



2026 PNM IRP Transmission Modeling Office Hours

February 17, 2026

Locational Treatment

Previous IRP's - Zonal Capacity Expansion

- Resources added at multiple locations with transmission cost adders
- Assumed transmission was a significant restriction but congestion/curtailment costs not quantified
- Resources with least cost locational adder always selected
- Not possible to capture third party transmission usage which represents over 50% of PNM's transmission system utilization

This IRP – Zonal Capacity Expansion and Nodal Analysis

- Initial capacity expansion portfolios developed without transmission cost adders
- Review congestion costs and curtailments in nodal
- Captures third party transmission usage
- Identify transmission enhancements – compare annual congestion costs with annual transmission project revenue requirement

Why Nodal?



Wholesale transmission utilization is not captured in zonal modeling and represents over half of PNM's total transmission system utilization

Point-point
Network customers
Legacy

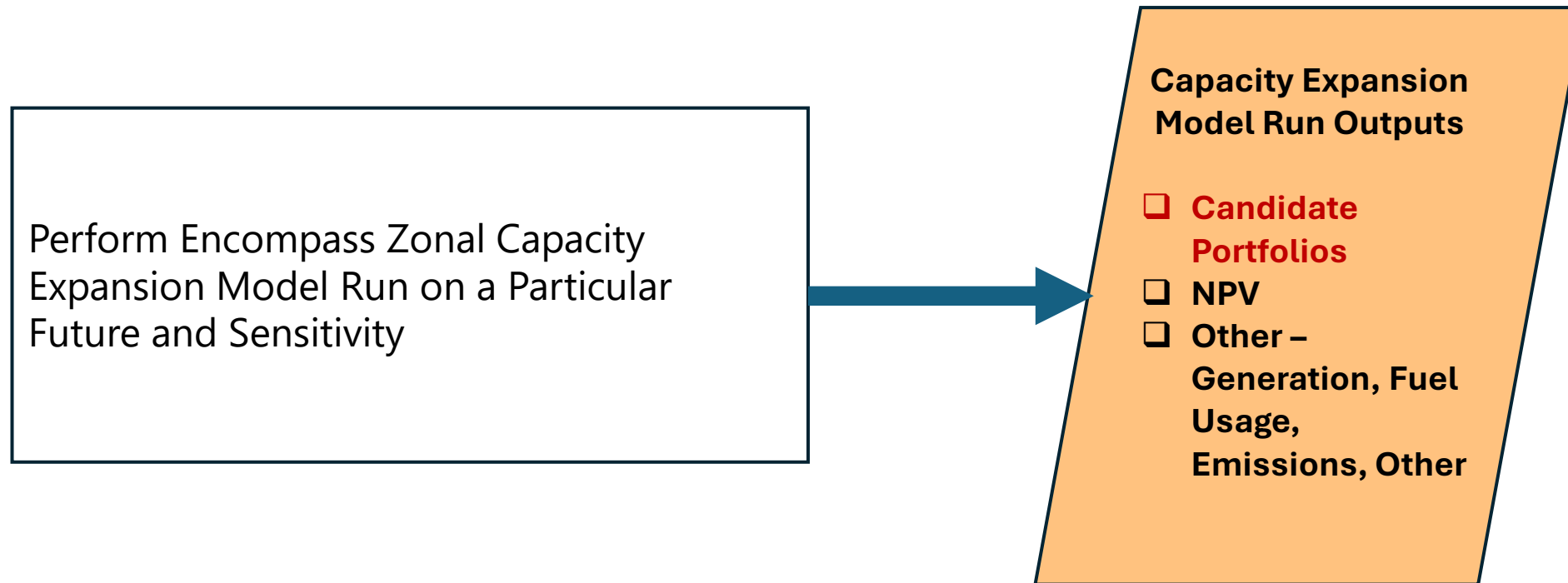


Provides a means to assess resource portfolio additions while accounting for the wholesale system uses

Curtailments
Congested Paths
Congestion Costs
Loss impacts

- Additional information is available from the 2023 IRP Public Advisory Process
 - <https://www.pnm.com/documents/d/pnm.com/2022-09-13-slides-irp-steering-meeting-6-transmission-1-091322-final>
 - <https://www.pnm.com/documents/d/pnm.com/2022-09-13-slides-irp-steering-meeting-6-transmission-1-091322-final>

Information Needed from Zonal Capacity Expansion Run



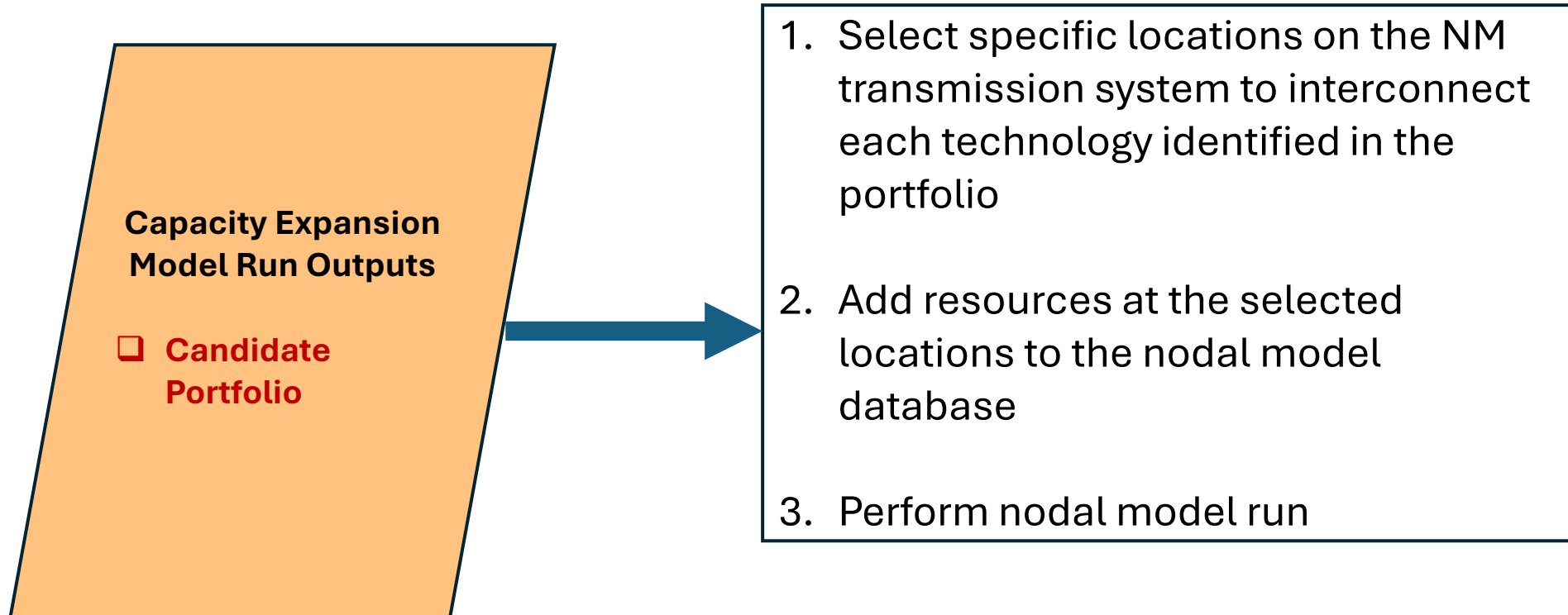
- Candidate Resource Portfolio detail includes technology types, and amounts by year. Candidate resources are not location specific.

Example Candidate Portfolio

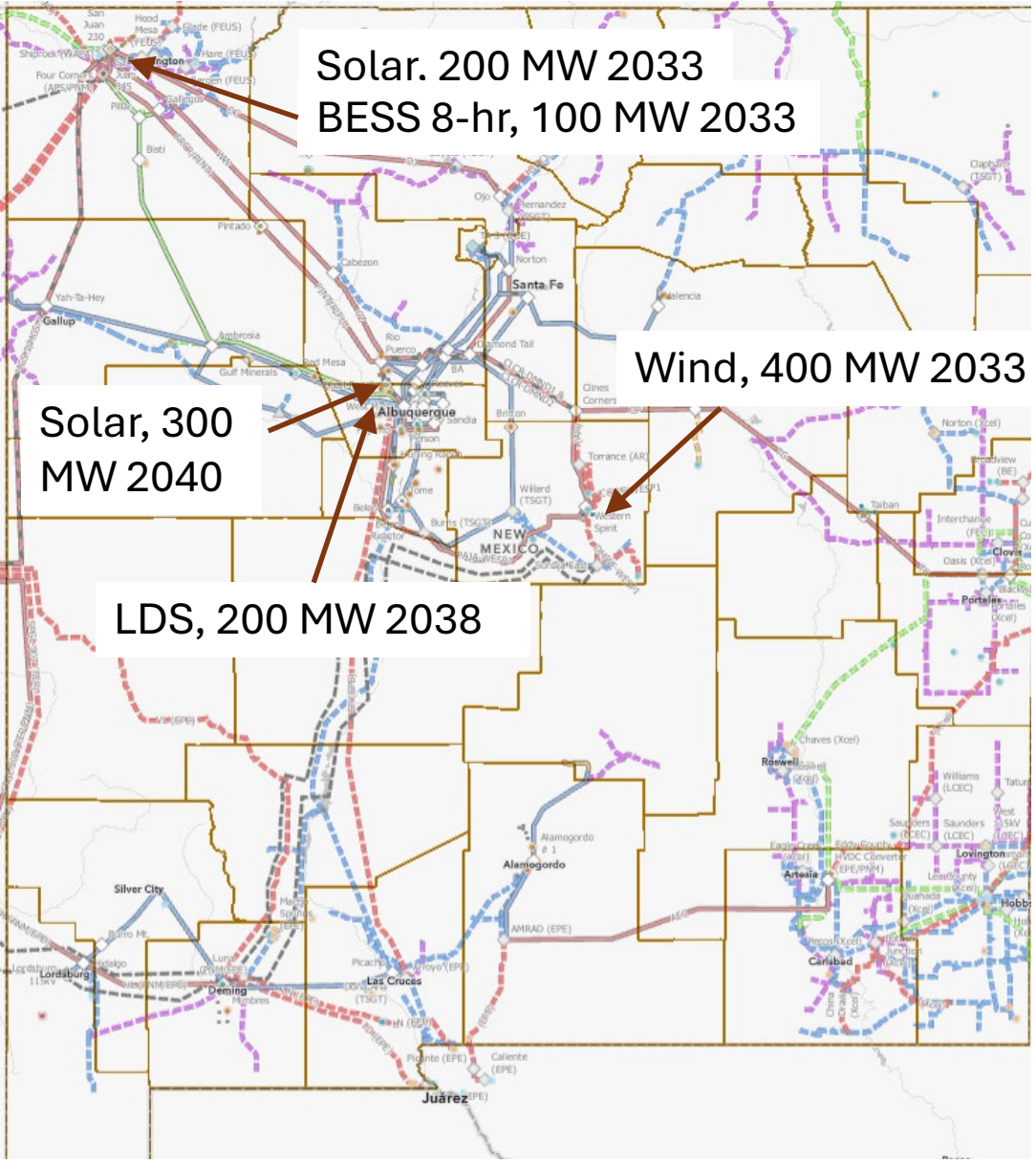
Technology	Amount (MW)	Year Added
Solar	200	2033
Battery Storage 8-hr	100	2033
400 MW Wind	400	2035
Long Duration Storage	200	2038
Solar	300	2040

- Candidate portfolios – outcome can be affected by transmission cost adders in zonal model
- Location of resources is important to understand transmission implications
- There are many resource location options for some technologies

Nodal Model Steps: Location Assignment



Locating Candidate Resources

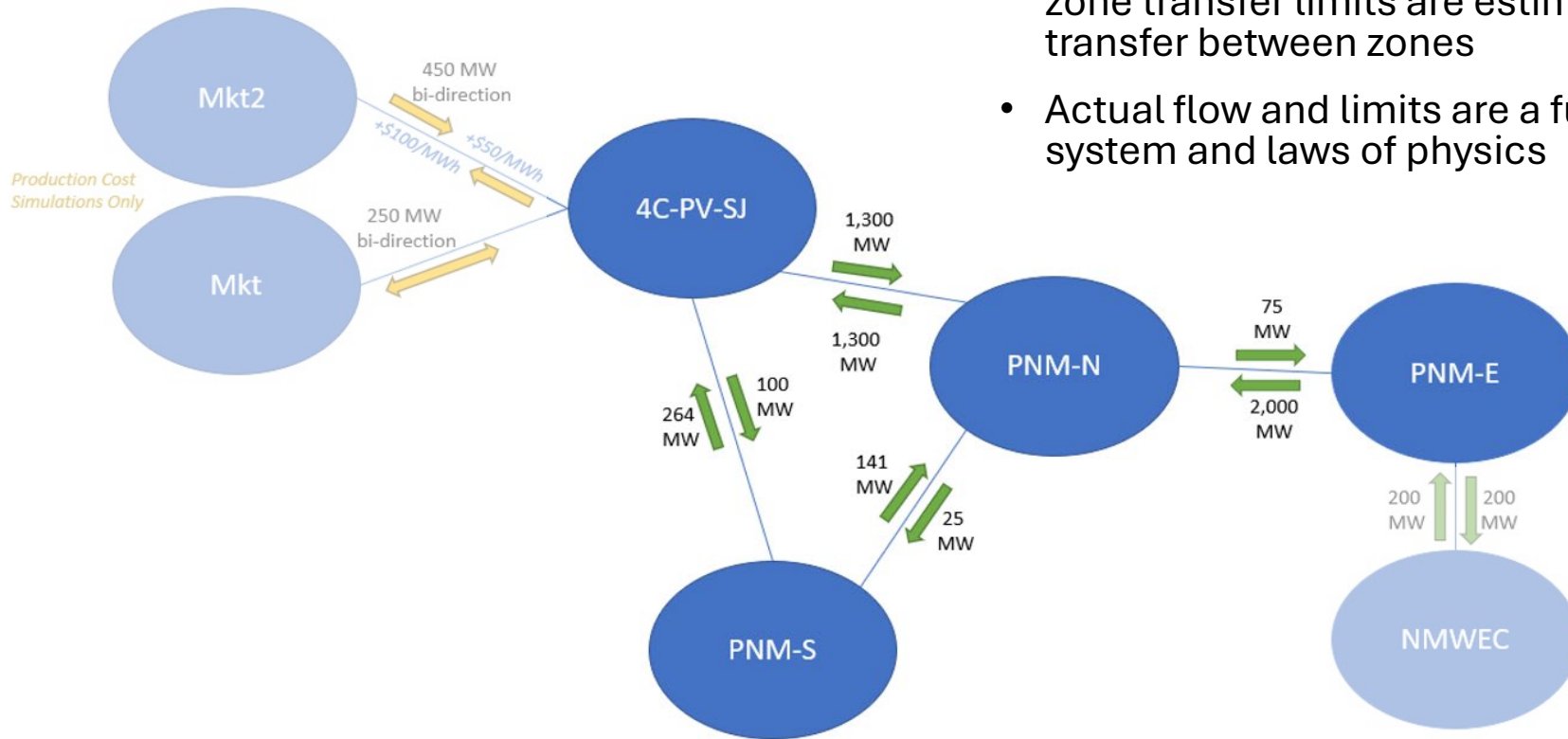


- Nodel model contains full connection model of transmission system to loads and resources
- Resources must be connected to a specific location (node) in the model.
- Historical locations for a technology will guide initial mapping.
- Model run determines flow on all lines and transformers using a powerflow solution.



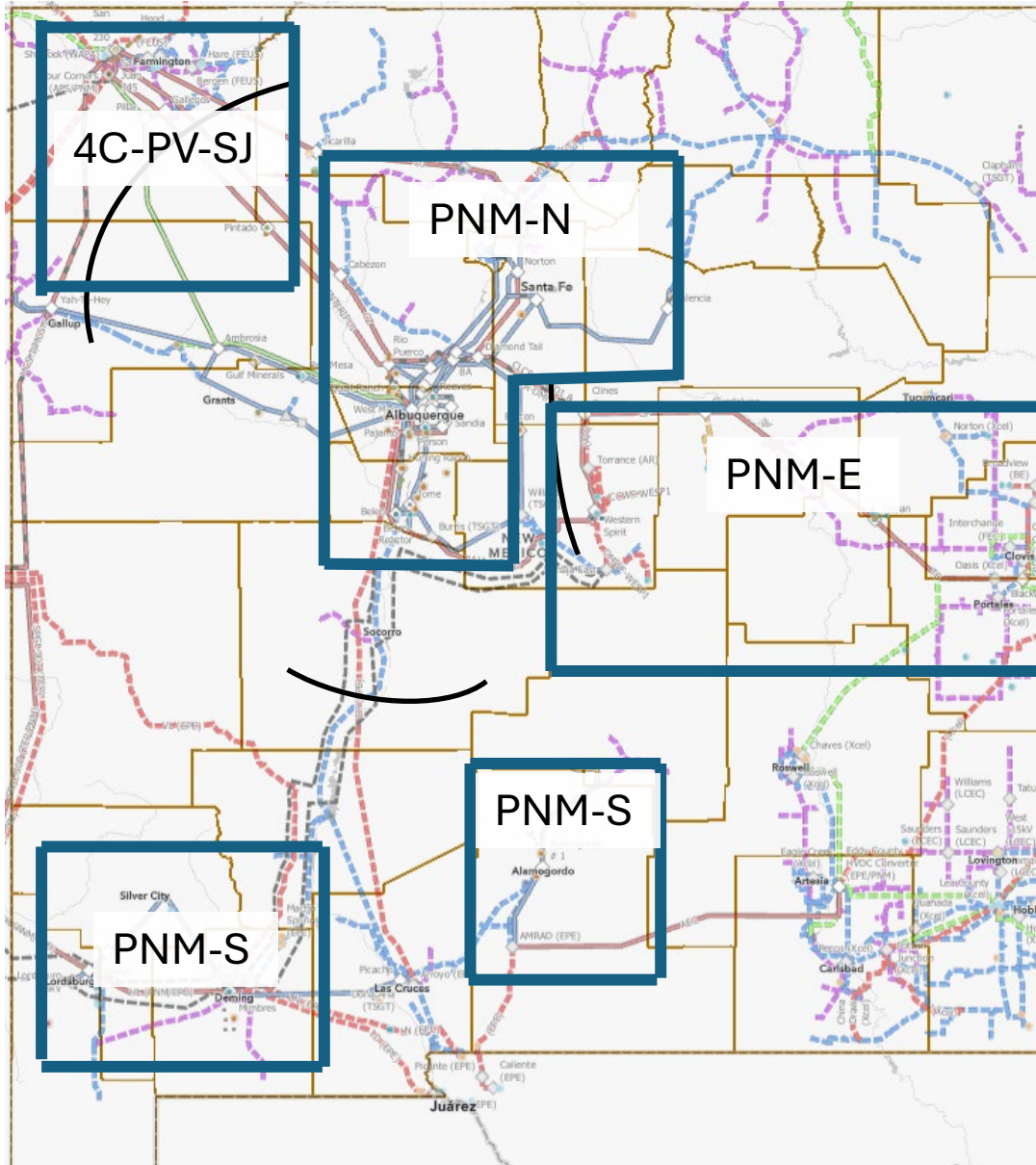
Encompass Zonal Topology for PNM

- Load and resources are modeled in zones with estimated transfer capacity to other zones
- Only PNM load and resources are captured requiring that zone transfer limits are estimates of amount PNM can transfer between zones
- Actual flow and limits are a function of all uses of the system and laws of physics



Approximate Geographic Representation of Zones

- Existing resource commitments will have preference on available transmission capacity
- Historical locations likely to have preference

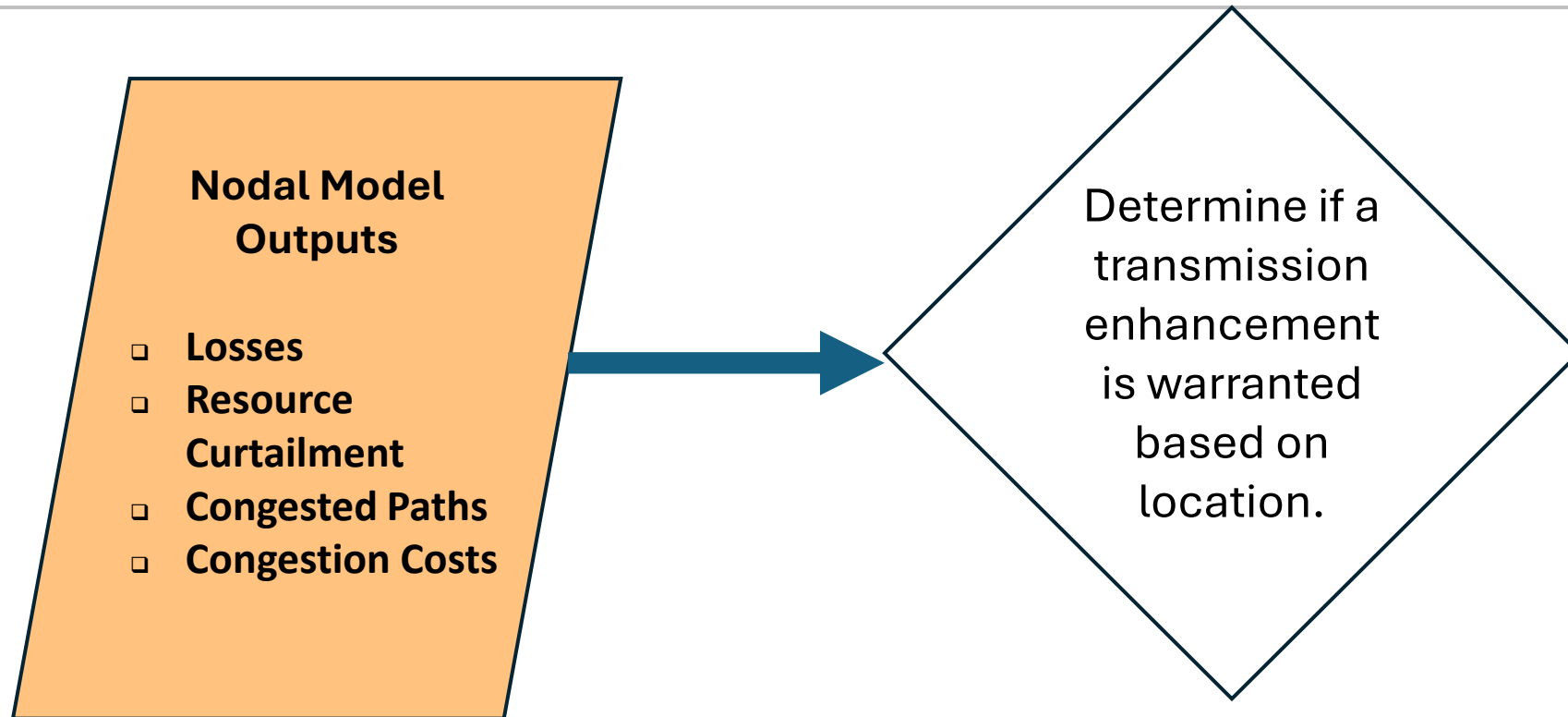


Example Resource Mapping to Node

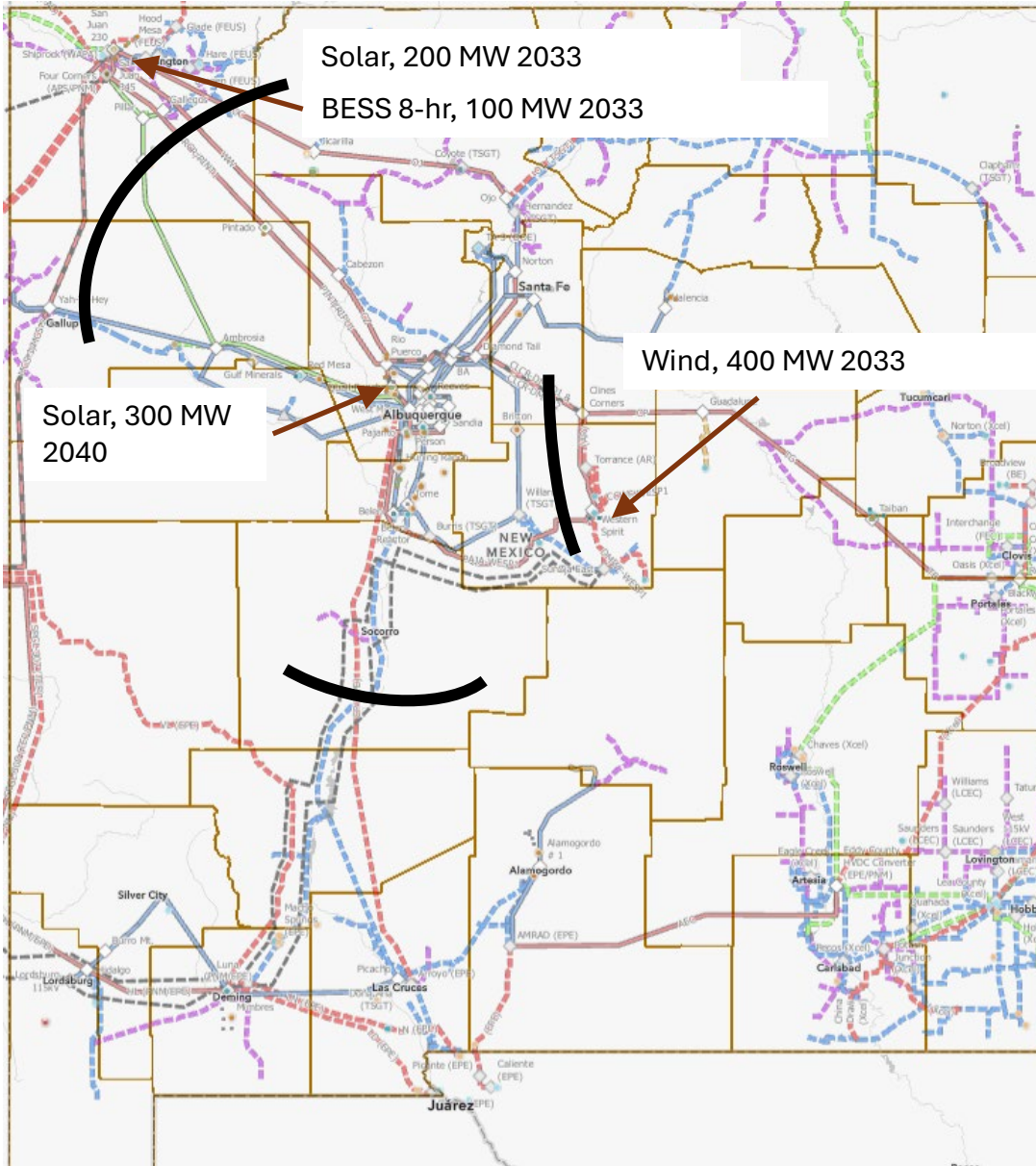
Technology	Amount (MW)	Node Connection	Location in Zonal
Solar	200	Four Corners 345 kV	4C-PV-SJ
Battery Storage 8-hr	100	Four Corners 345 kV	4C-PV-SJ
400 MW Wind	400	Western Spirit 345 kV	PNM-E
Long Duration Storage	200	Pajarito 345 kV	PNM-N
Solar	300	Atrisco 345 kV	PNM-N

- Specific nodes for resource connections will be initially selected based on zonal topology
- Location of resources is important to understand transmission implications
- There are many resource location options for some technologies
- Provide nodes to be used in IRP analysis for interconnecting resources

Nodal Model Outputs



- Compare congestion costs and curtailments to annual transmission revenue requirement. Assumptions on location and transmission improvements based on experience with New Mexico transmission system.



Evaluation of Results

Annual Summary	w/o XMSN Additions	With XMSN Additions
Congestion Cost (\$)*		
FourCorners-ABQ	\$7,028,100	\$0
Eastern NM-ABQ	\$1,100,000	\$1,100,000
Congestion Hours*		
FourCorners-Abq	218	0
Eastern NM-ABQ	30	30
Curtailment by Portfolio (MWh)	230,000	100,000
Losses (MWh)	567,000	450,000
Transmission Revenue Req	N/A	\$40,000,000

* Path Specific



Resource Location

Solar

- Albuquerque, San Juan/Four Corners, Belen and Los Lunas, Eastern NM

Wind

- Eastern NM (Torrance/Guadalupe)
- Union, Quay, Curry, Roosevelt will have higher transmission costs.

Geothermal

- Potential locations will need to be determined
- Size is a factor, but optimal geothermal sites are generally not near PNM transmission facilities.

Pump Storage

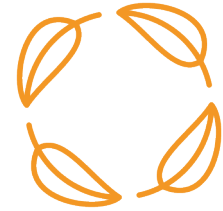
- Will assume San Juan/Four Corners

Compressed Air Energy Storage (CAES)

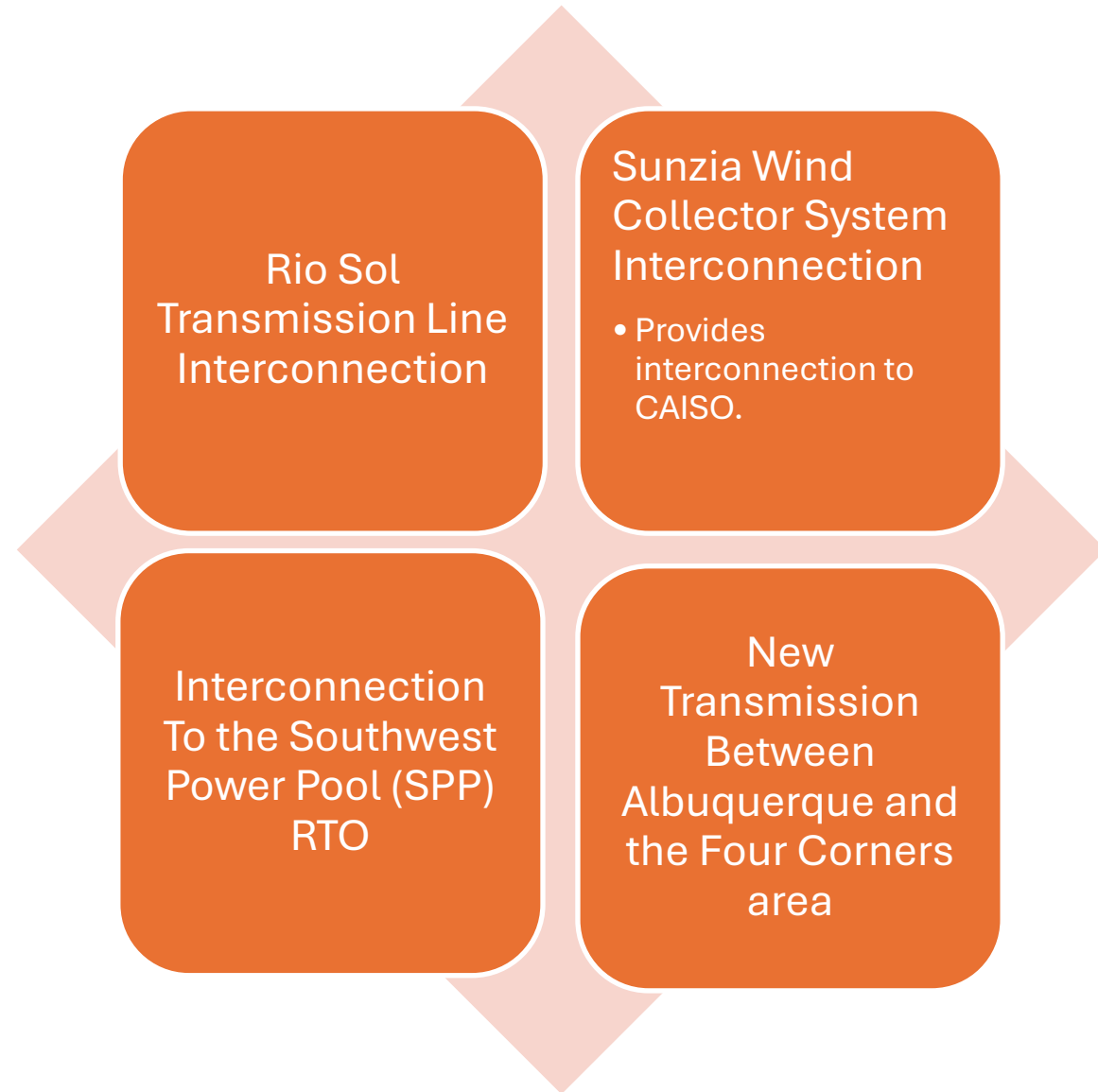
- Southeast NM – Significant Transmission Cost.

Developing Transmission Additions

- **Develop Transmission System Modifications**
 - Utilize 20-year transmission plan projects where applicable
 - Cost and Schedule
 - Capacity Benefits
 - Mostly 345 kV projects
 - Utilize recent interconnection studies or 440 filings to get per unit cost for 115 kV and below
 - Identify specific projects and costs that will be used in the IRP.
- **Rerun nodal model with transmission modifications to confirm benefits to congestion cost and curtailments**
- **Rerun capacity expansion in zonal model with transmission cost included**
 - Candidate portfolio for a given future and sensitivity may change.
- **Resource locations without existing transmission should be evaluated with a transmission cost adder in zonal**

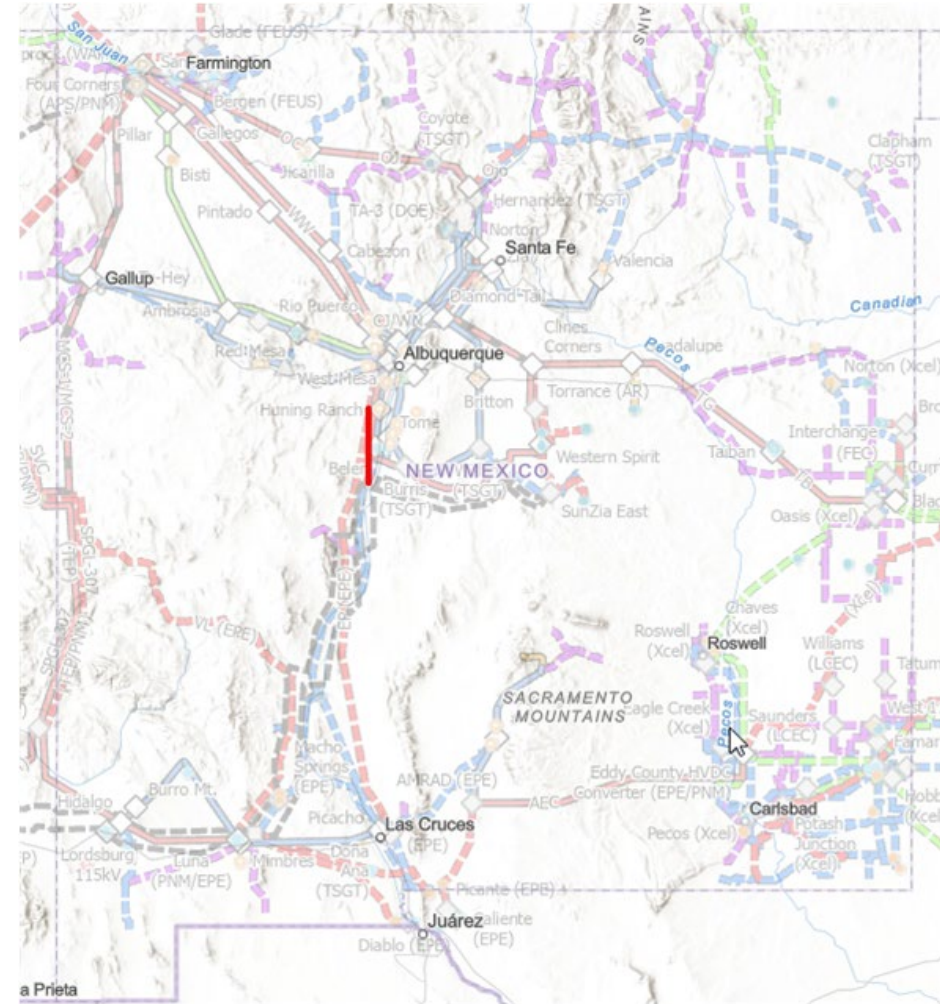


Transmission Sensitivities Included in Modeling



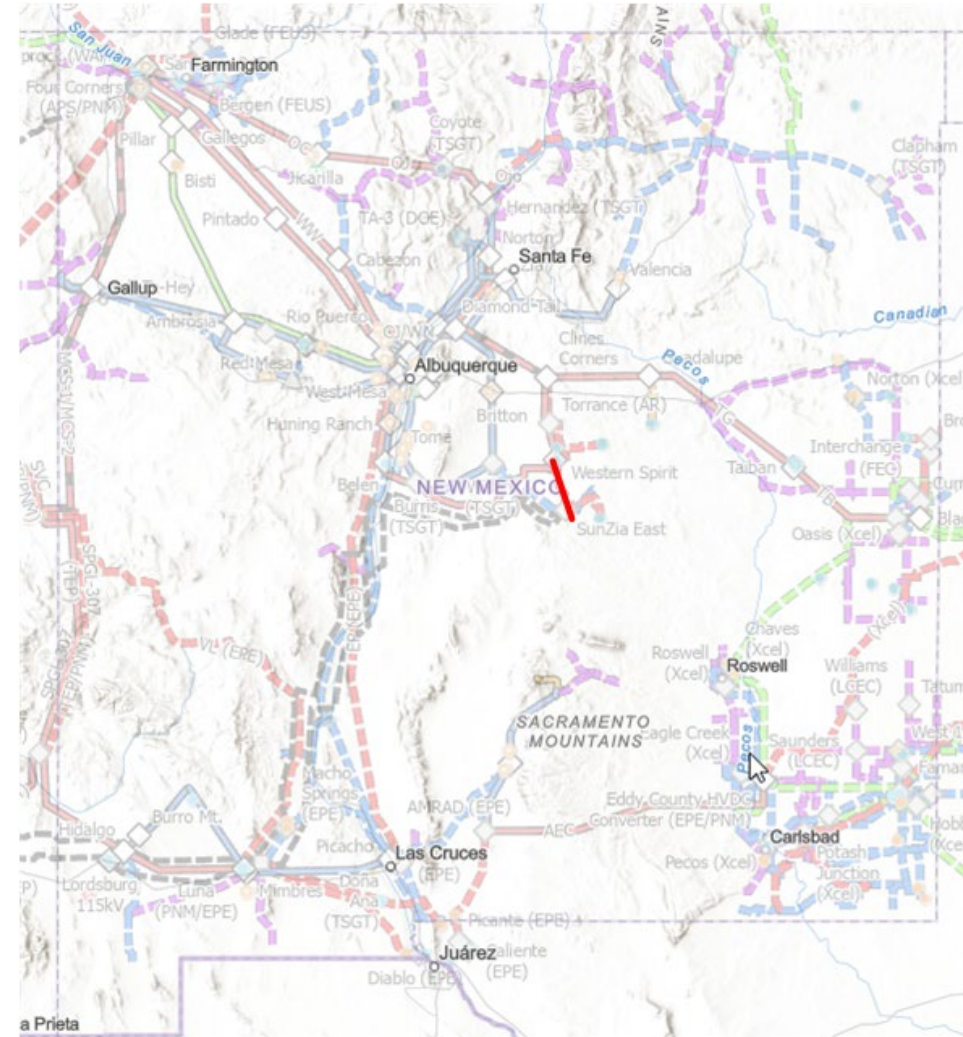
Transmission Project – Rio Sol Sensitivity

- This project is modeling a new transmission line from PNM's system in the Albuquerque metropolitan area to a proposed transmission line running from eastern NM to Arizona.
 - Schedule assumes 4-6 years for planning to construction.
 - Capital cost estimate: 262 M\$



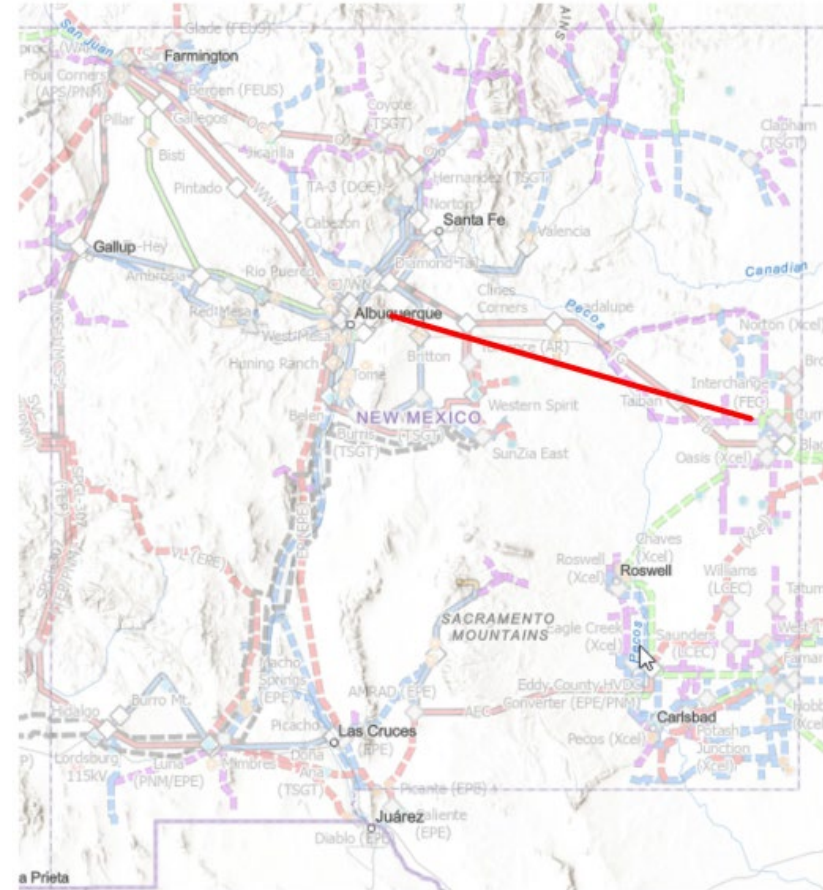
Transmission Project – Sun Zia Sensitivity

- This project is modeling a transmission line connecting PNM's eastern NM system to the Sun Zia wind collector system in east central NM.
 - Schedule assumes 4-6 years for planning to construction.
 - Capital cost estimate: 219 M\$



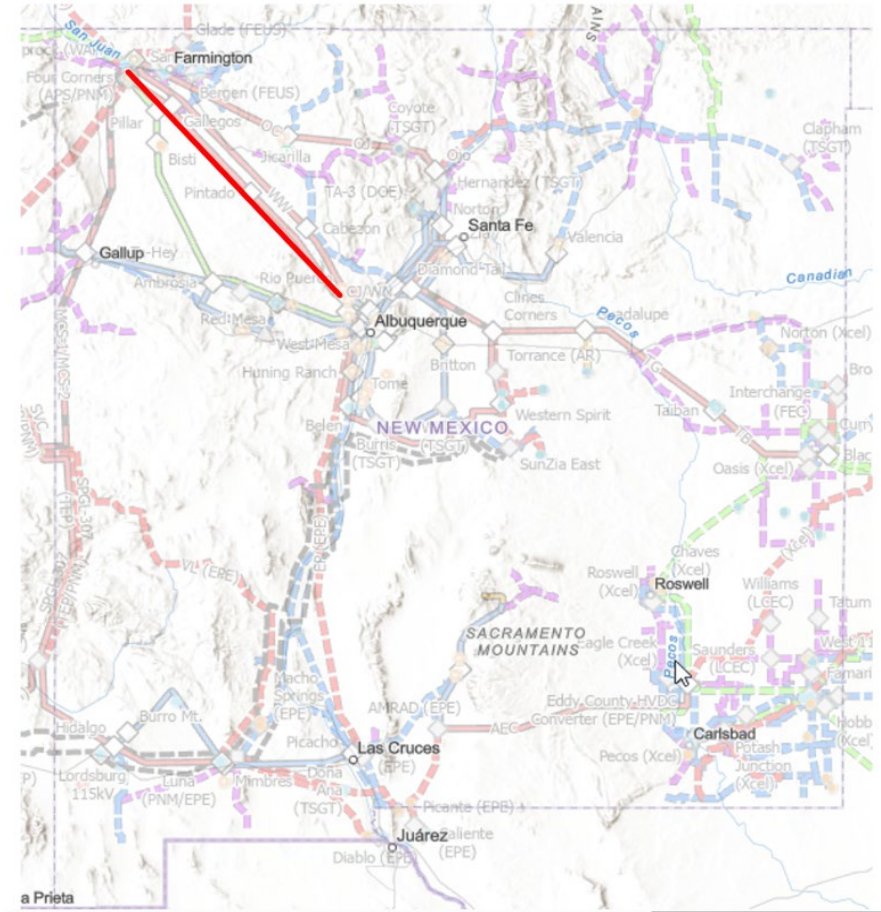
Transmission Project – Blackwater DC Tie Sensitivity

- This project is modeling a new transmission line that connects SPP to PNM's system through a AC/DC/AC converter.
 - Schedule assumes 8–10 years for planning to construction.
 - Capital estimate: 1.5 B\$



Transmission Project – Four Corners Sensitivity

- This project is modeling a new transmission line from Albuquerque to Four Corners.
 - Schedule assumes 8–10 years for planning to construction.
 - Capital cost estimate: 448 M\$



Nodal Analysis – Transmission Expansion Cost Assumptions

Sample of projects from 20-year Transmission Outlook or recent estimates.

Transmission Project	Construction Schedule Years	Cost (\$M) in 2026 Dollars
Rio Puerco – Pajarito 345 kV Line	4 – 5	\$ 92
Pajarito – Prosperity 345 kV Line	3.5 – 4.5	\$ 116
Rio Sol 345 kV Connection to PNM	4 – 6	\$ 262
Sun Zia 345 kV Connection to PNM	4 – 6	\$ 219
2 nd Western Spirit – Hidden Mountain –Pajarito 345 kV	5 – 7.5	\$ 524
2 nd Four Corners – Rio Puerco 345 kV	8 – 10	\$ 448
AC/DC/AC tie to SPP	7 - 10	\$ 1,007

[20-year Transmission Outlook Link](#)

Questions



Wrap-Up

February 11, 2026

