1	57.1	JCPL	NJ
MORGANTOWN CT 6	54	PEPCO	MD
MORGANTOWN CT 5	54	PEPCO	MD
MORGANTOWN CT 4	54	PEPCO	MD
MORGANTOWN CT 3	54	PEPCO	MD
VIENNA 10	14.3	DPL	MD
VIENNA 8	153	DPL	MD

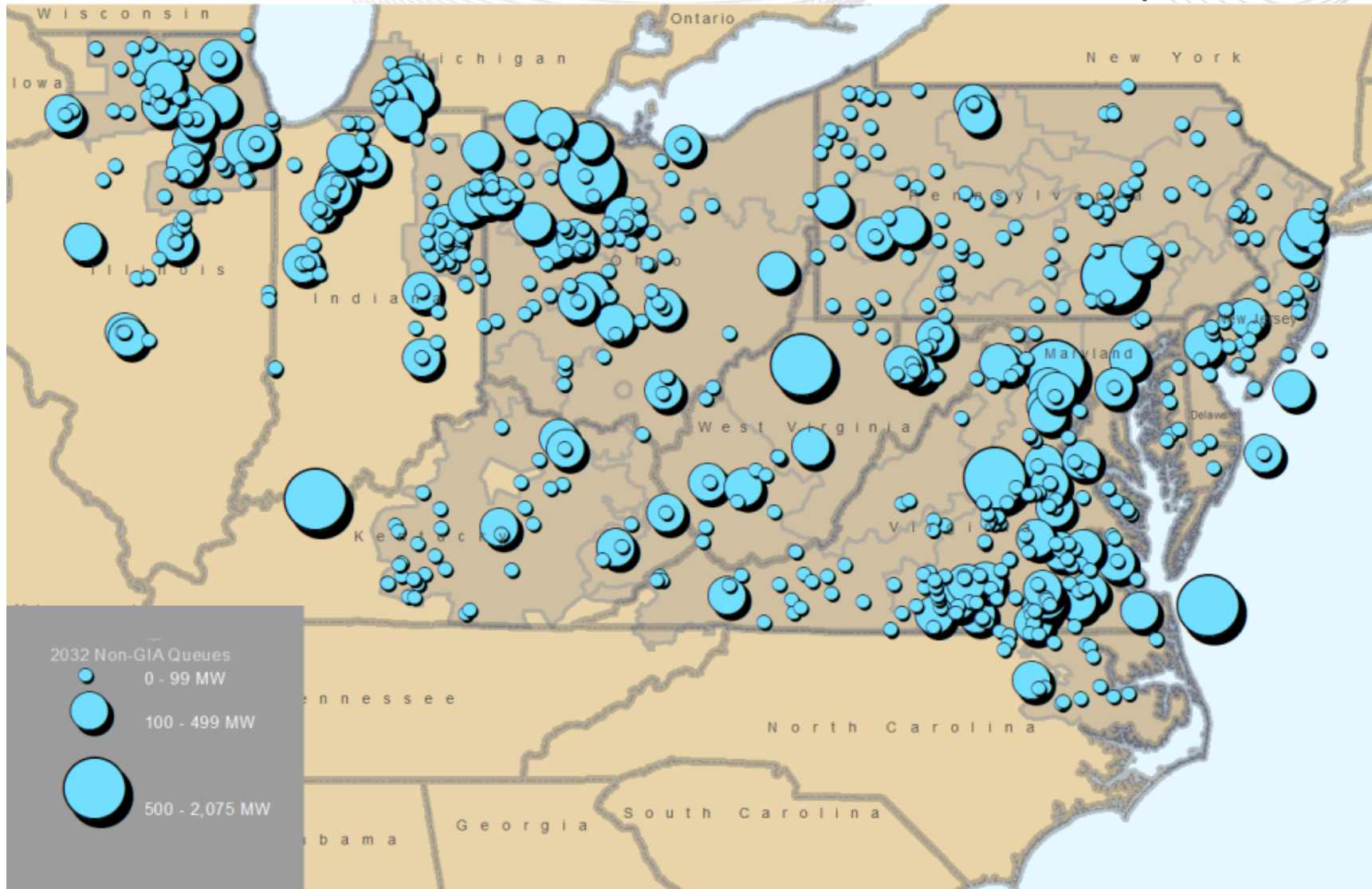
2030 - Forecasted/Future Generation Added (Non-GIA Queue)



2030 - Forecasted/Future Generation Added (Non-GIA Queue - Fast Lane – All is signed Now)

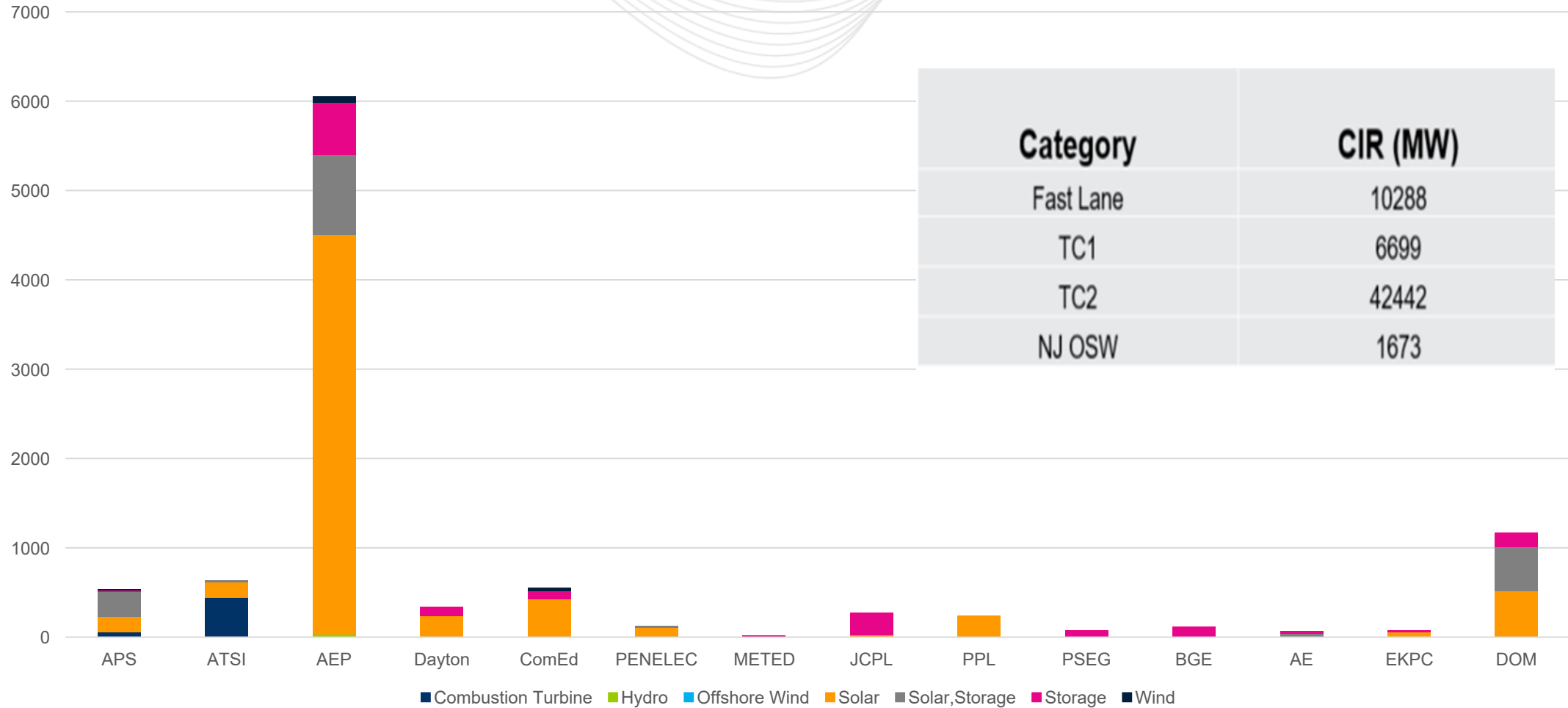


2032 - Forecasted/Future Generation Added (Non-GIA Queue)

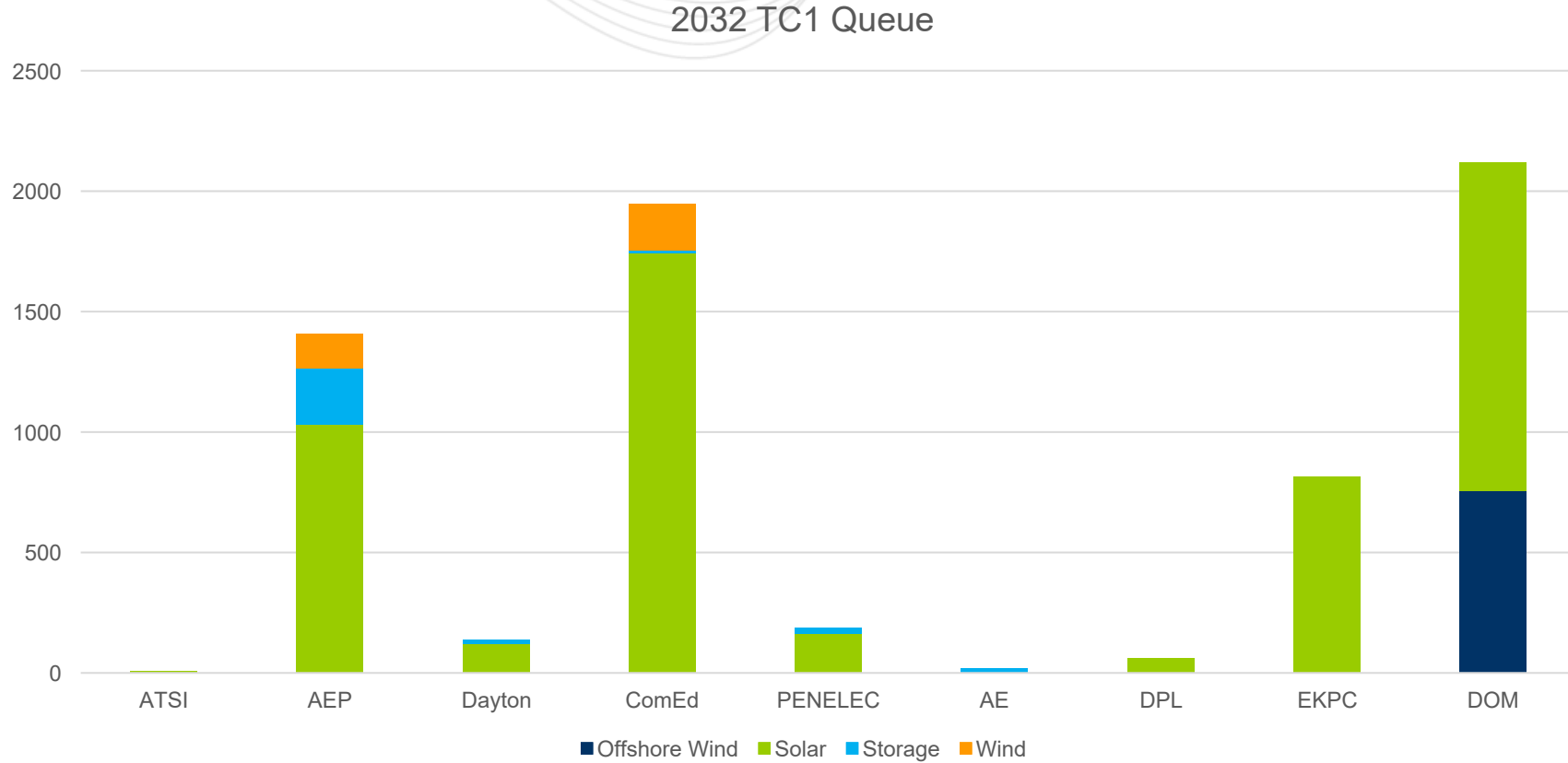


2032 - Forecasted/Future Generation Added (Non-GIA Queue – Fast Lane)

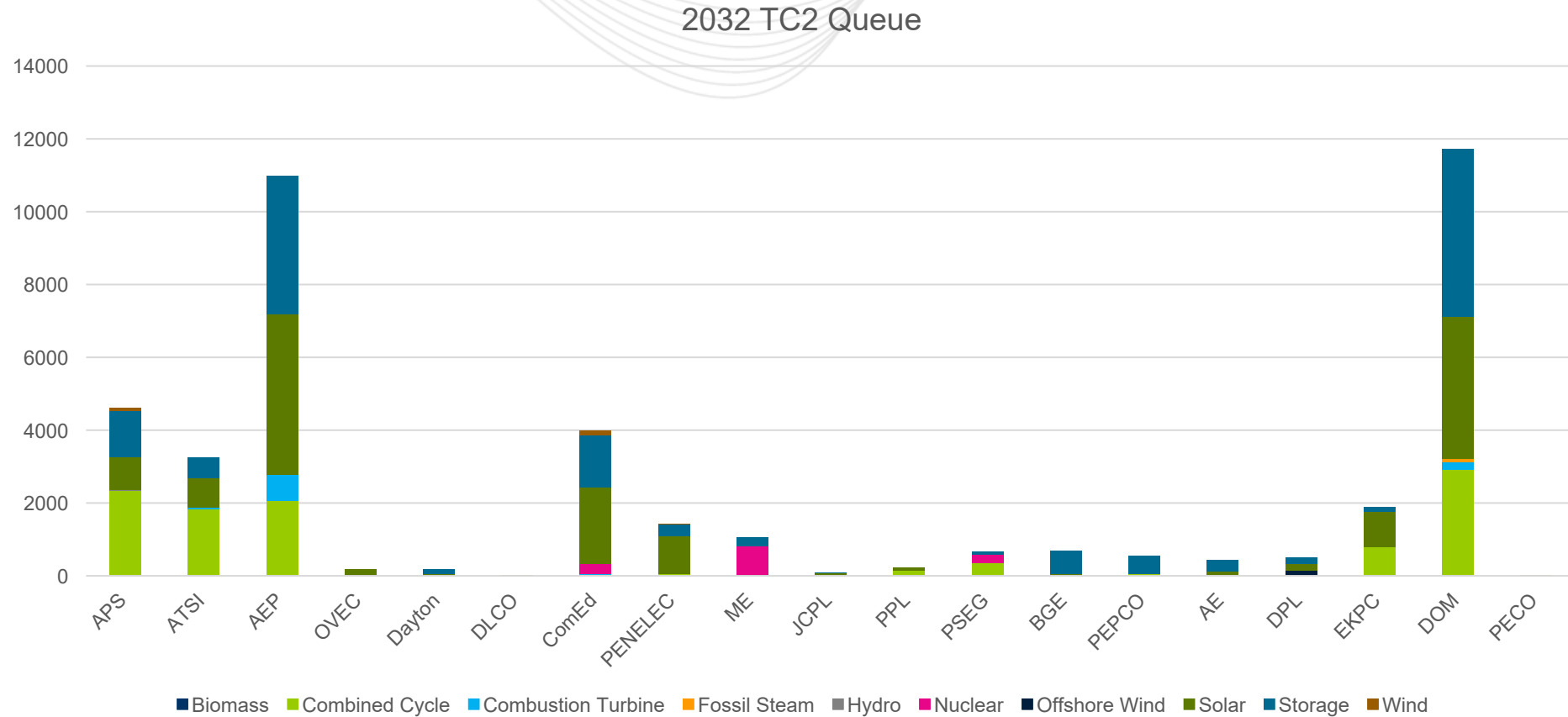
2032 Fast Lane Queue



2032 - Forecasted/Future Generation Added (Non-GIA Queue – TC1)



2032 - Forecasted/Future Generation Added (Non-GIA Queue – TC2)



2025 RTEP Window 1

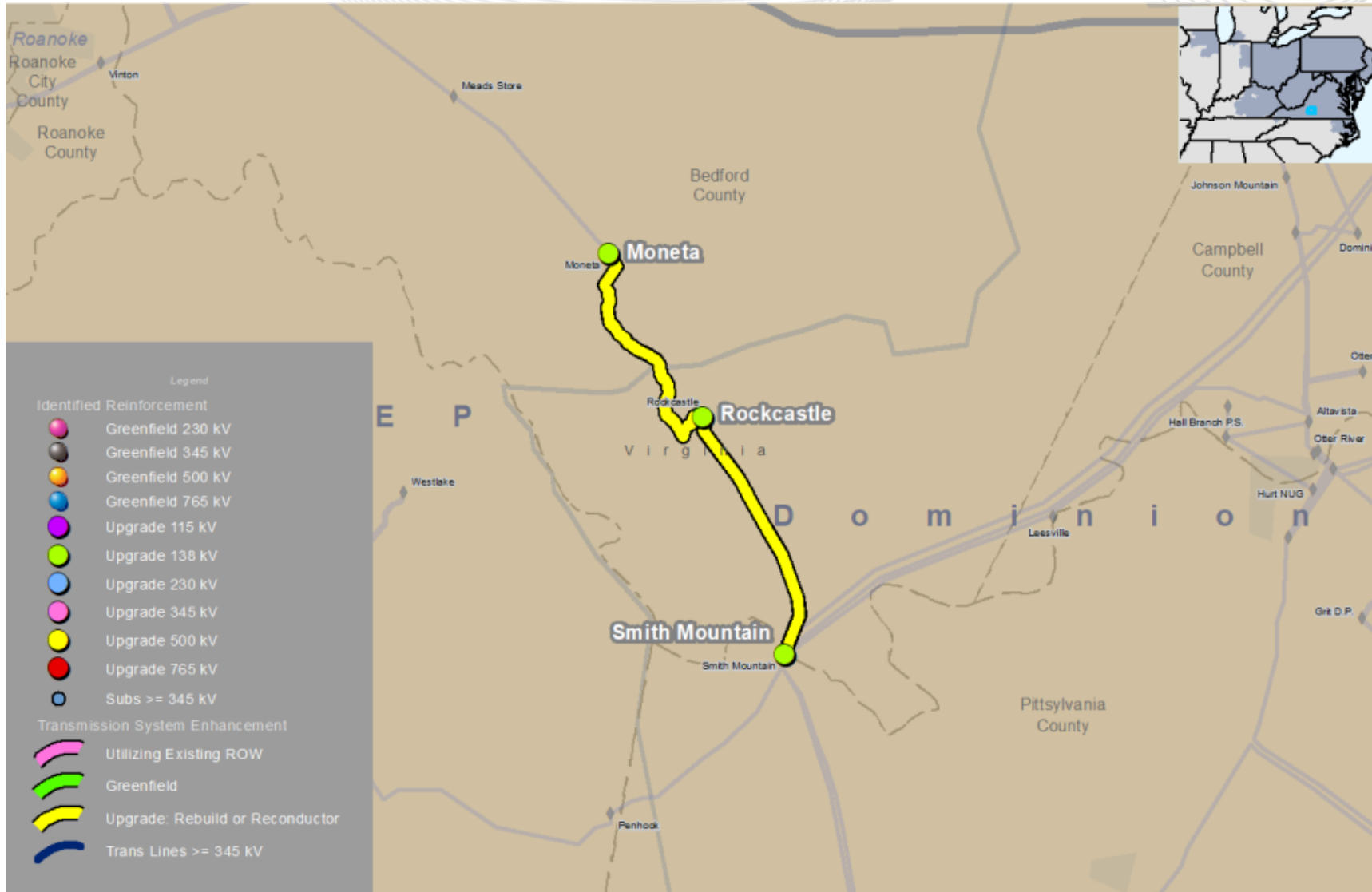
Appendix – Proposal Maps

(all proposal maps are in draft form – maps will continue to be vetted and updated at future TEAC meetings)

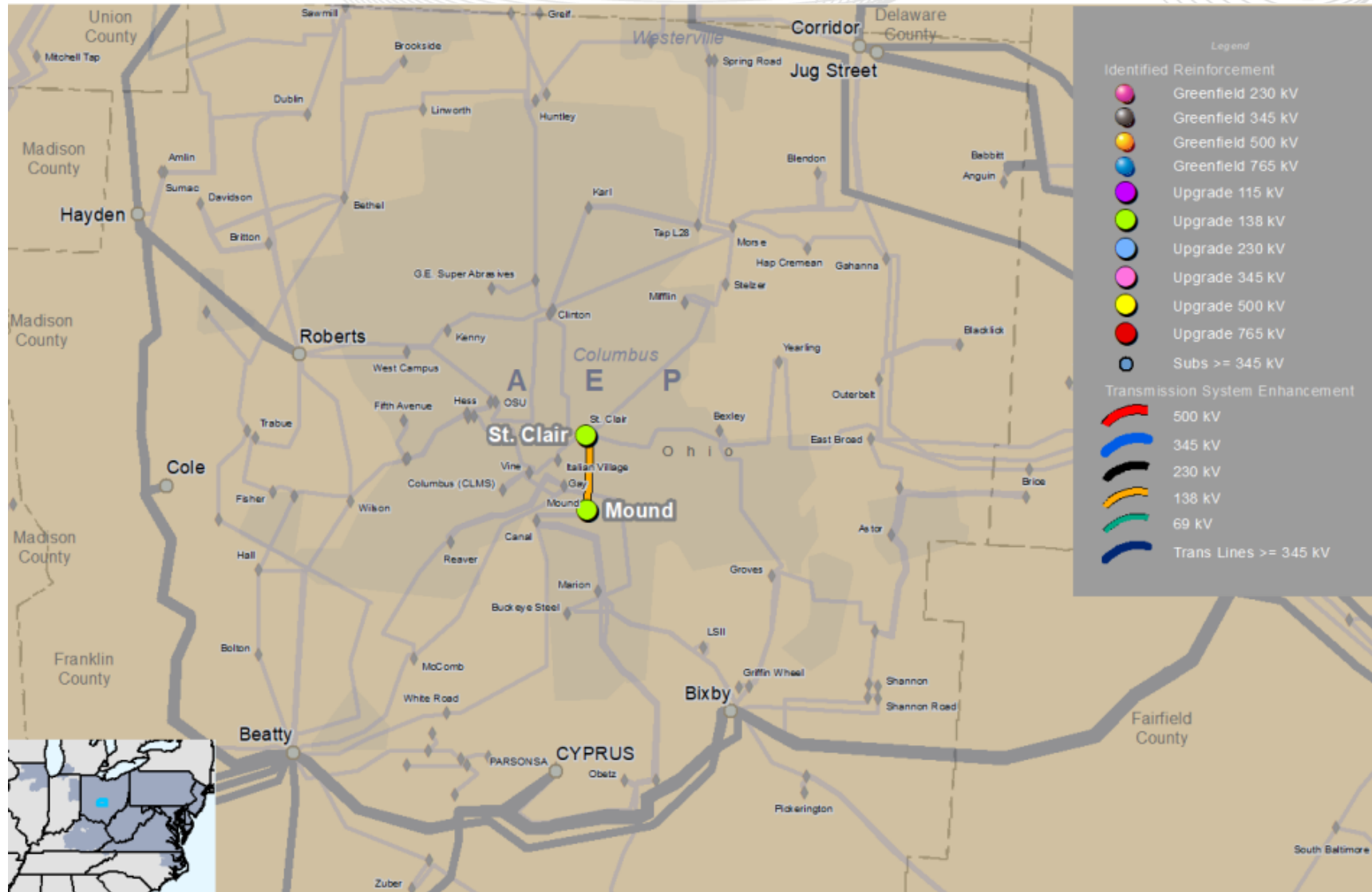
AEPSCT Proposals



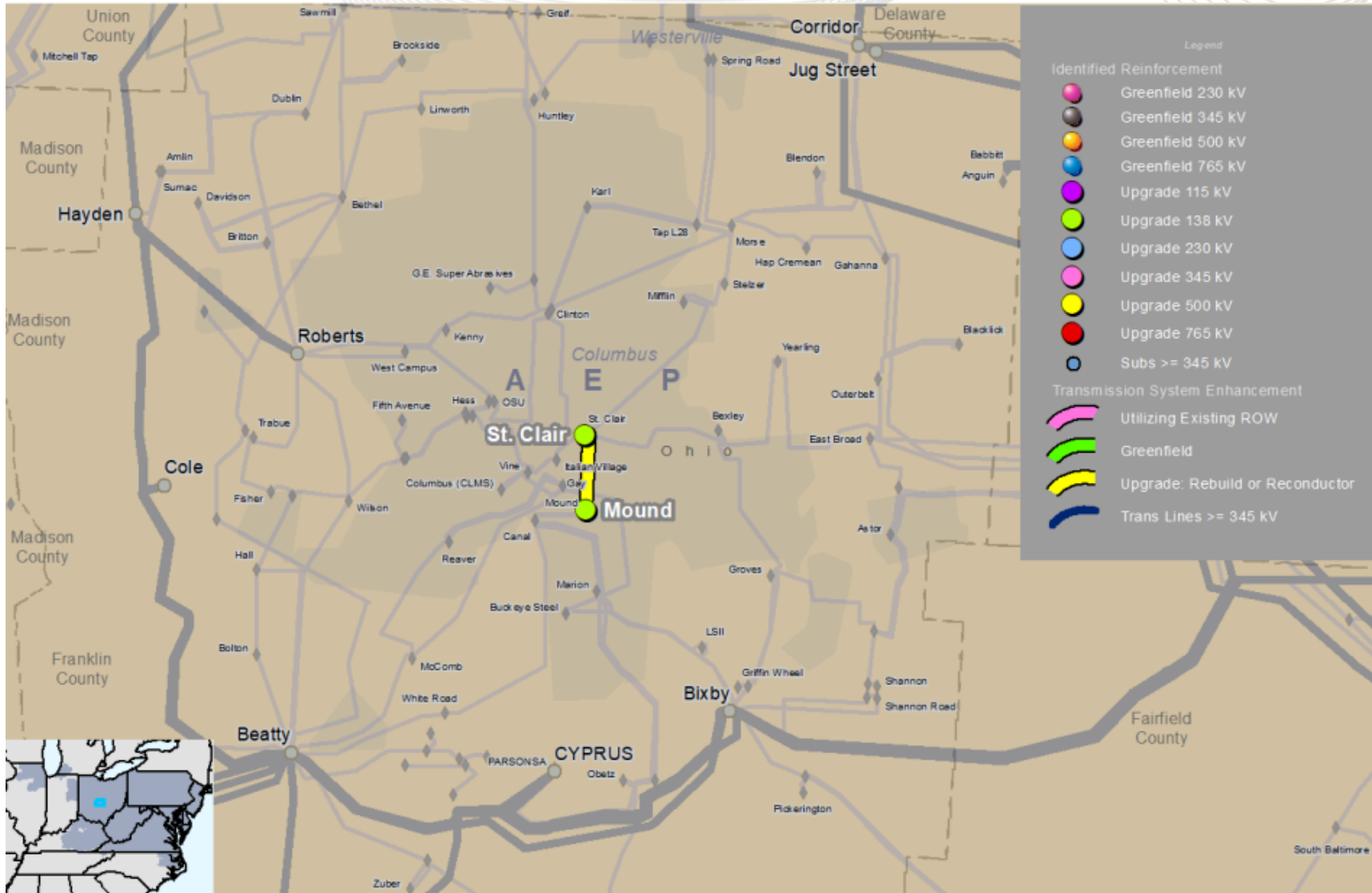
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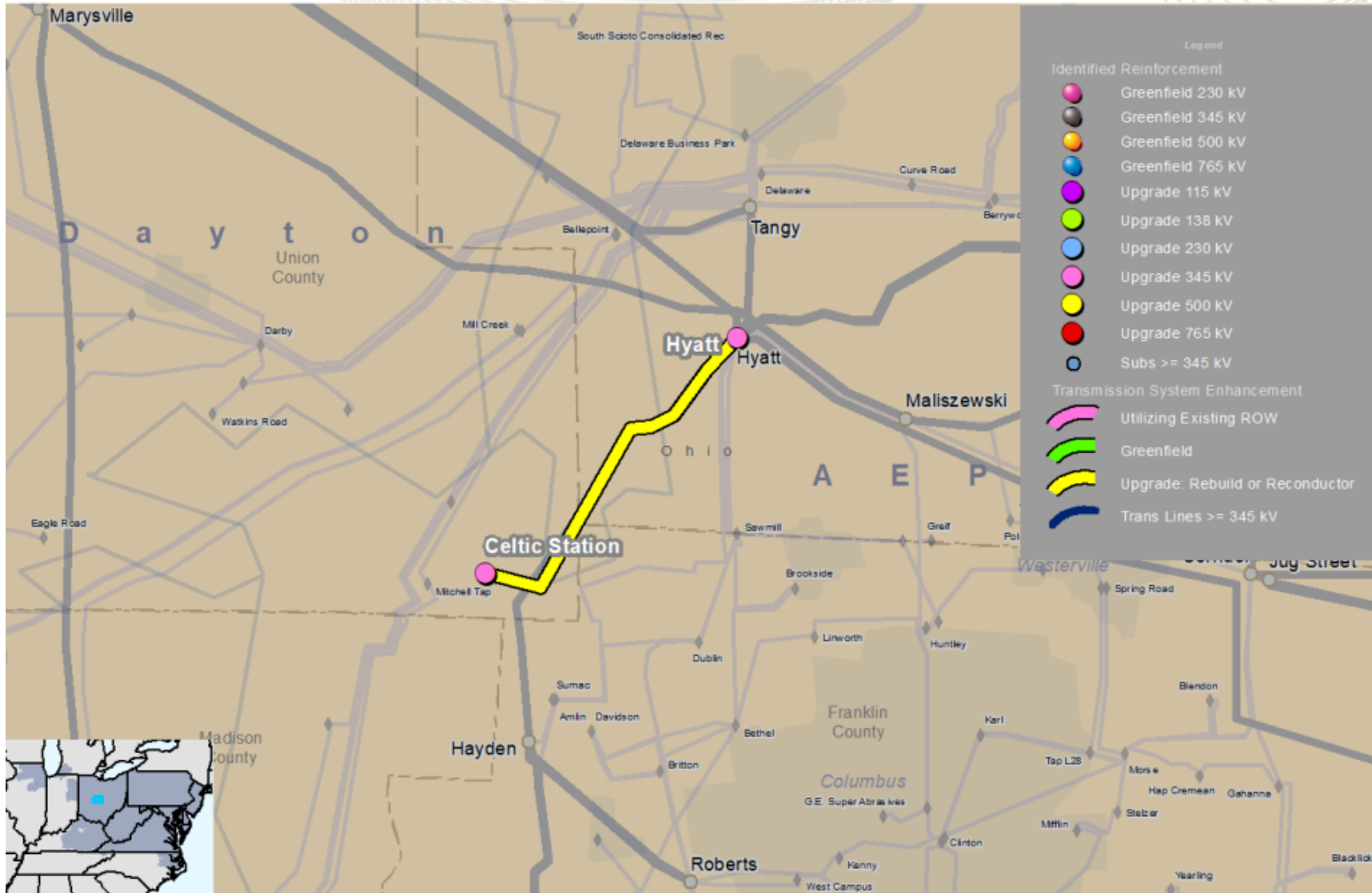
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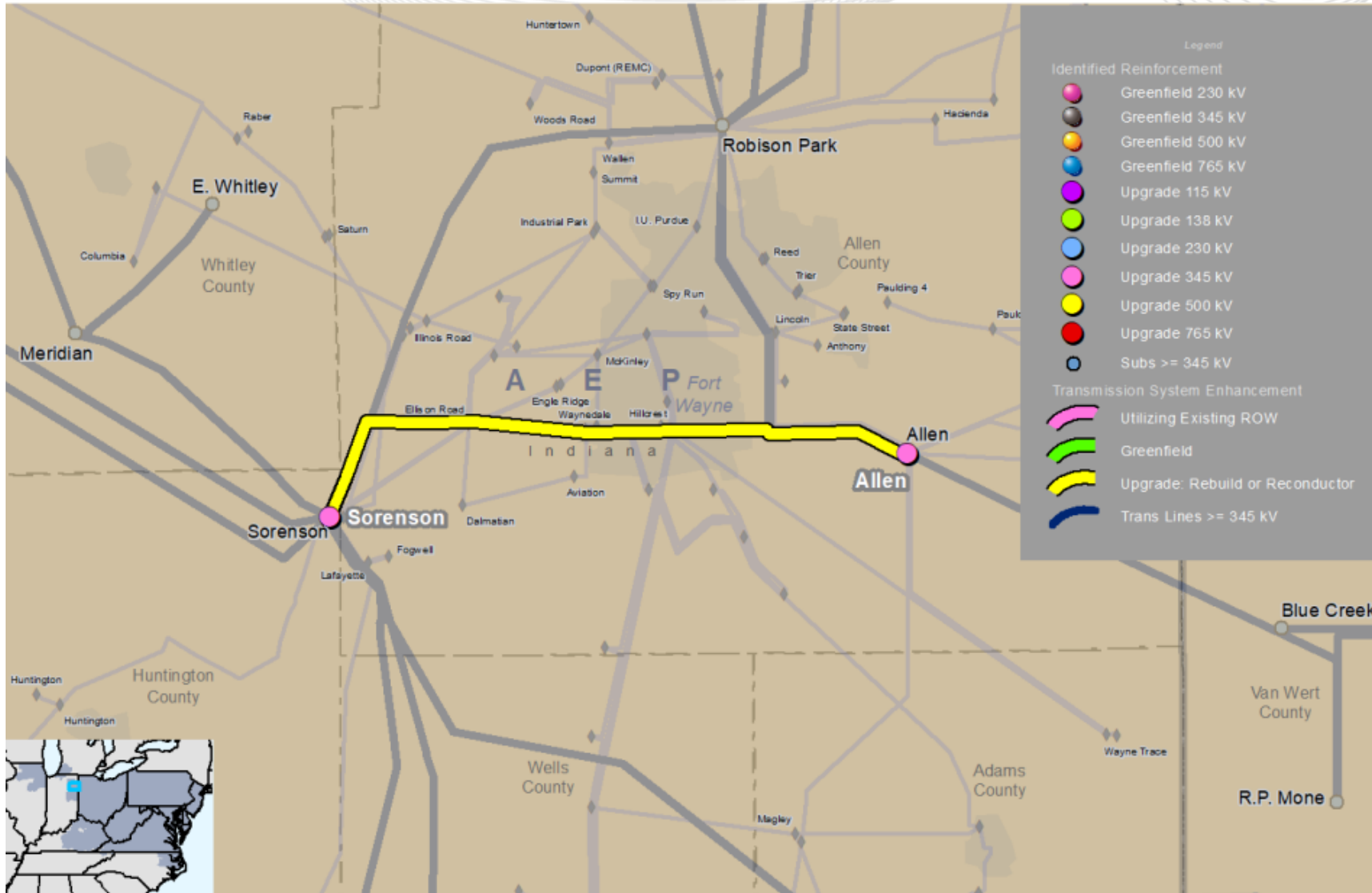
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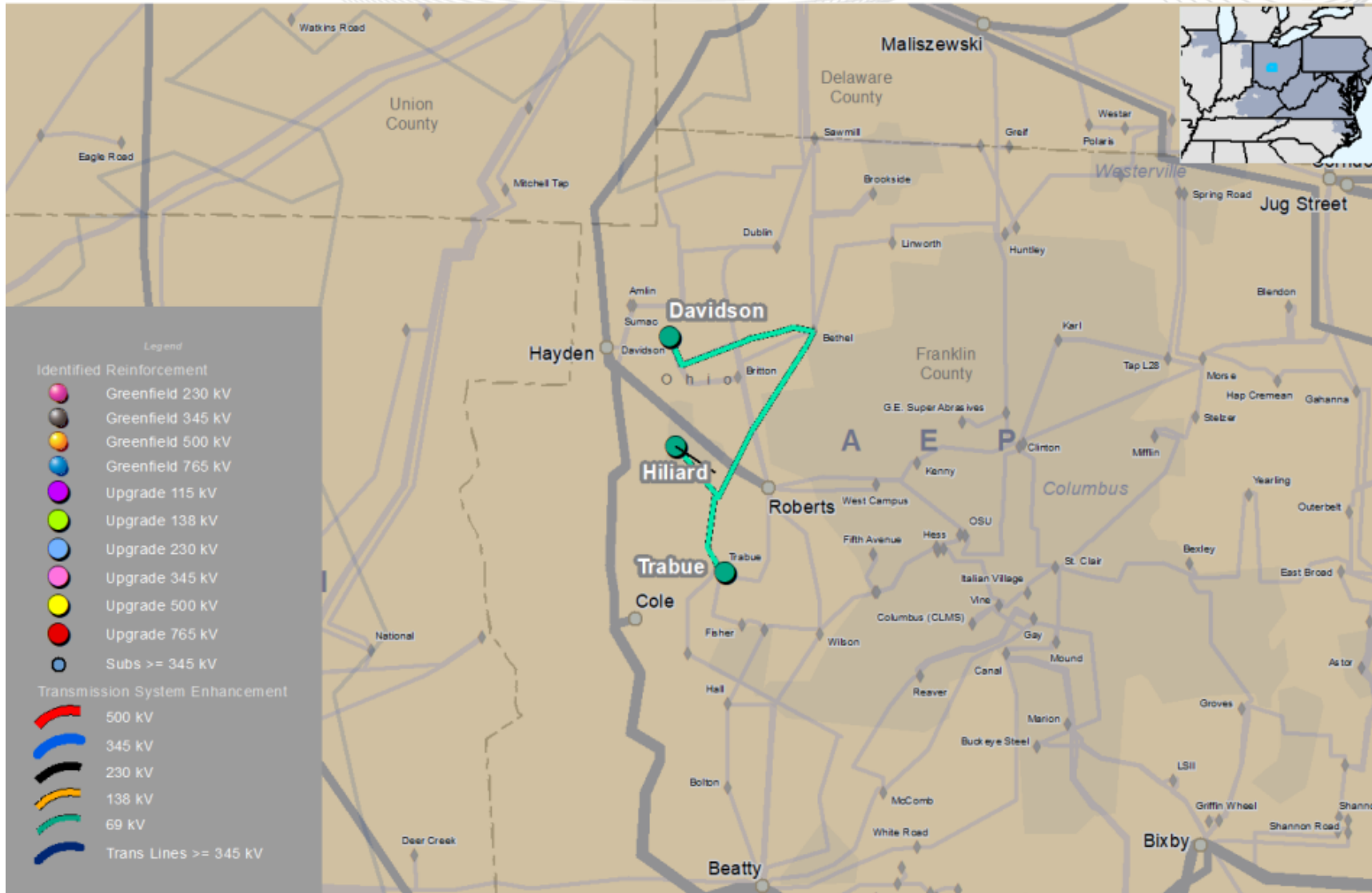
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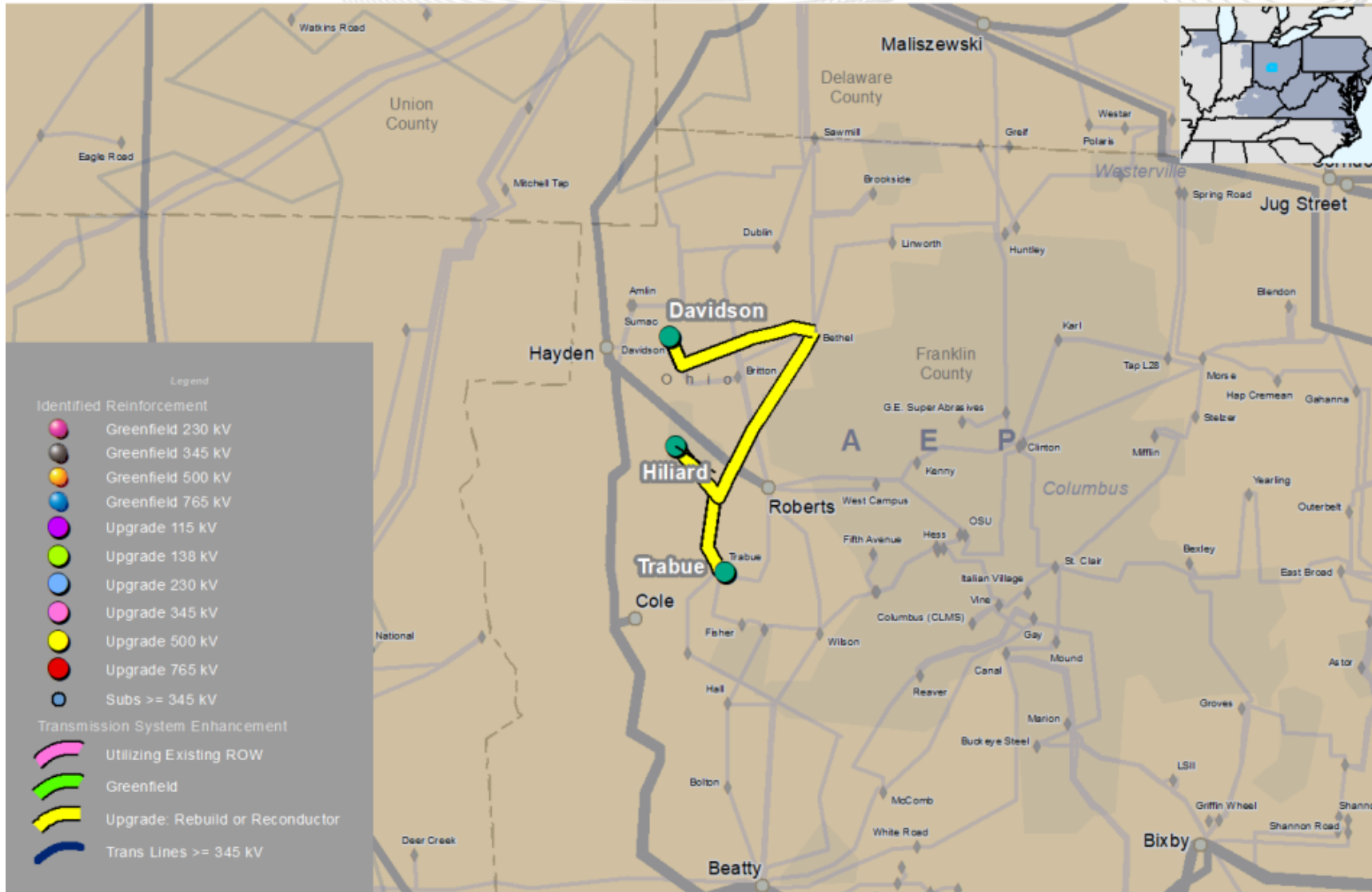
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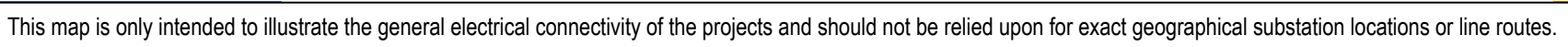
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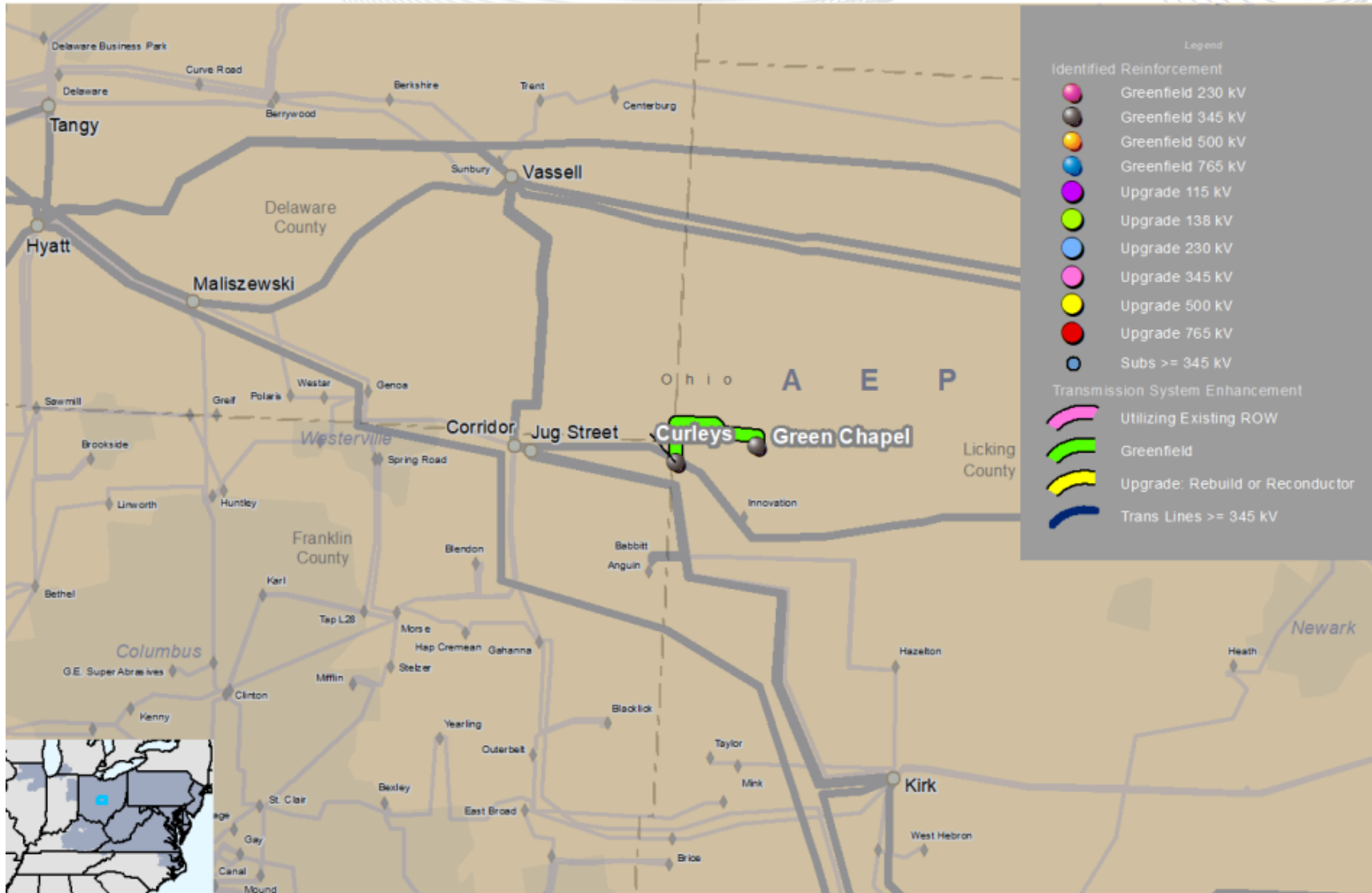


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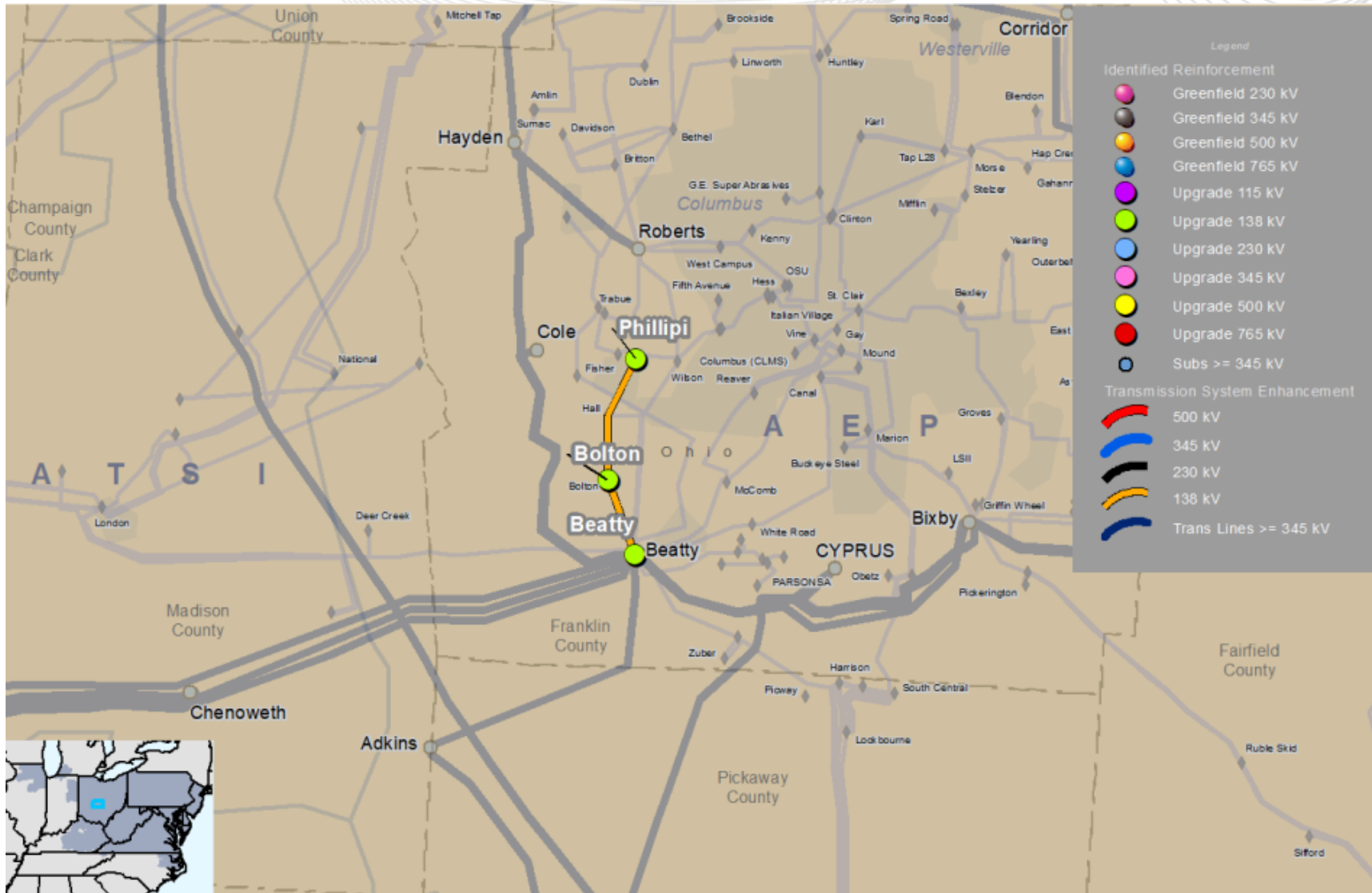


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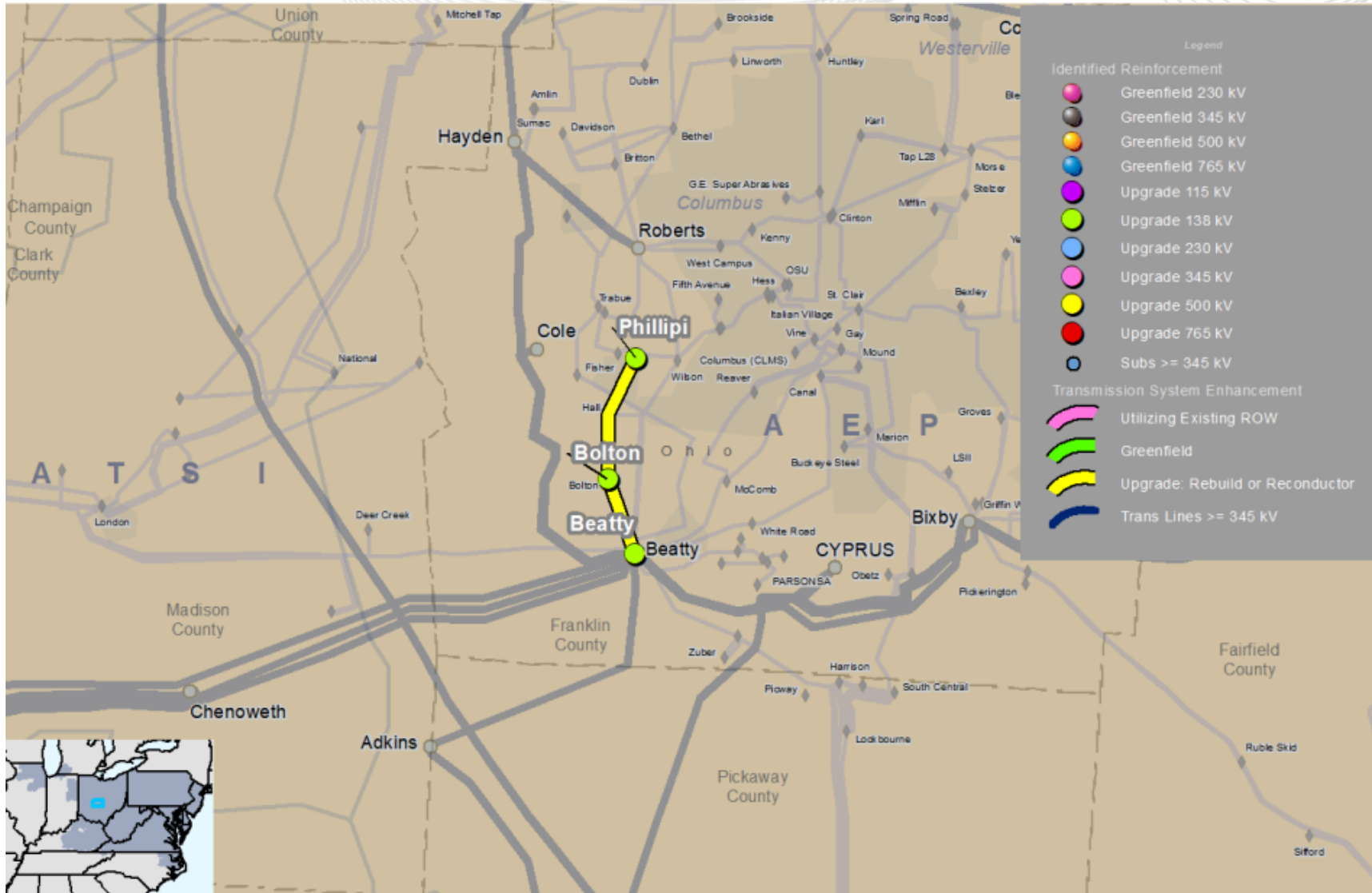




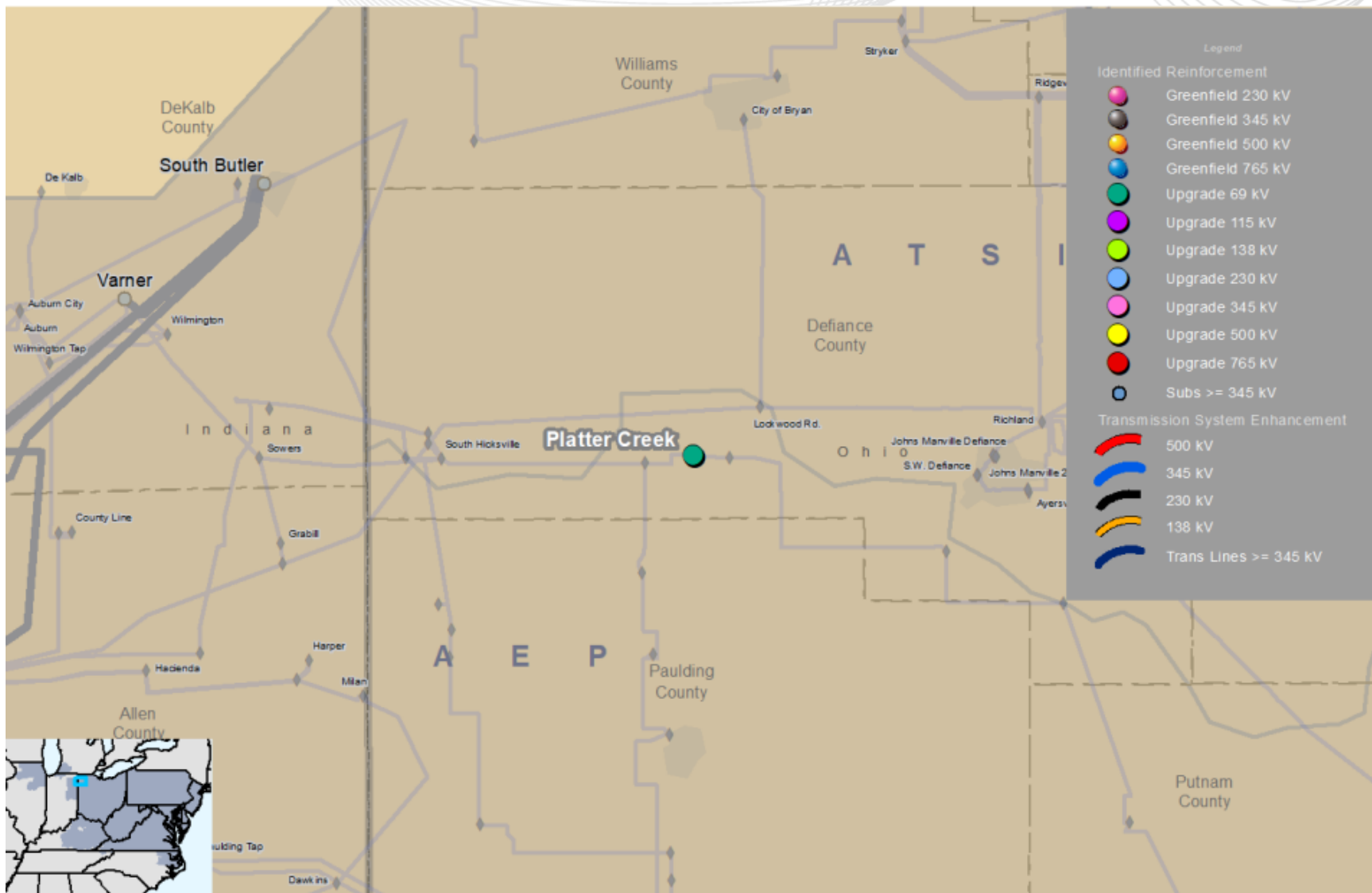
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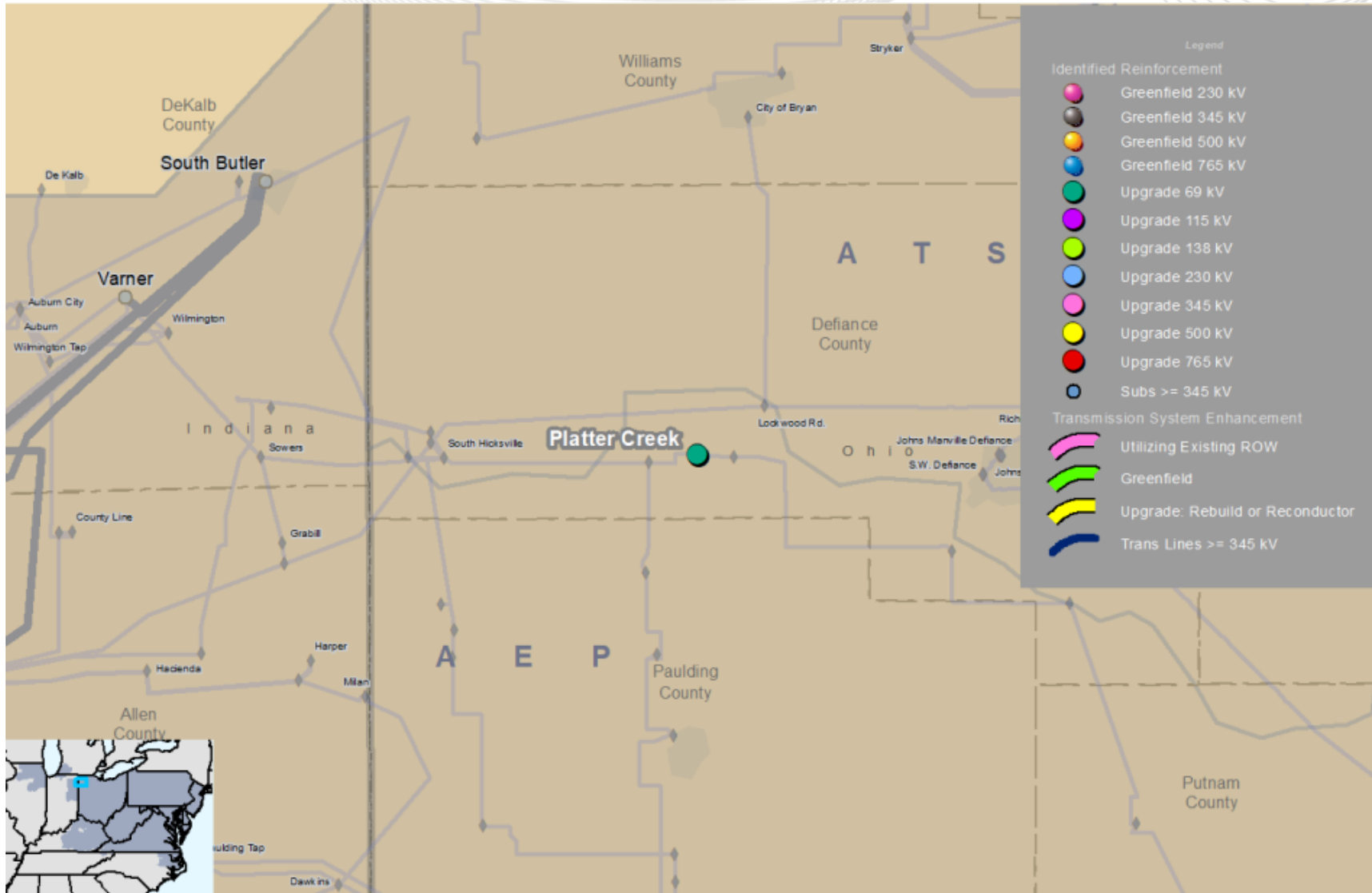
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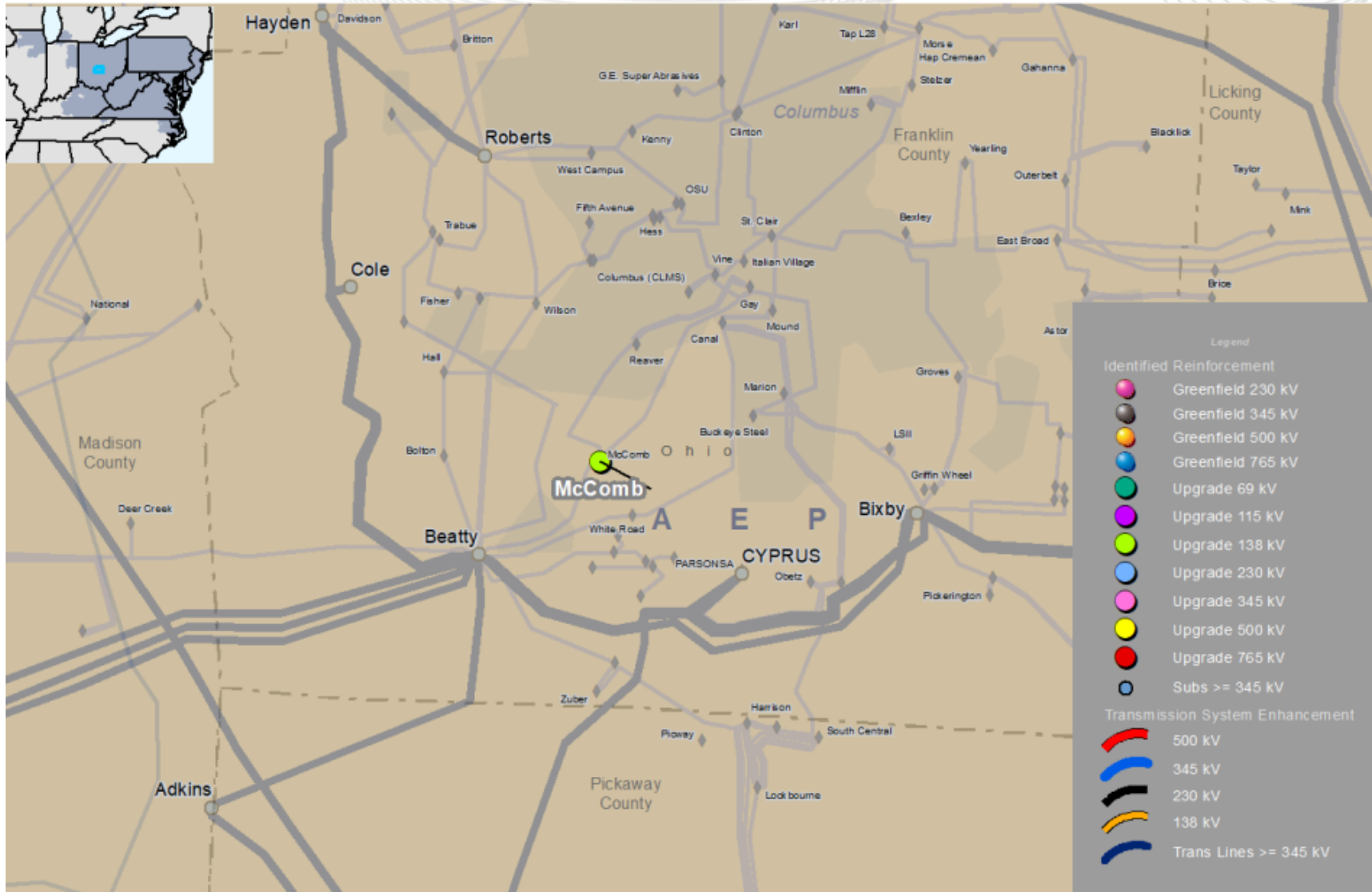
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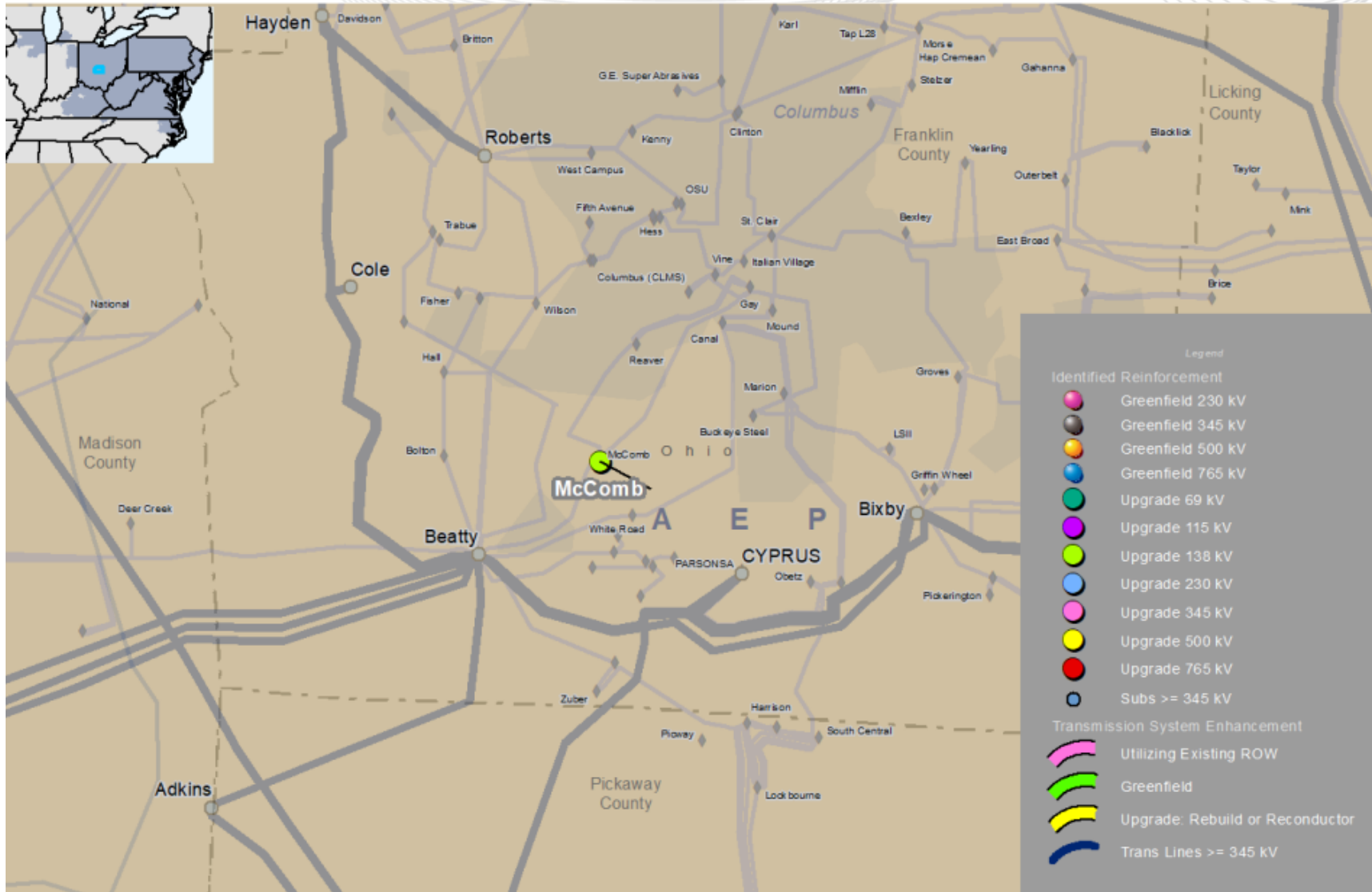
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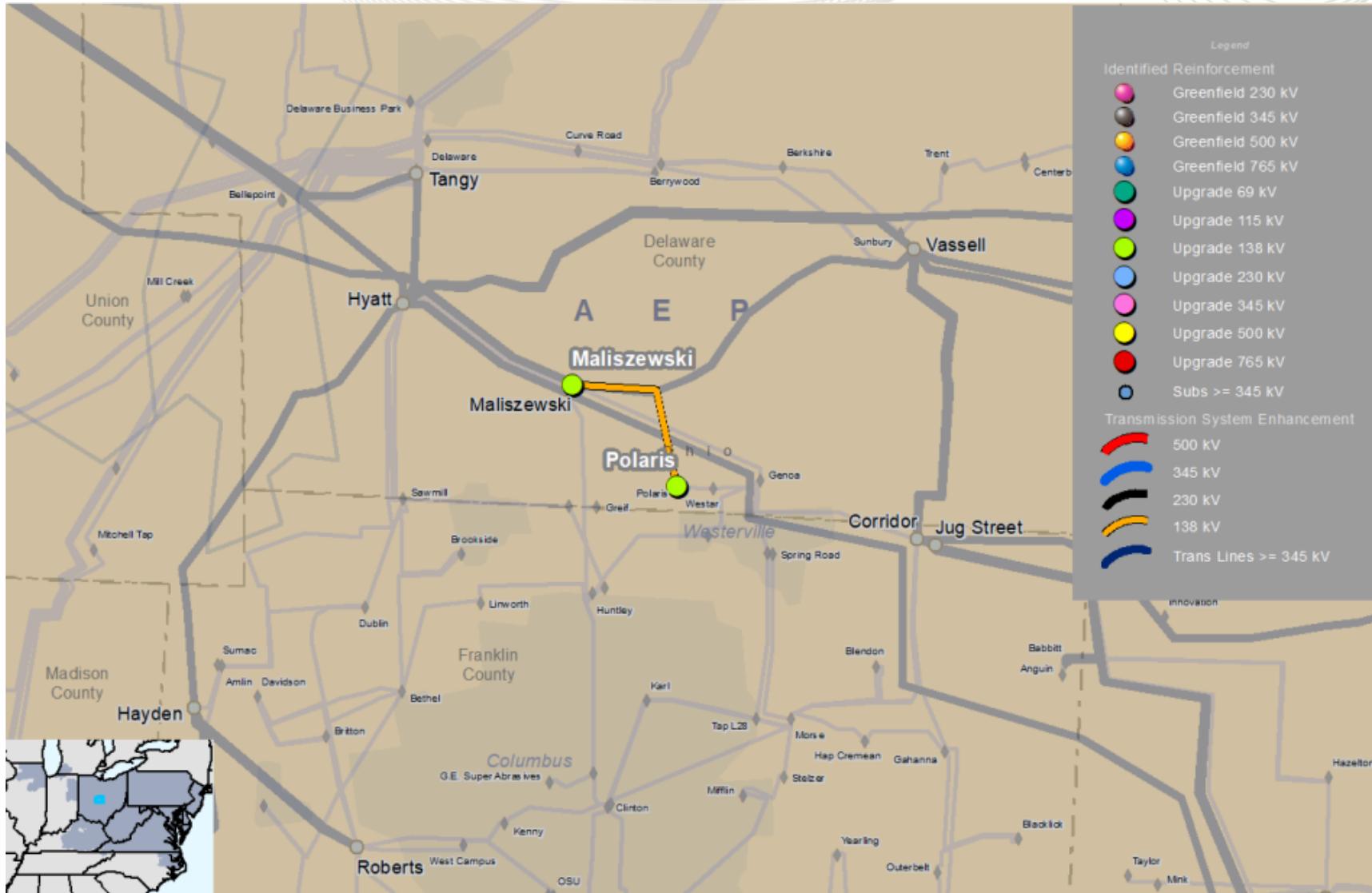
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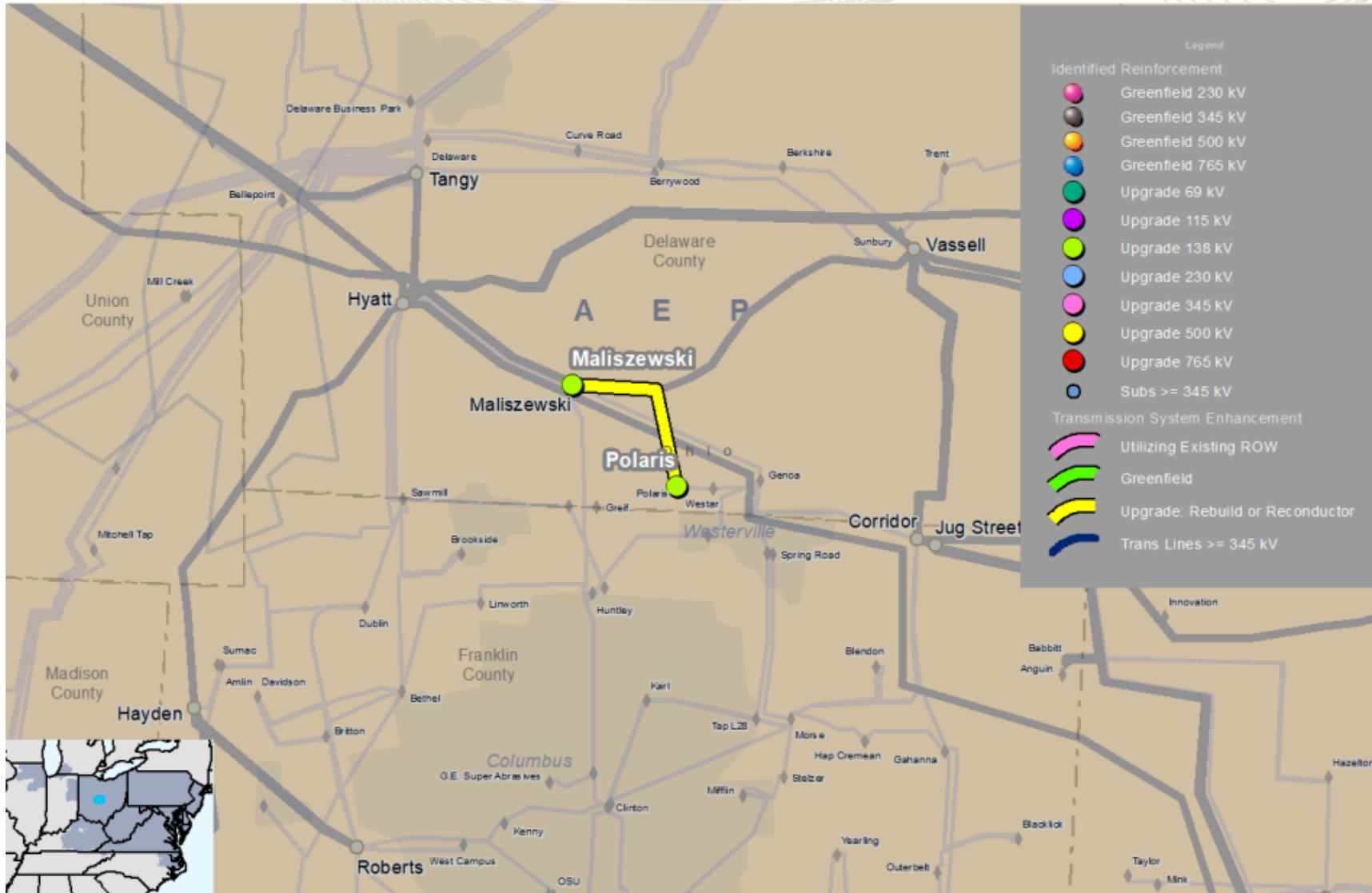
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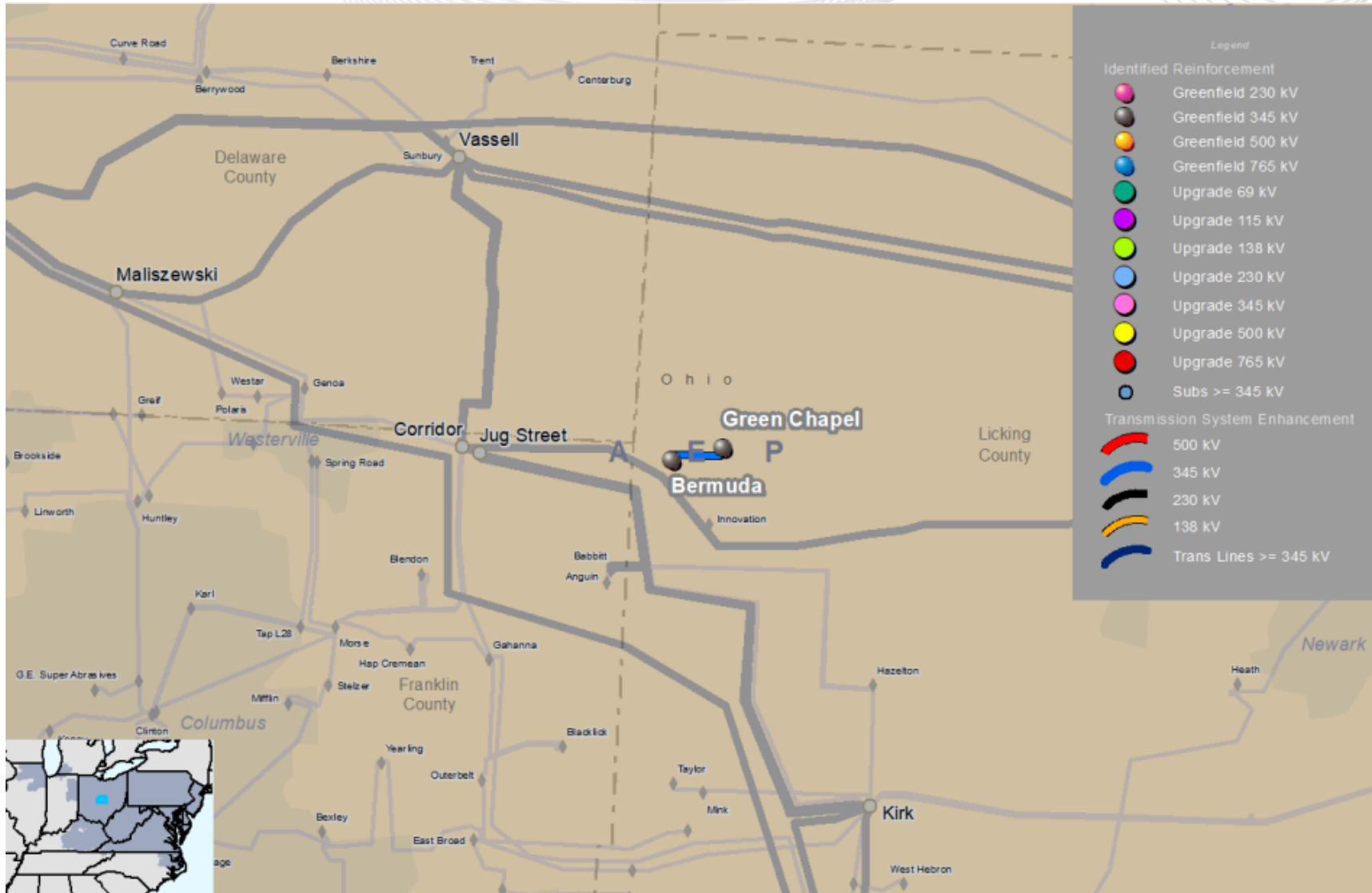
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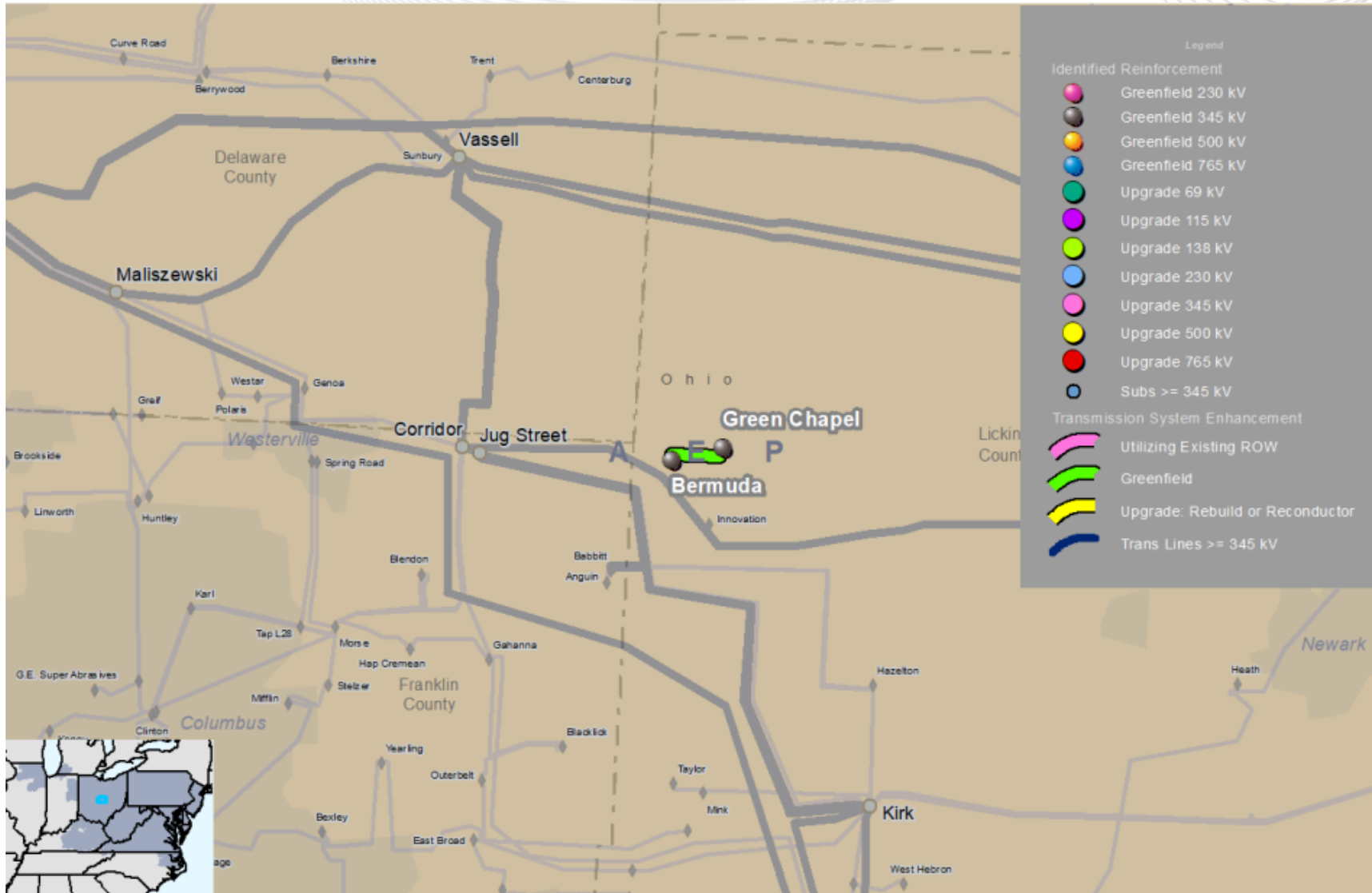
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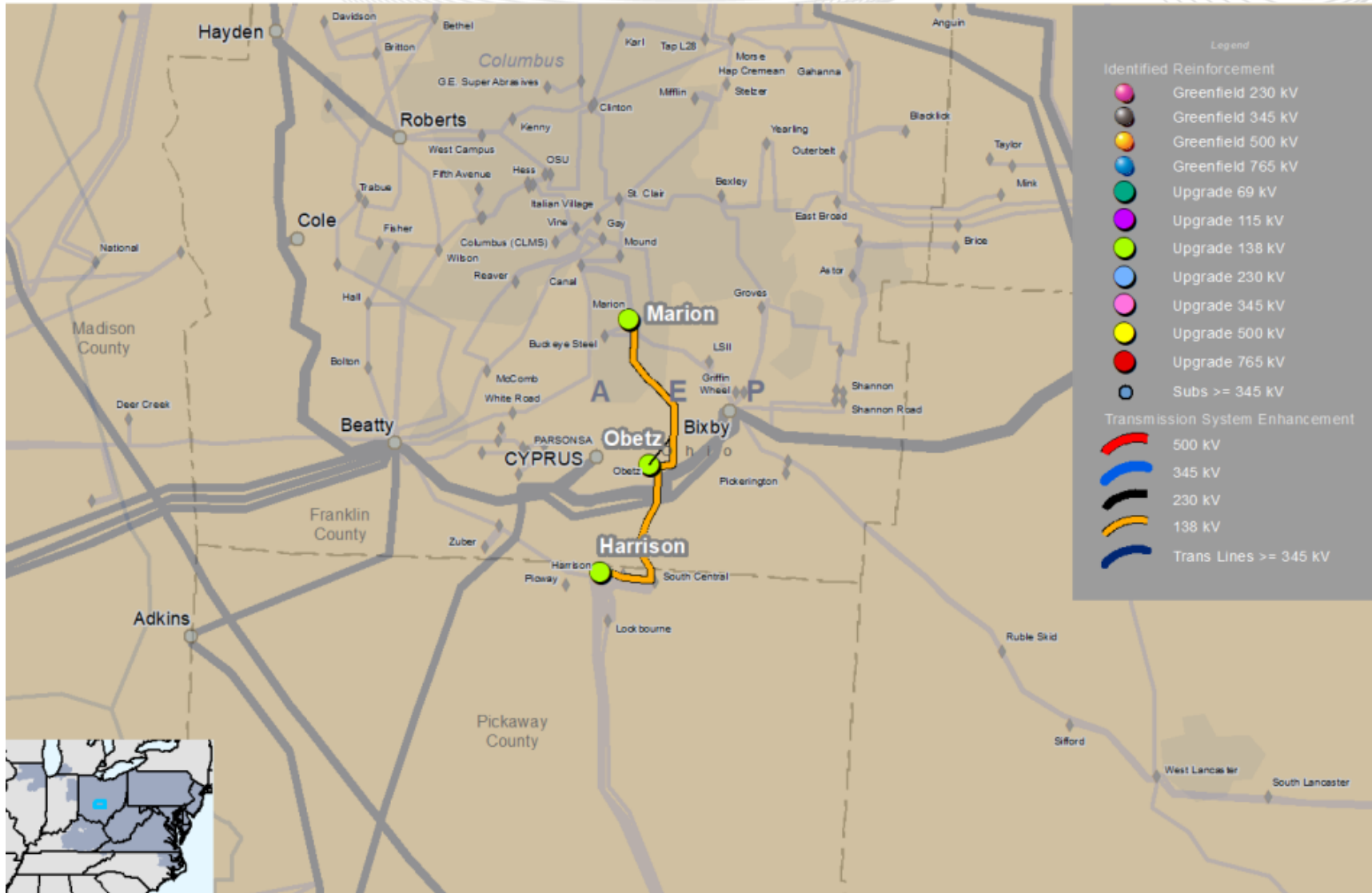
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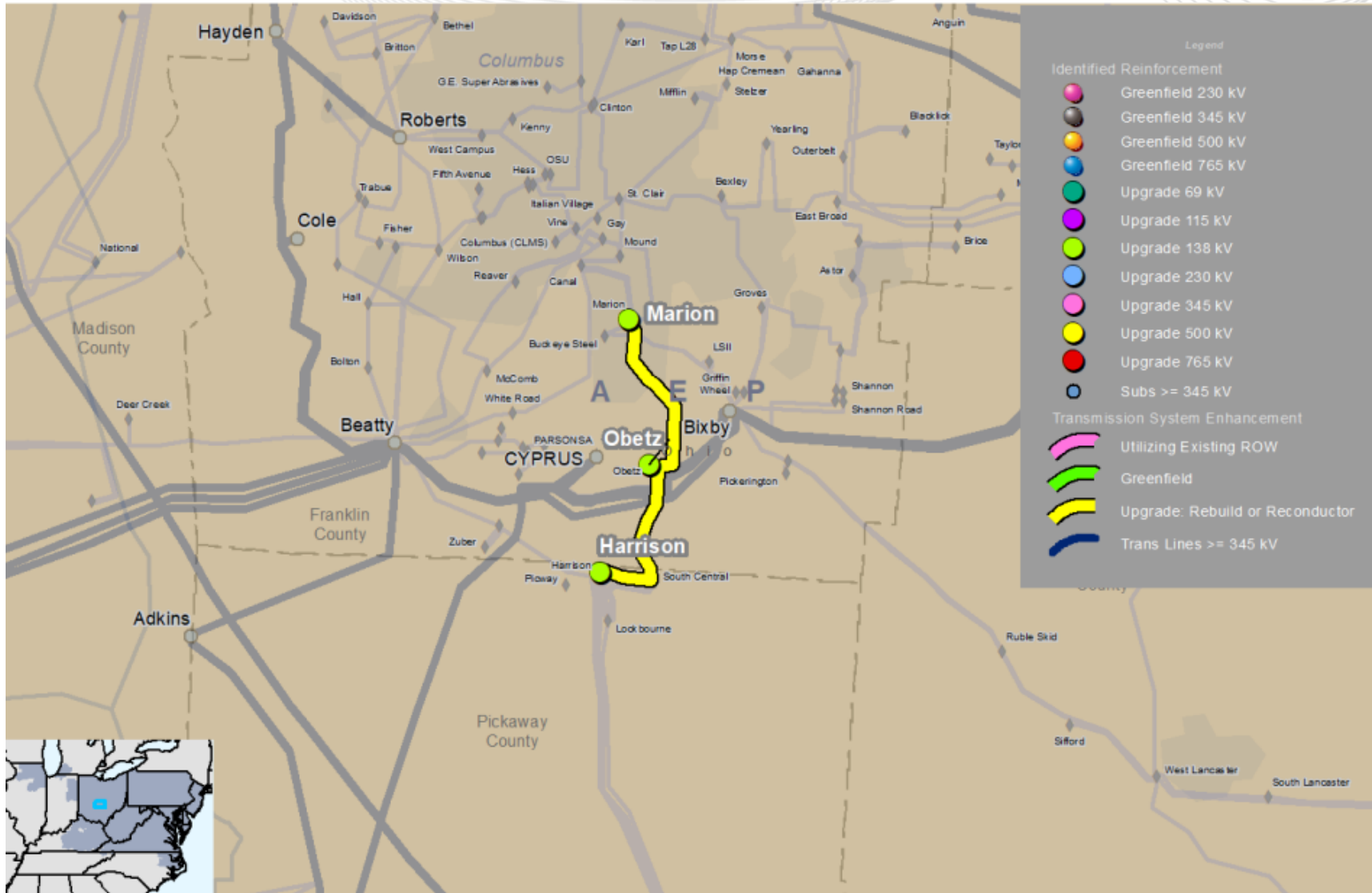
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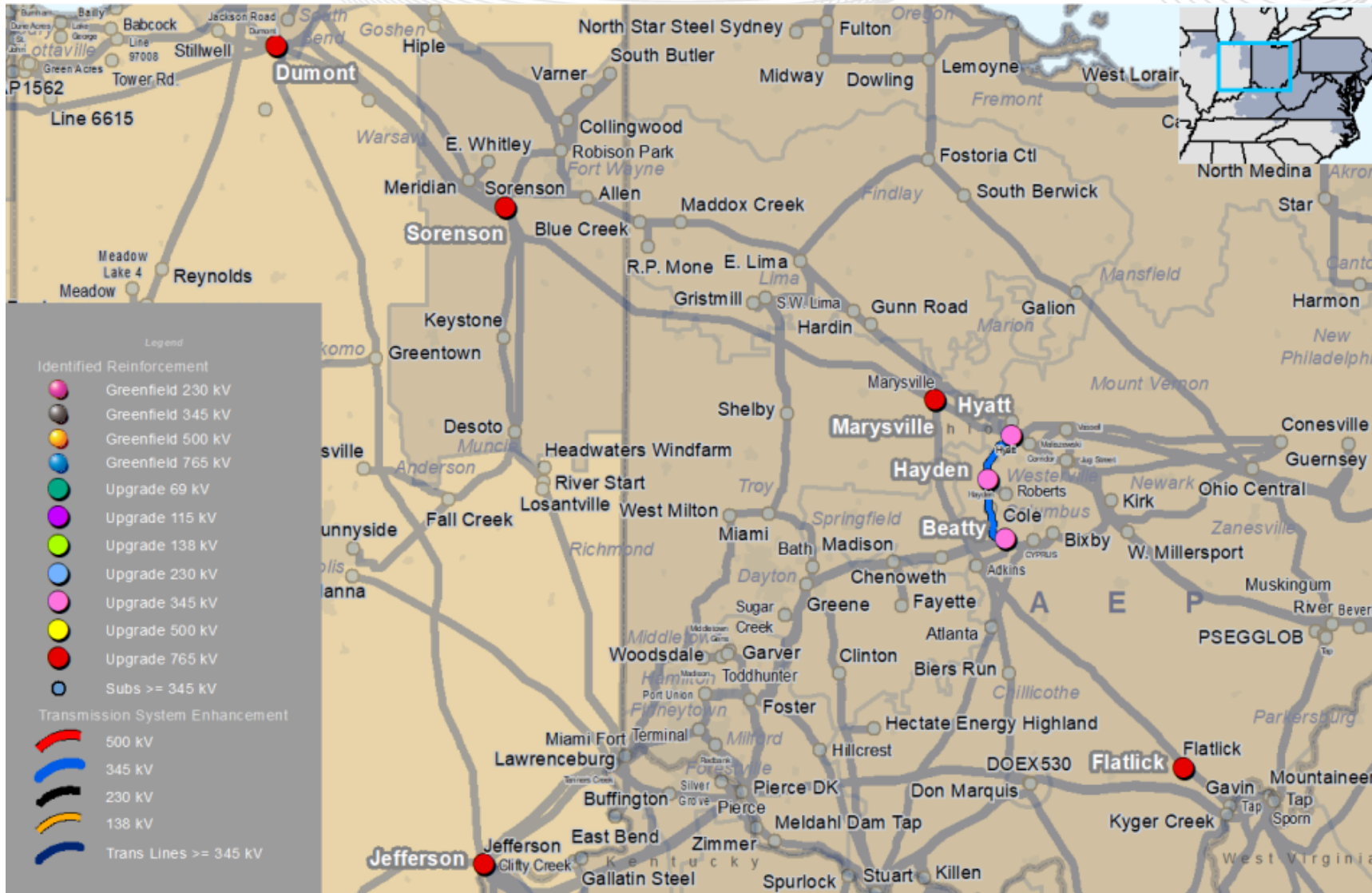
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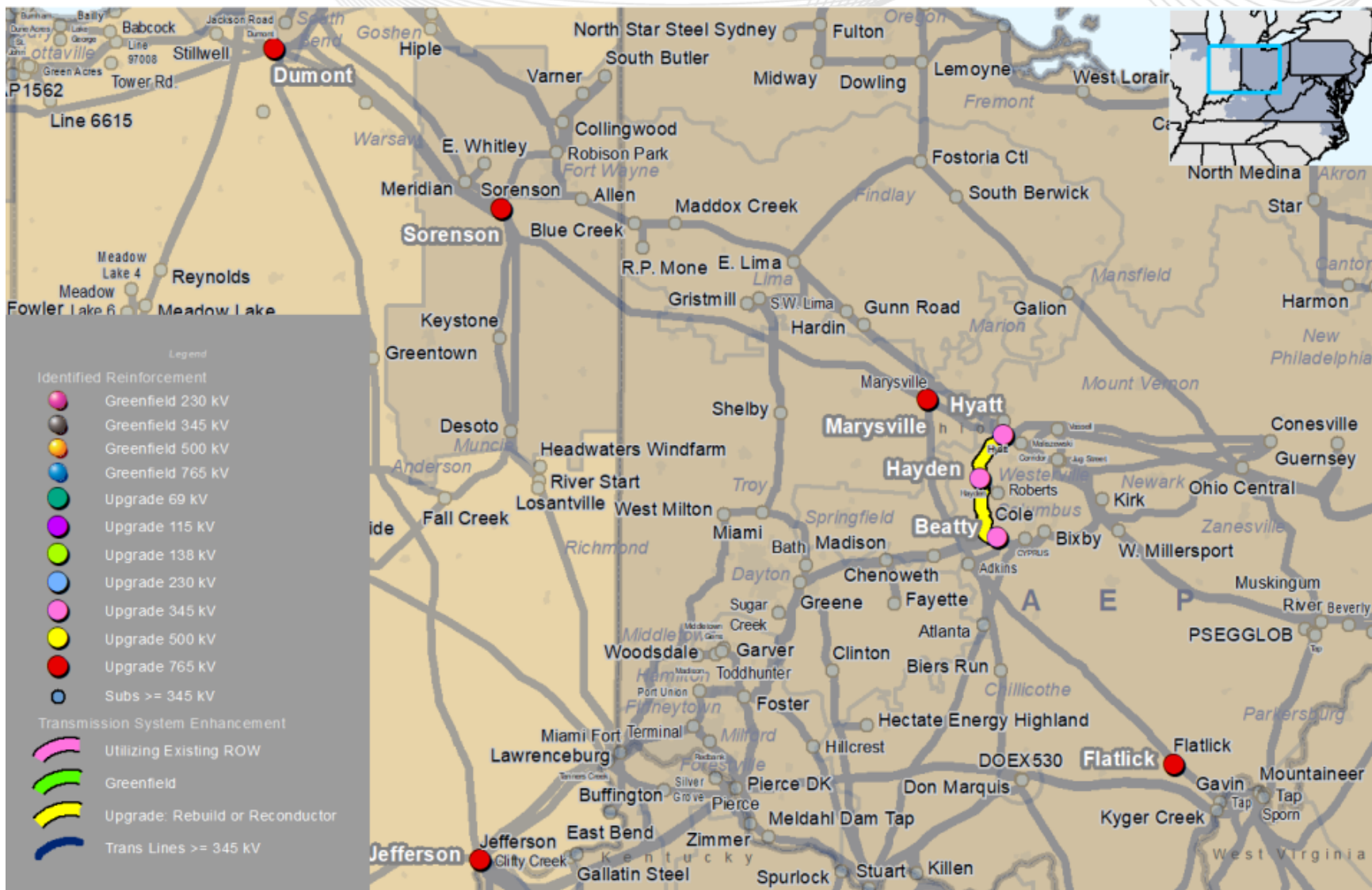
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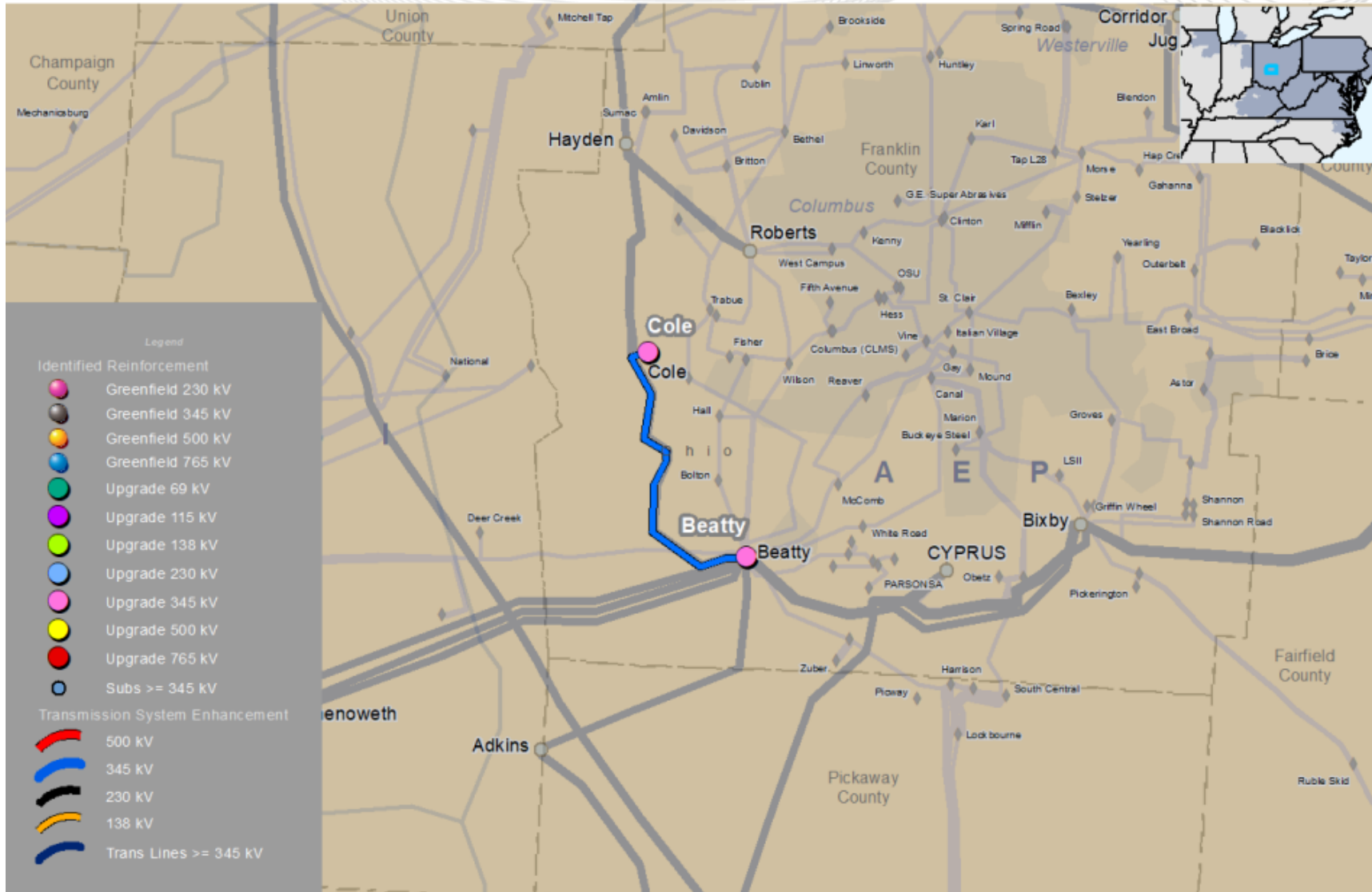
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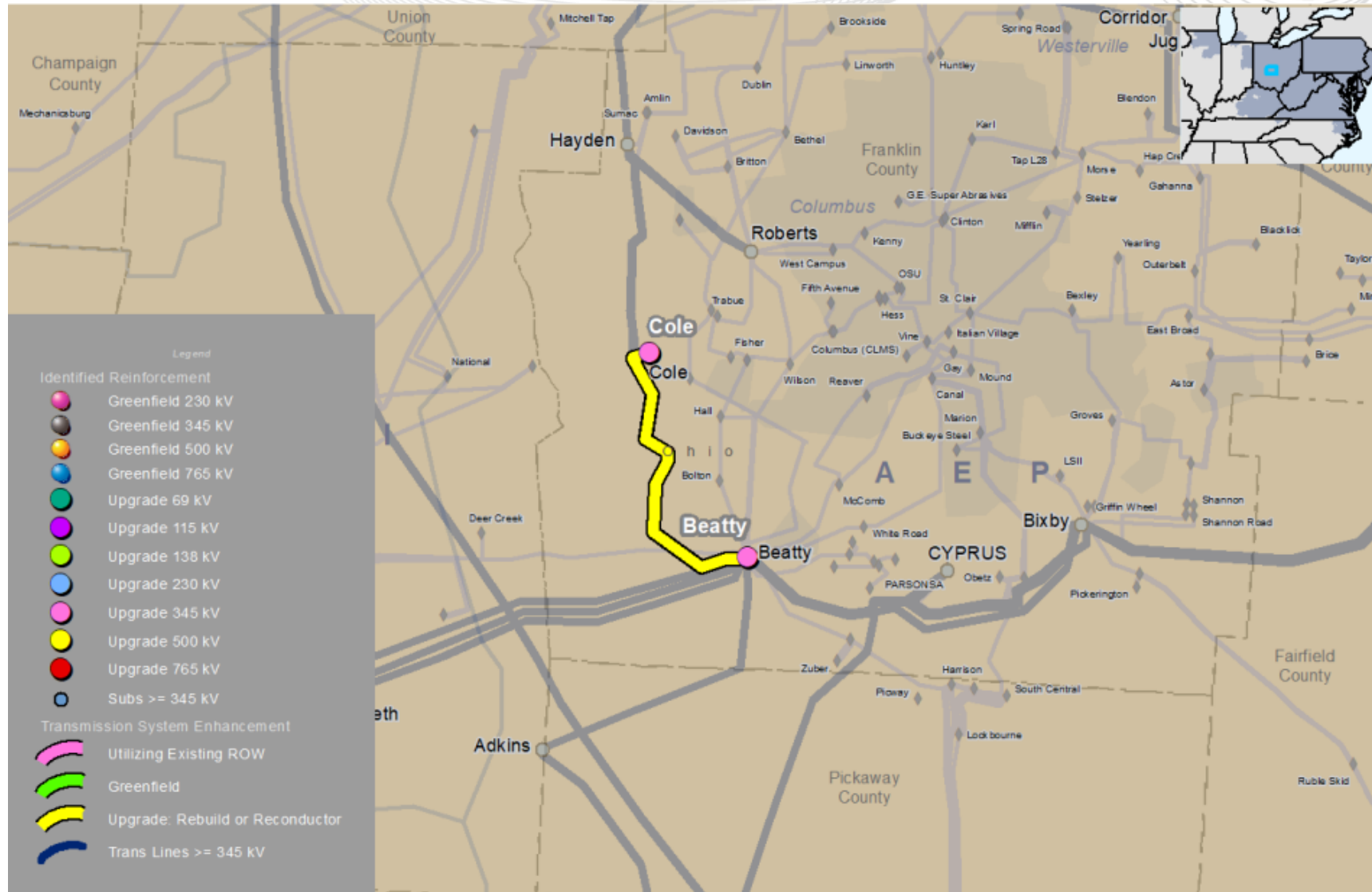
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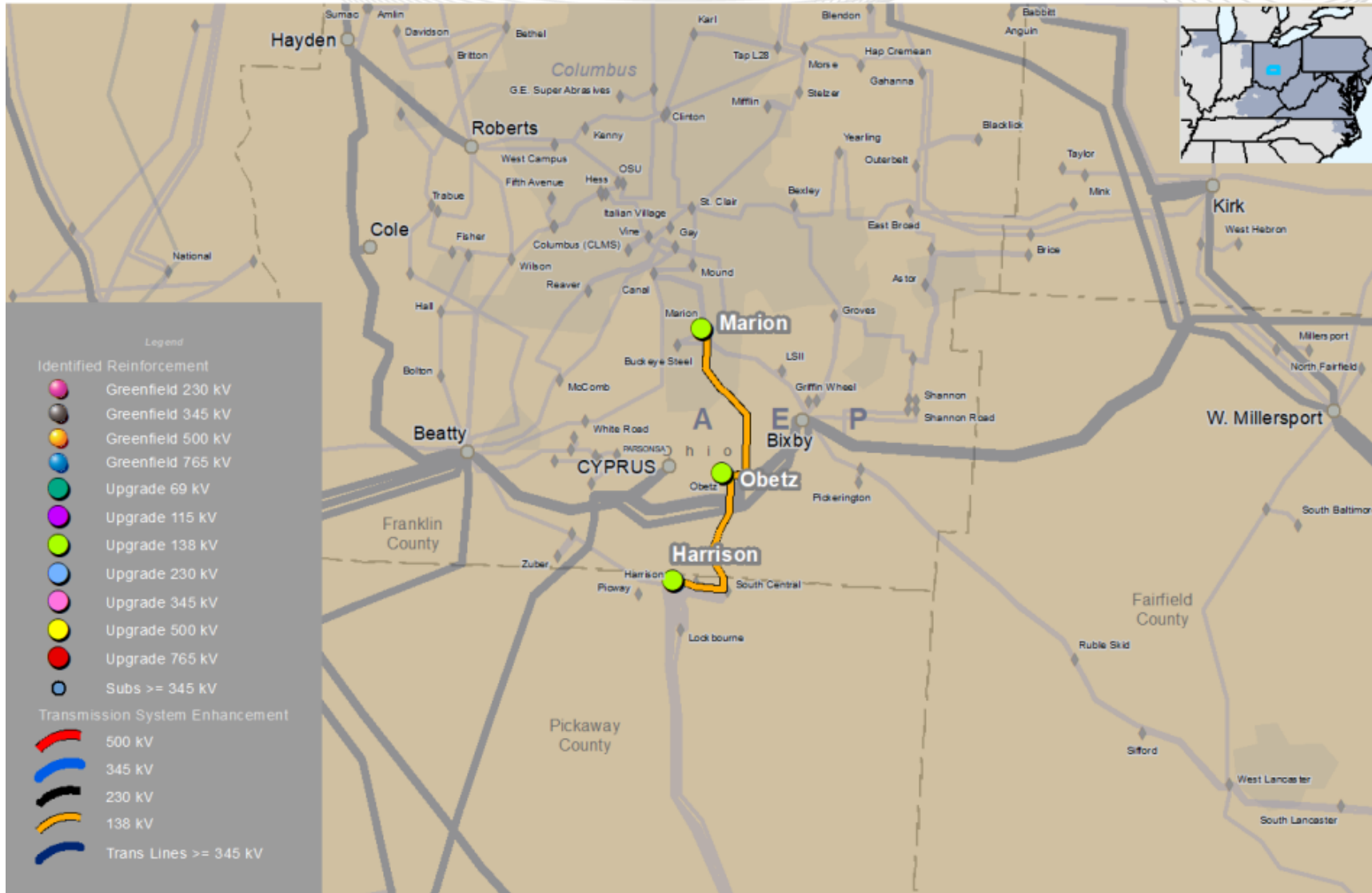
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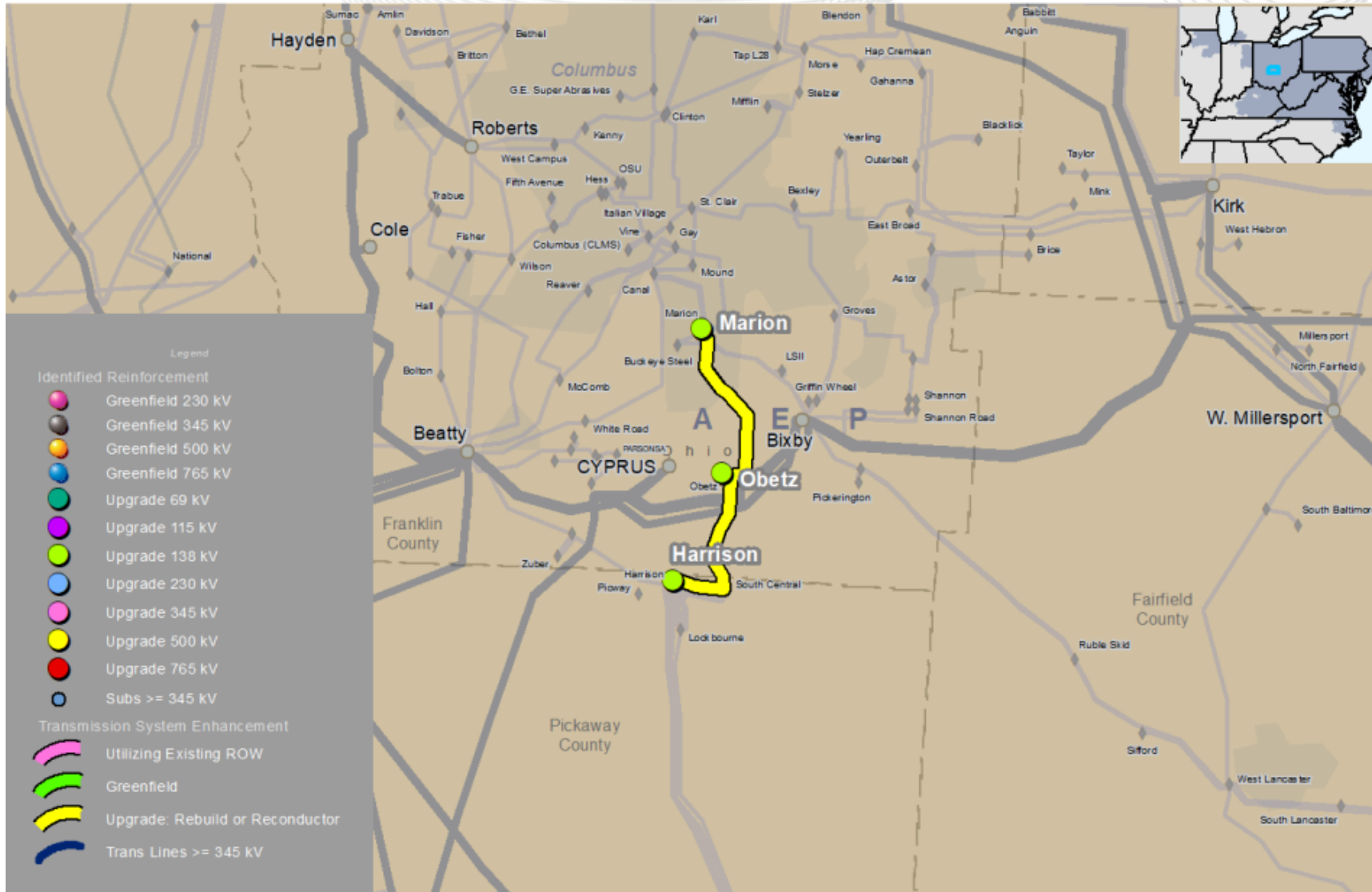
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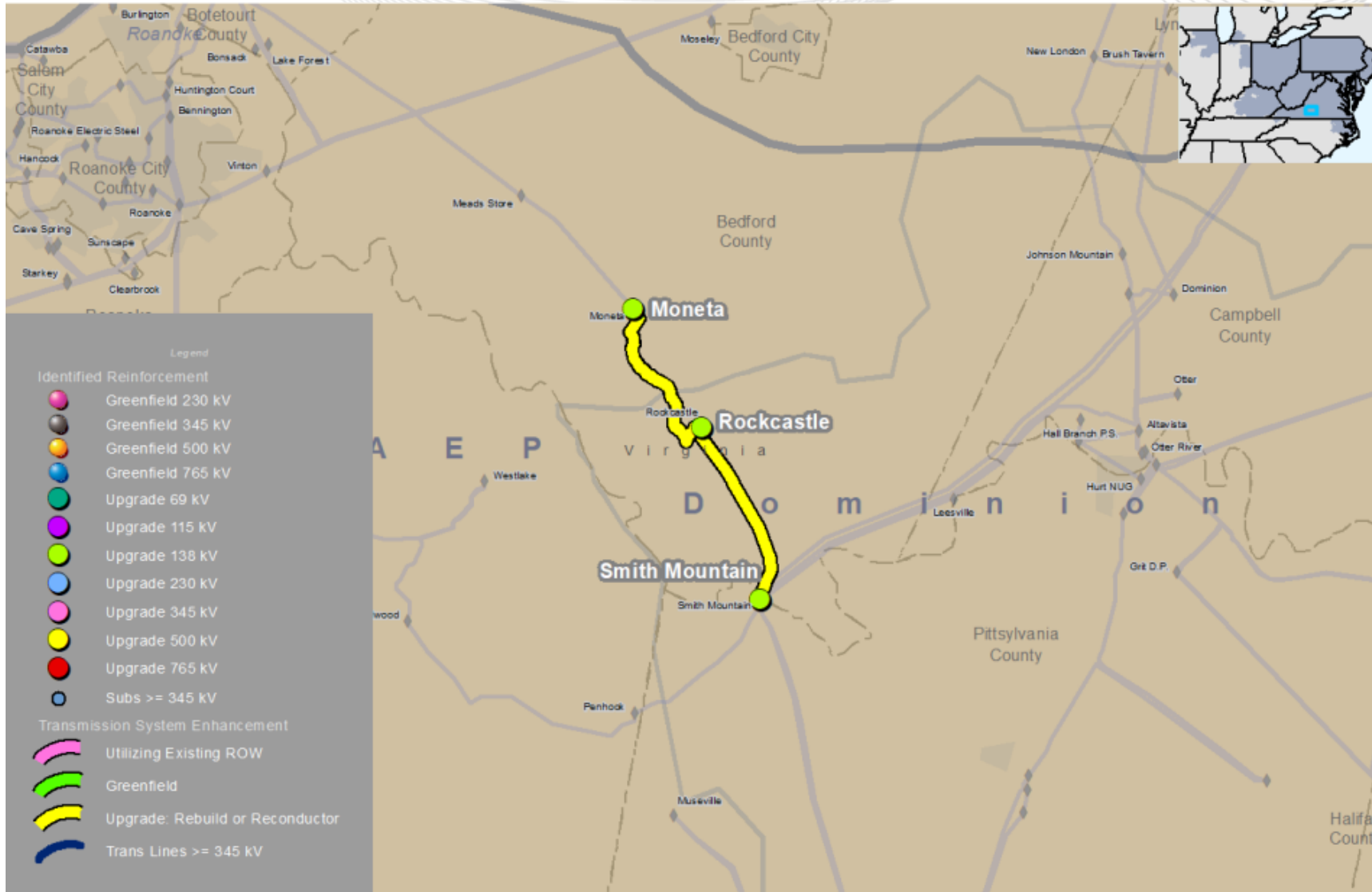
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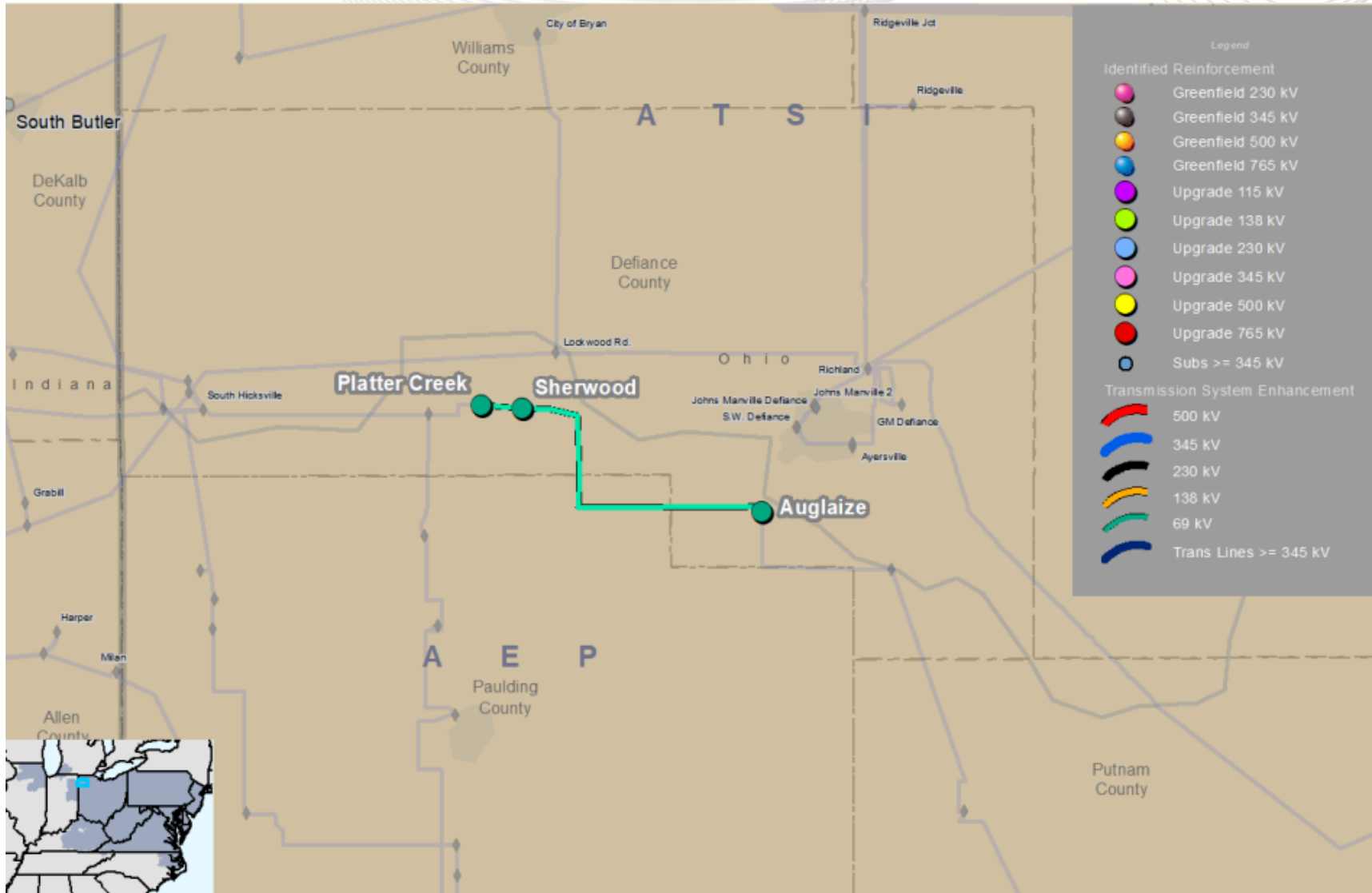
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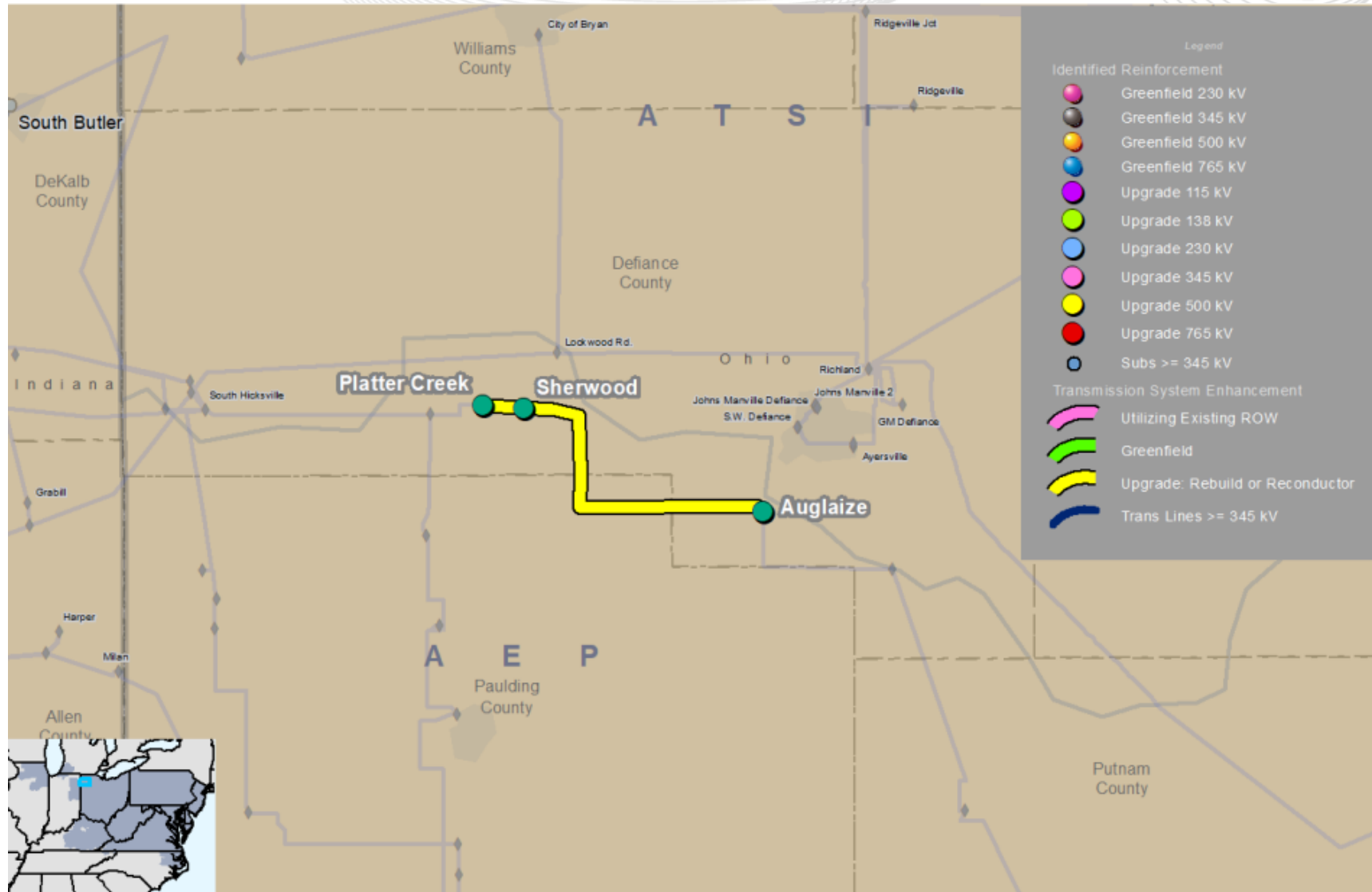
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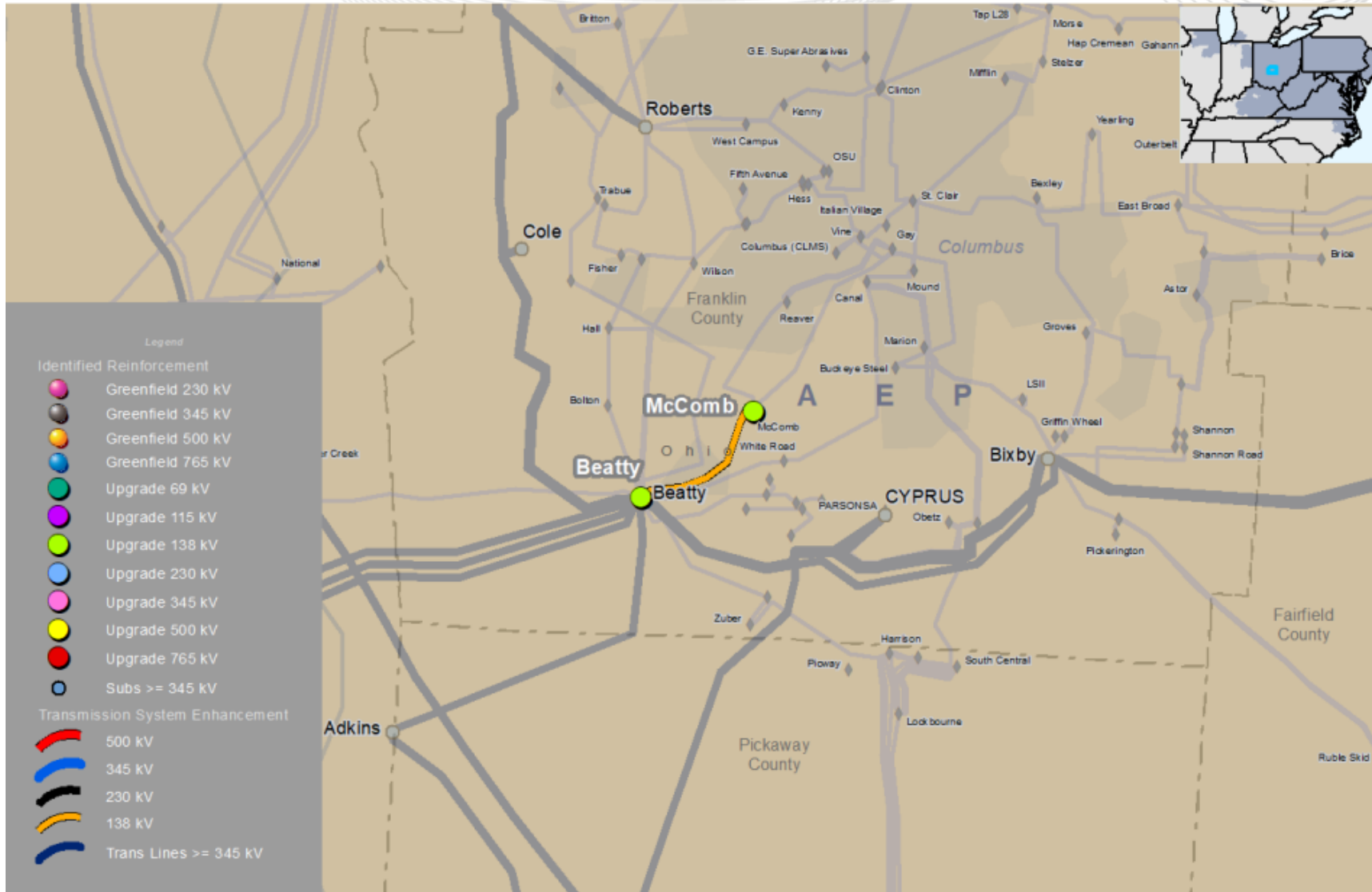
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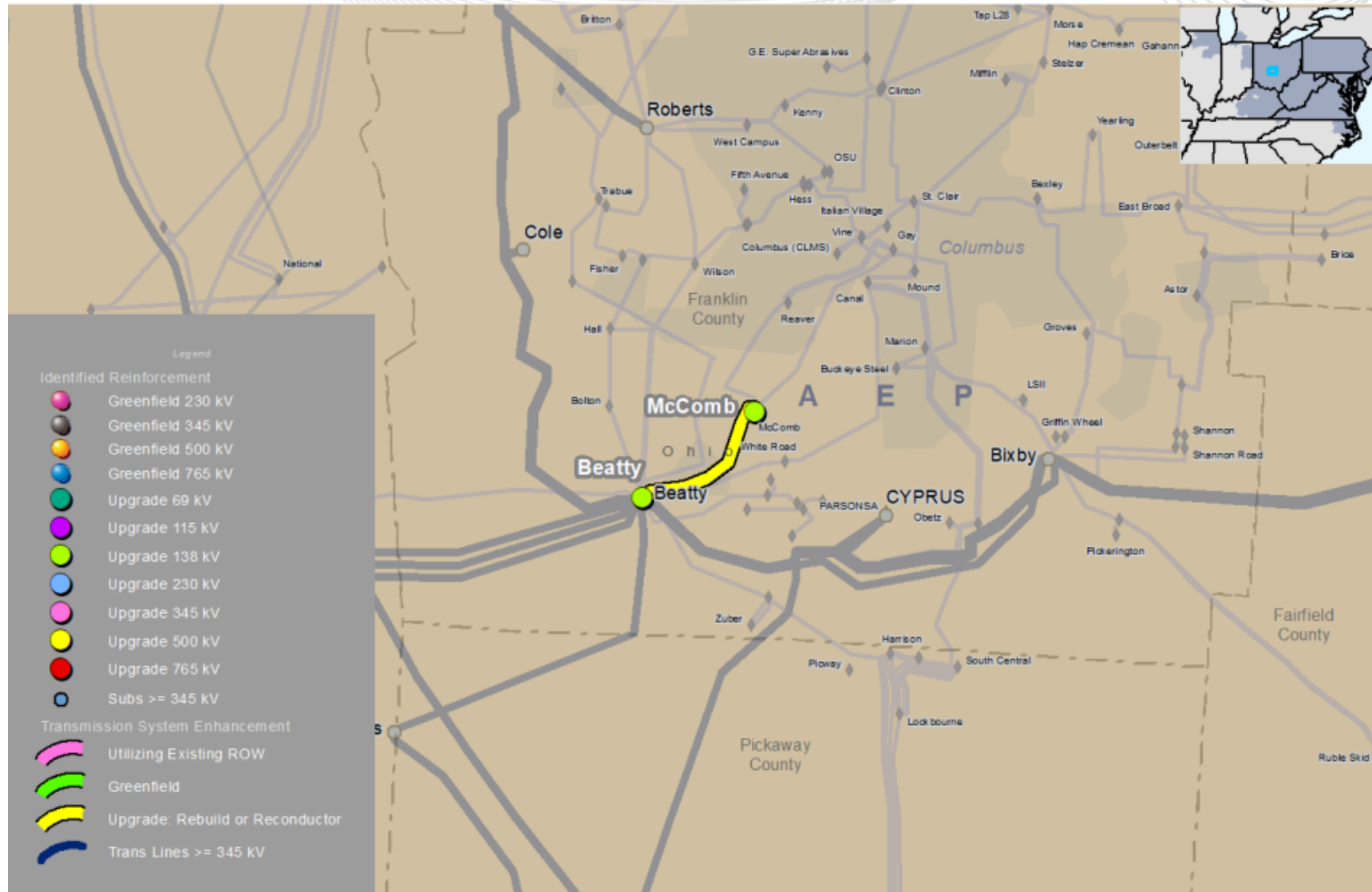
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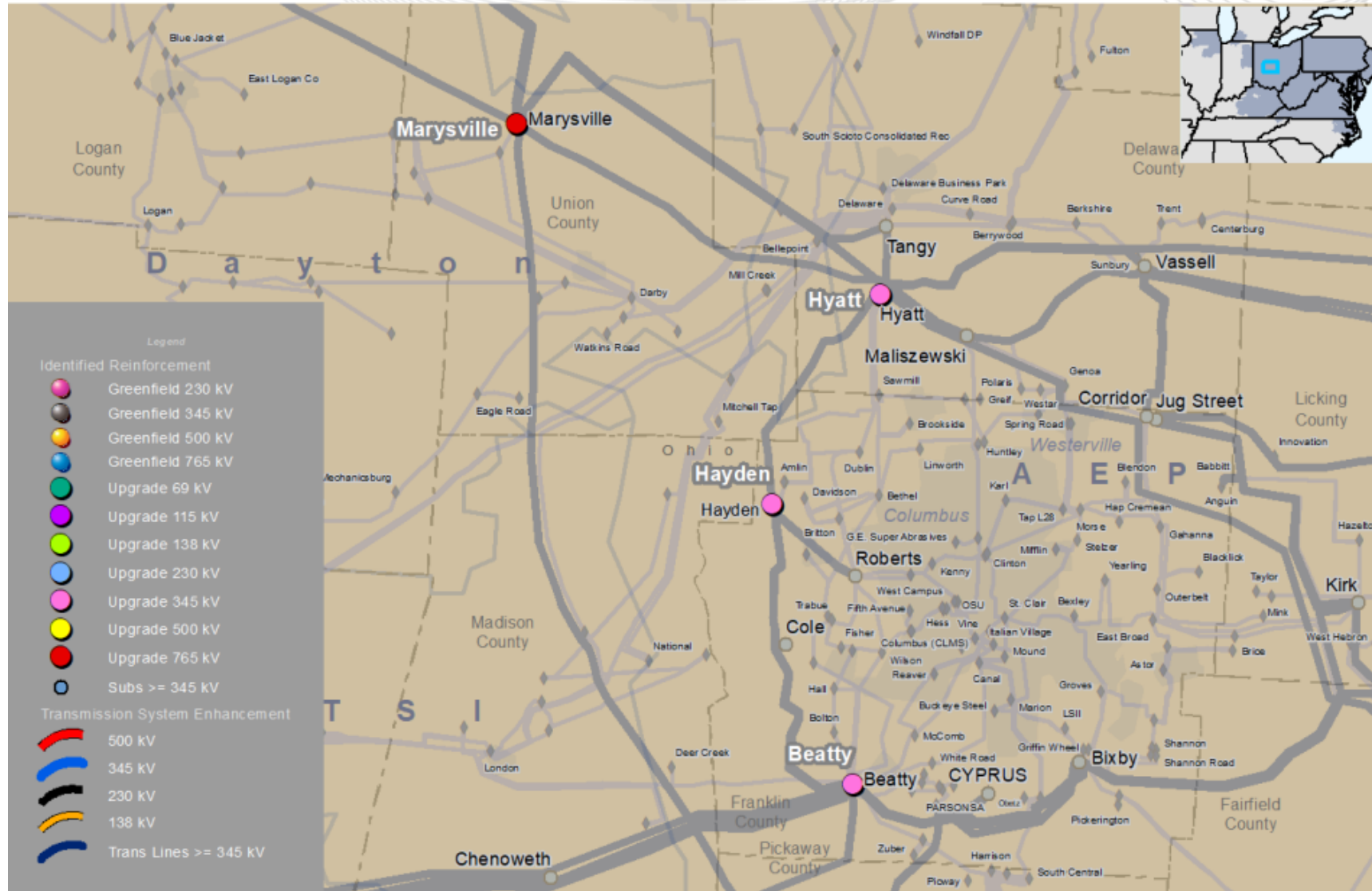
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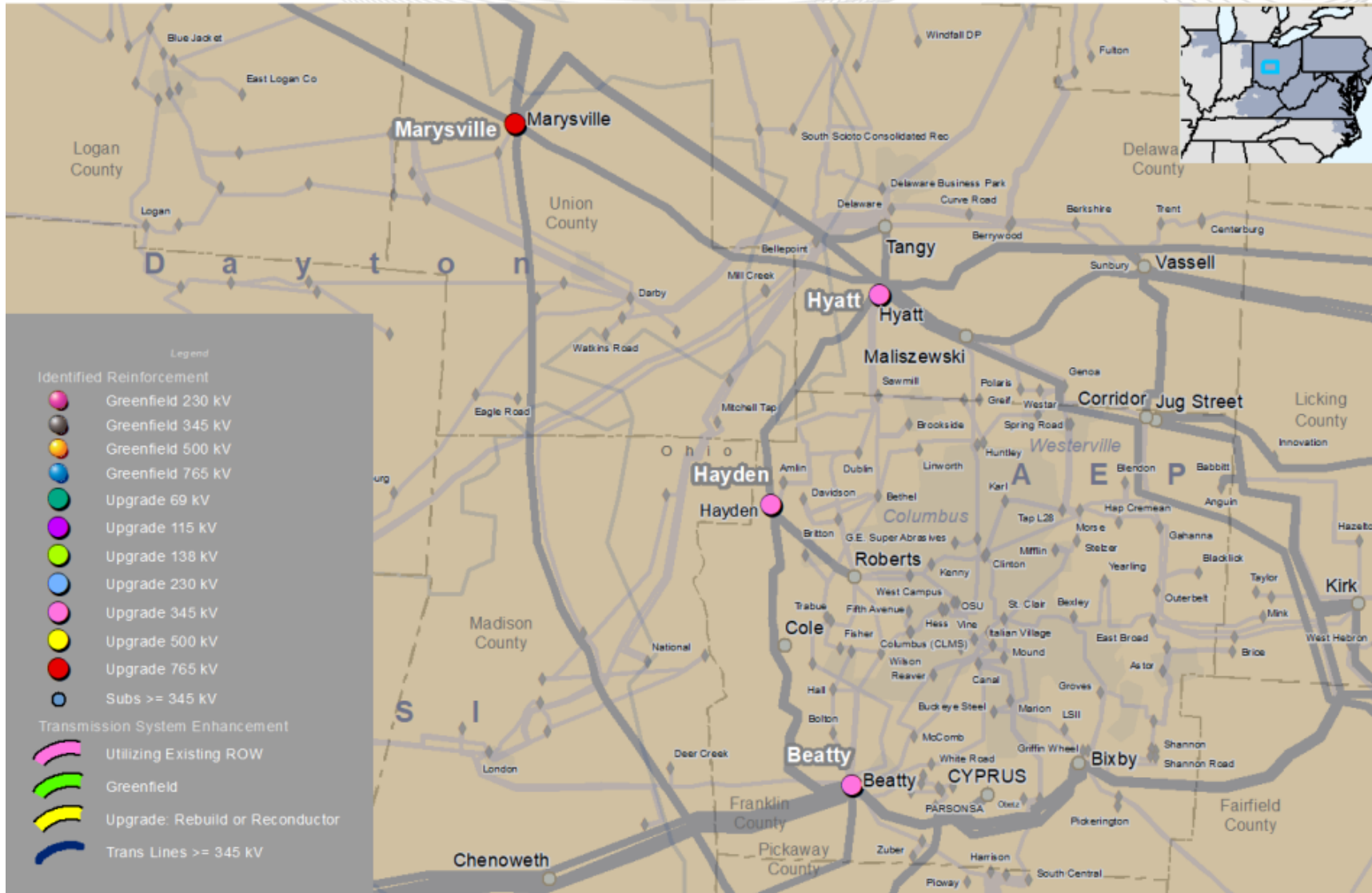
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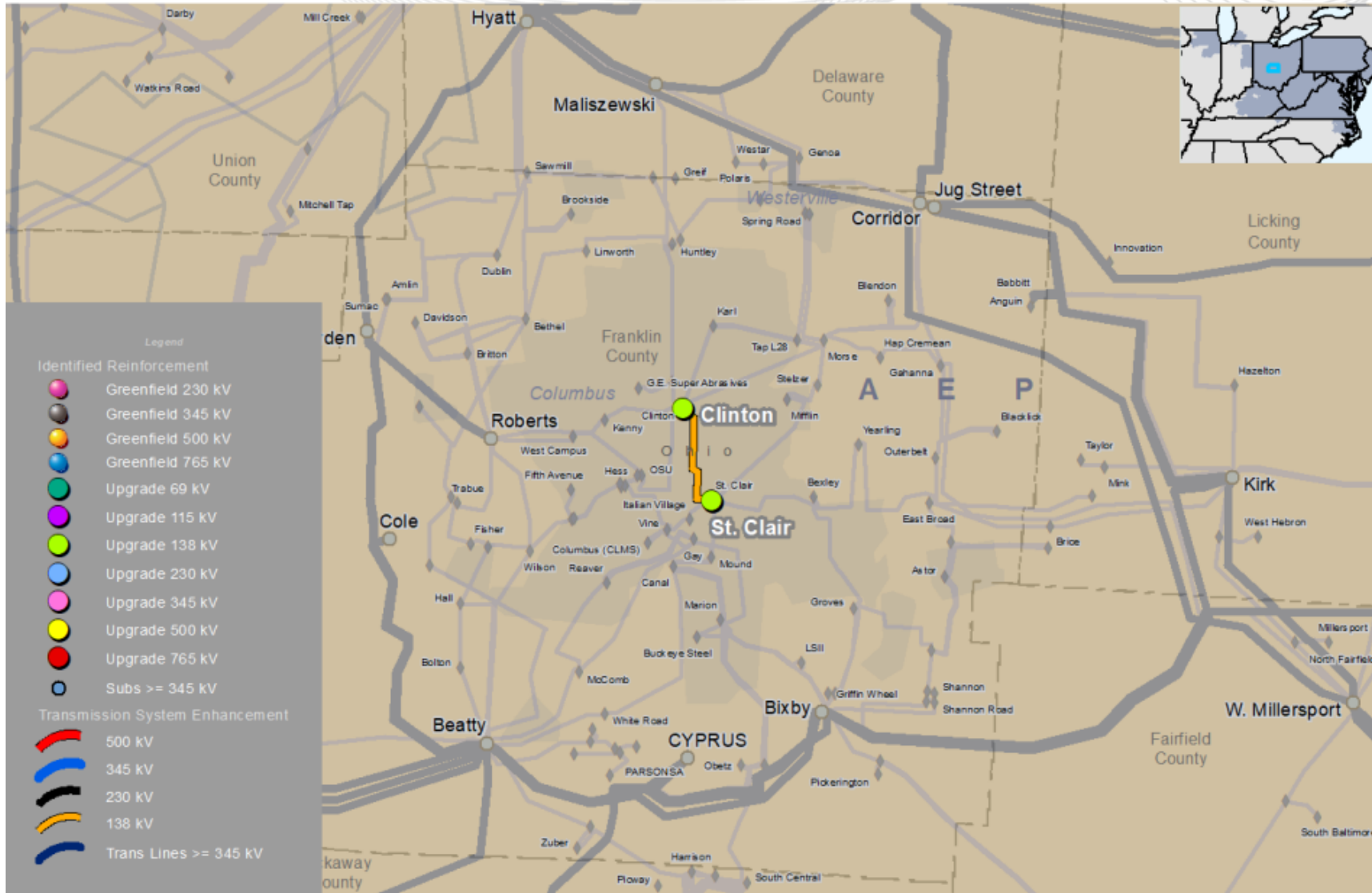
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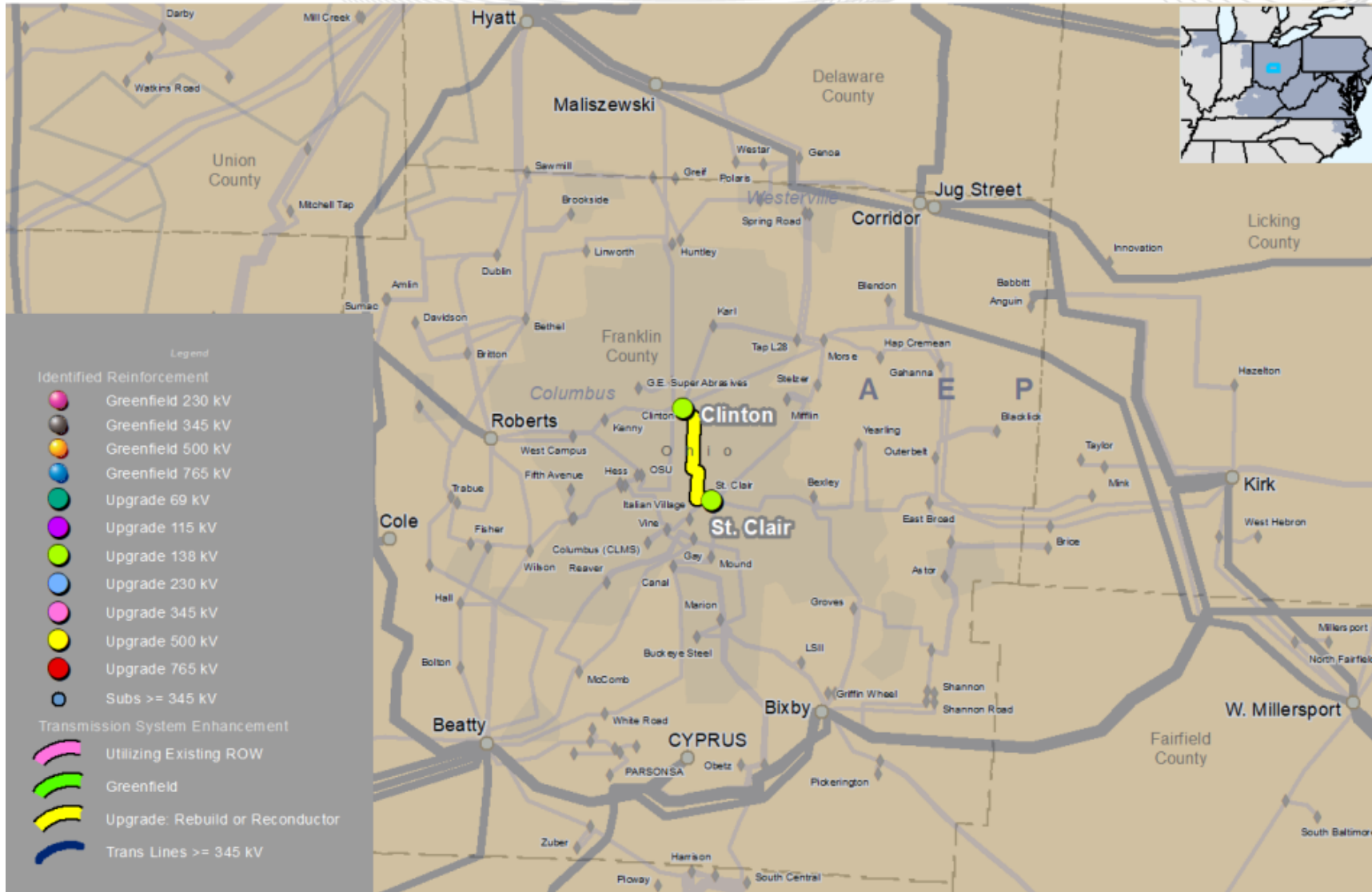
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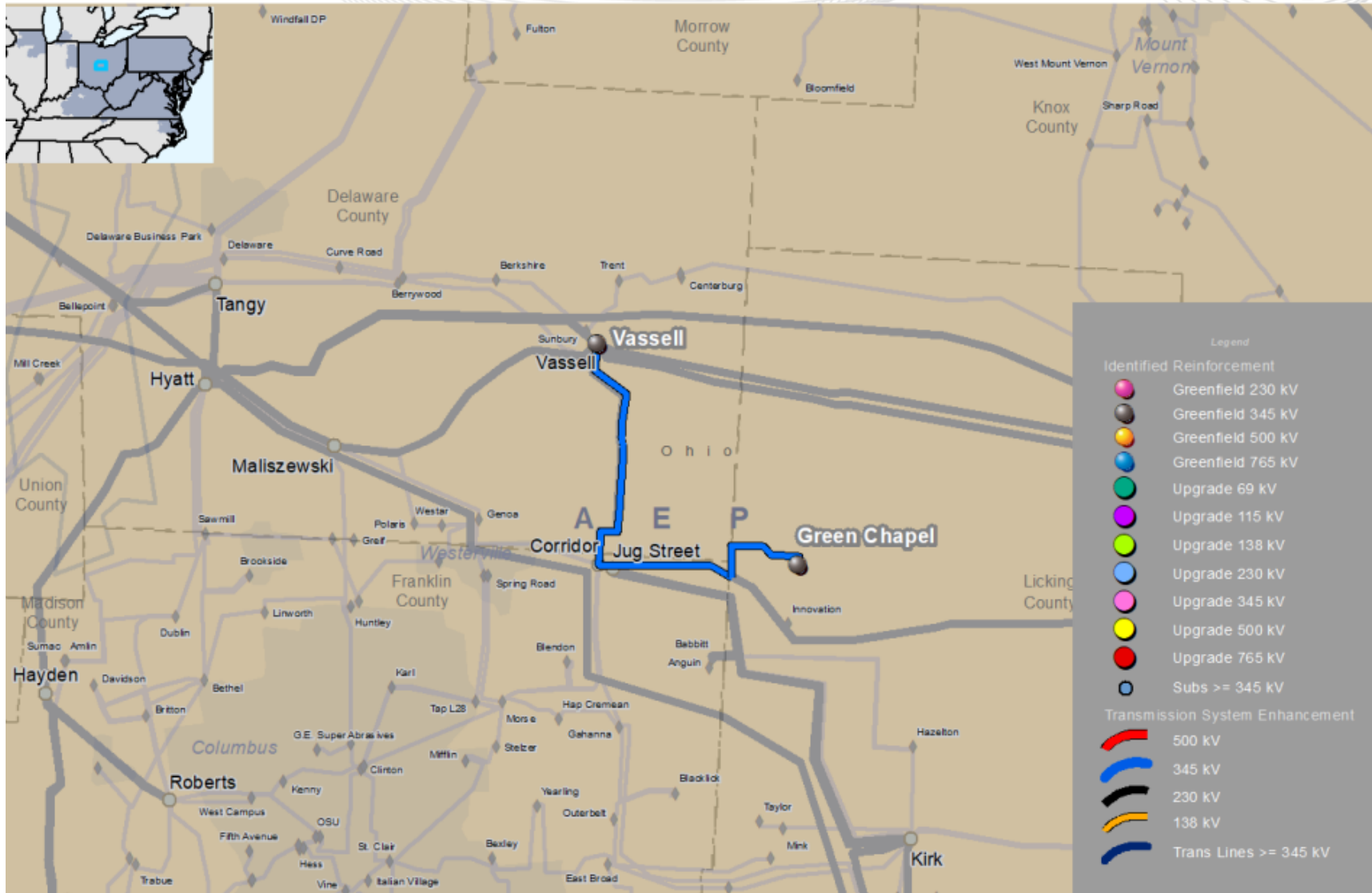
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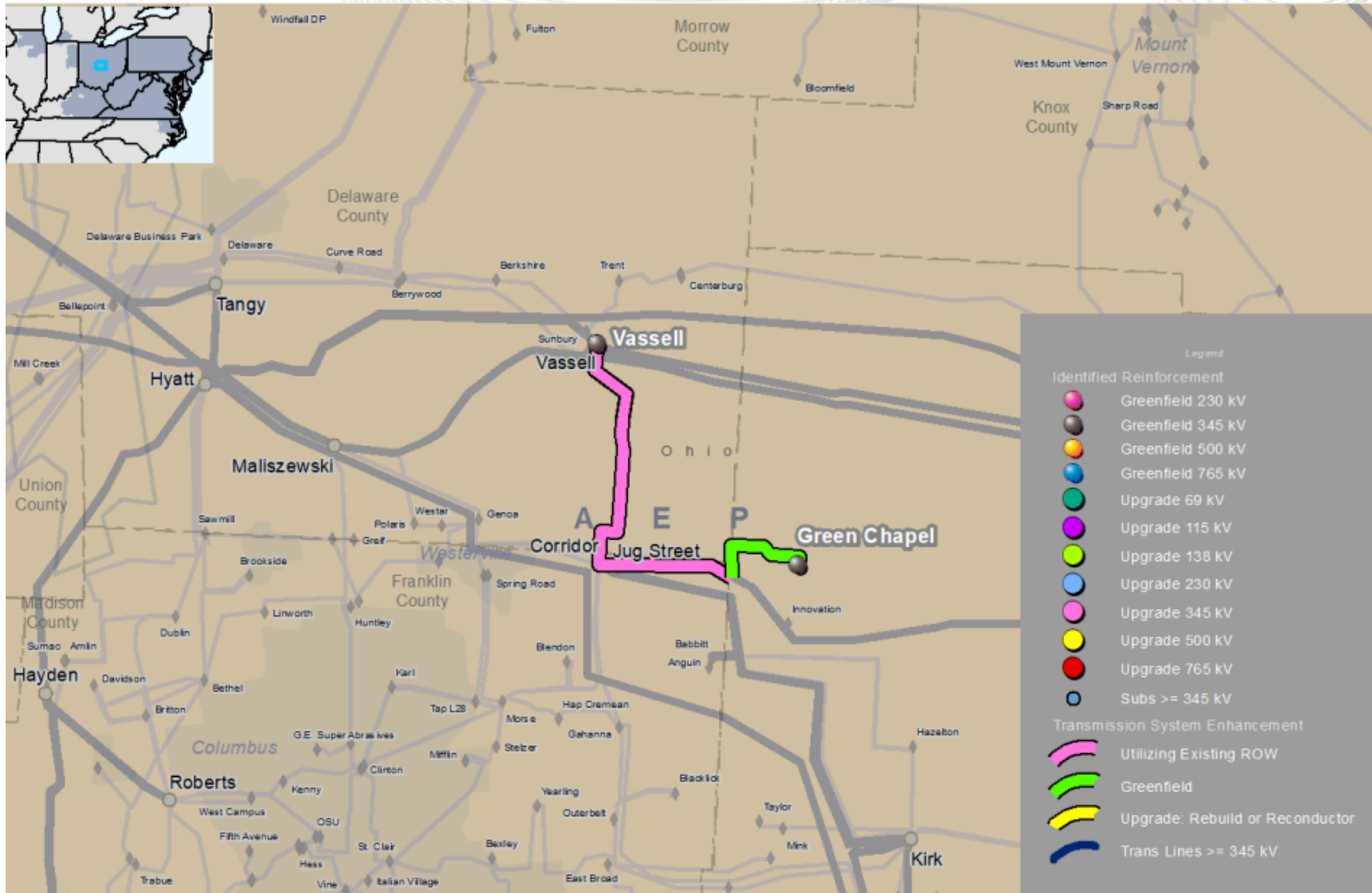
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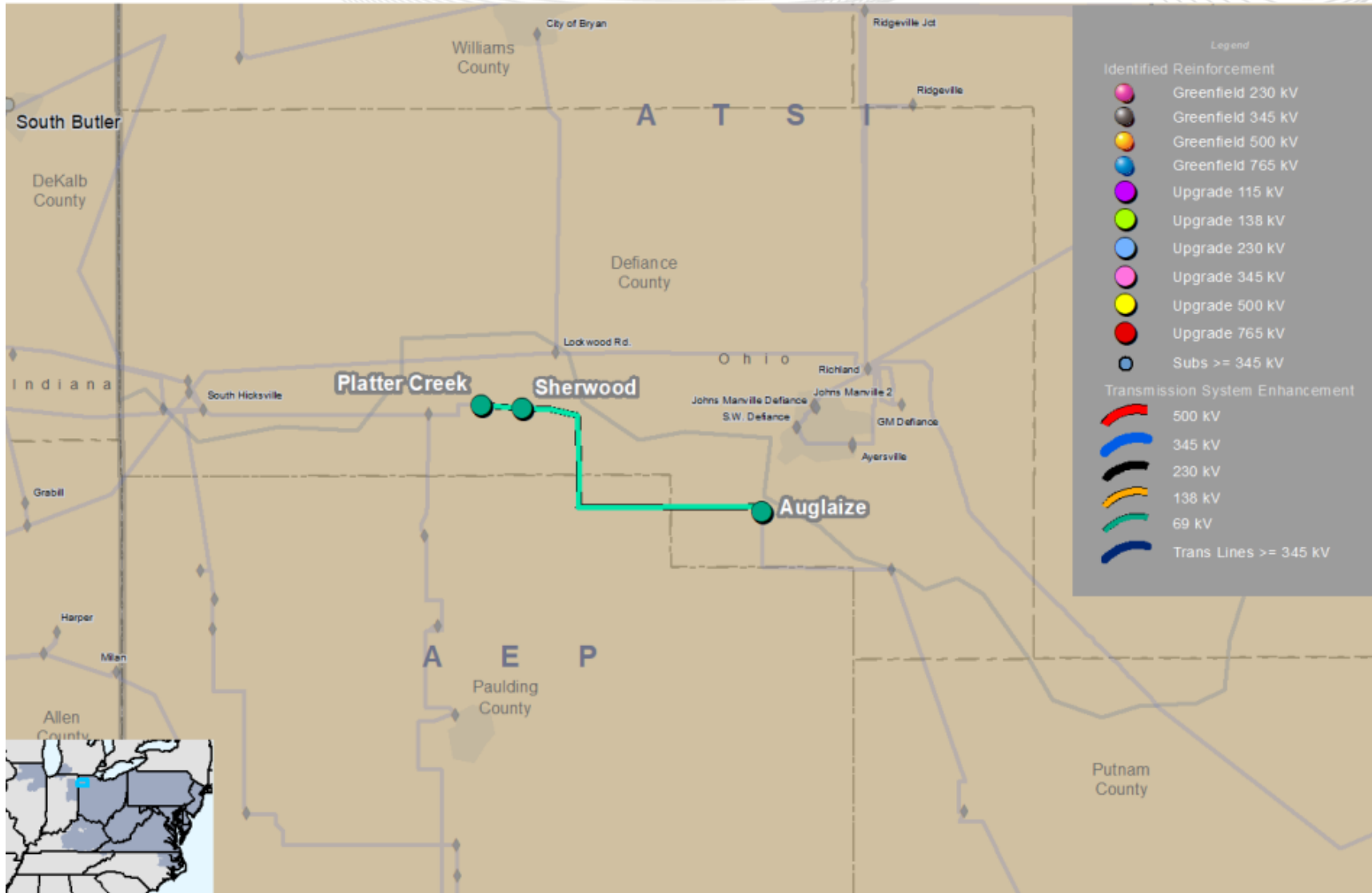
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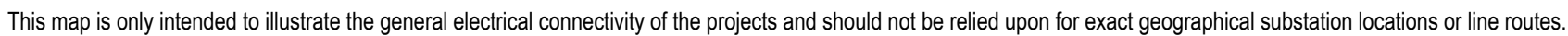
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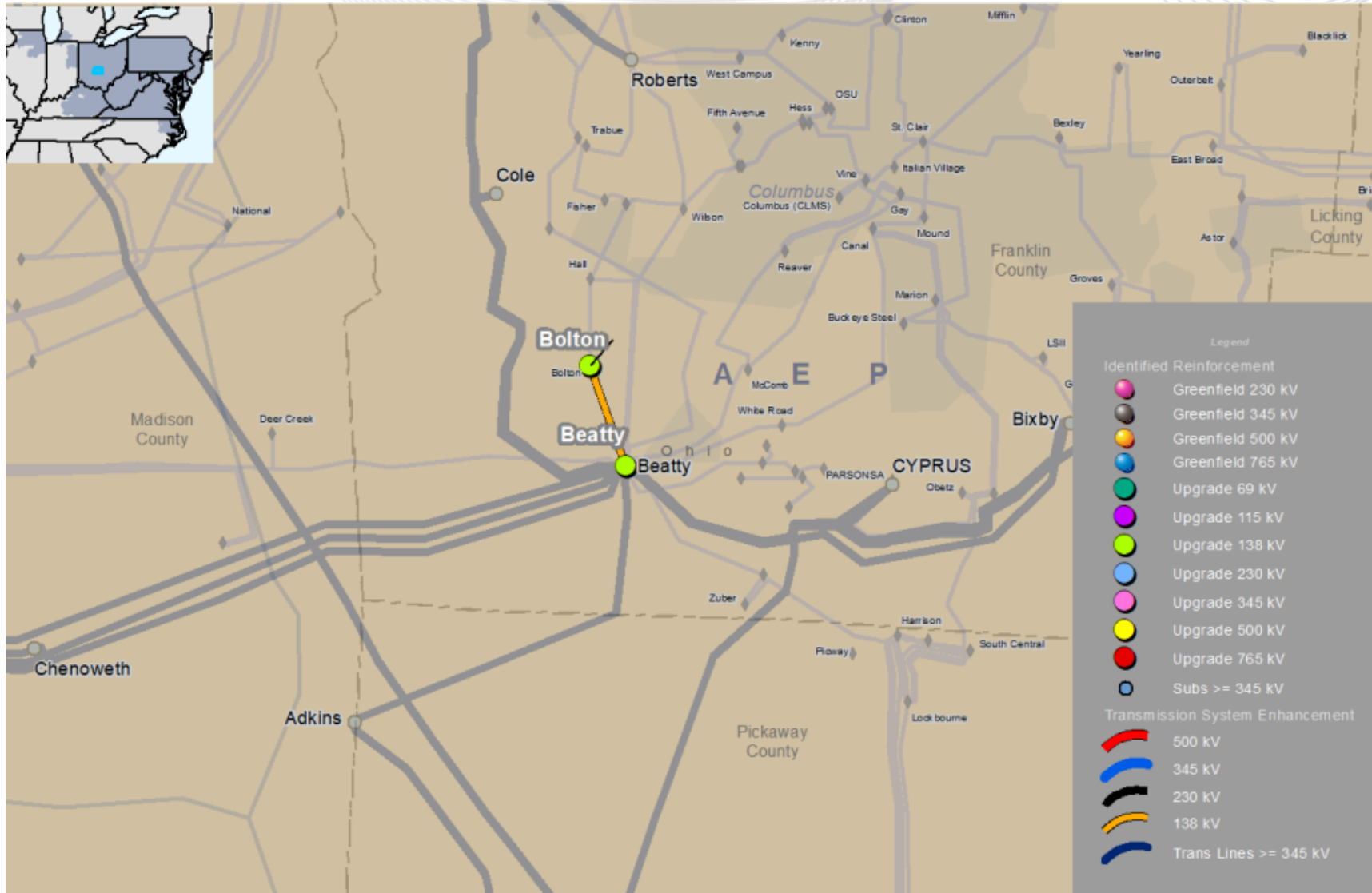


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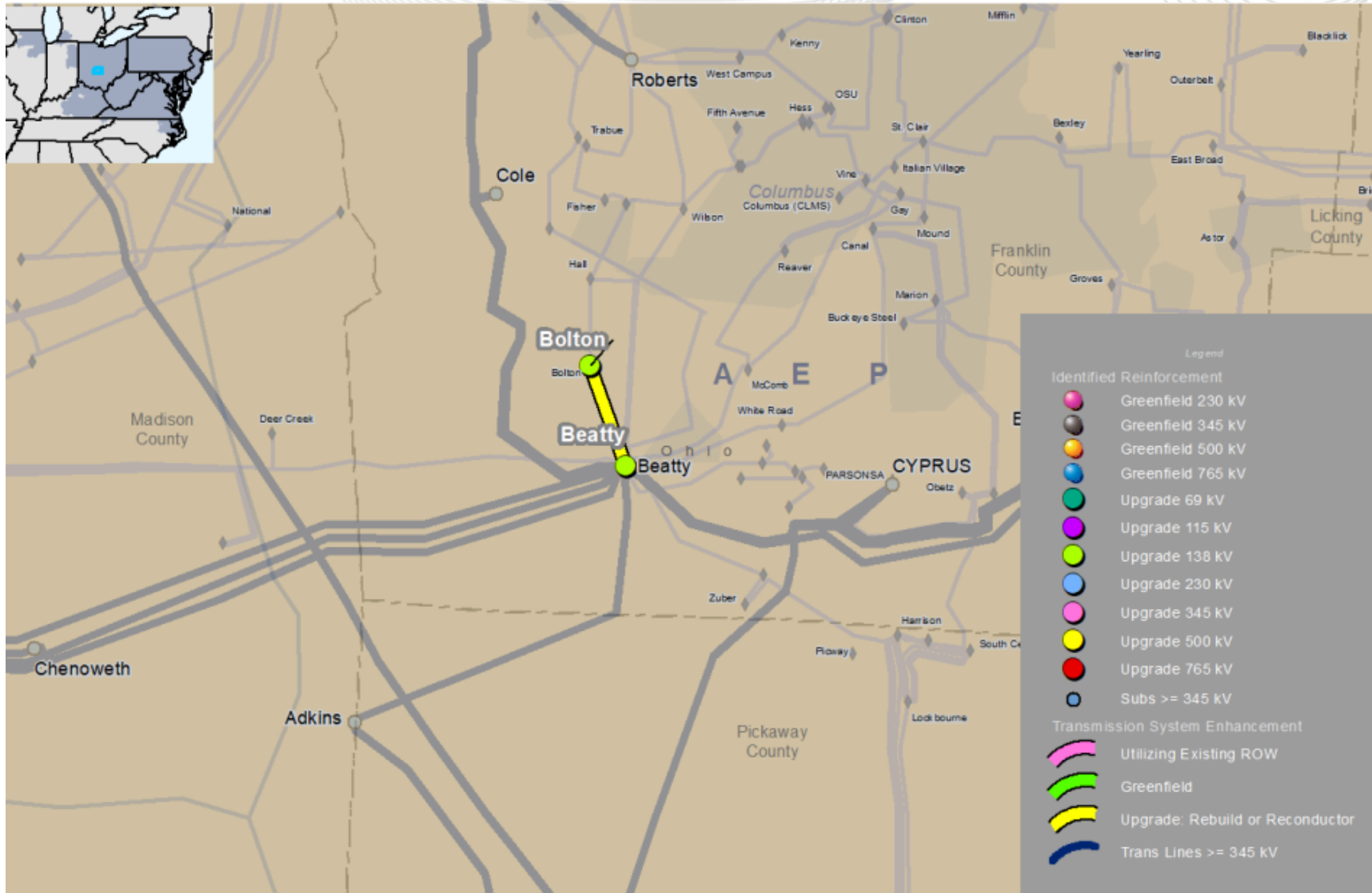


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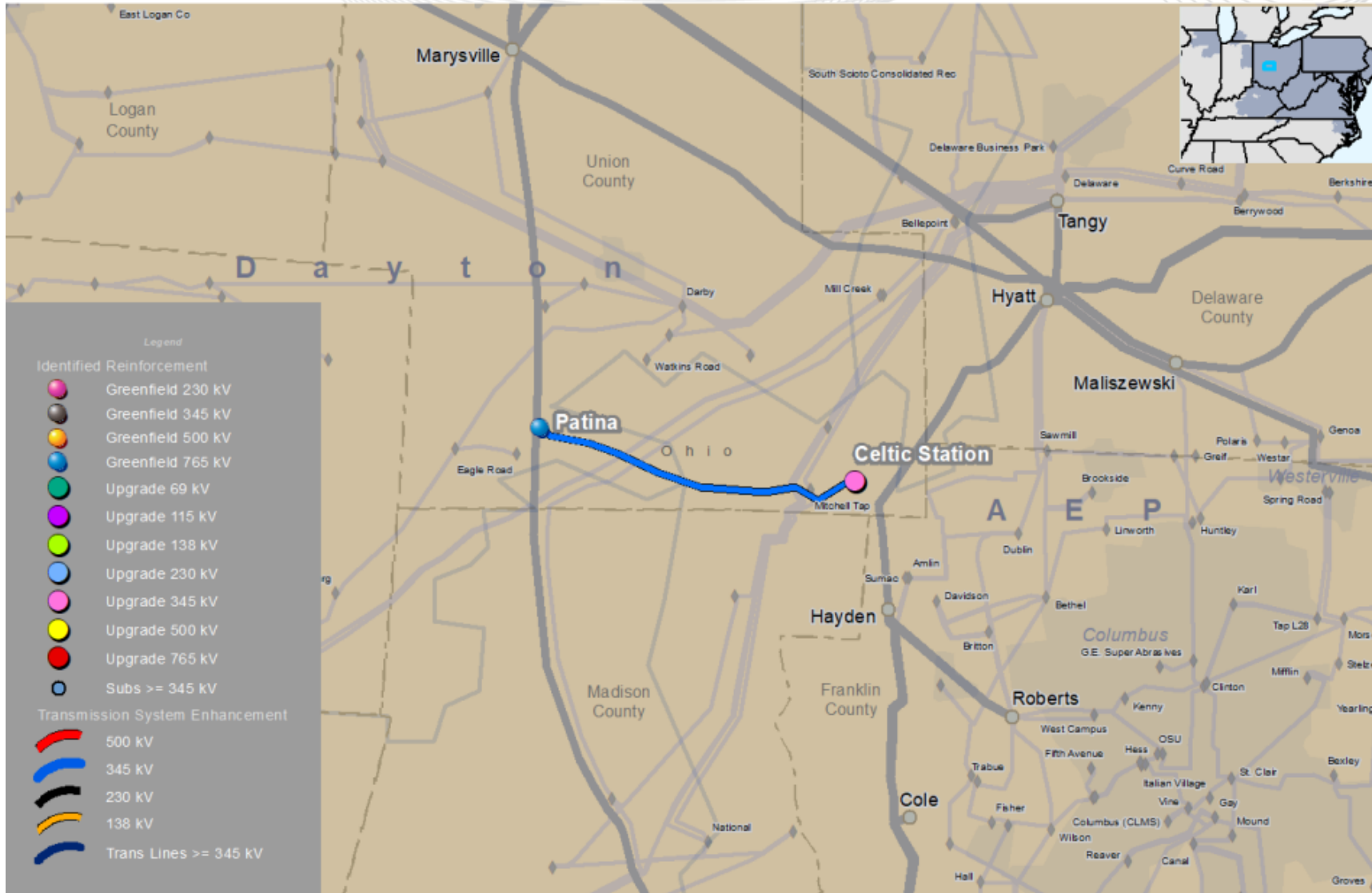




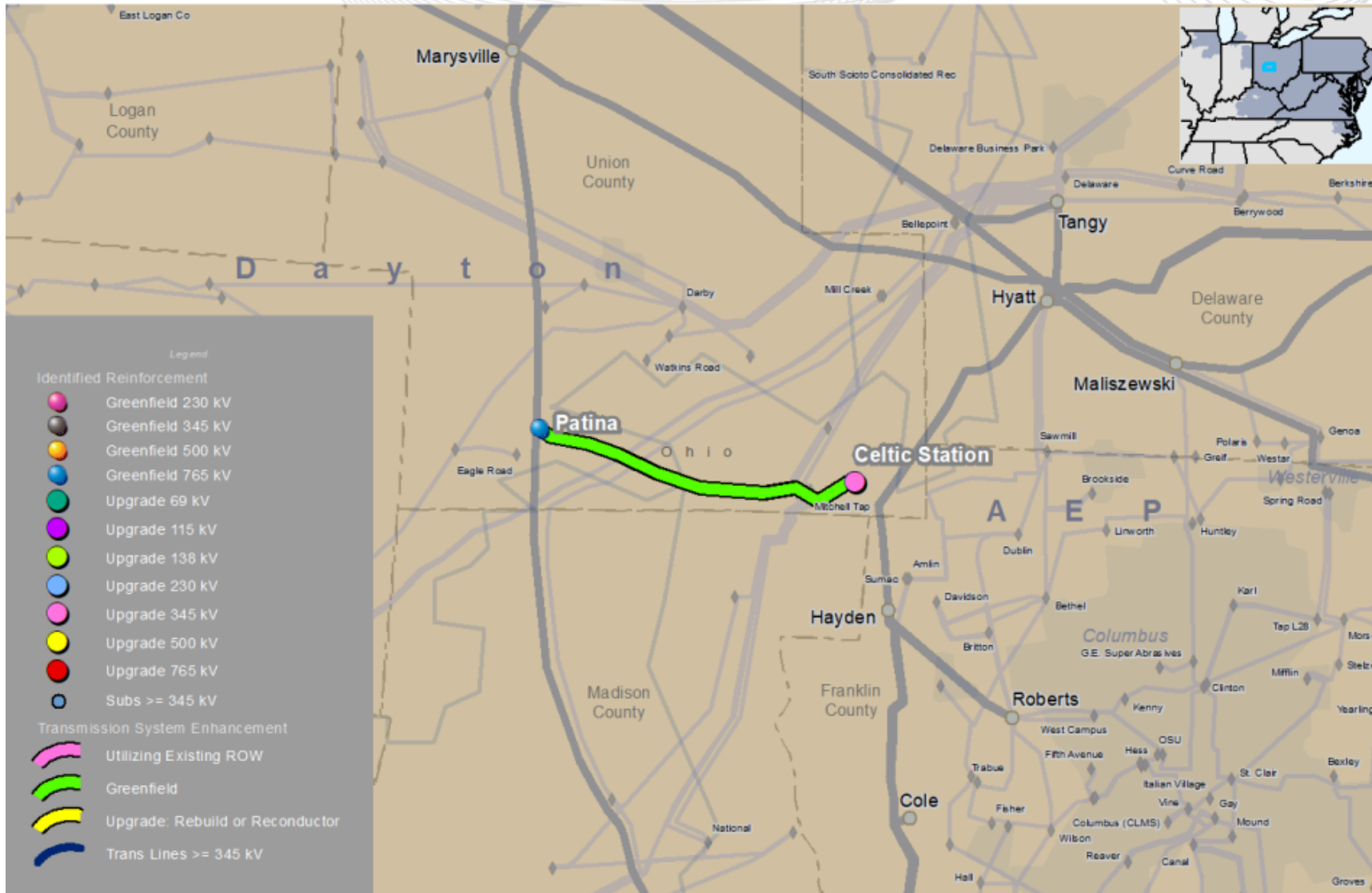
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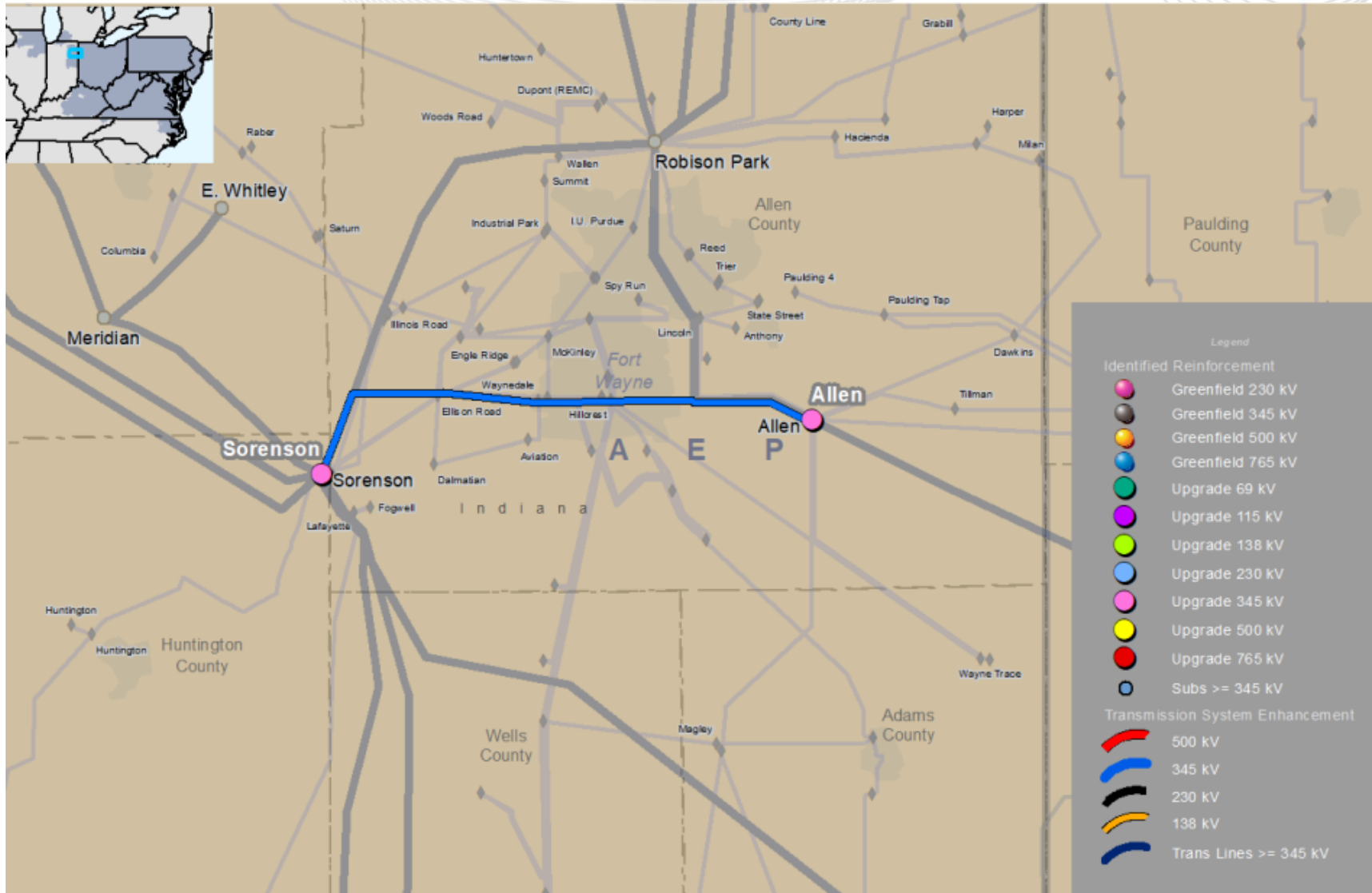
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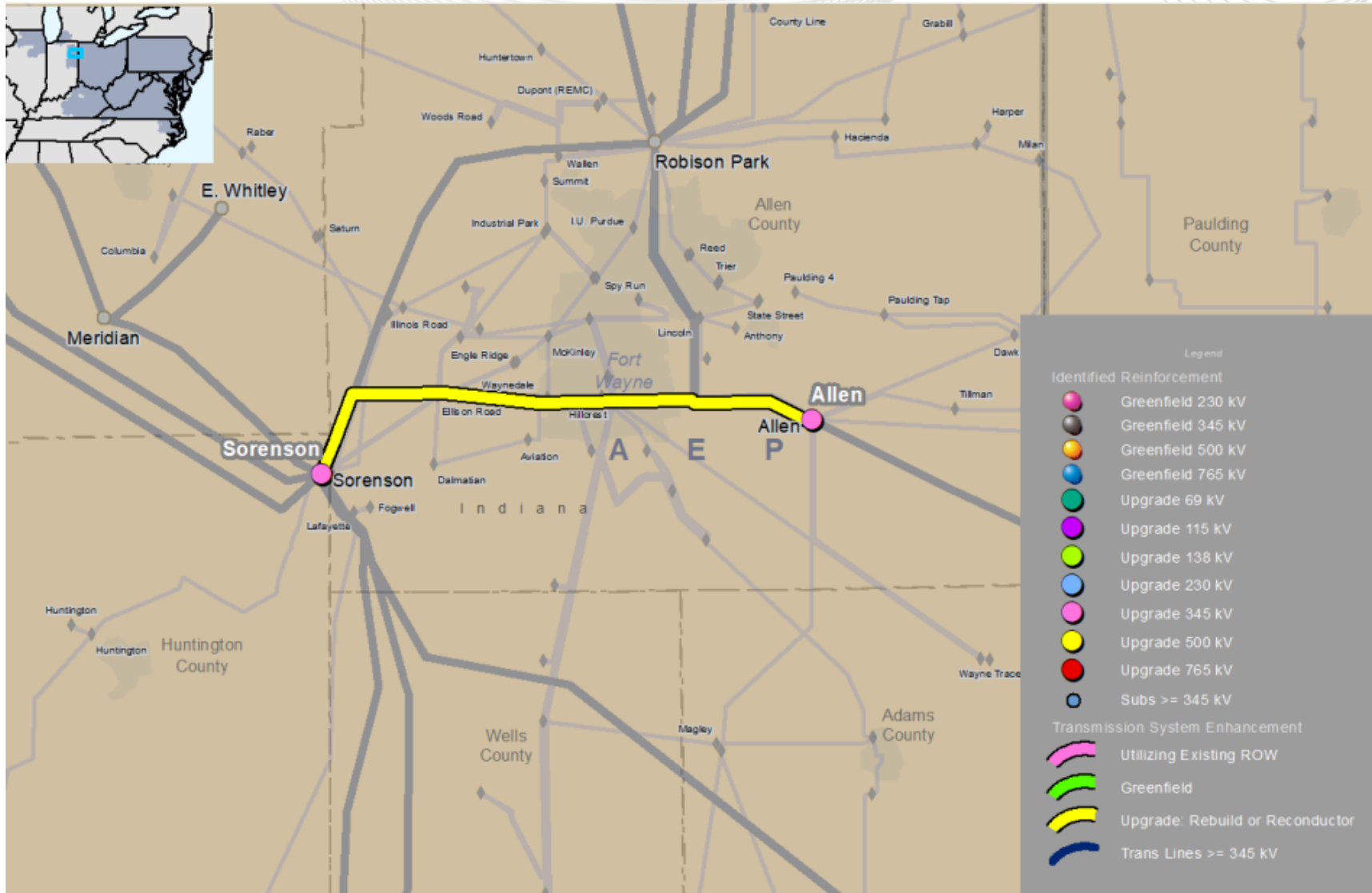
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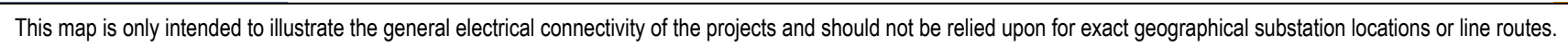


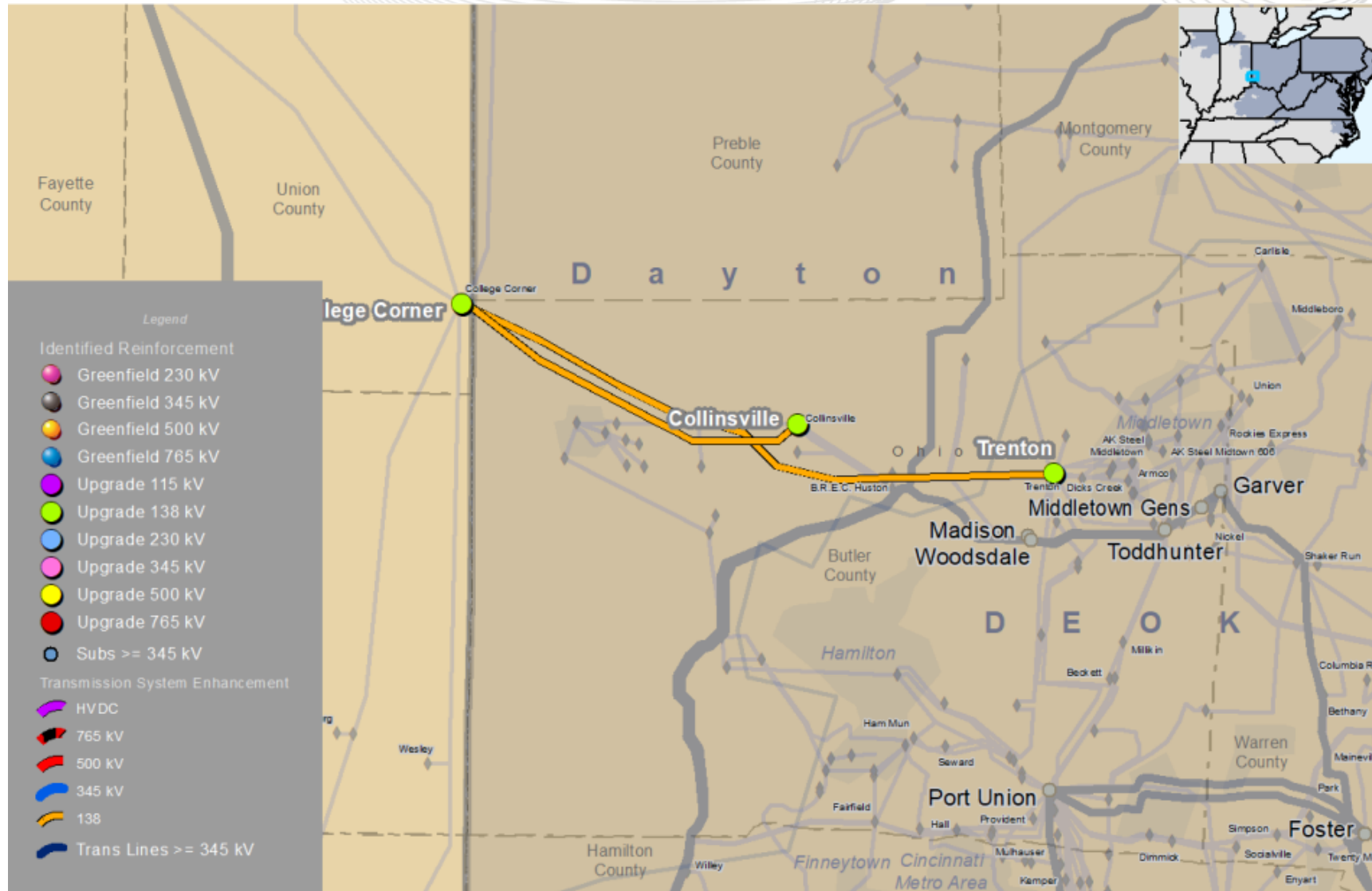
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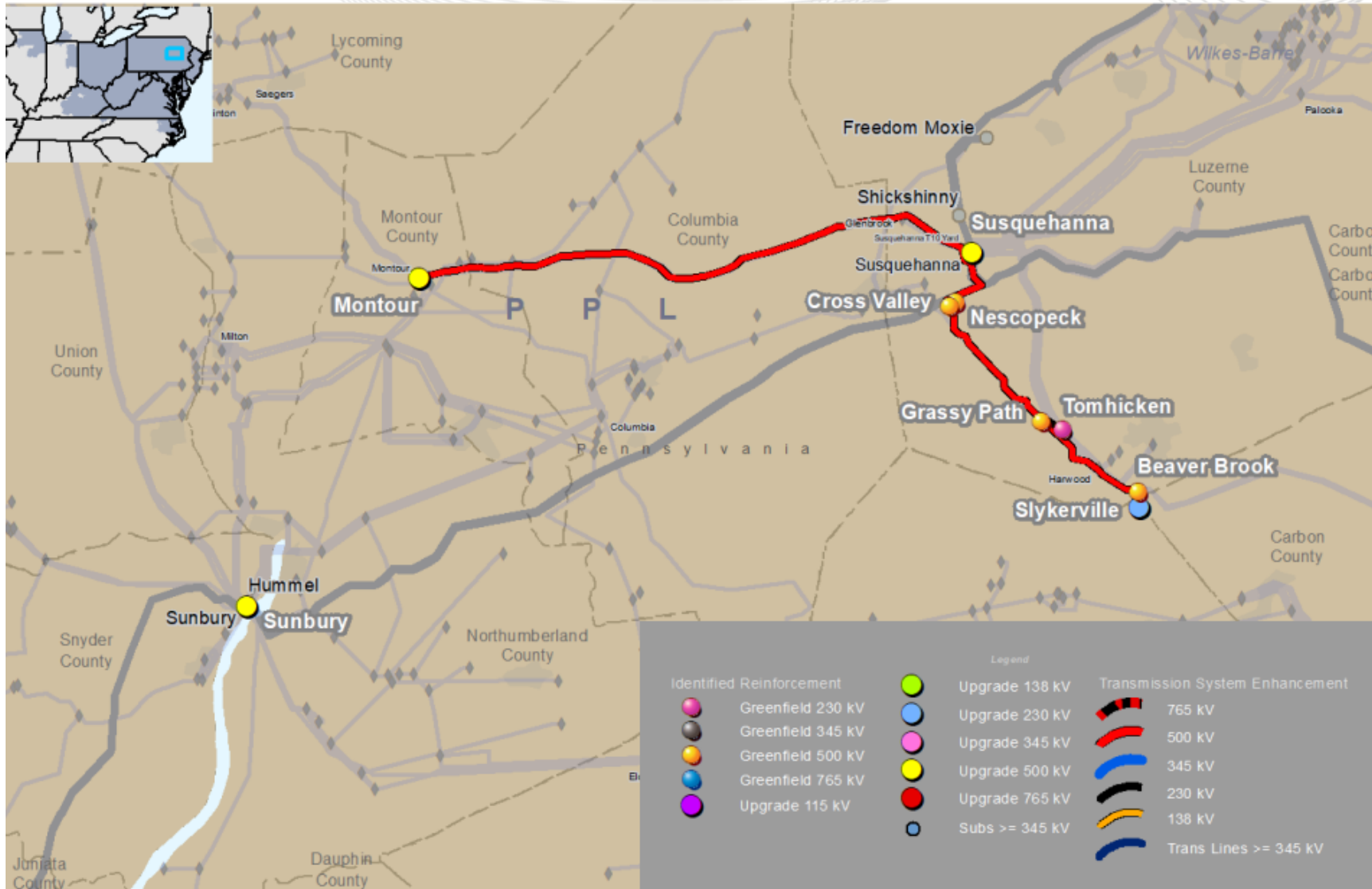
CINSI Proposal



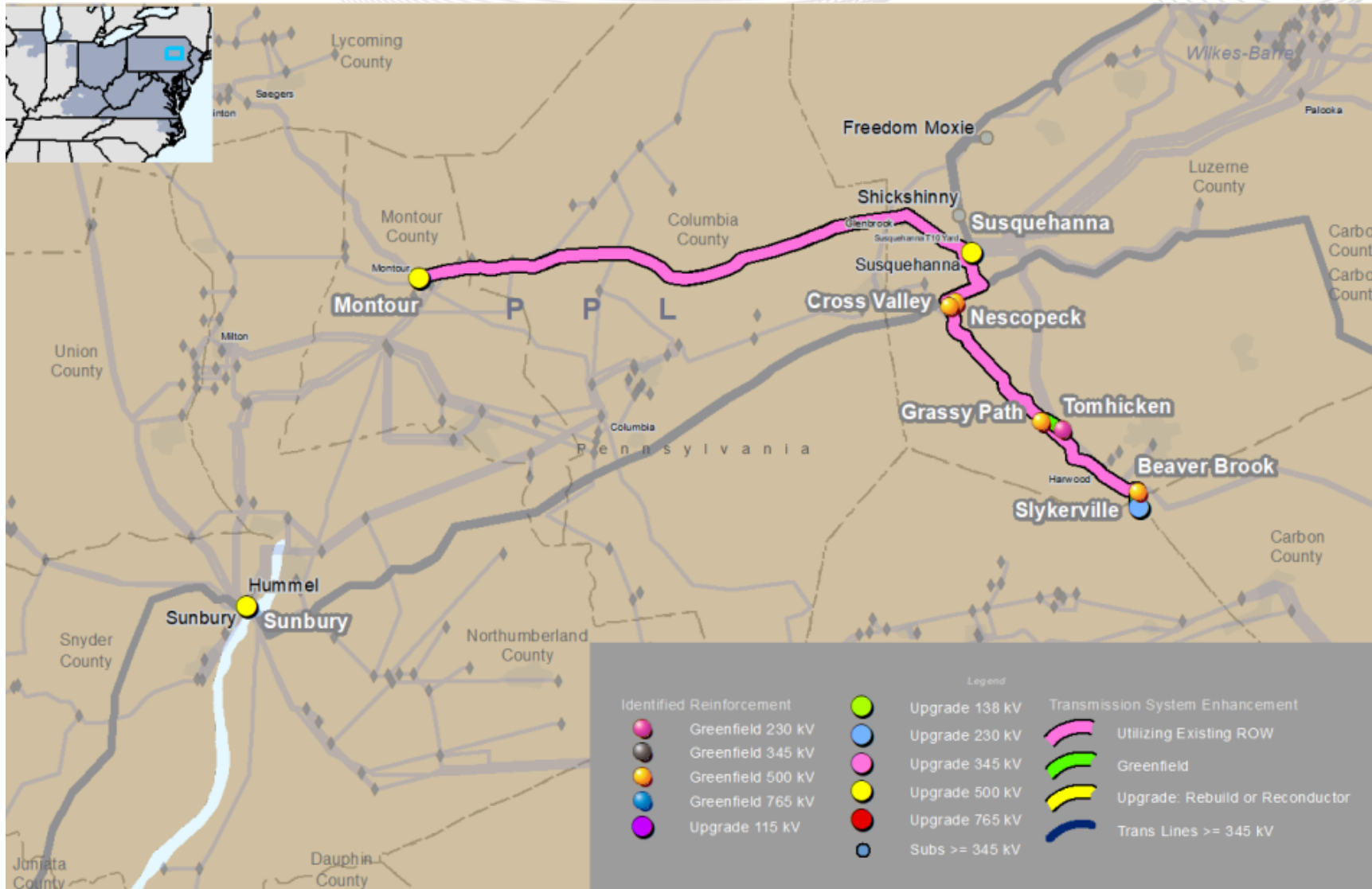


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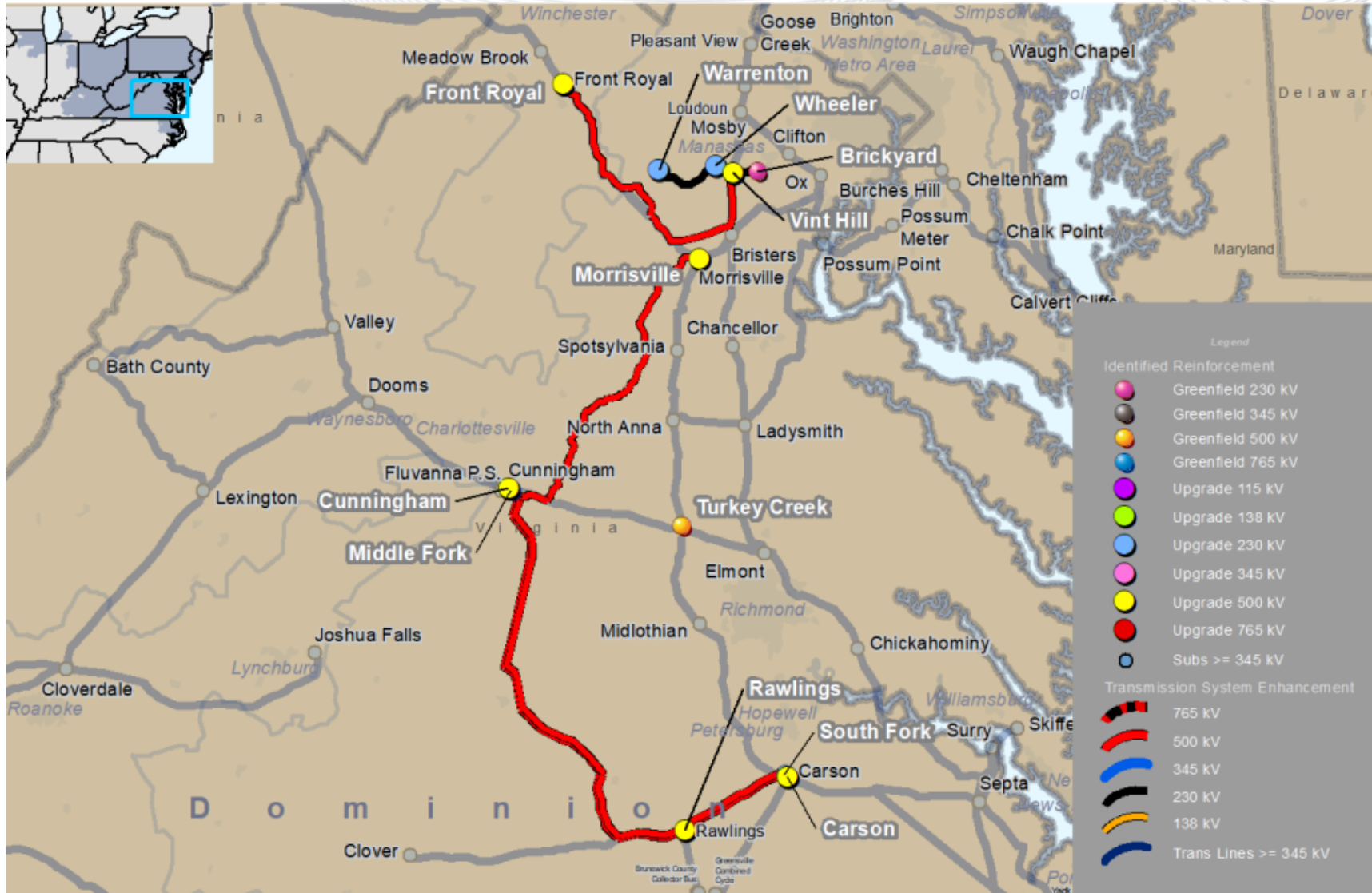
CNTLTM Proposals



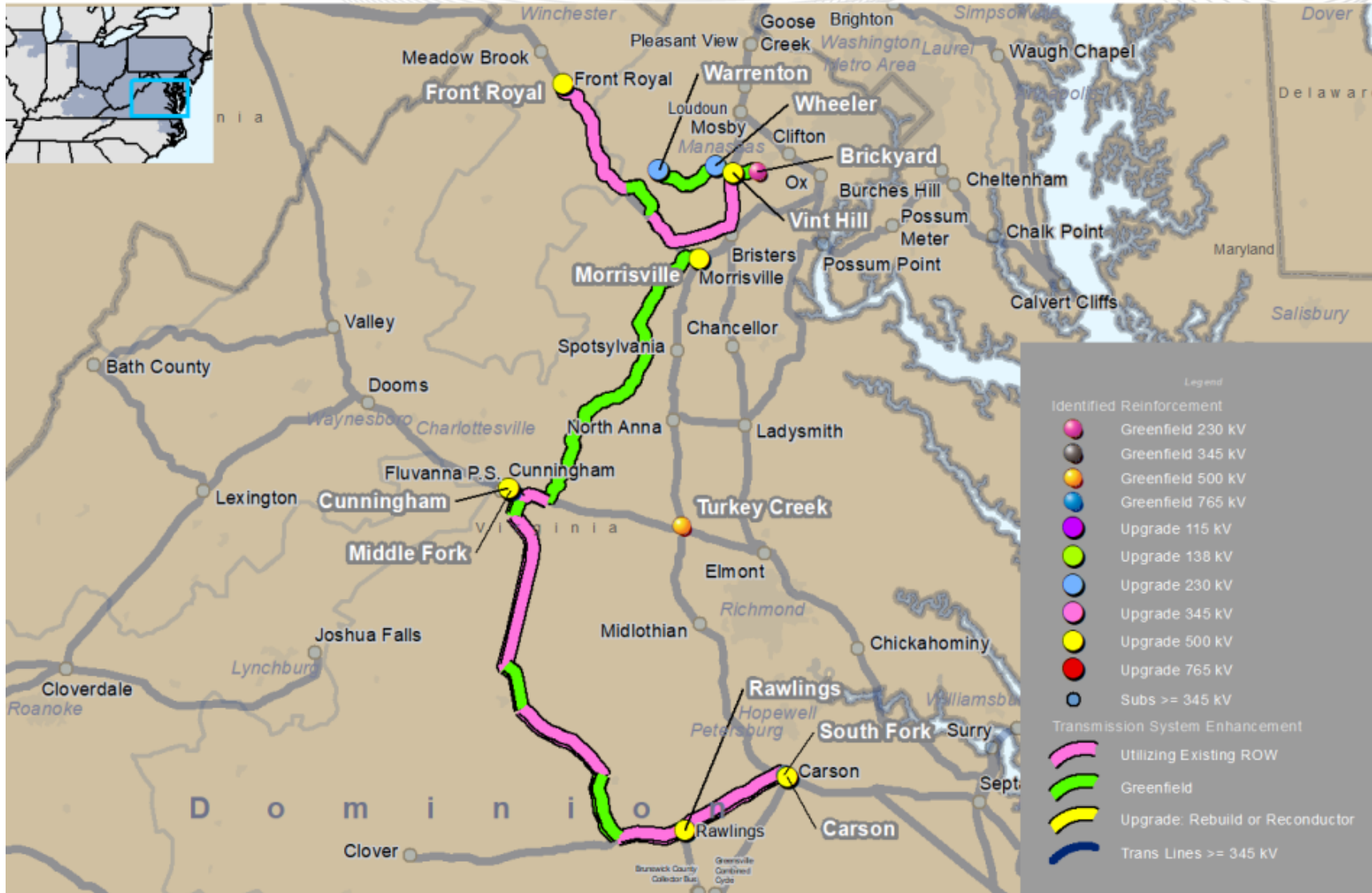
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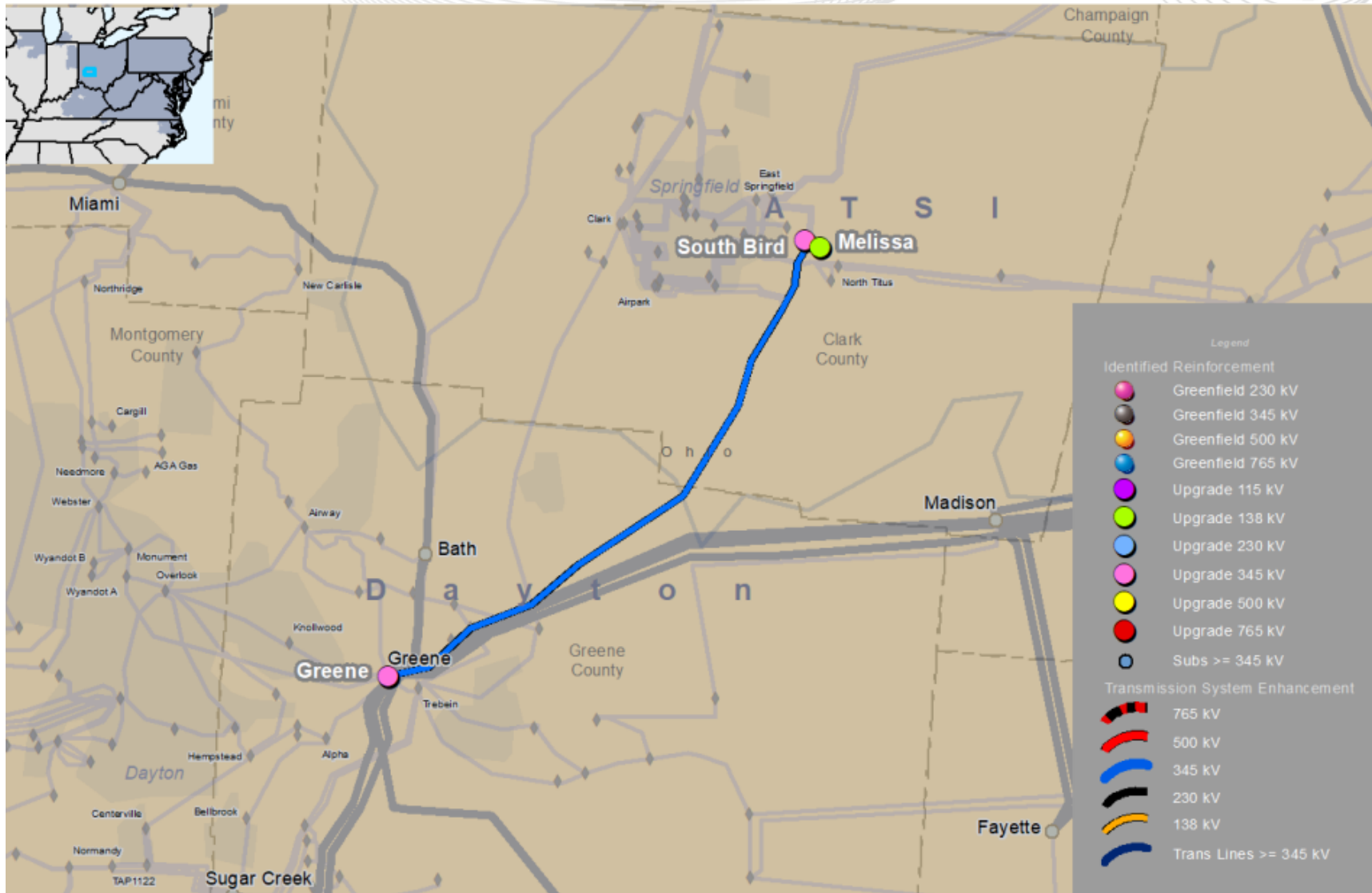
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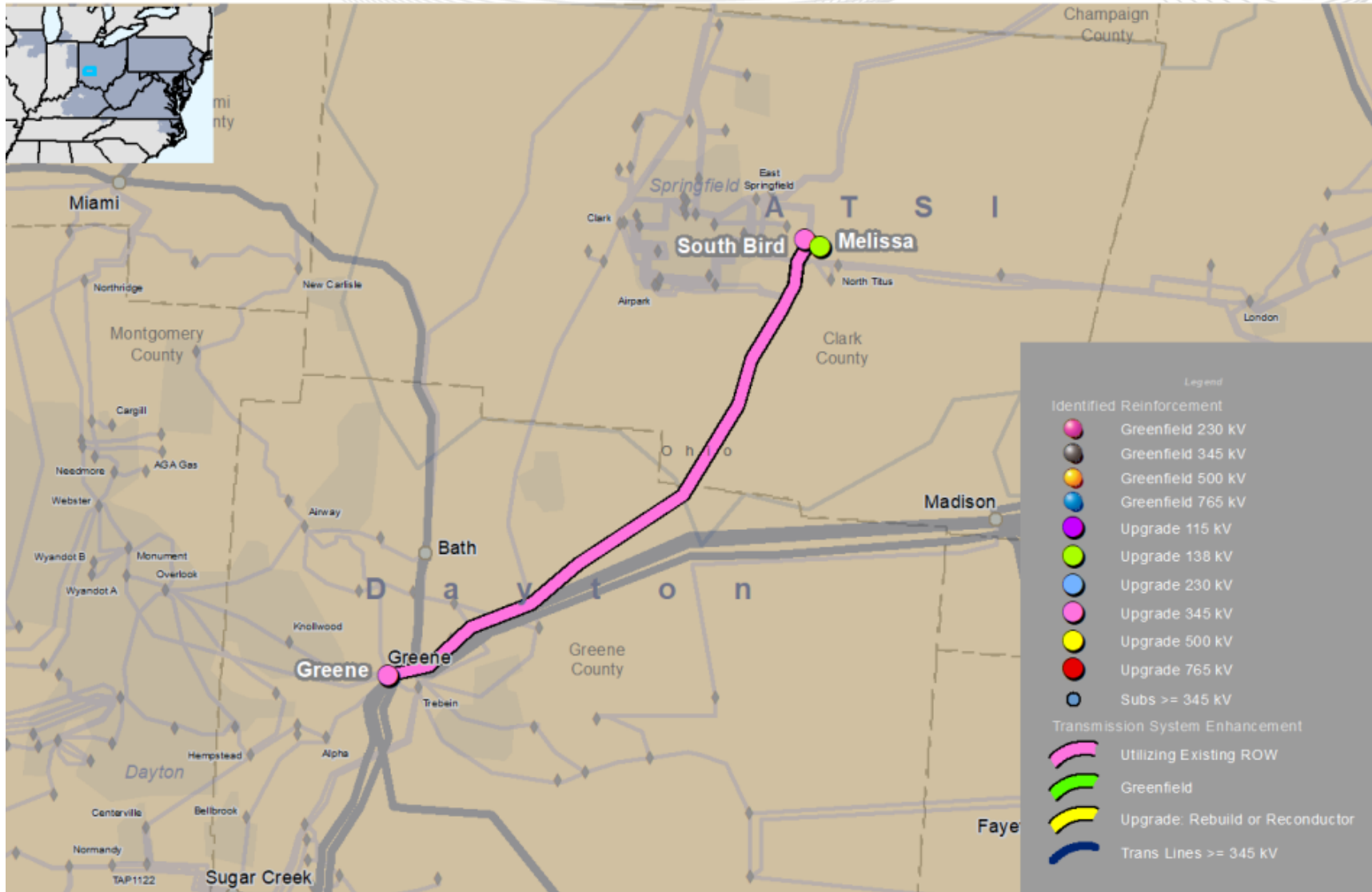
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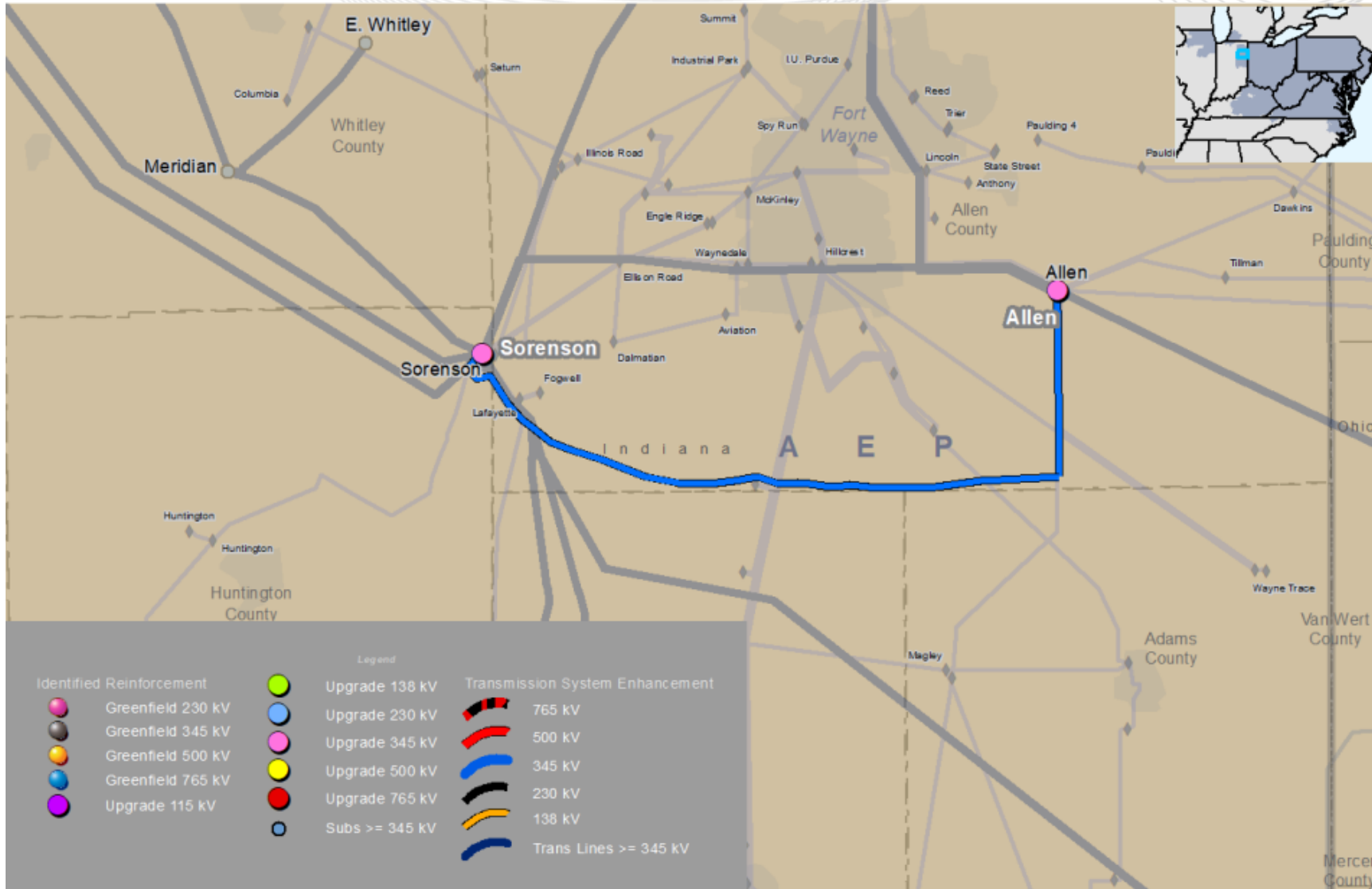
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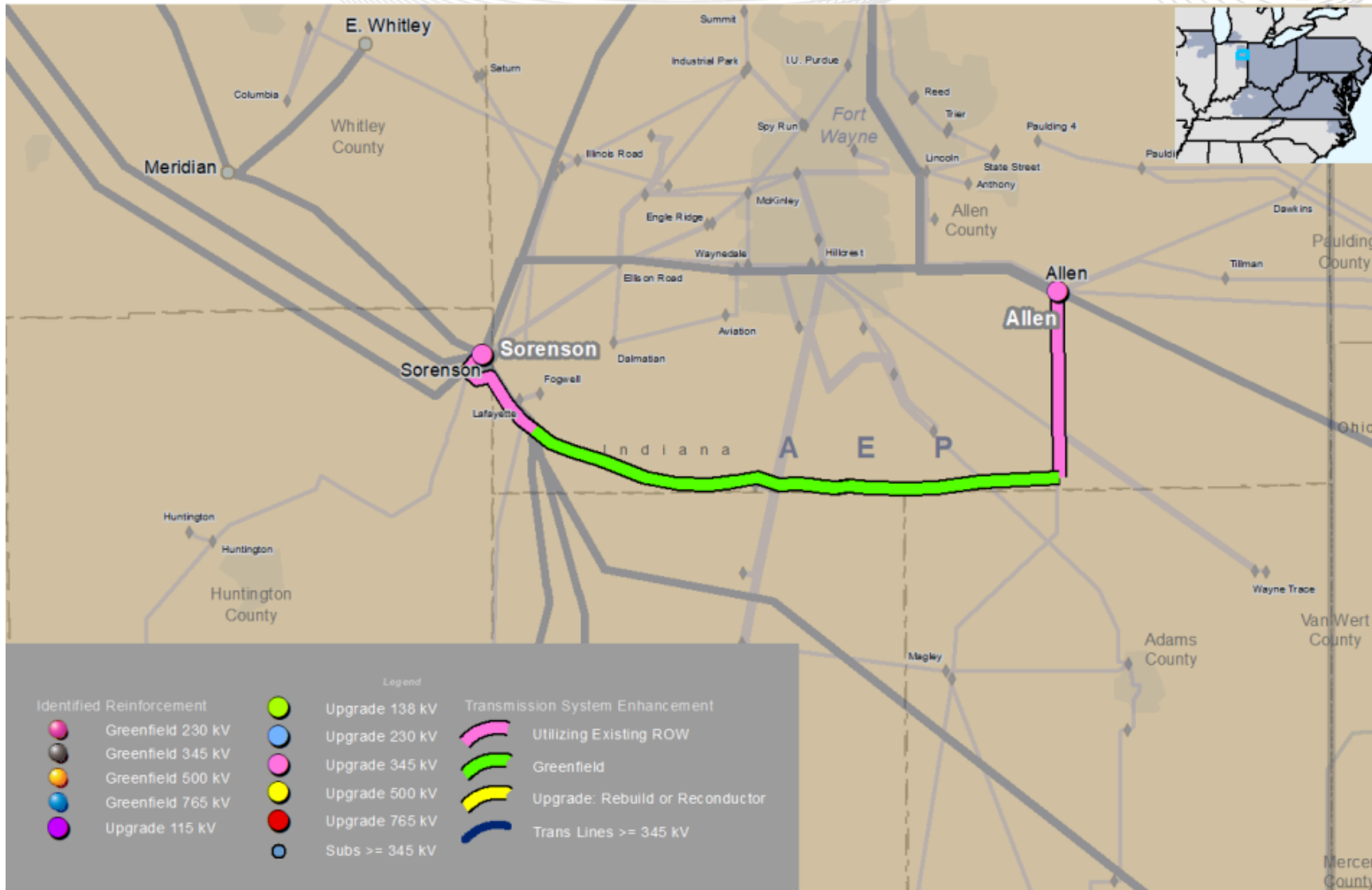
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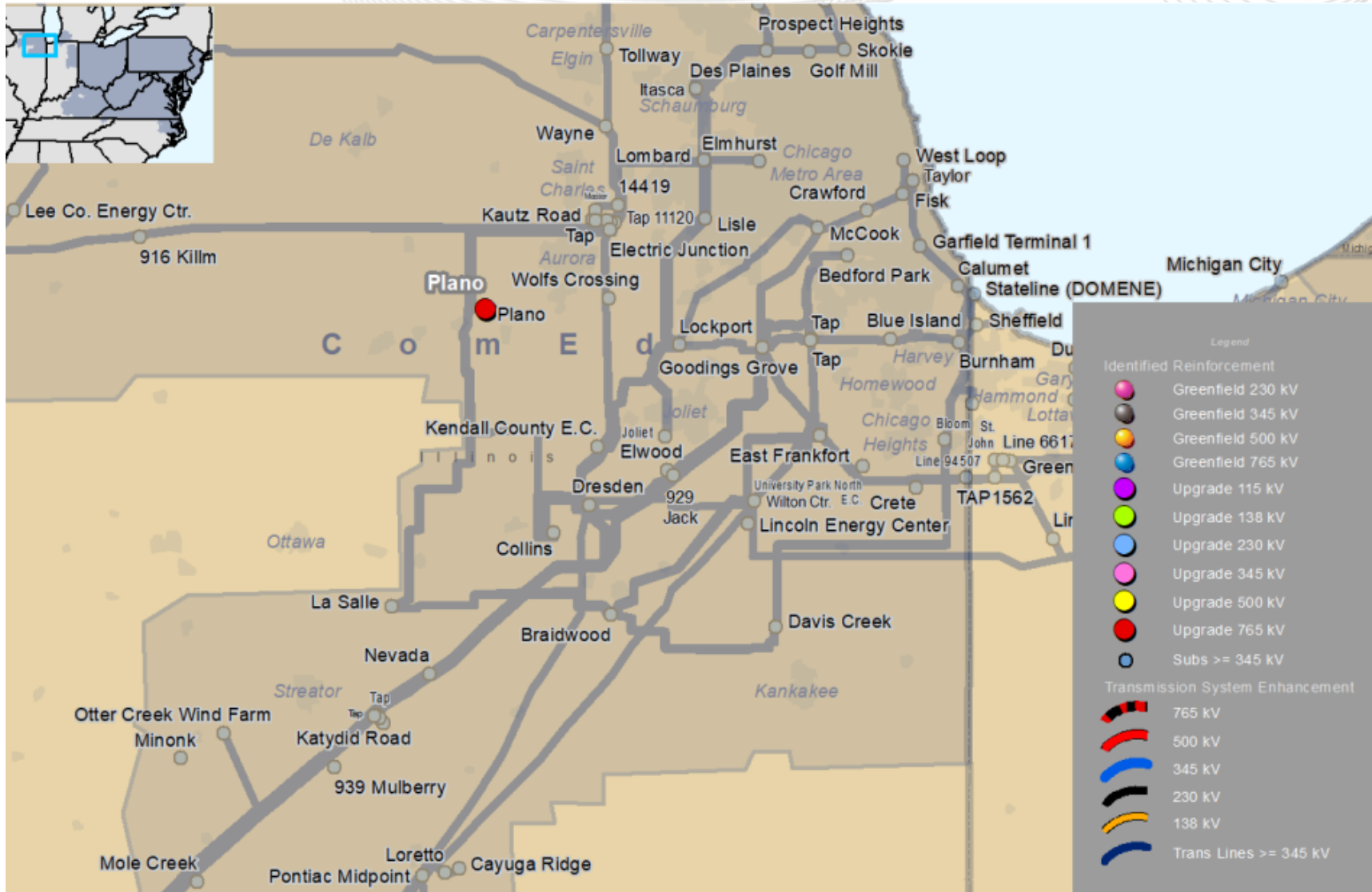


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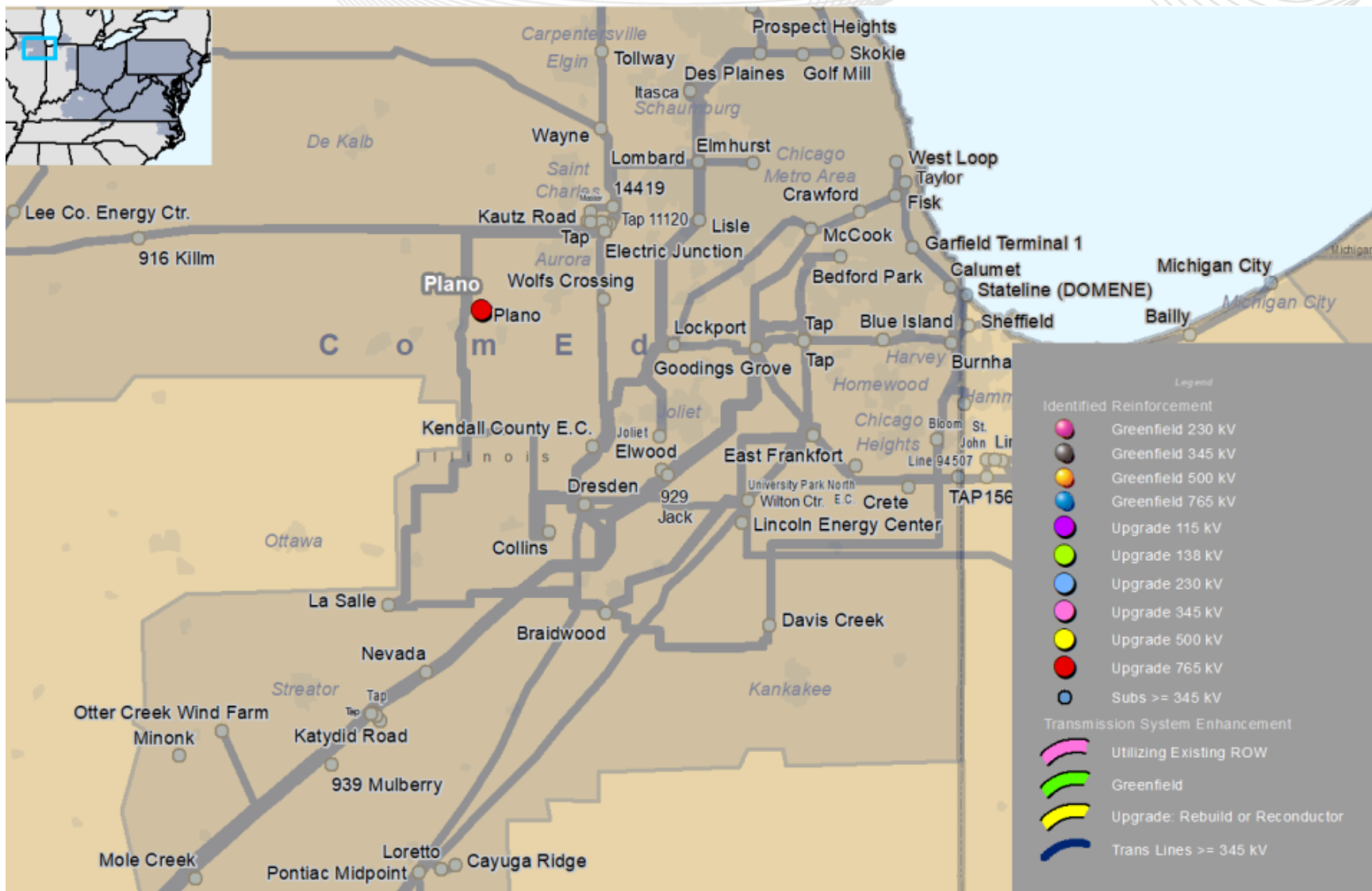


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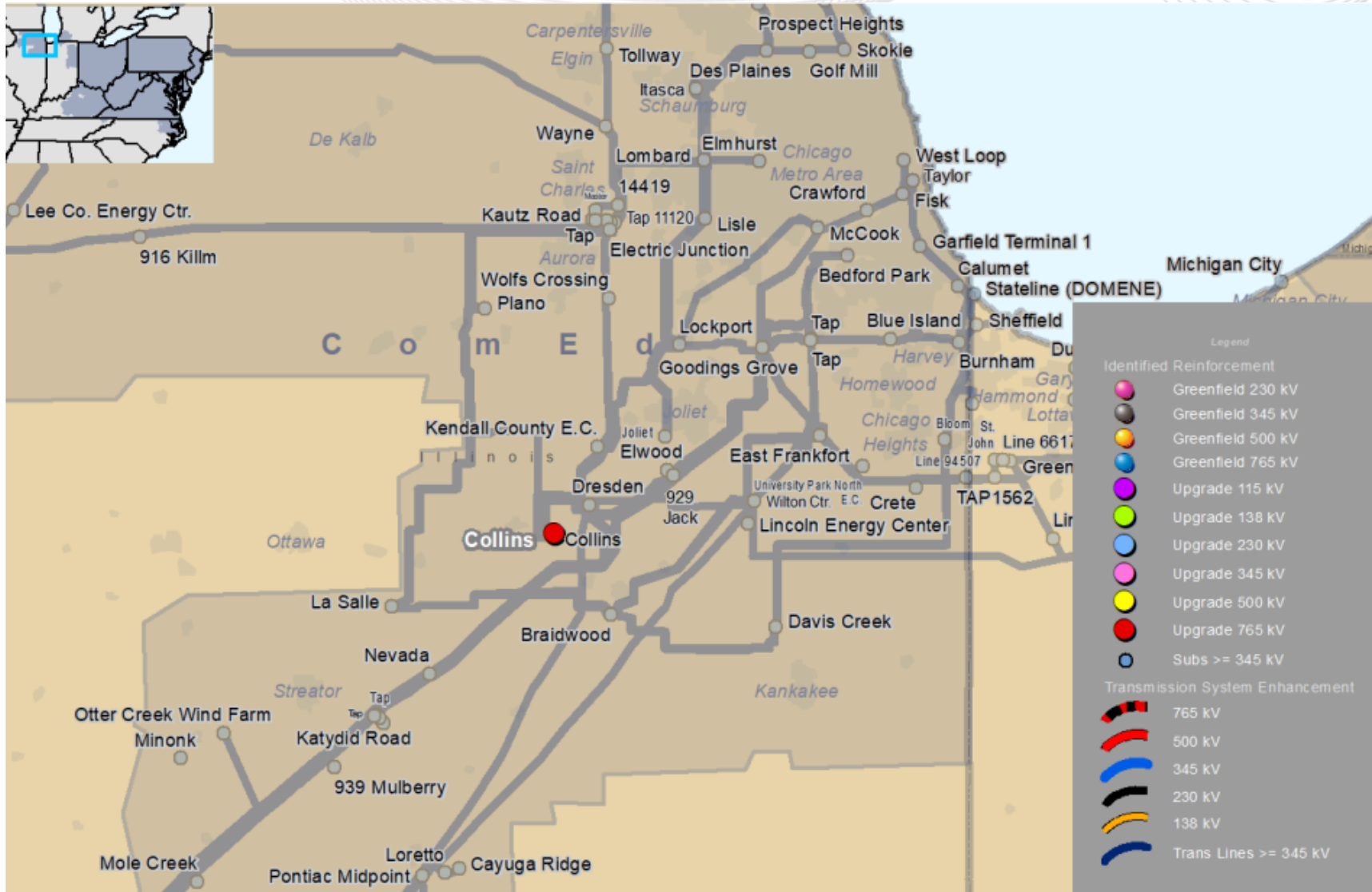
COMED Proposals



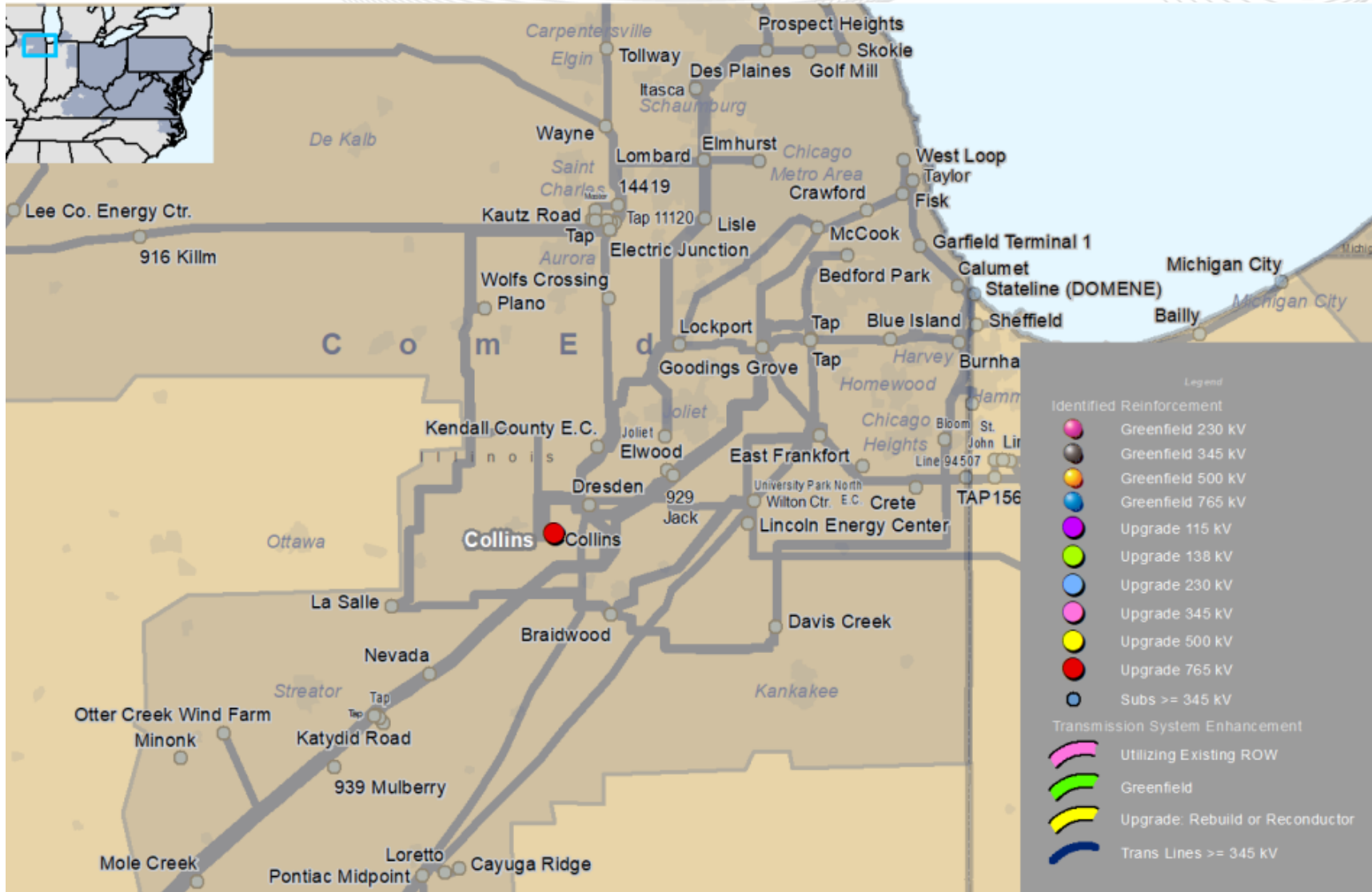
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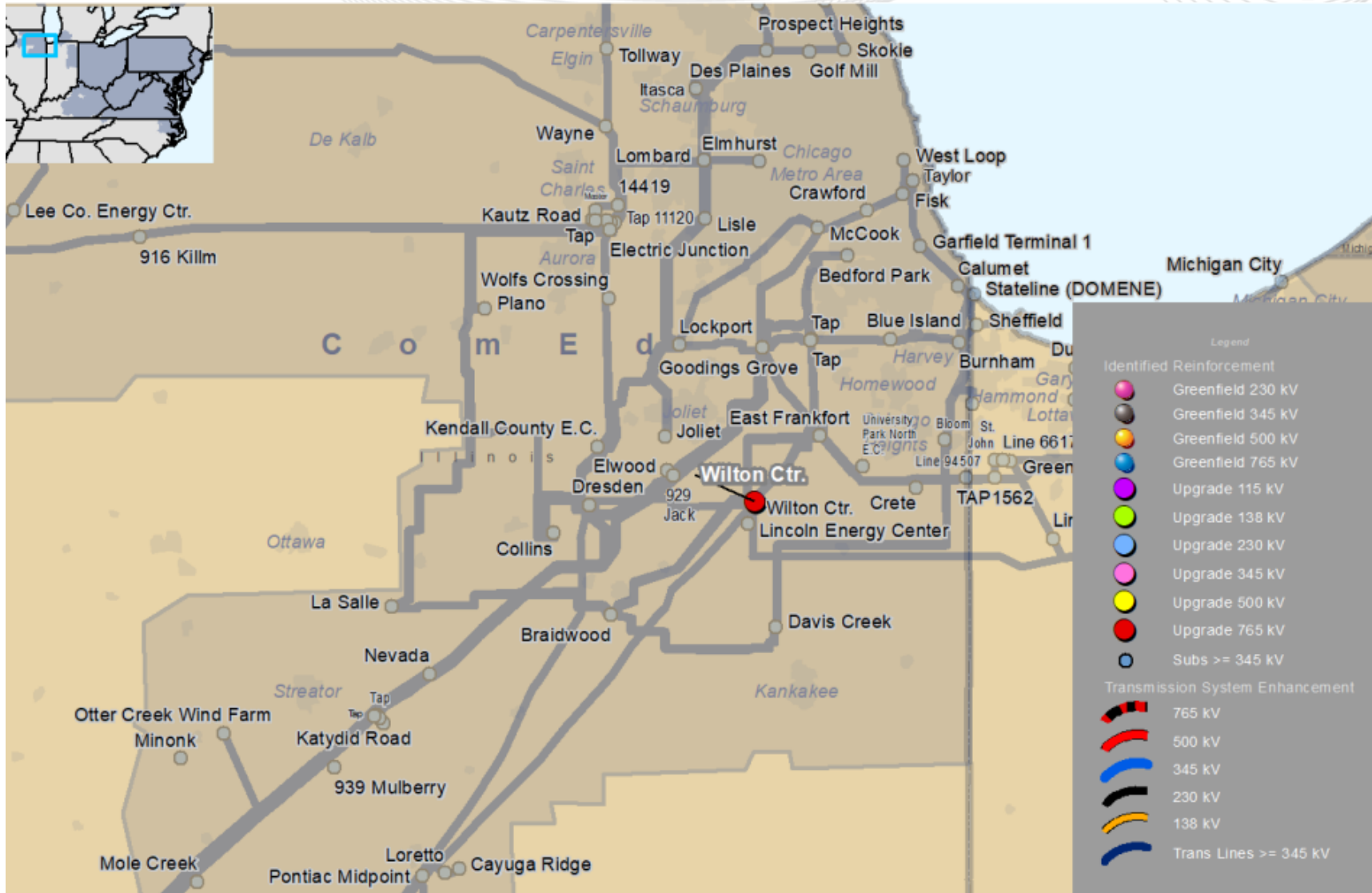
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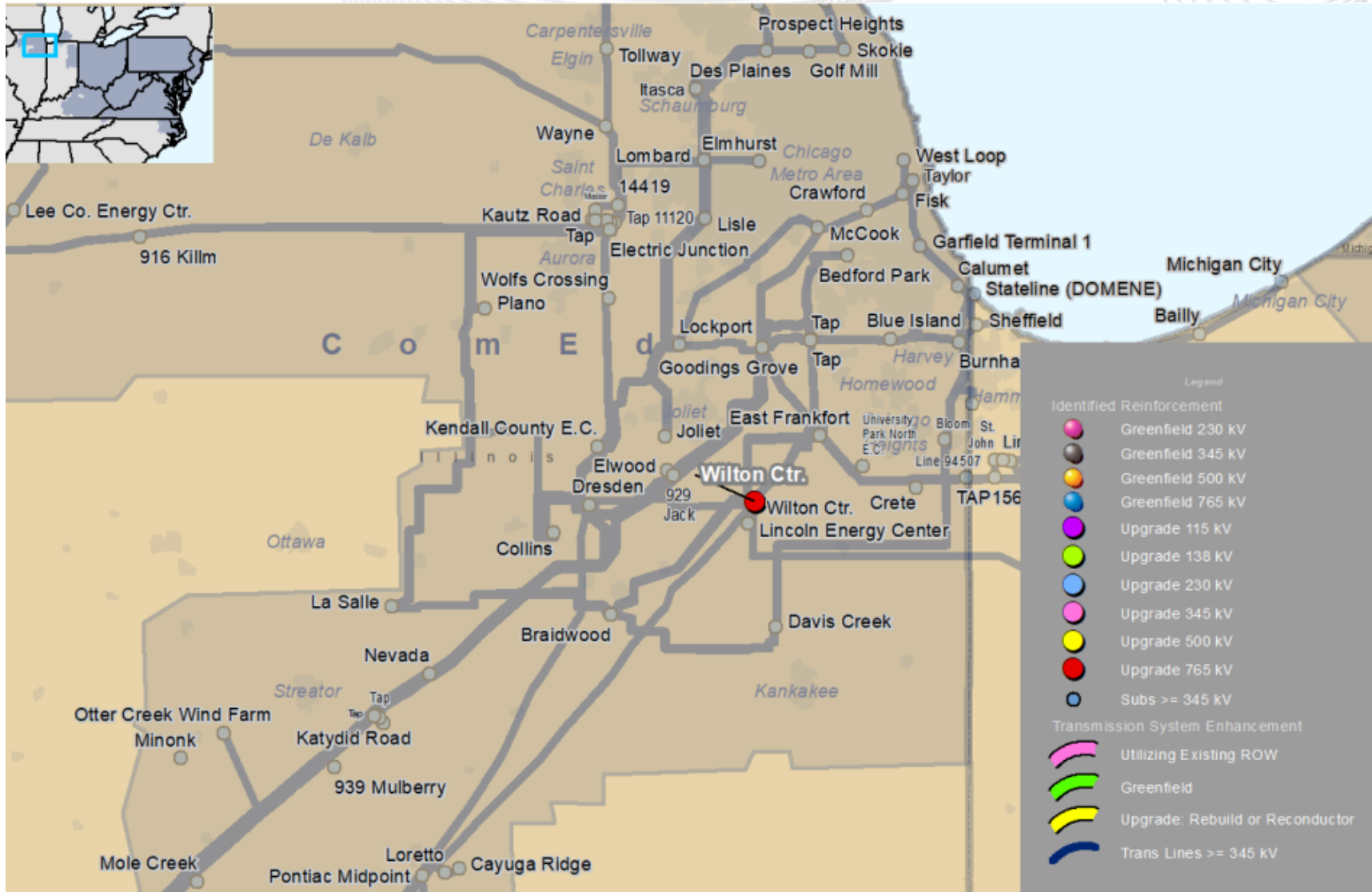
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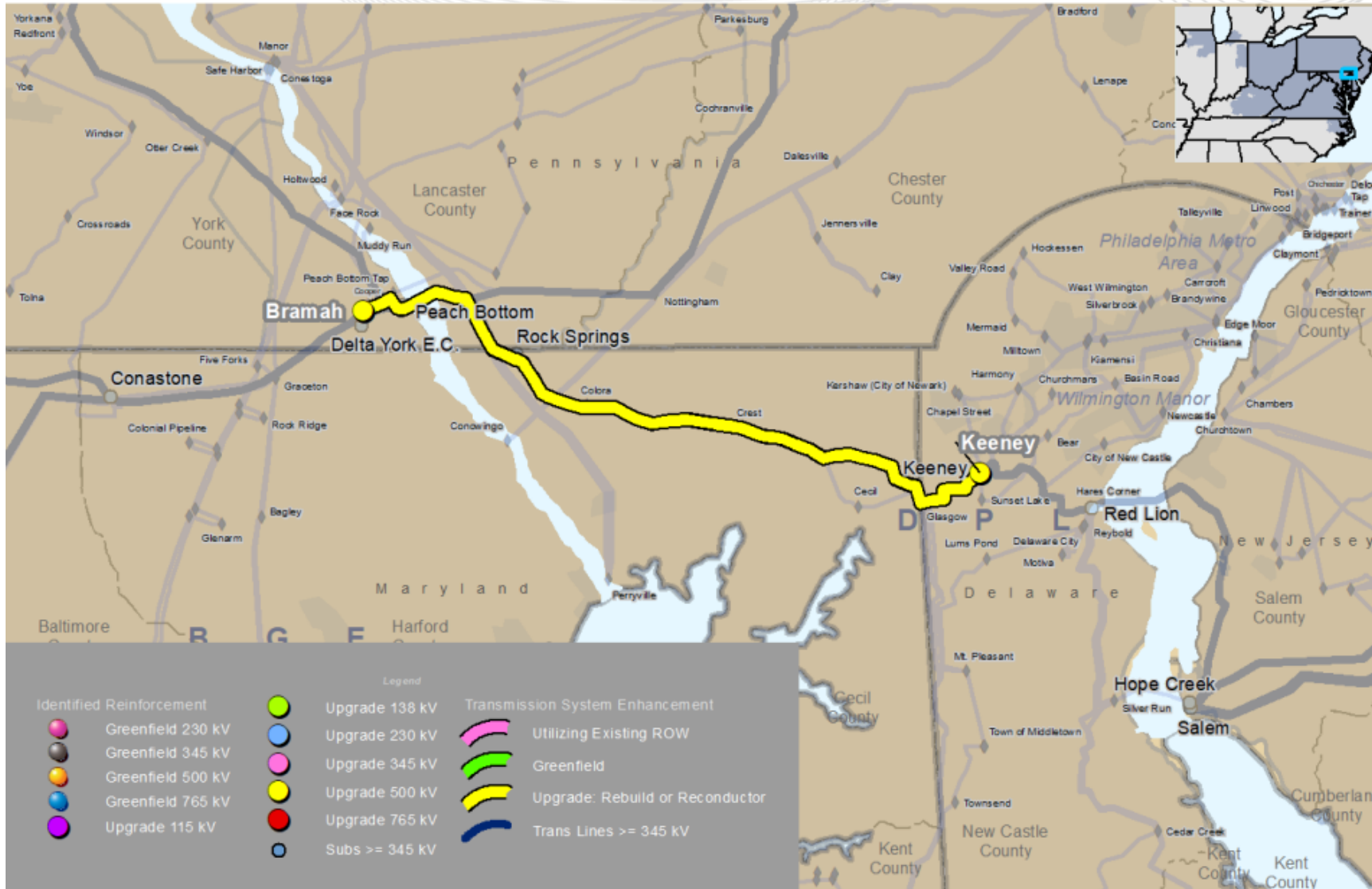


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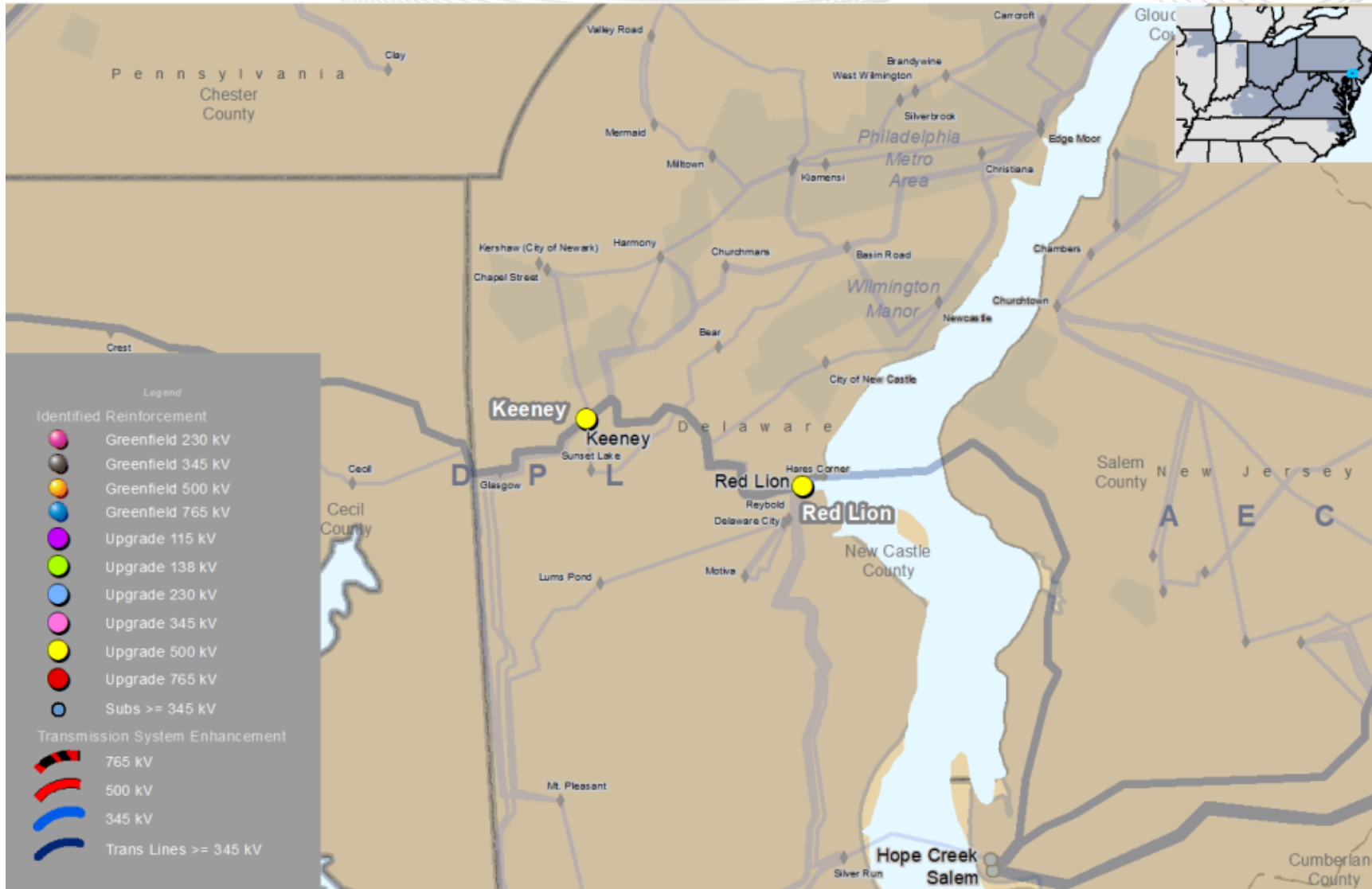
DPL Proposals



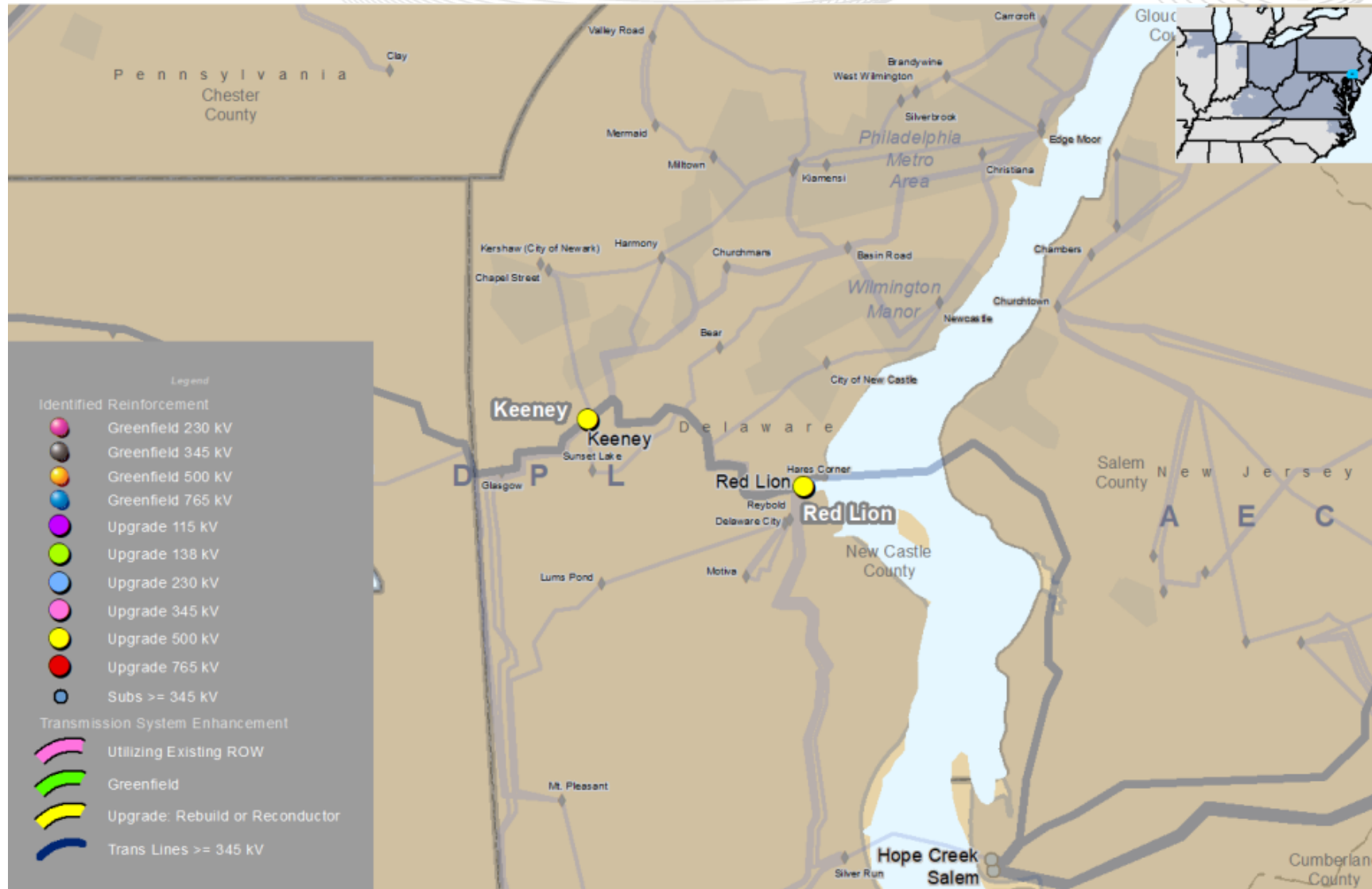
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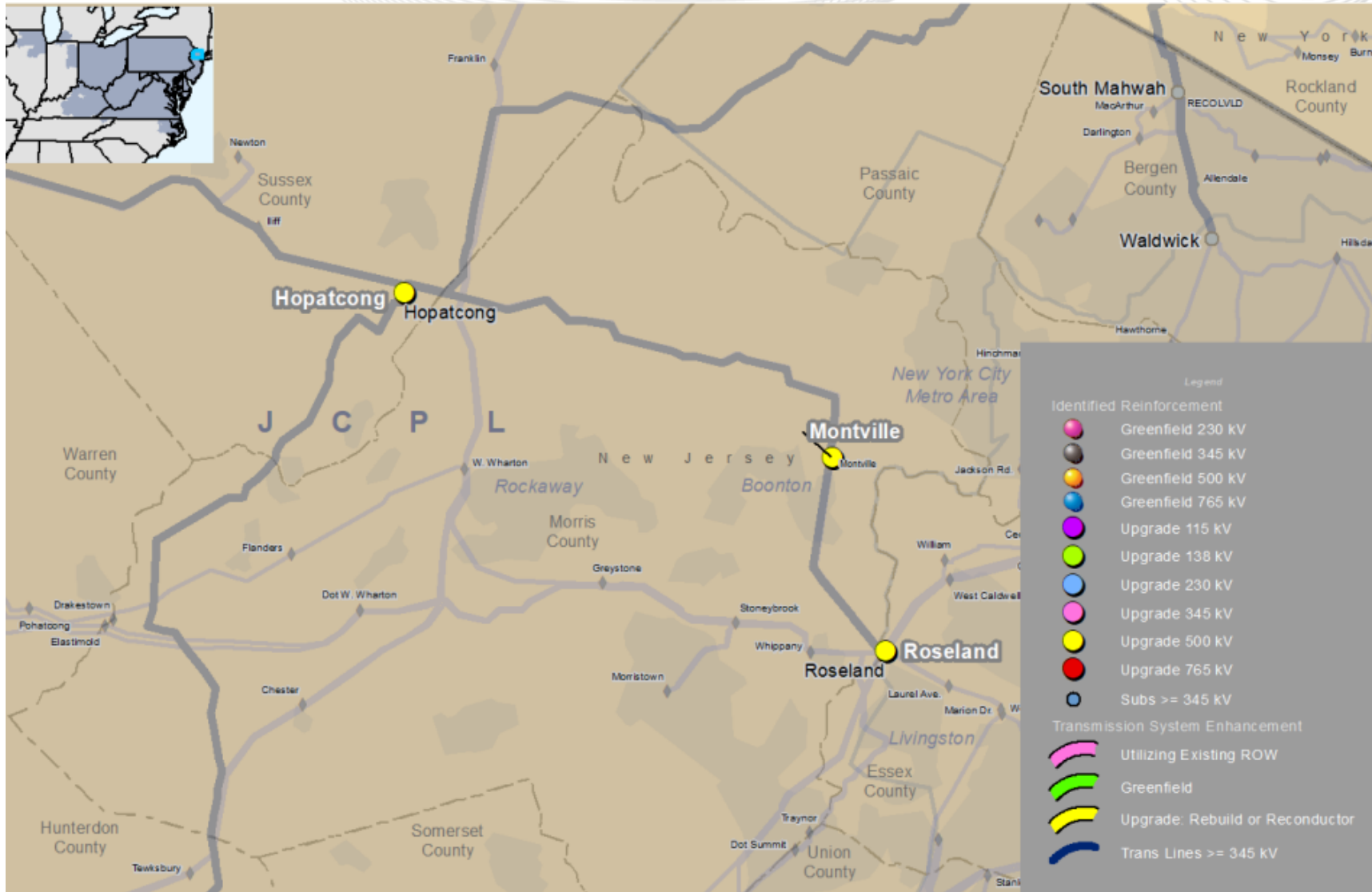


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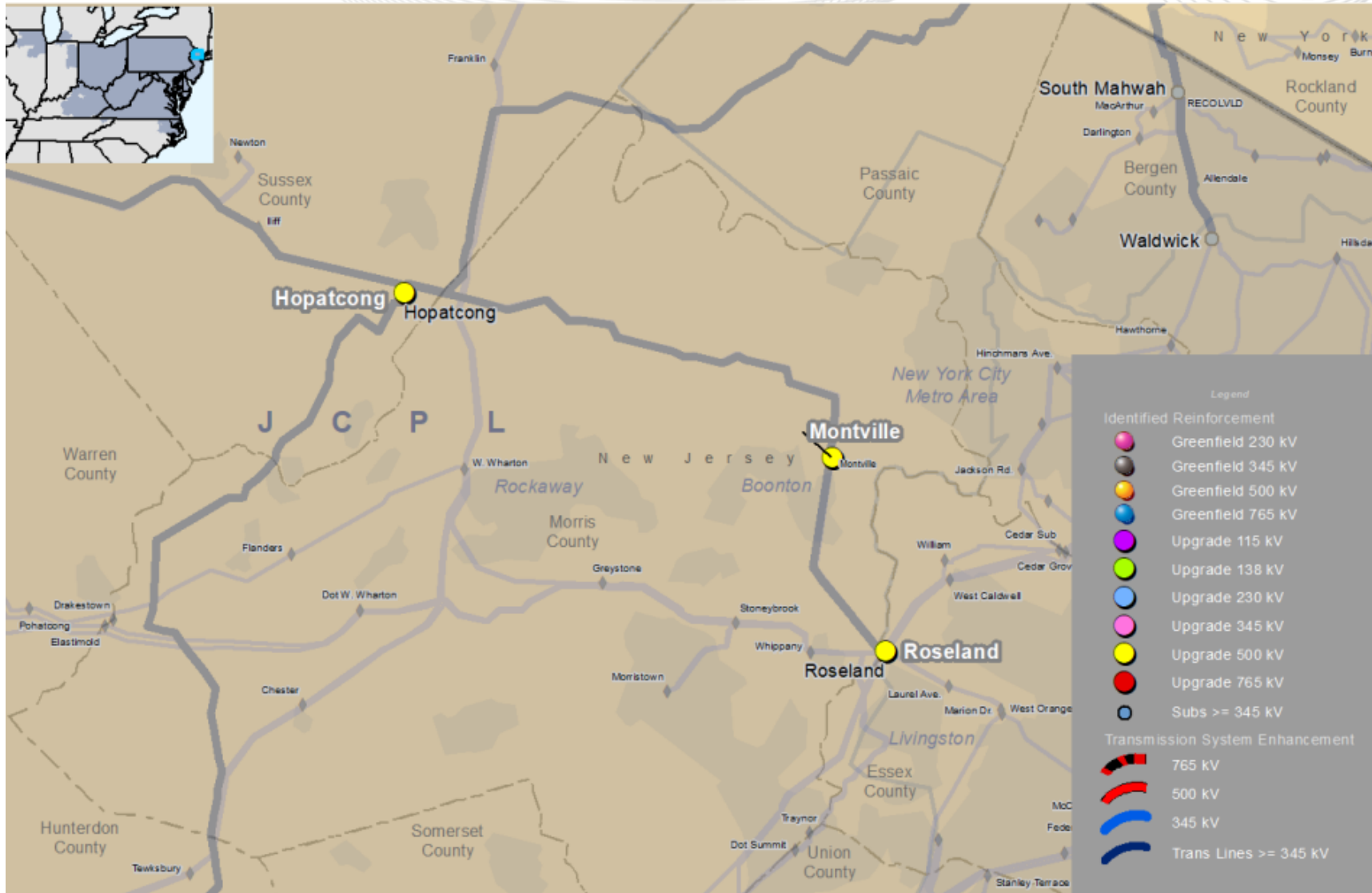


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JCPL Proposal

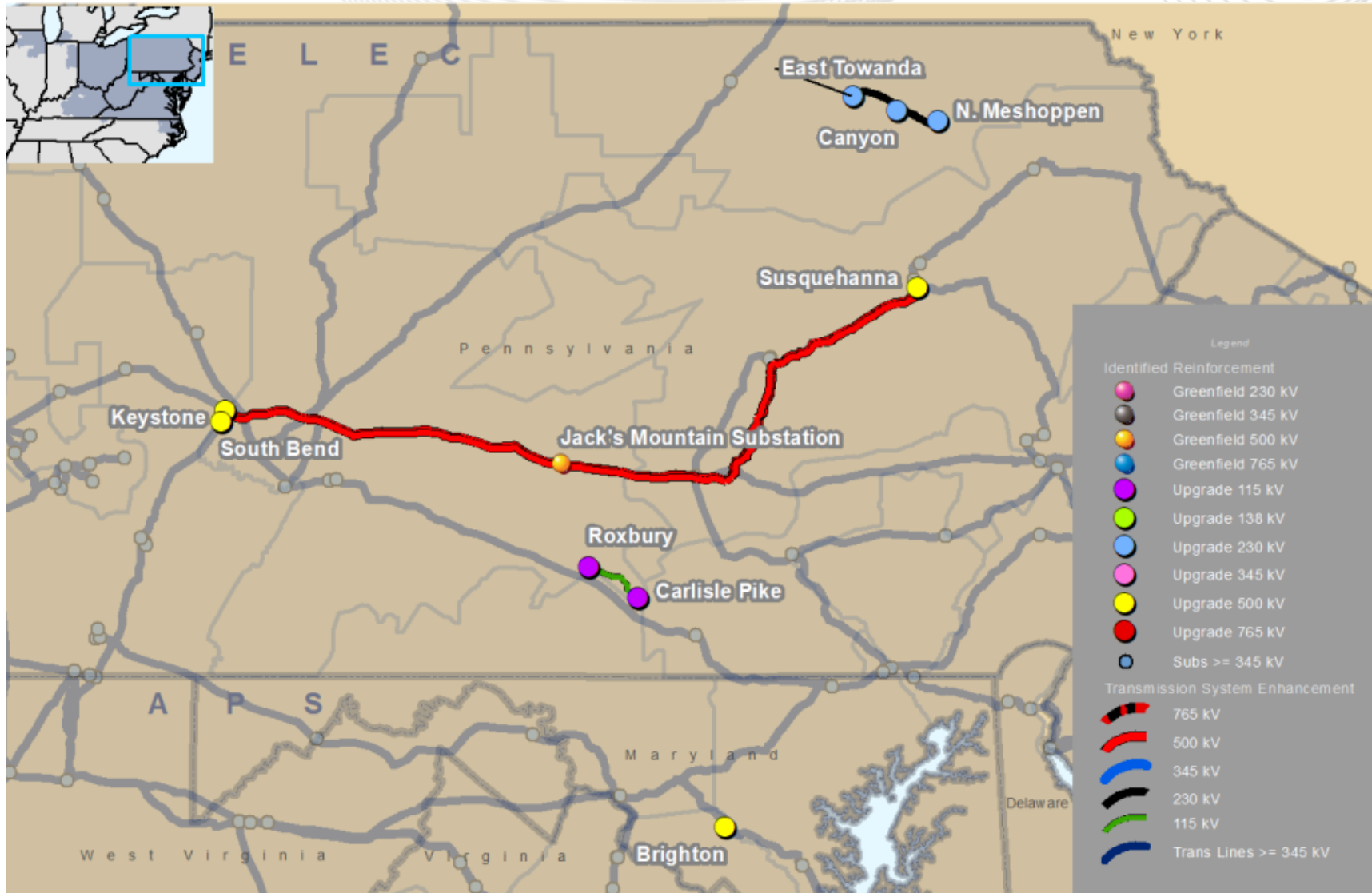


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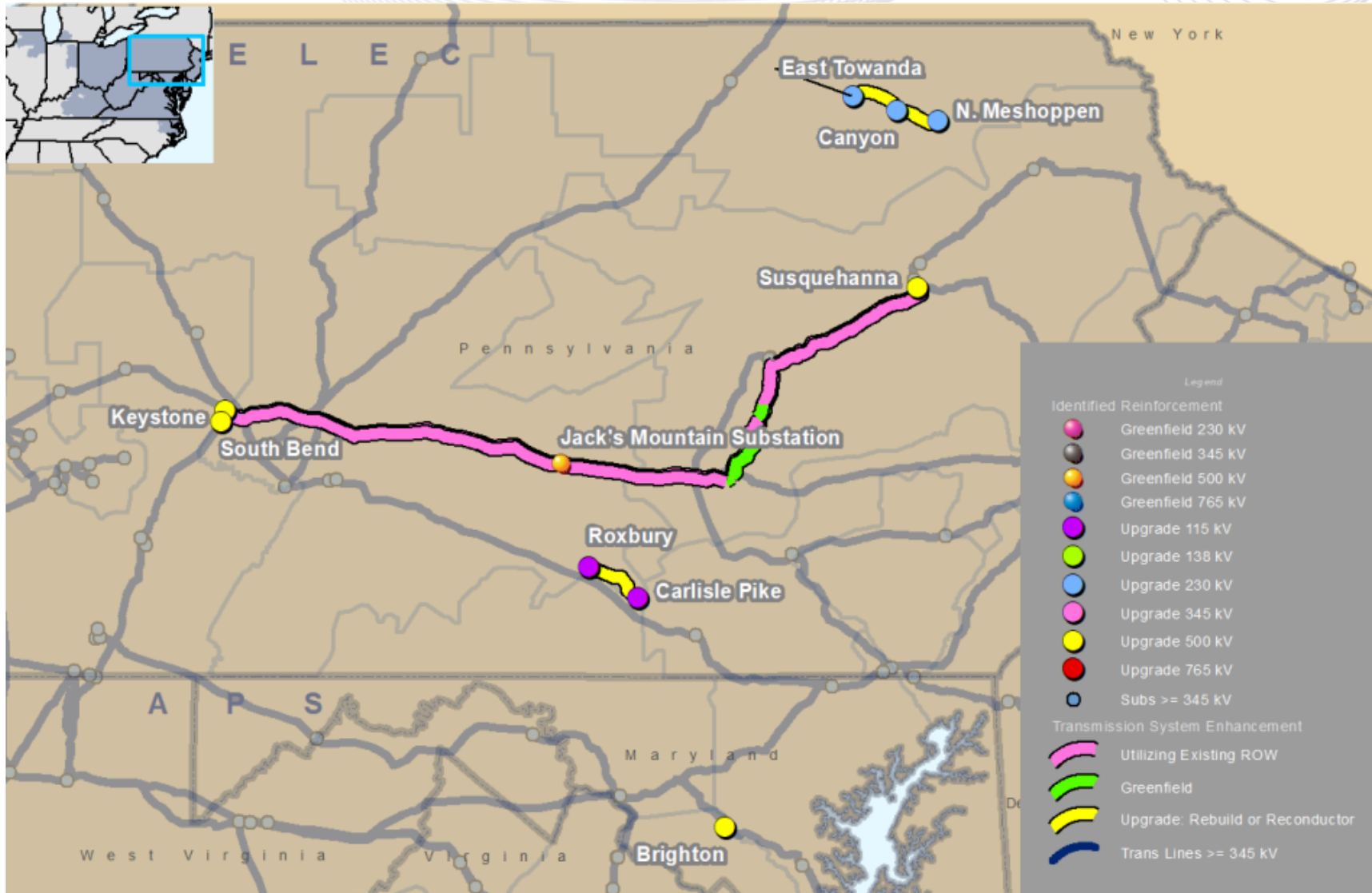


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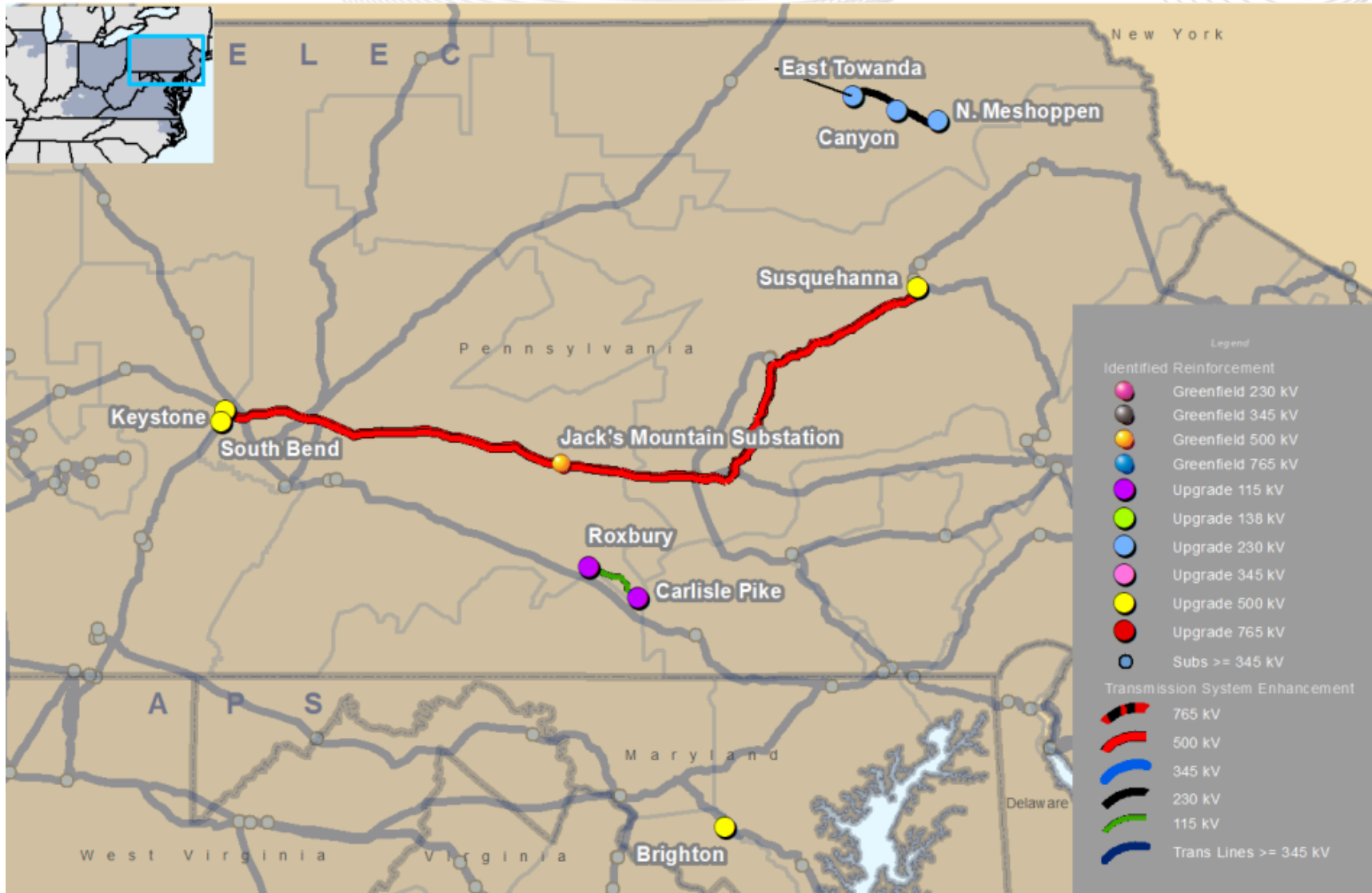
MATLIT Proposals



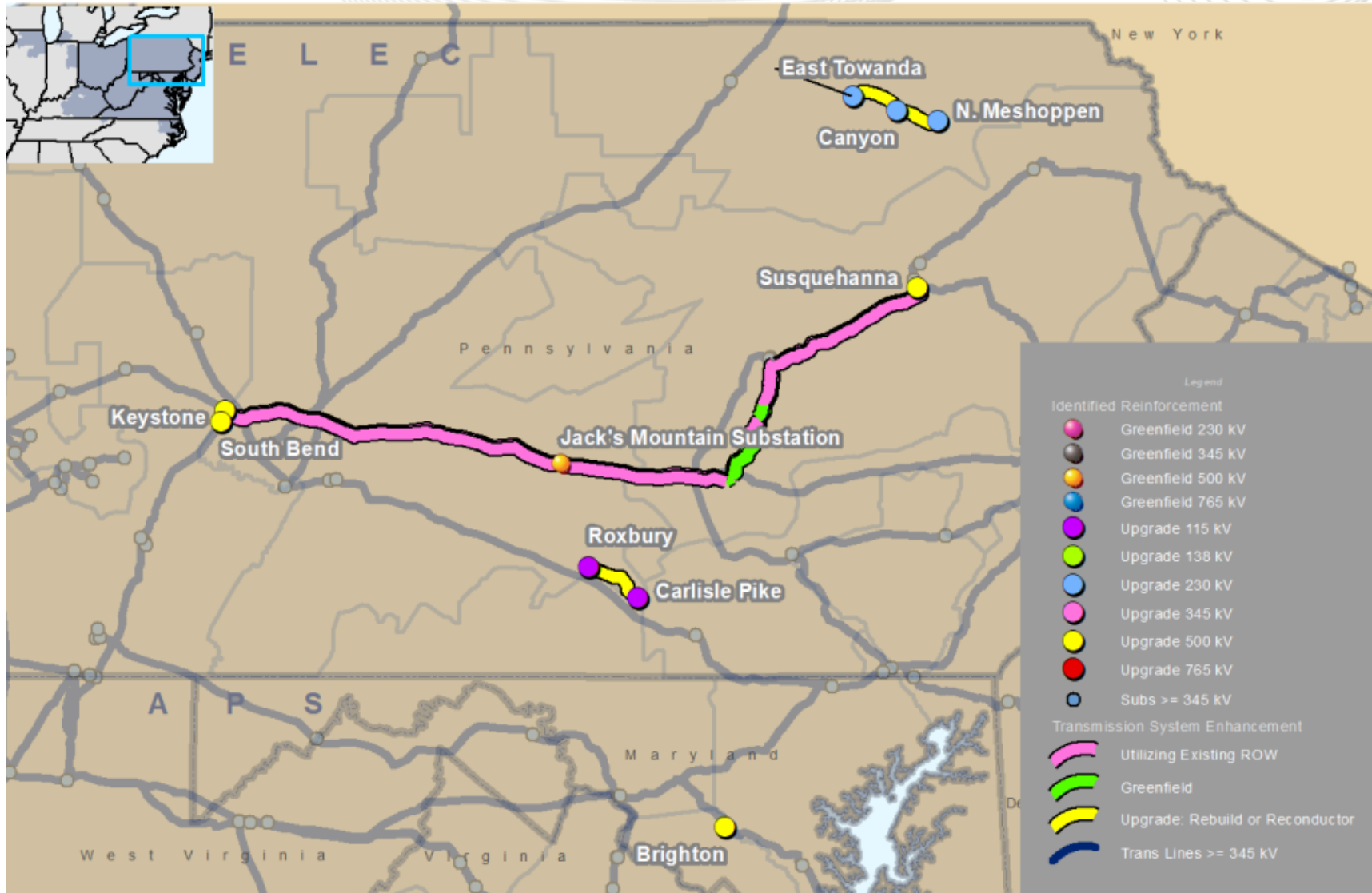
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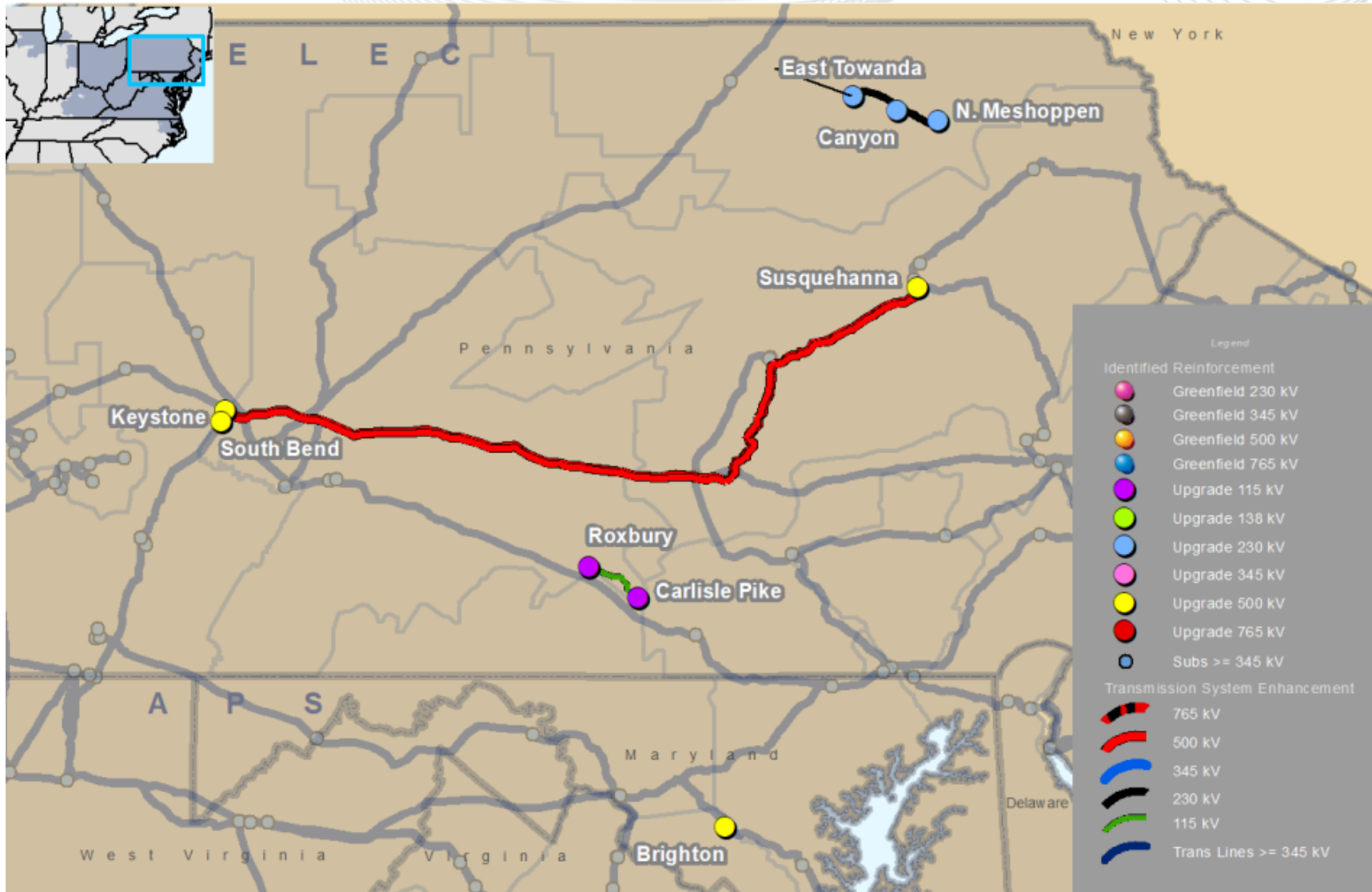
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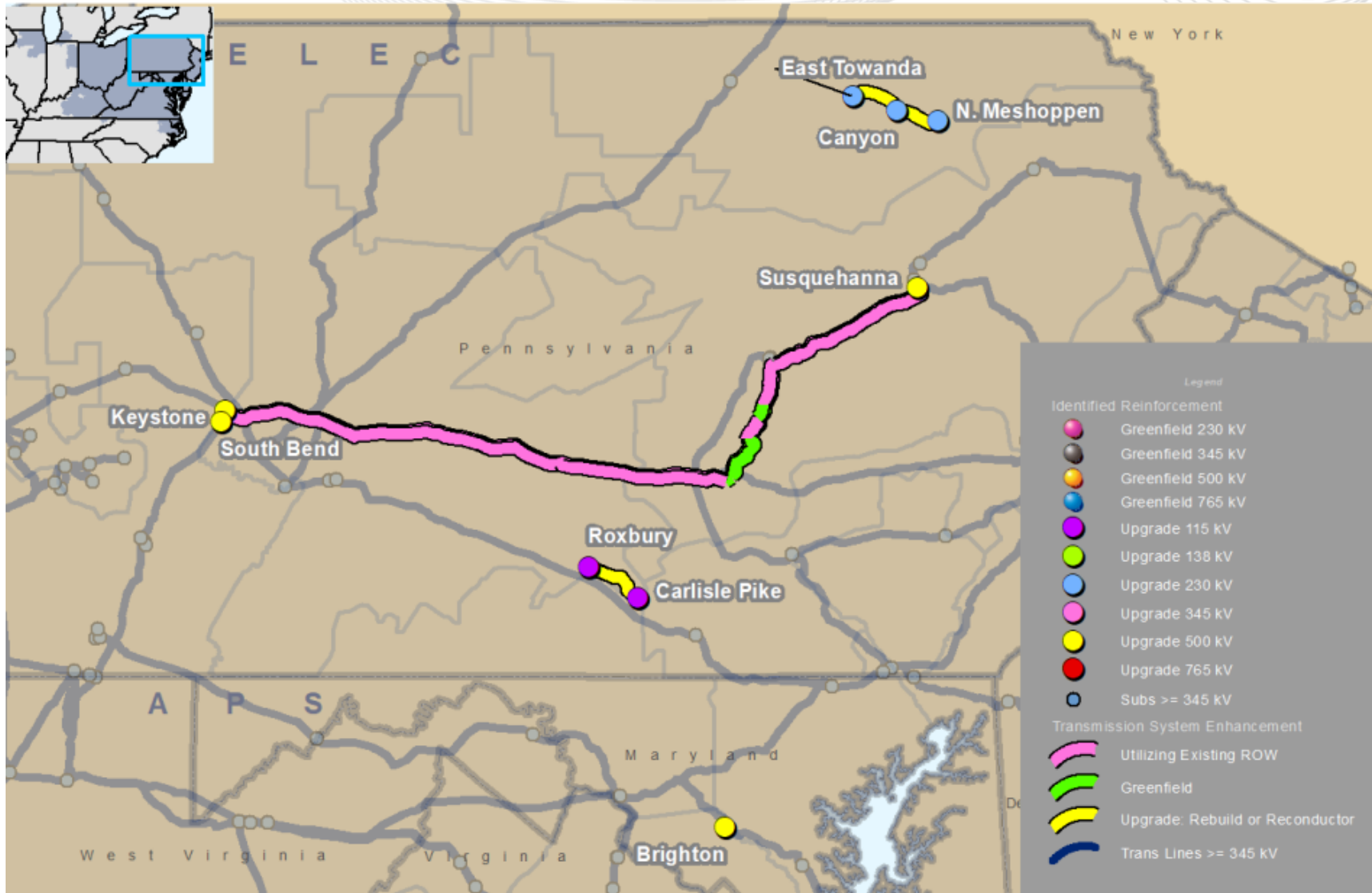
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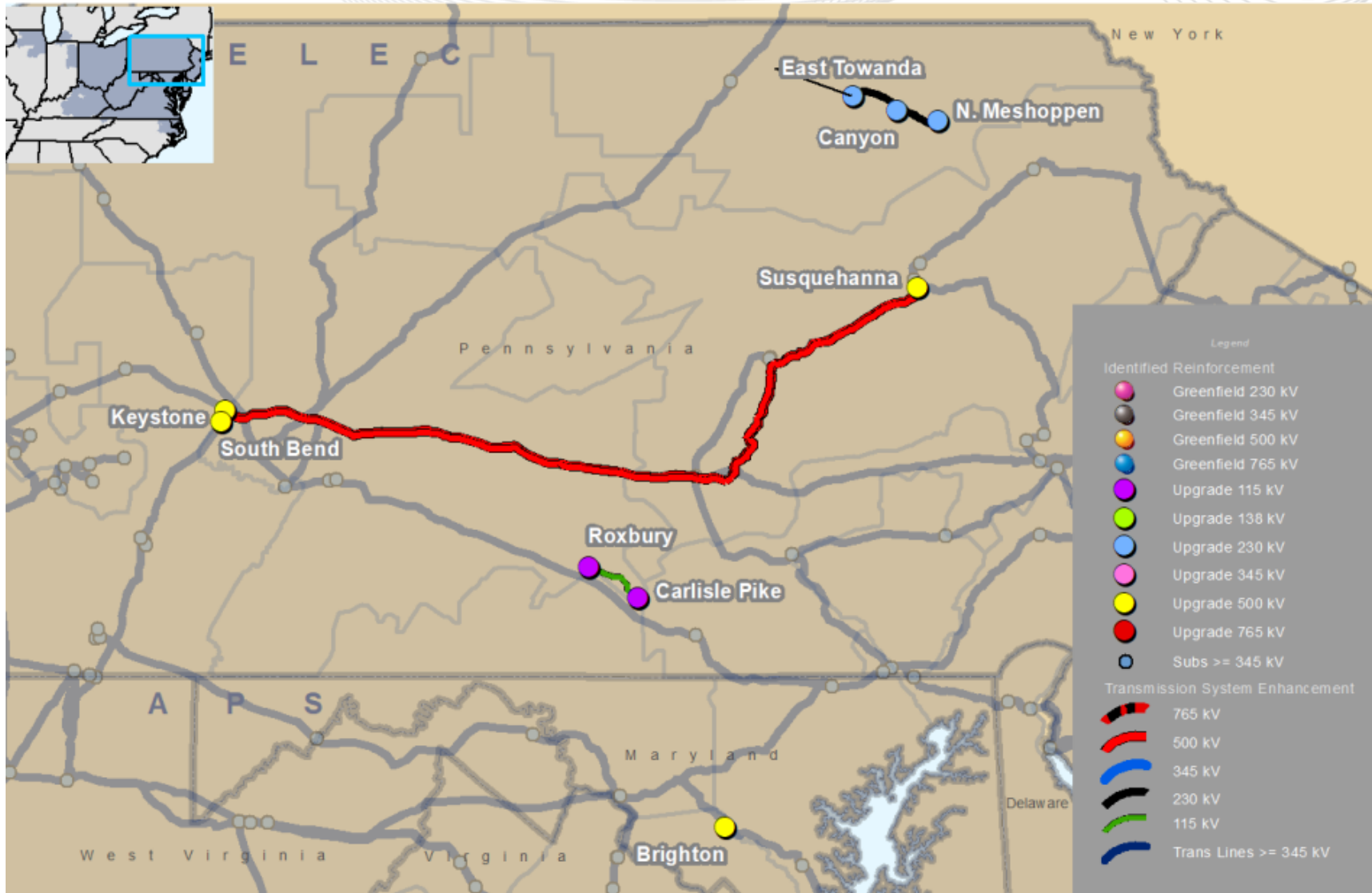
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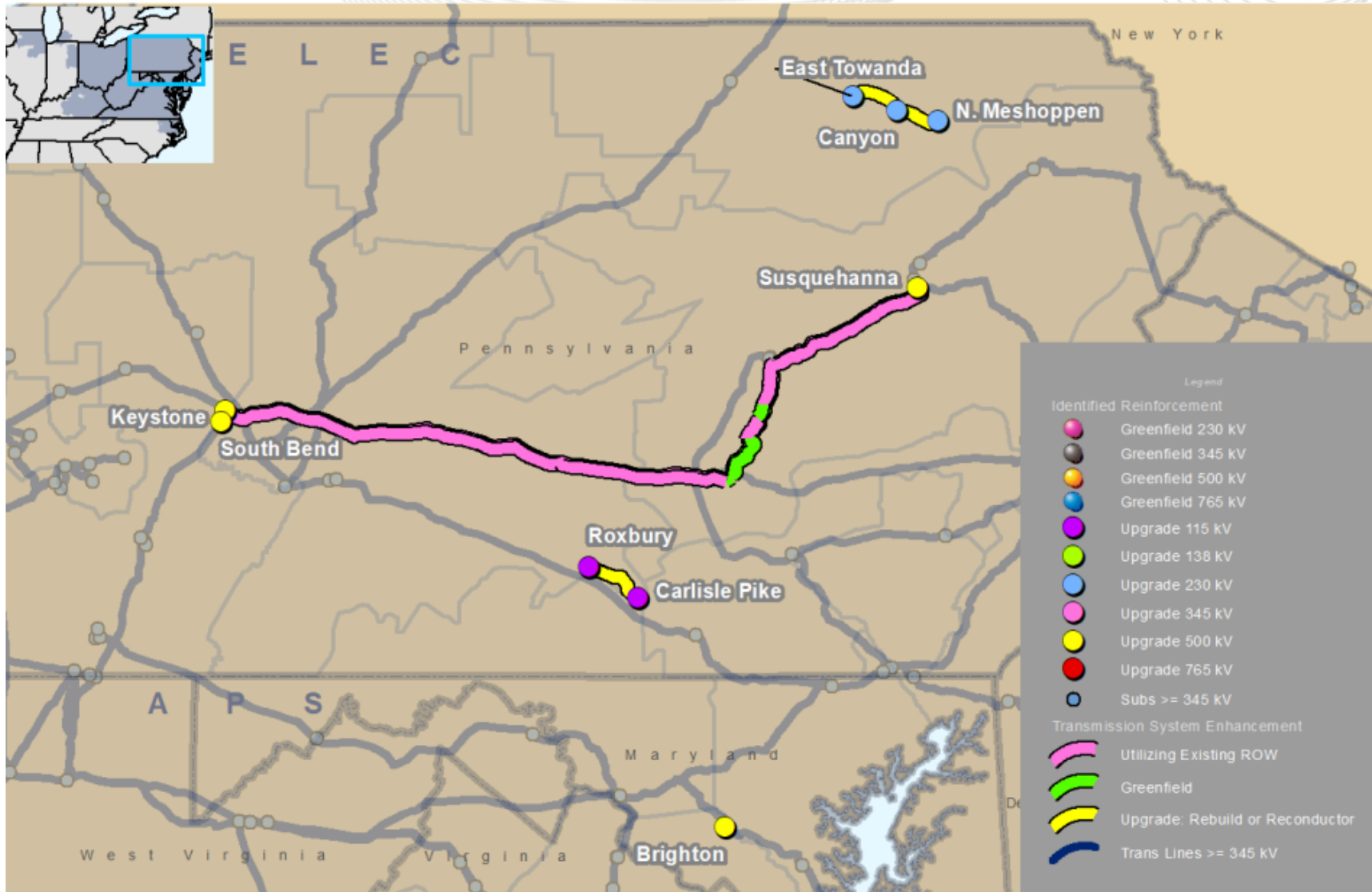
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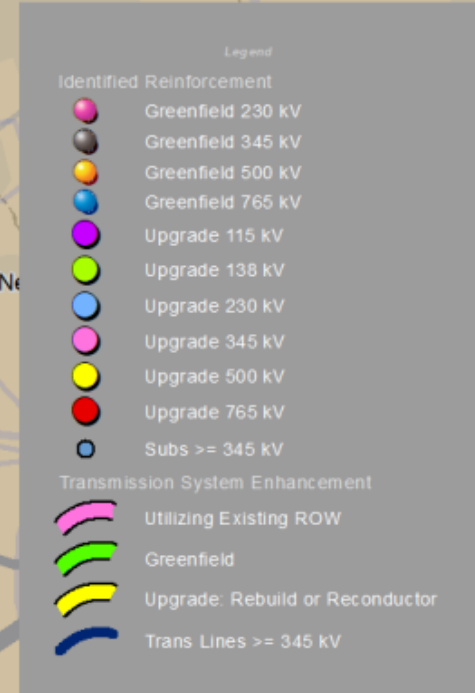


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PE Proposals



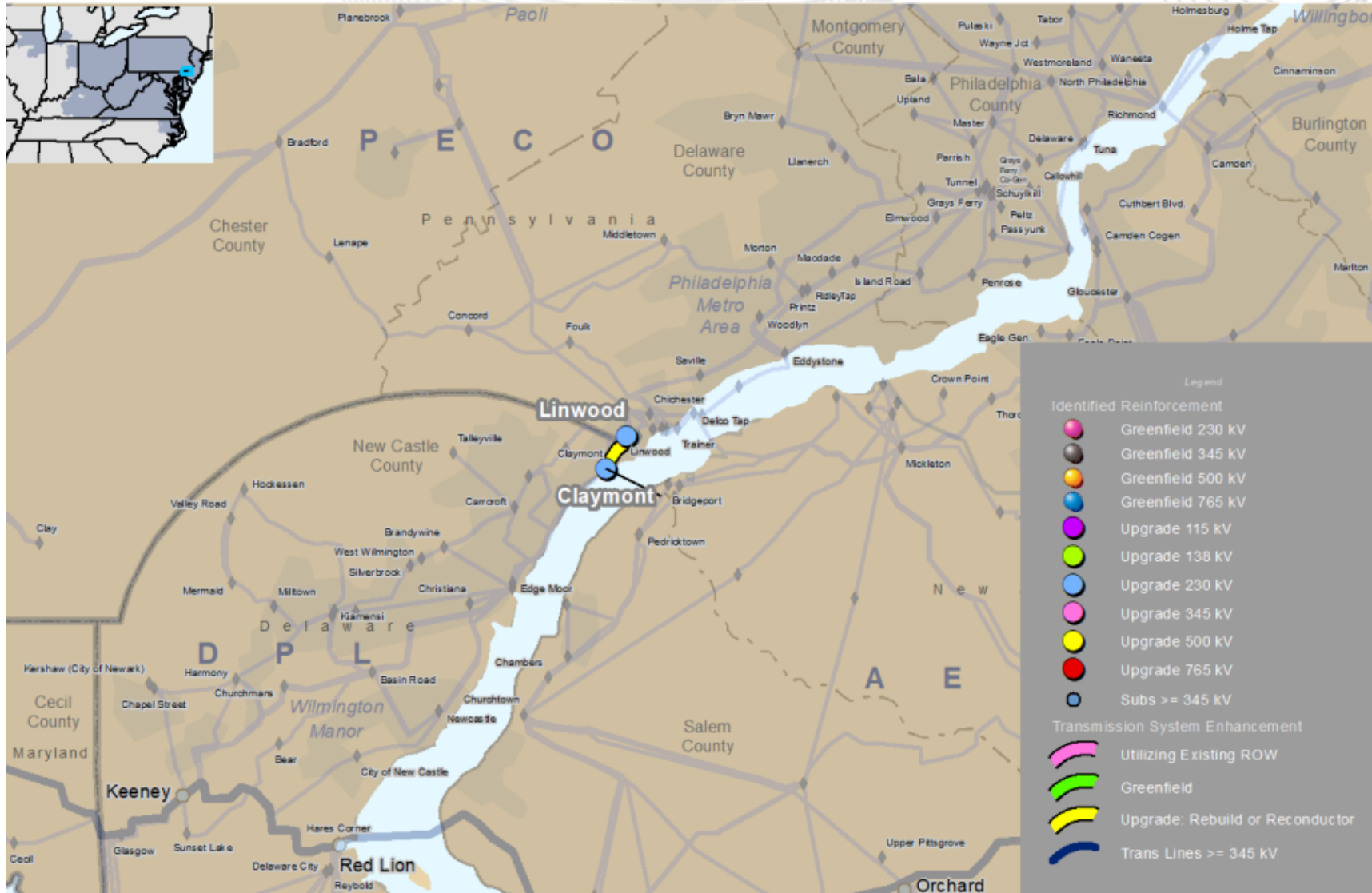
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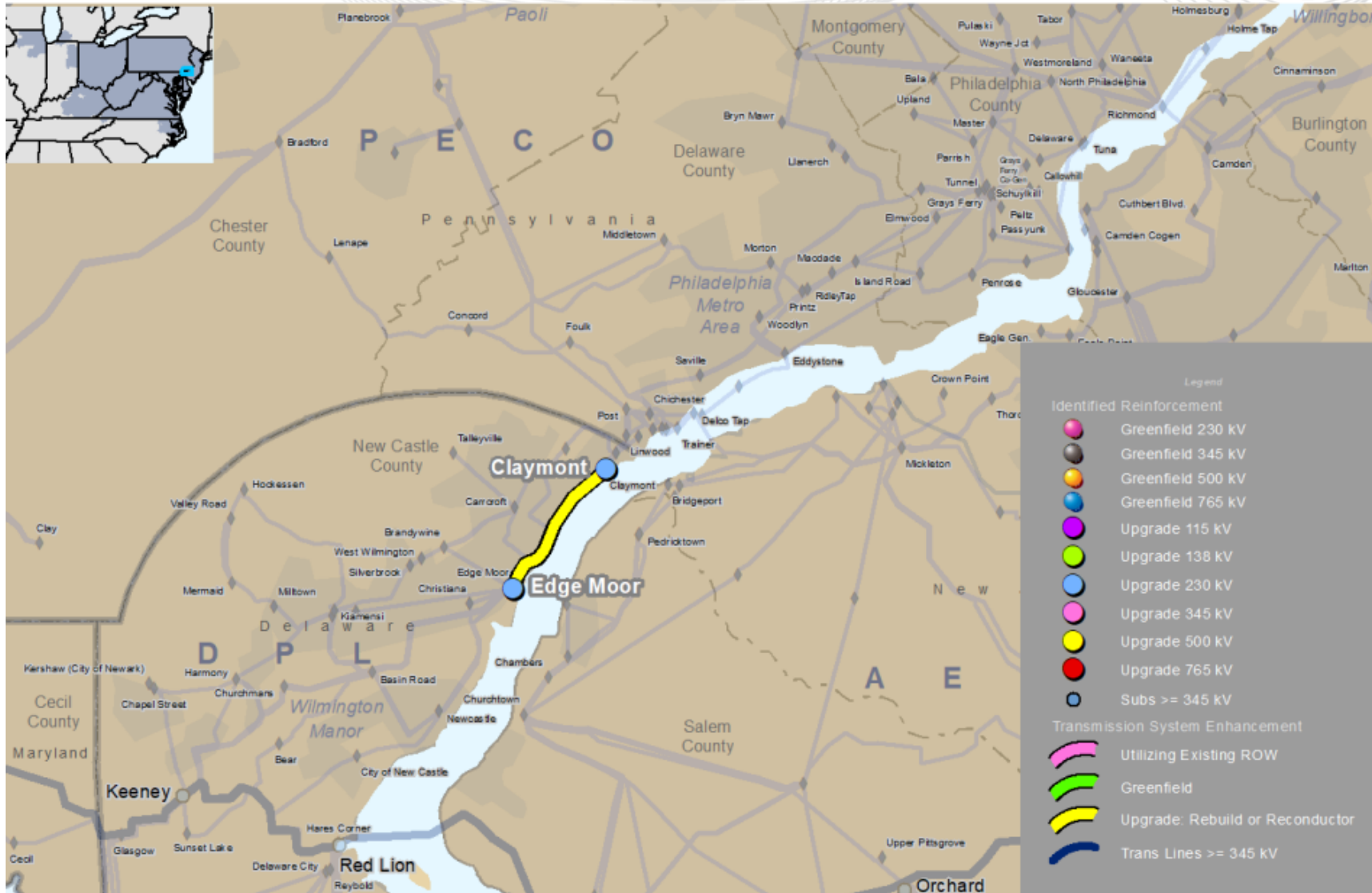
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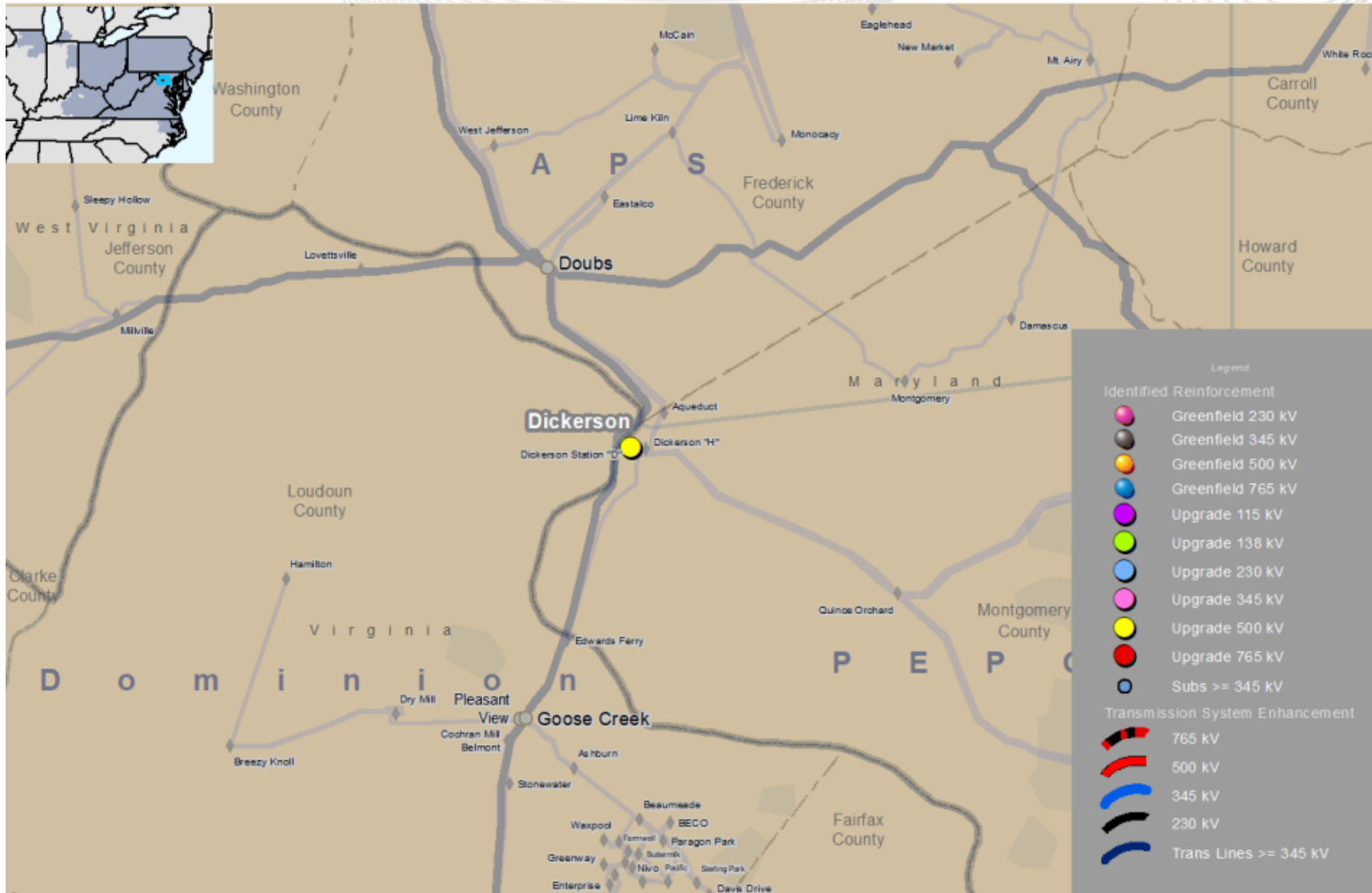


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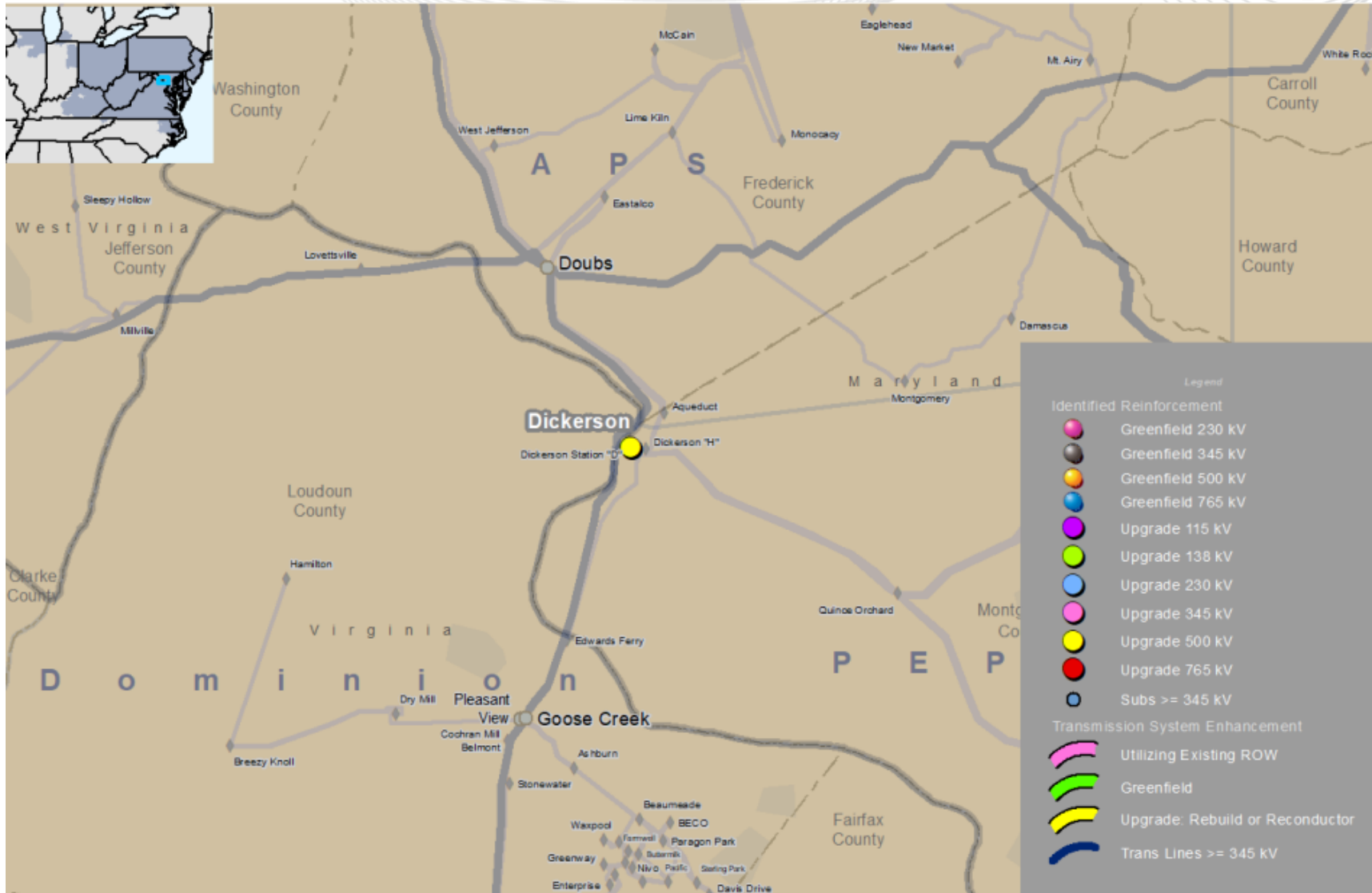


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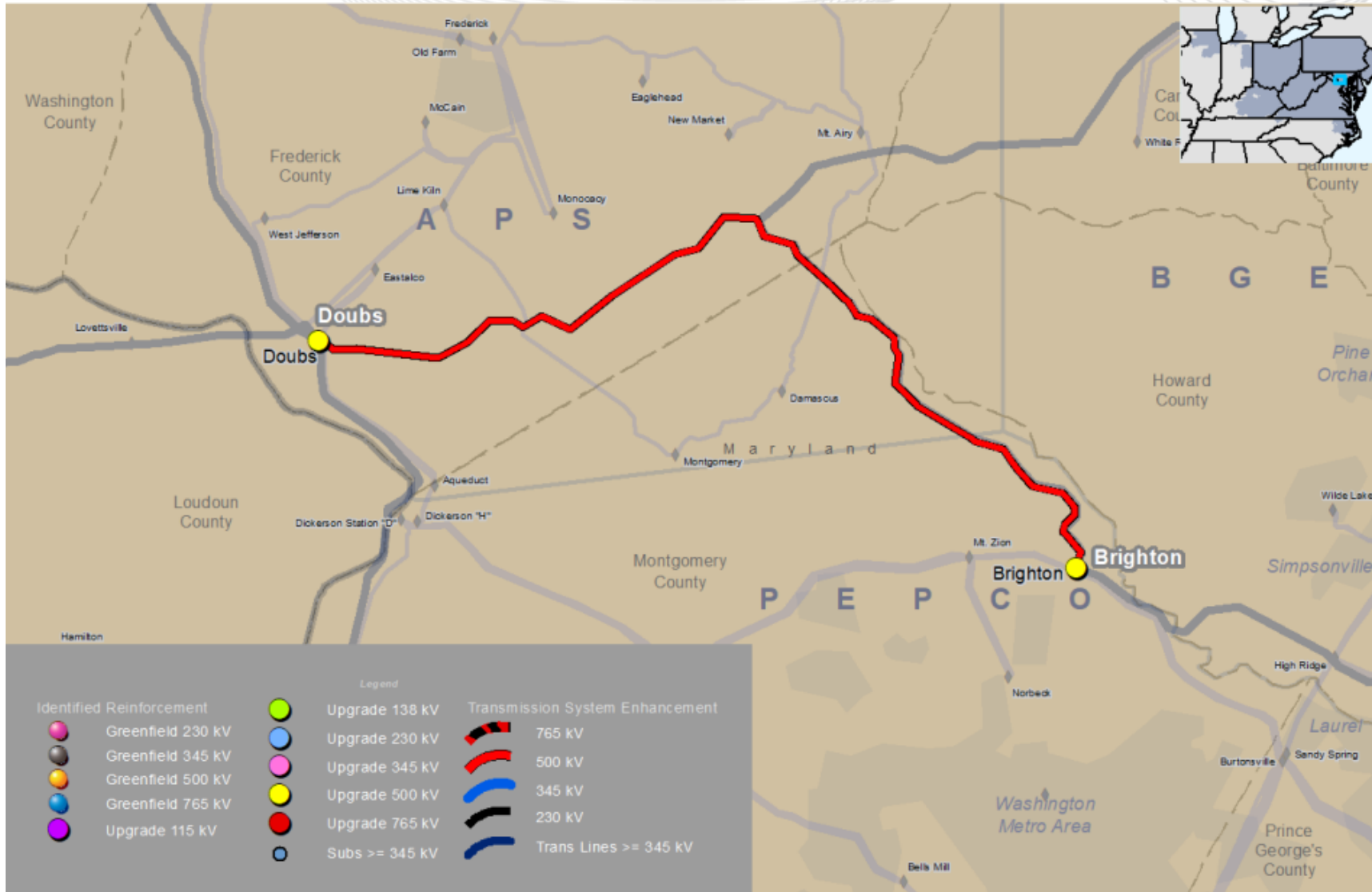
PEPCO Proposals



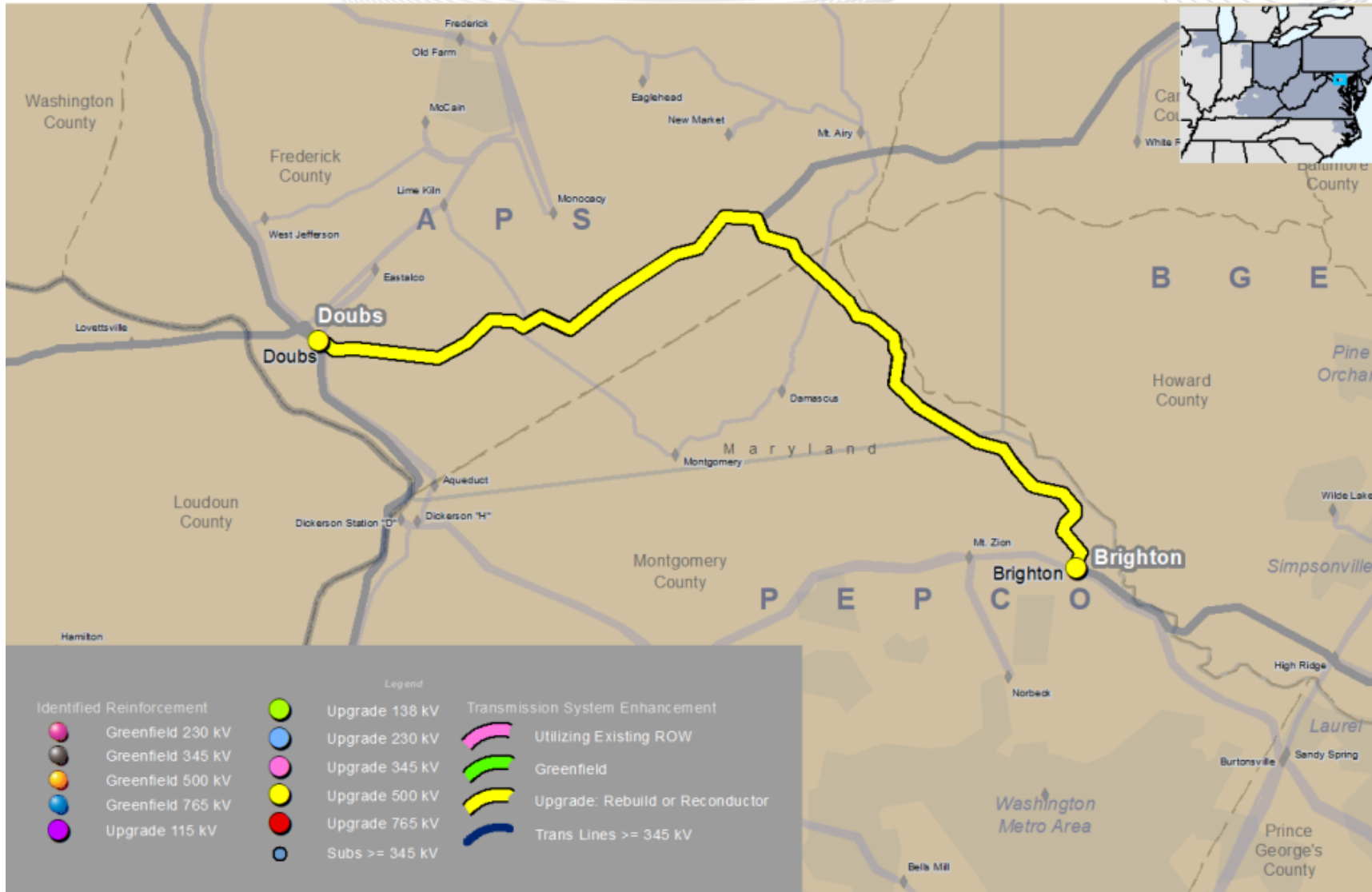
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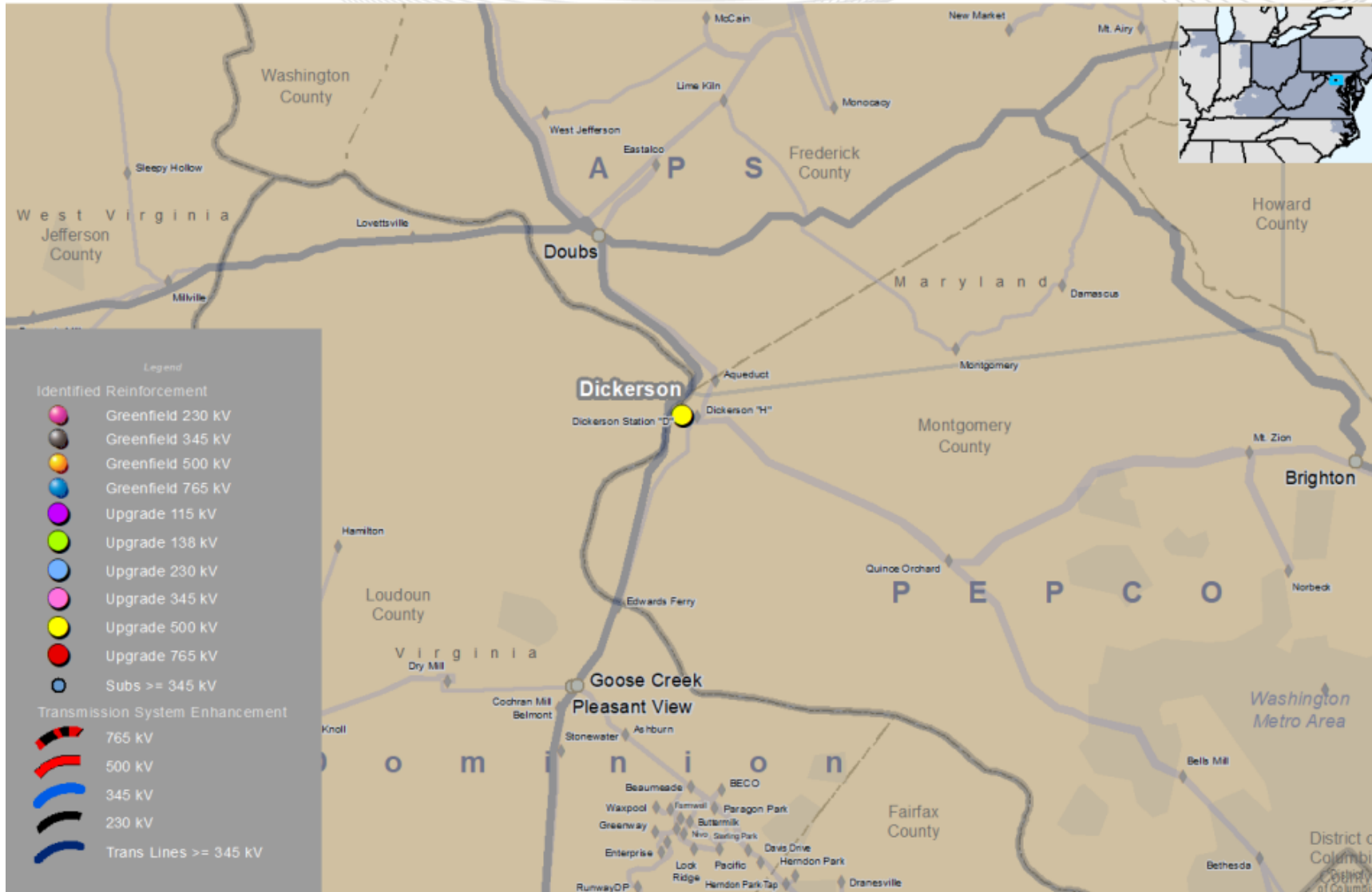
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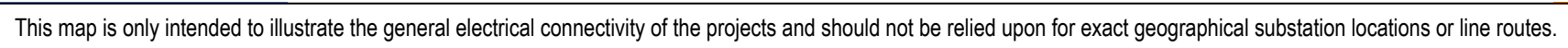
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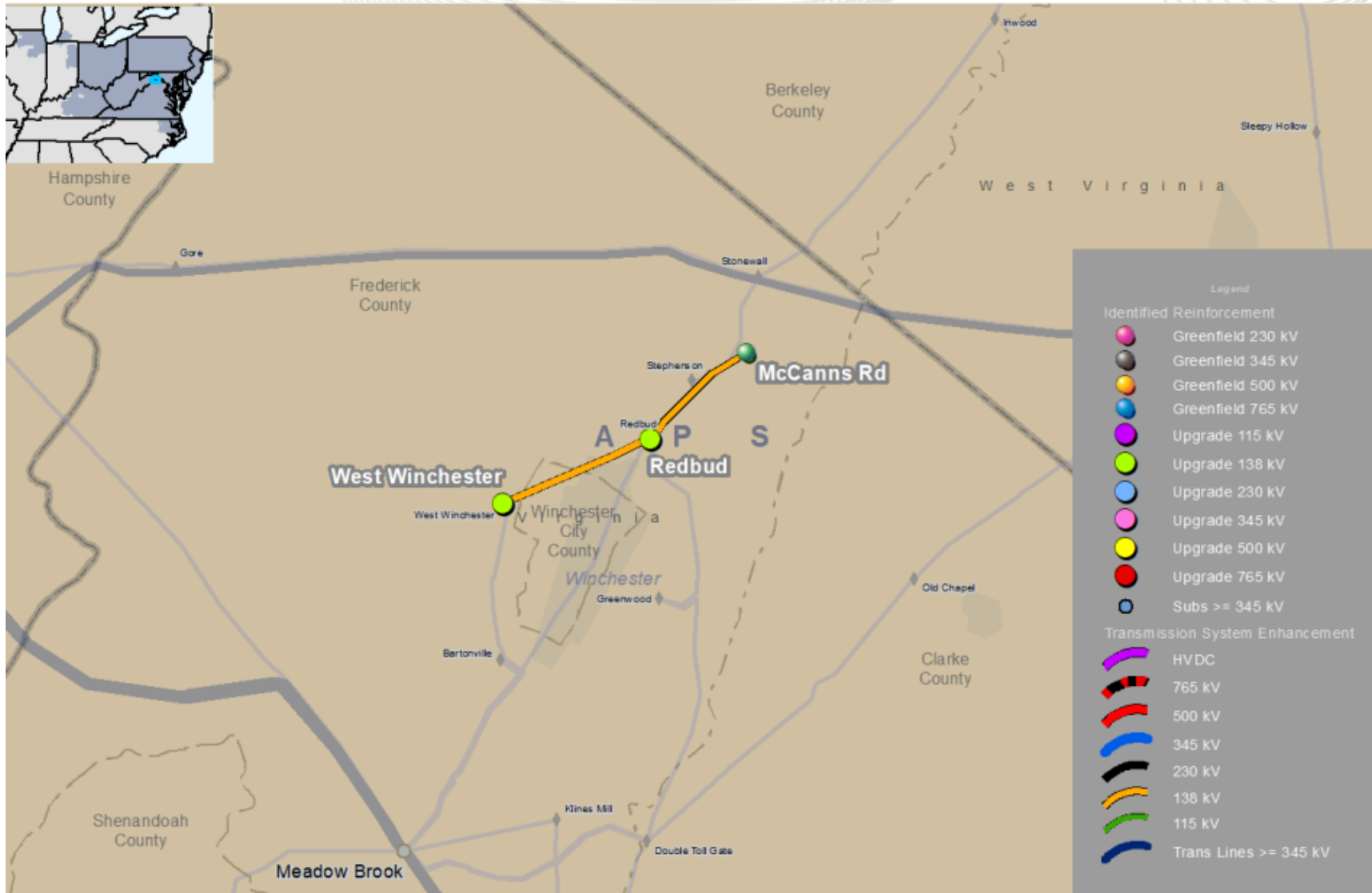
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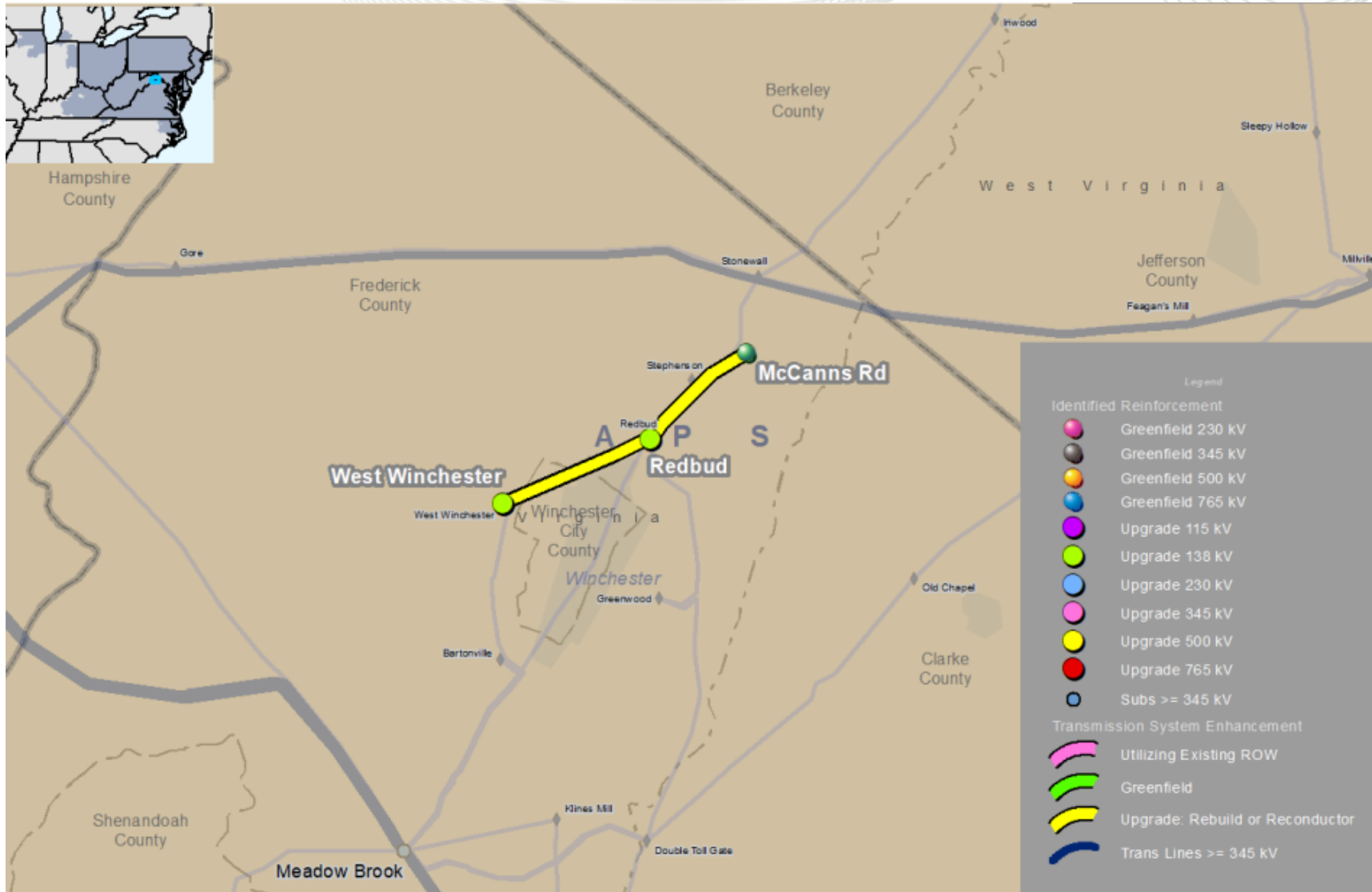
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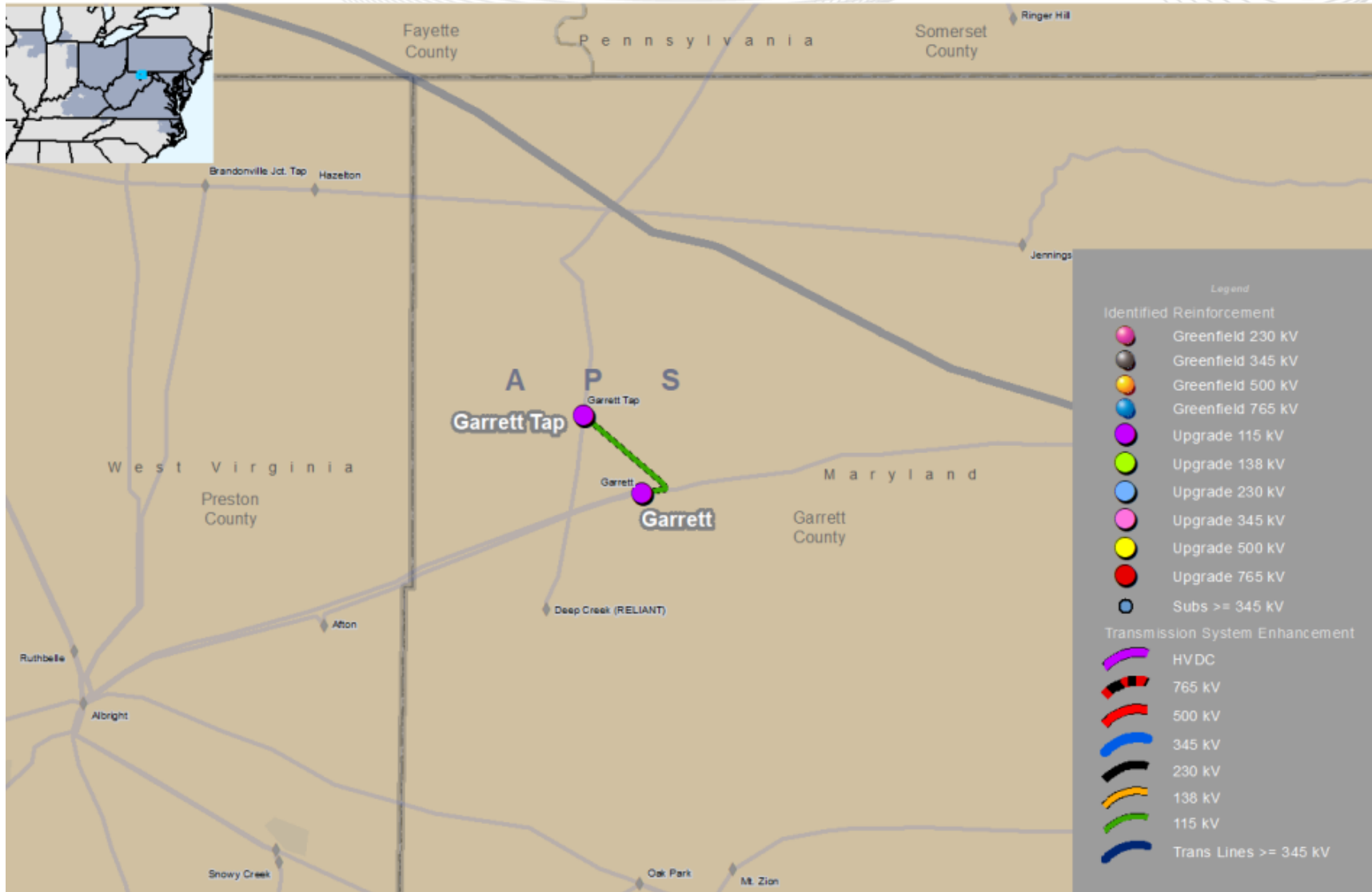
POTOED Proposals



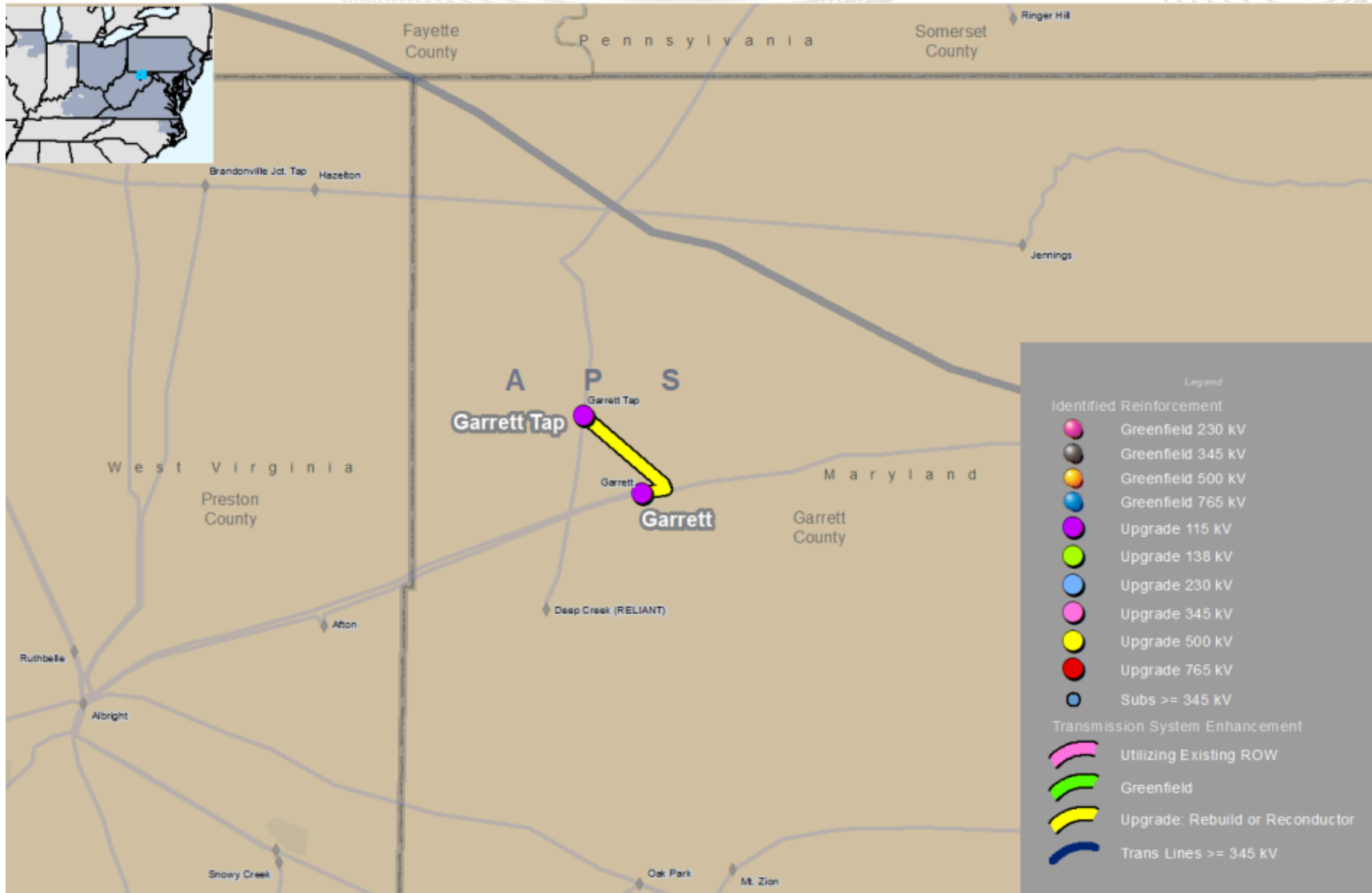
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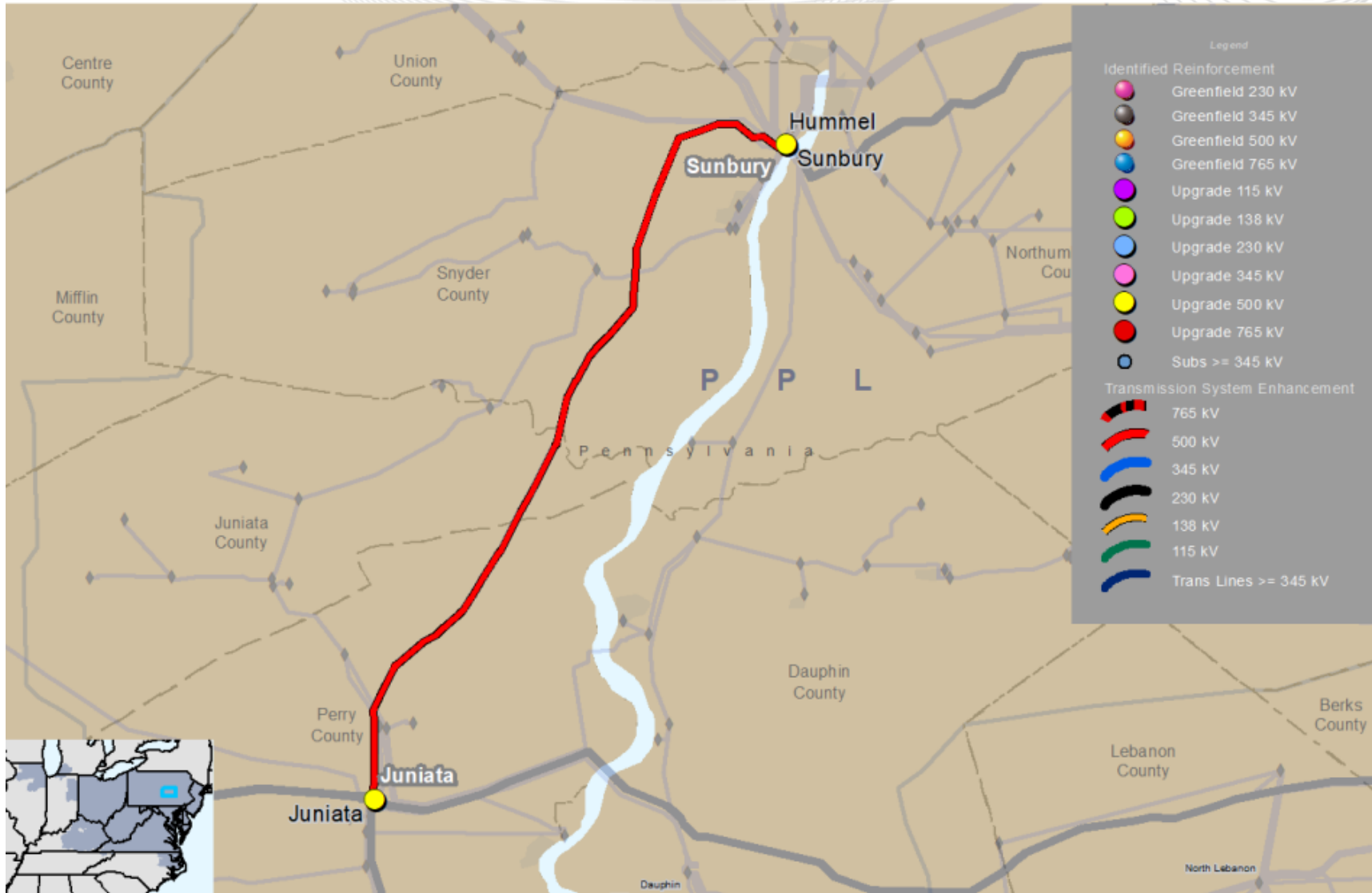


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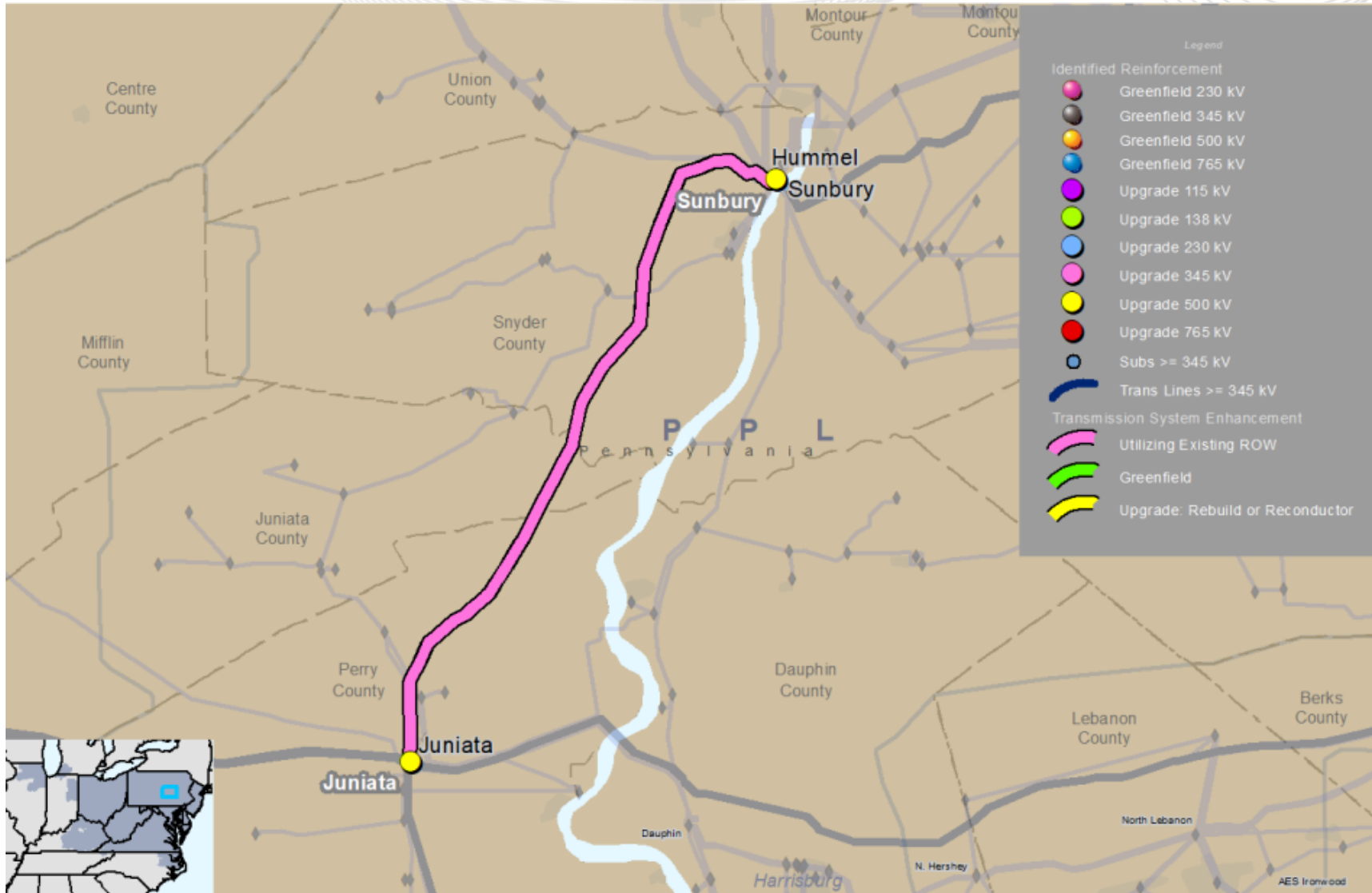


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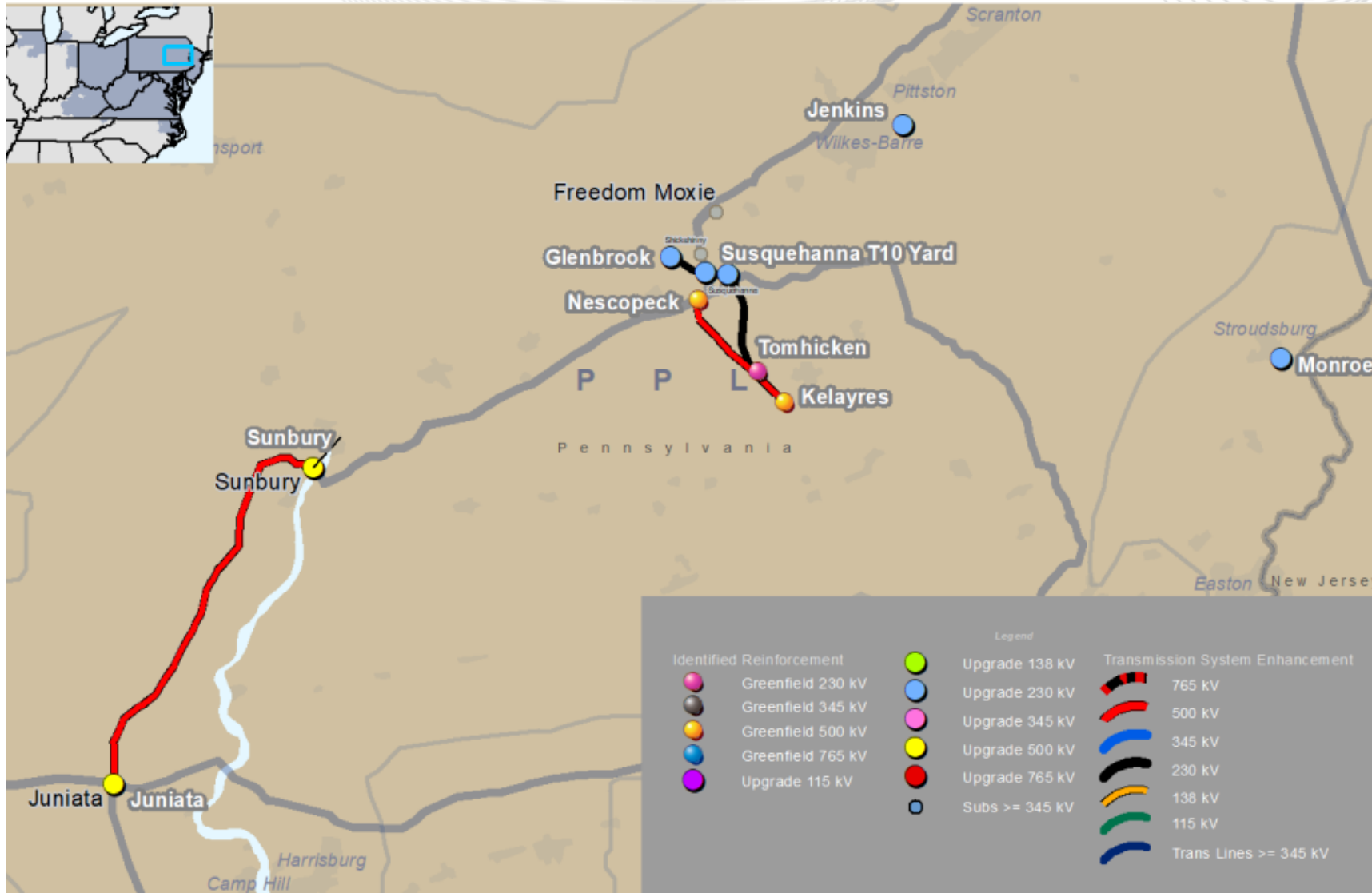
PPLTO Proposals



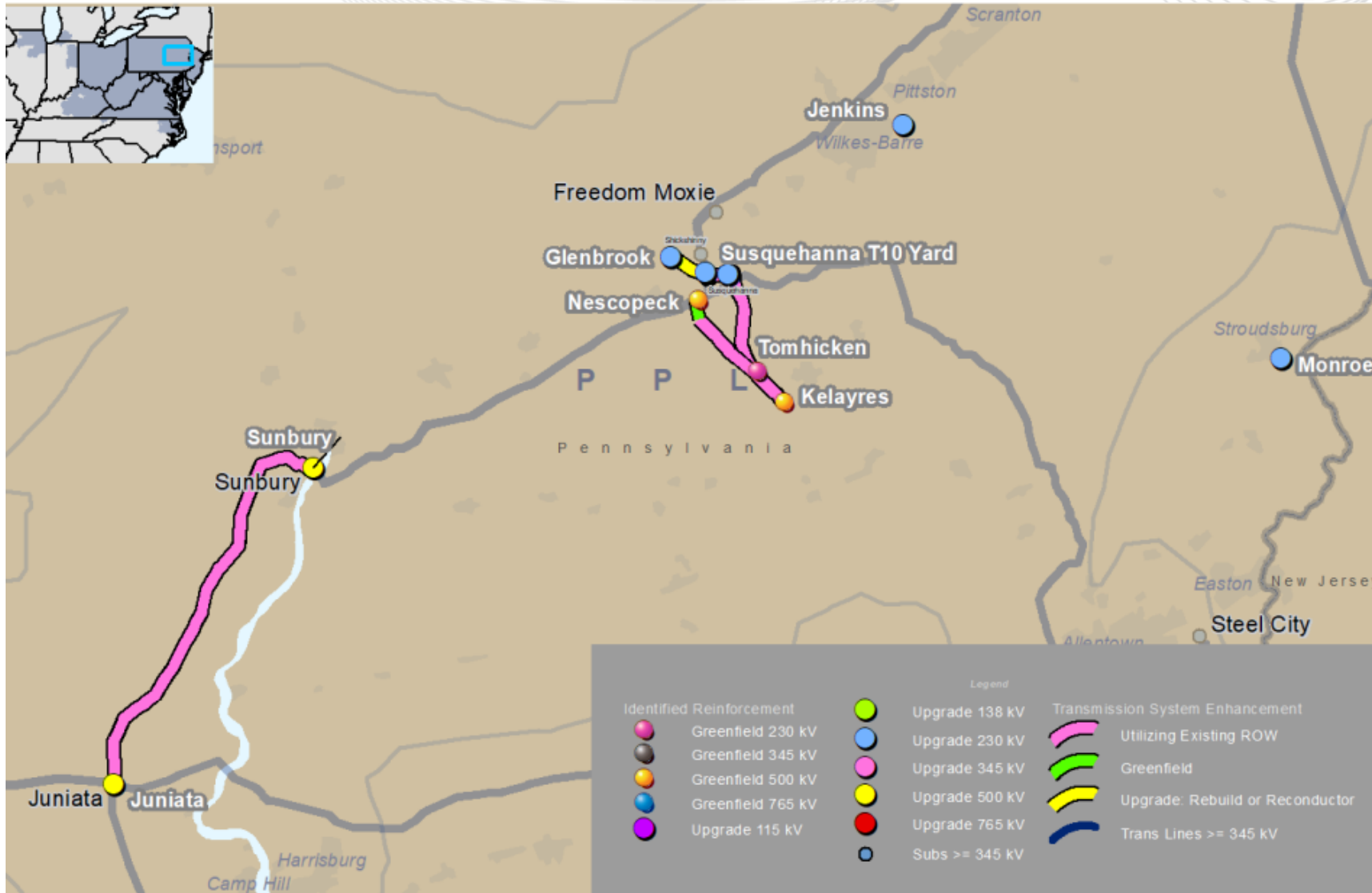
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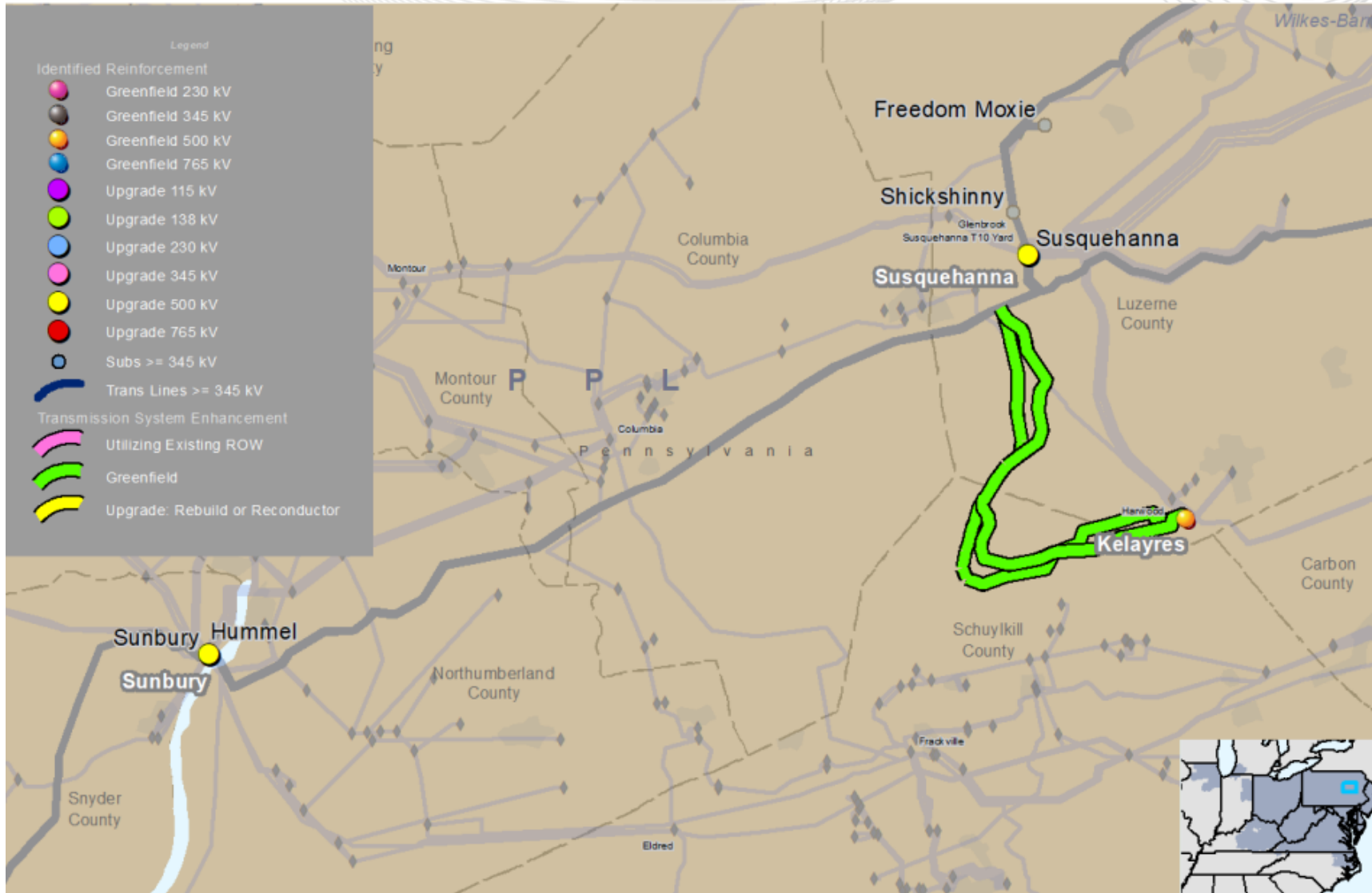
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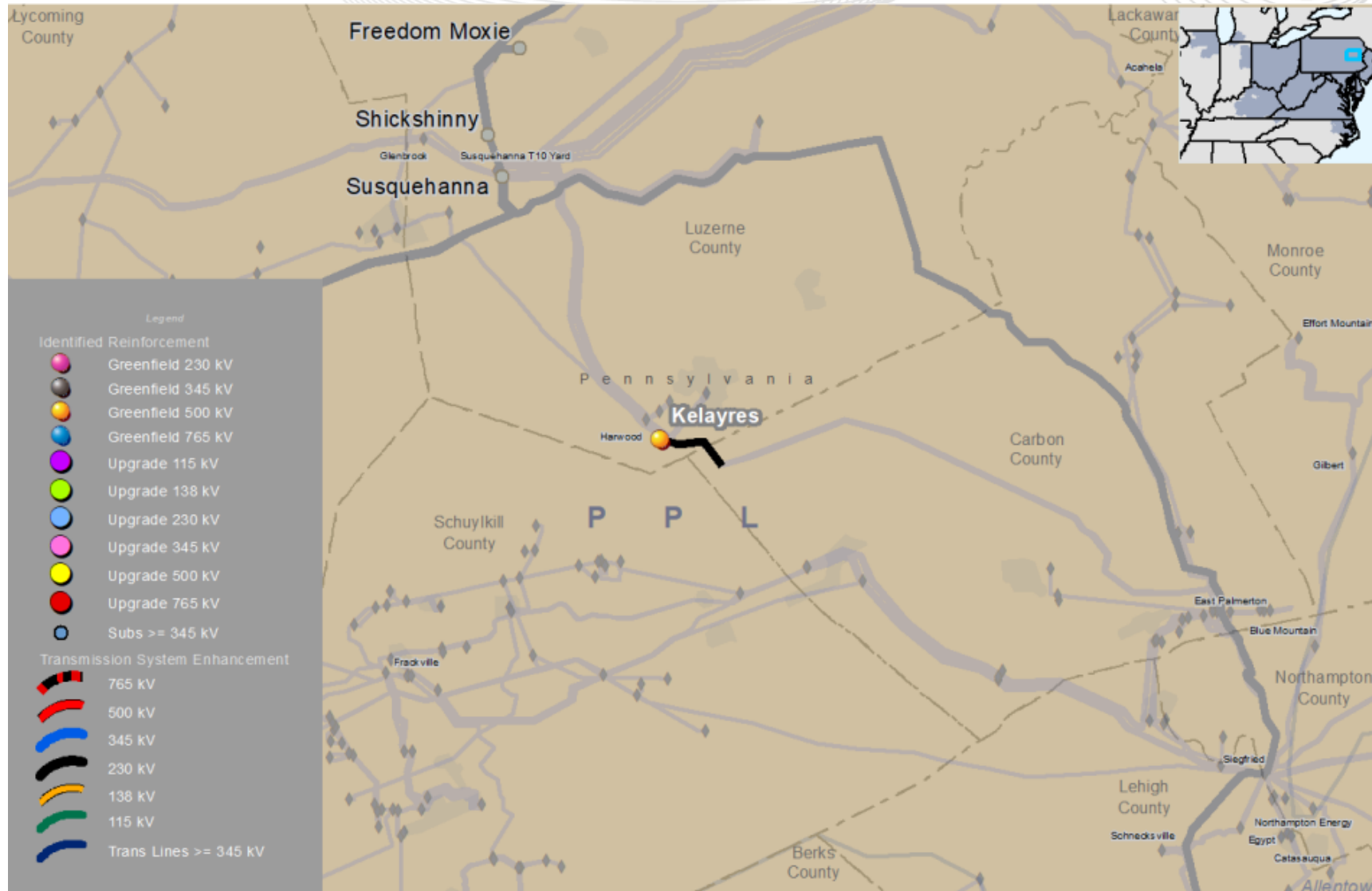
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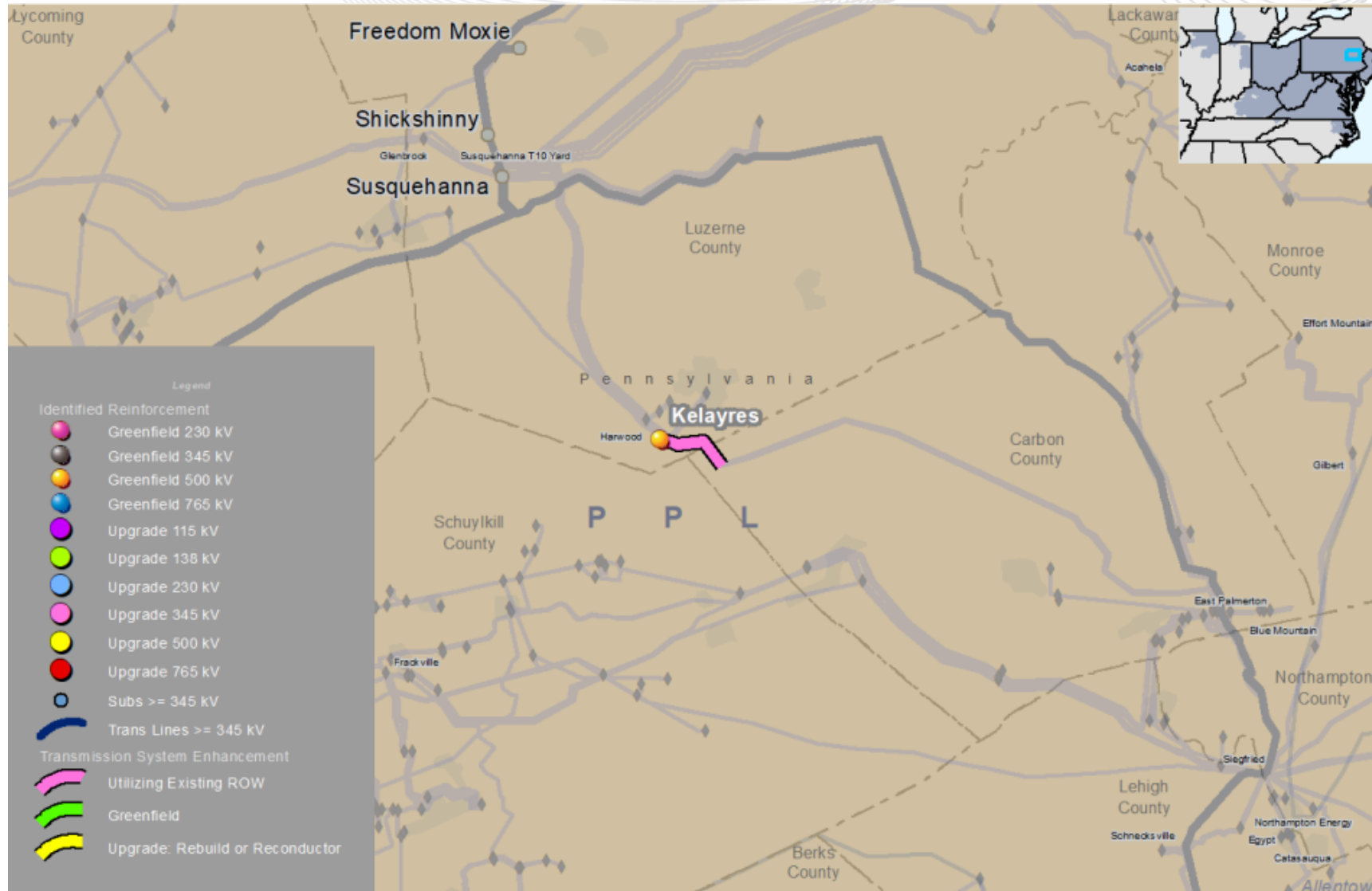
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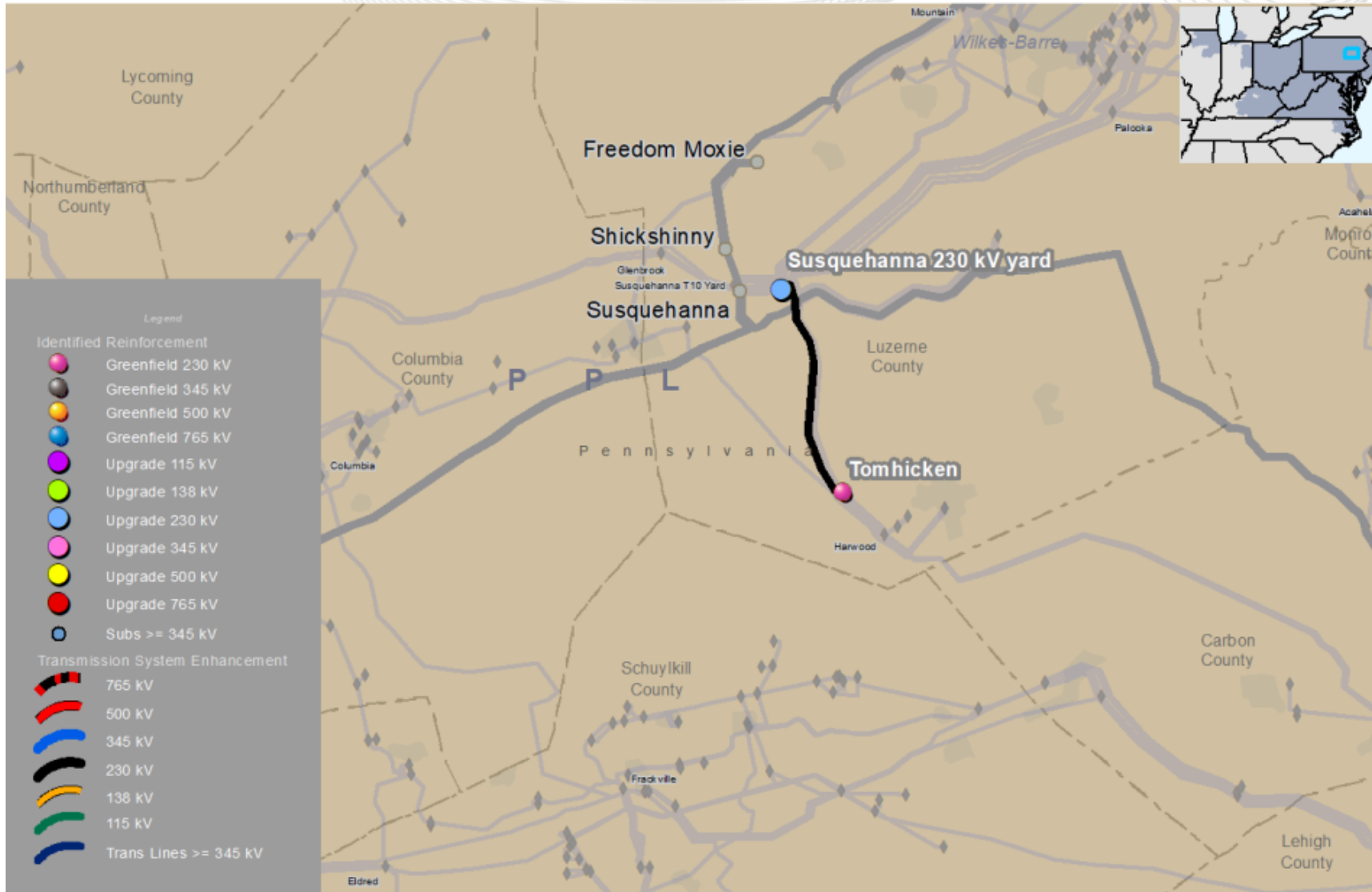
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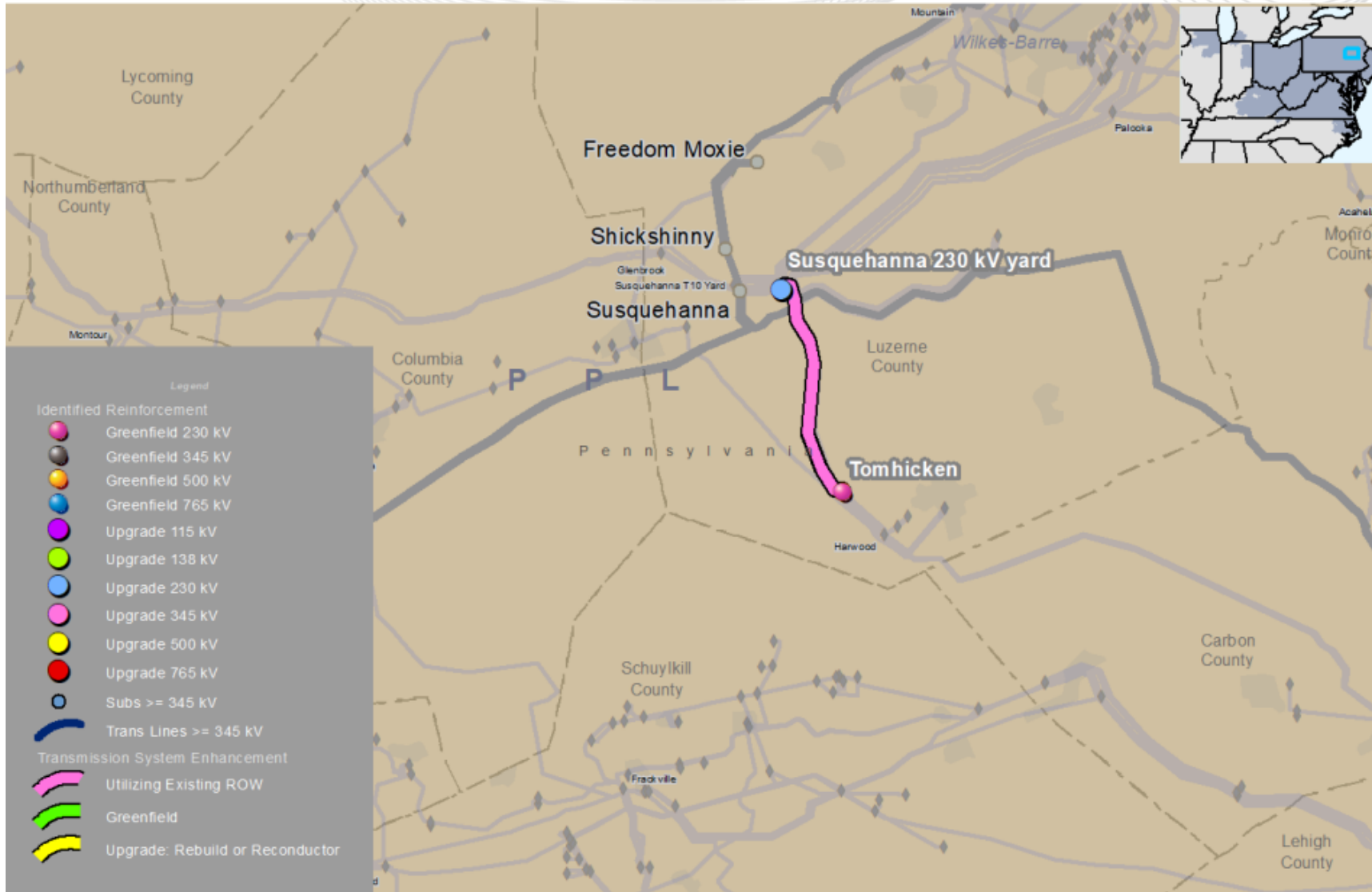
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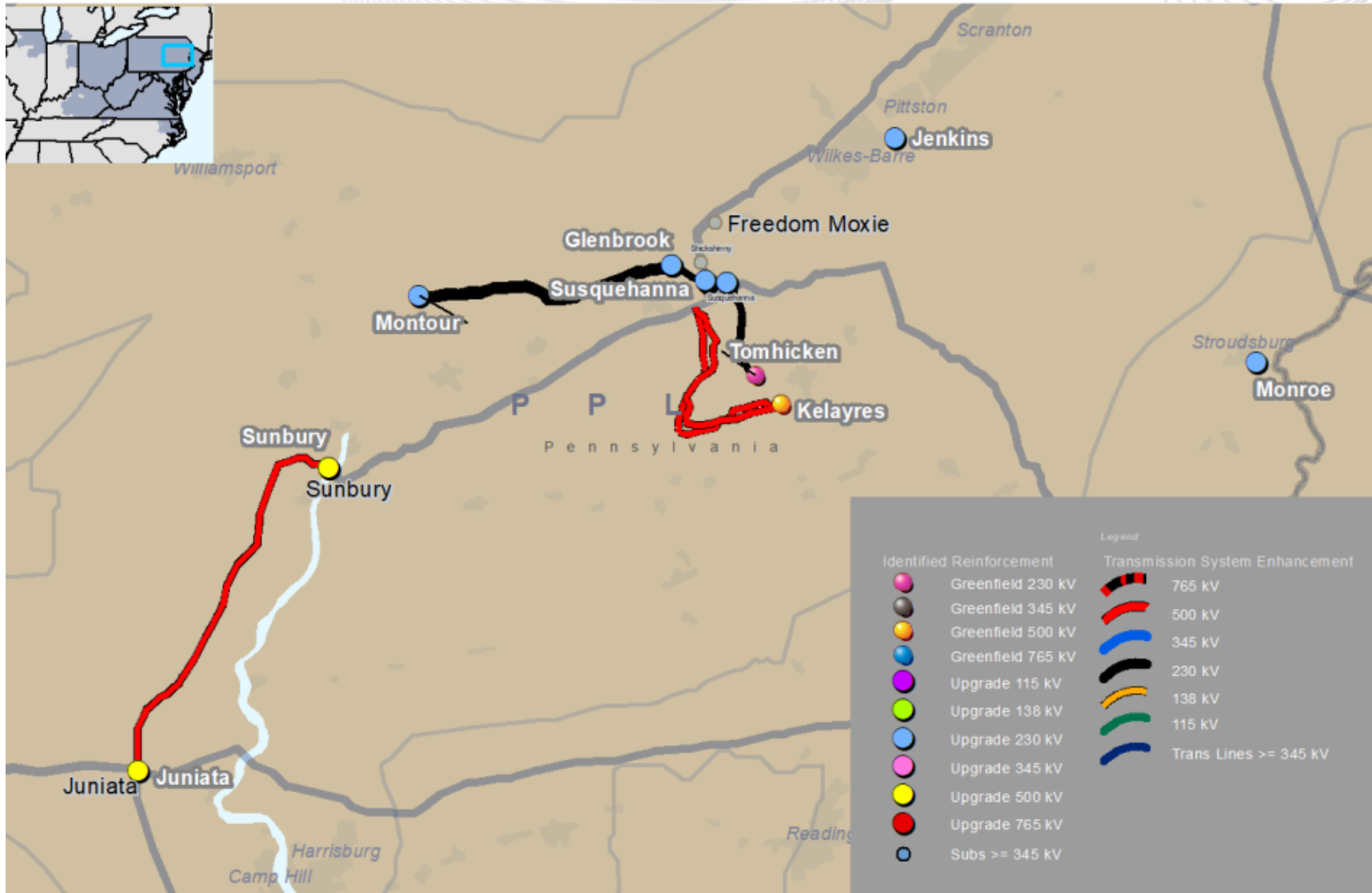
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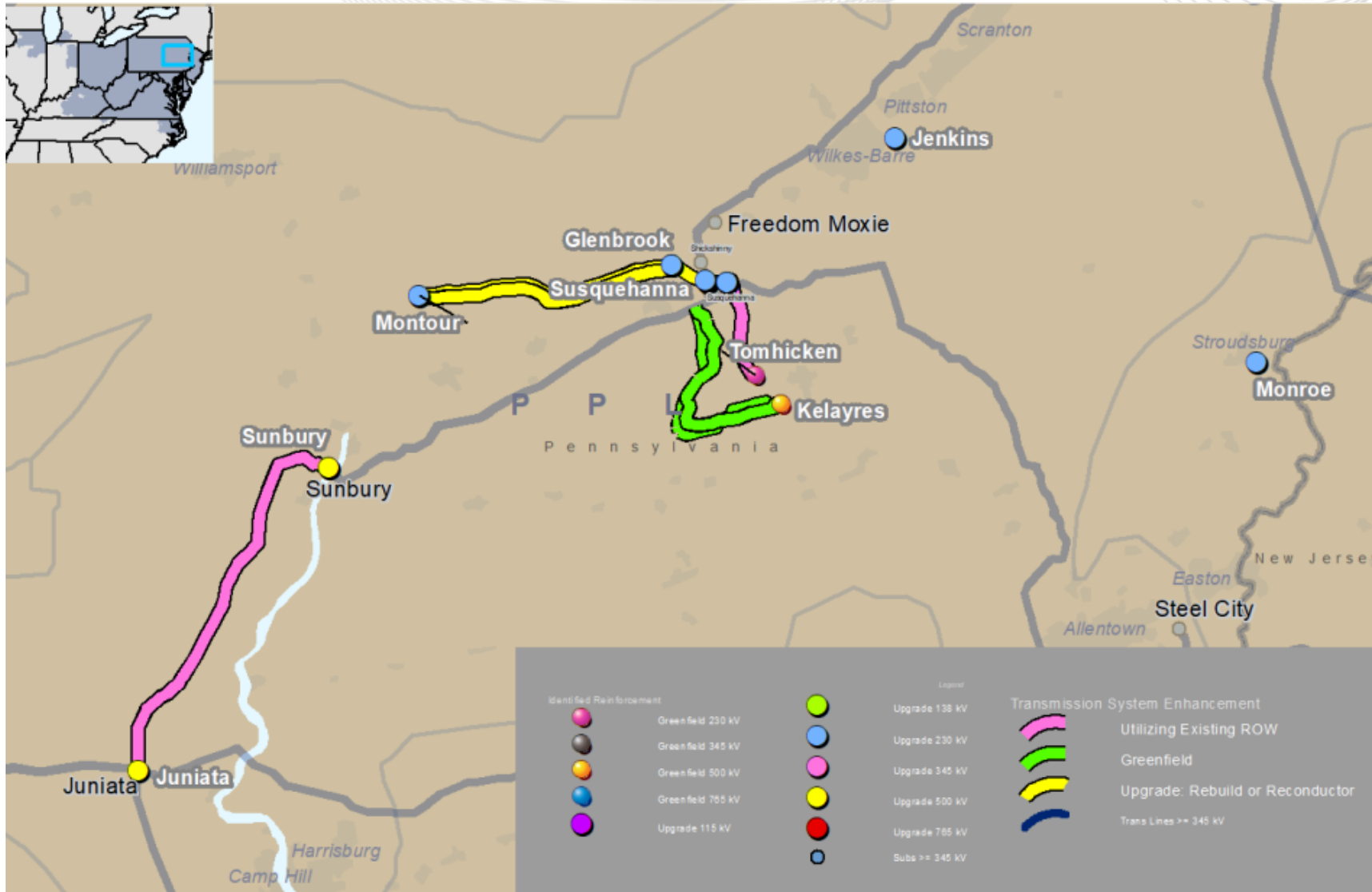
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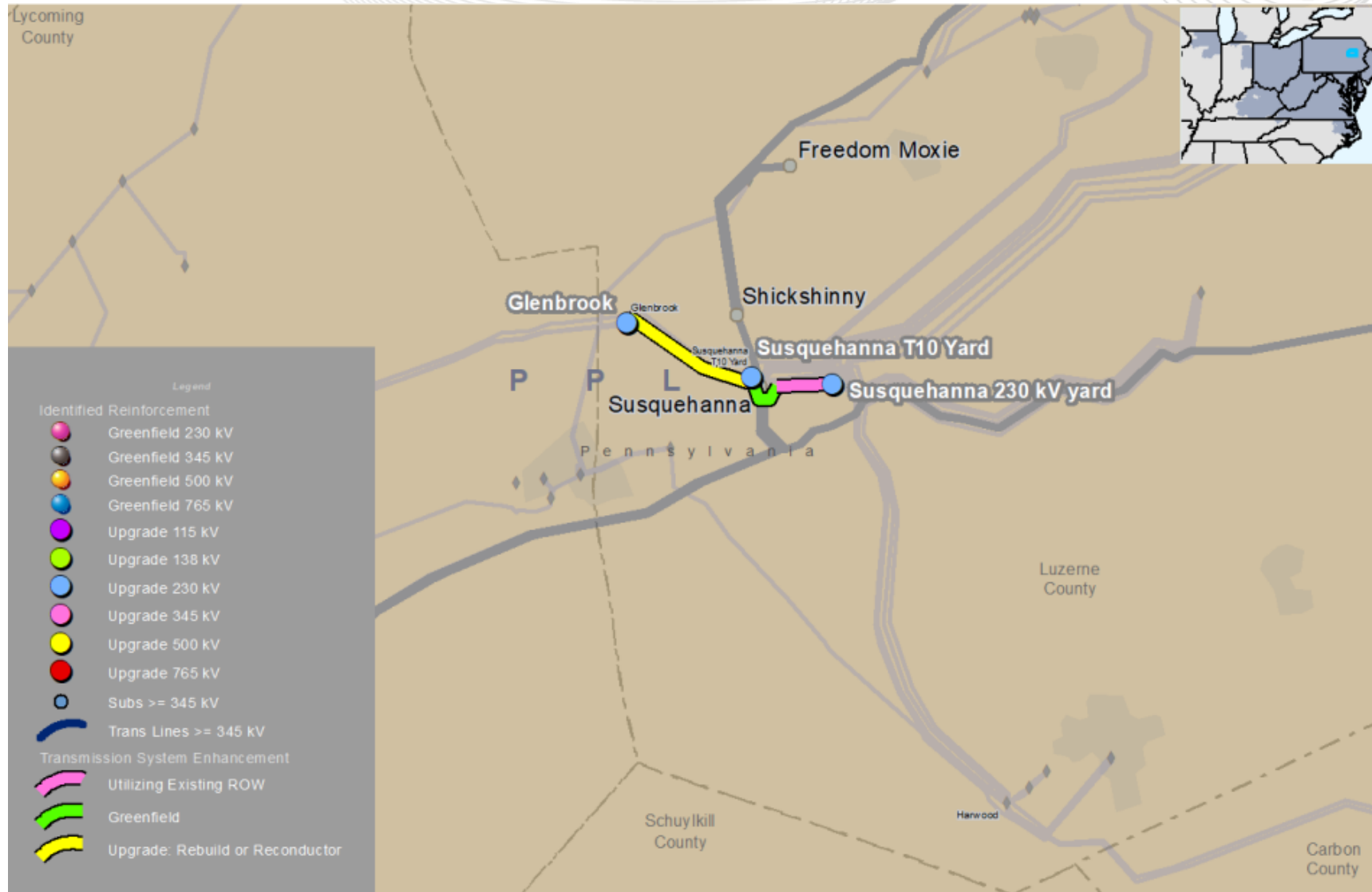
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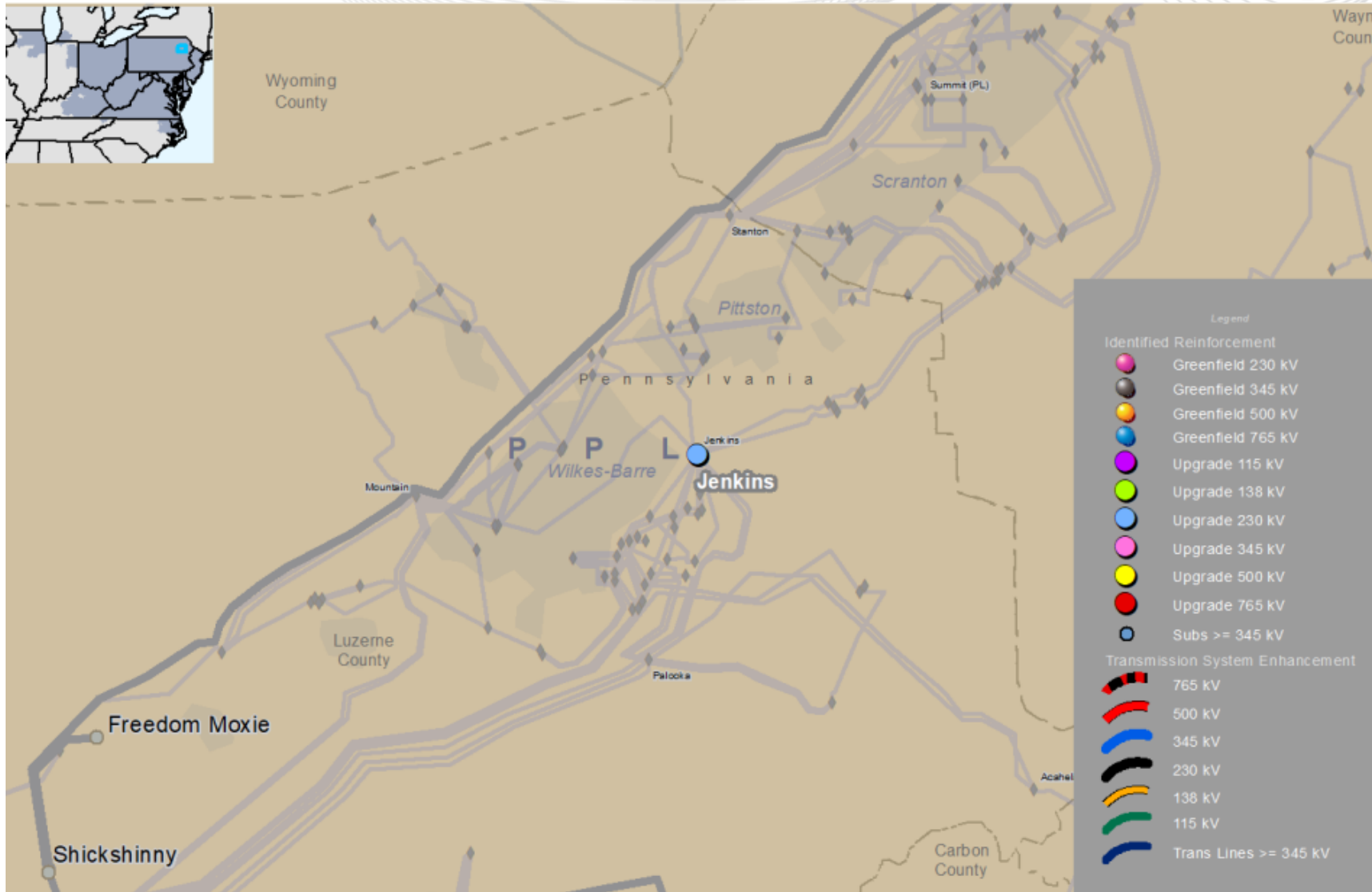
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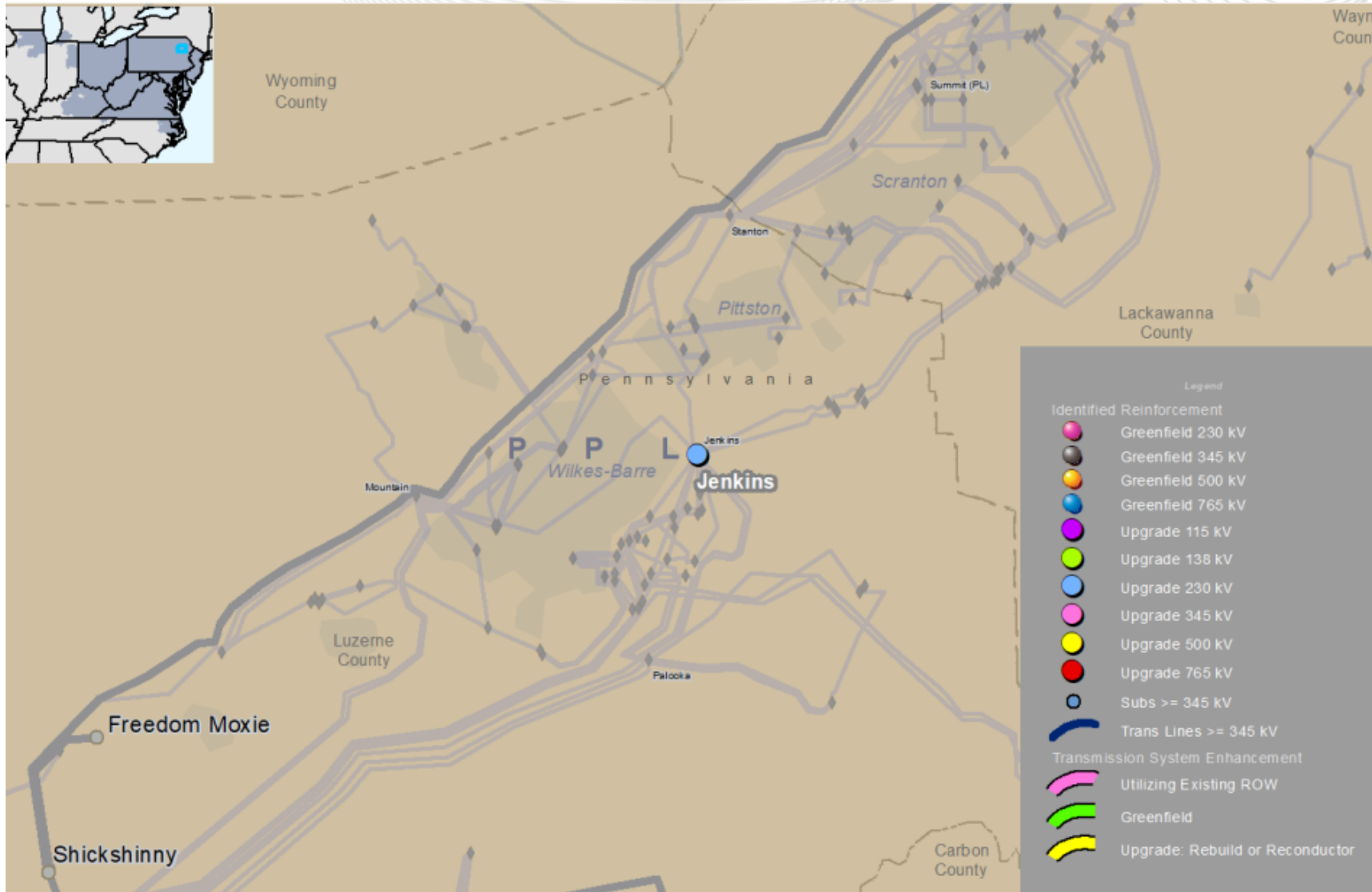
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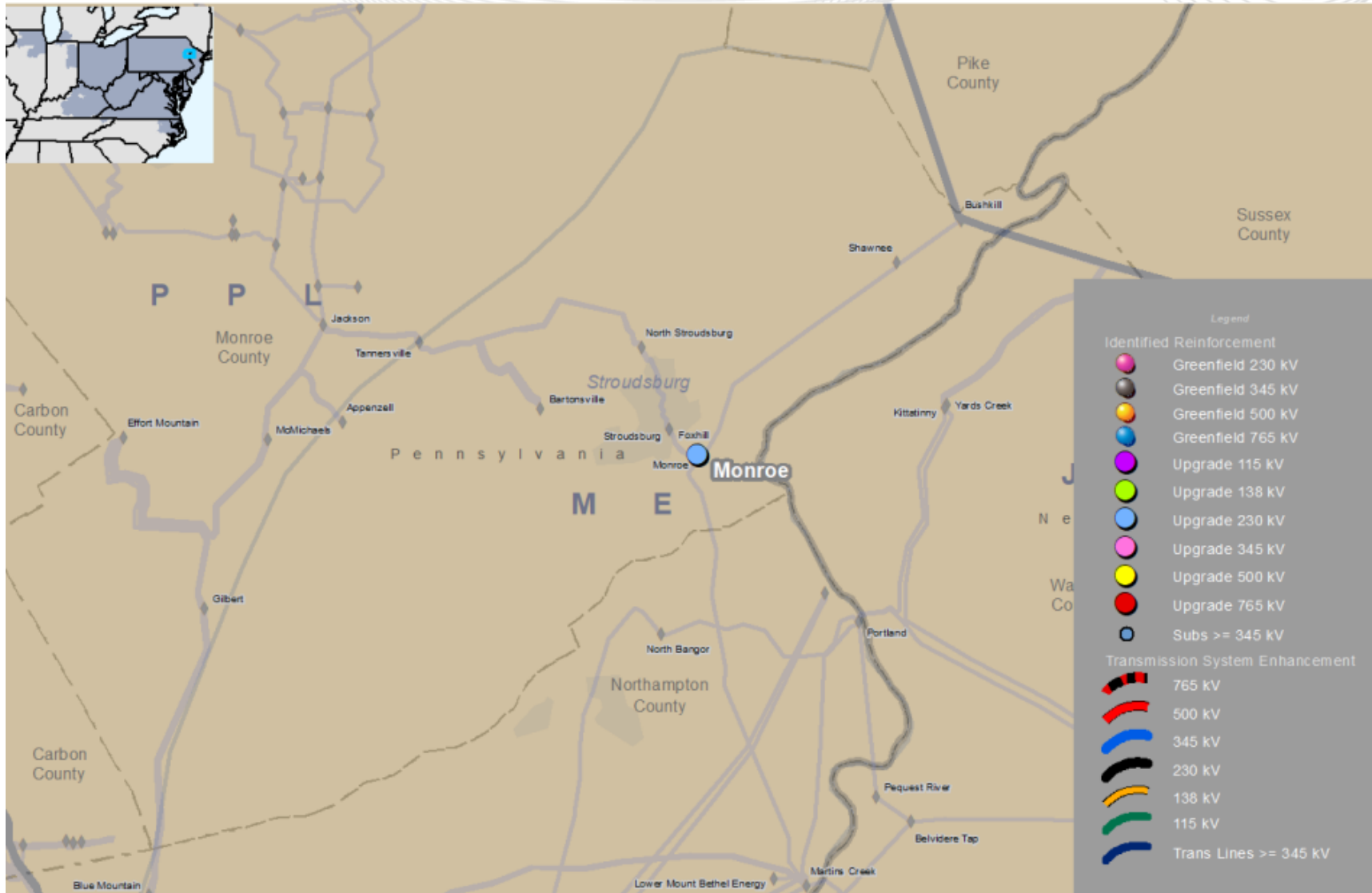
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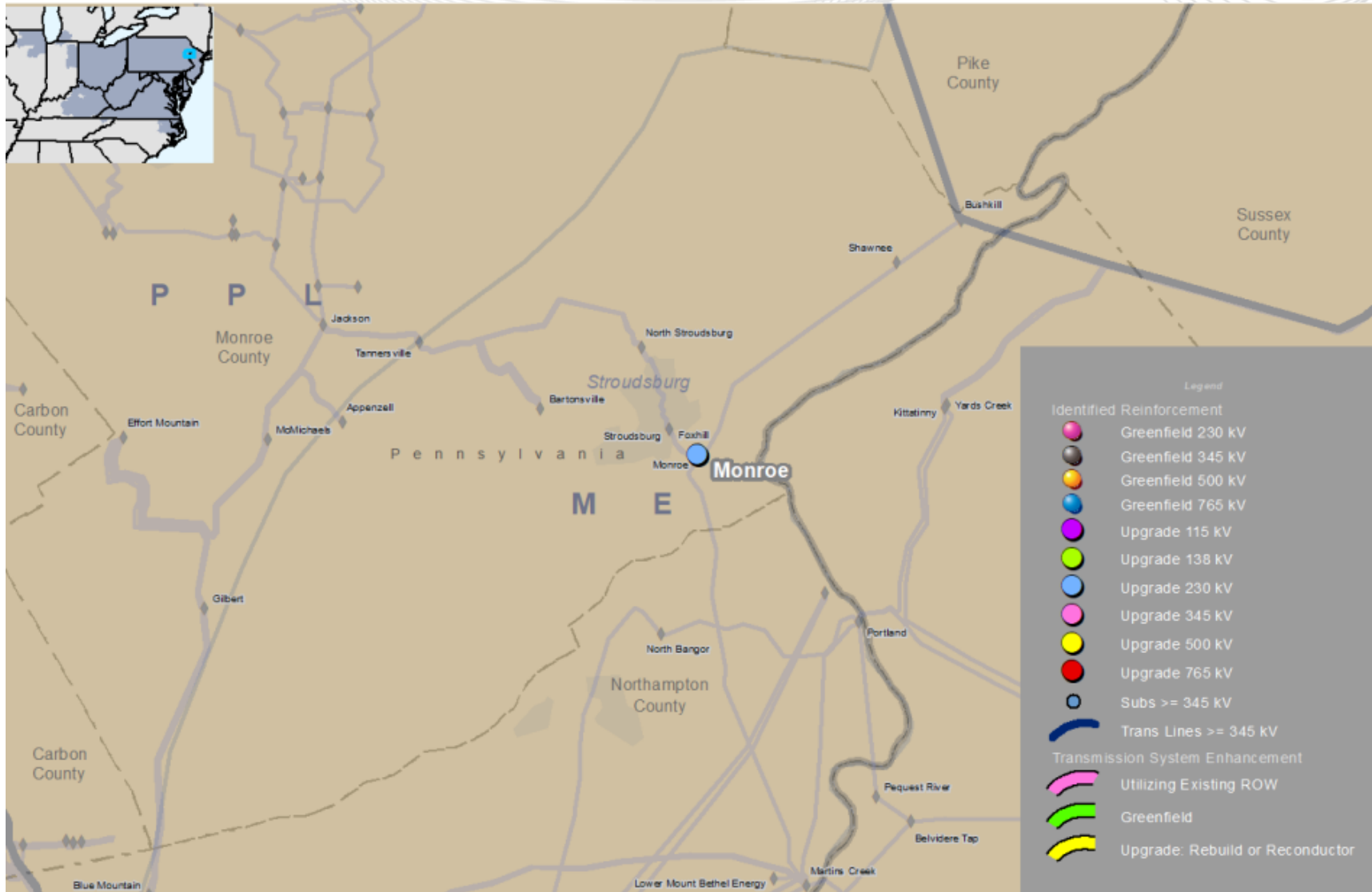
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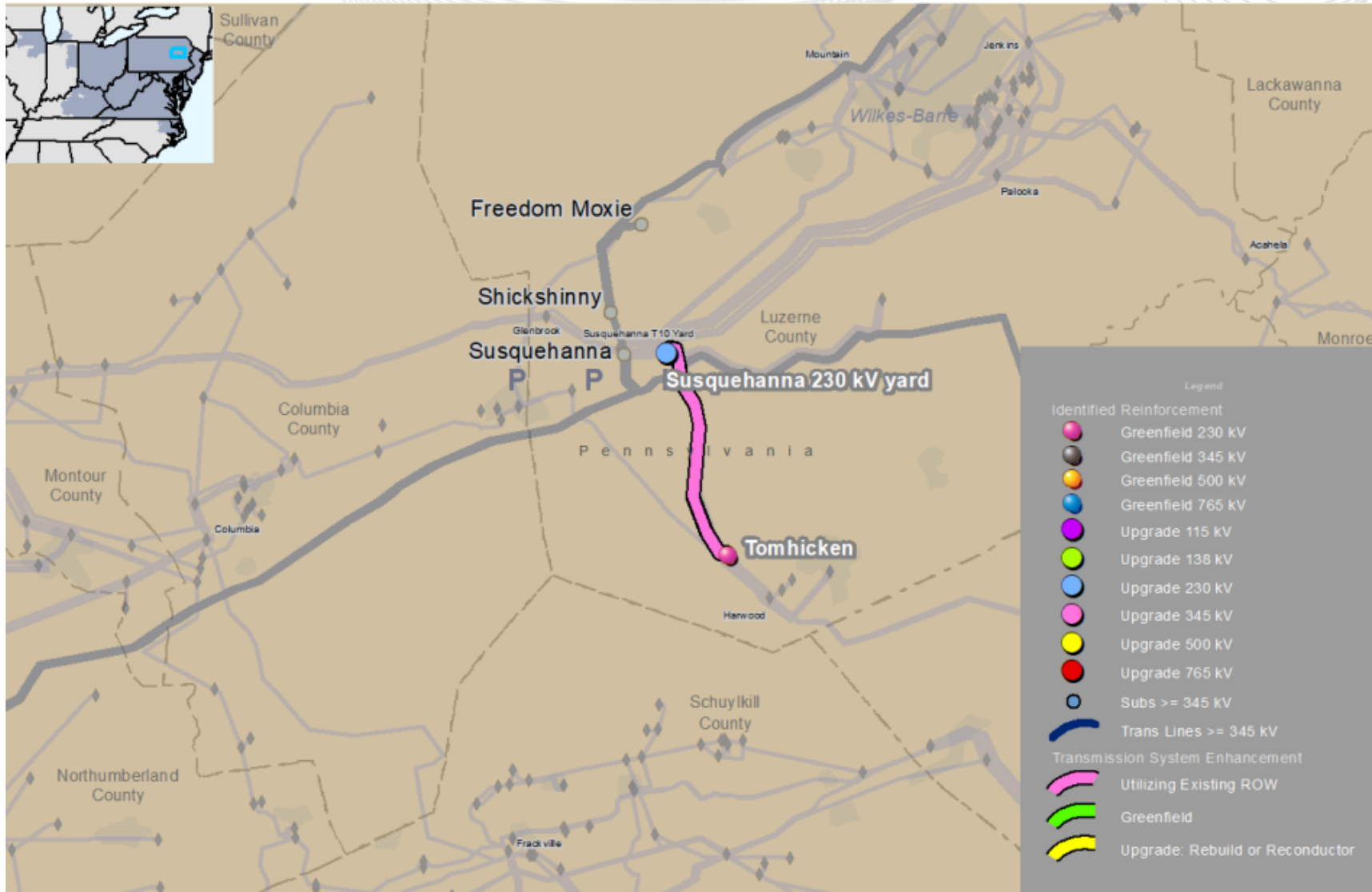
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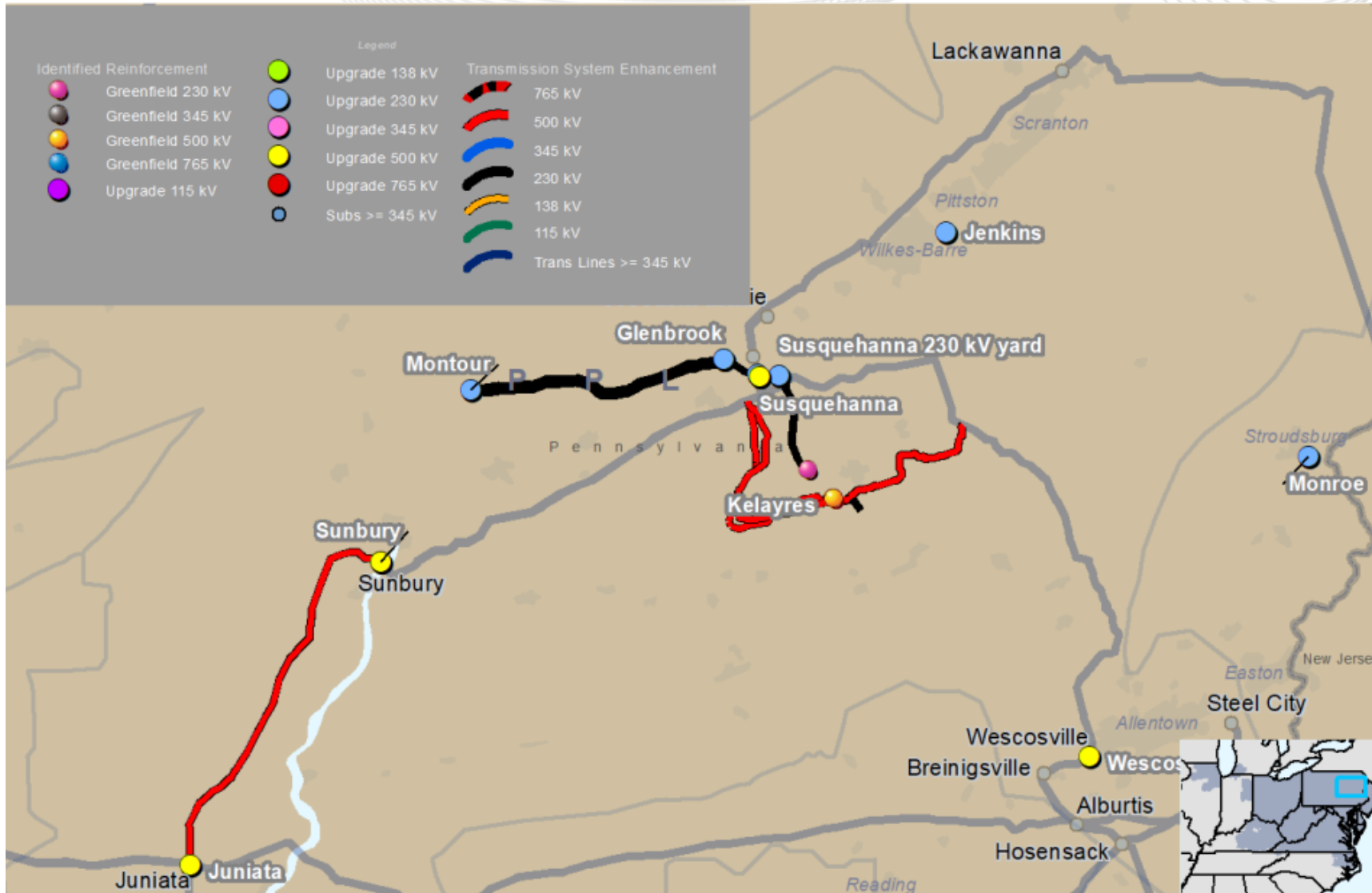
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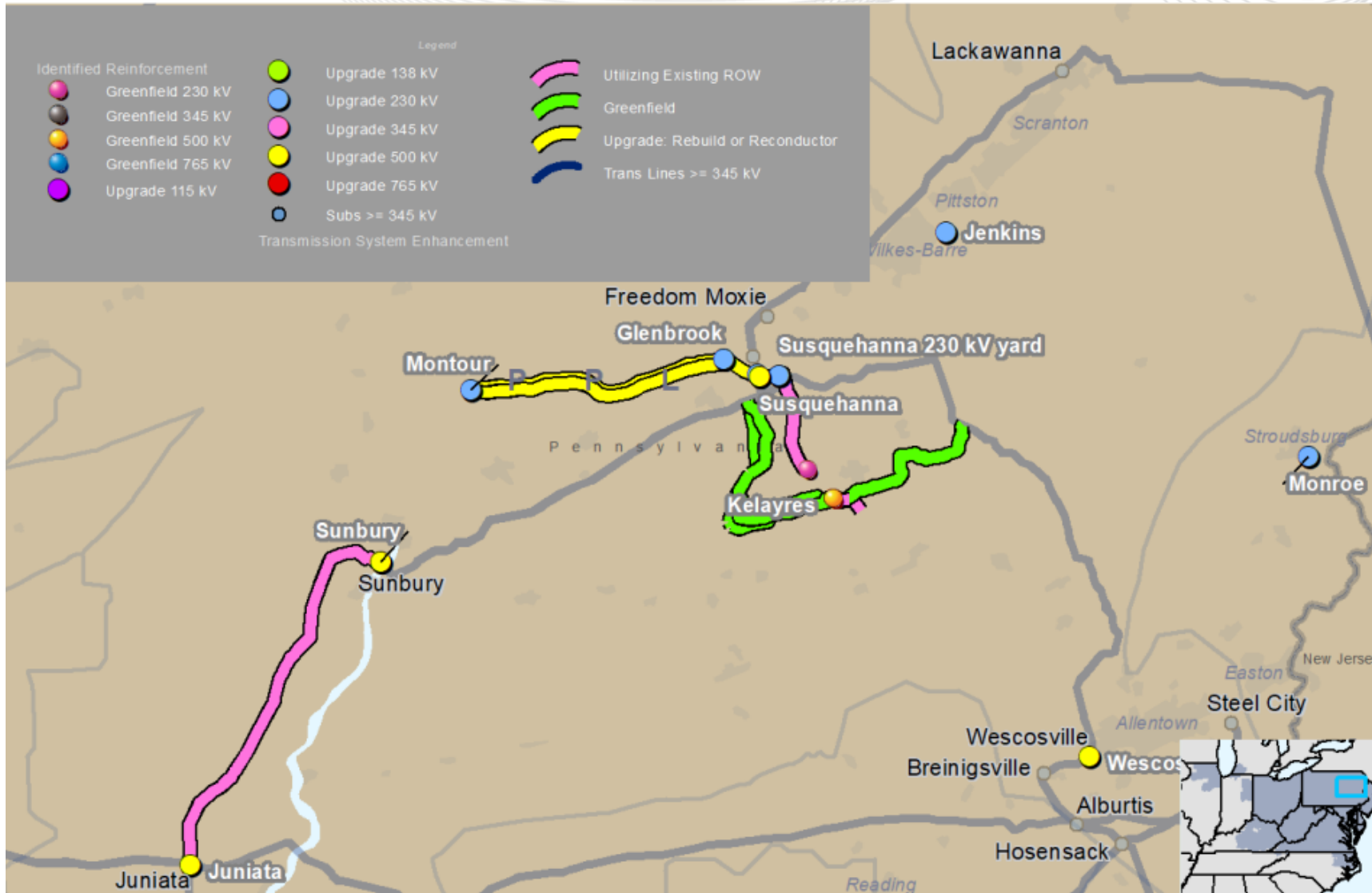
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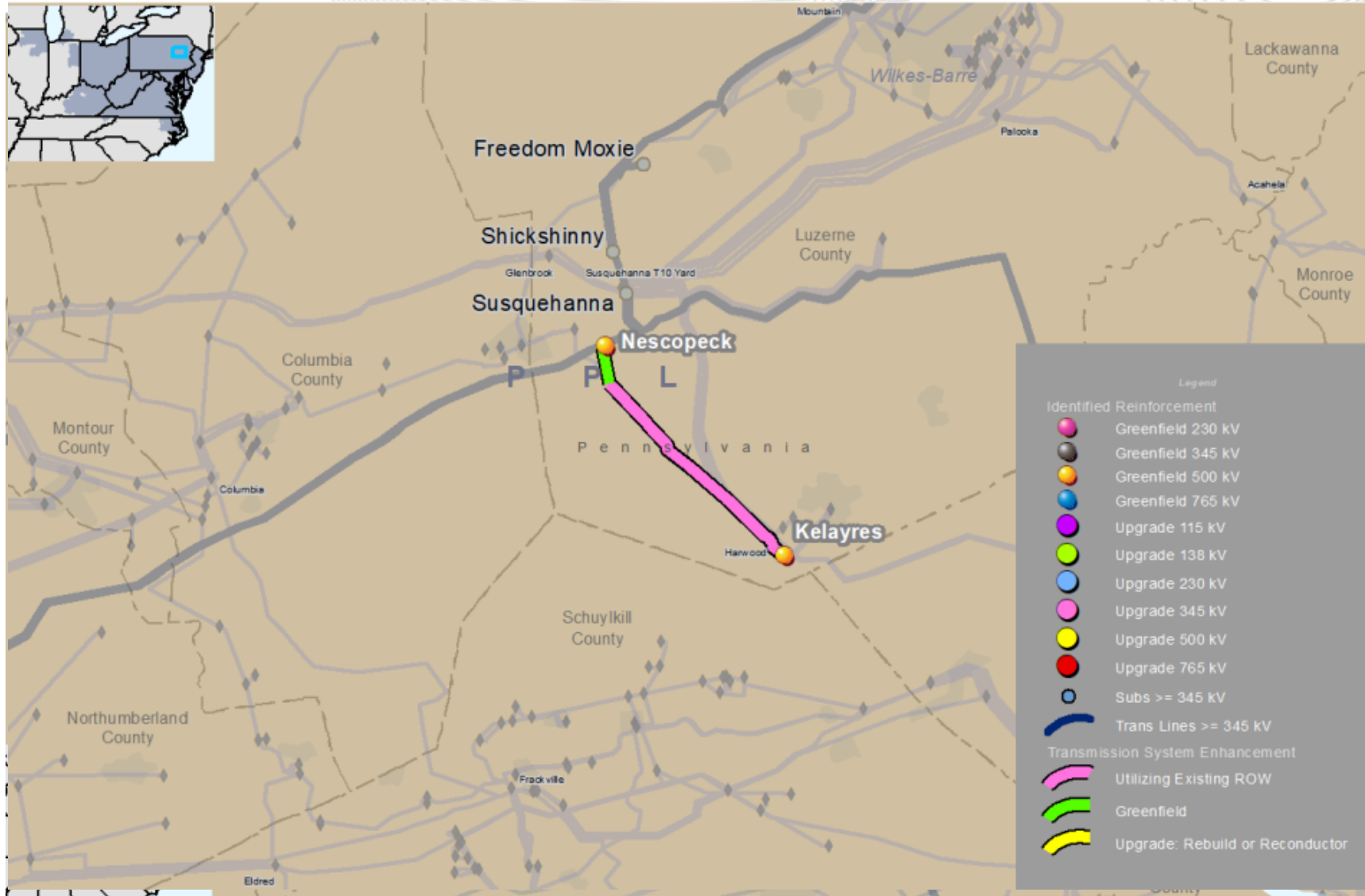
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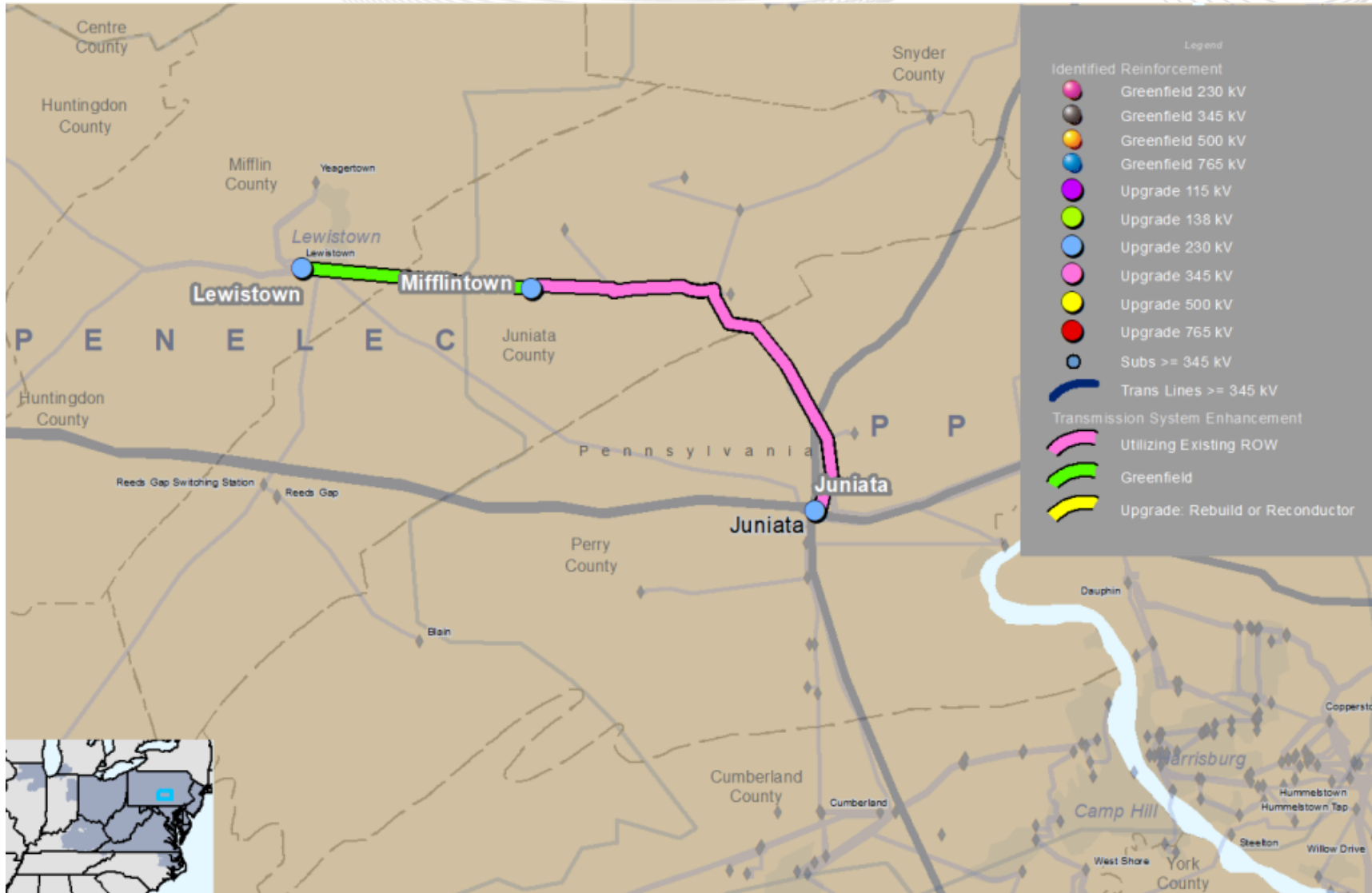
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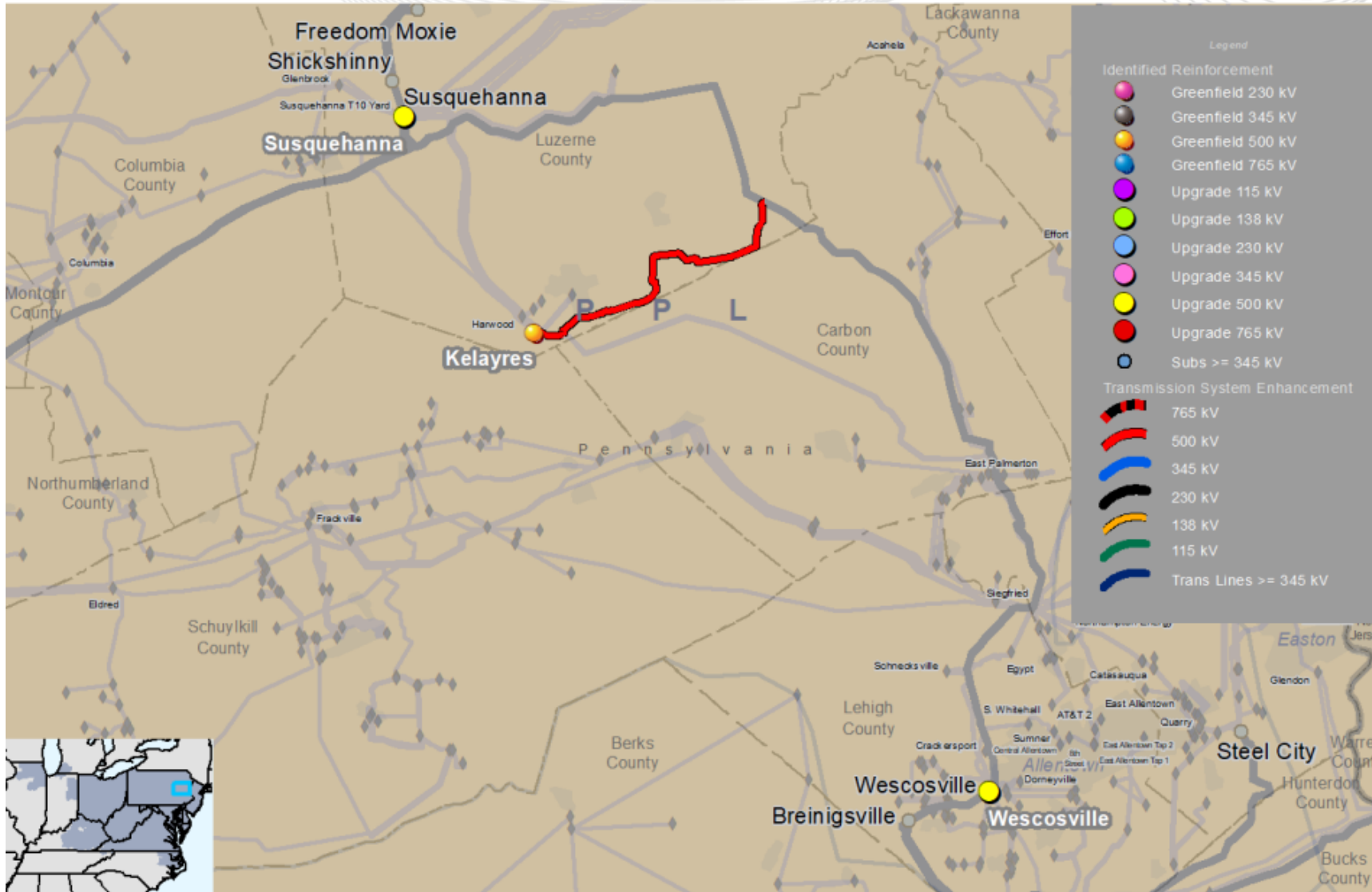
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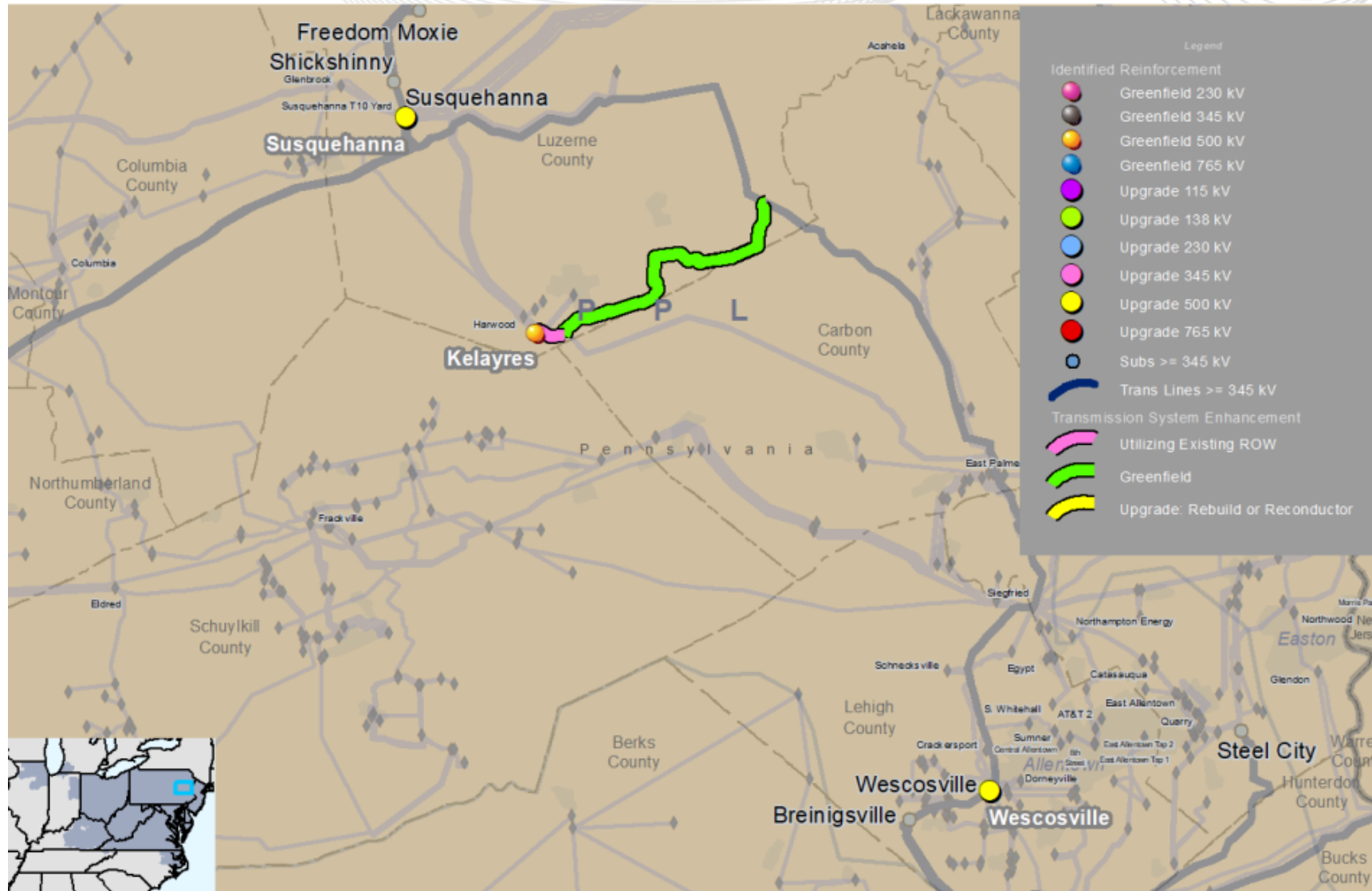
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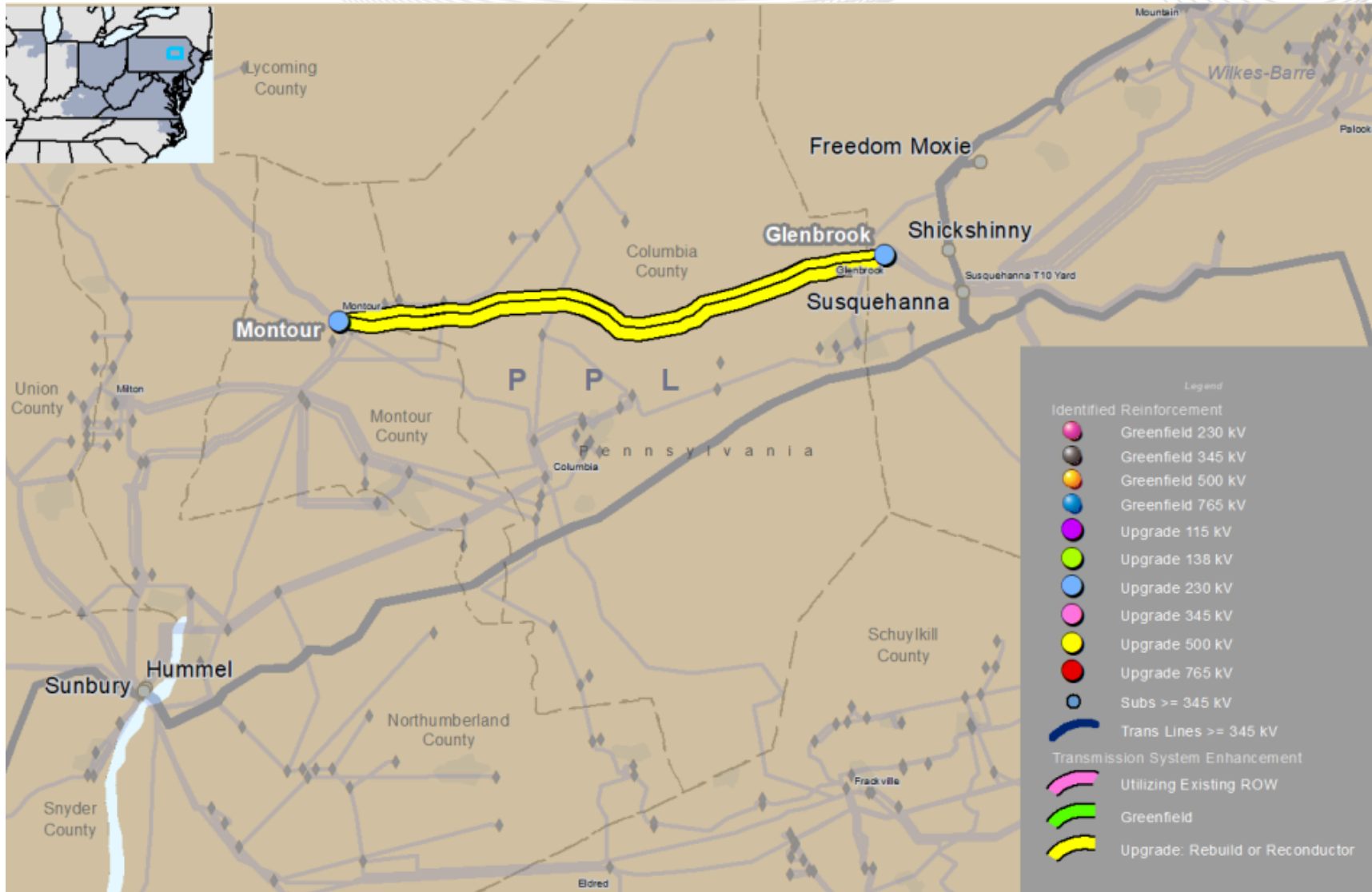
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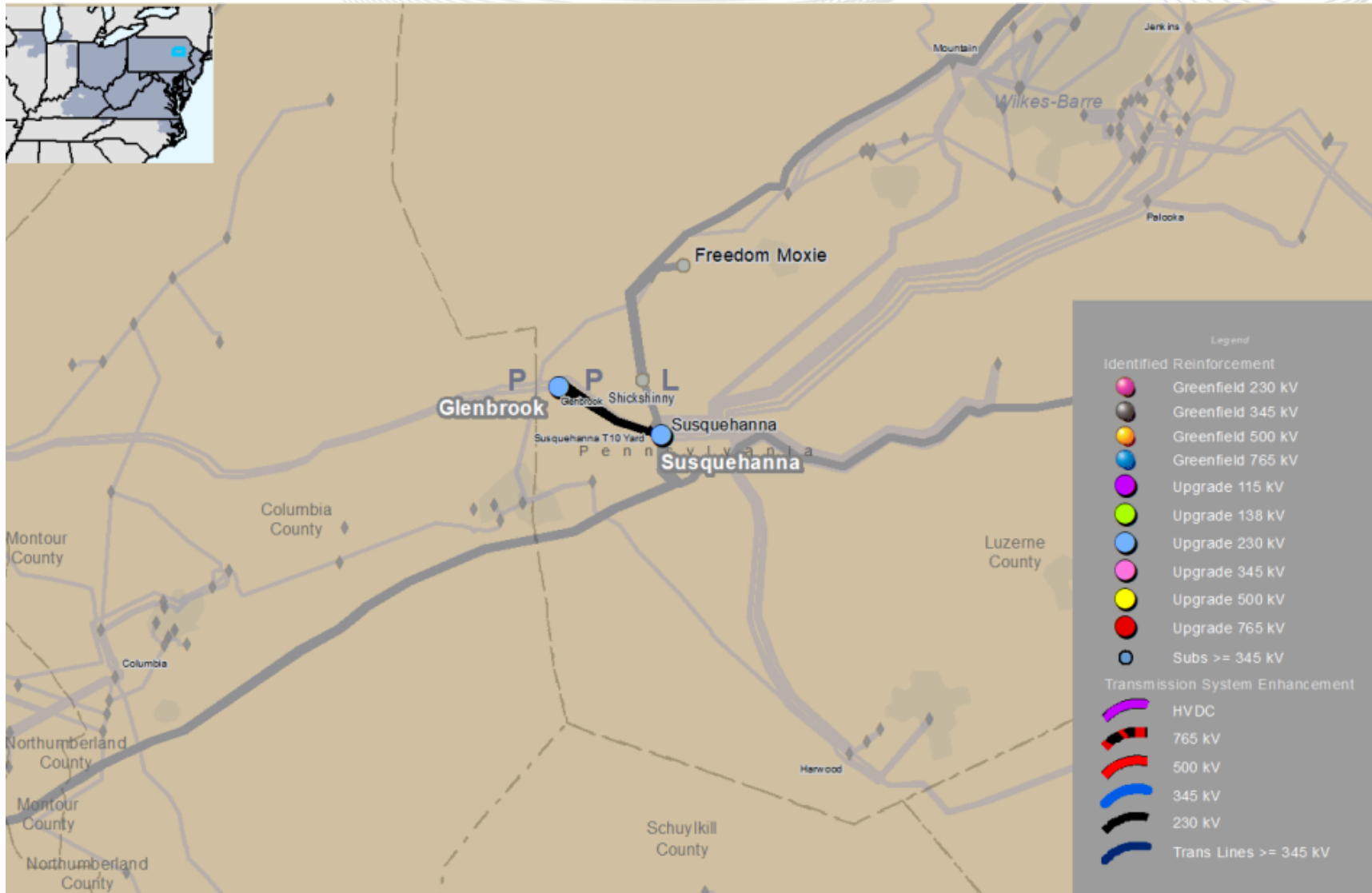
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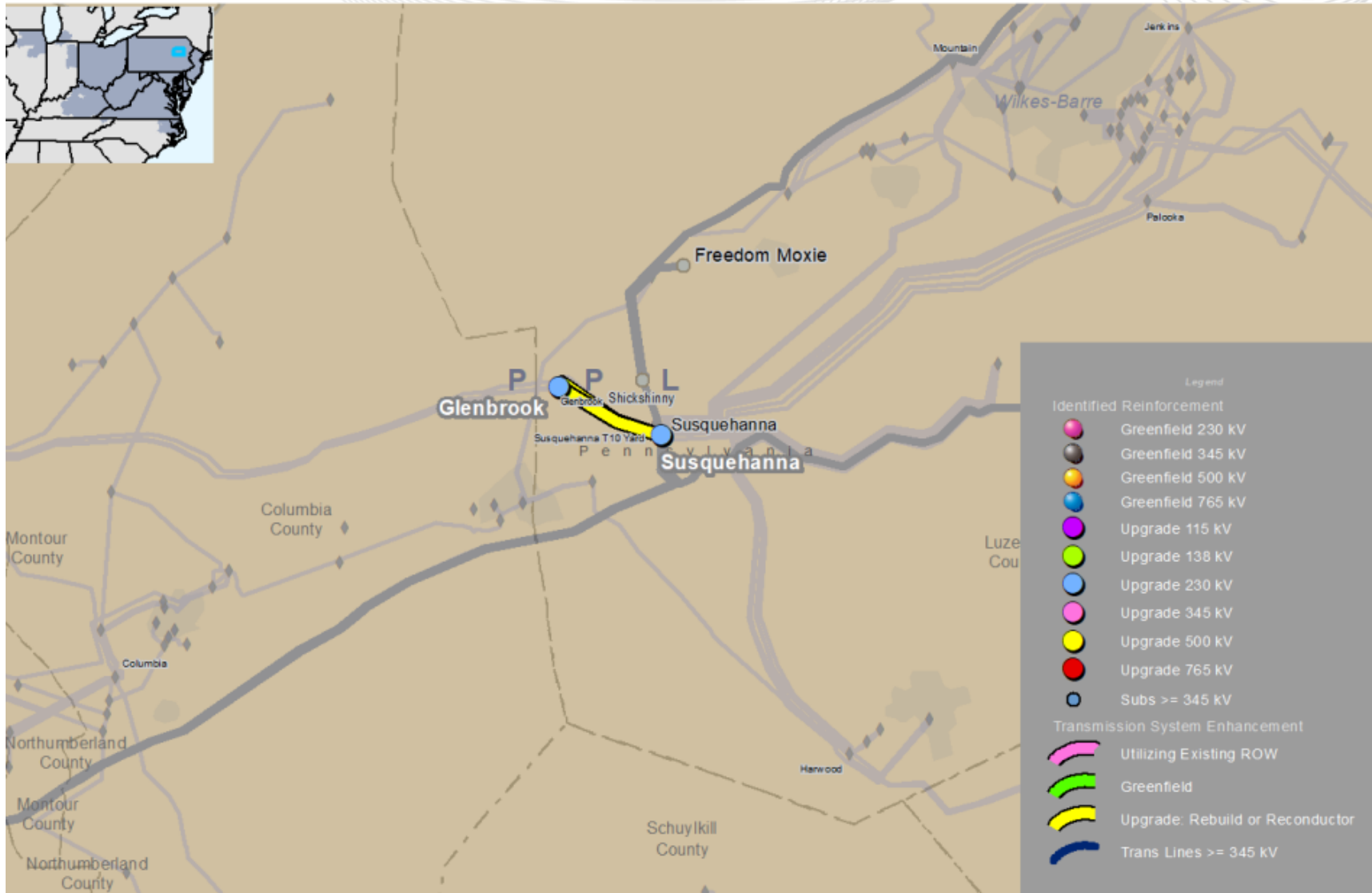
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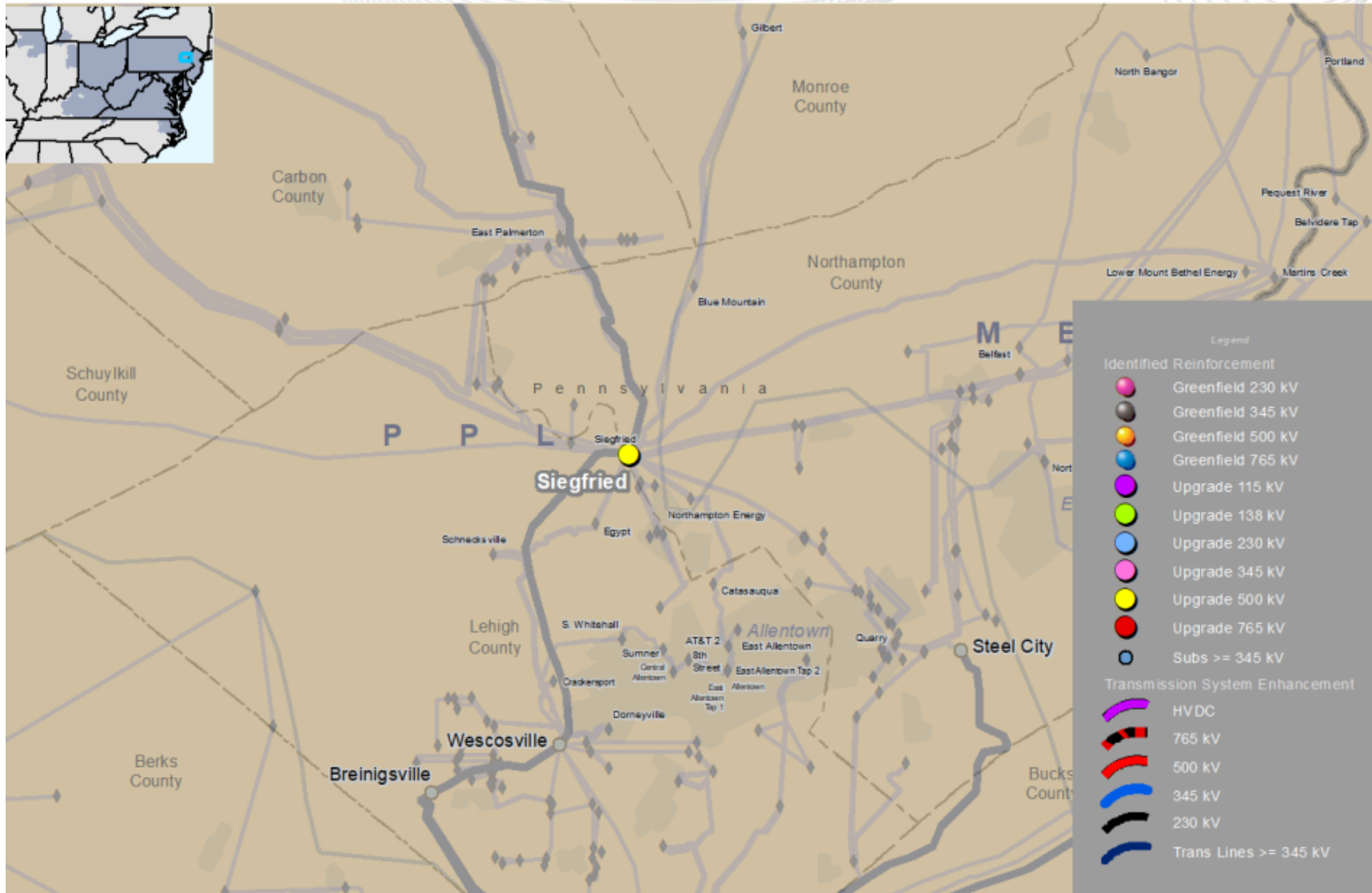
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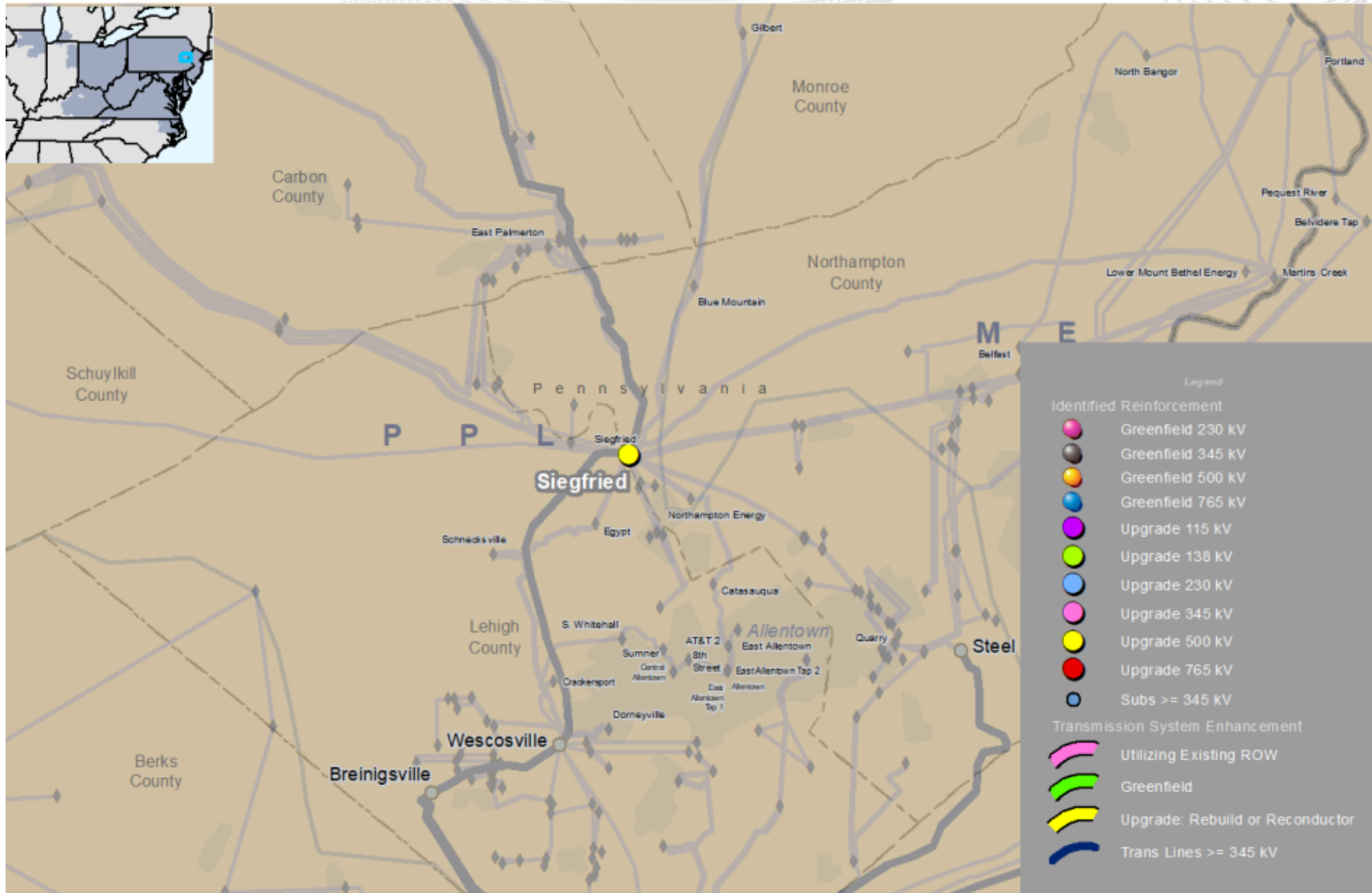
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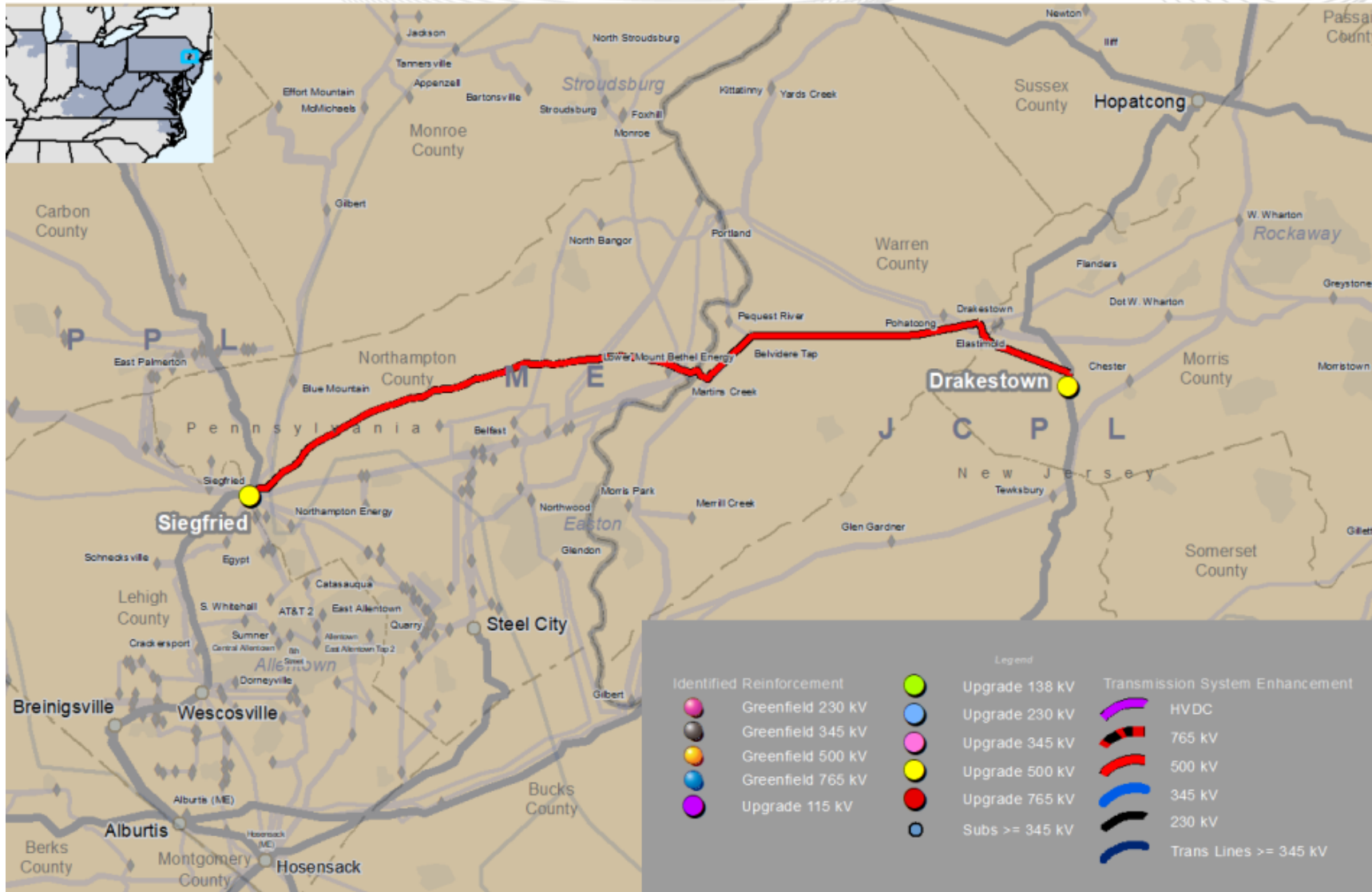
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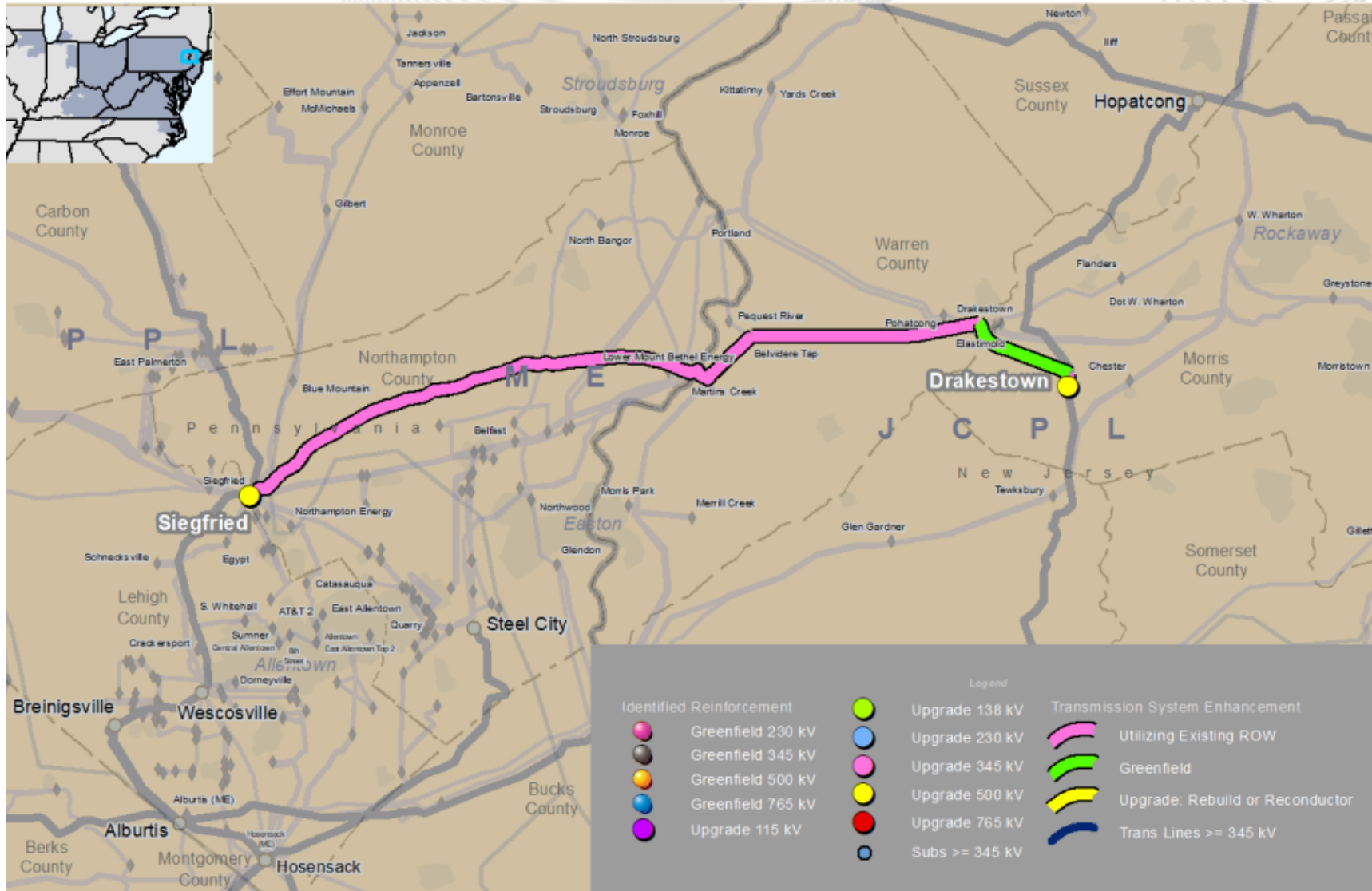
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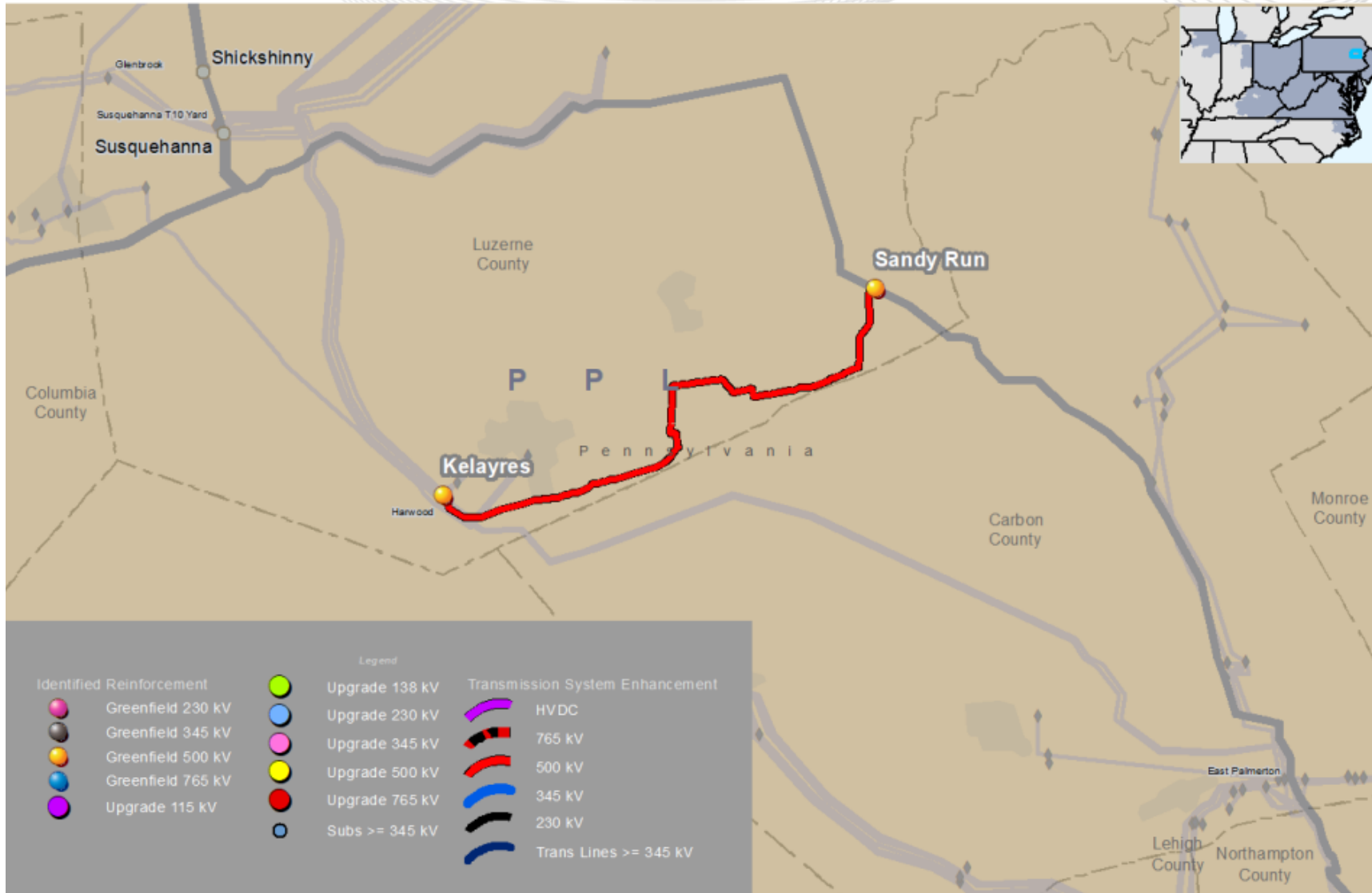
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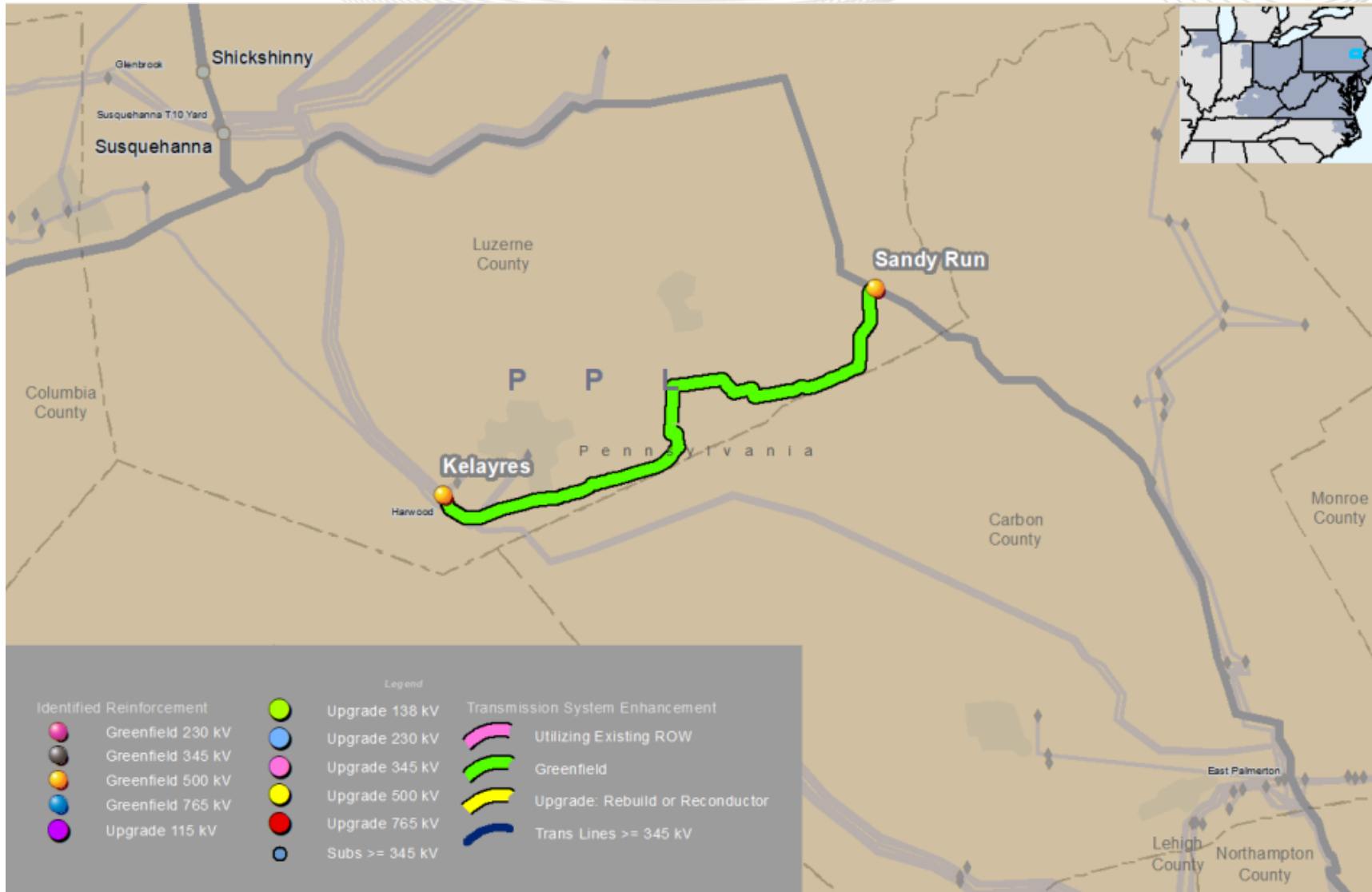
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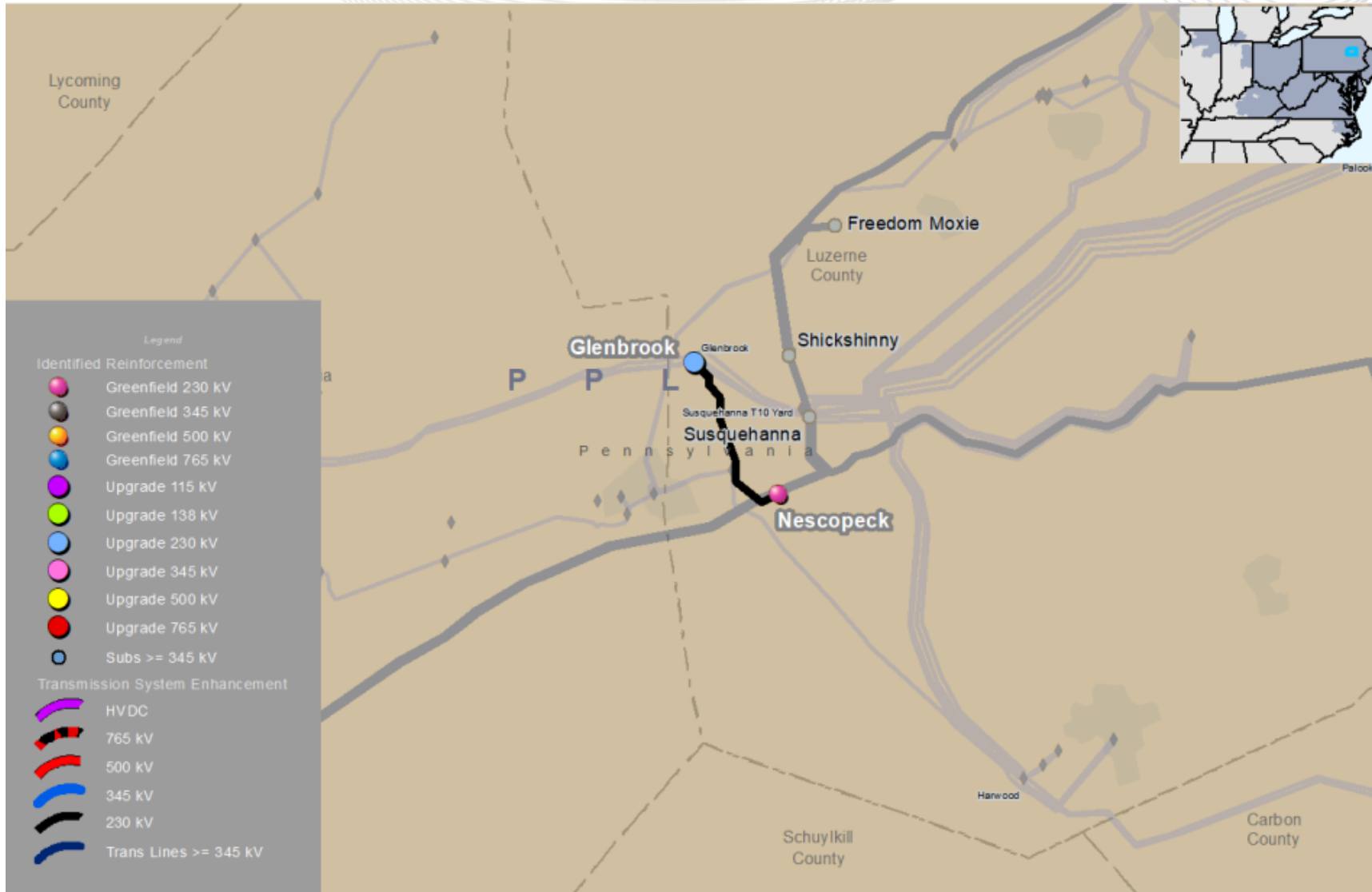
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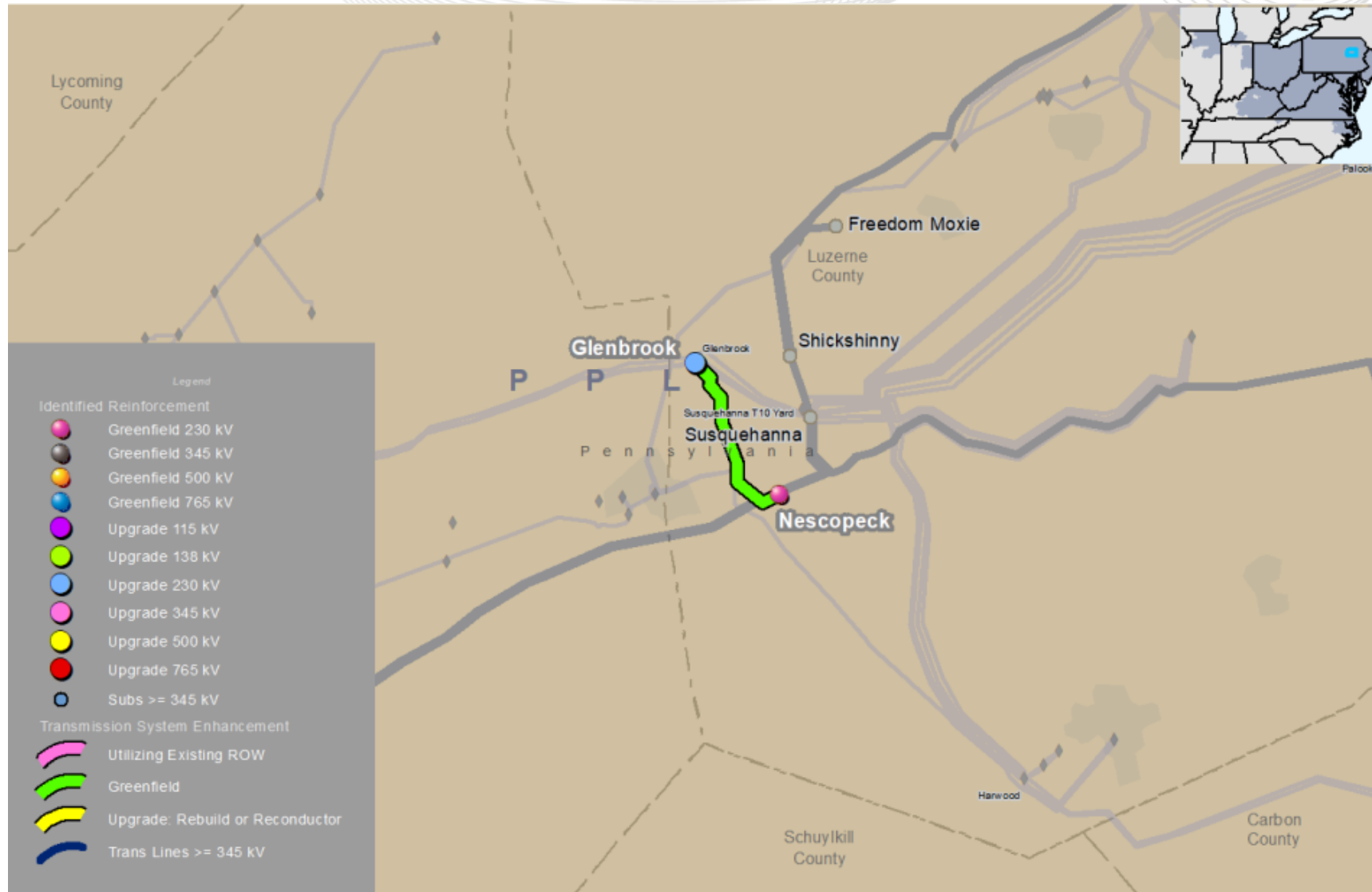
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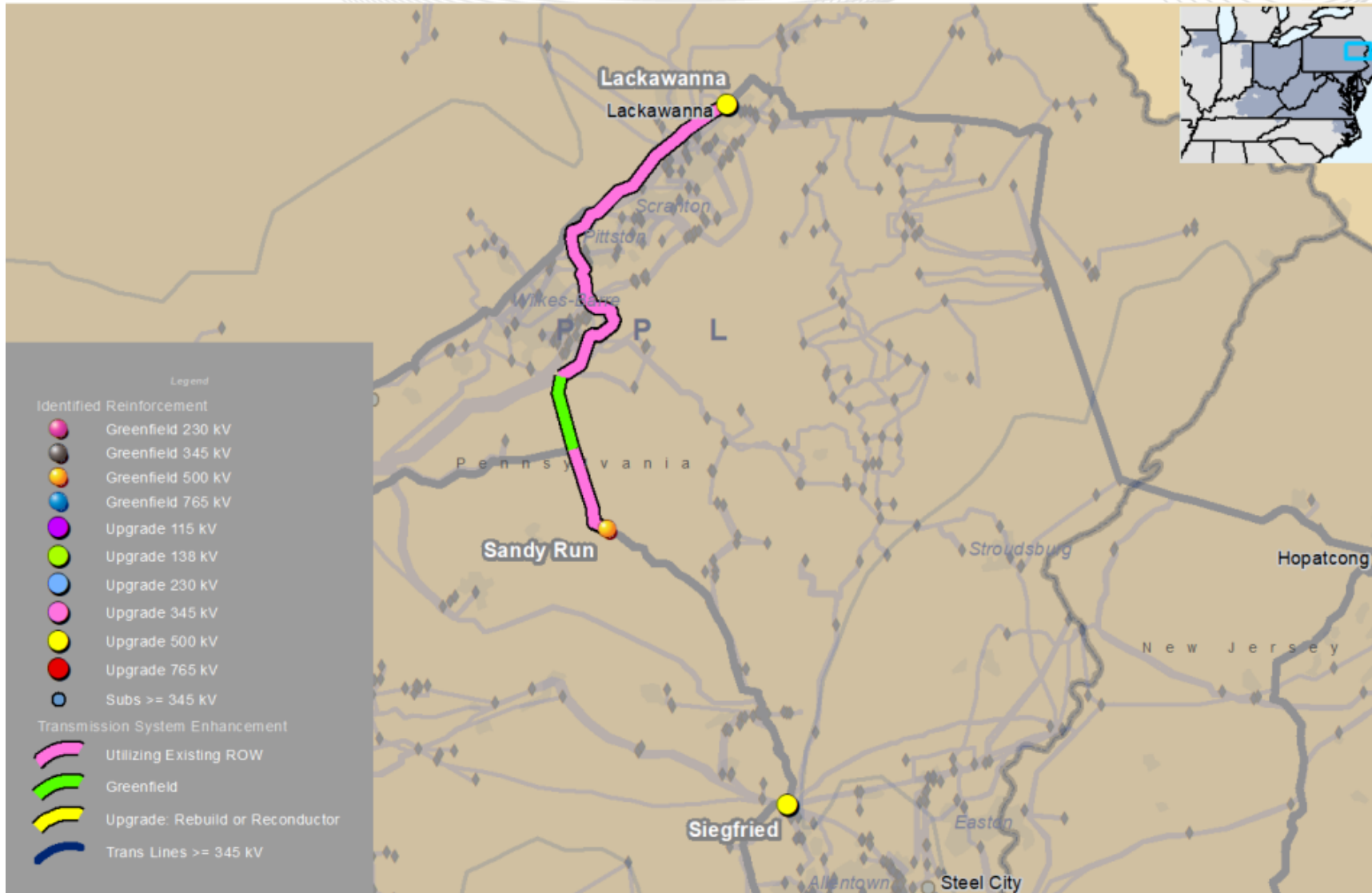
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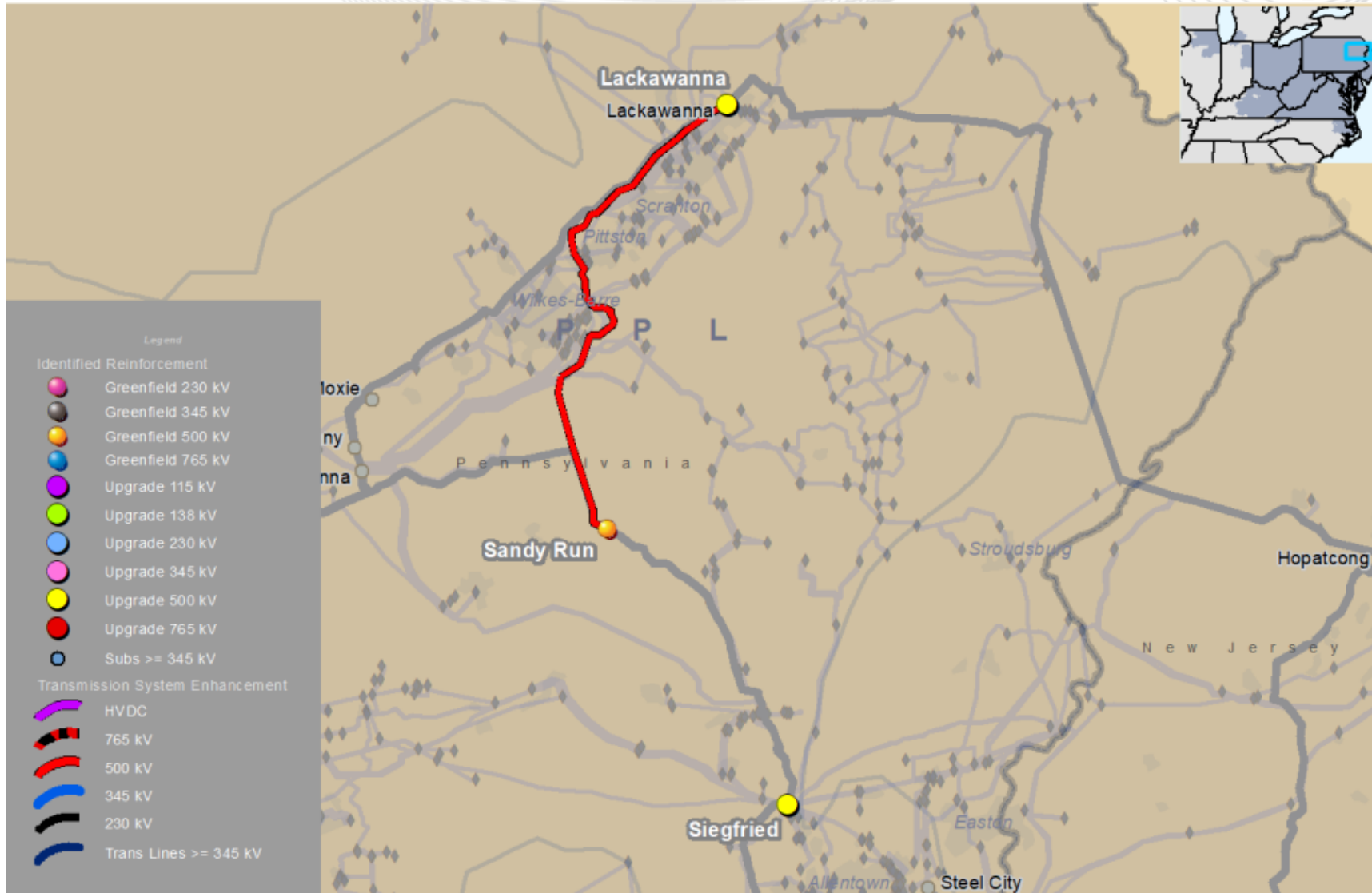
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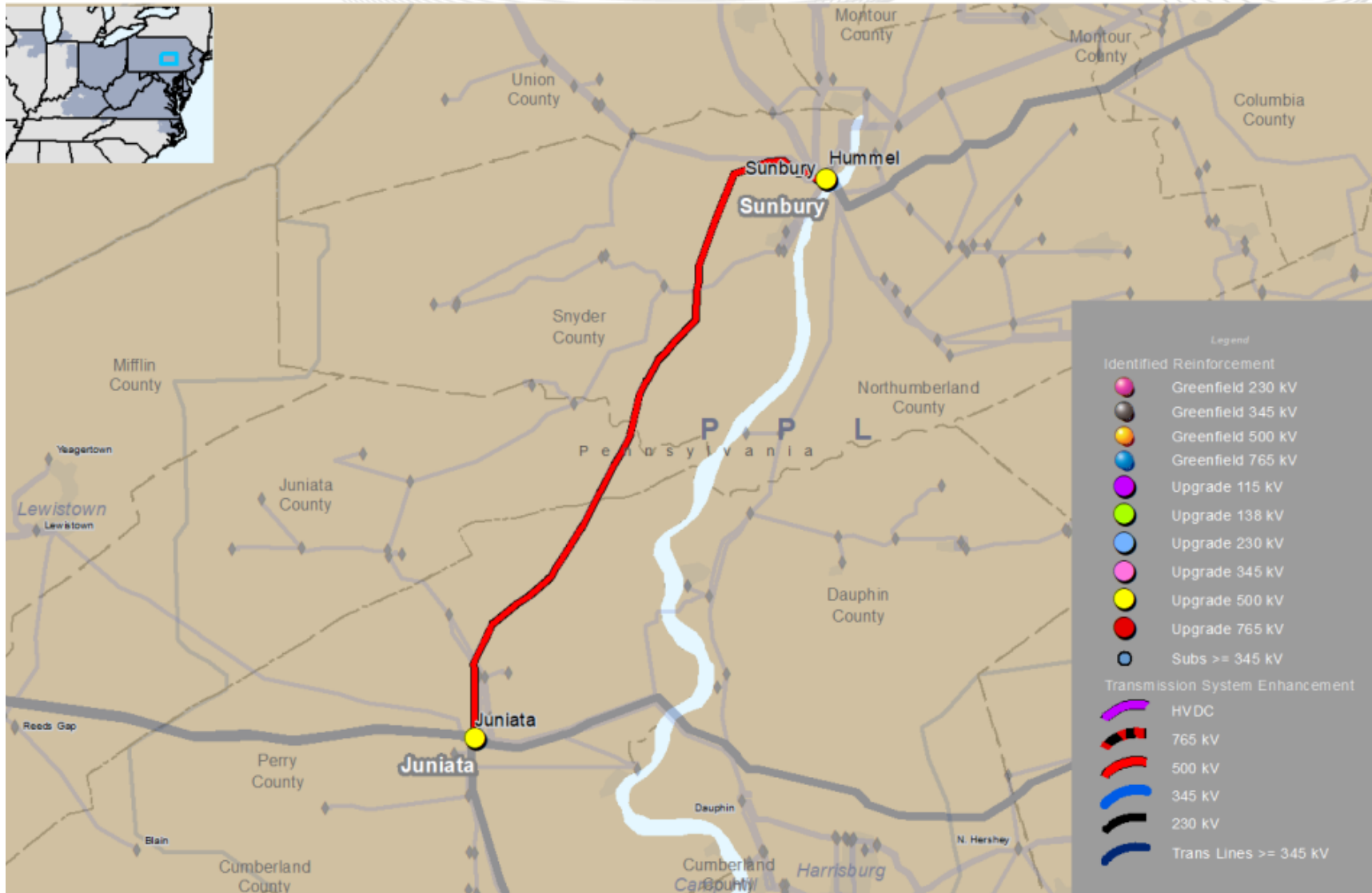
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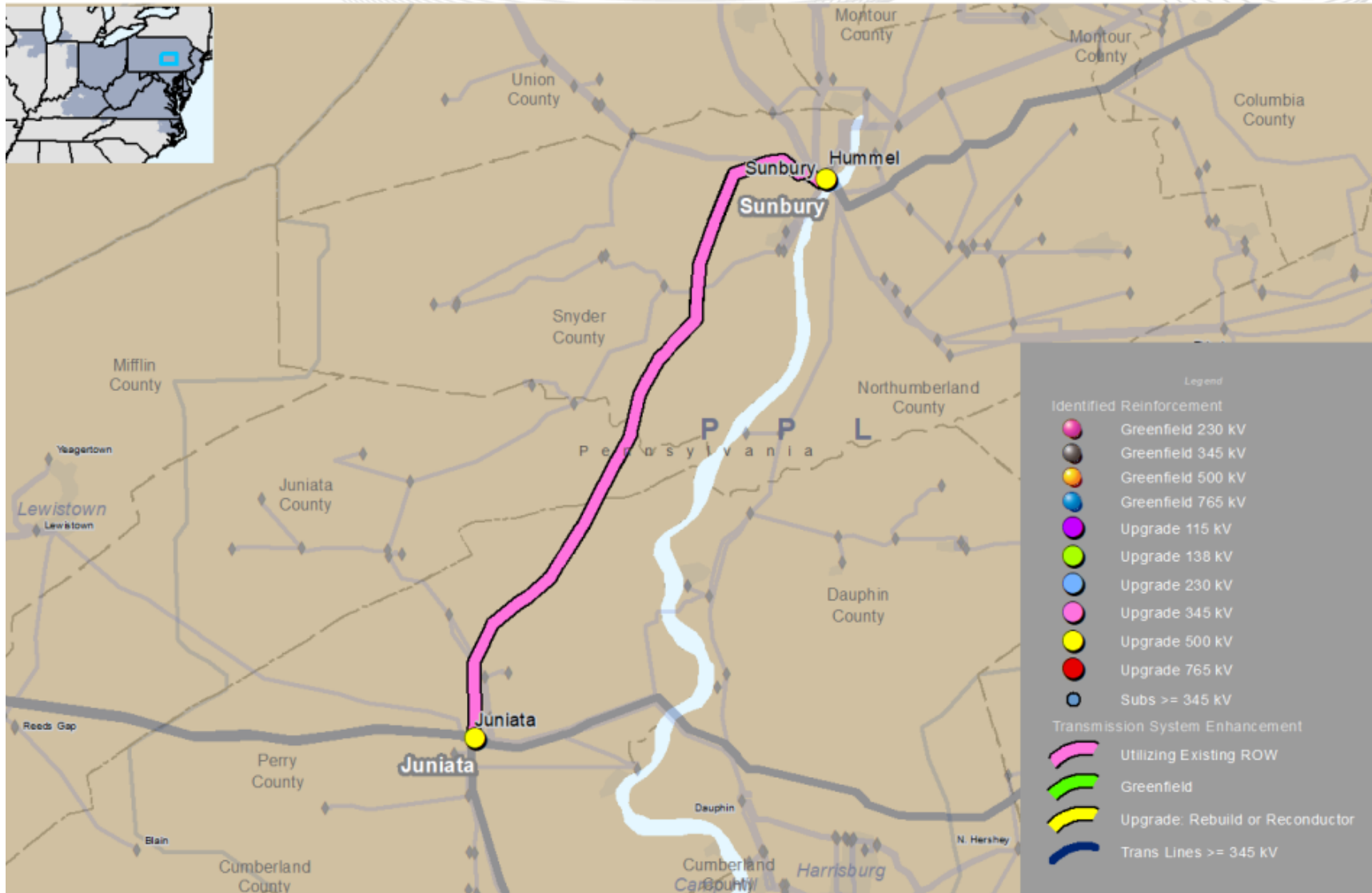
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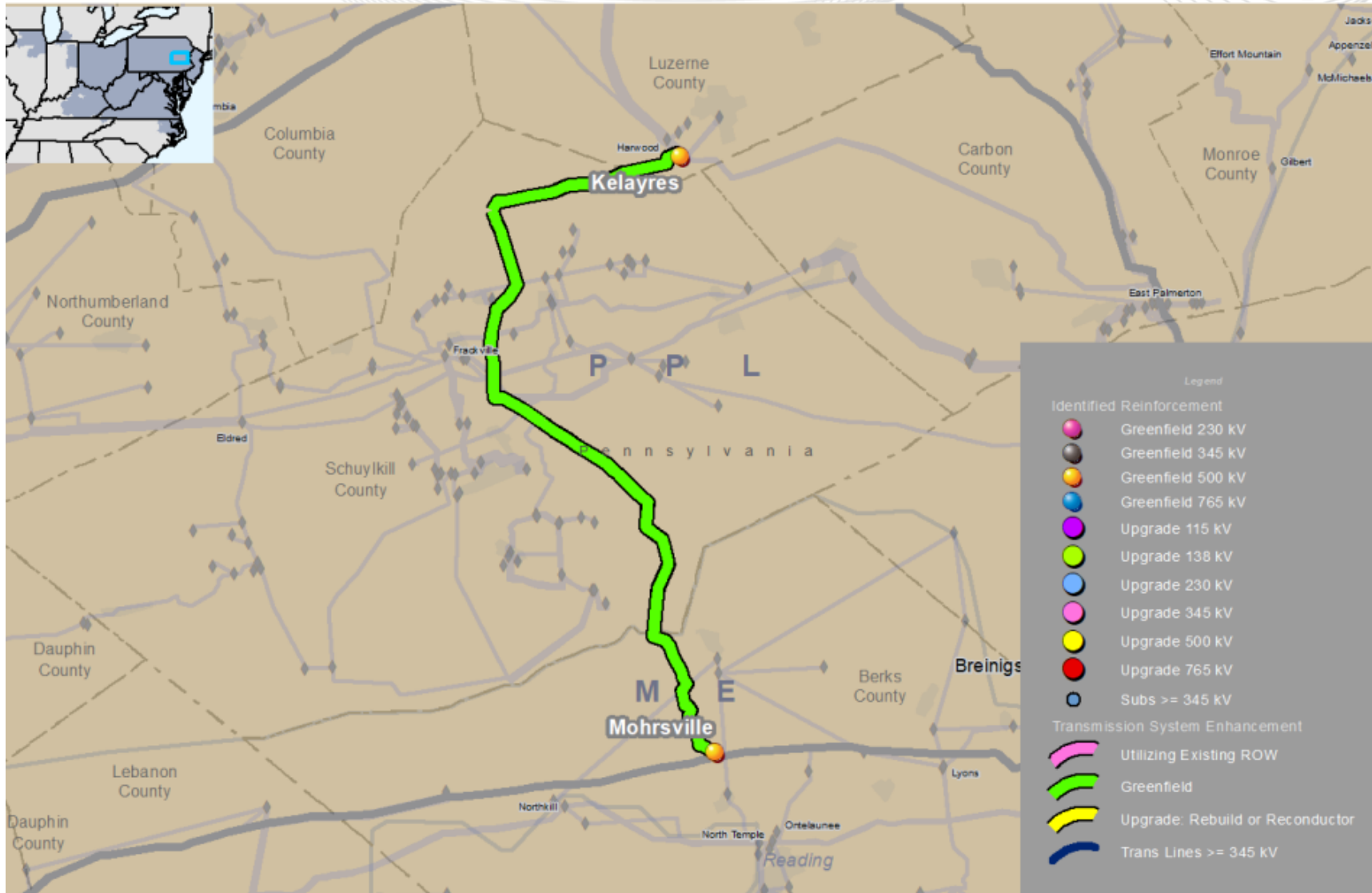
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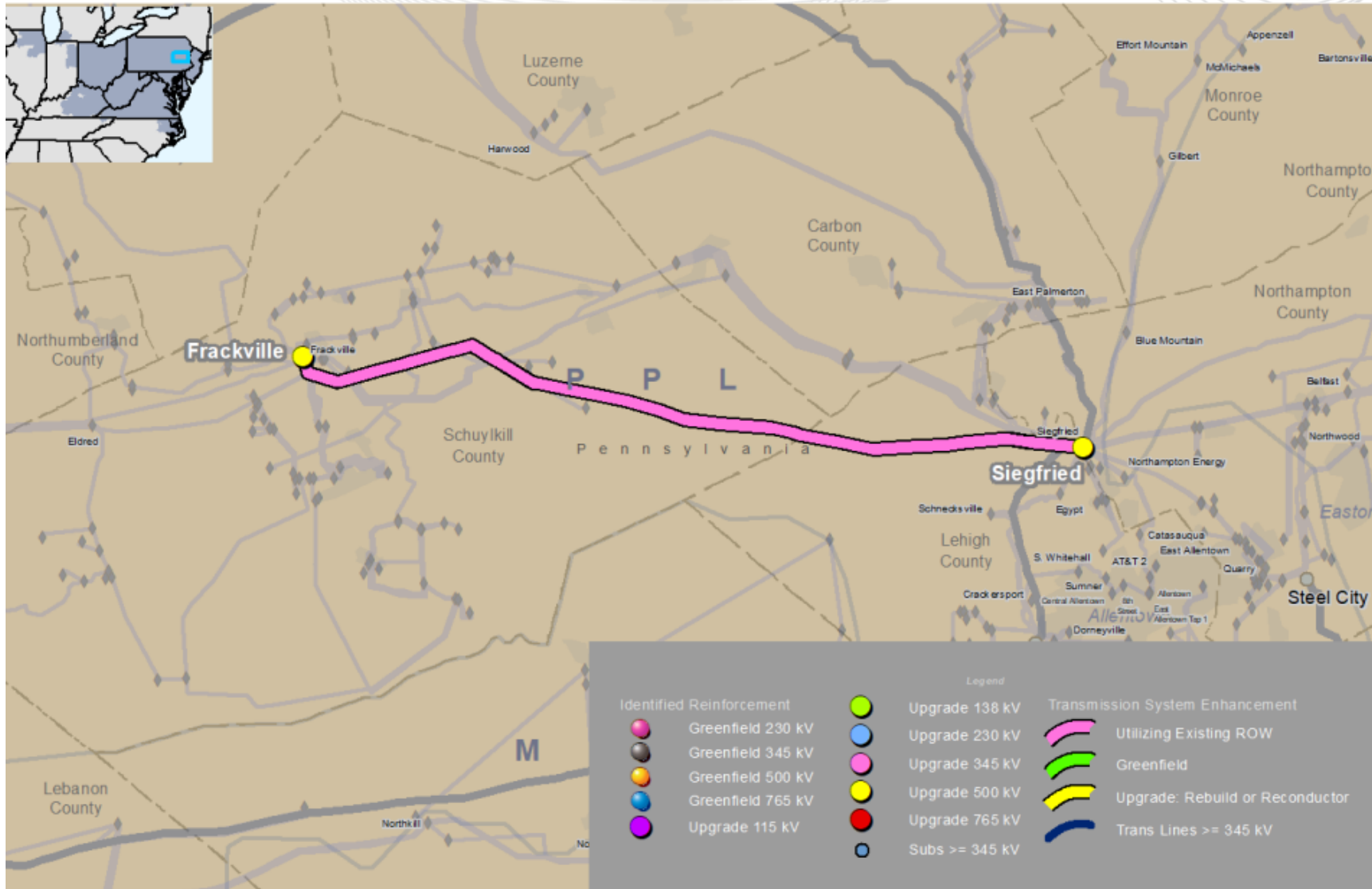
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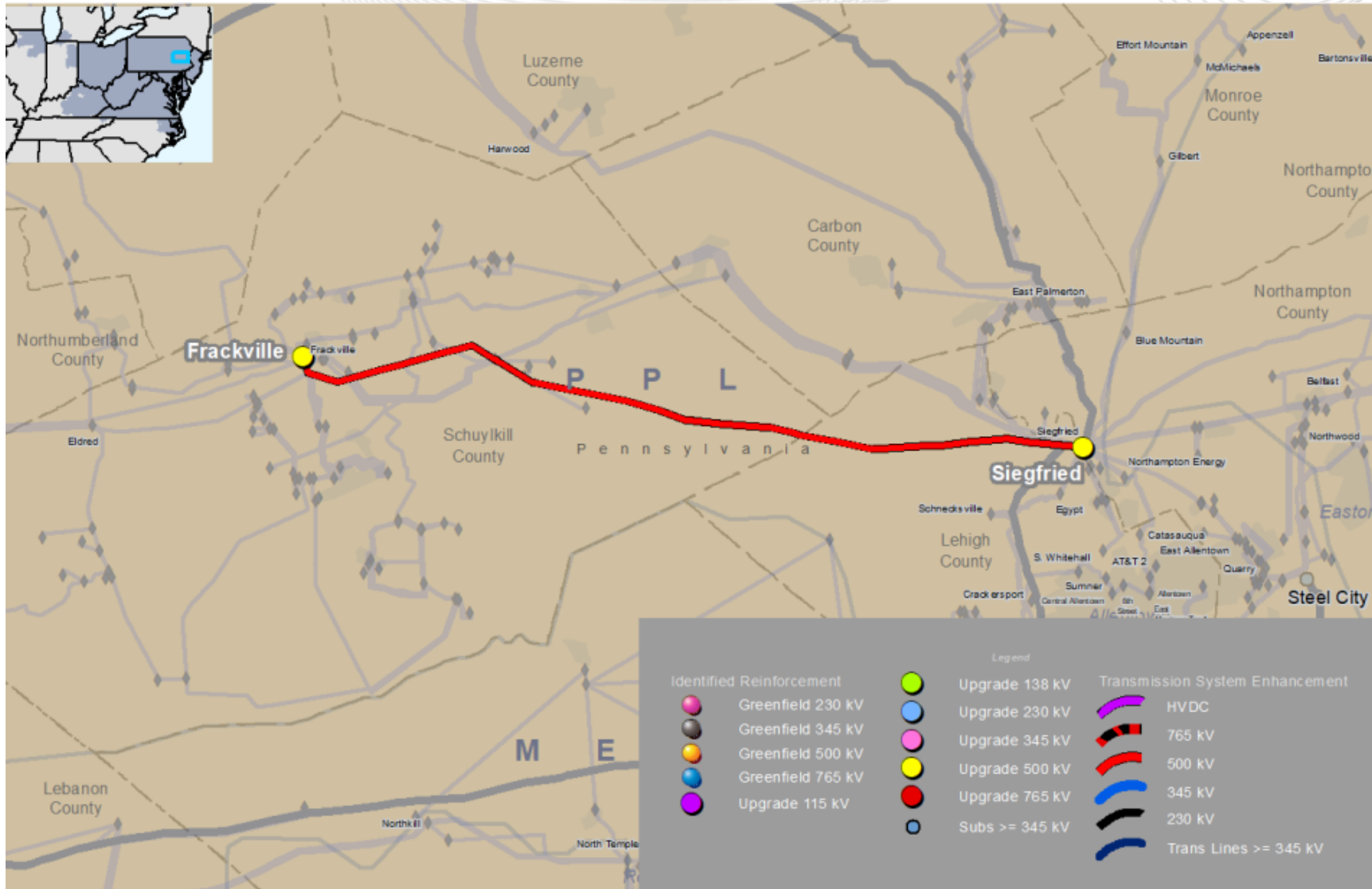
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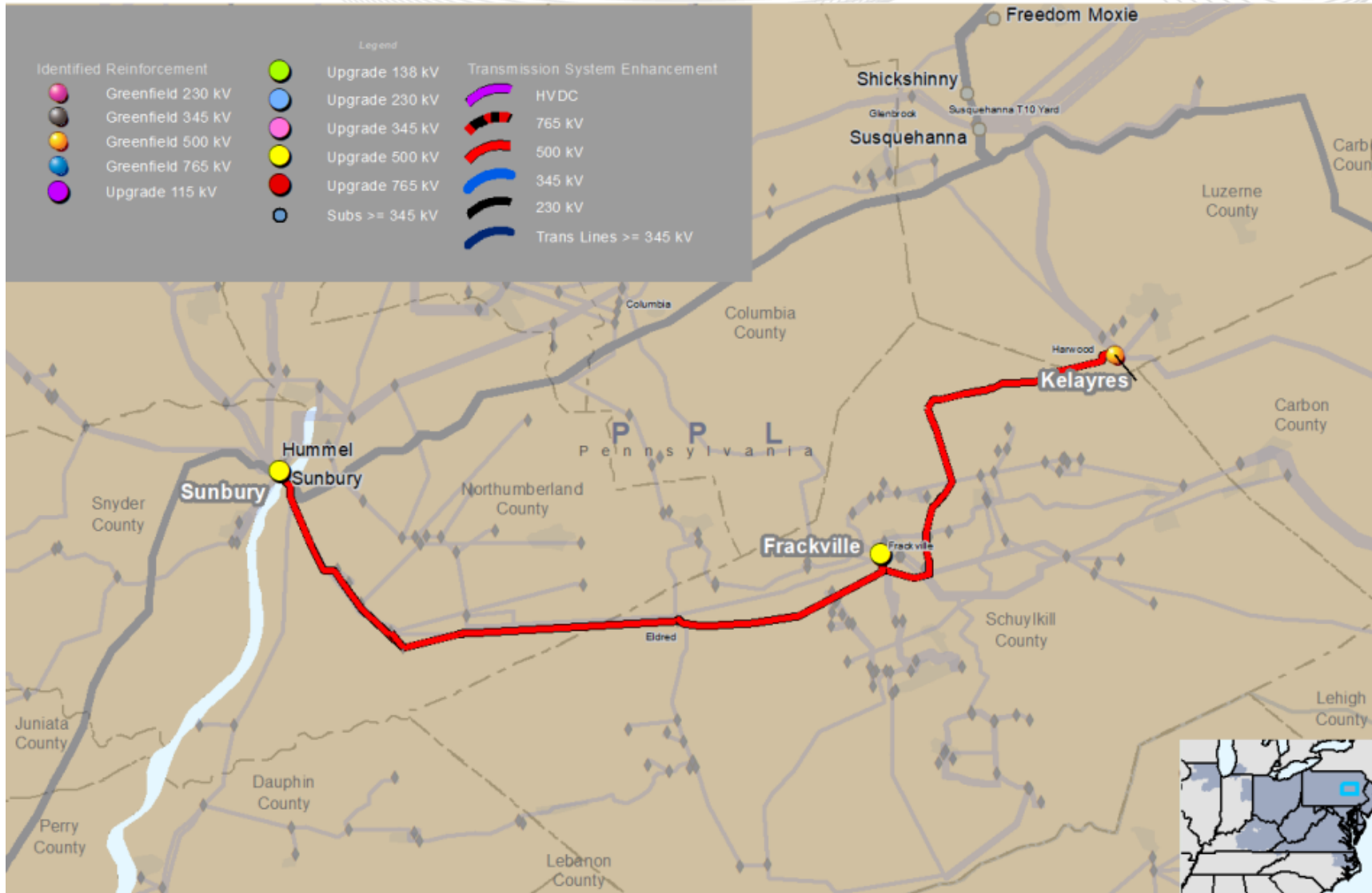
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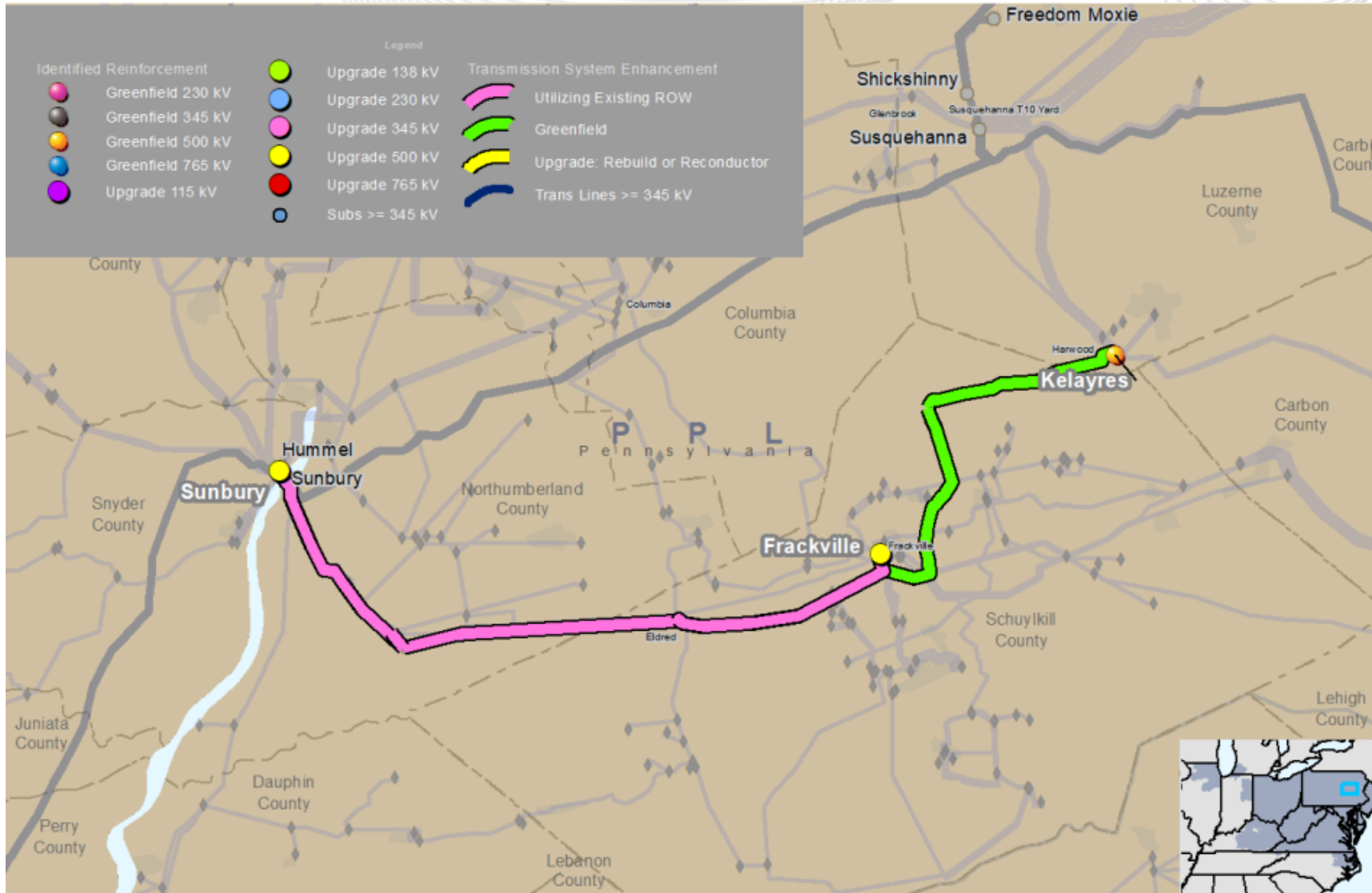
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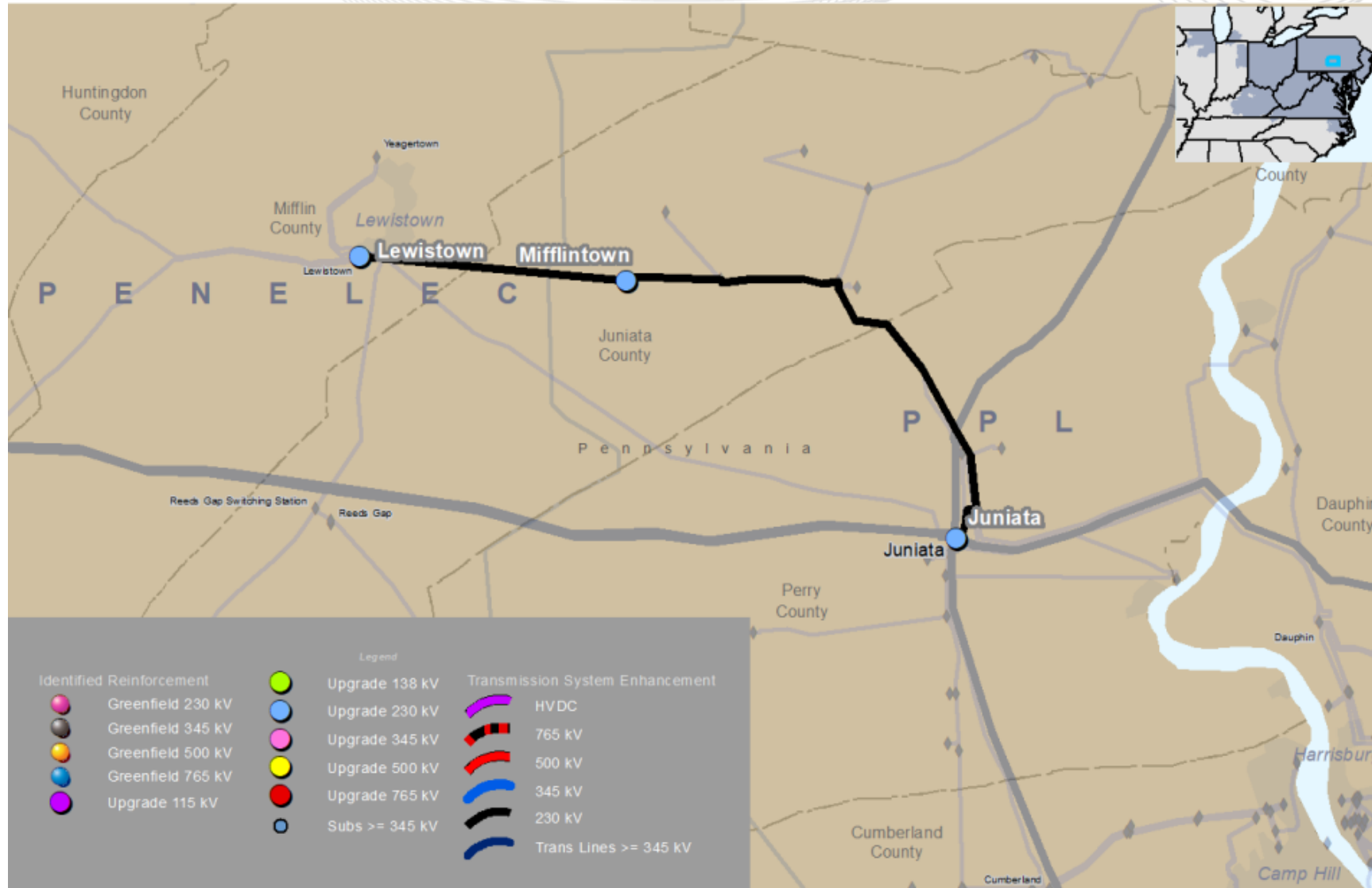
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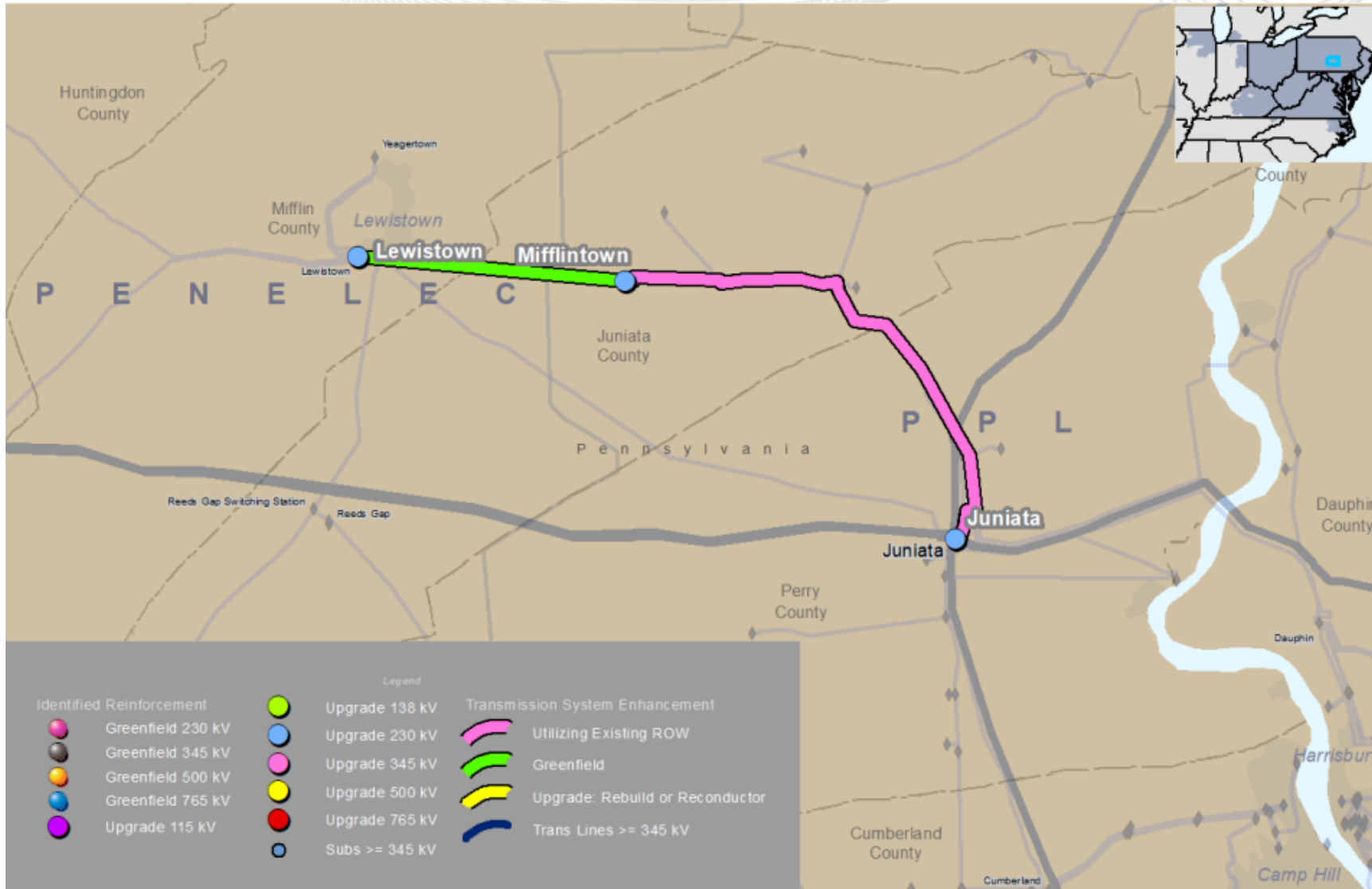
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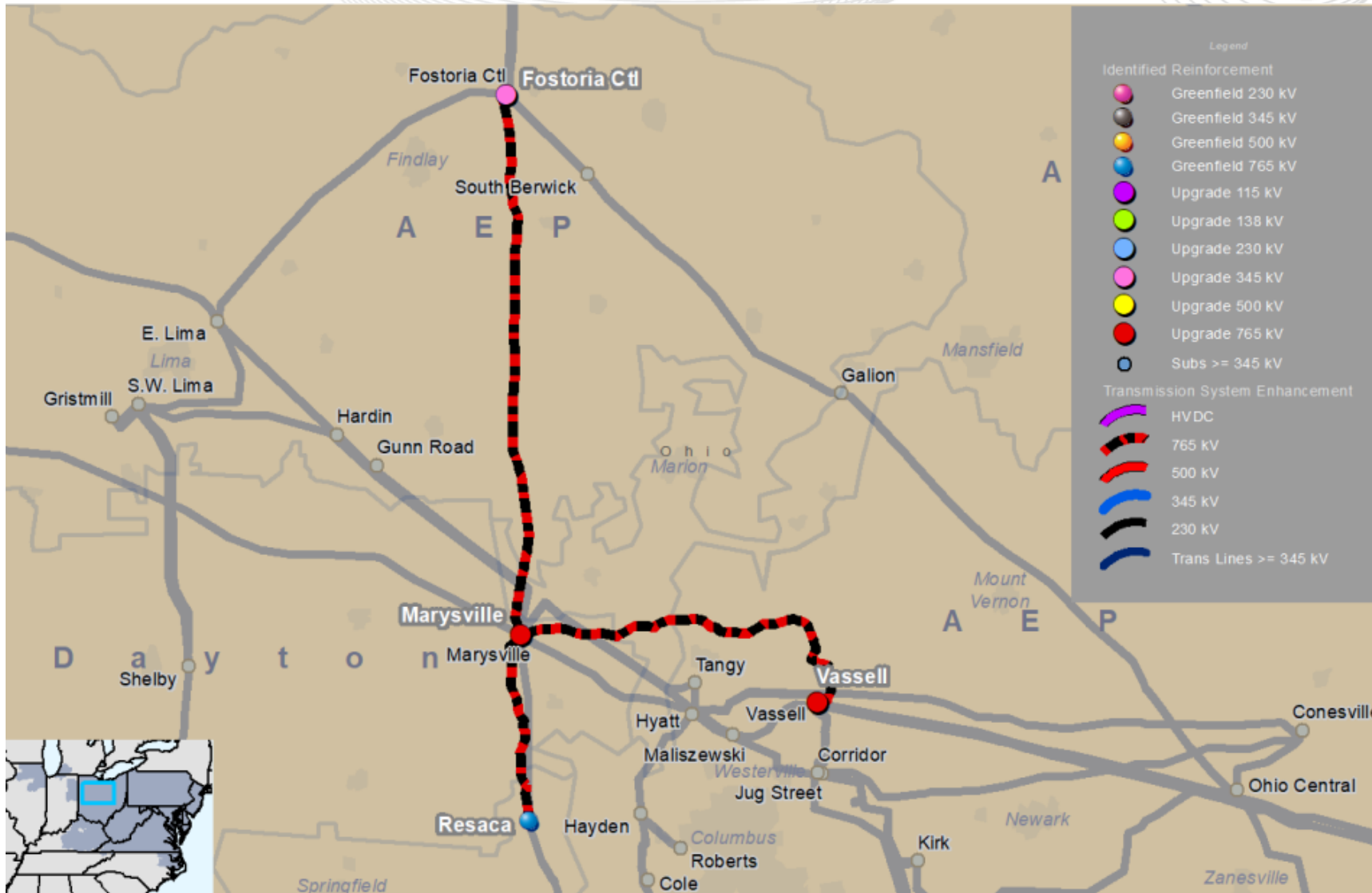


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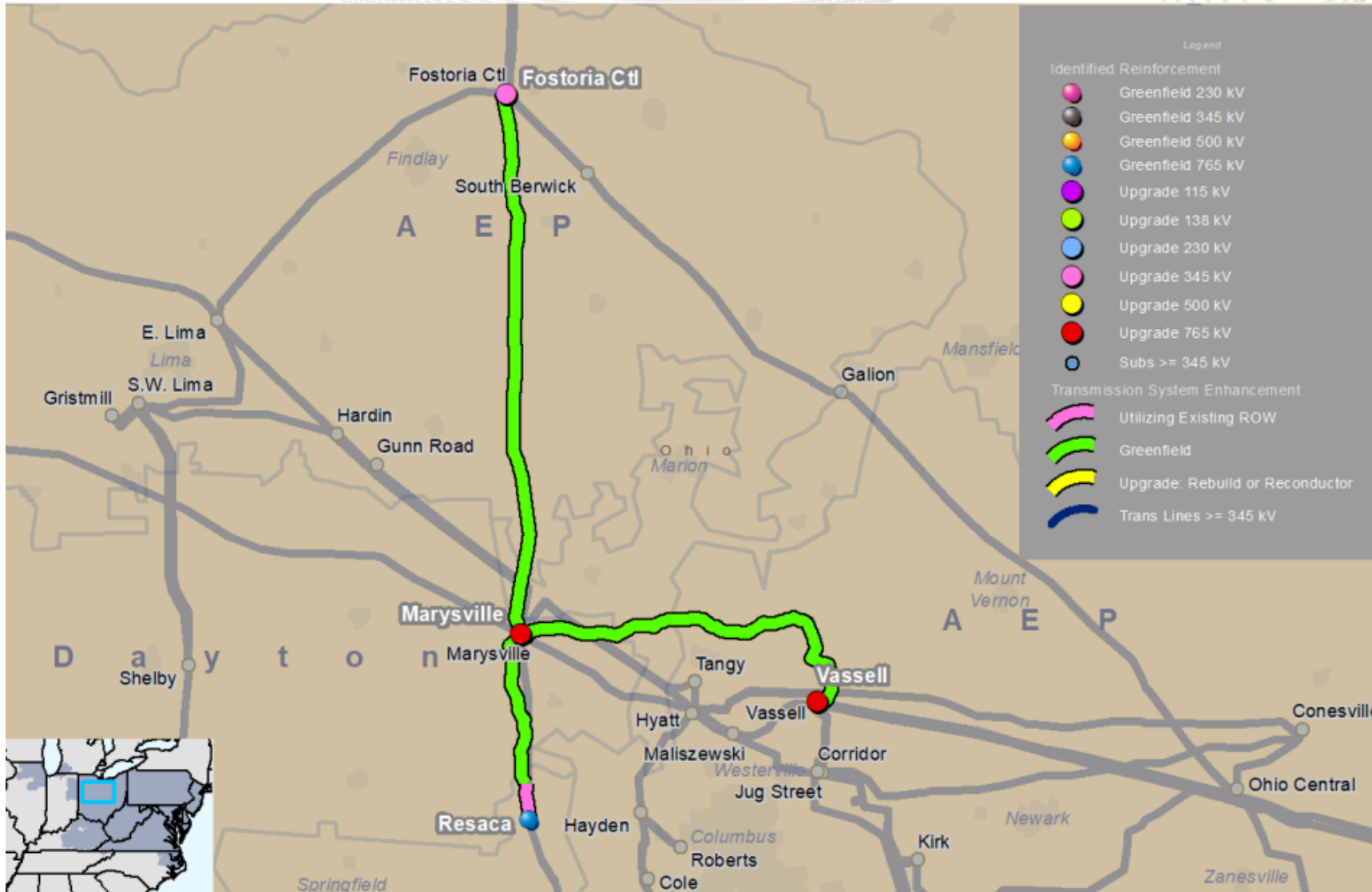


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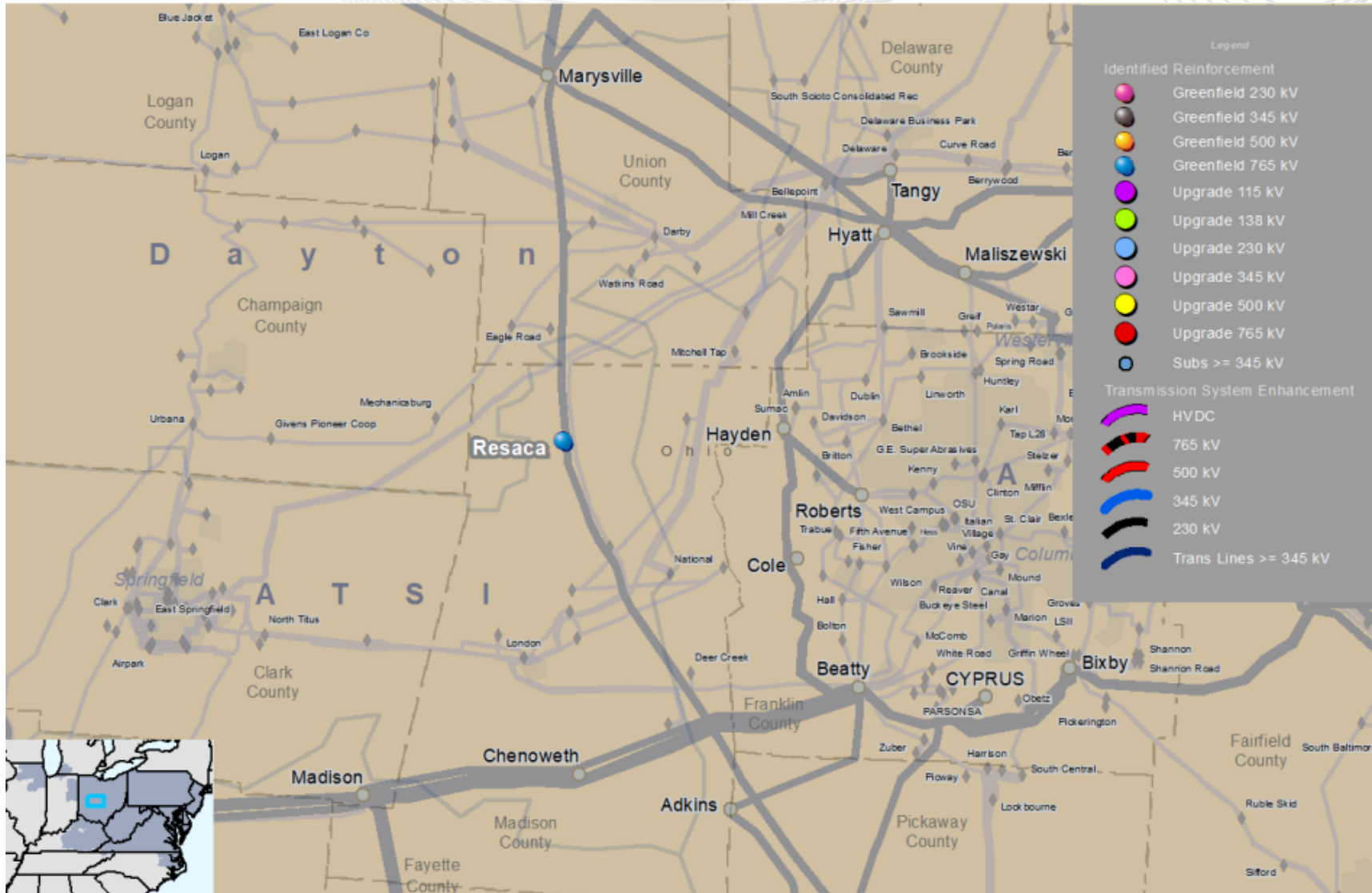
PSEGRT Proposals



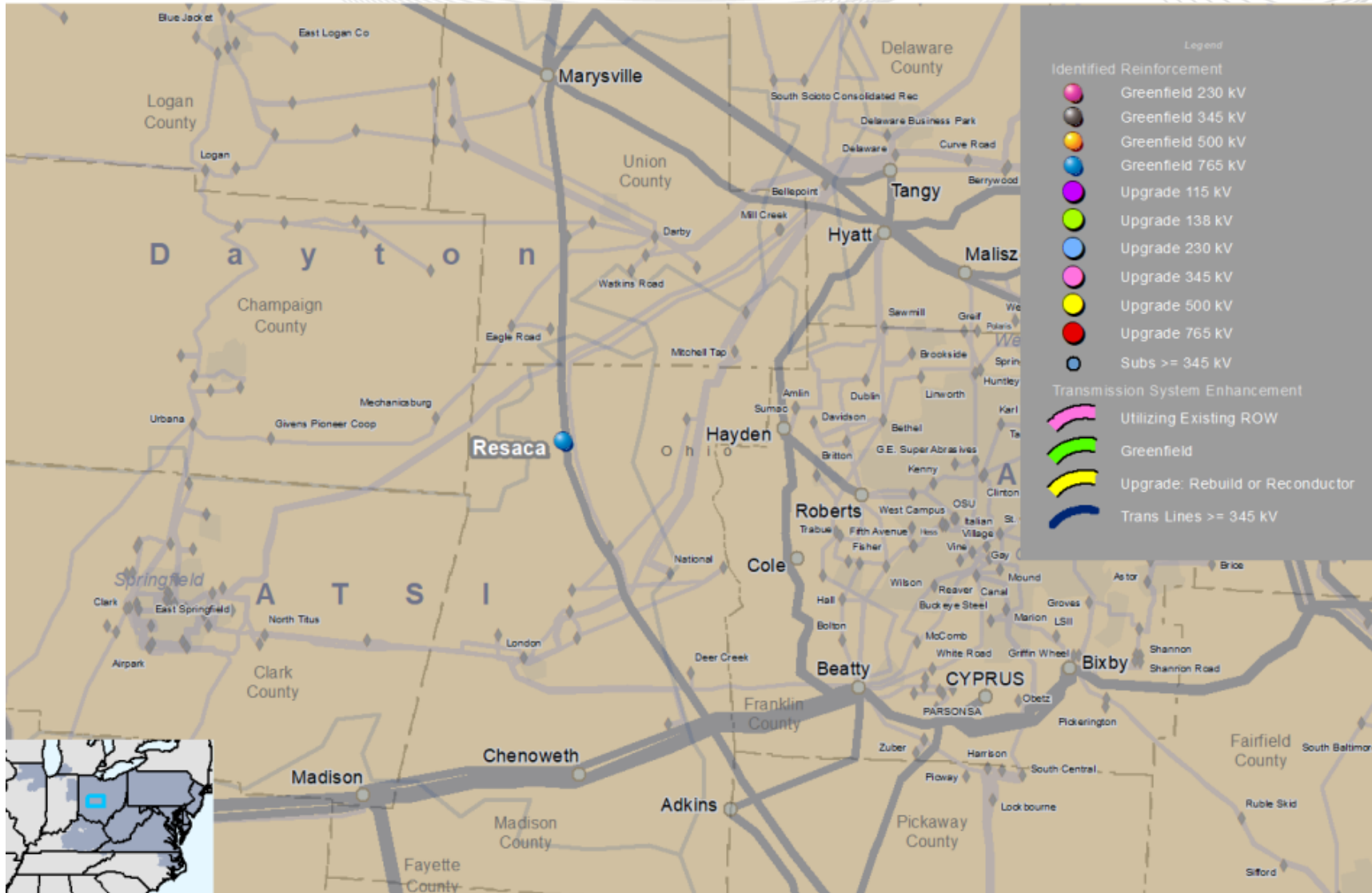
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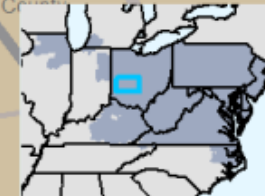
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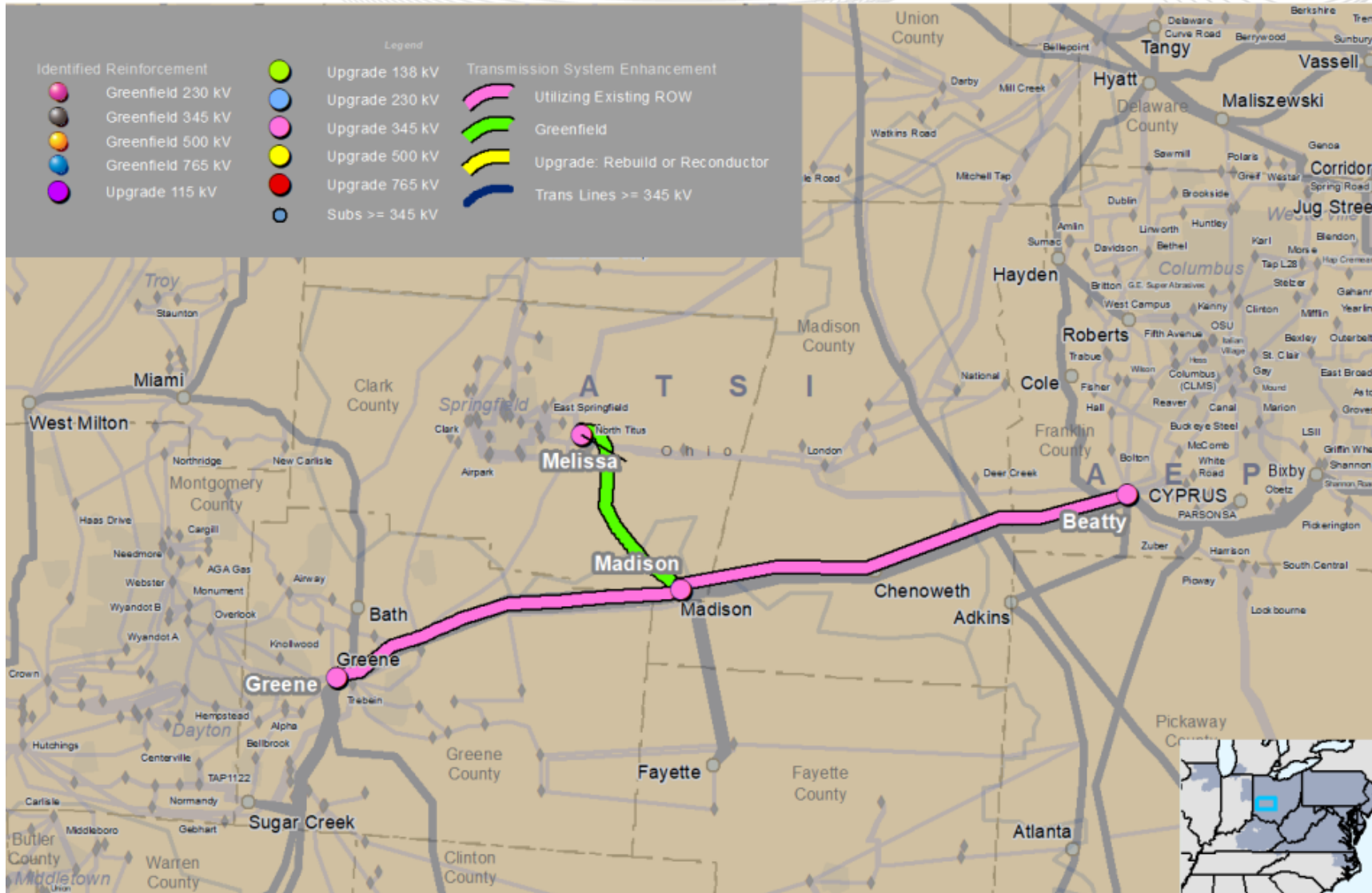
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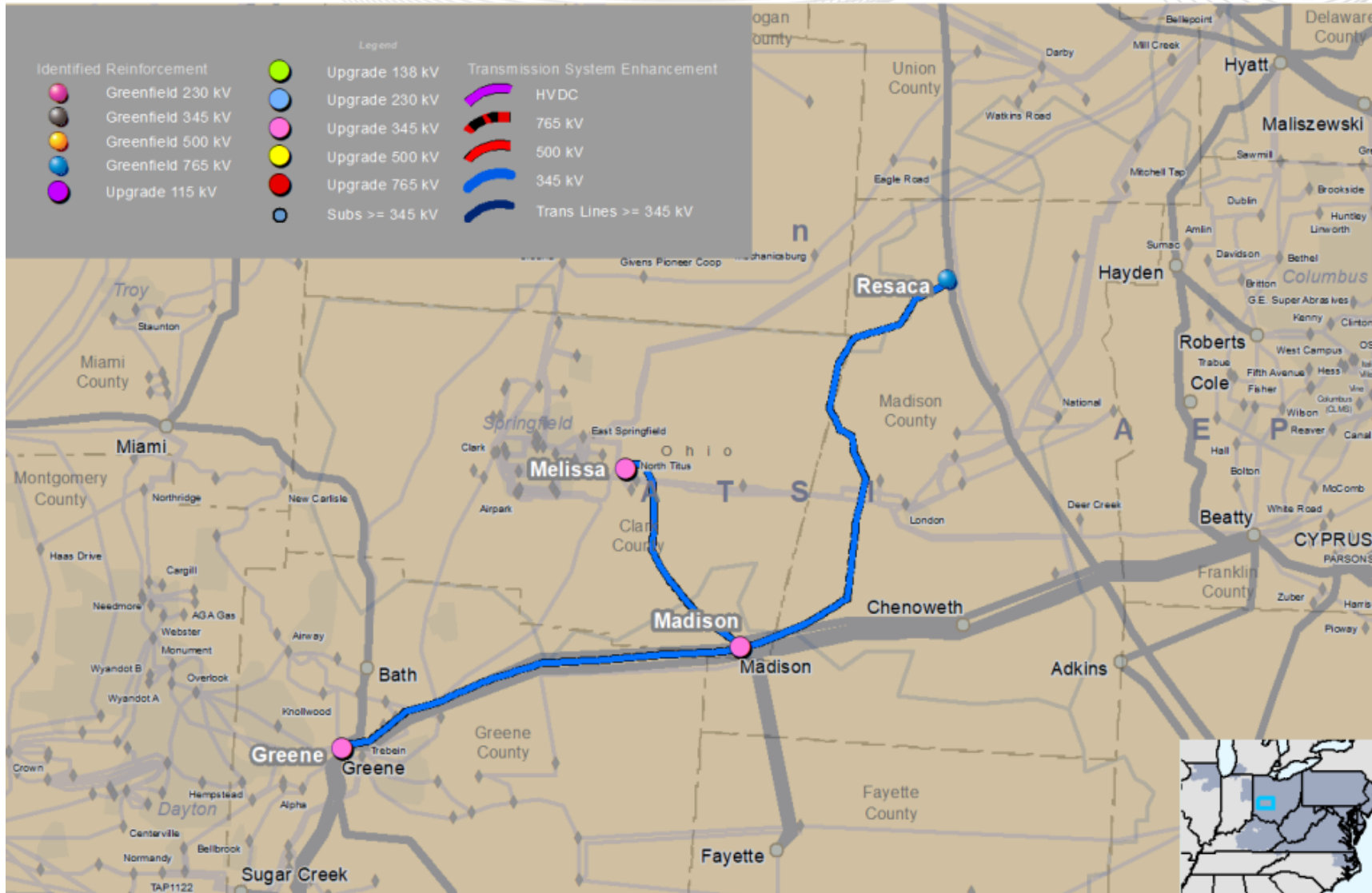
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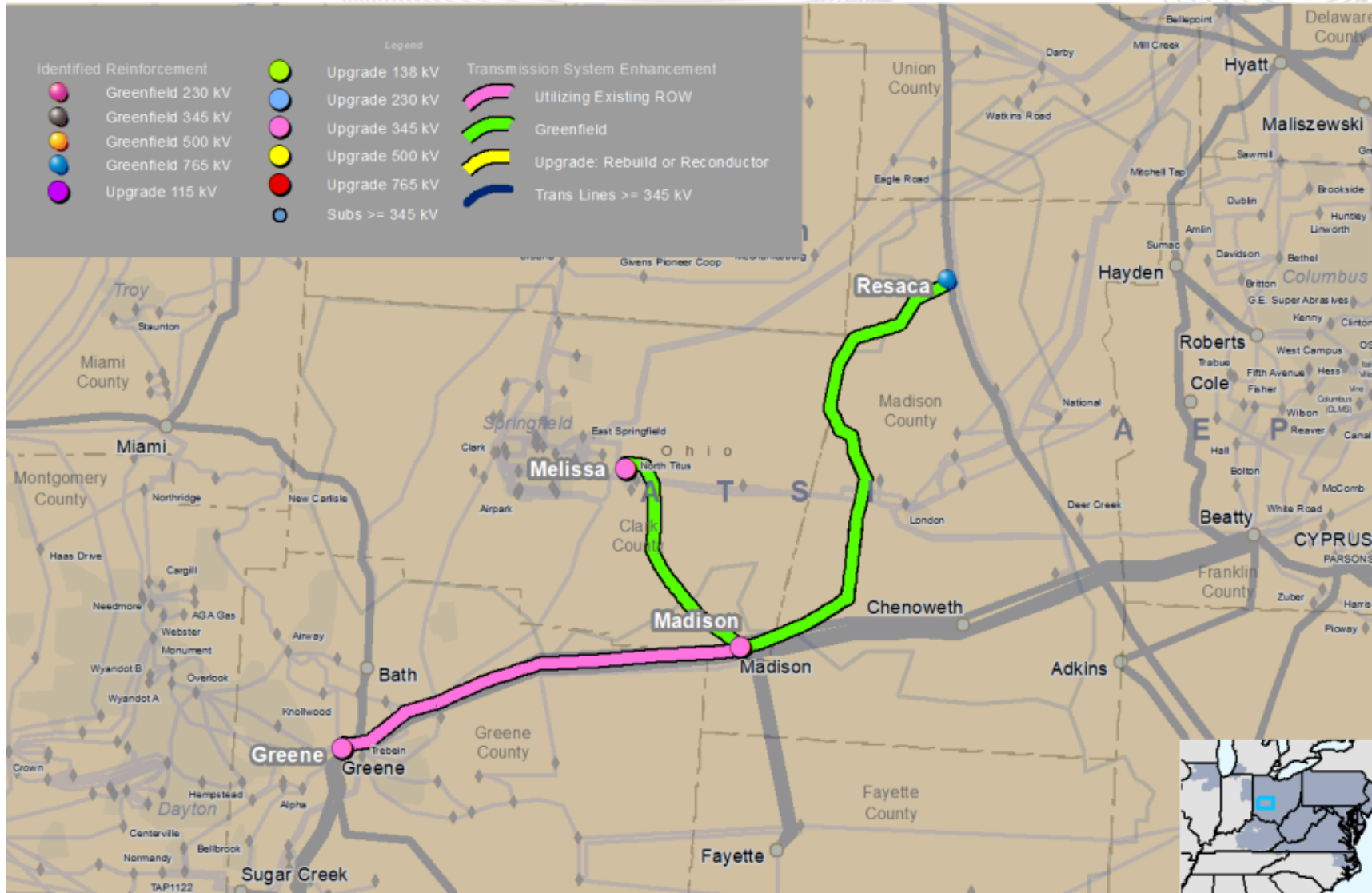
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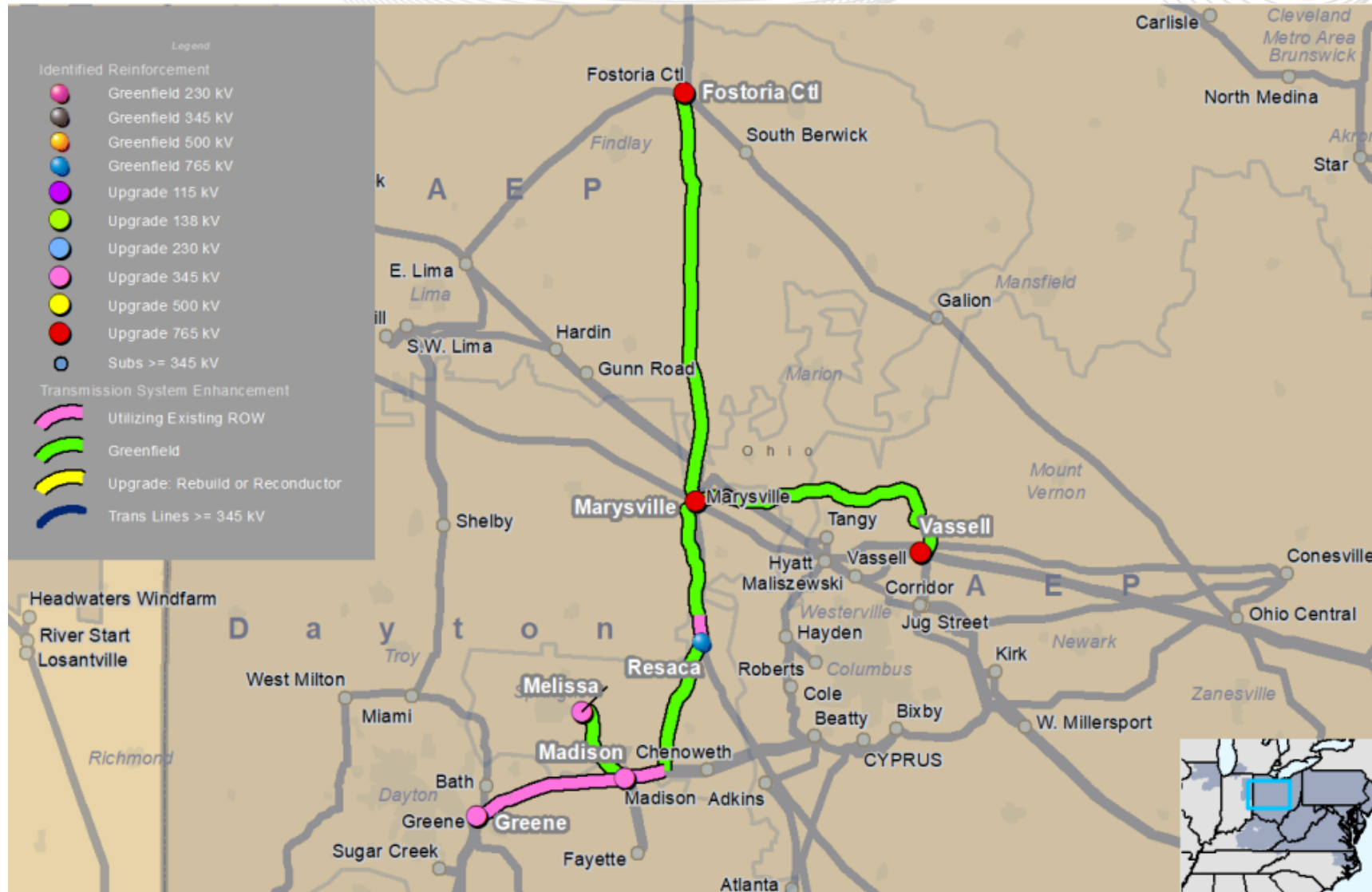
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TRAIL Proposal

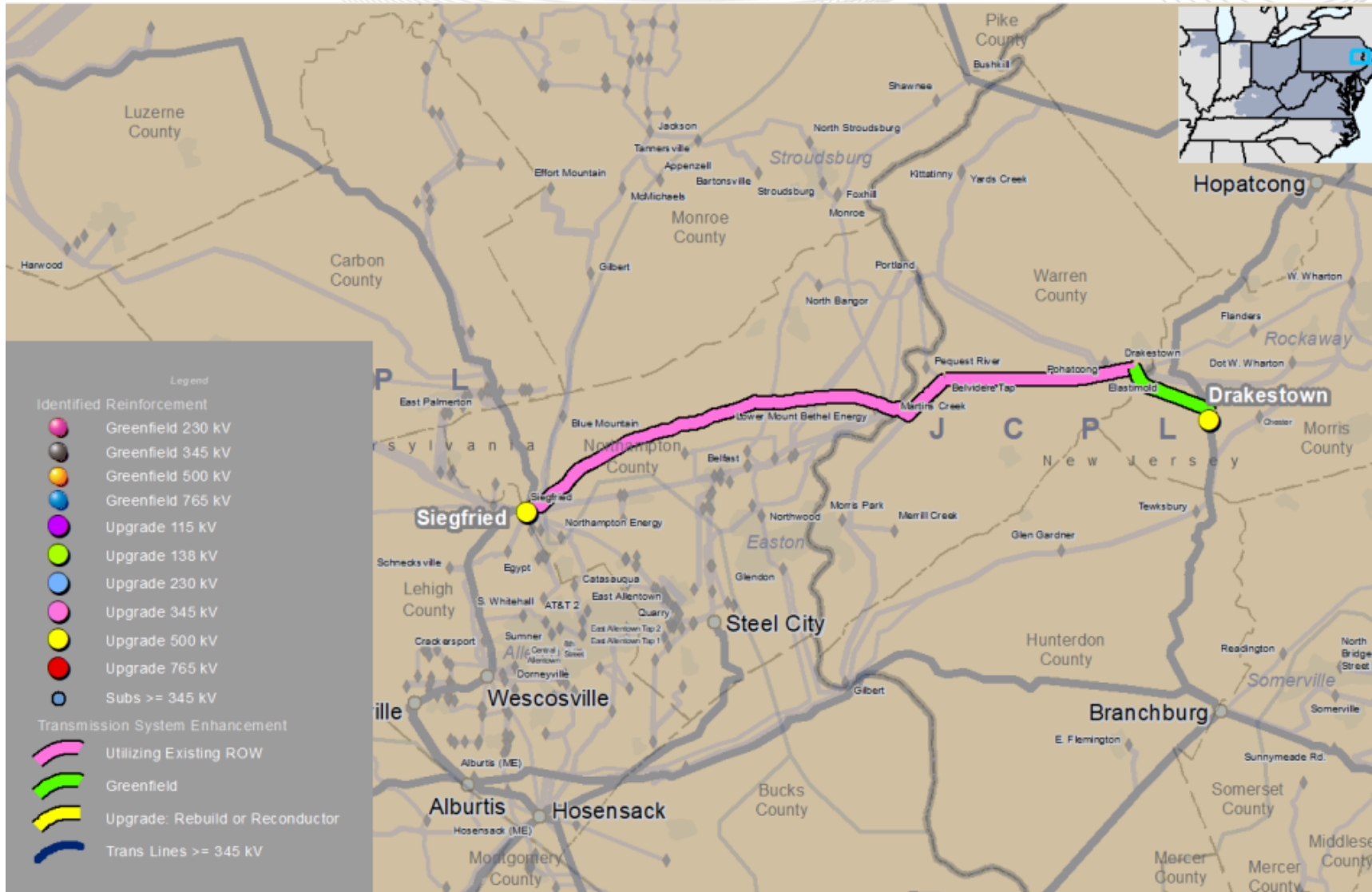


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TRNSLK Proposal

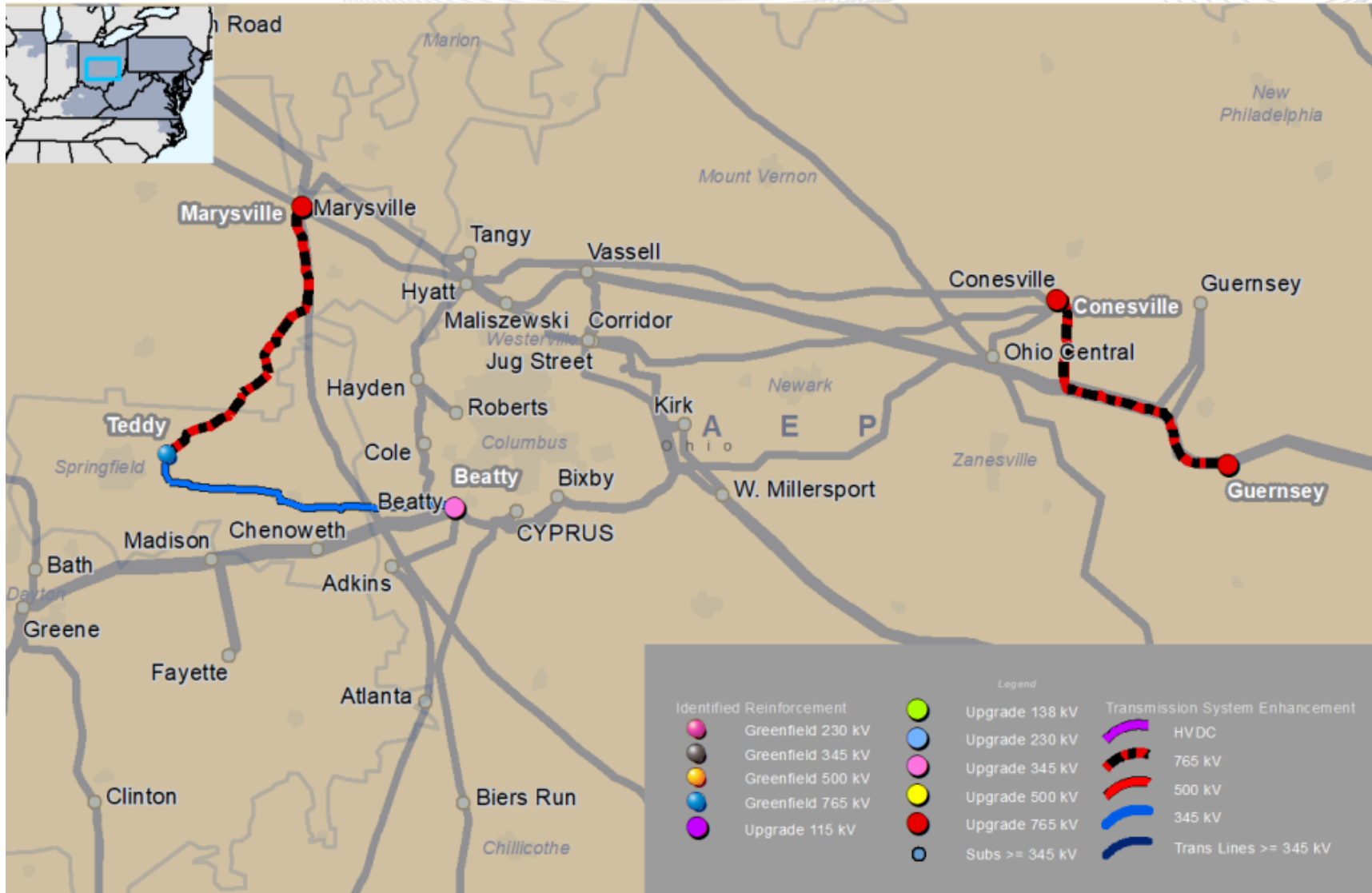


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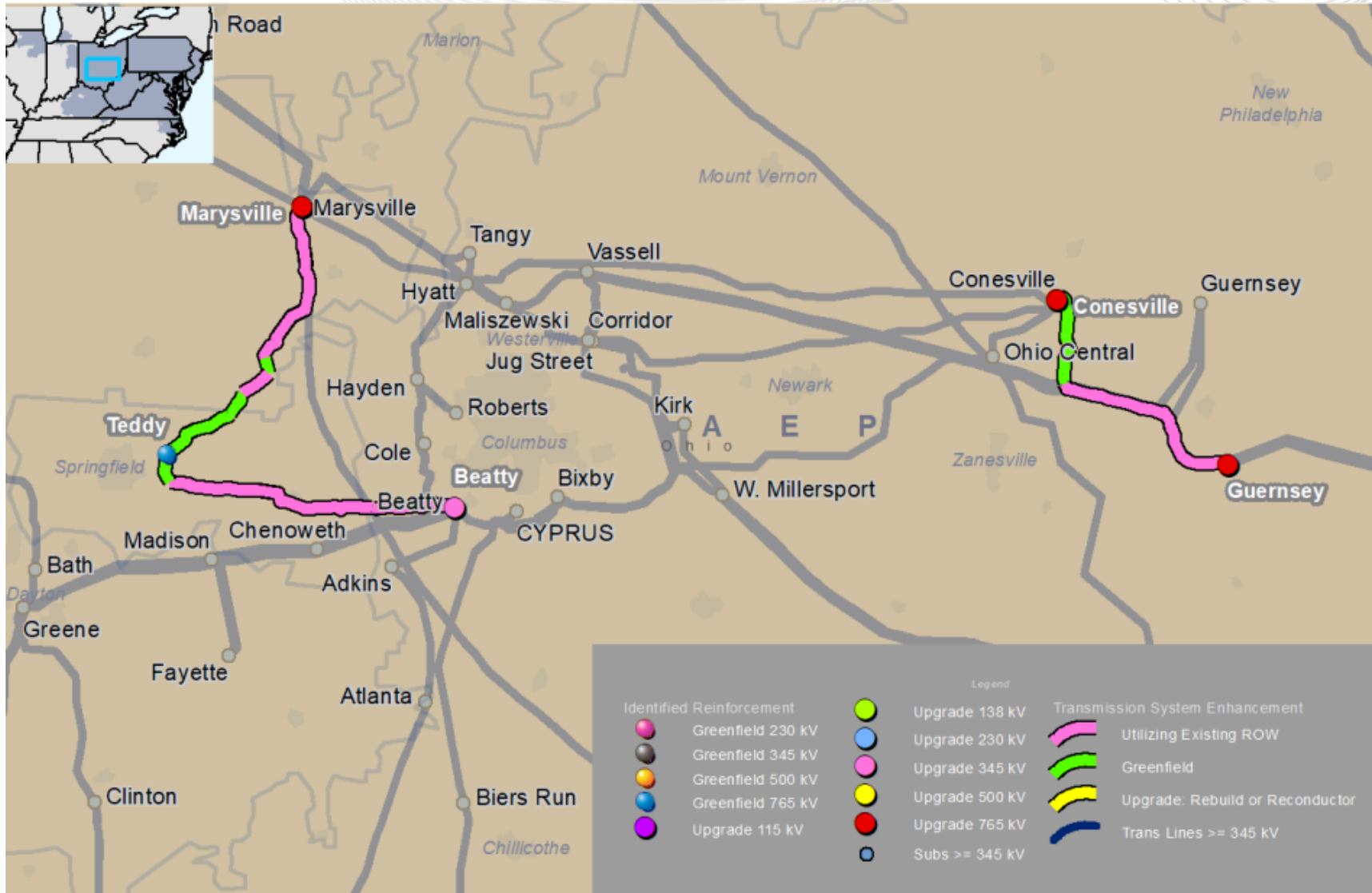


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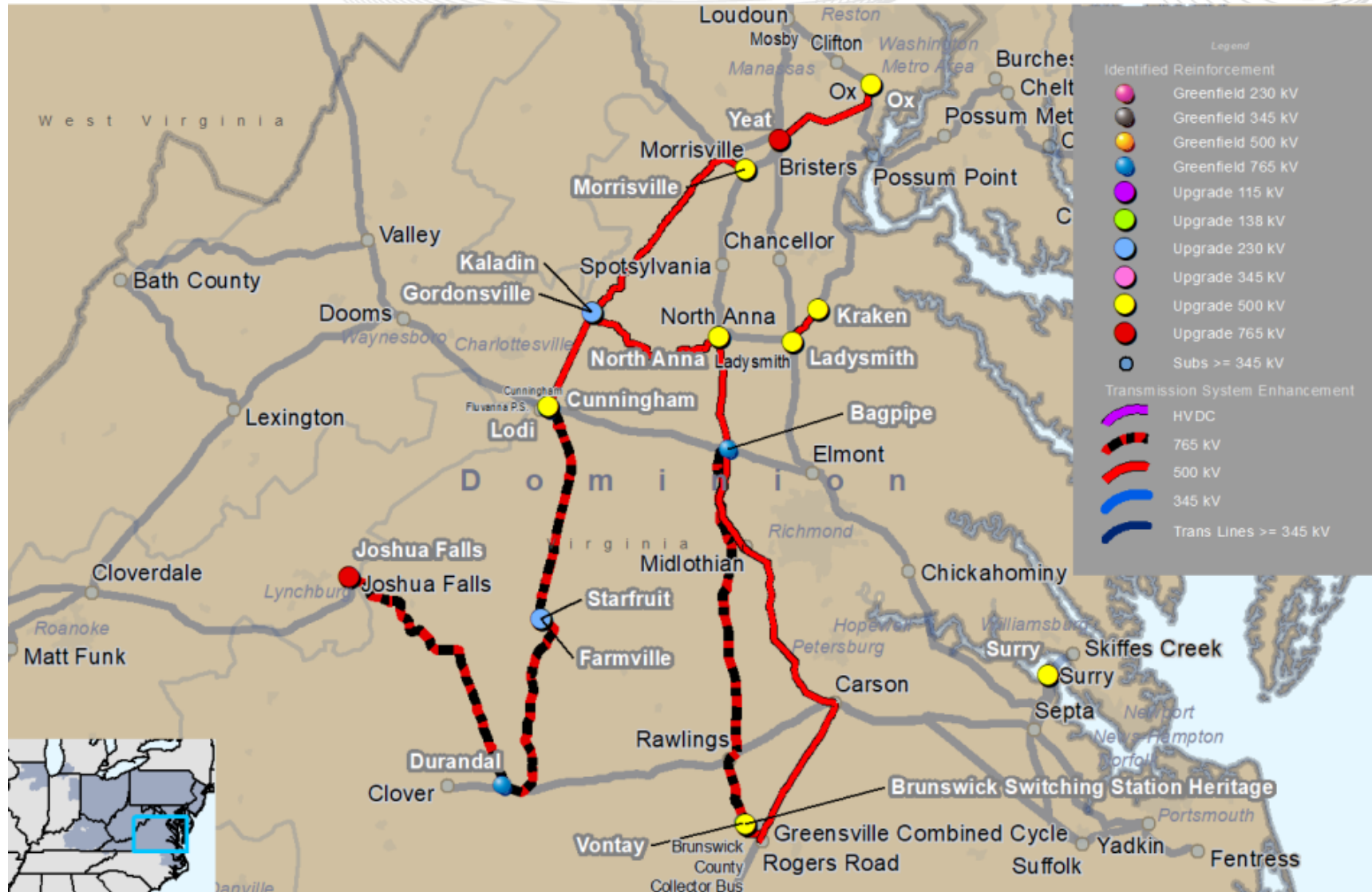
TRANSRC Proposals



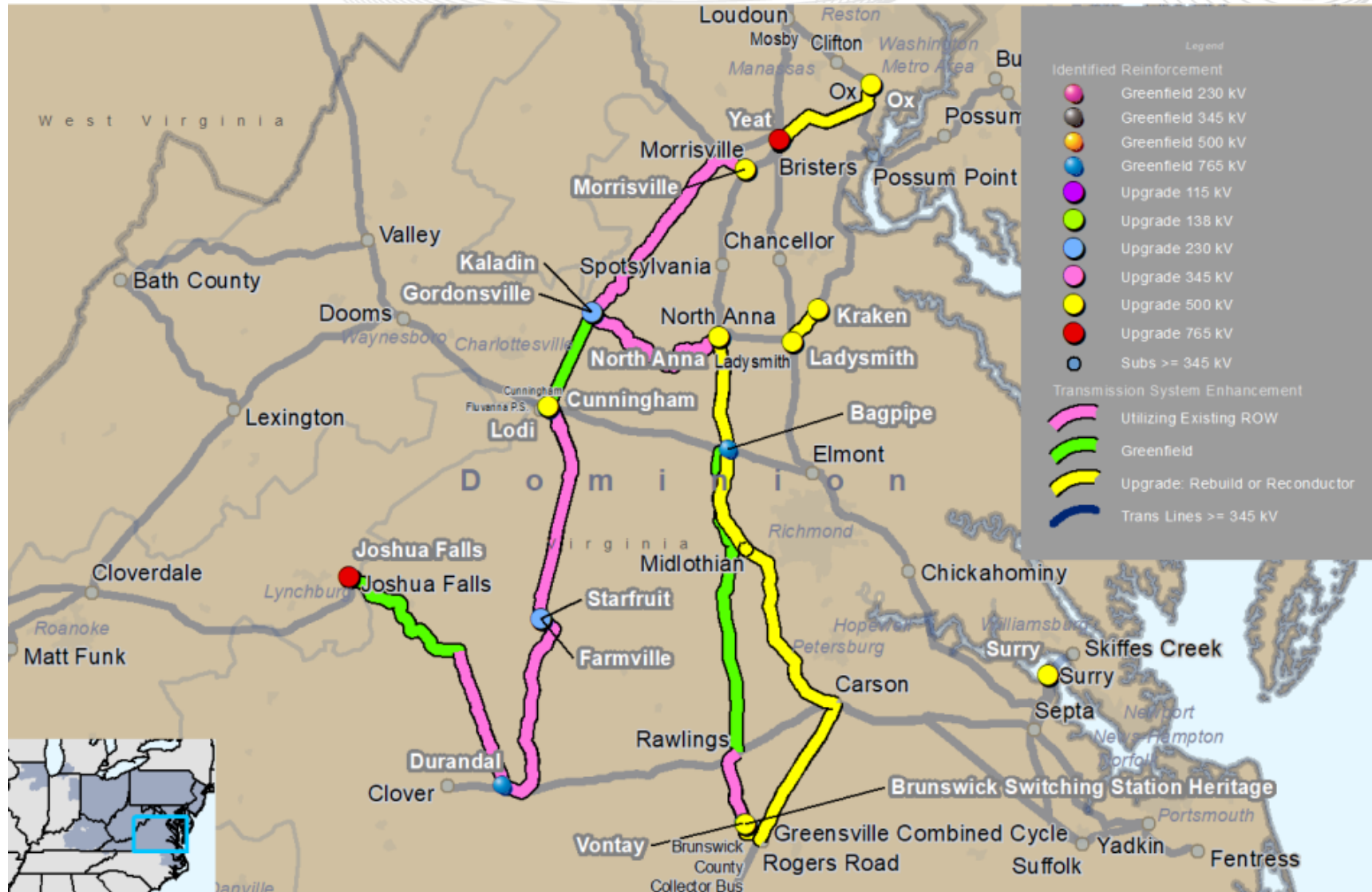
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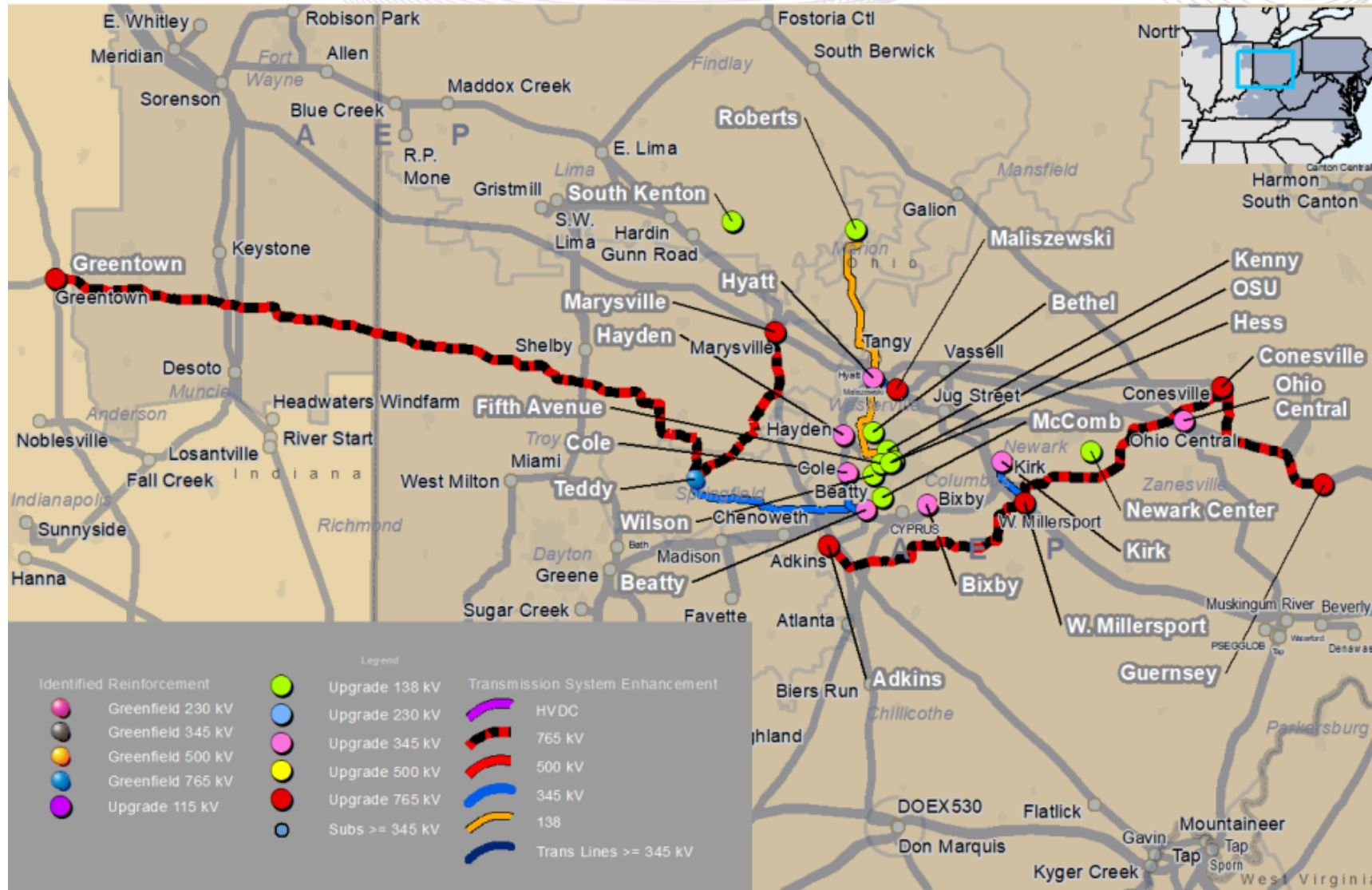
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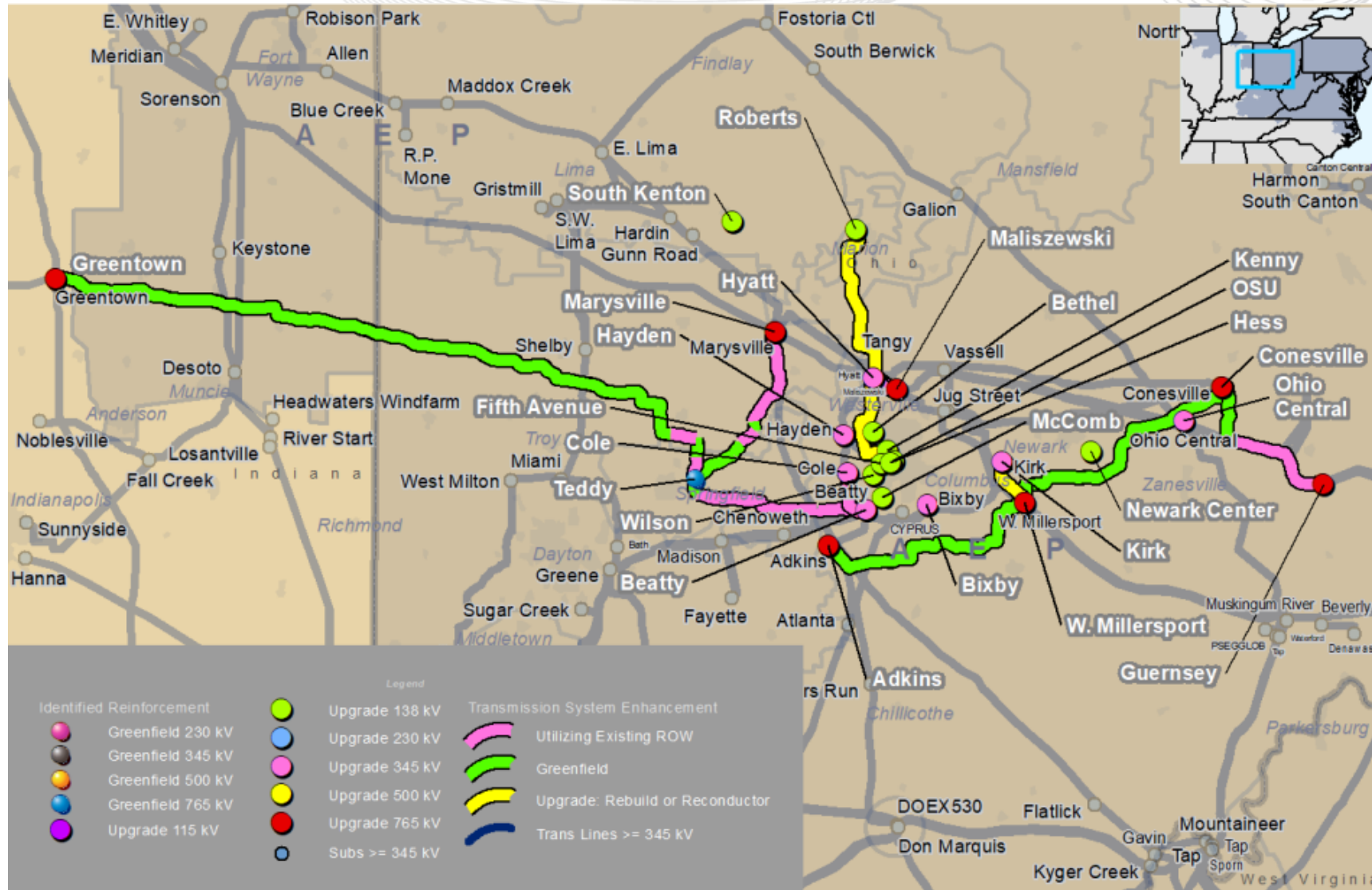
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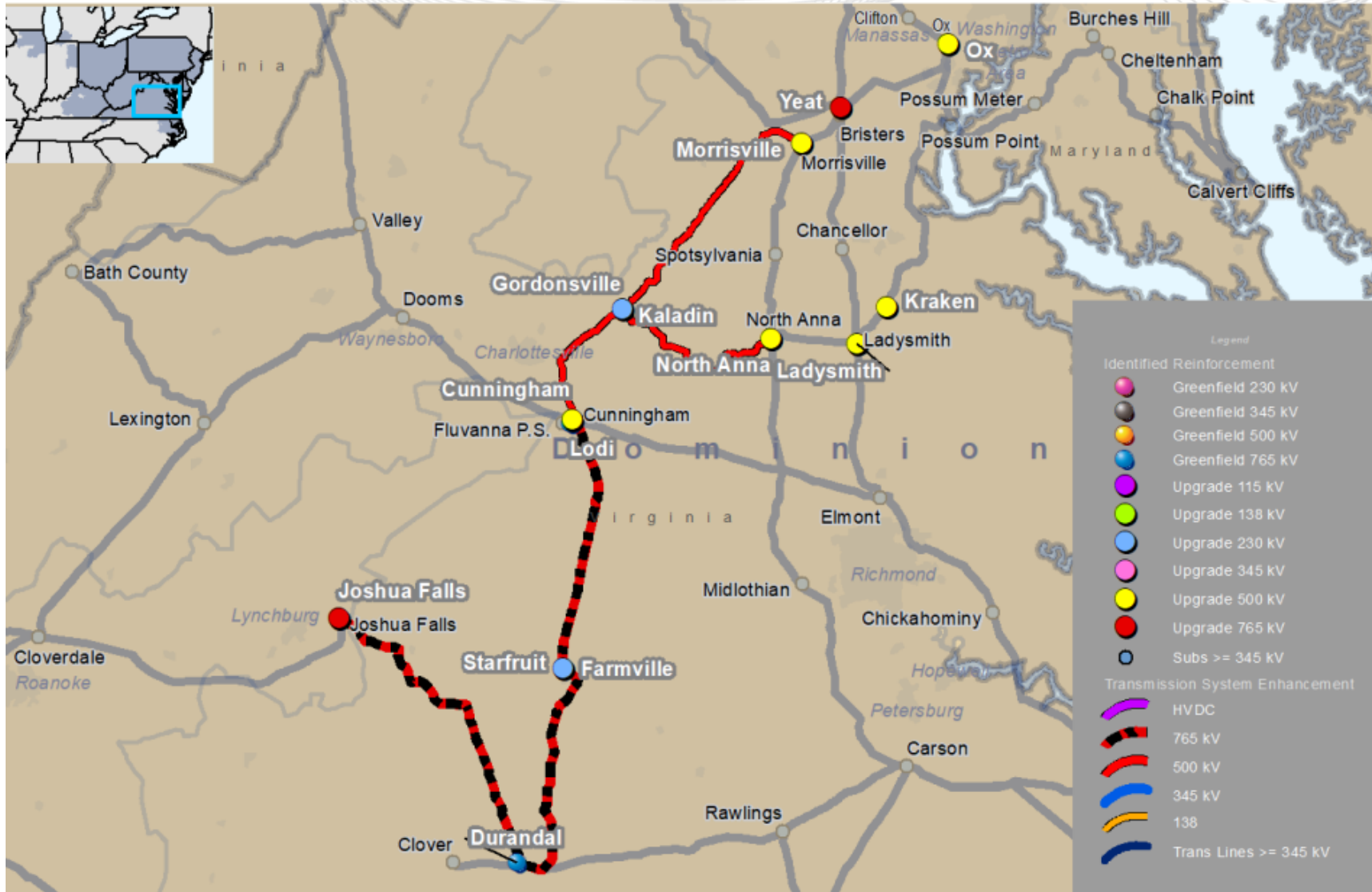
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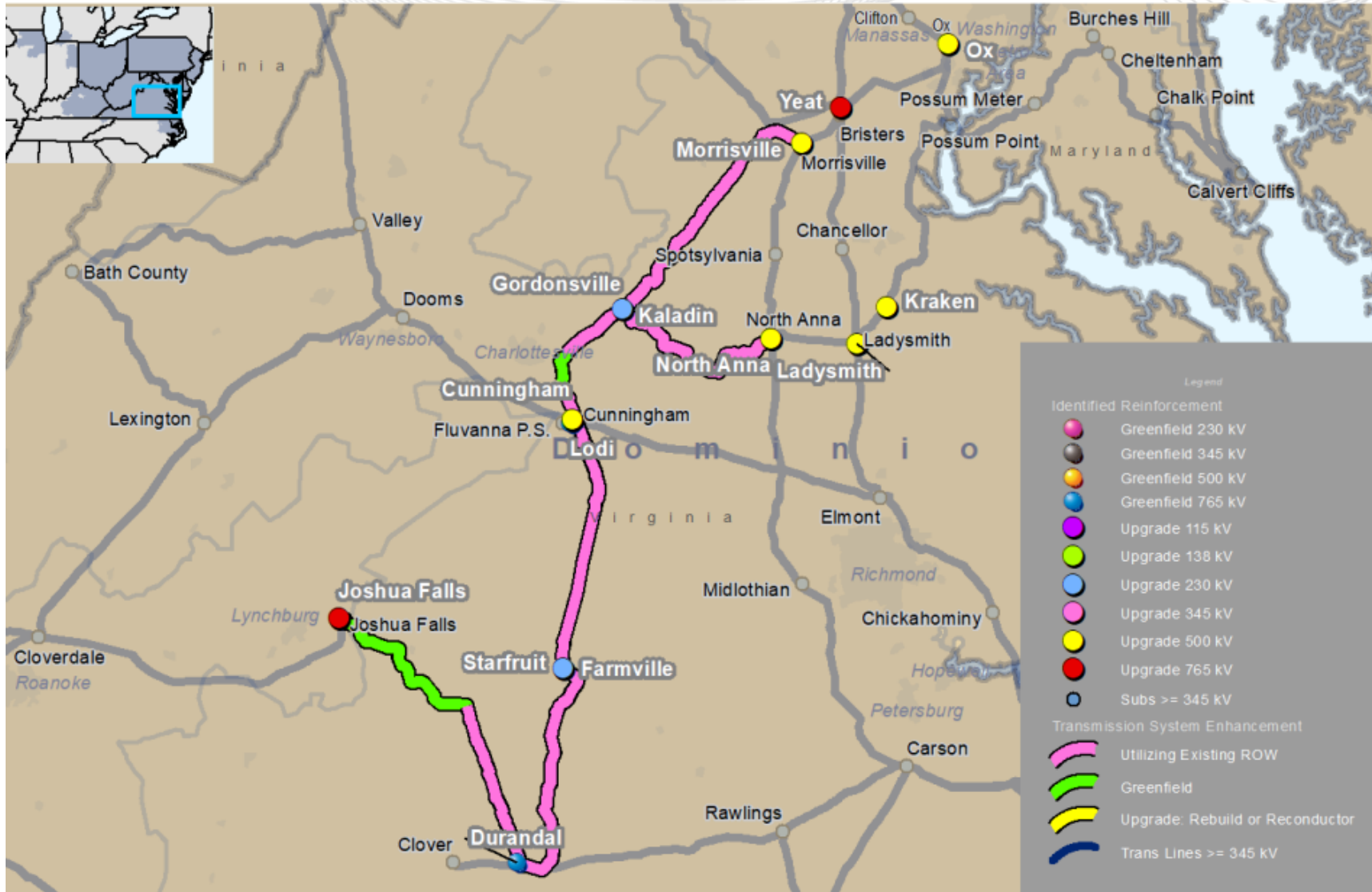
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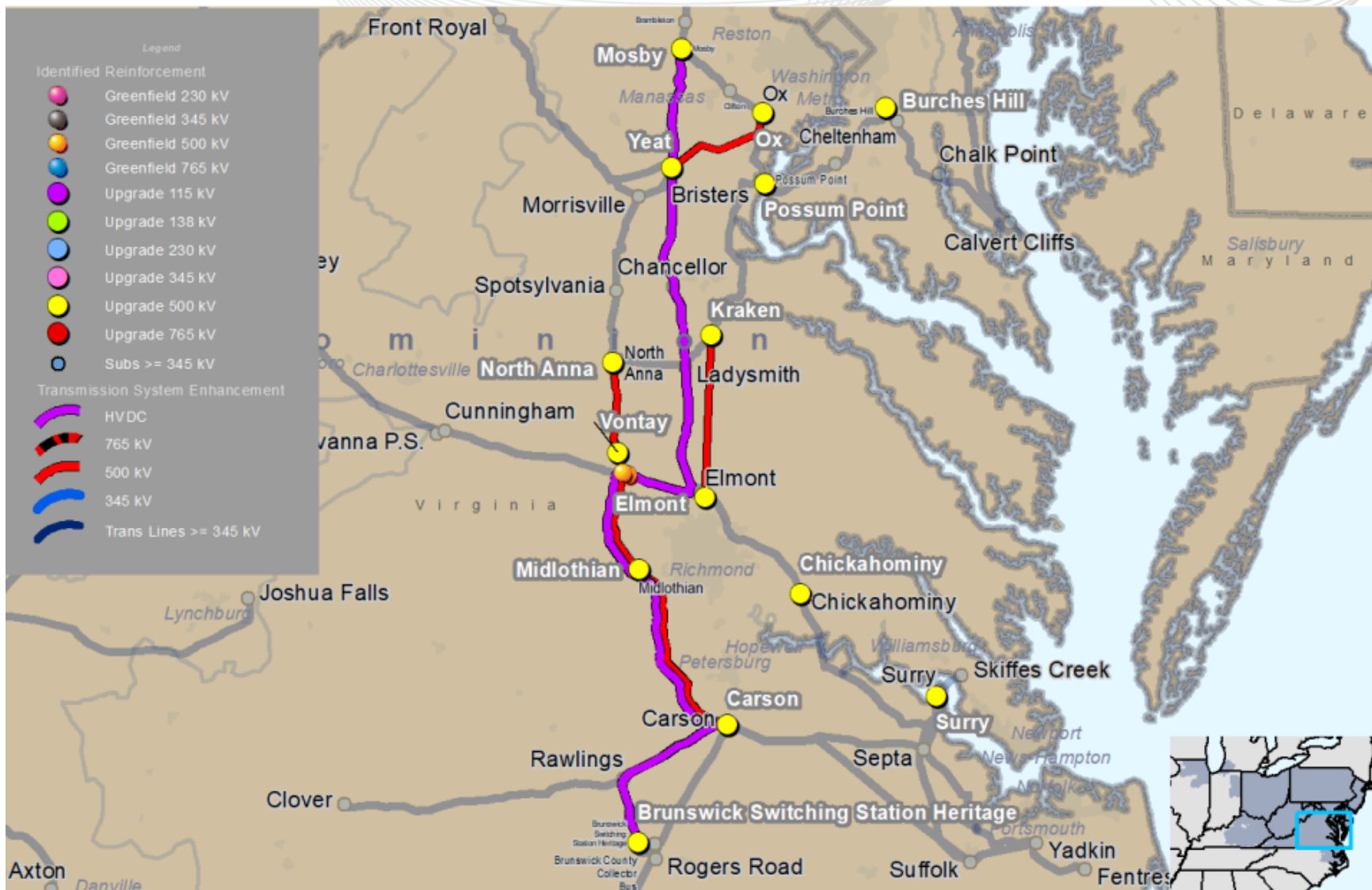


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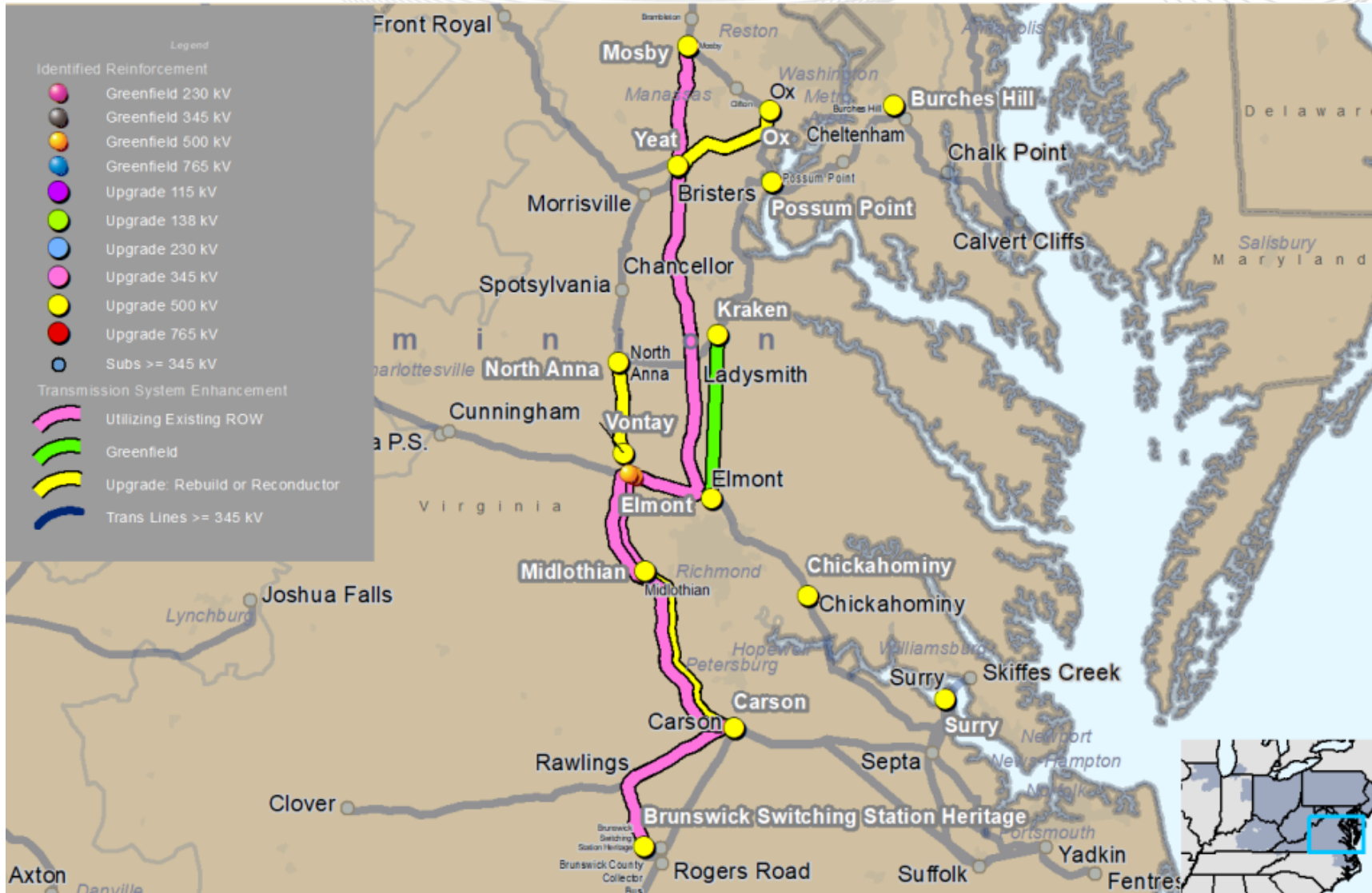


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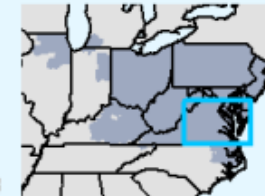
VEPCO Proposals



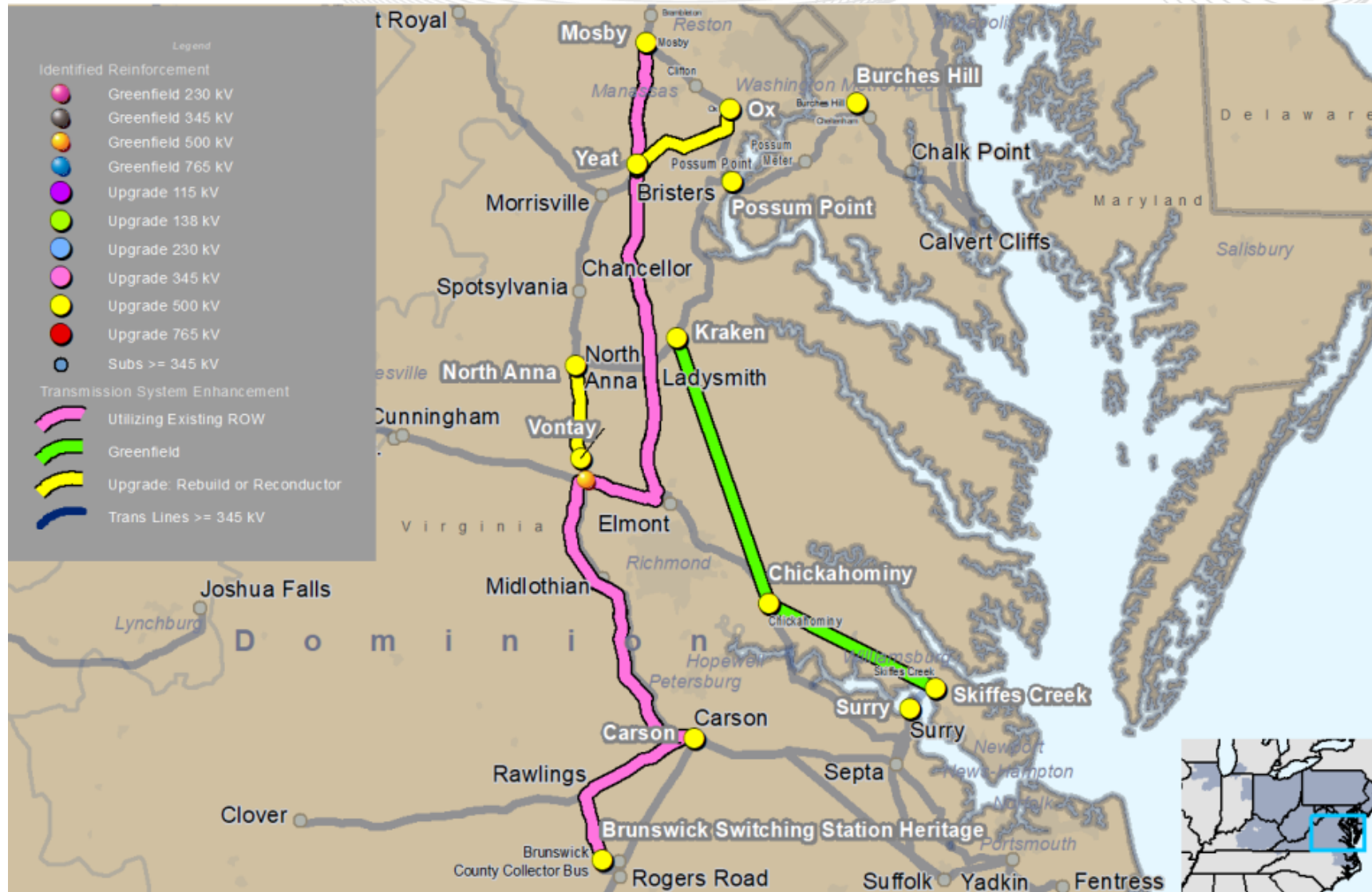
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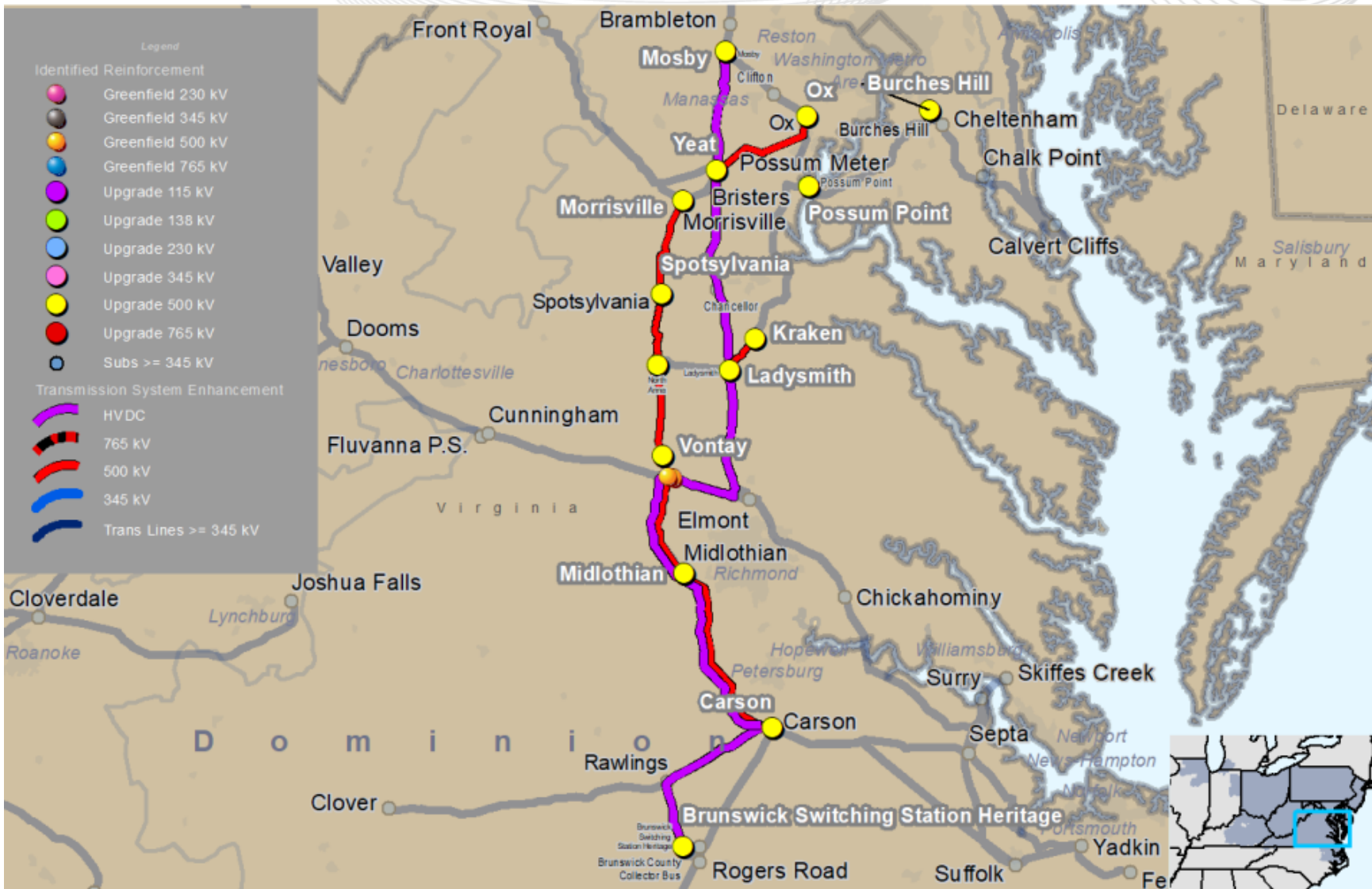
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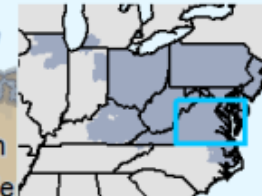
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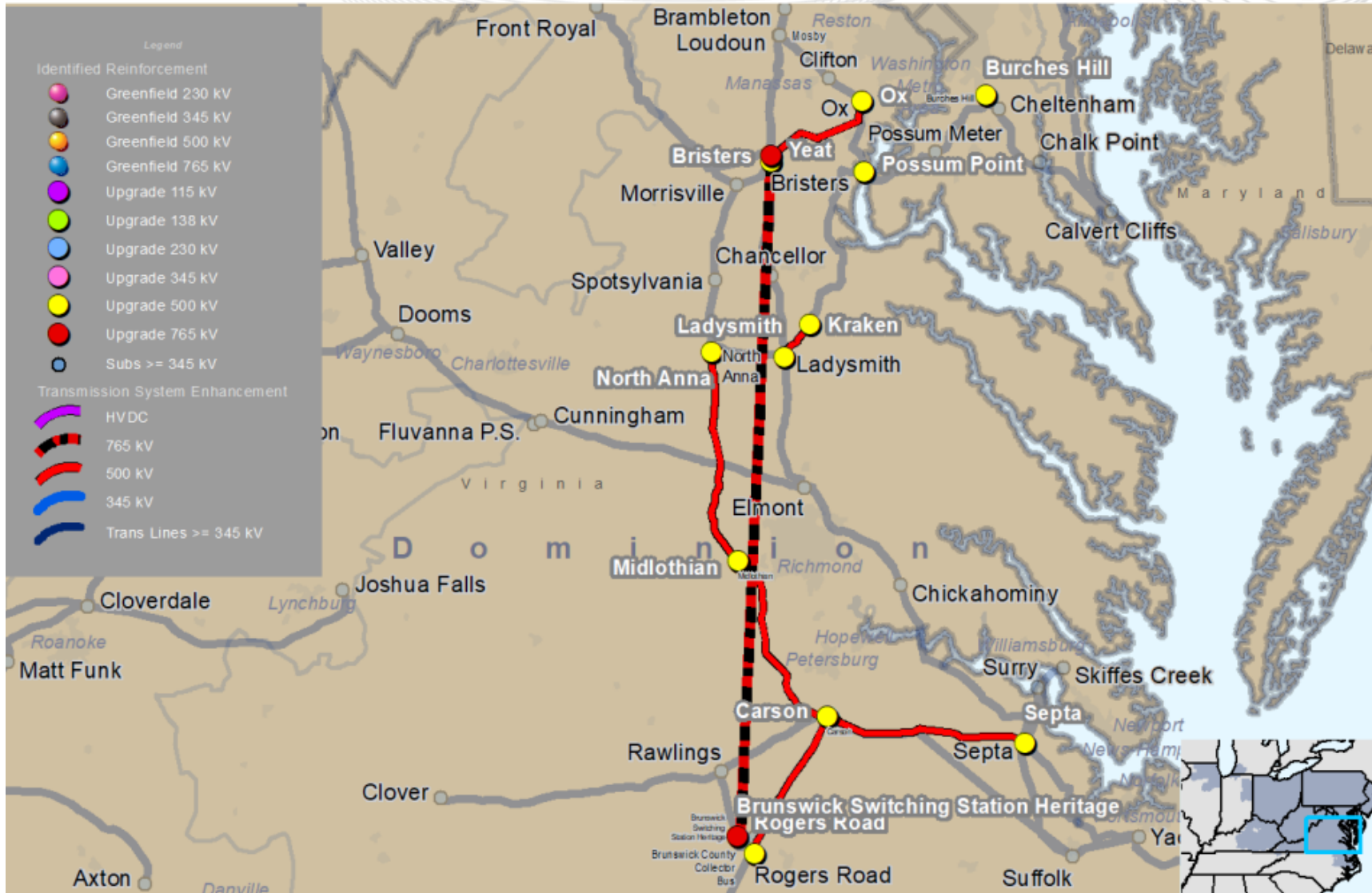
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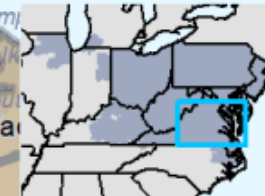
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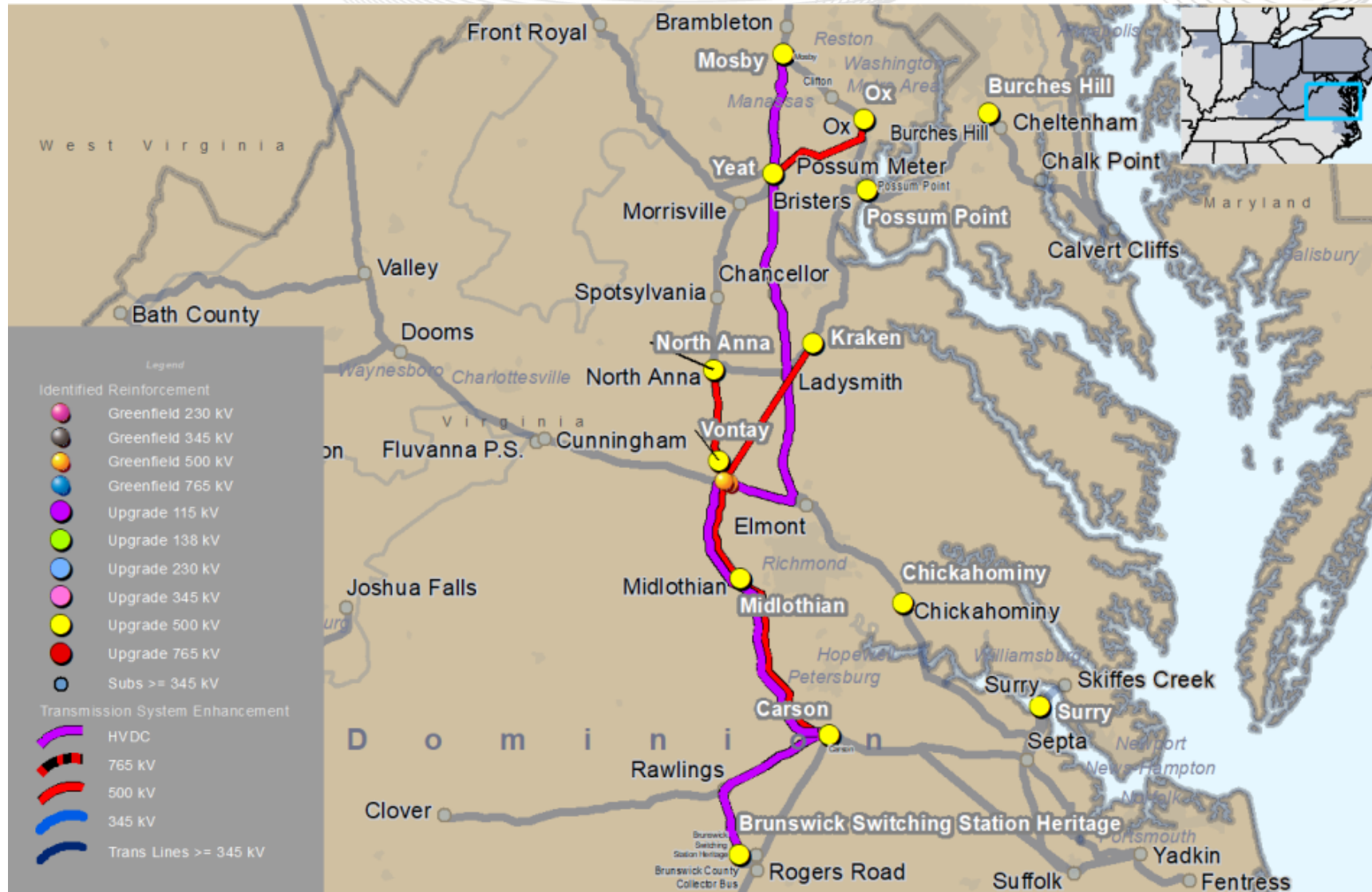


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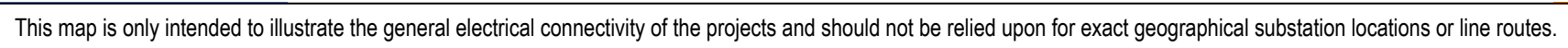


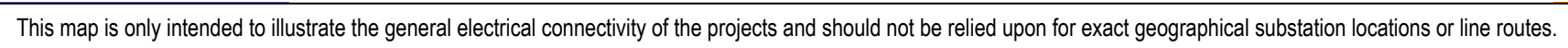
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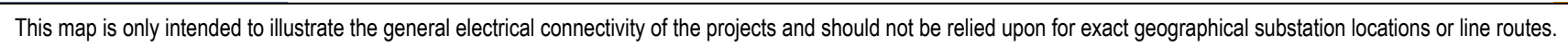


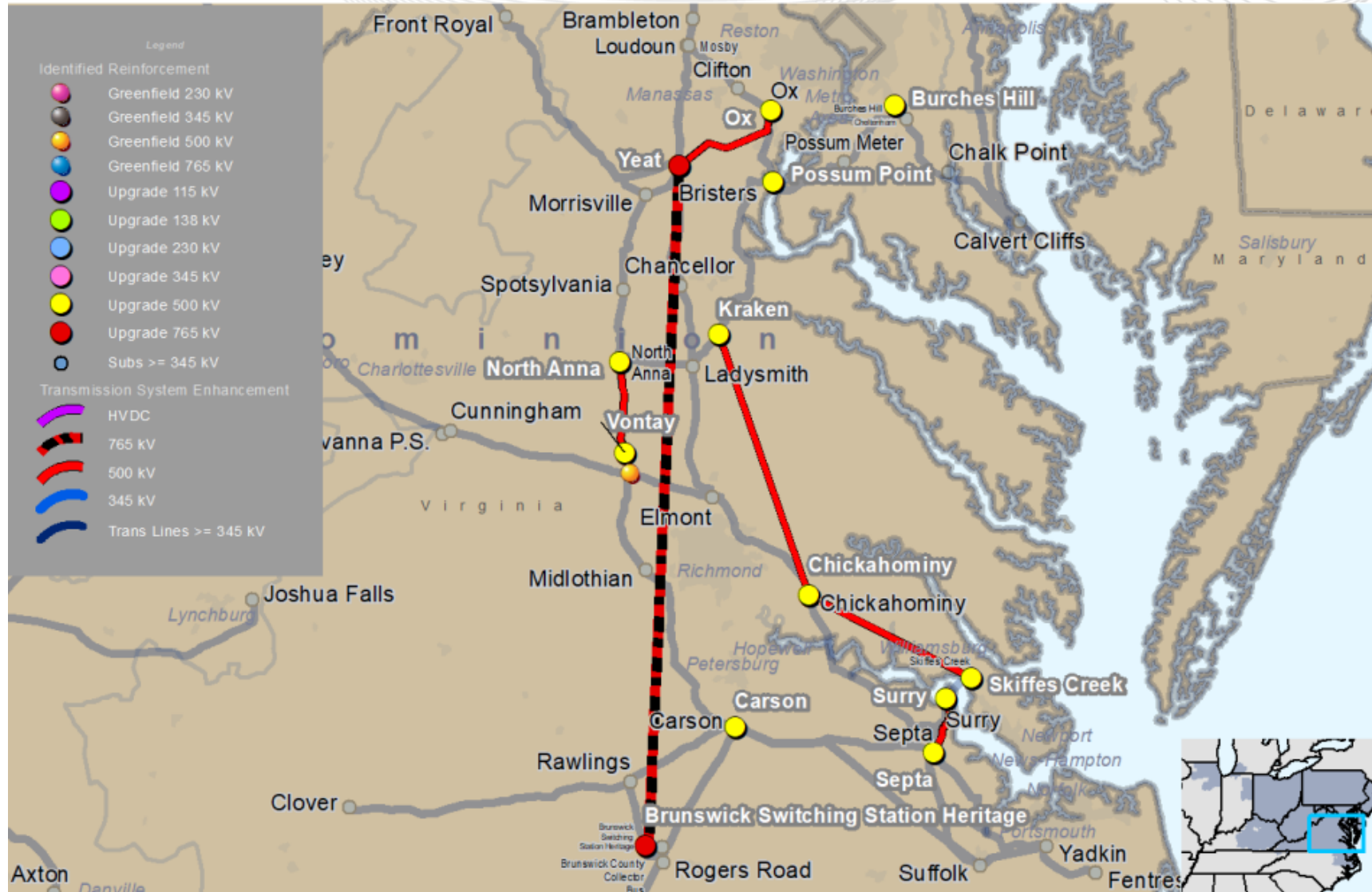


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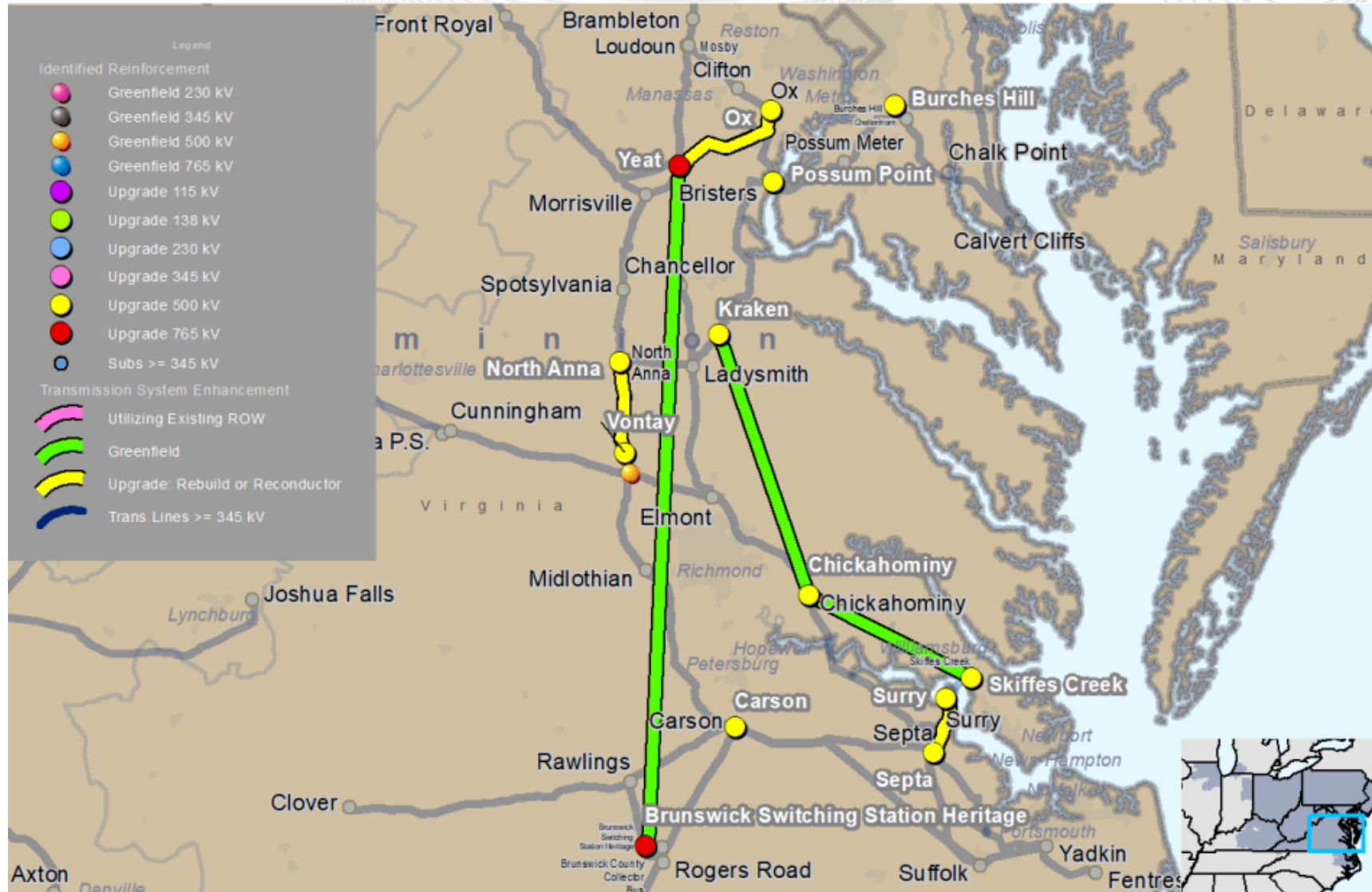








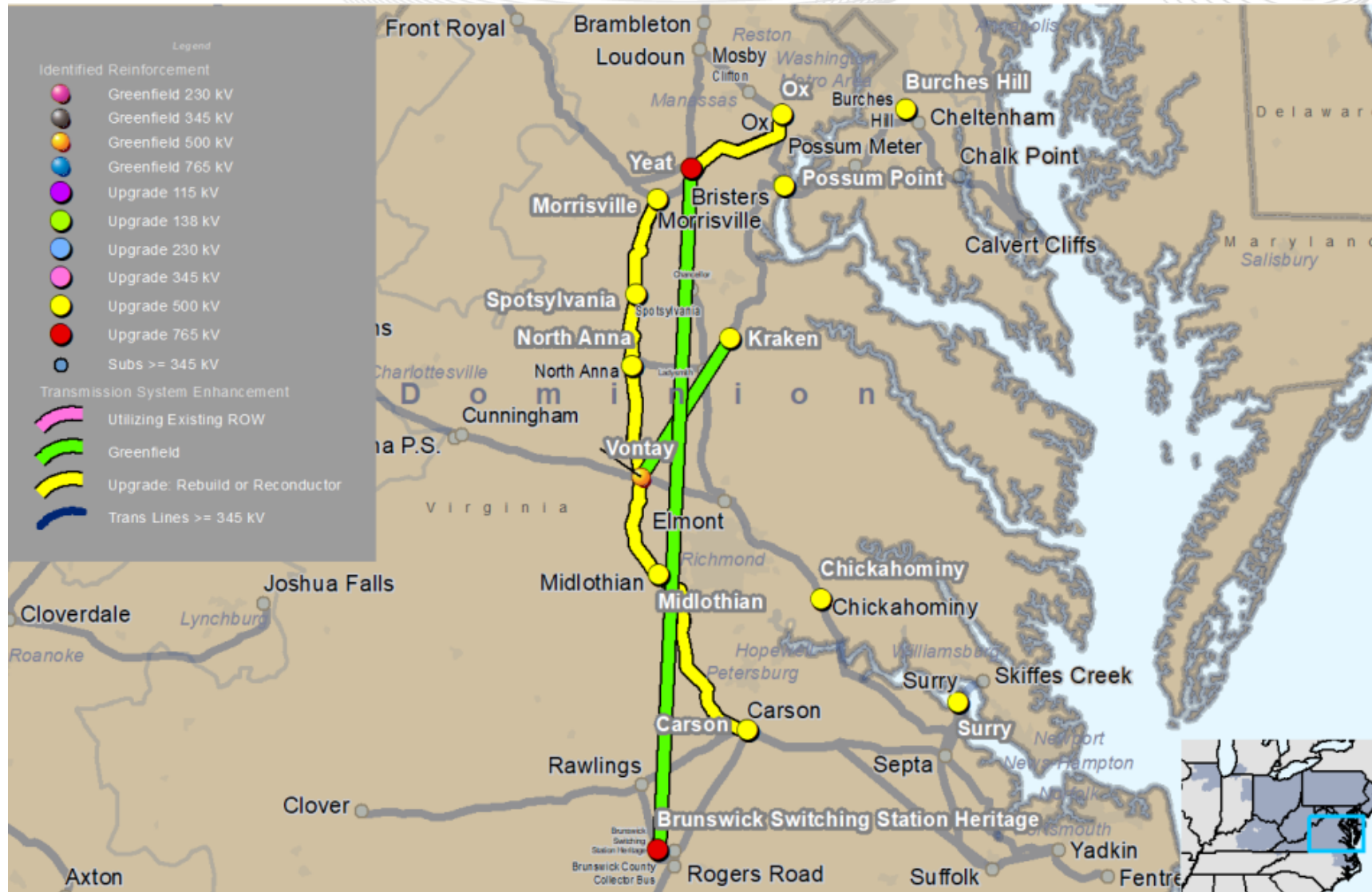
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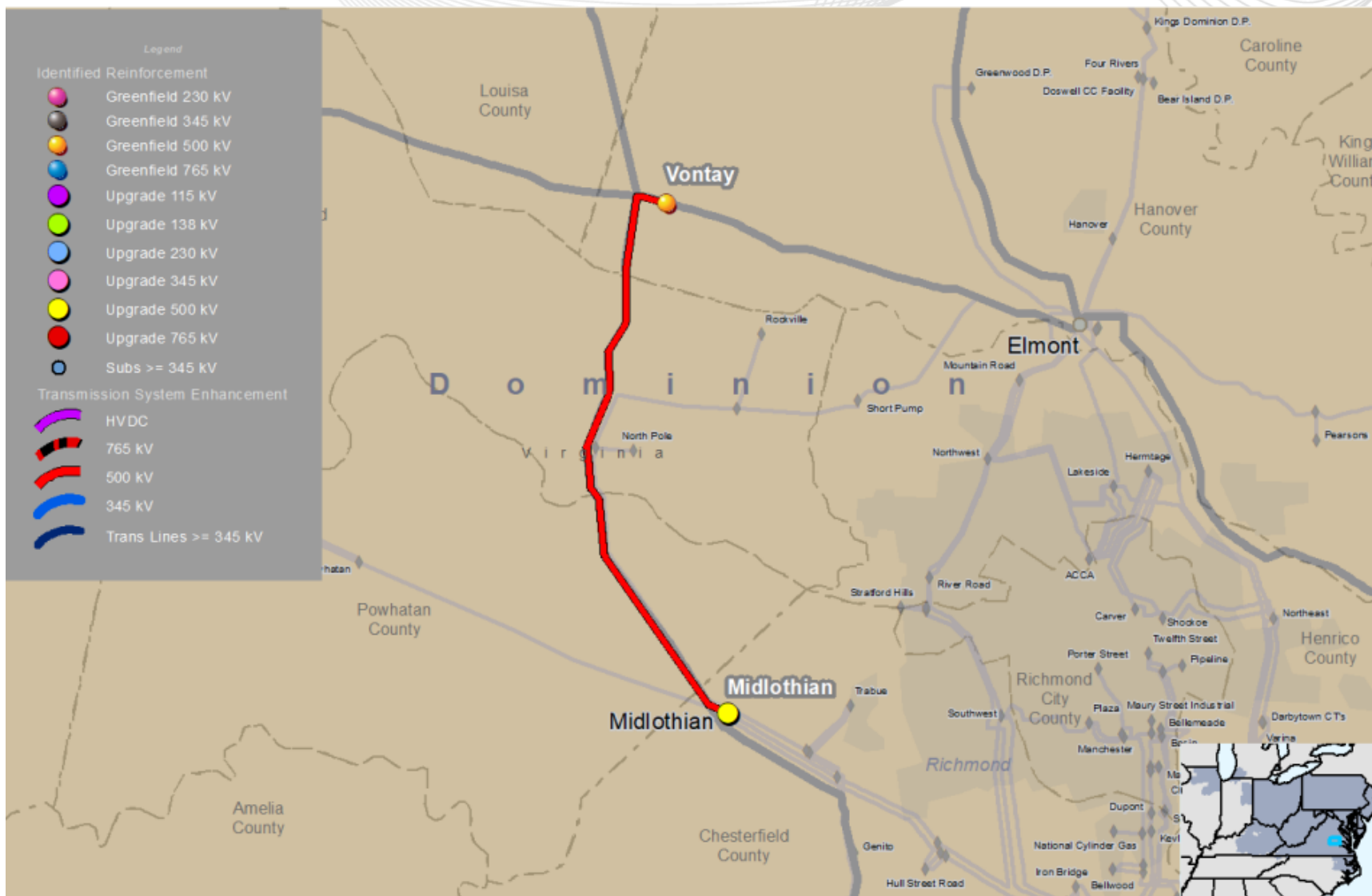
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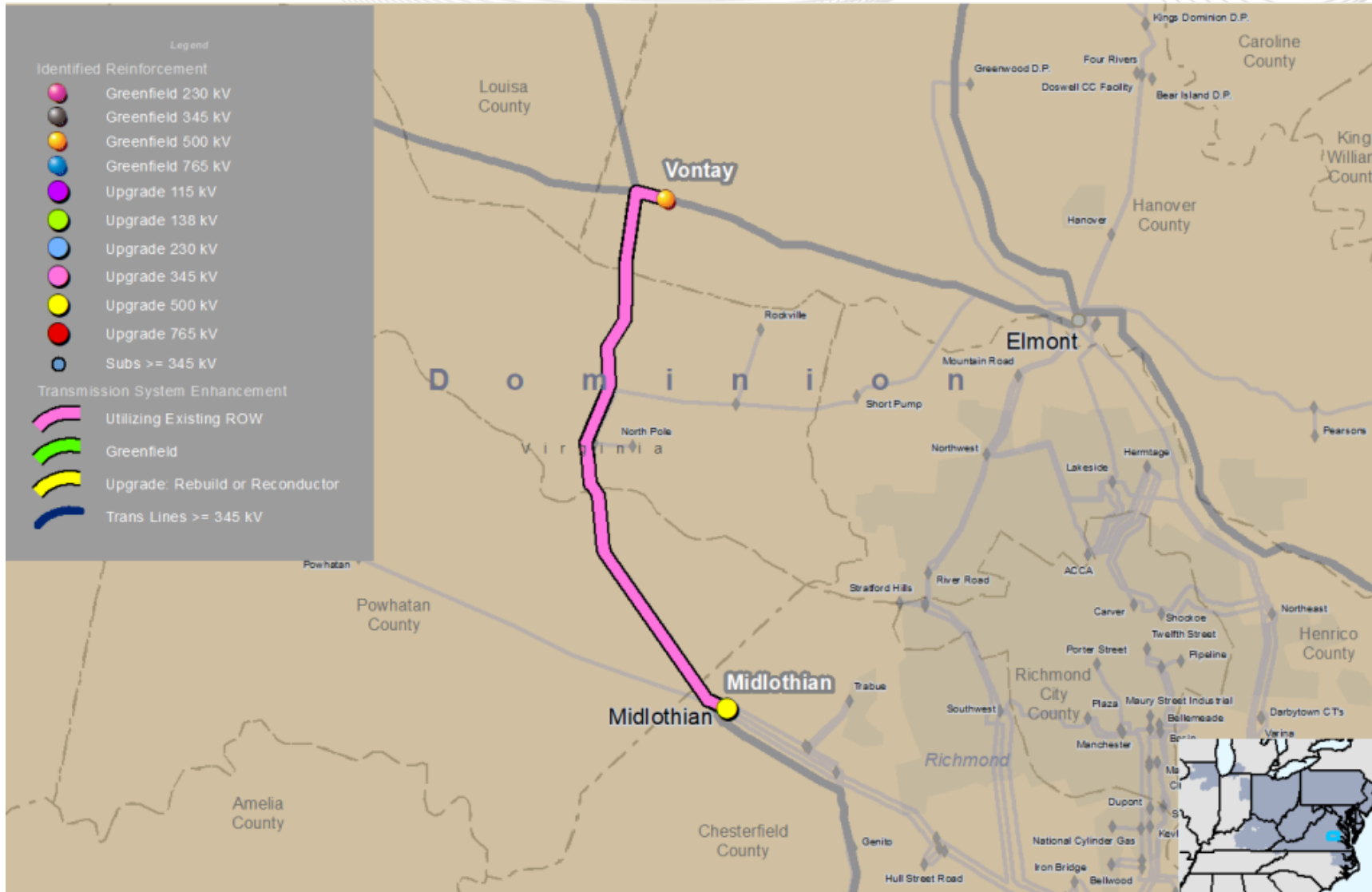
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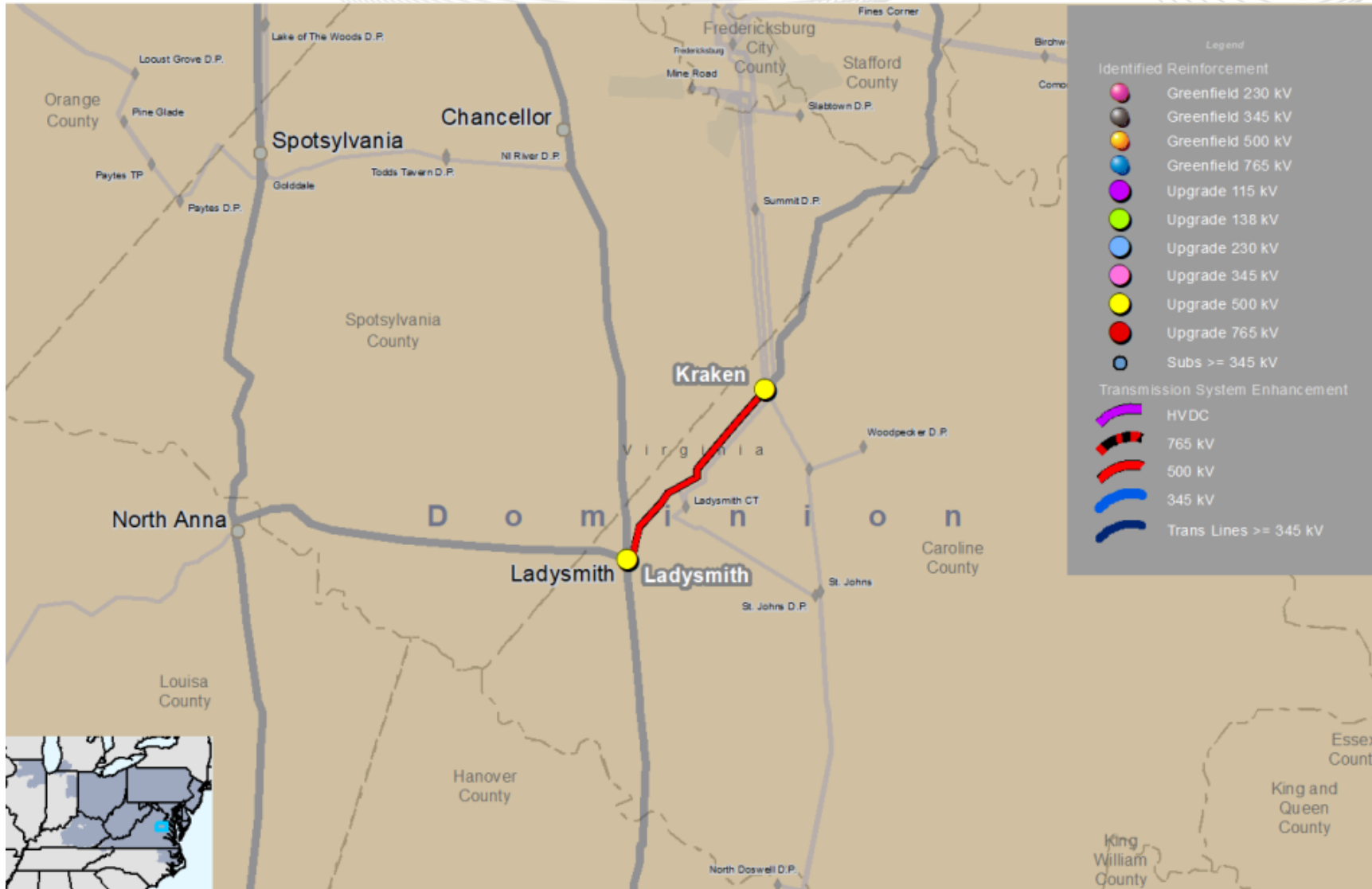
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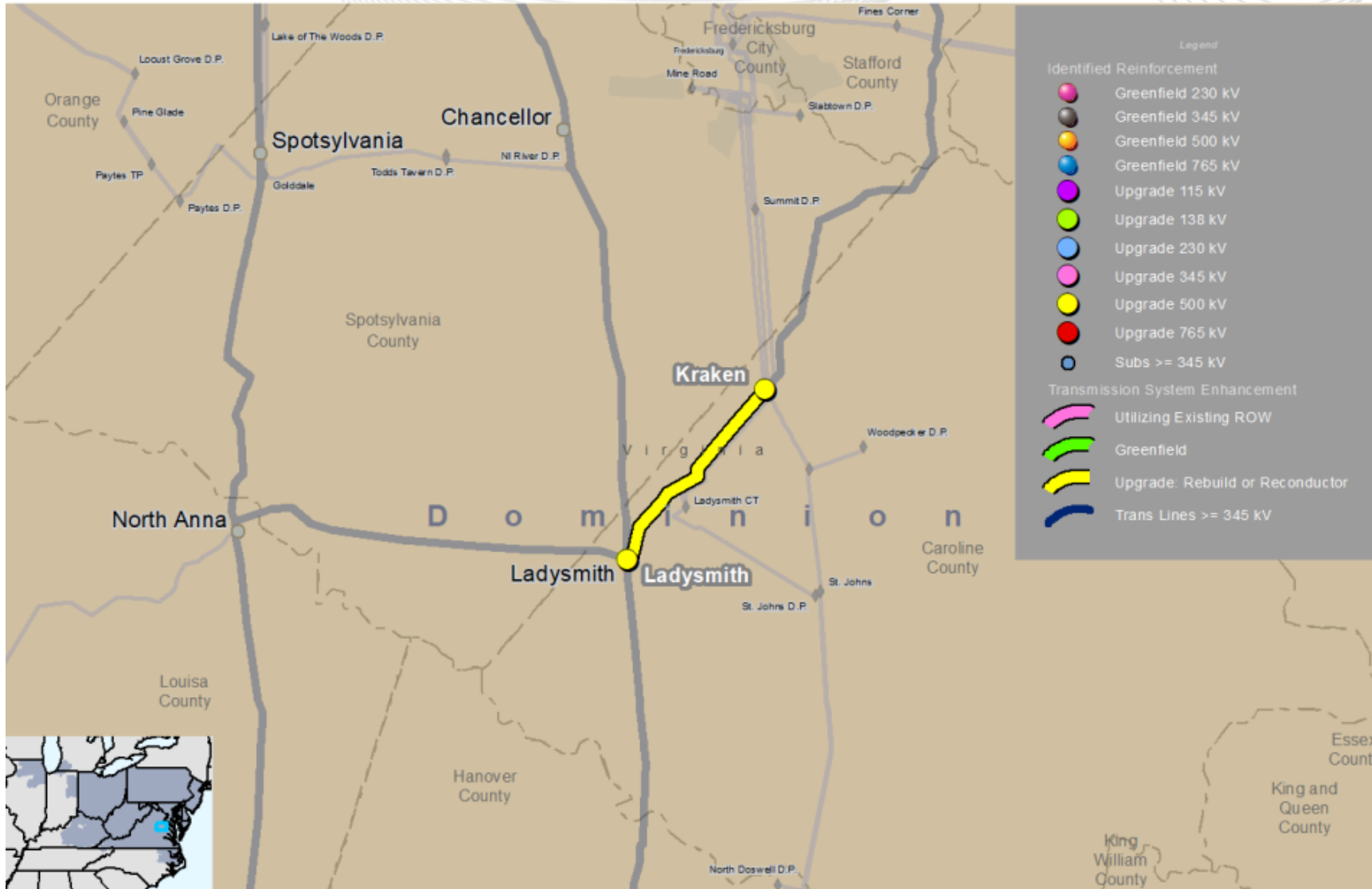
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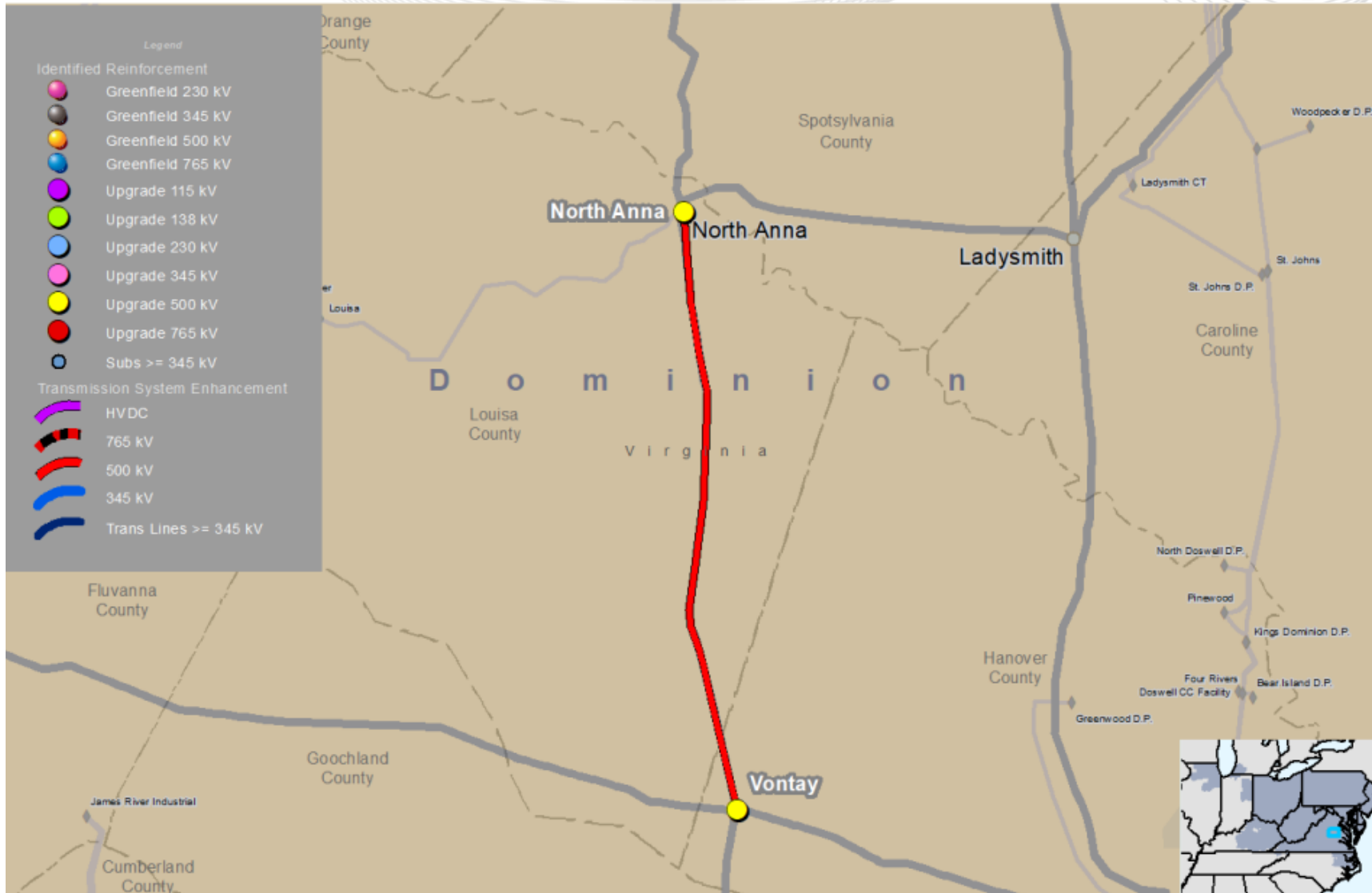
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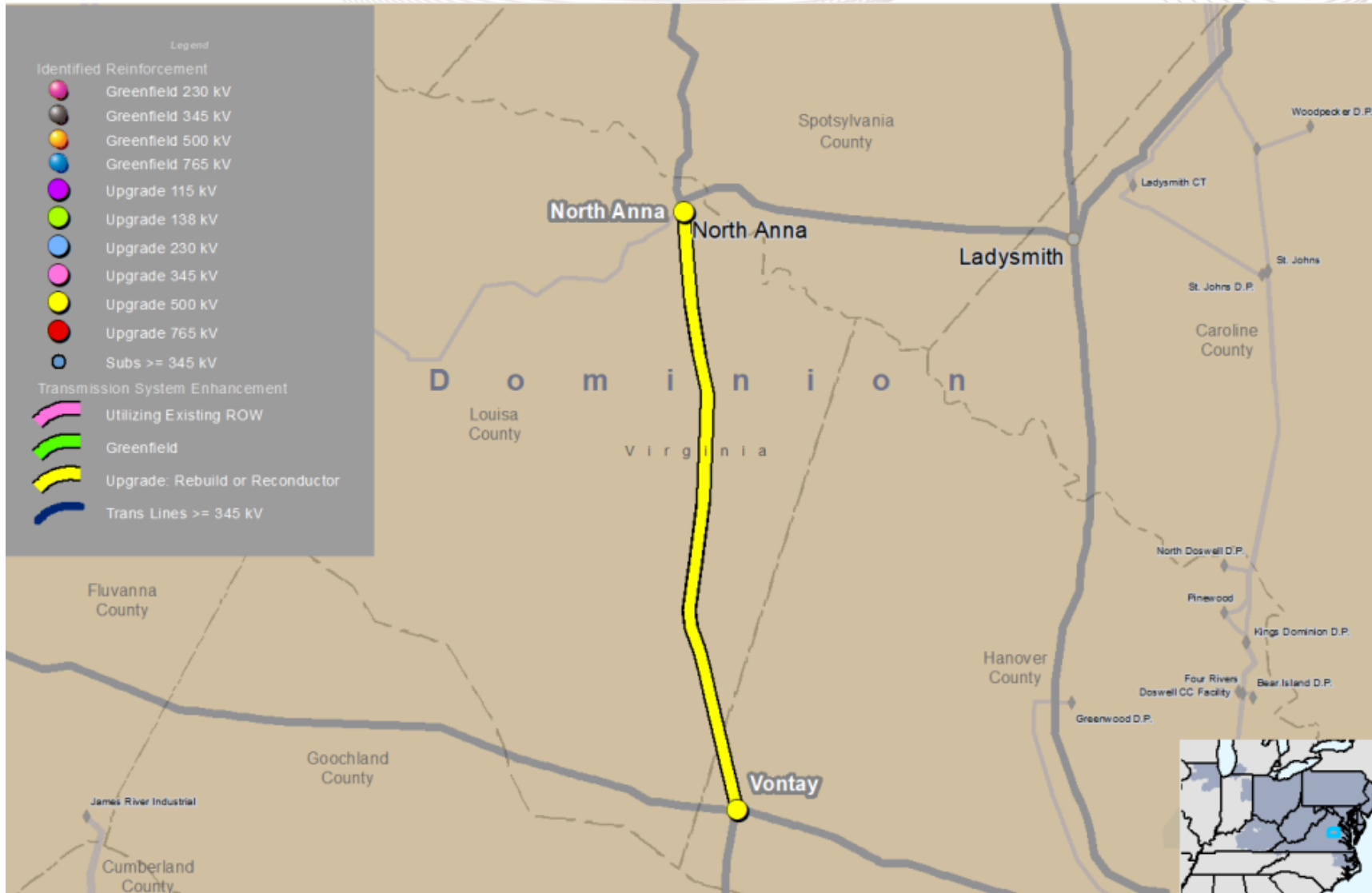
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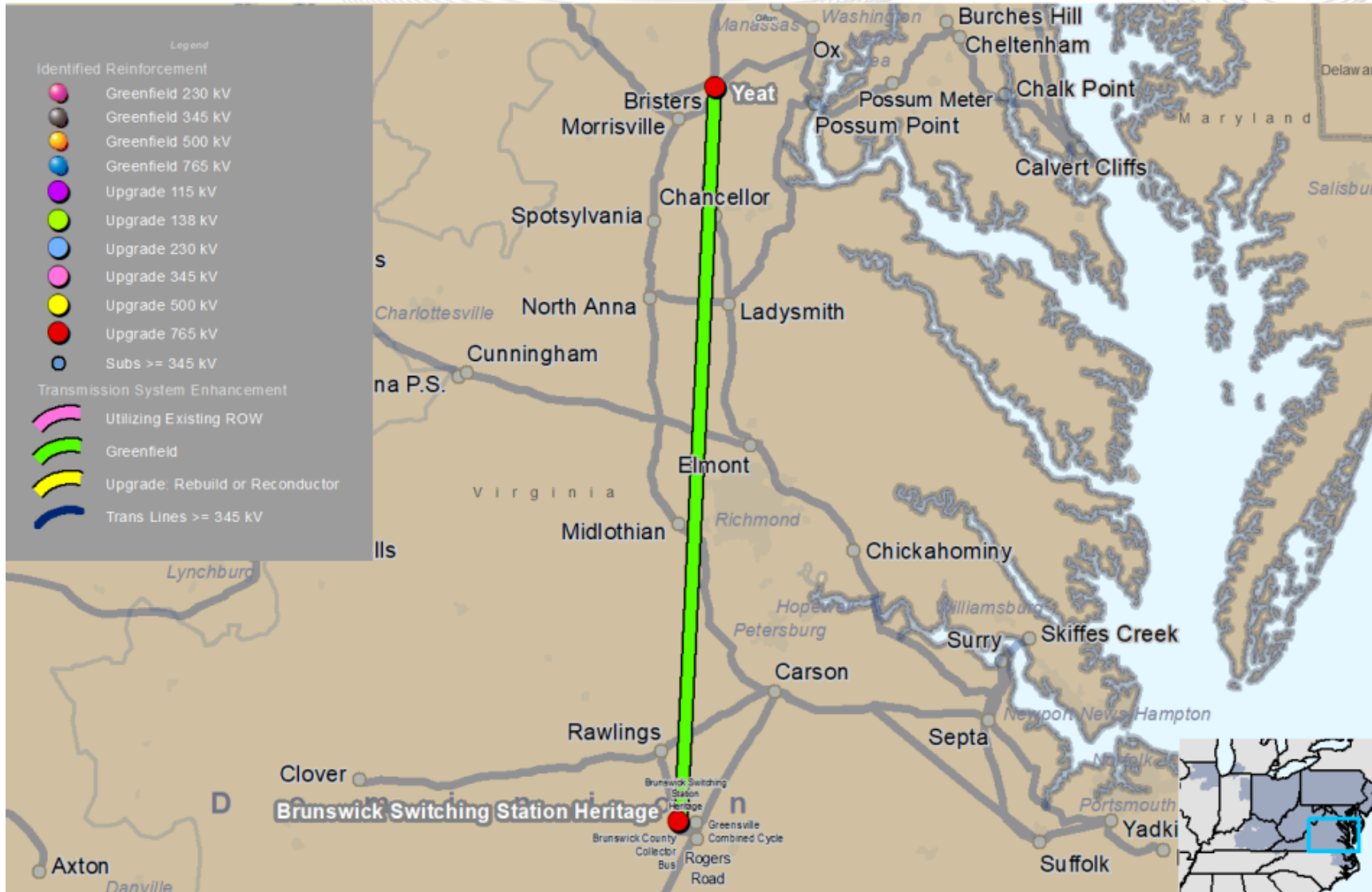
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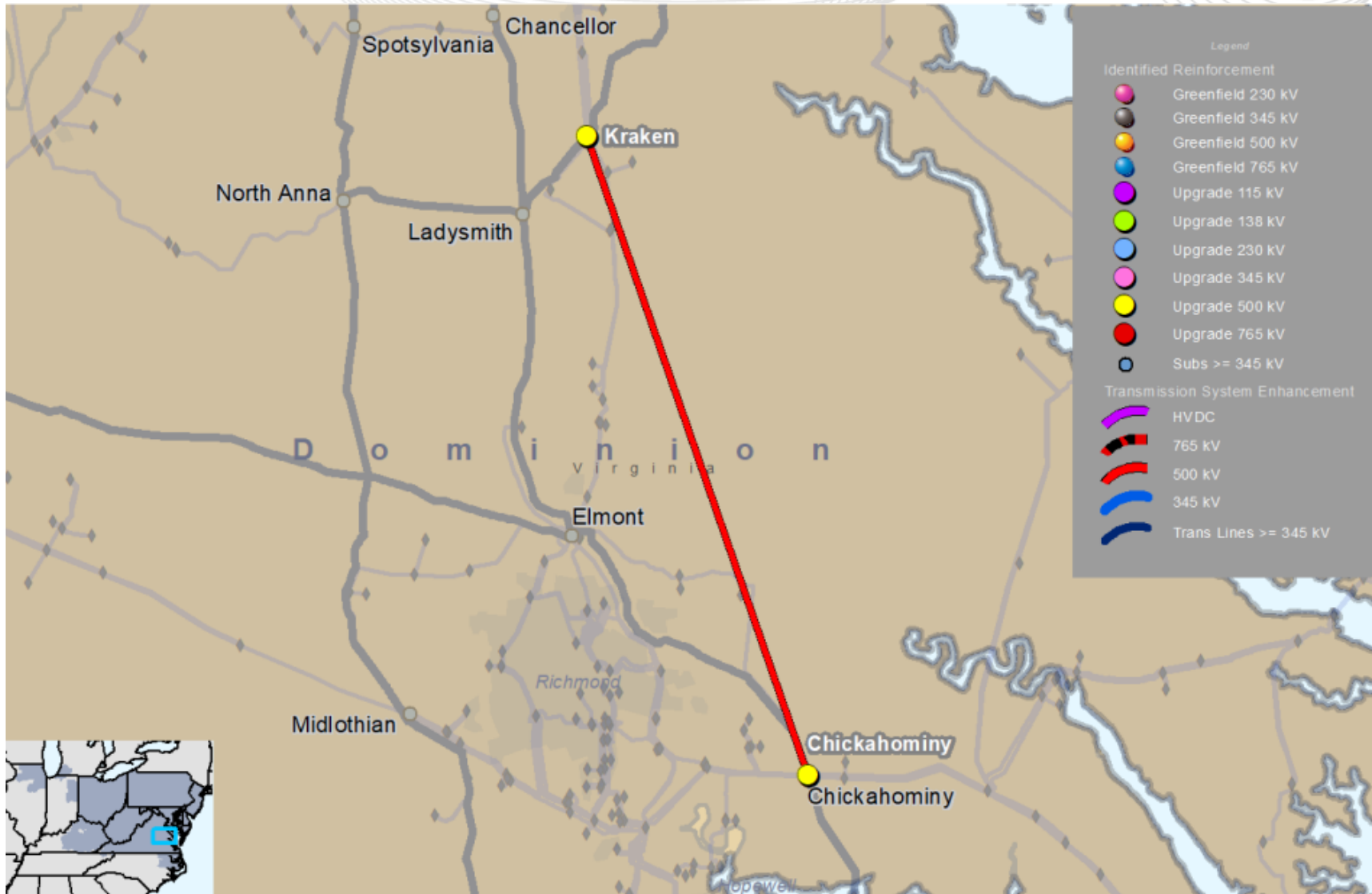
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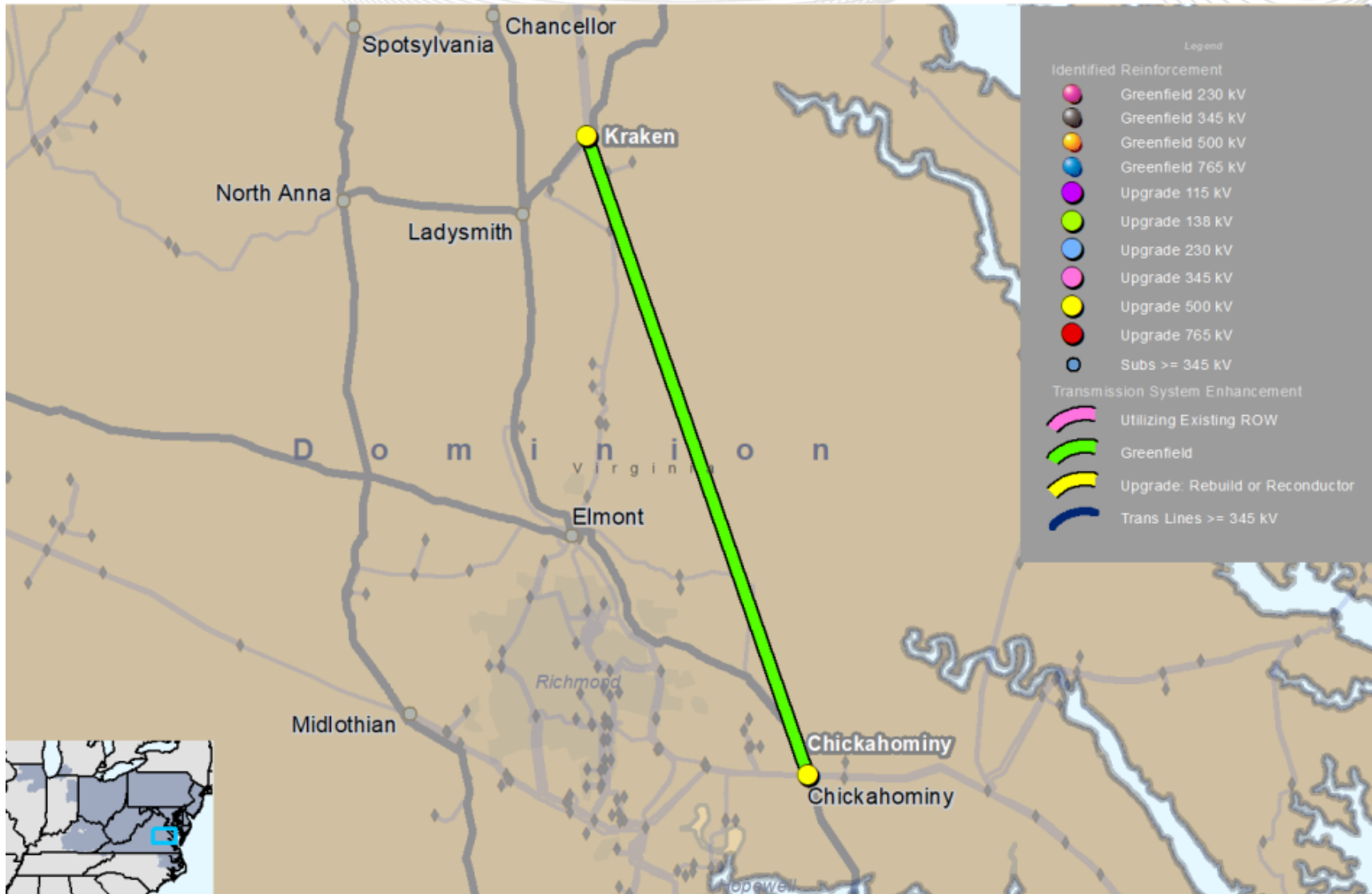
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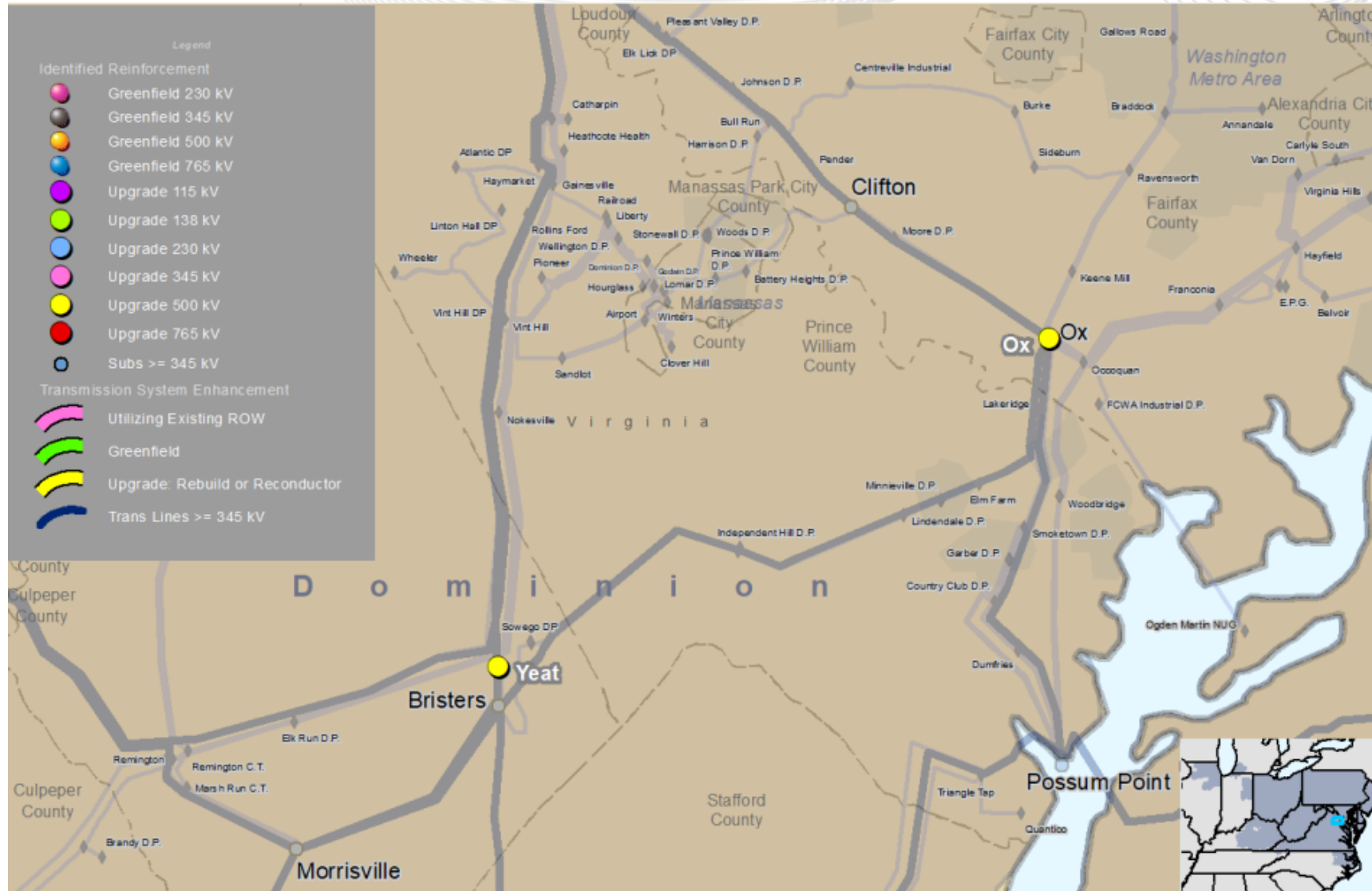
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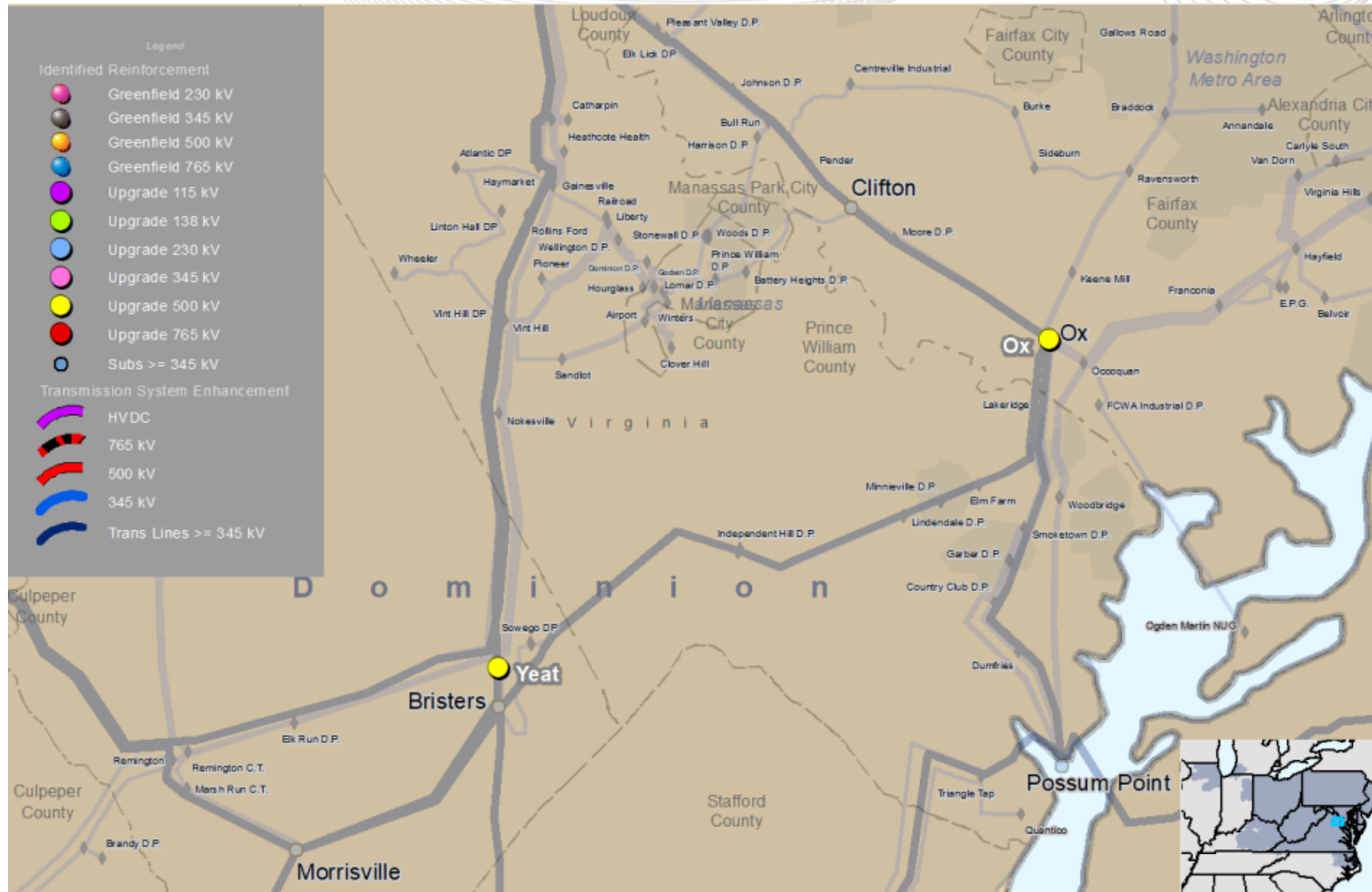
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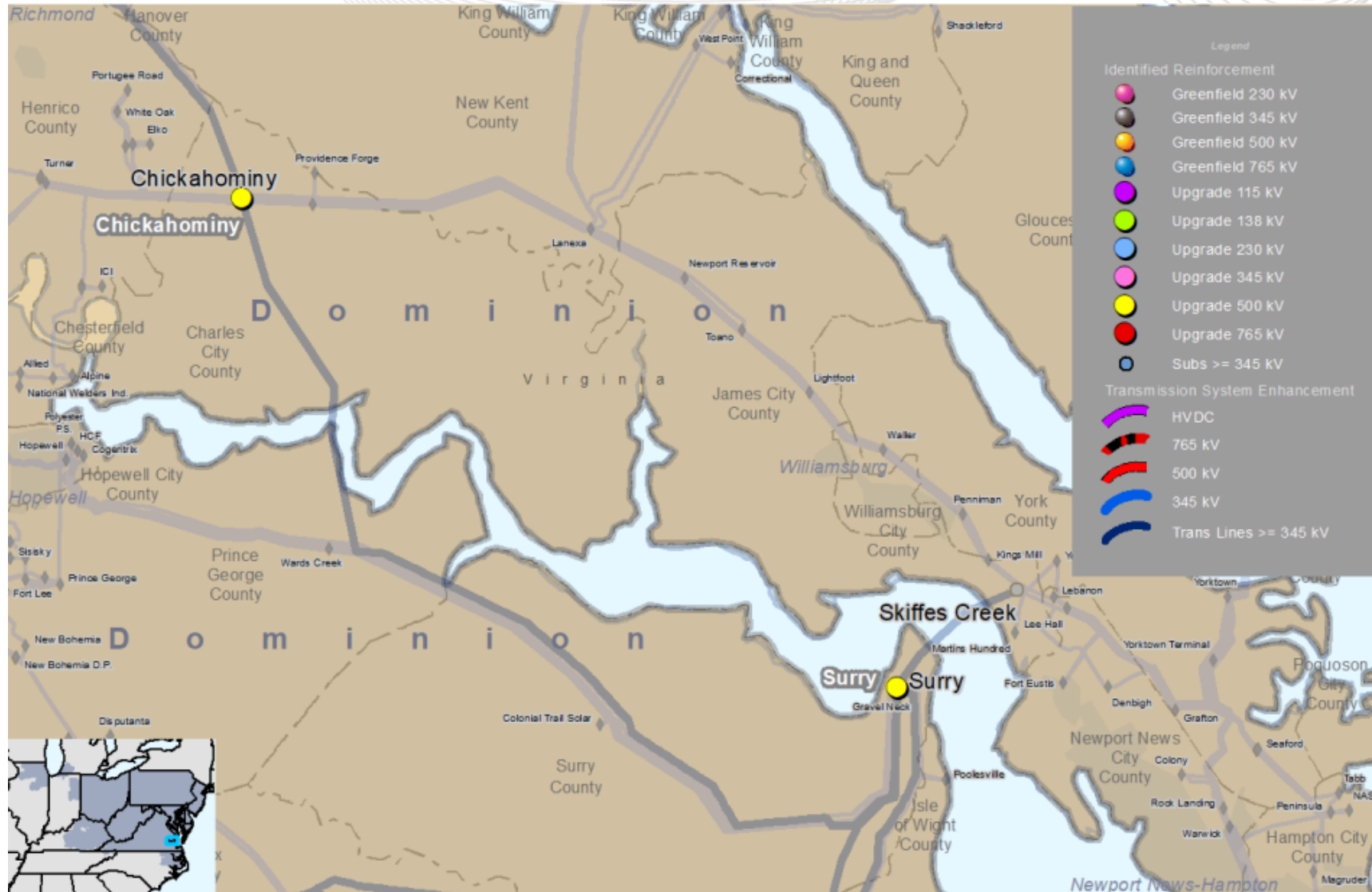
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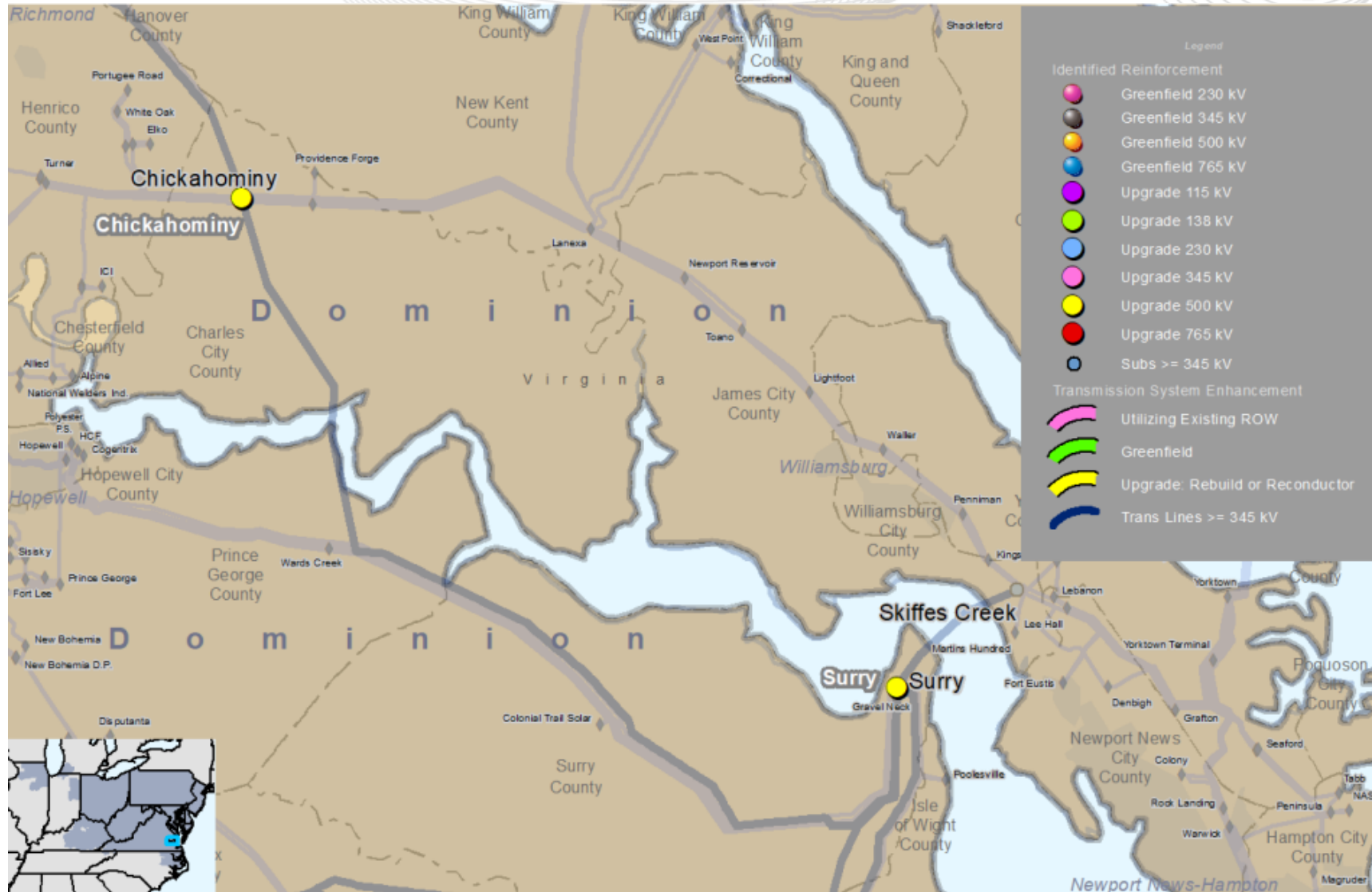
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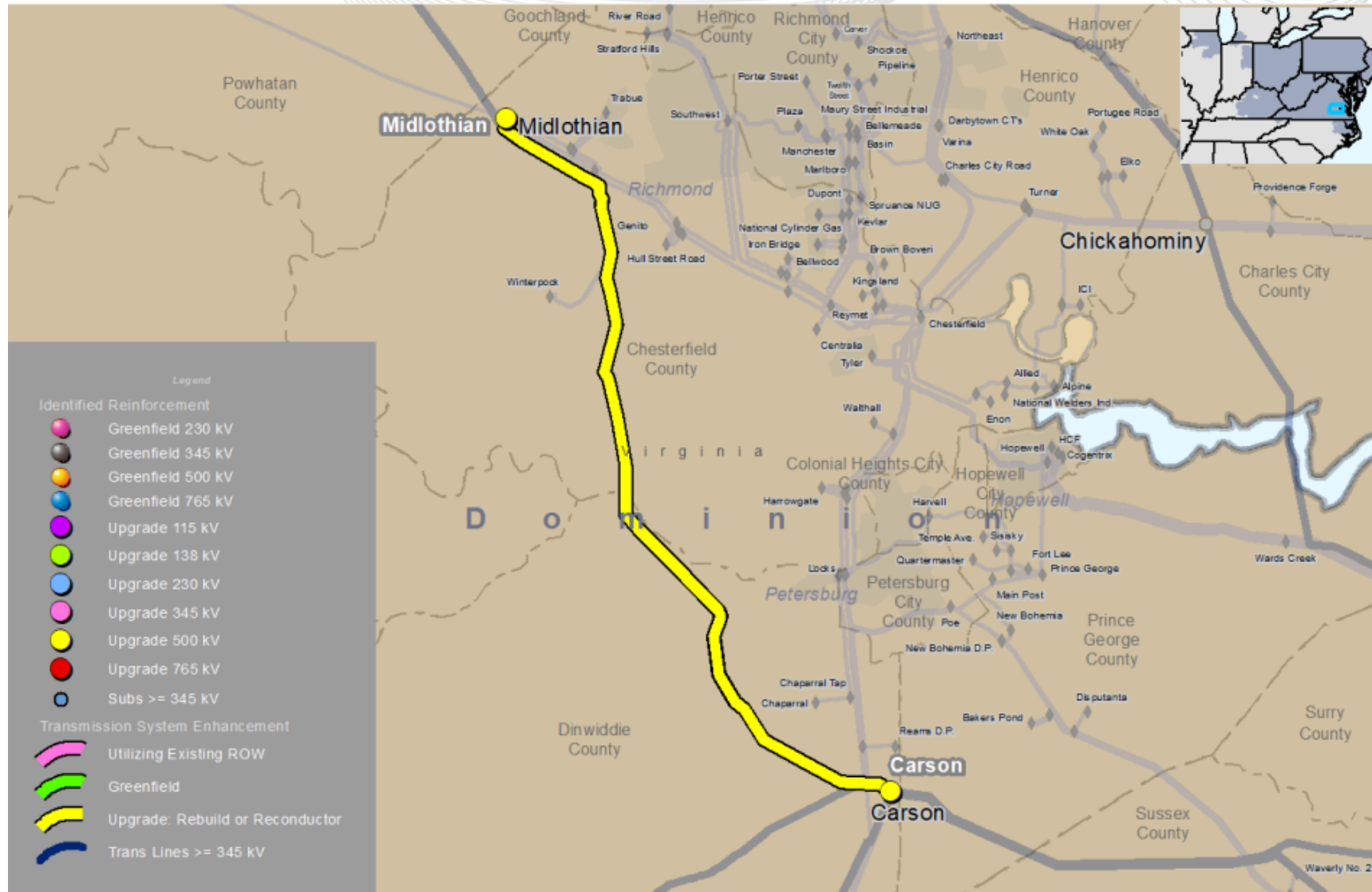
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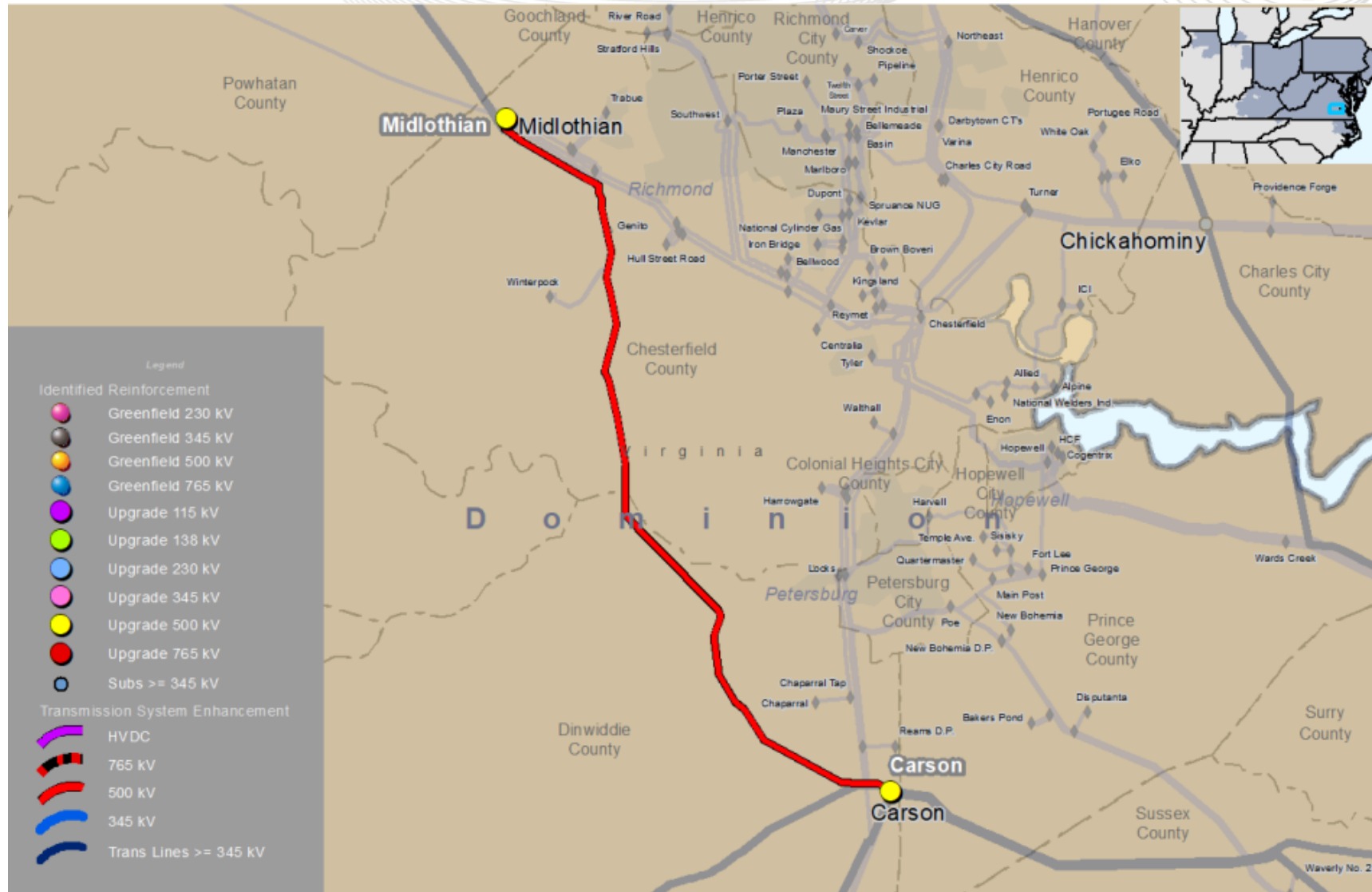
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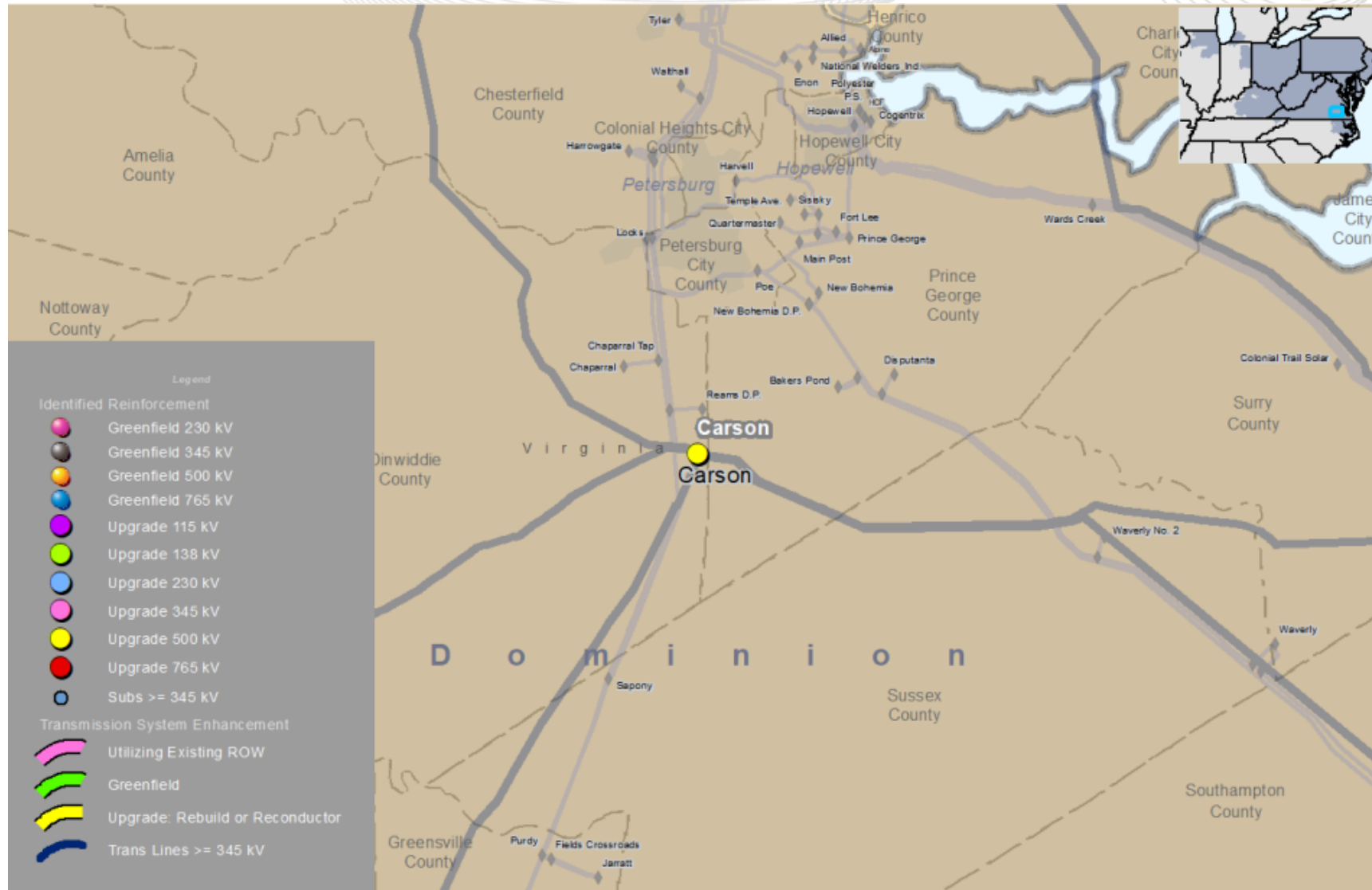
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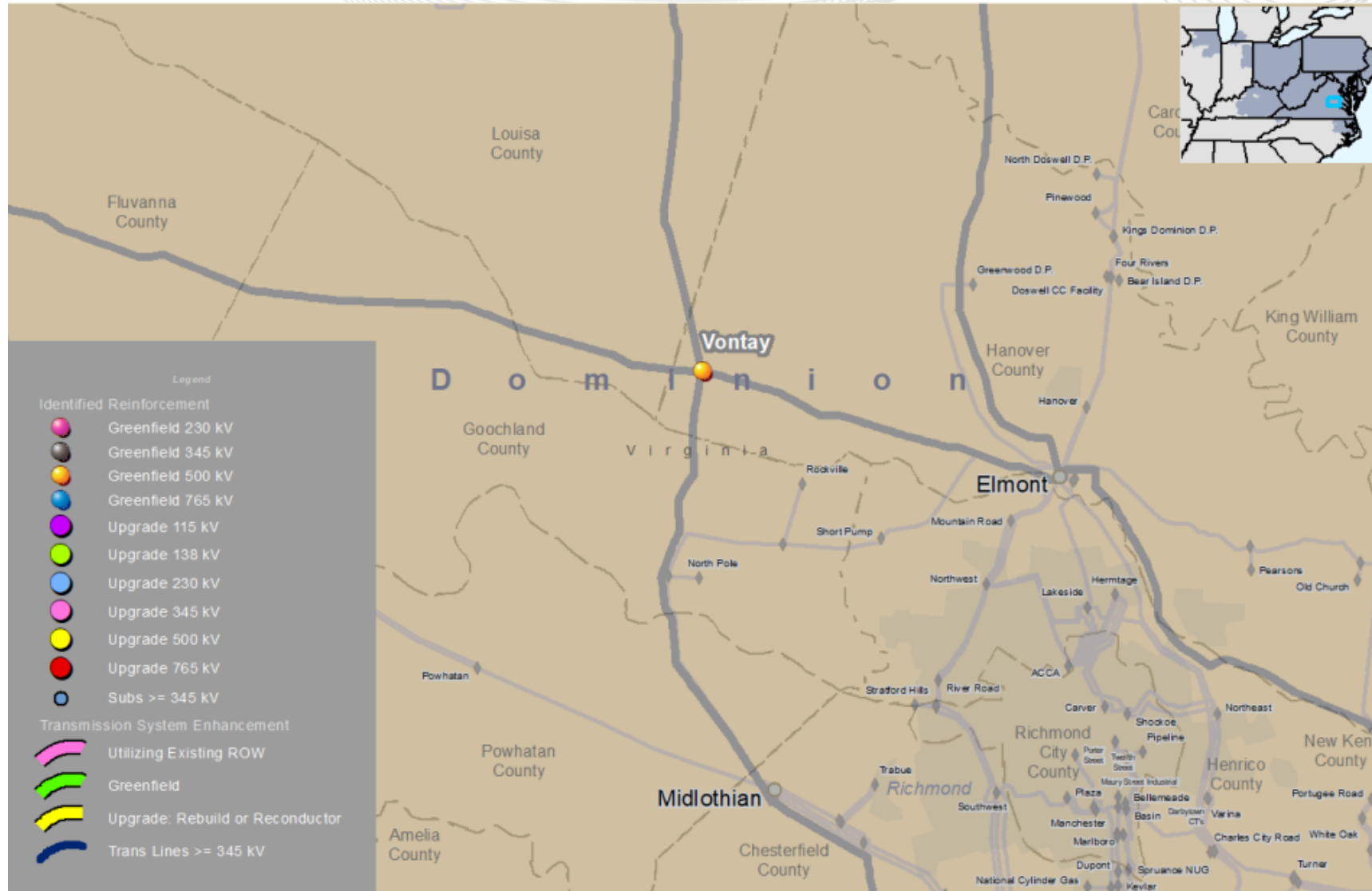
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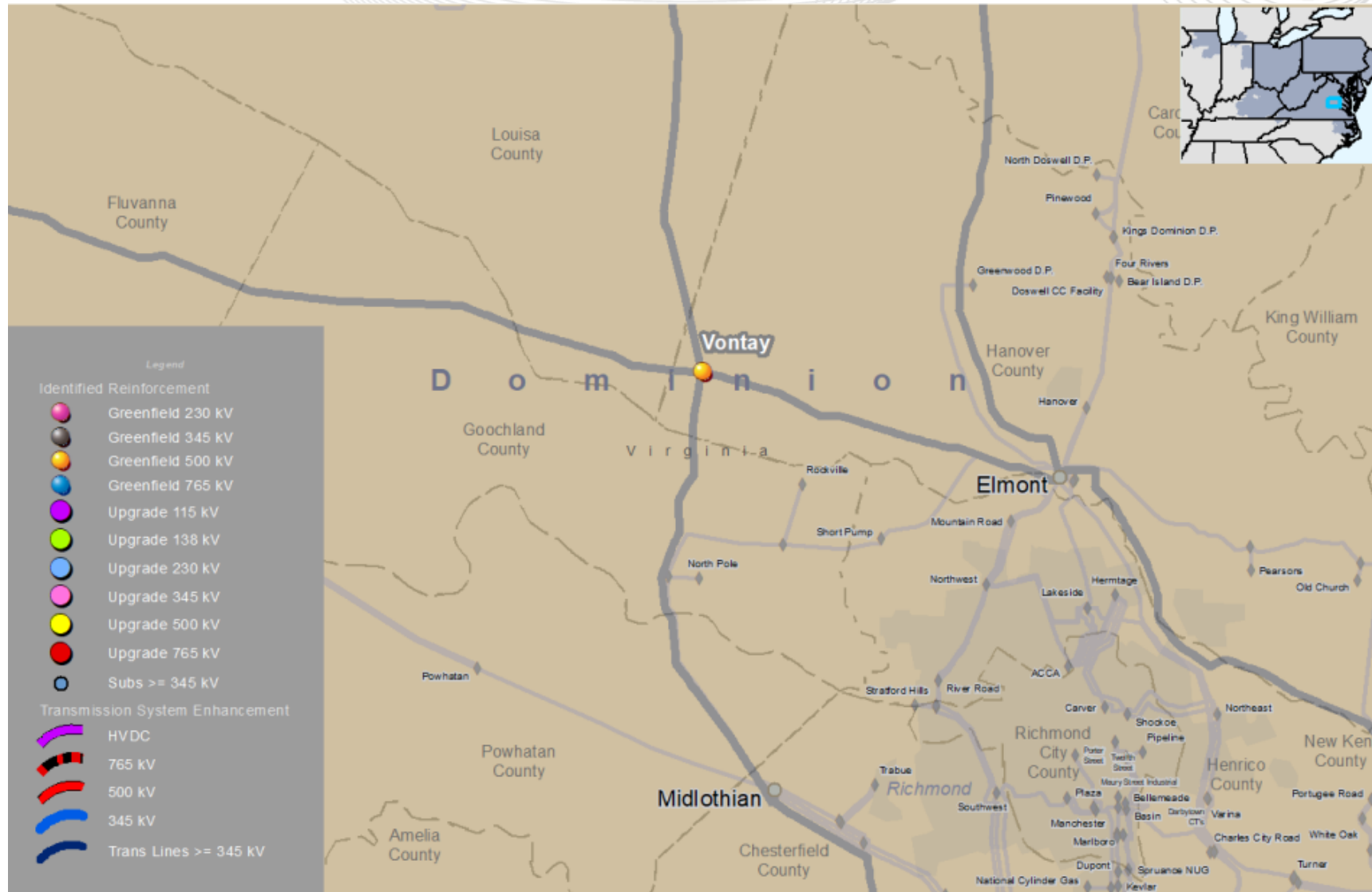
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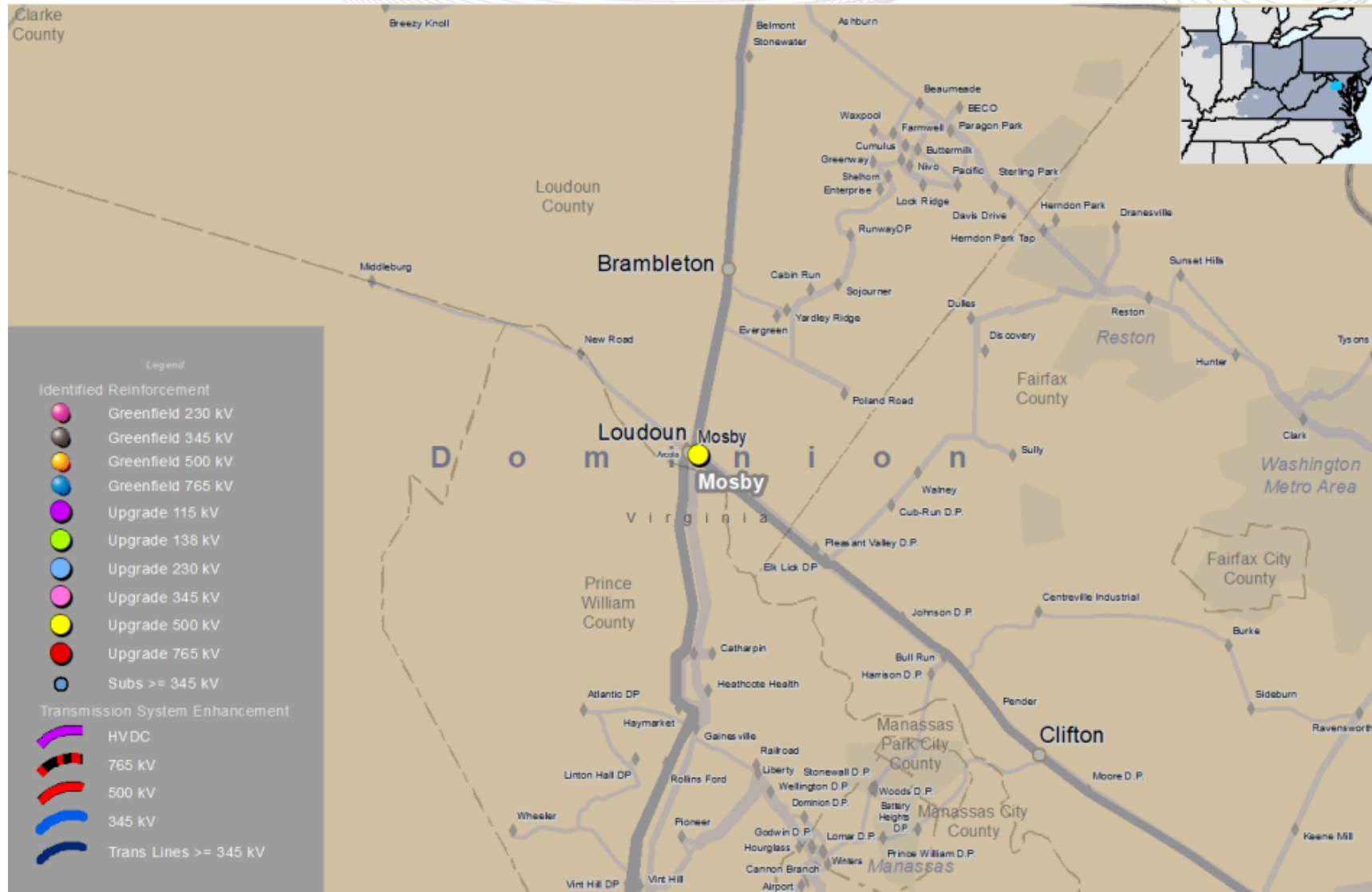
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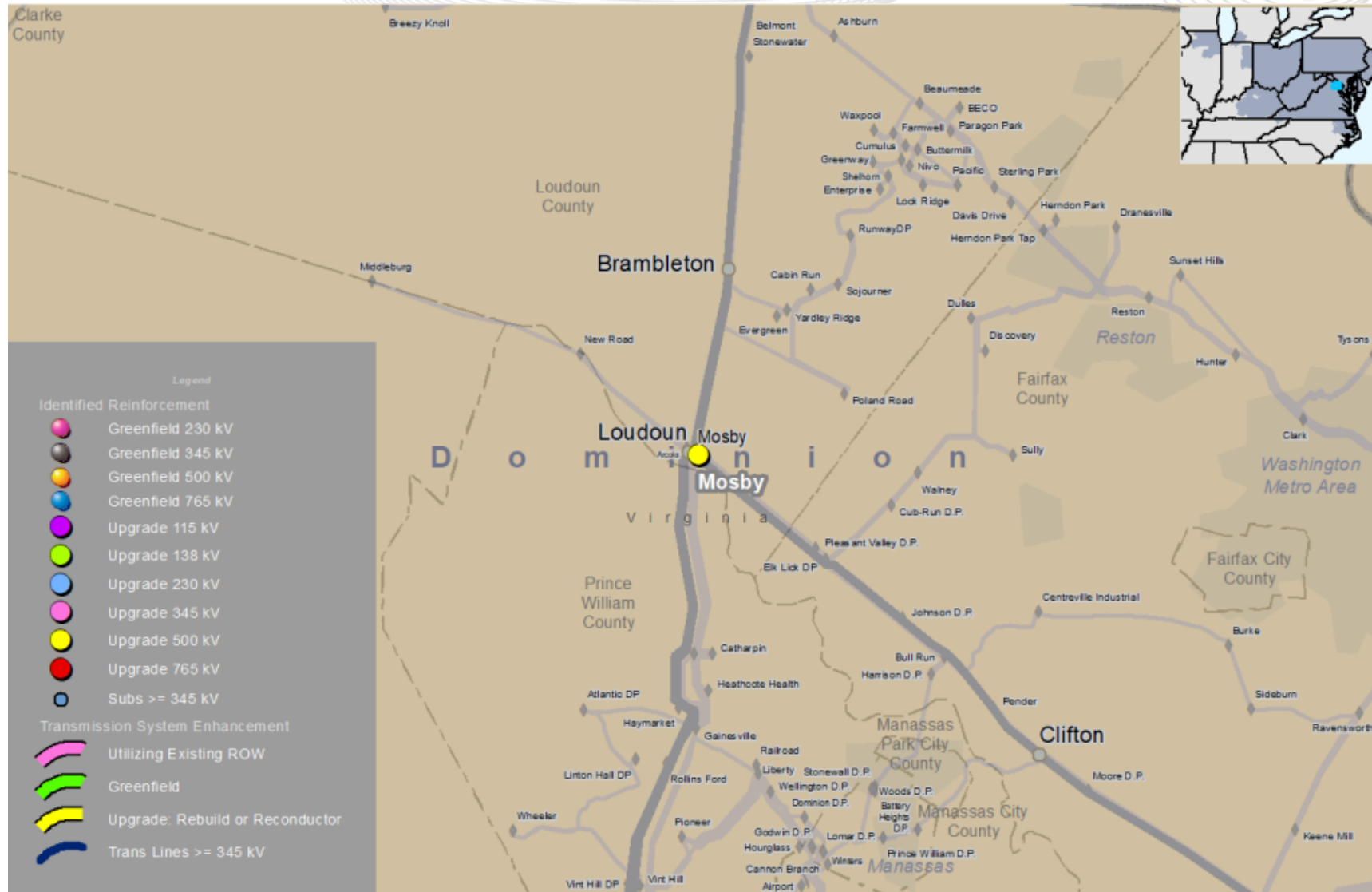
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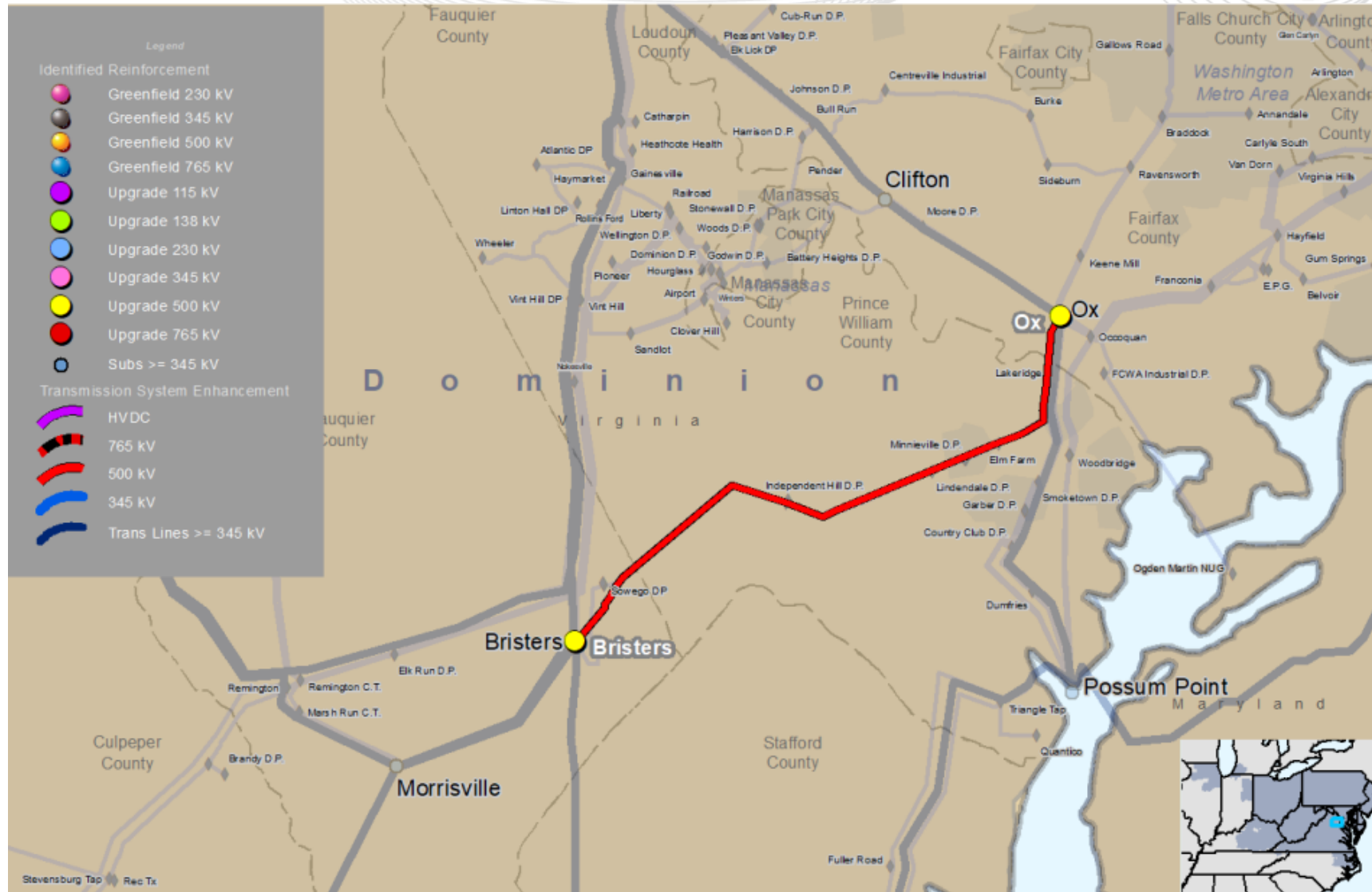
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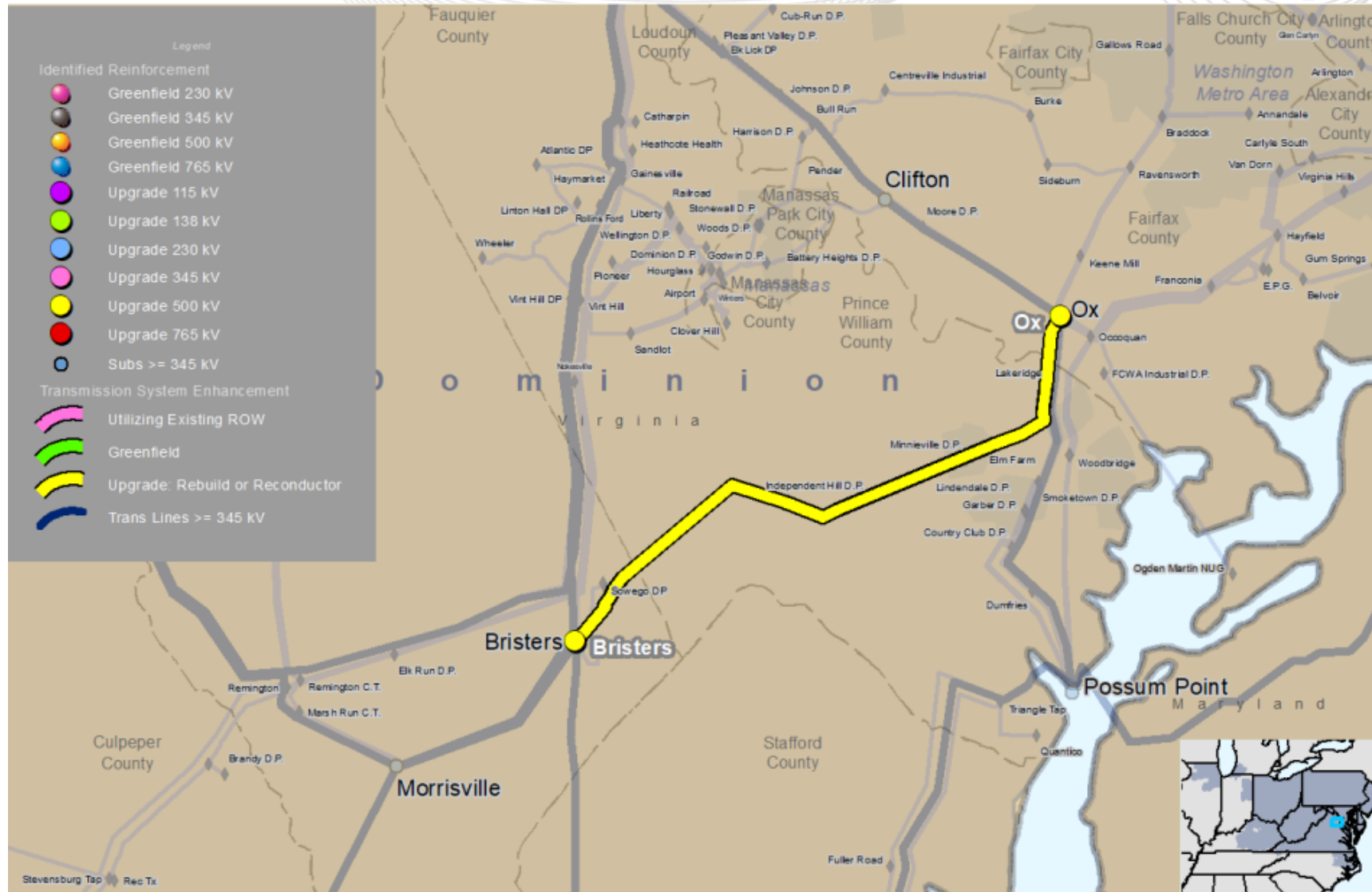
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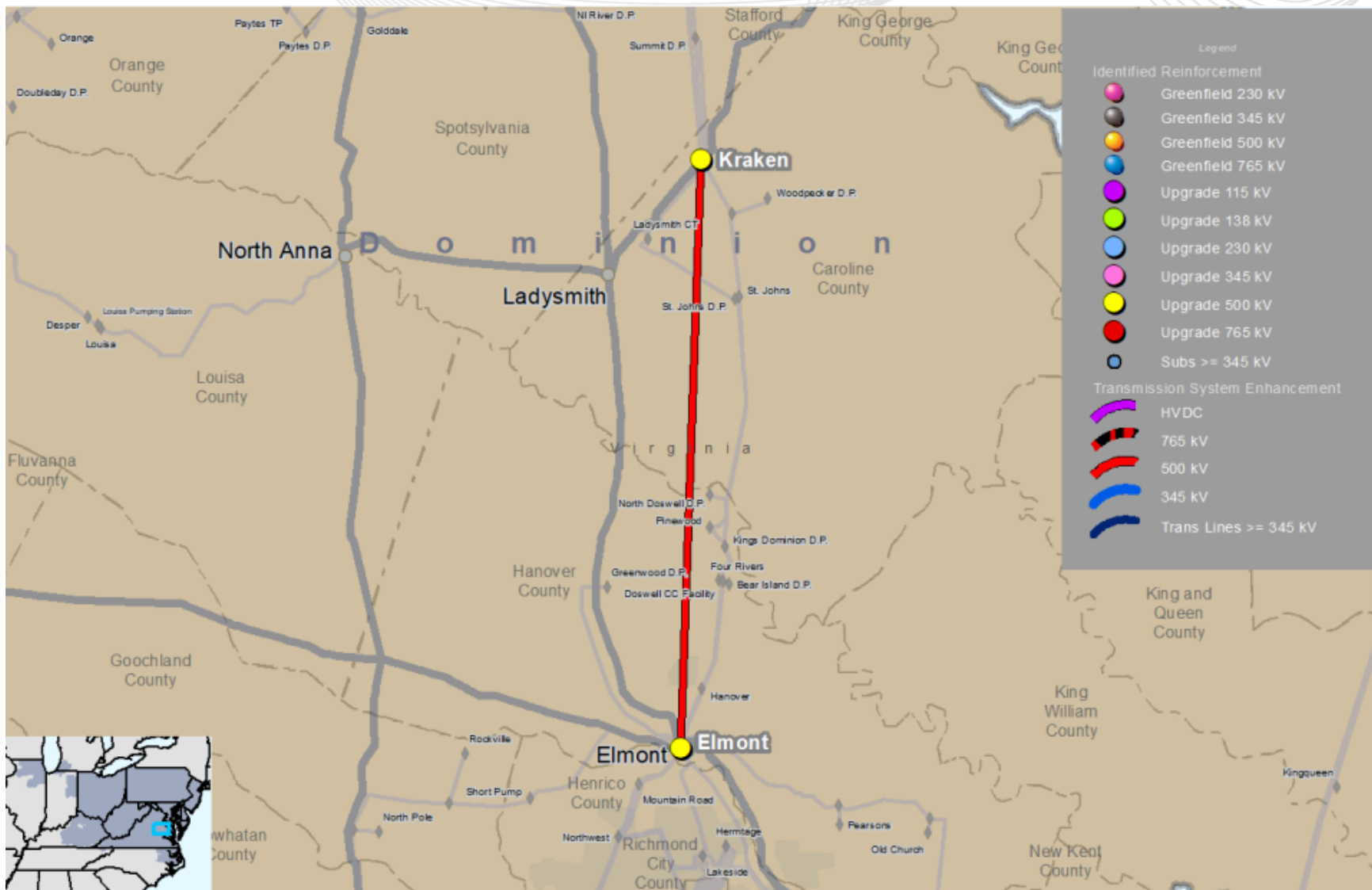
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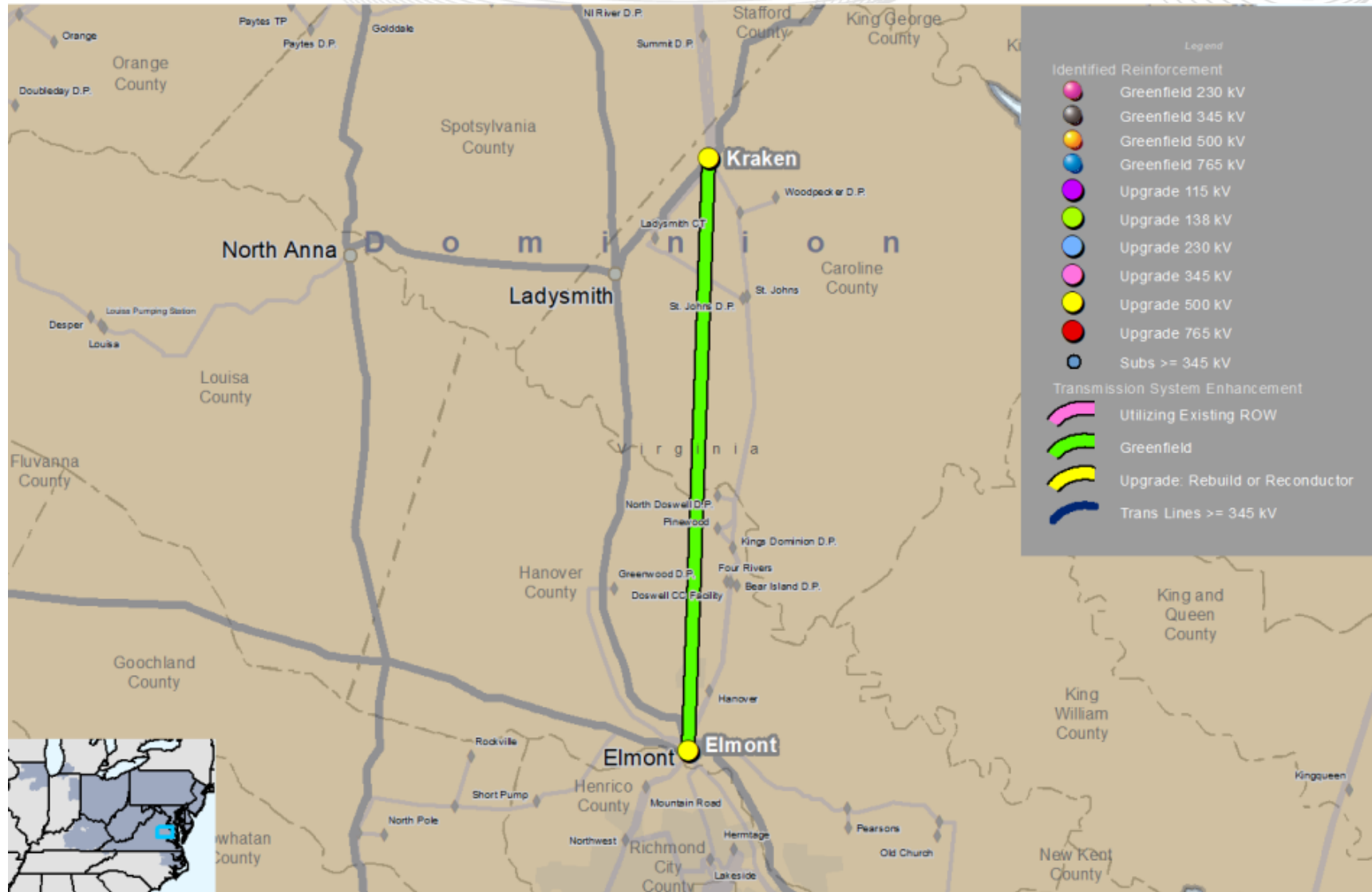
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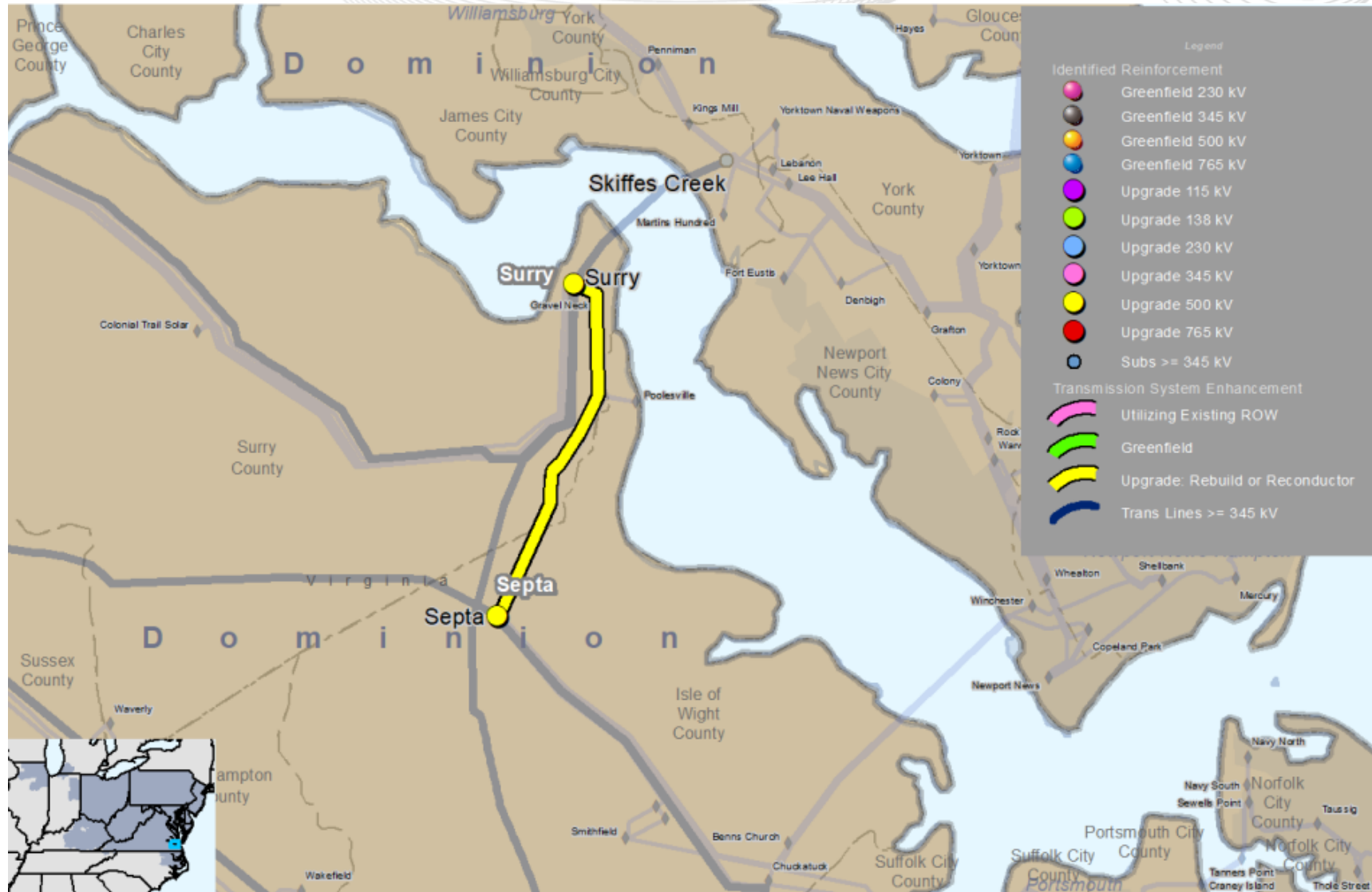
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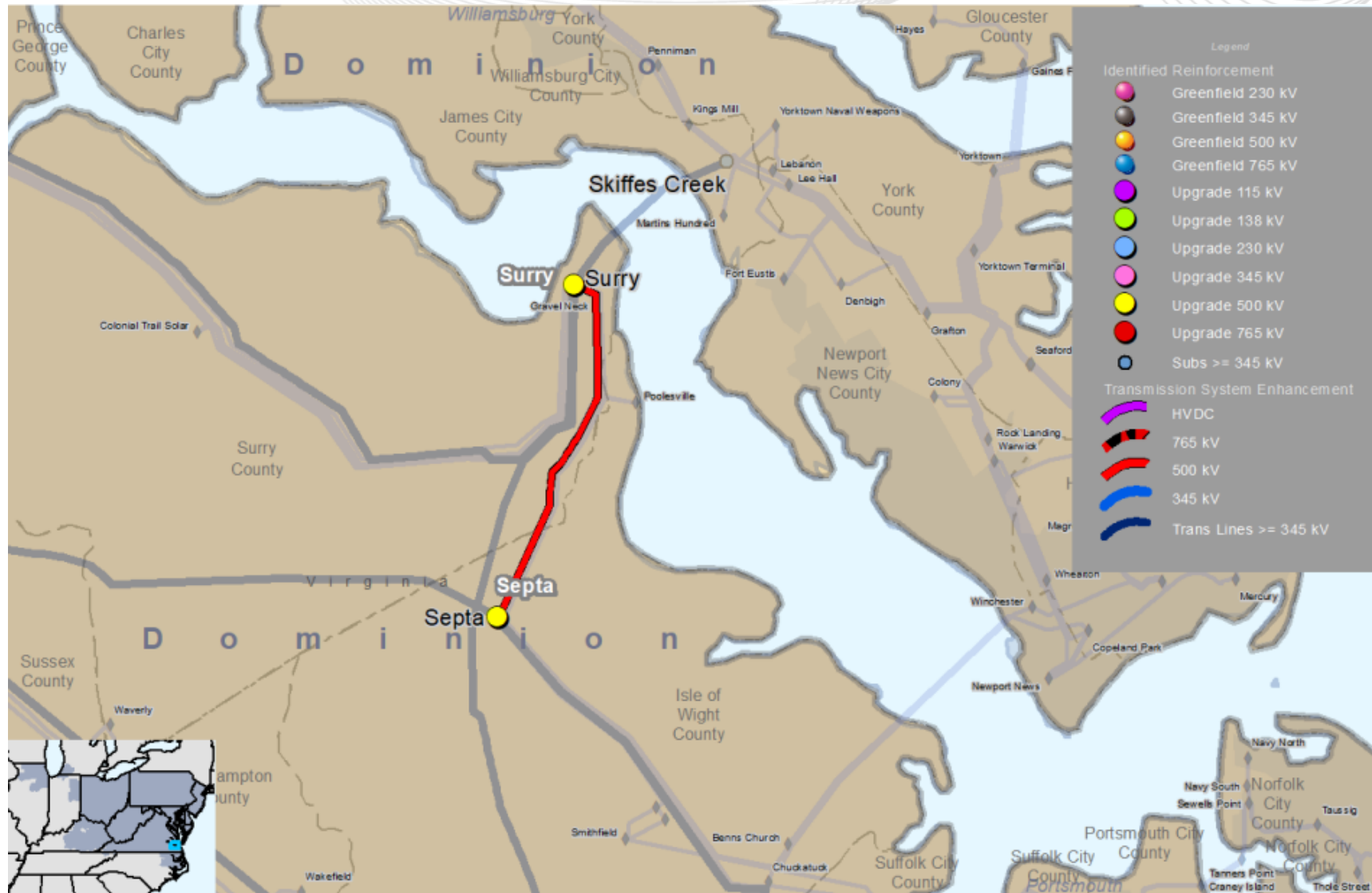
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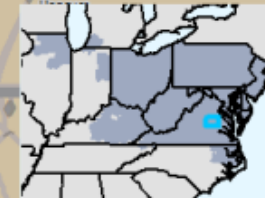
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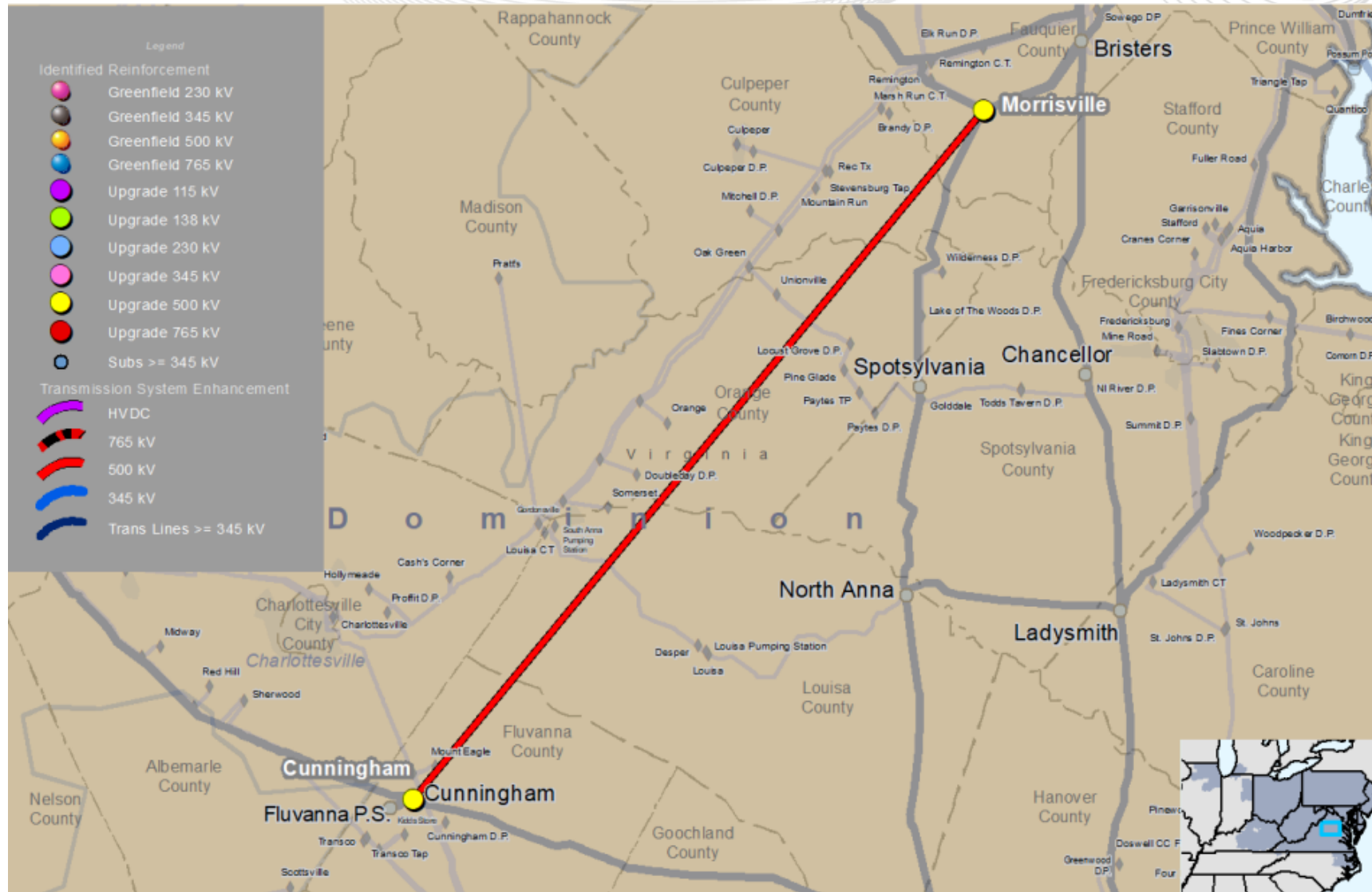
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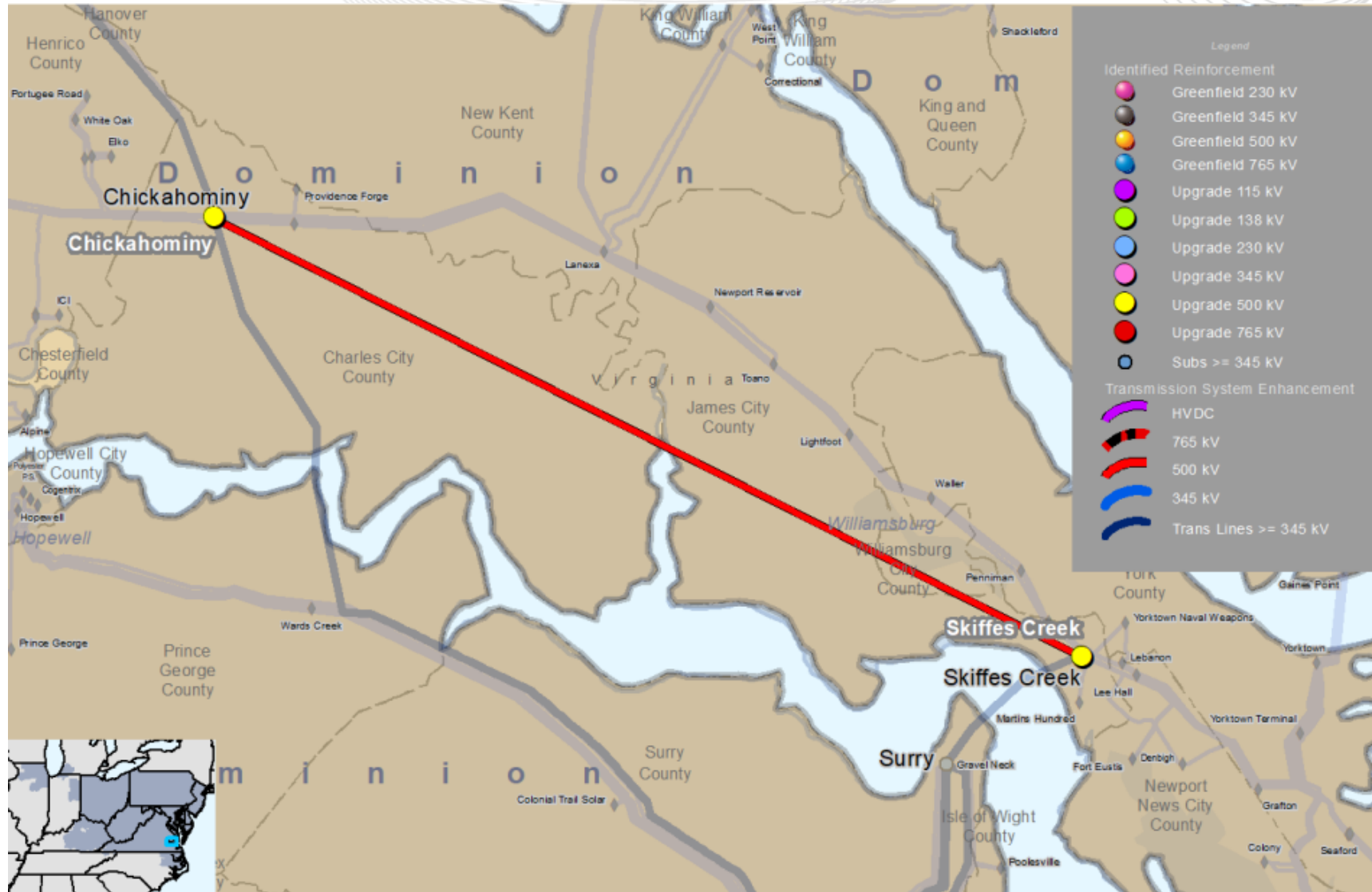
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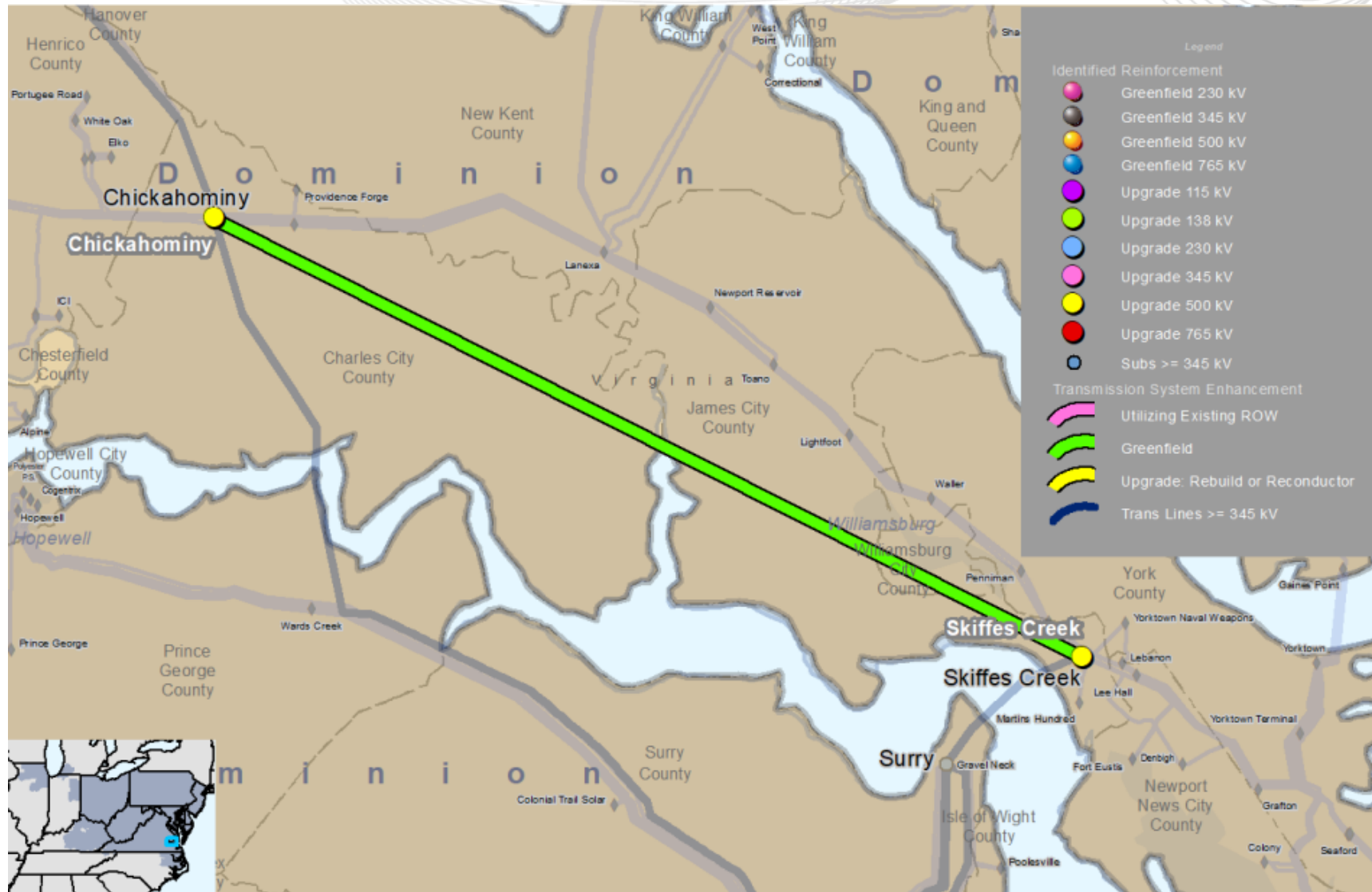
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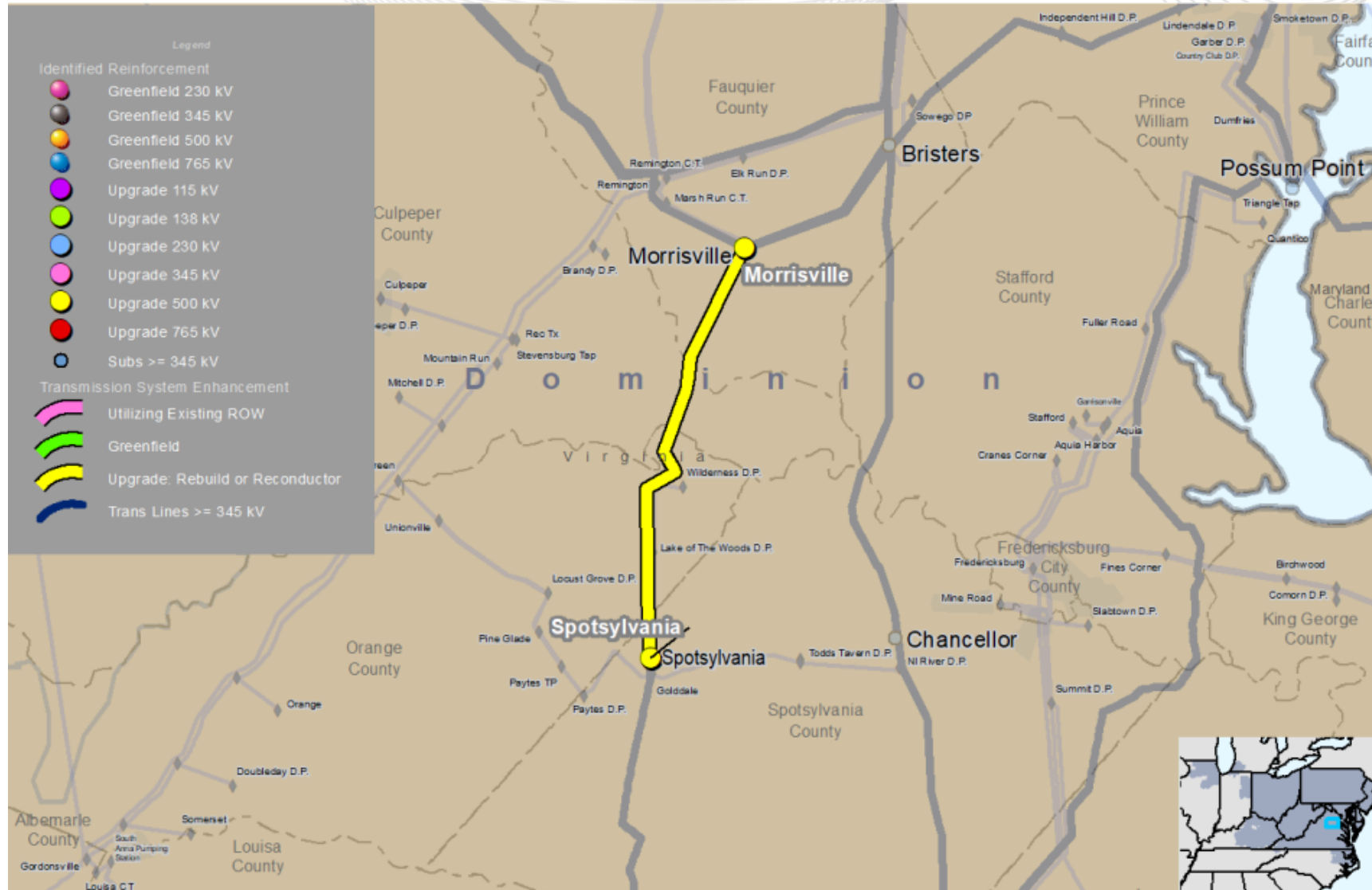
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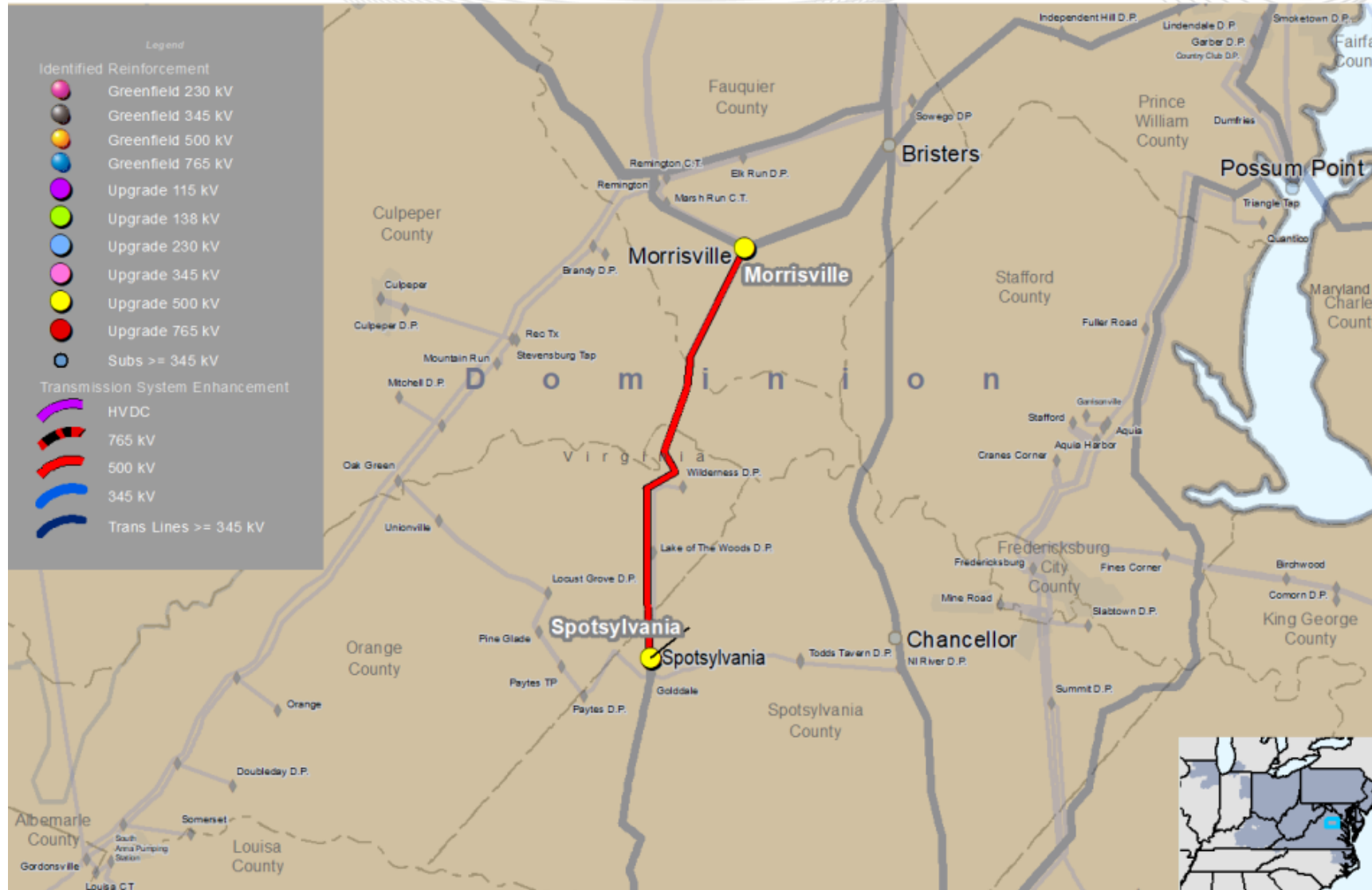
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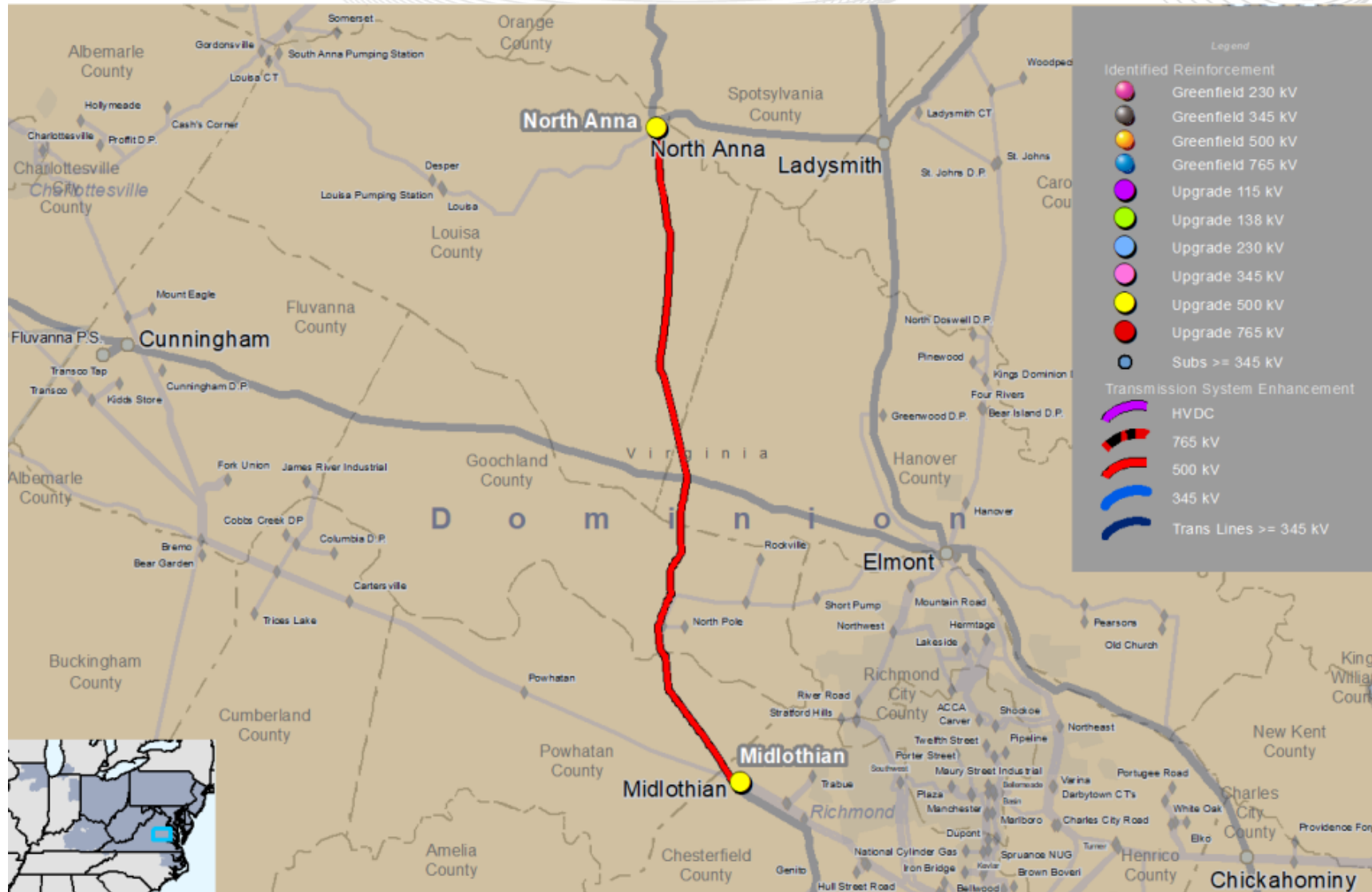
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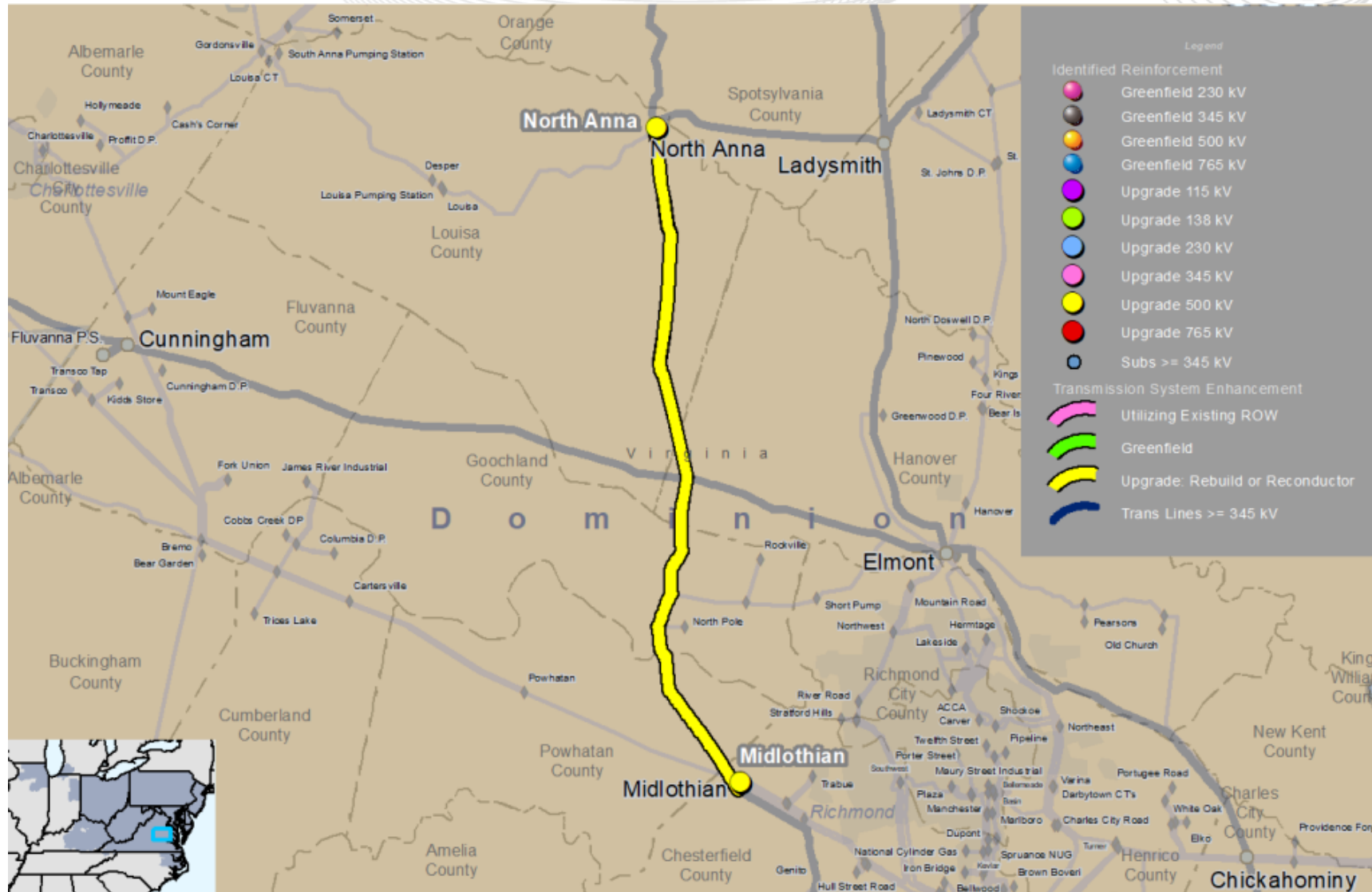
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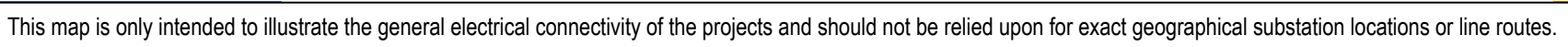
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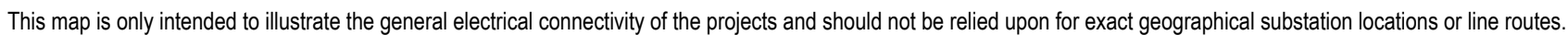


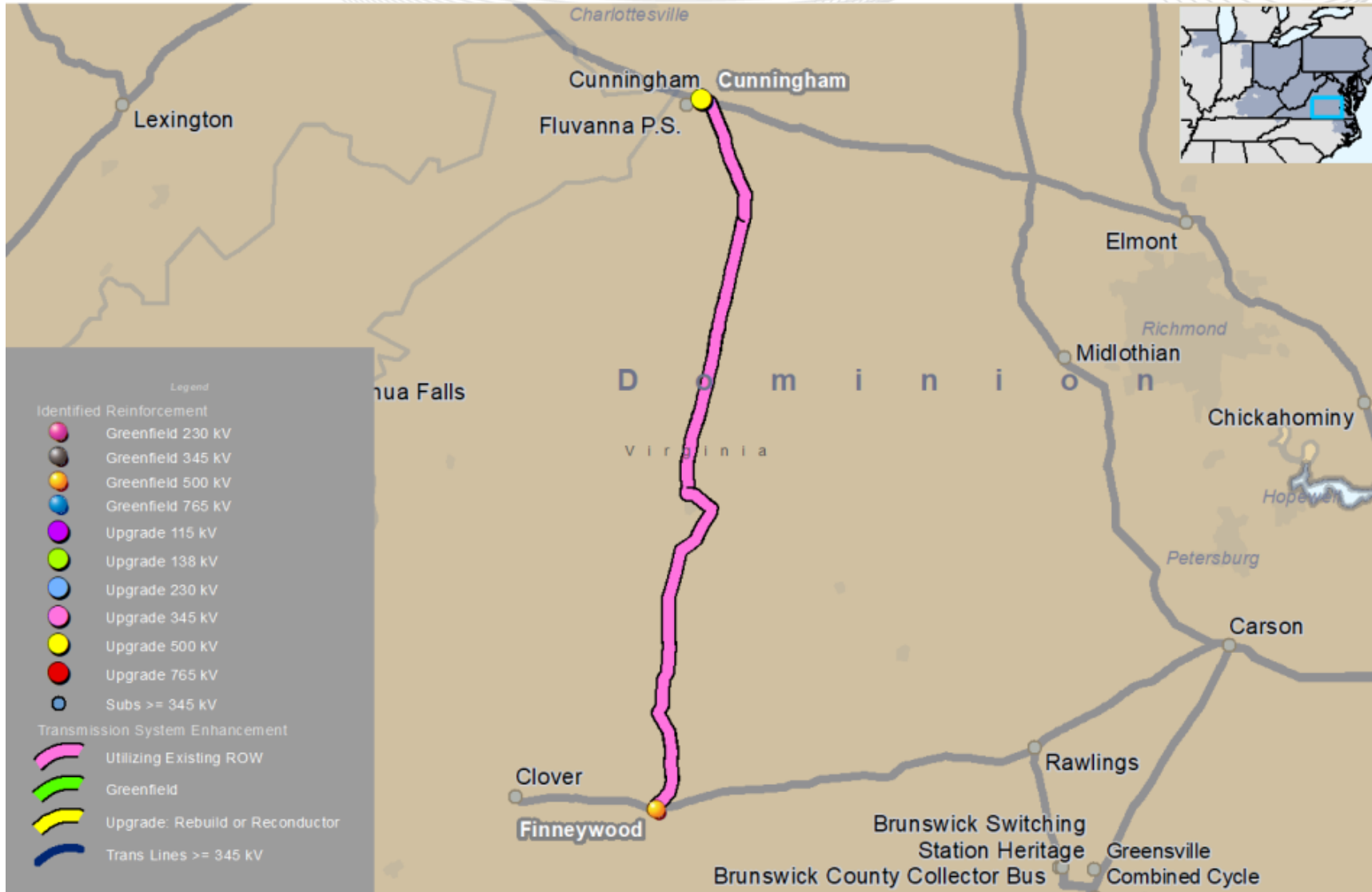
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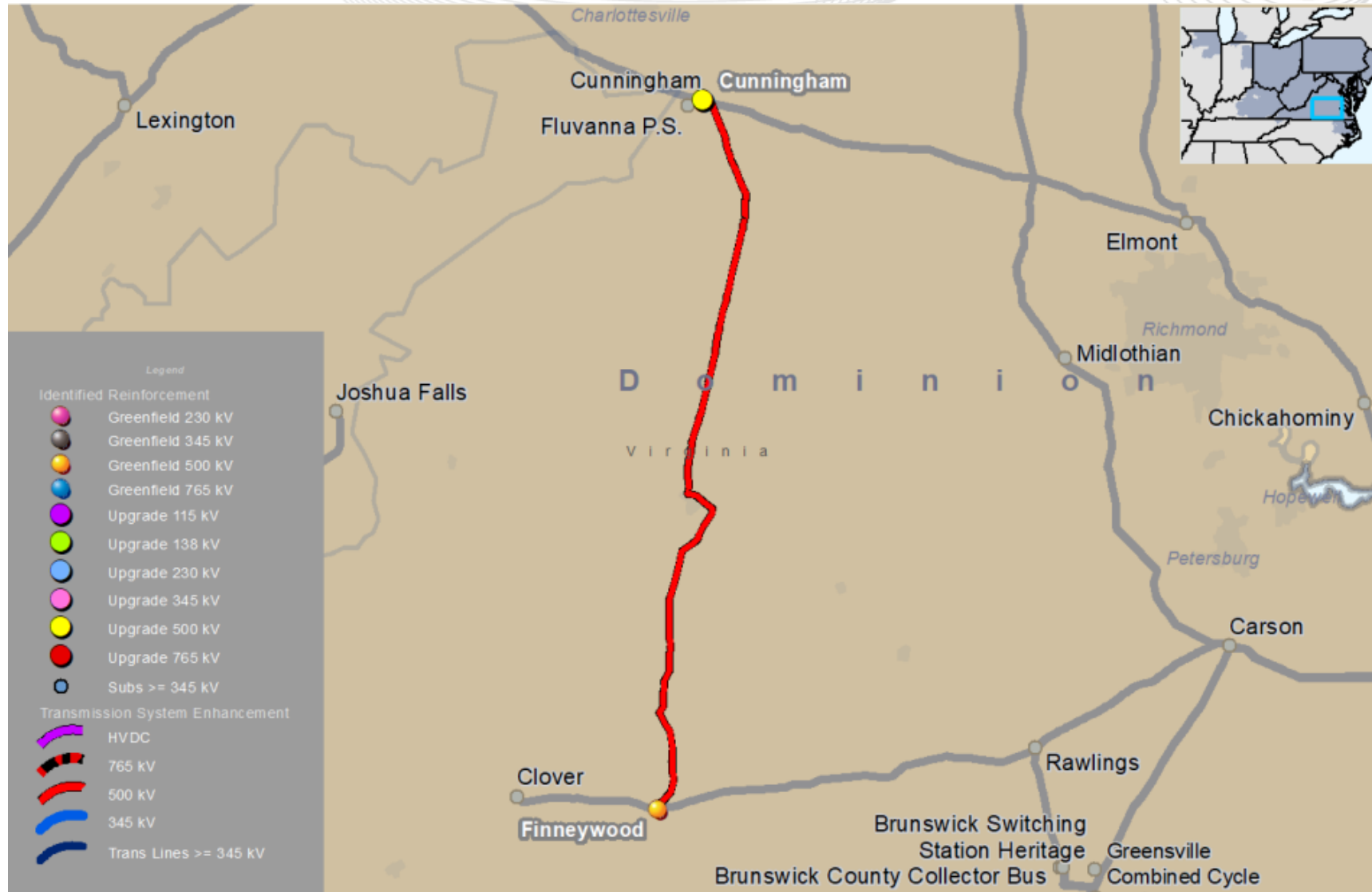
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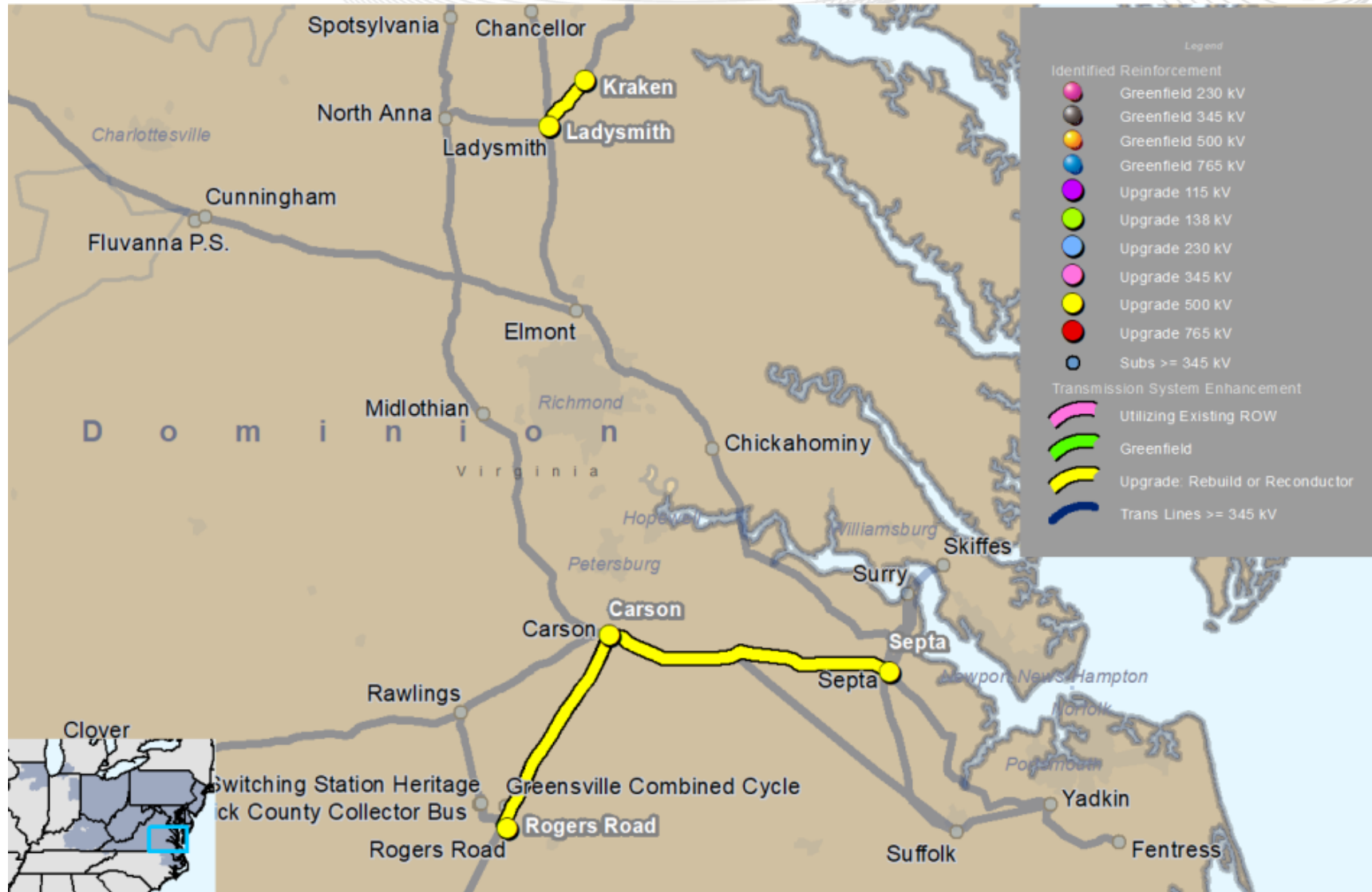




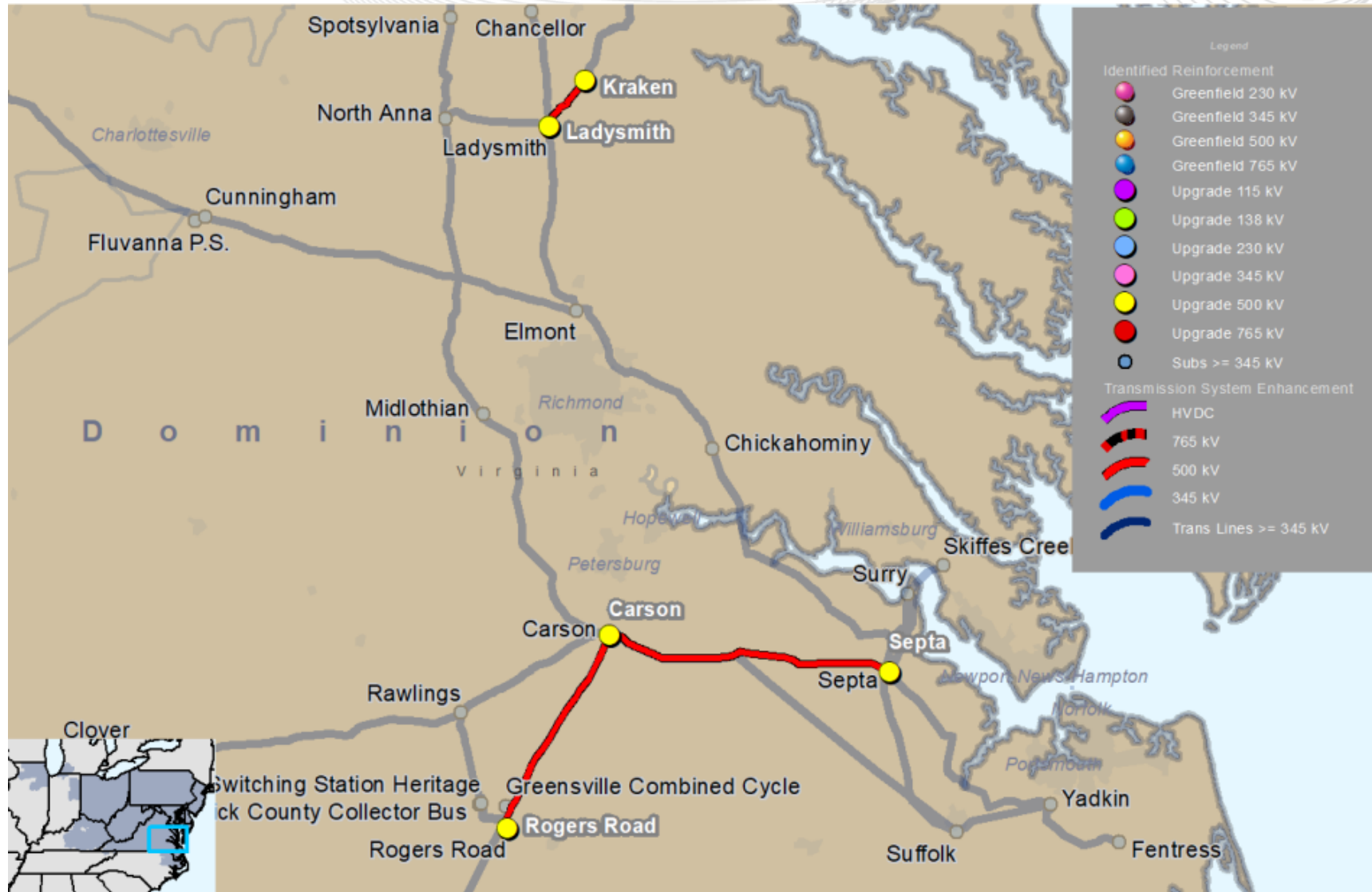
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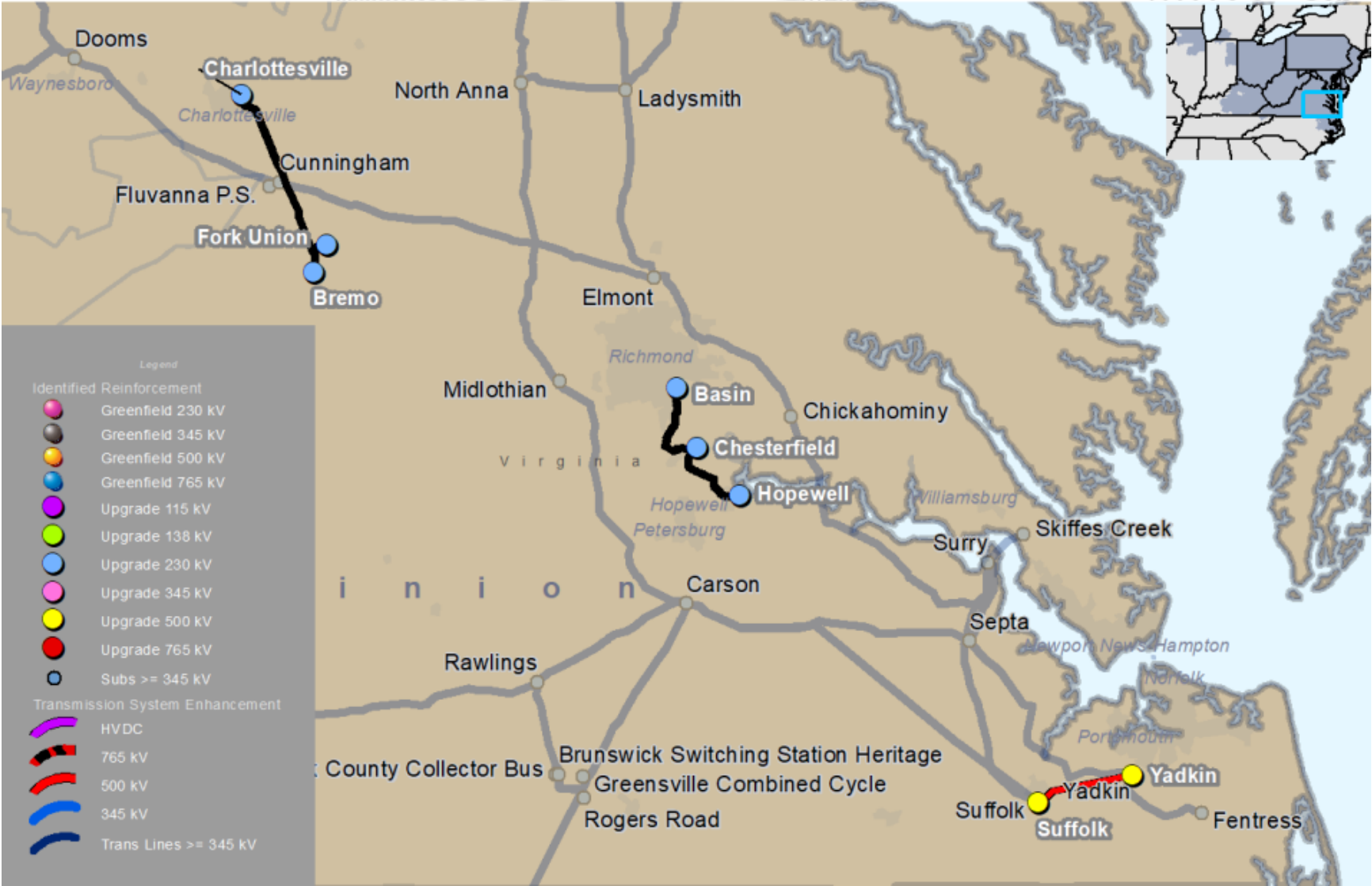
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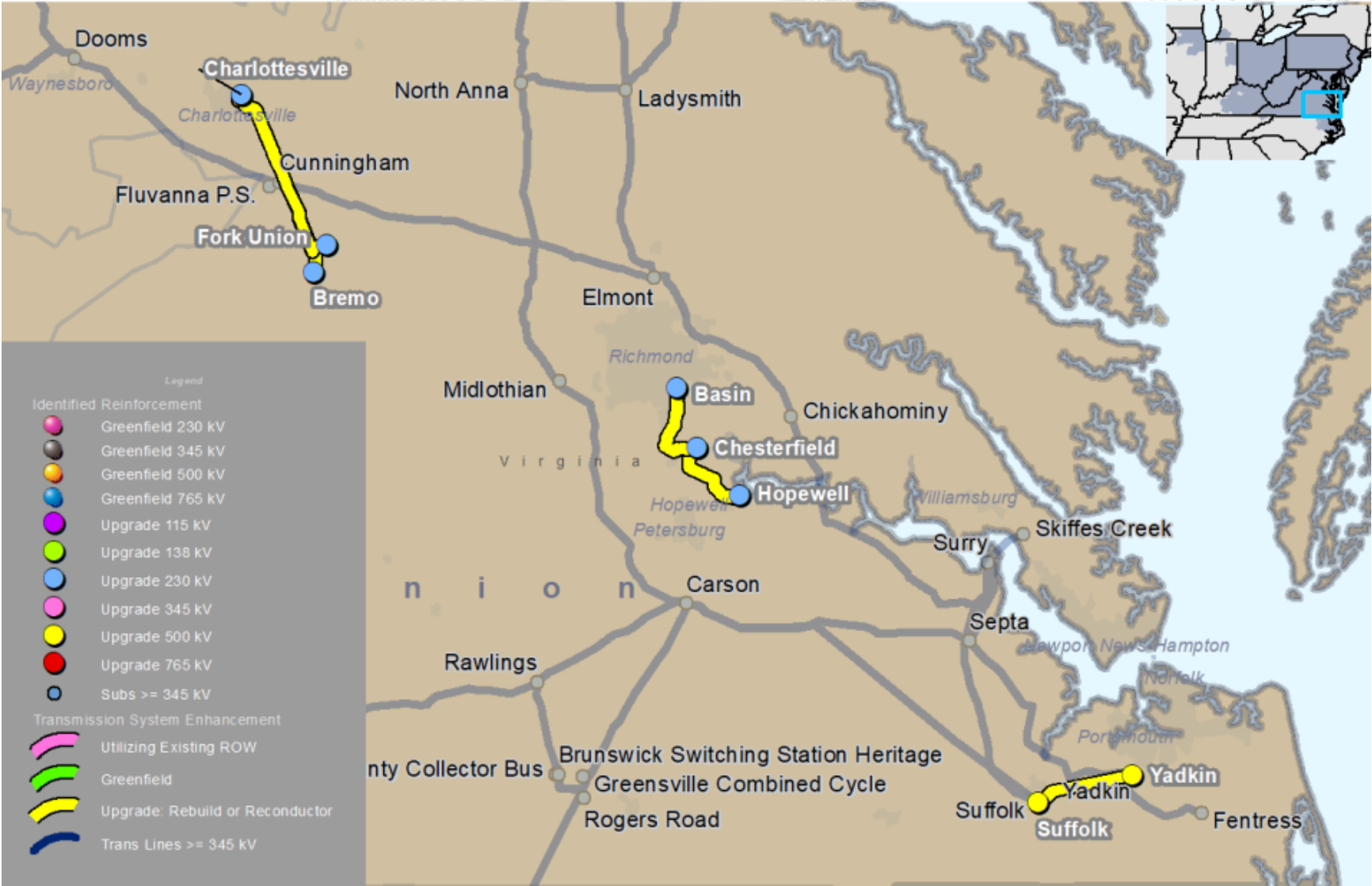
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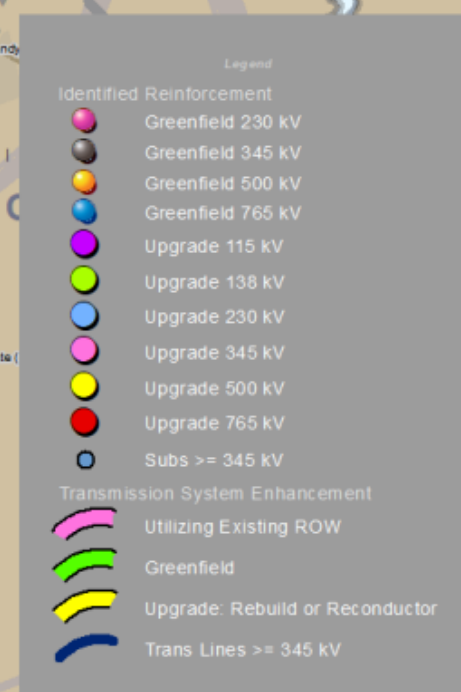
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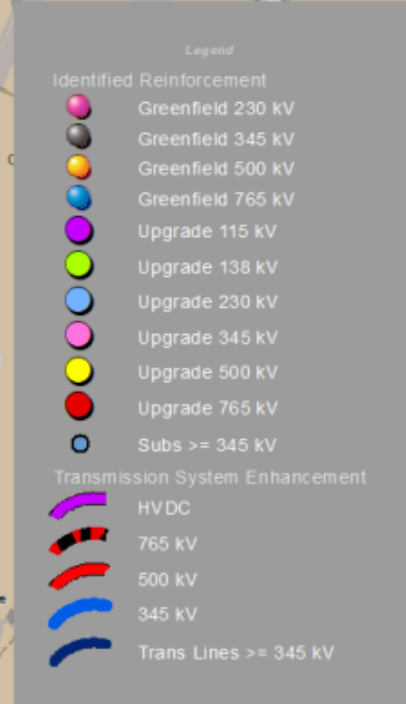
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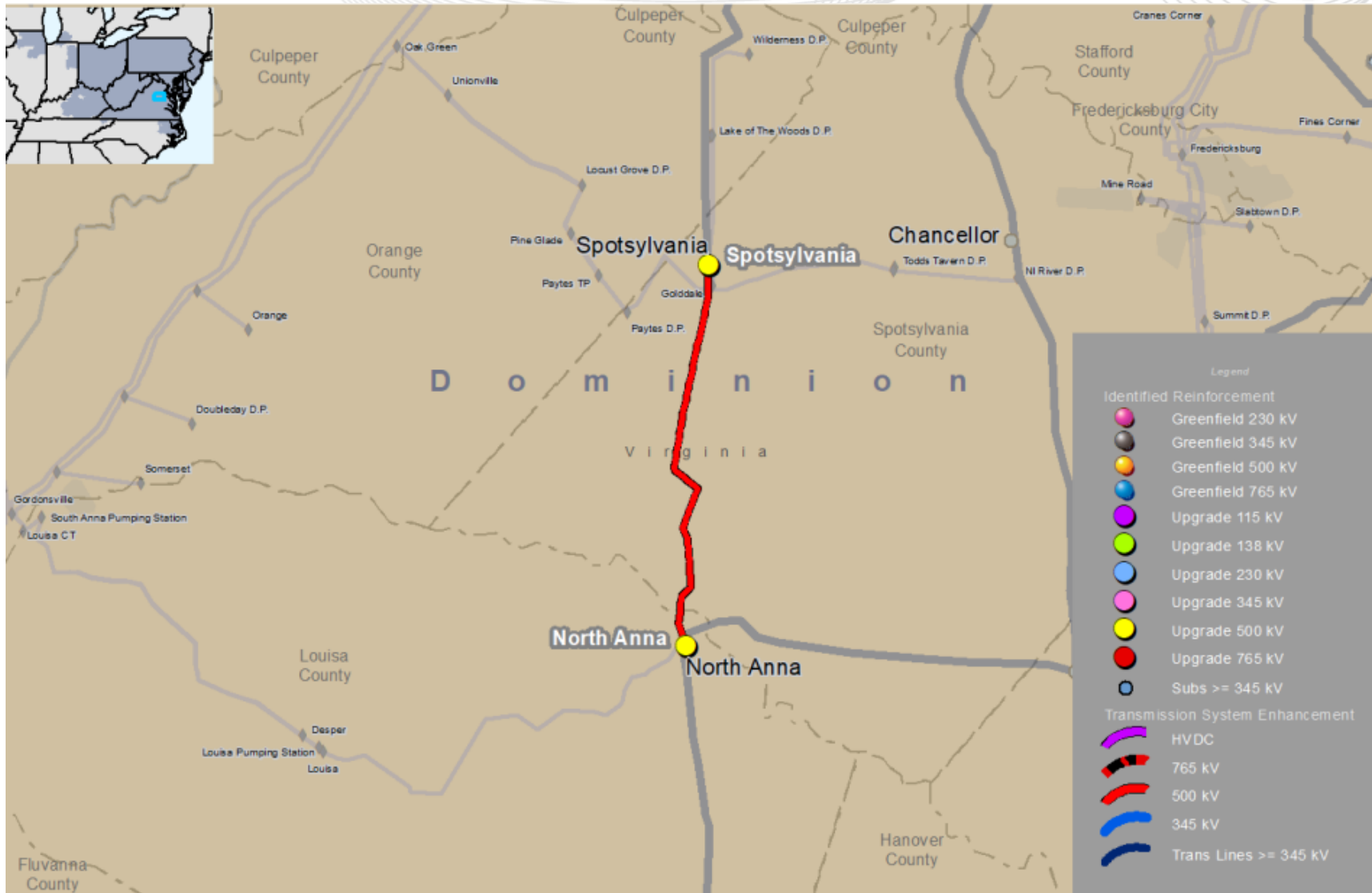
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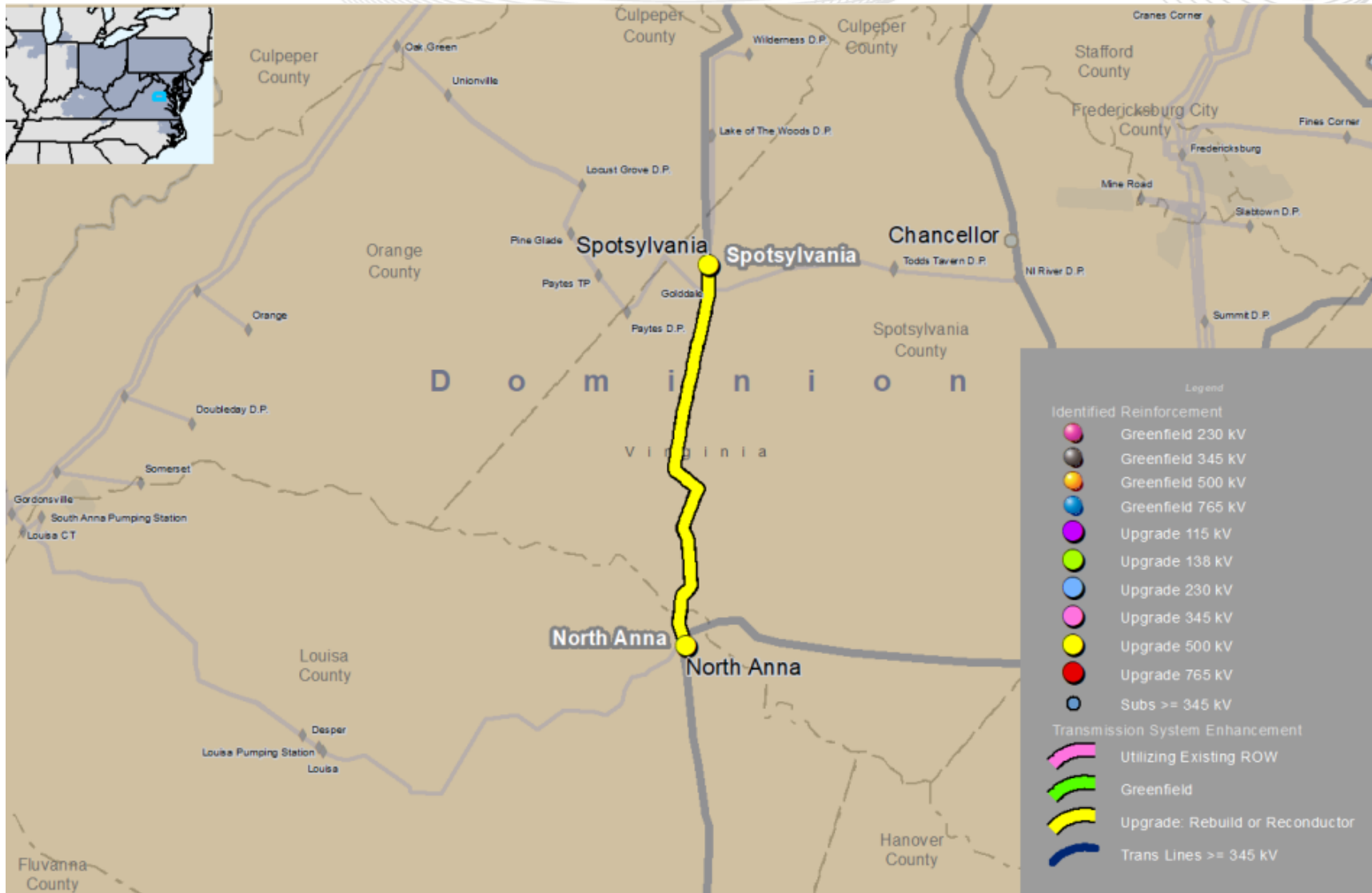
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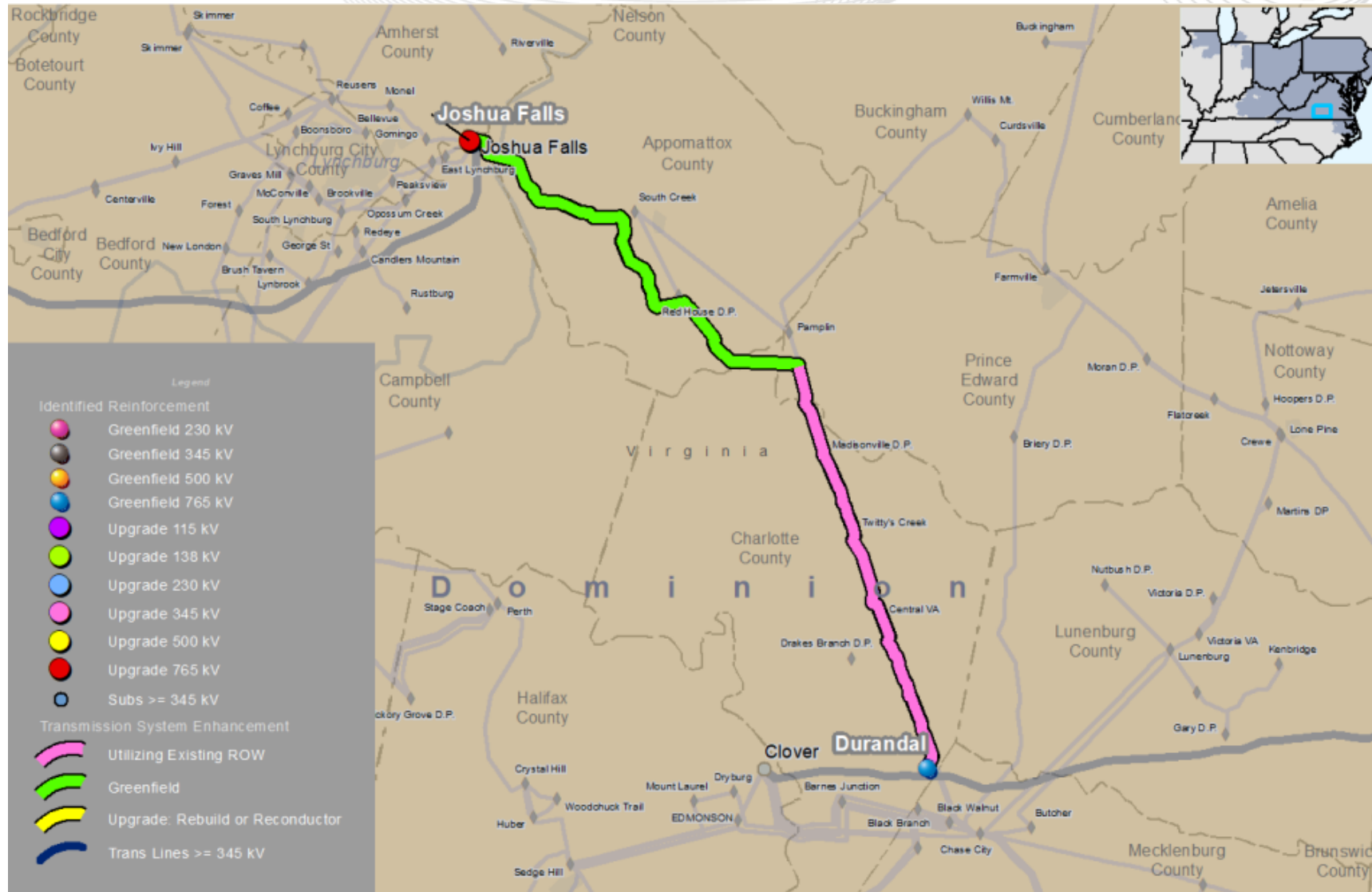
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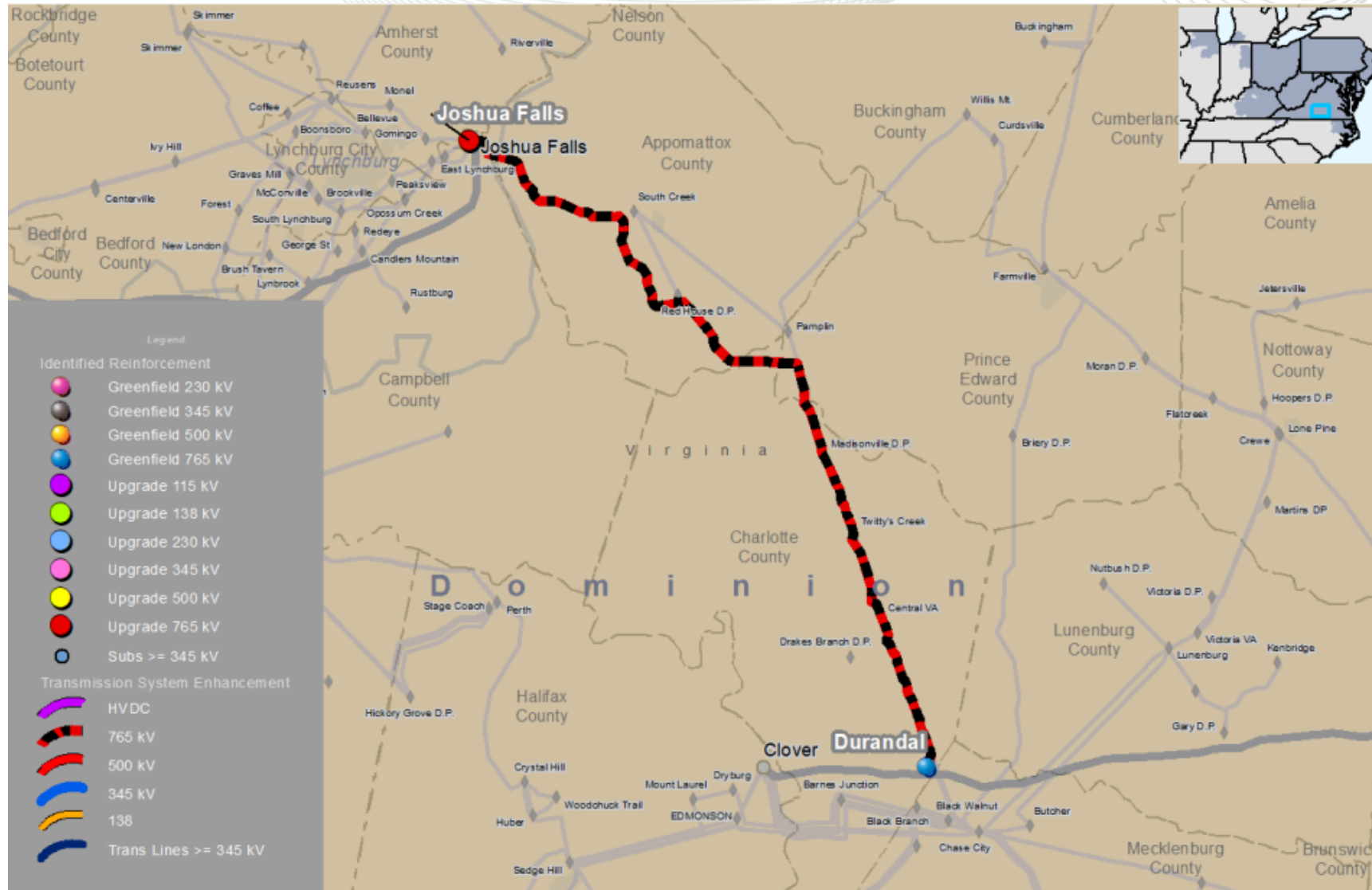
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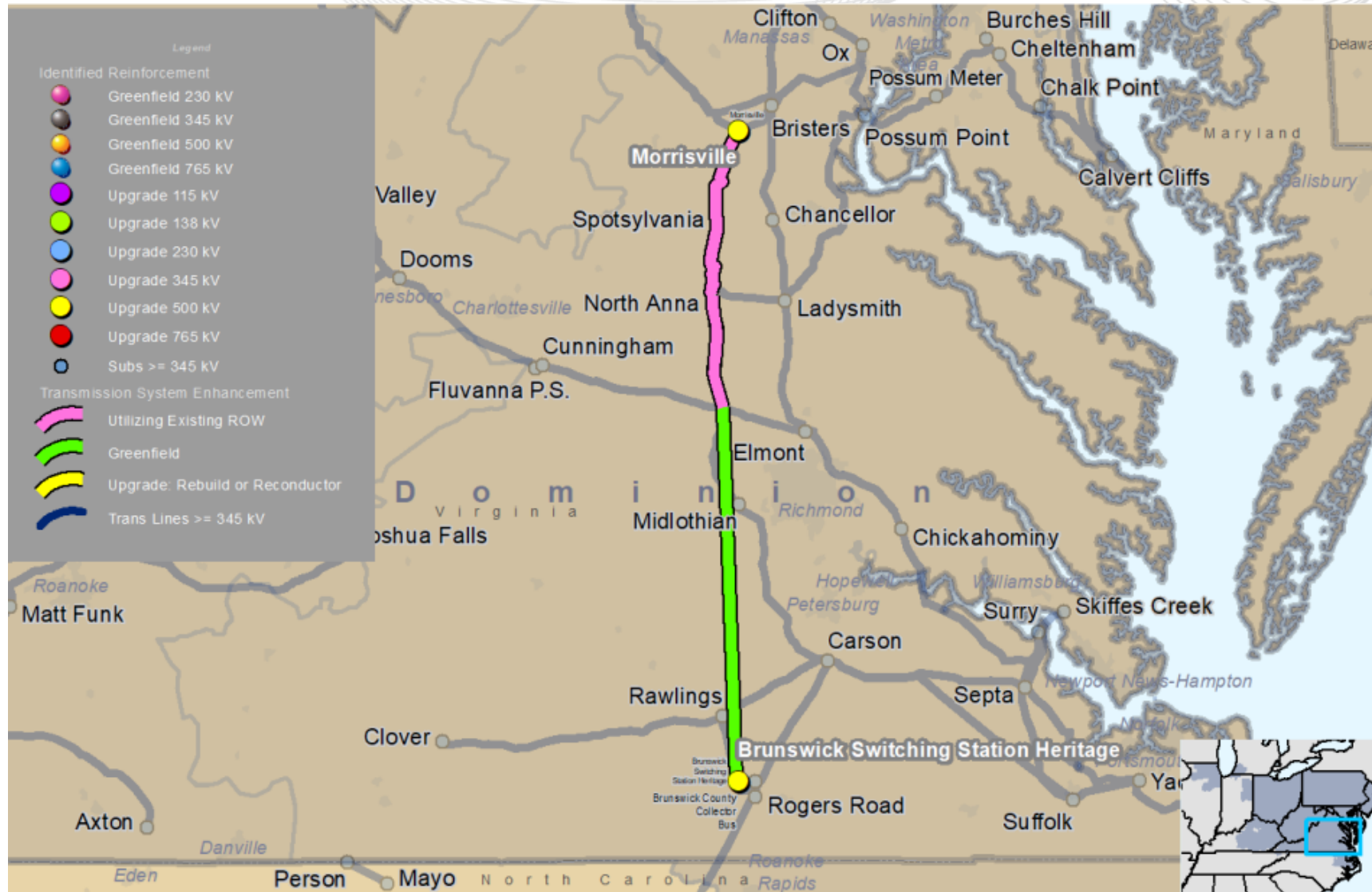
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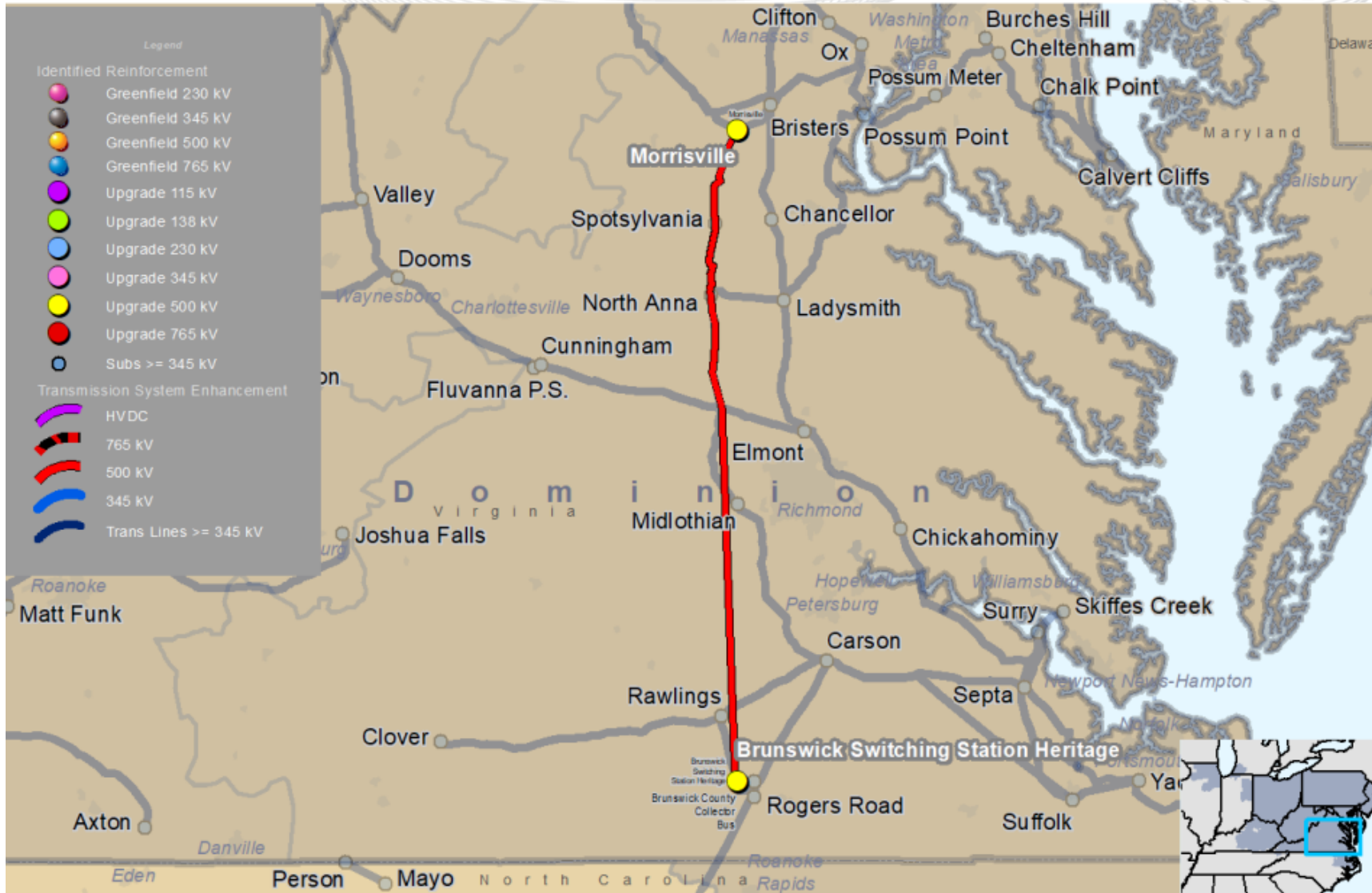
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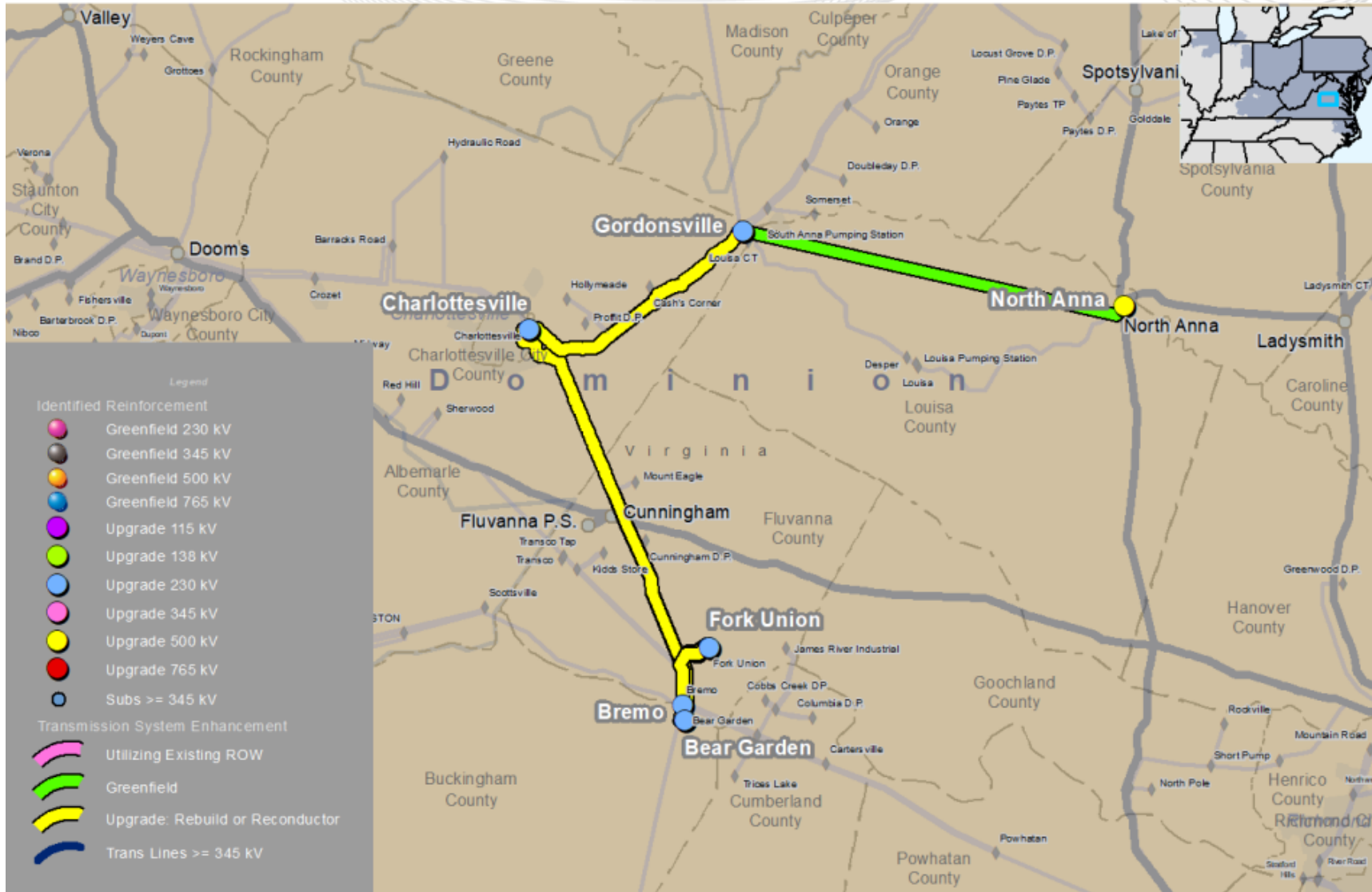
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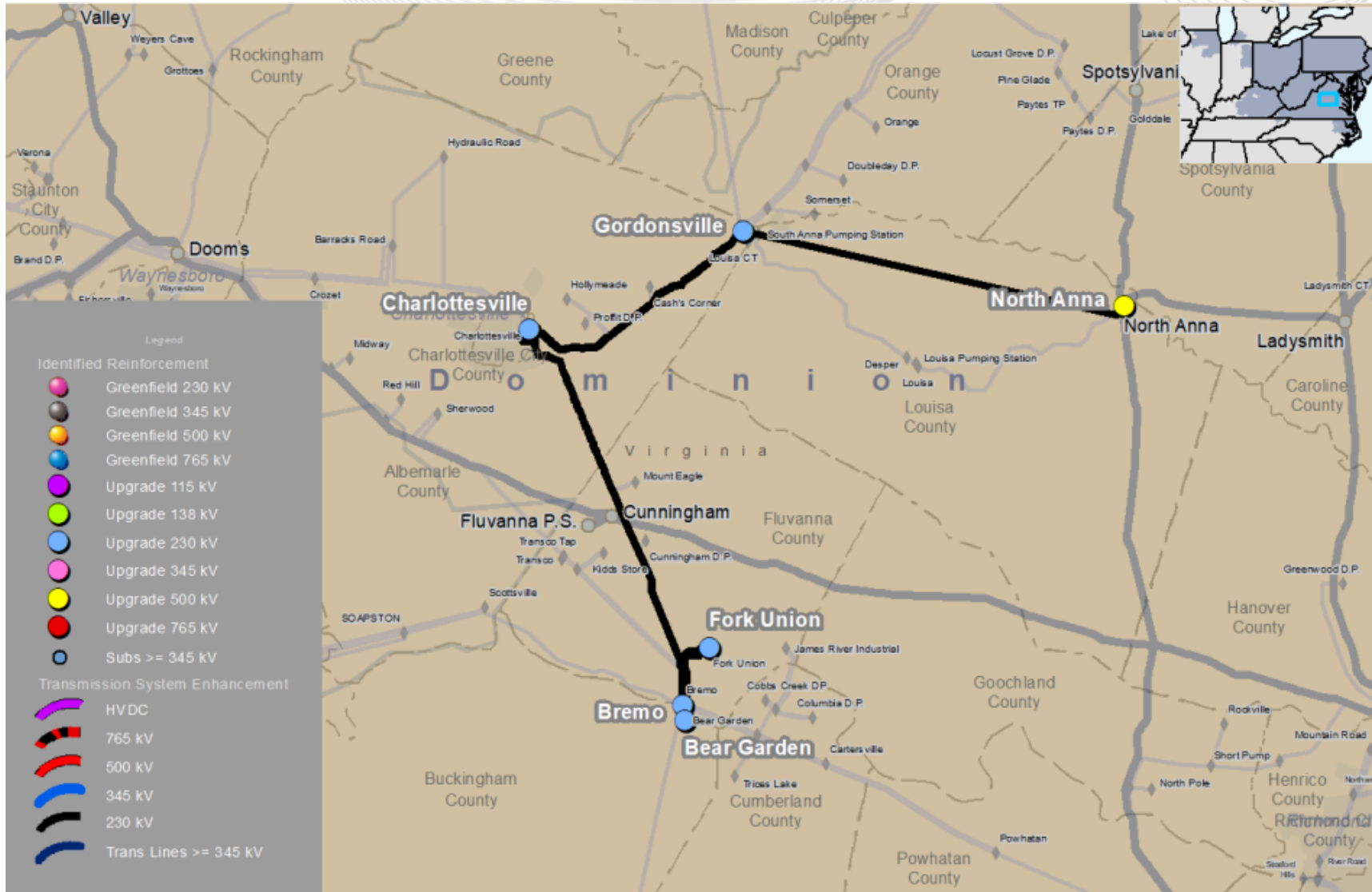
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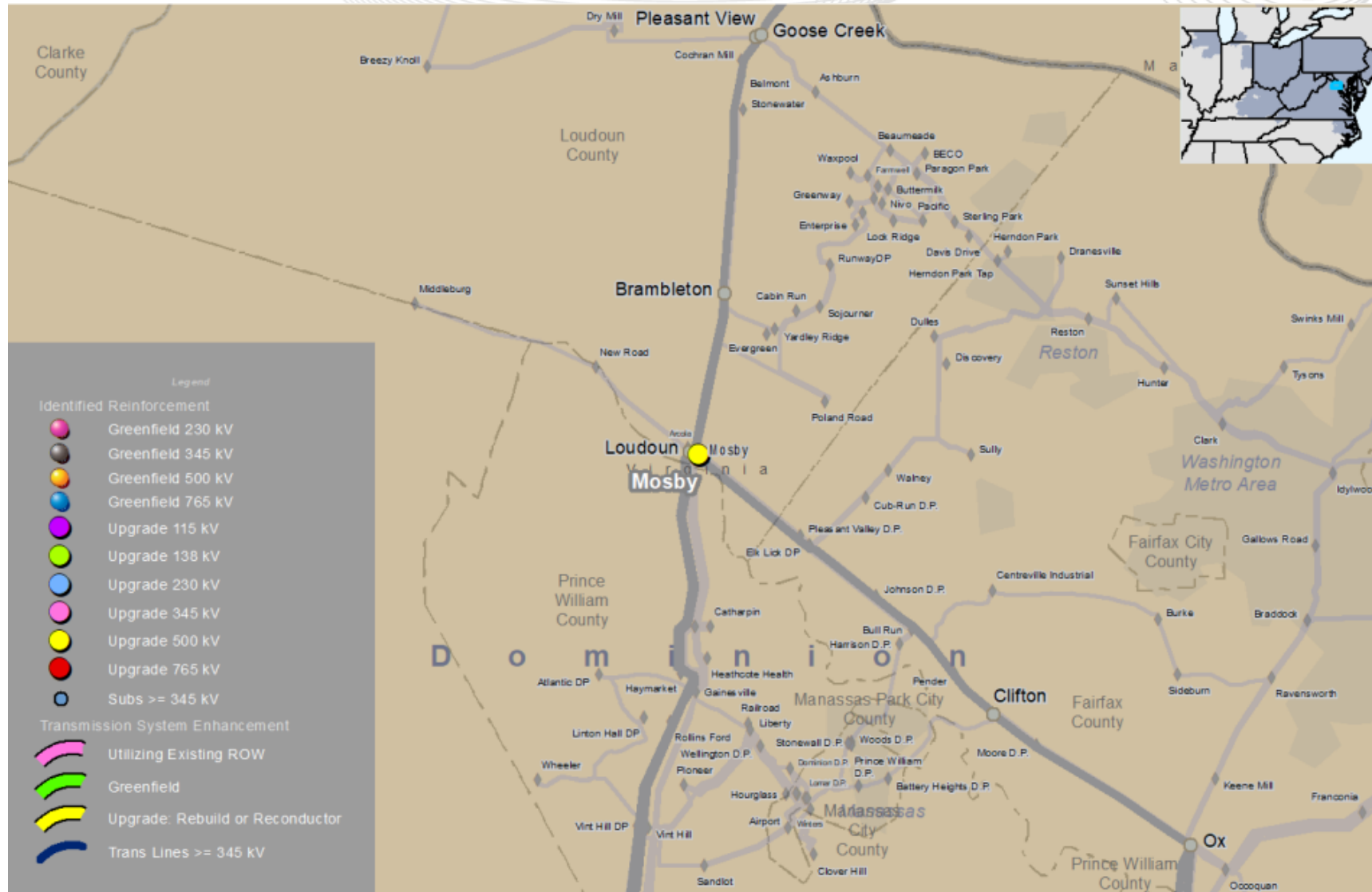
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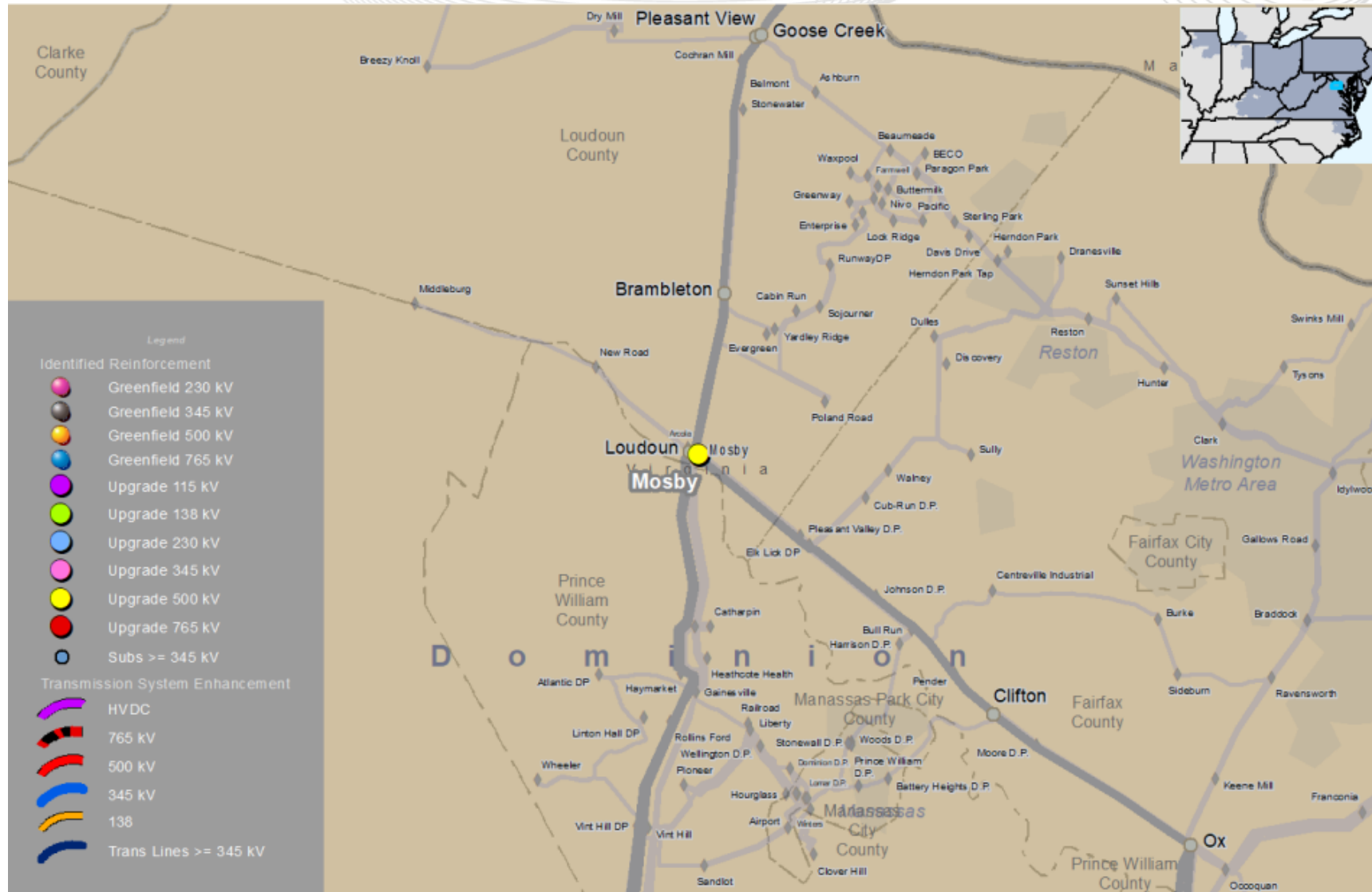
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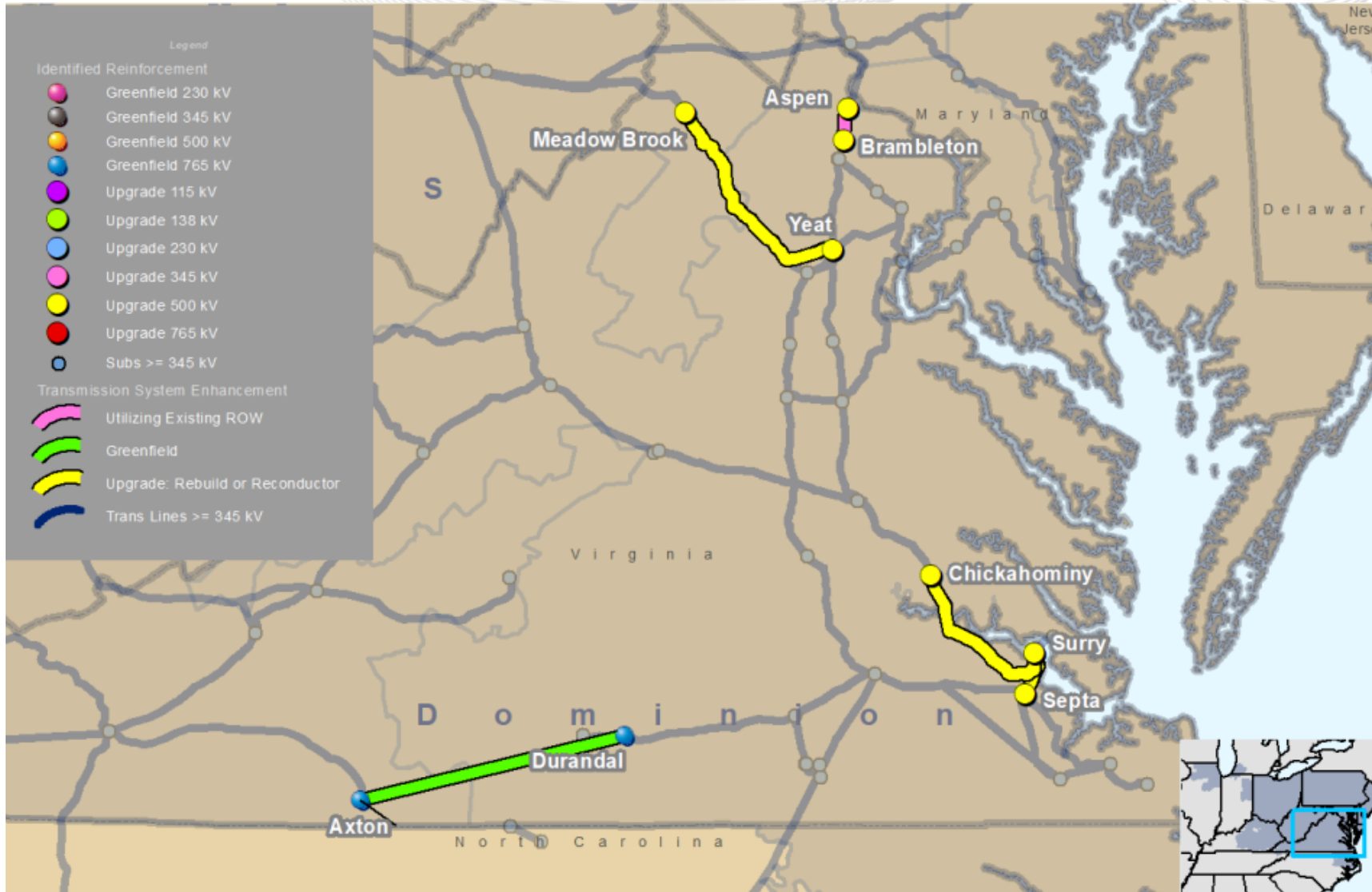
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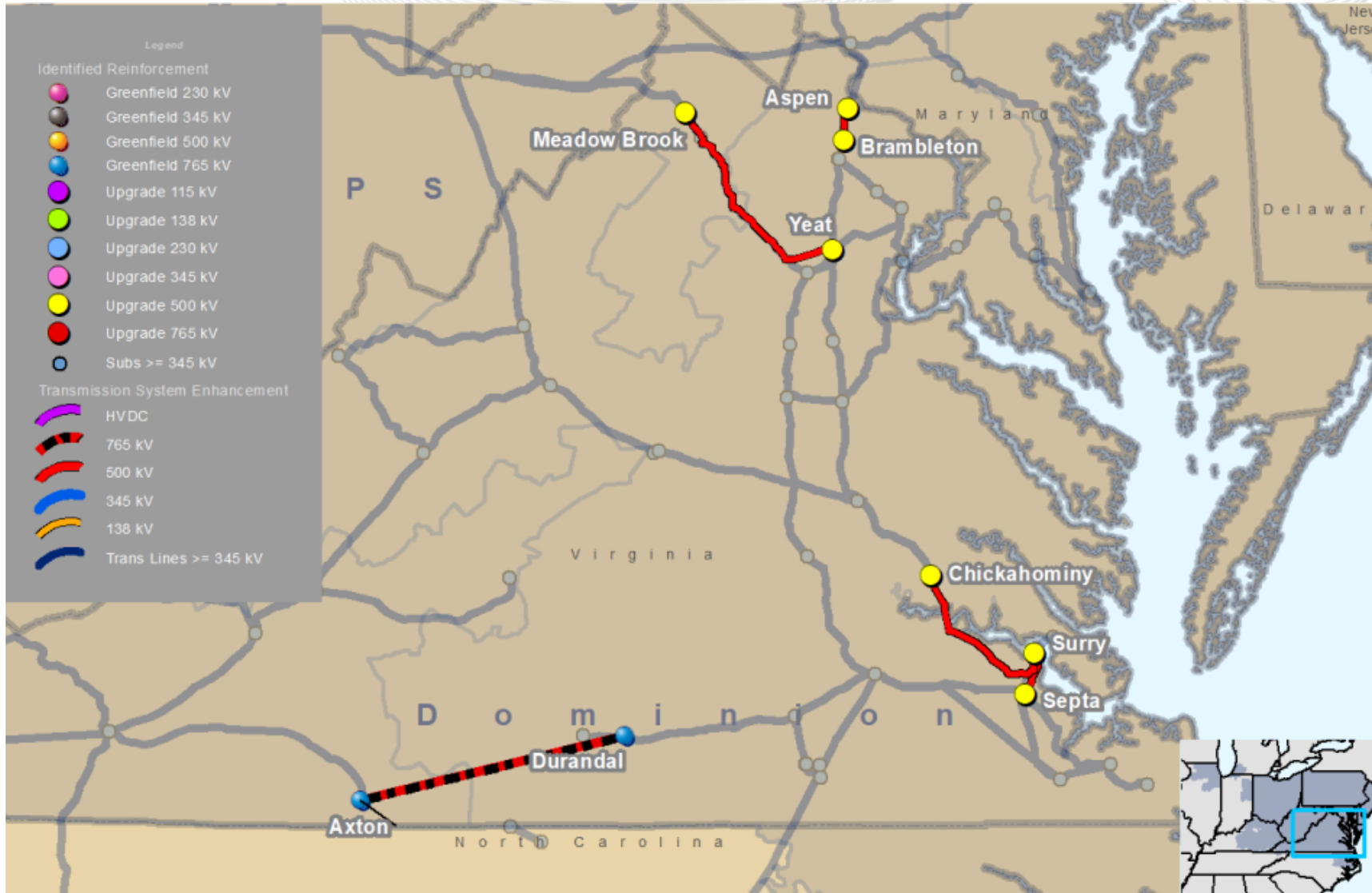
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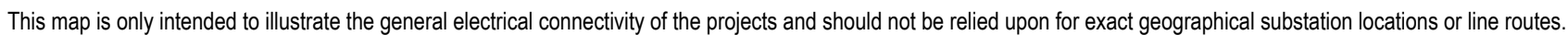


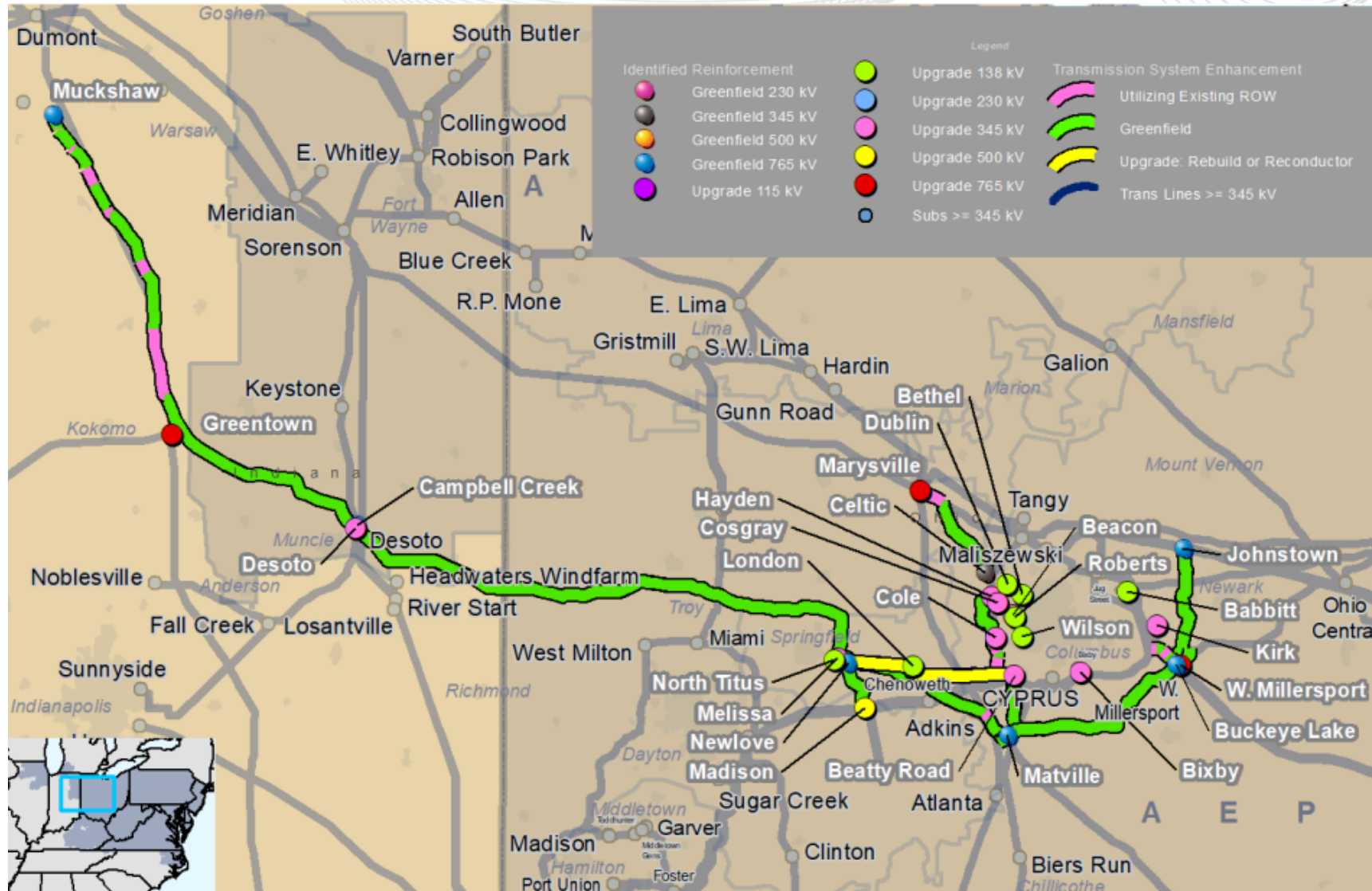
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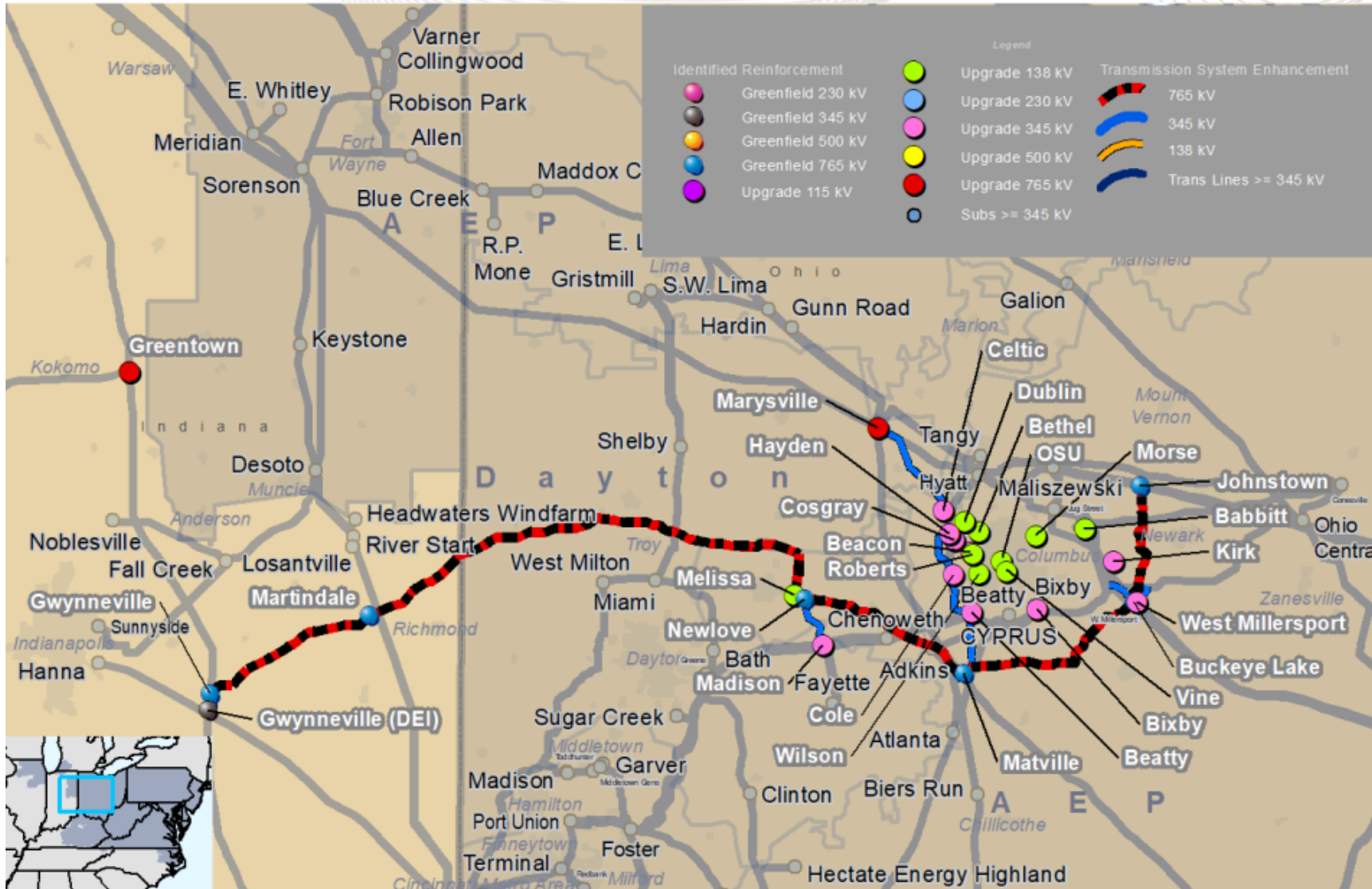
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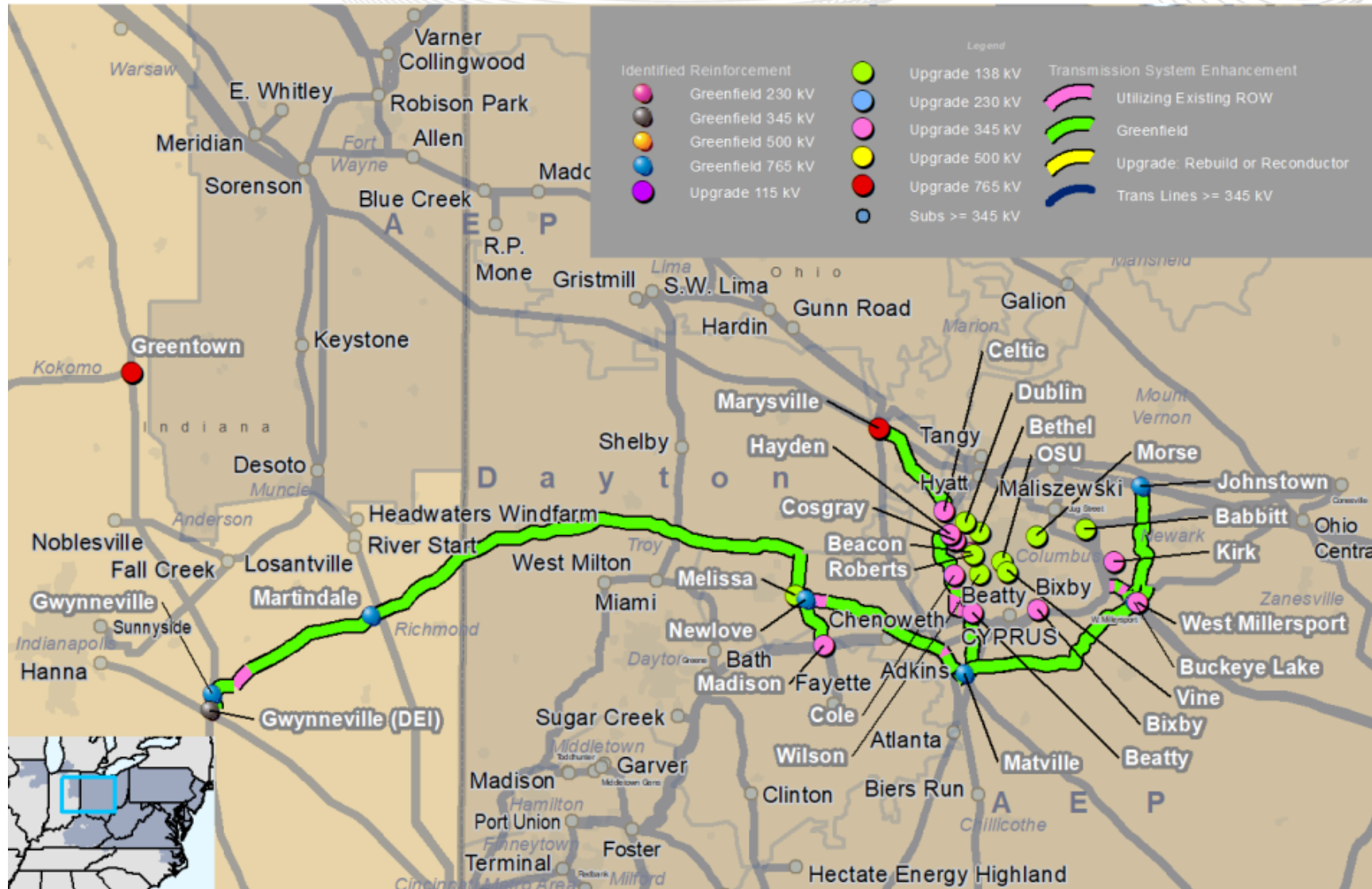




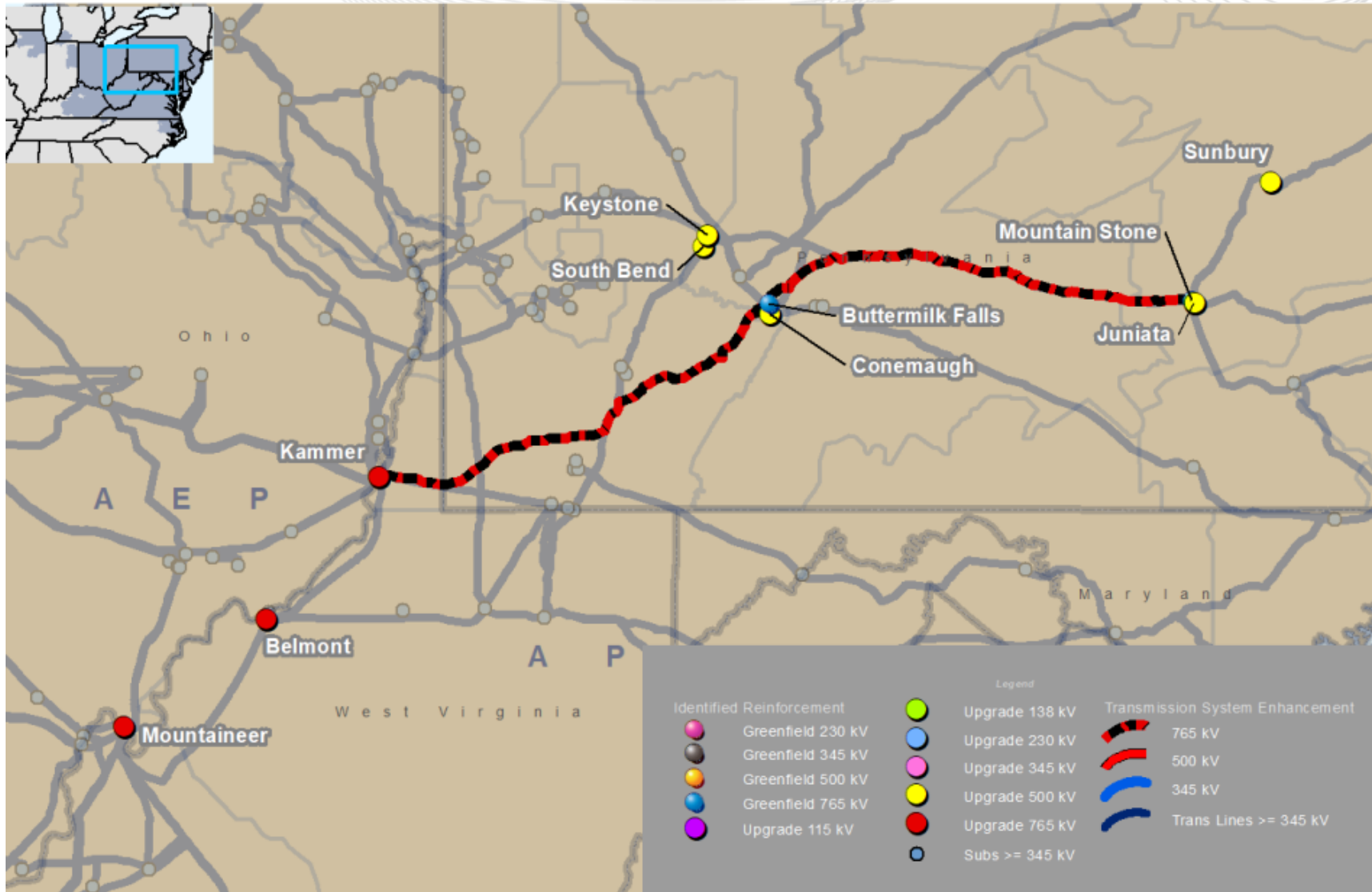
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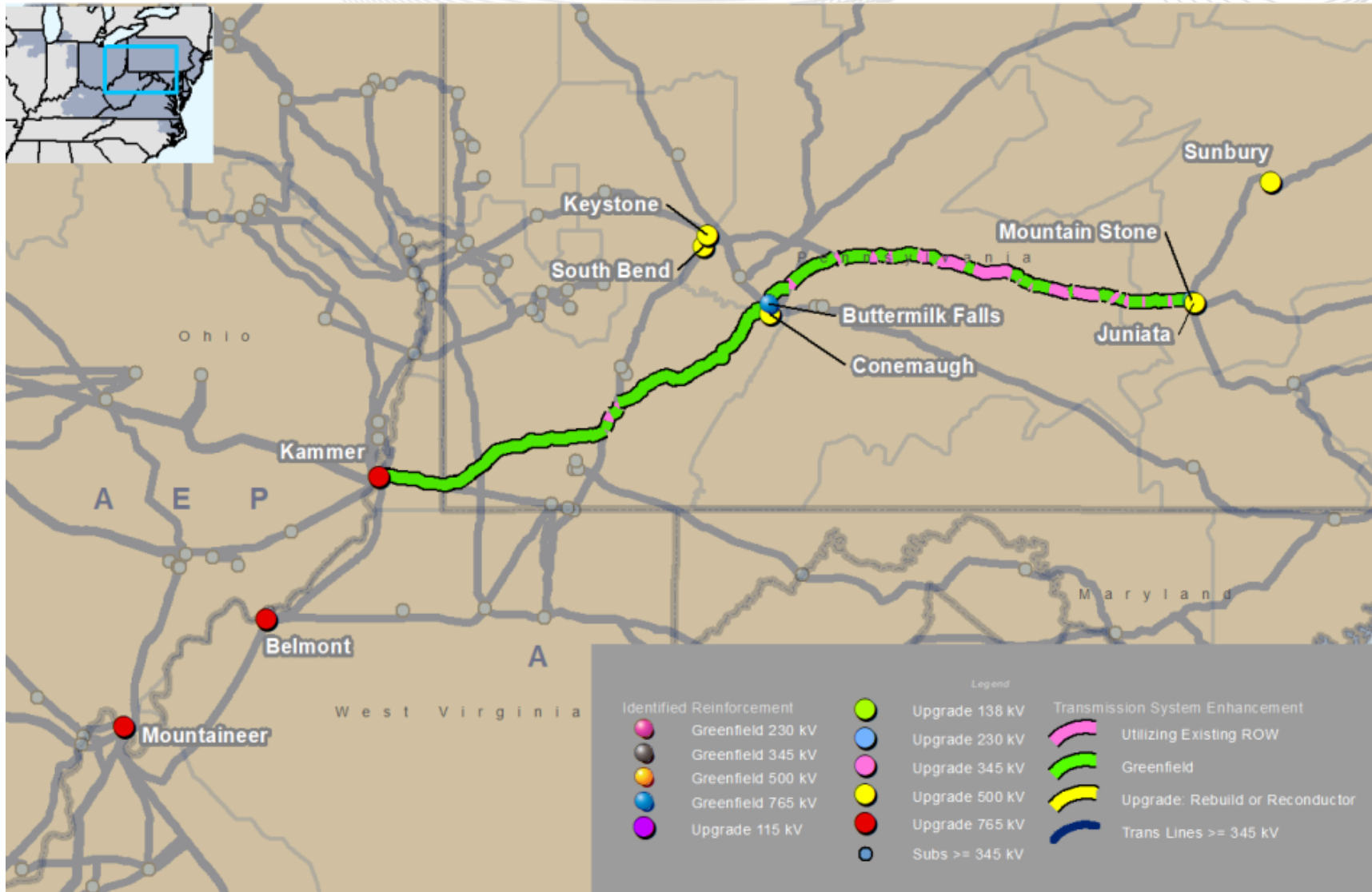
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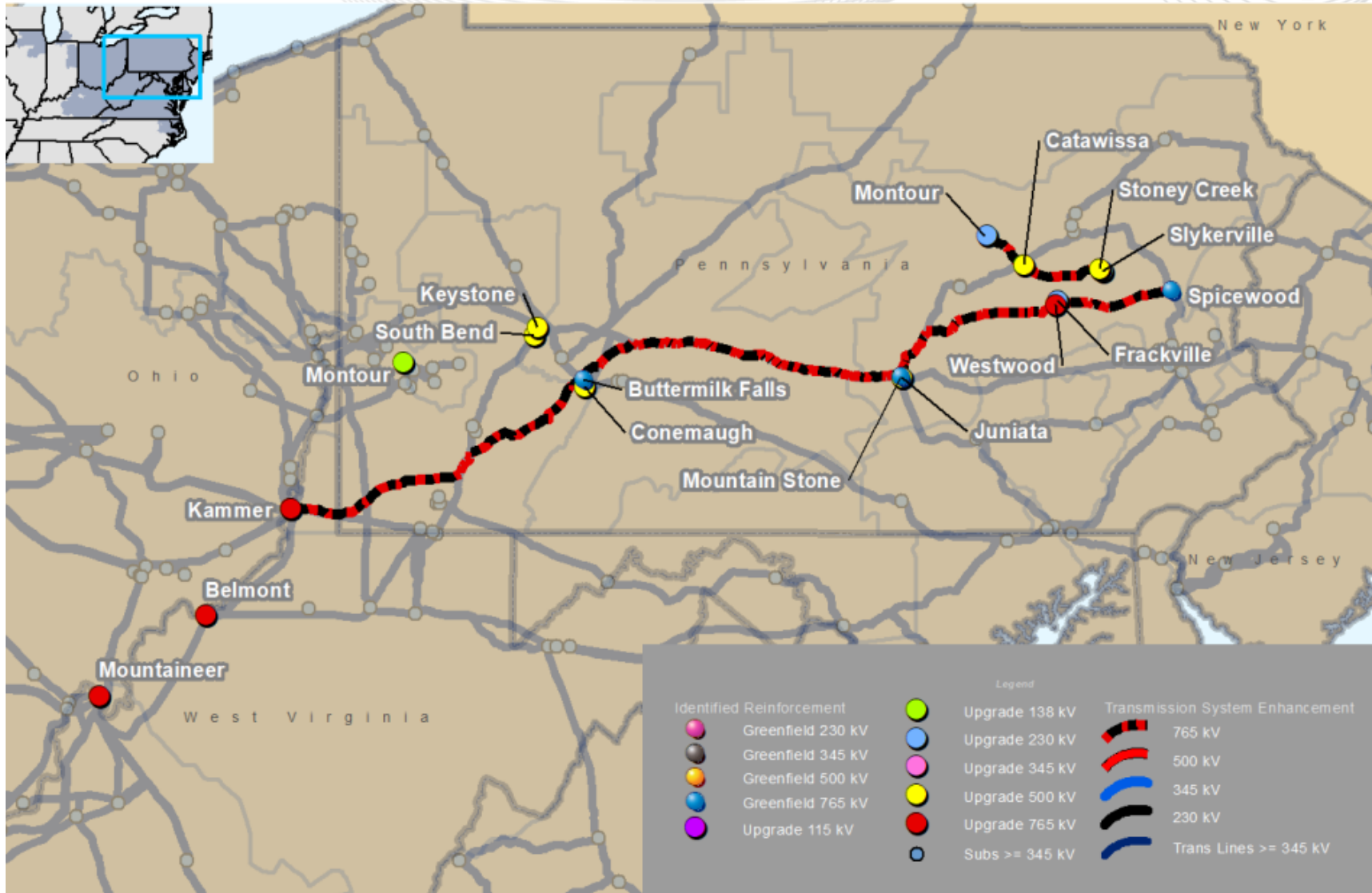
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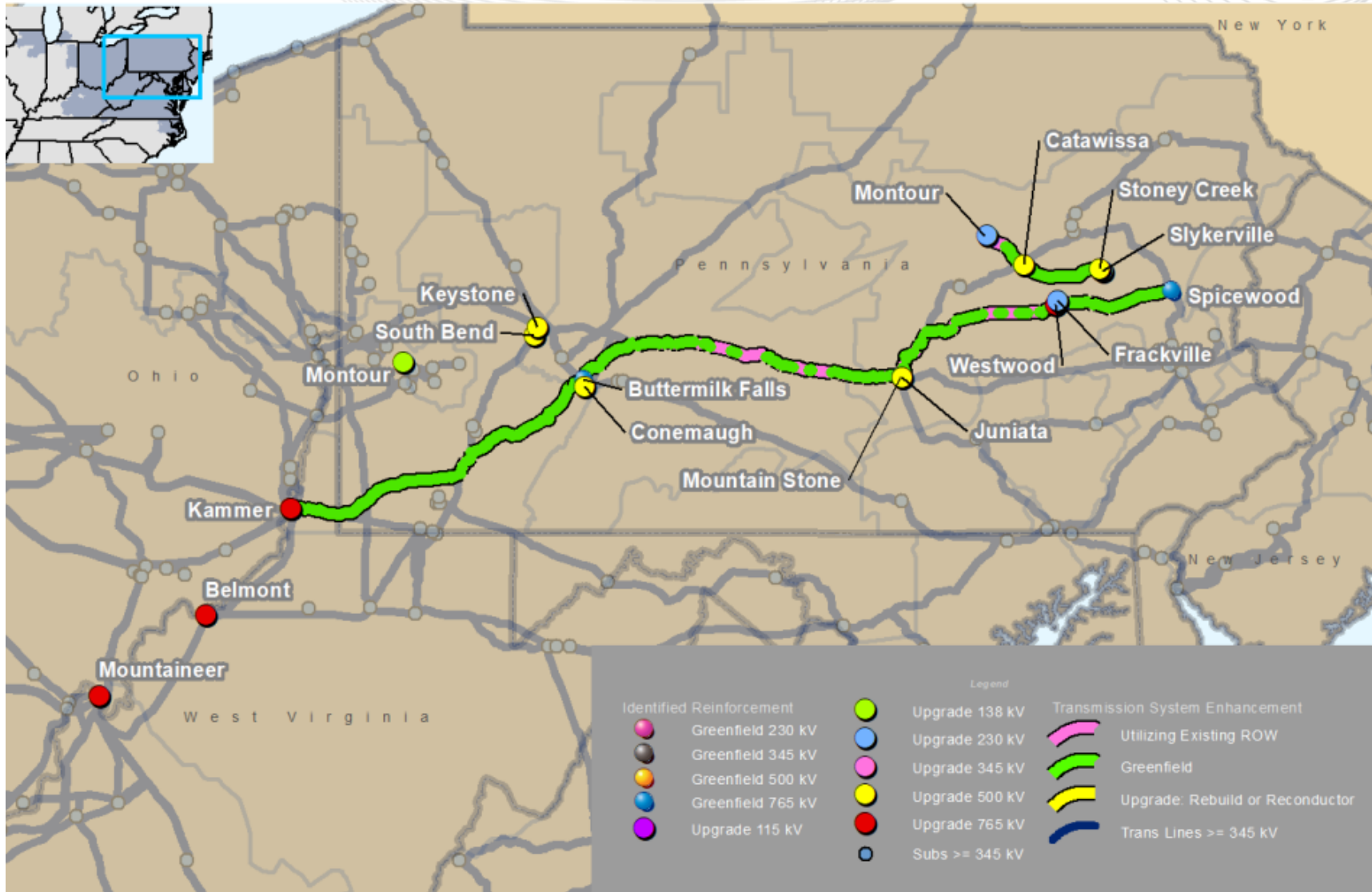
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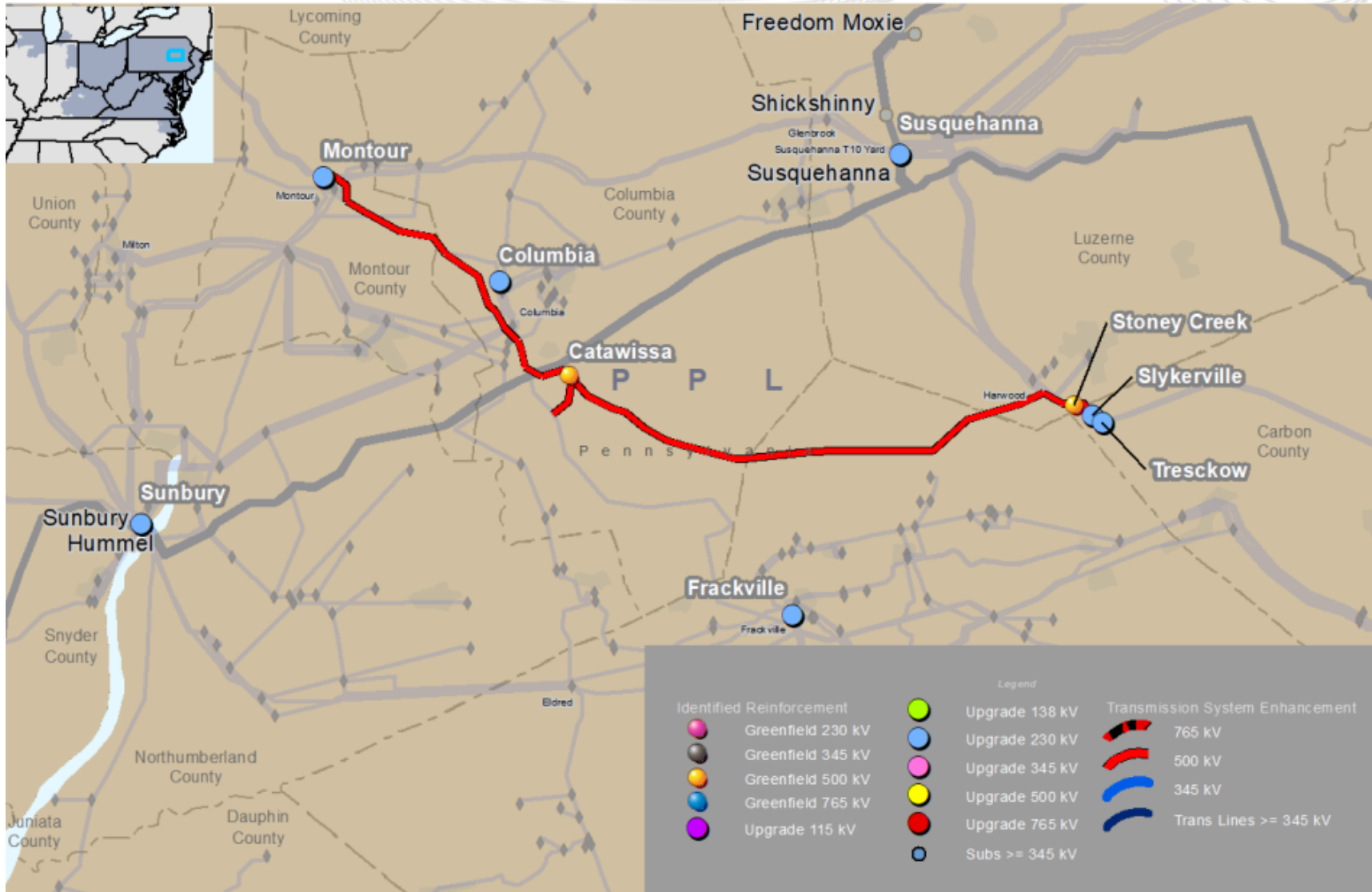
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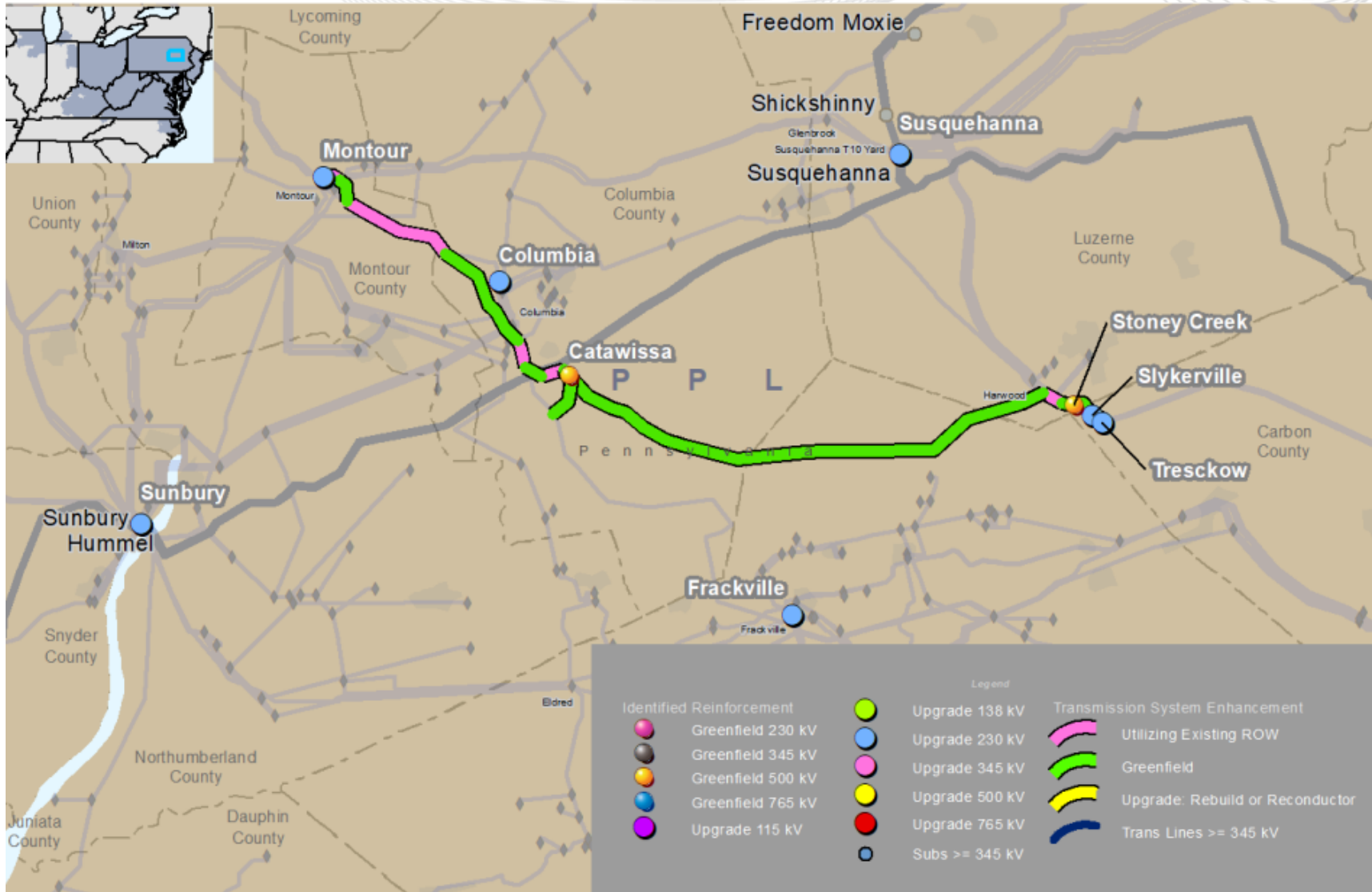
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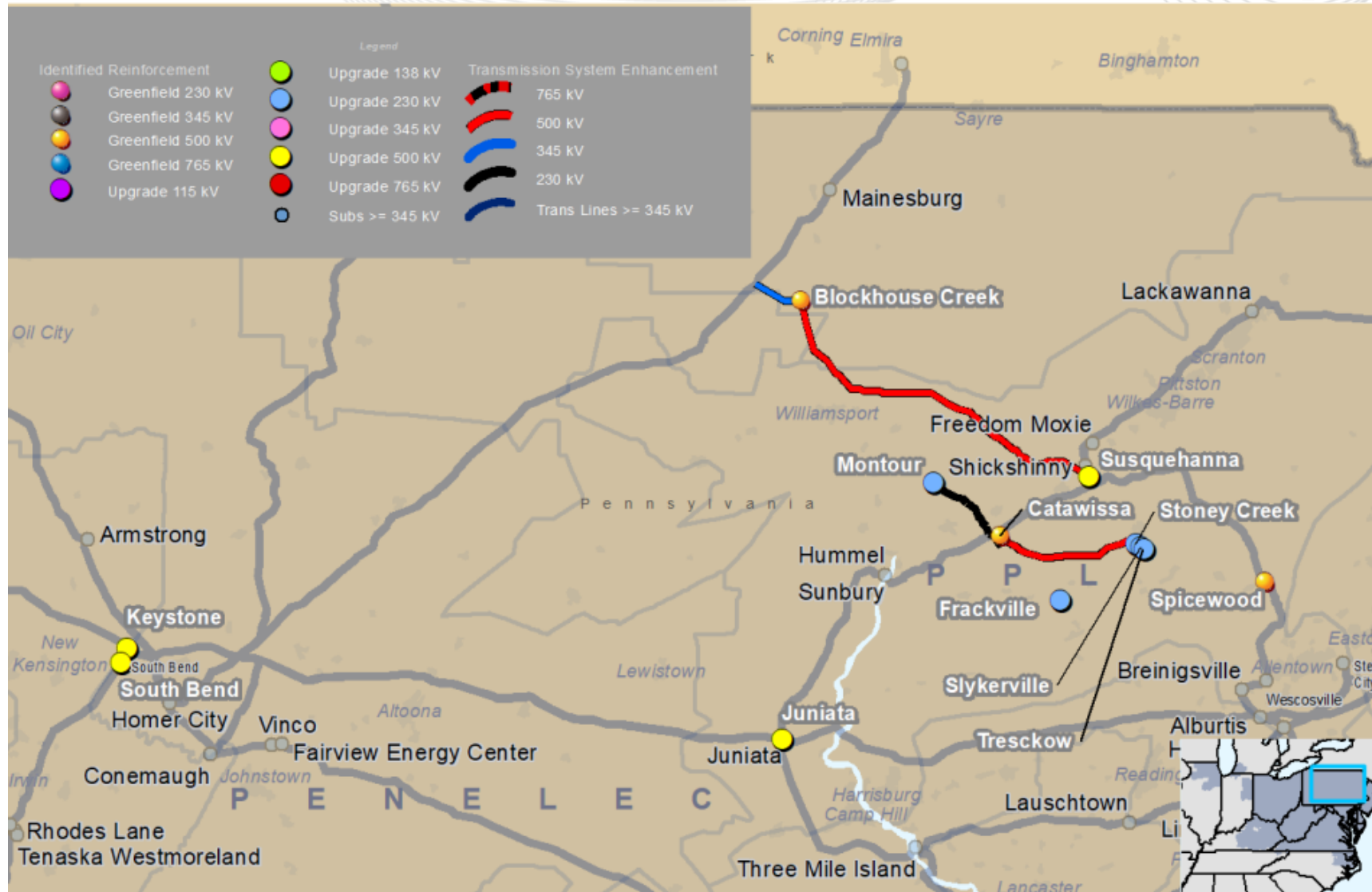
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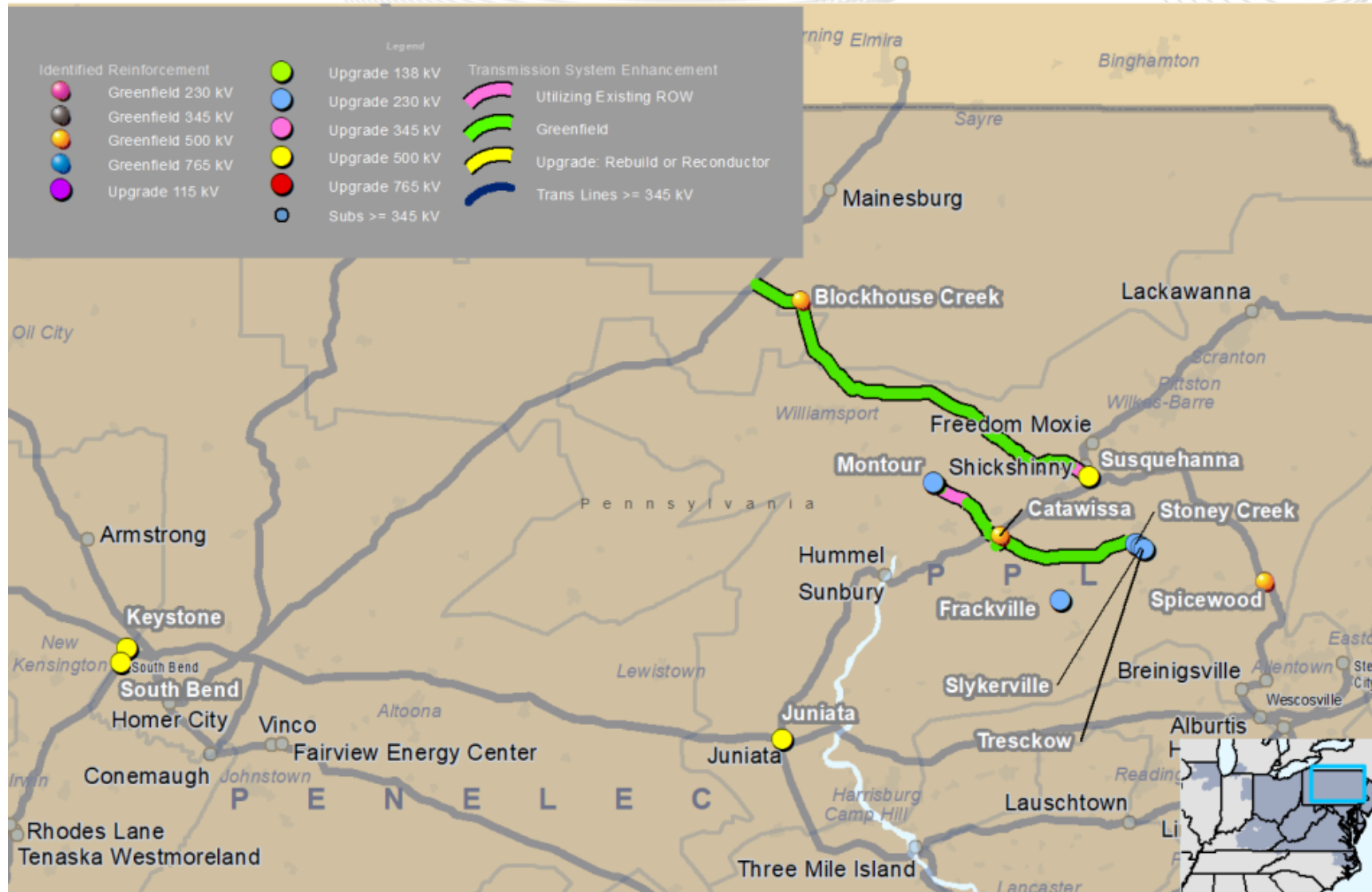
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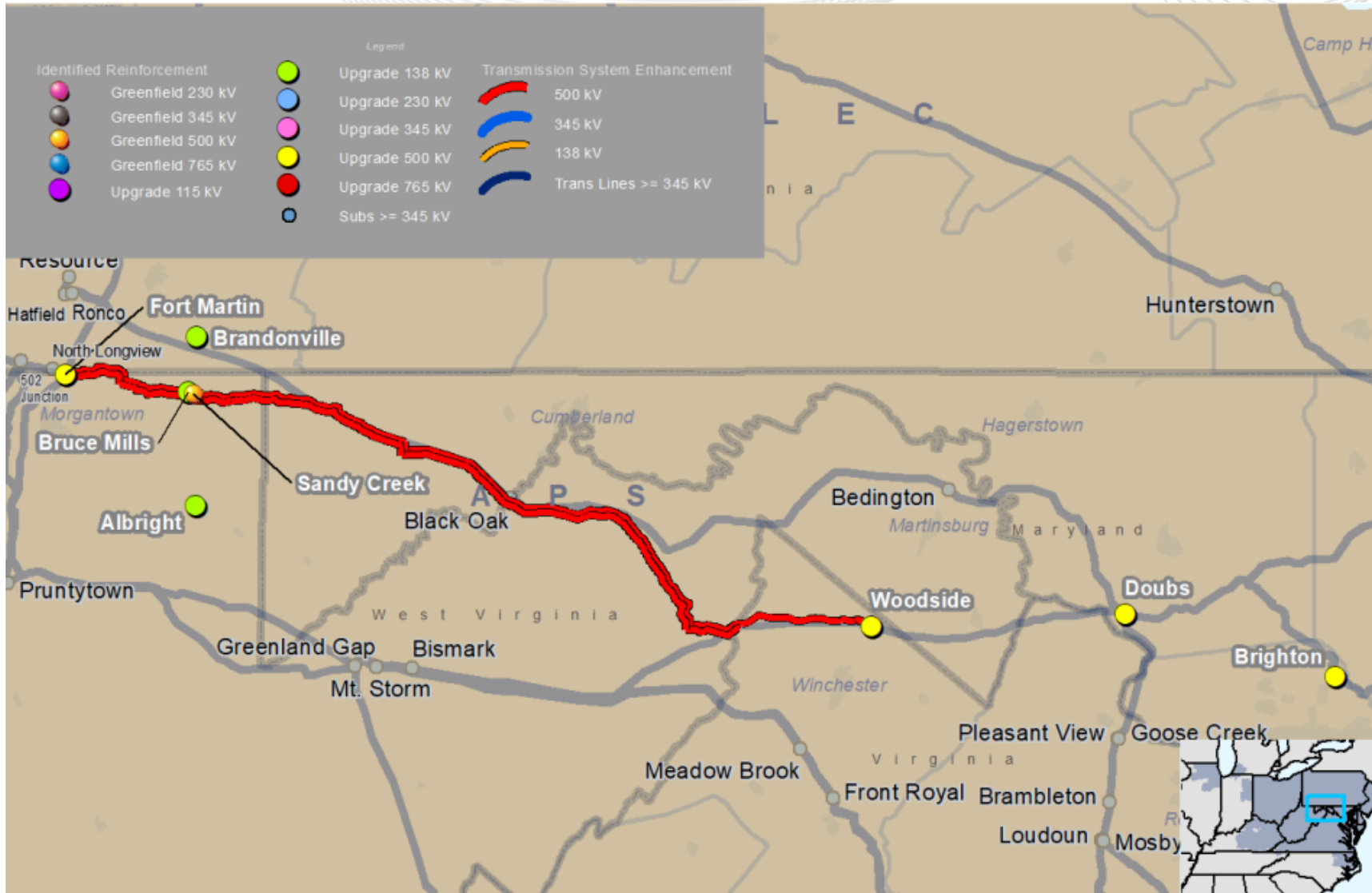
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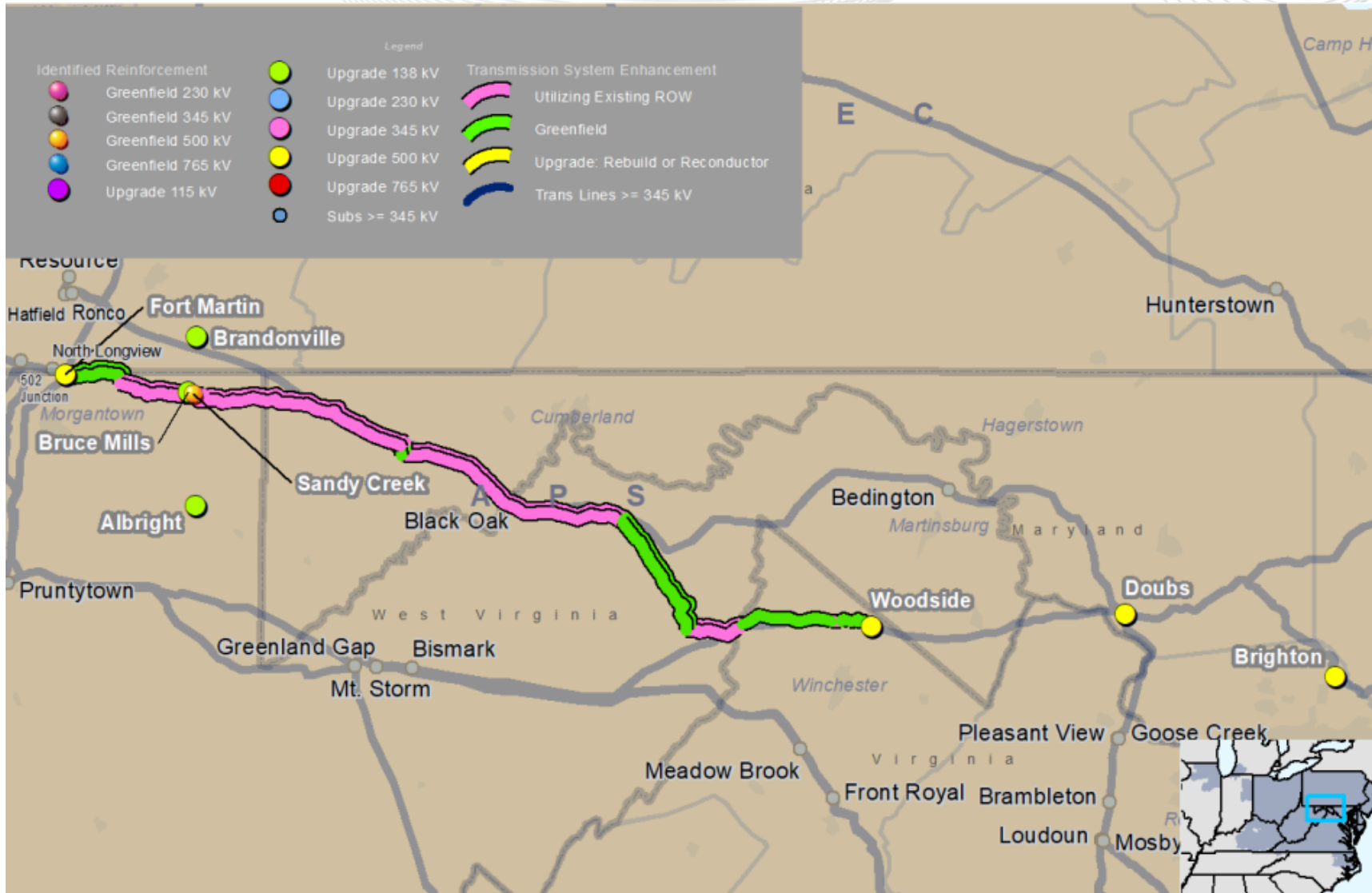
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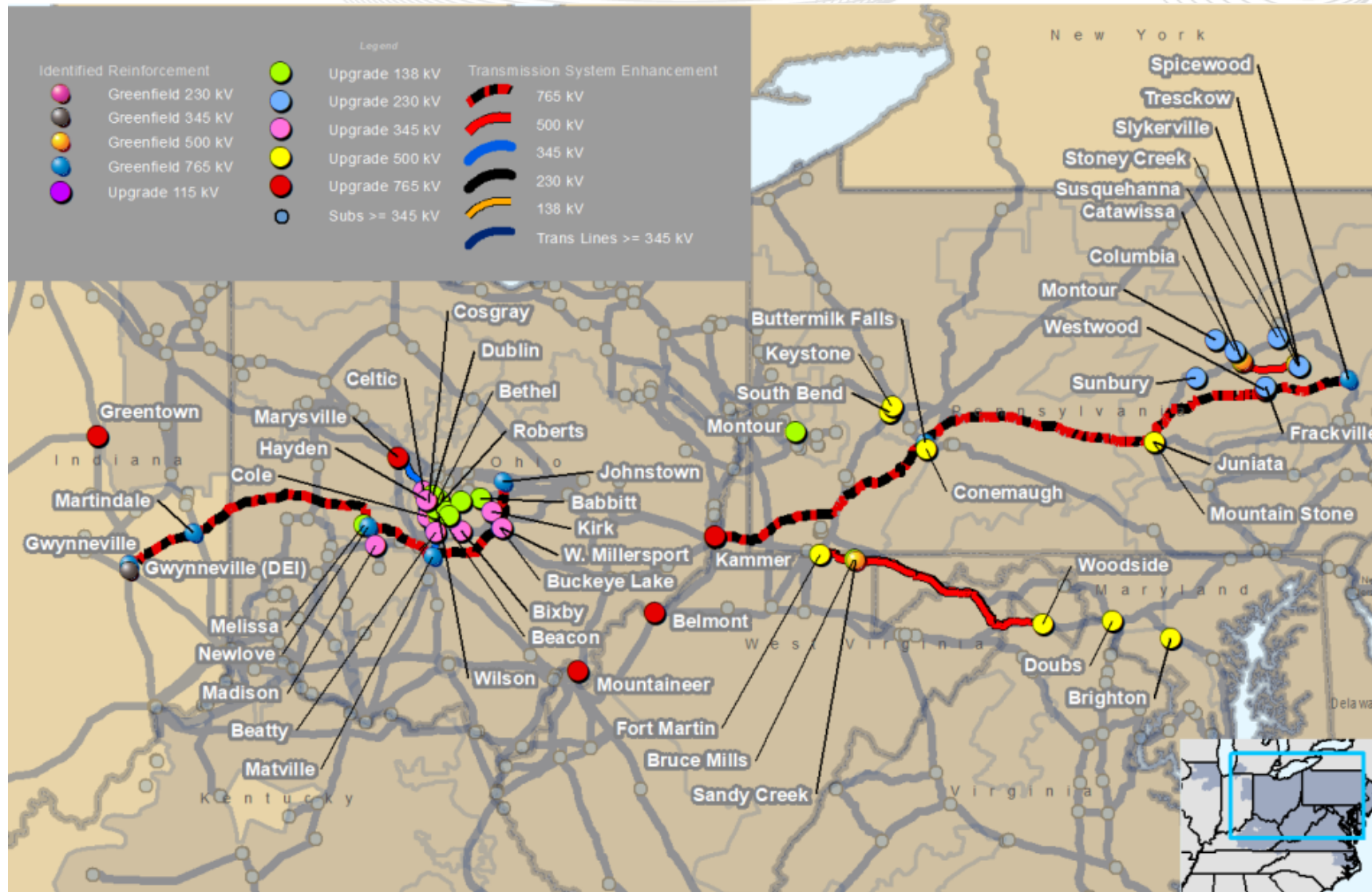
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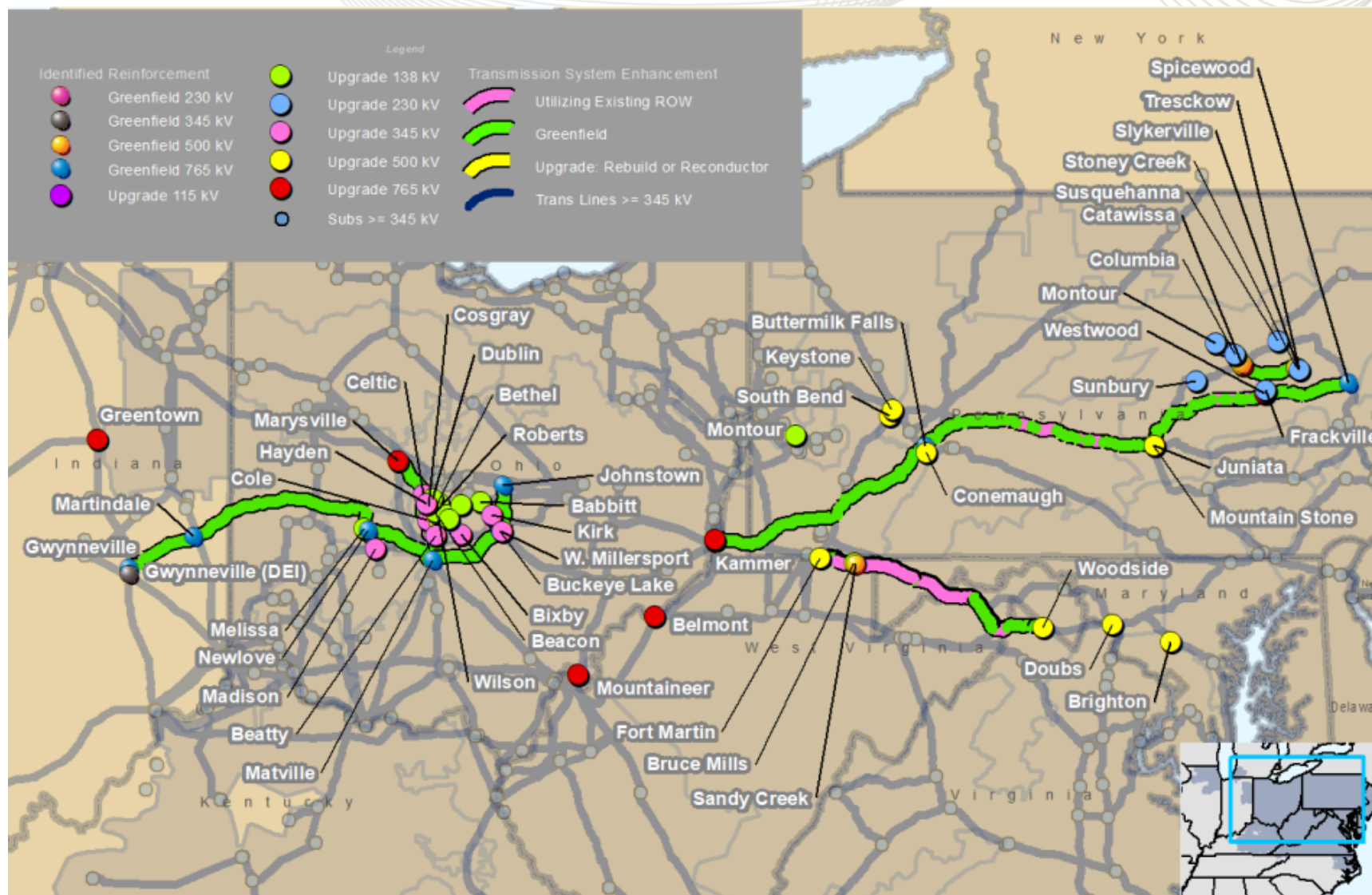
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