

Overview of Roanoke Area Upgrades

ERCOT RPG Meeting

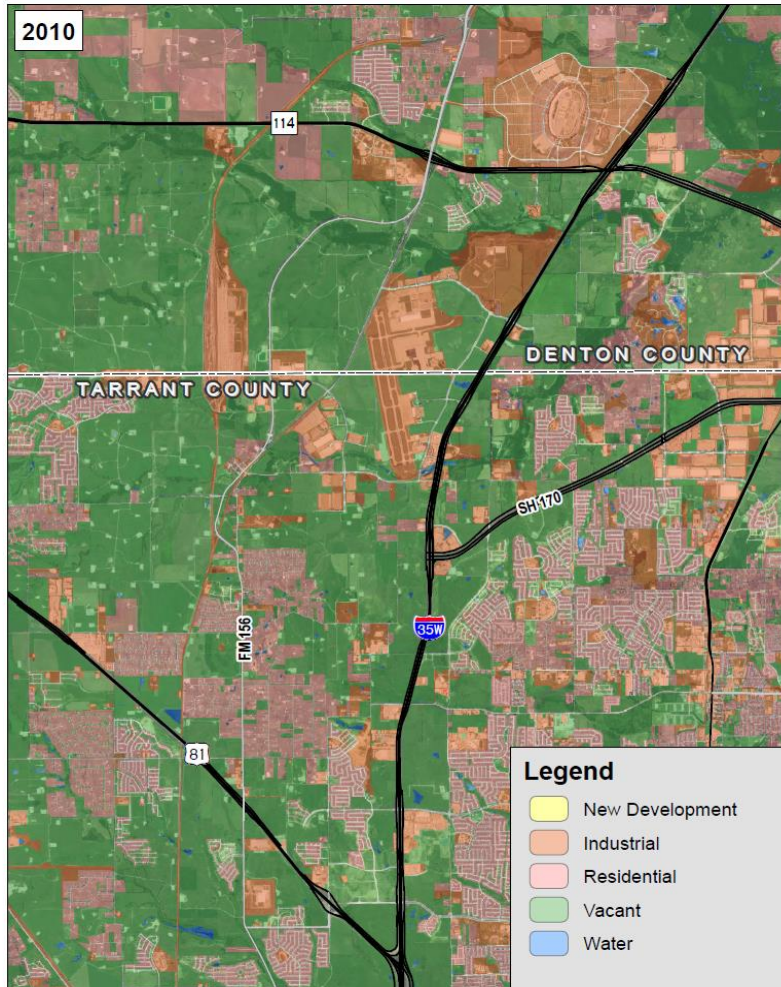
03/15/2022

Harsh Naik

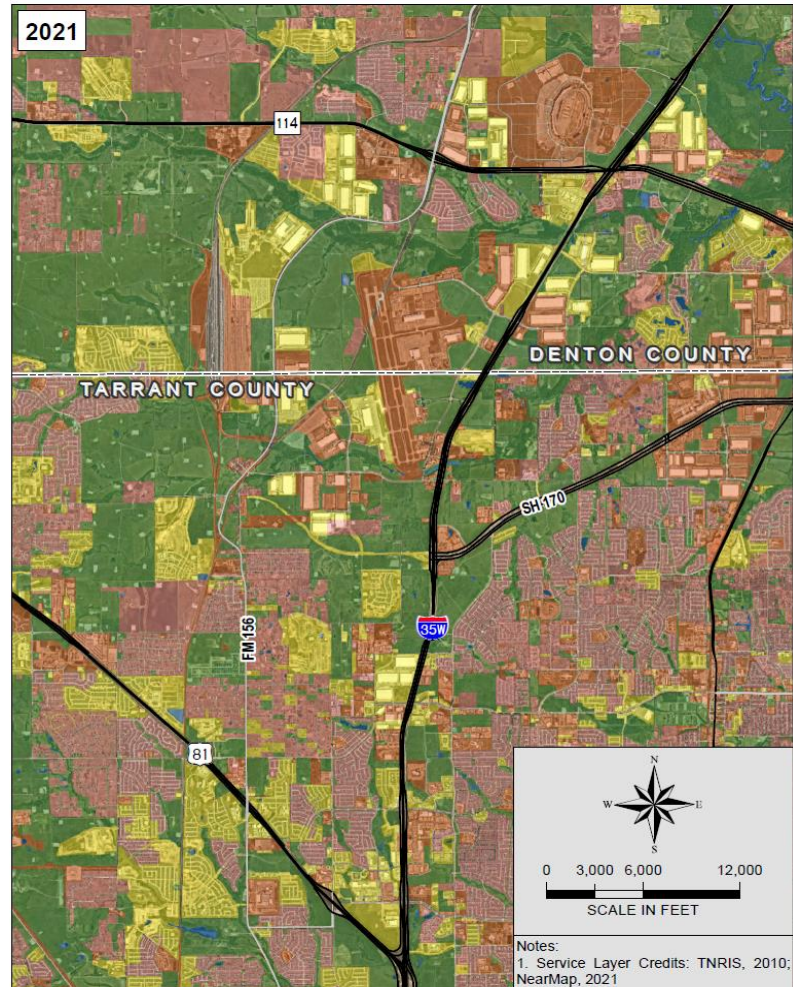
Project Overview

- Reliability driven Tier-1 Project in the Roanoke area
- Driven by high load growth in the area and increased generation in the panhandle and west Texas
- Cost Estimate: \$285.9M
- ~18-mile new double-circuit 345 kV line
- Multiple 138 kV line additions and upgrades
- 4 New Switching Stations
- Oncor requests ERCOT to designate the project as Critical to the reliability of the ERCOT system

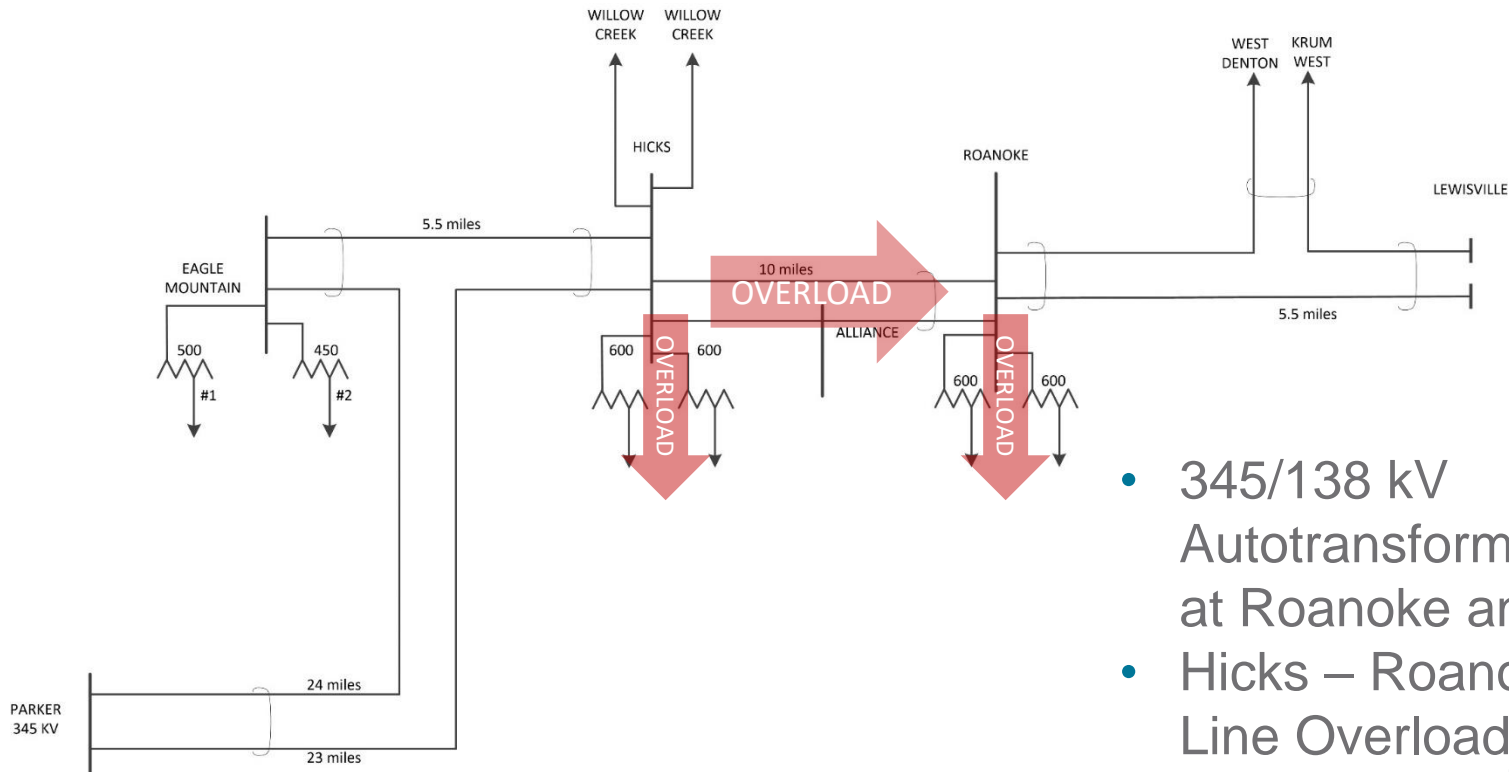
Land Development in the Roanoke Area



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Post-Contingency Thermal Violations (2023)



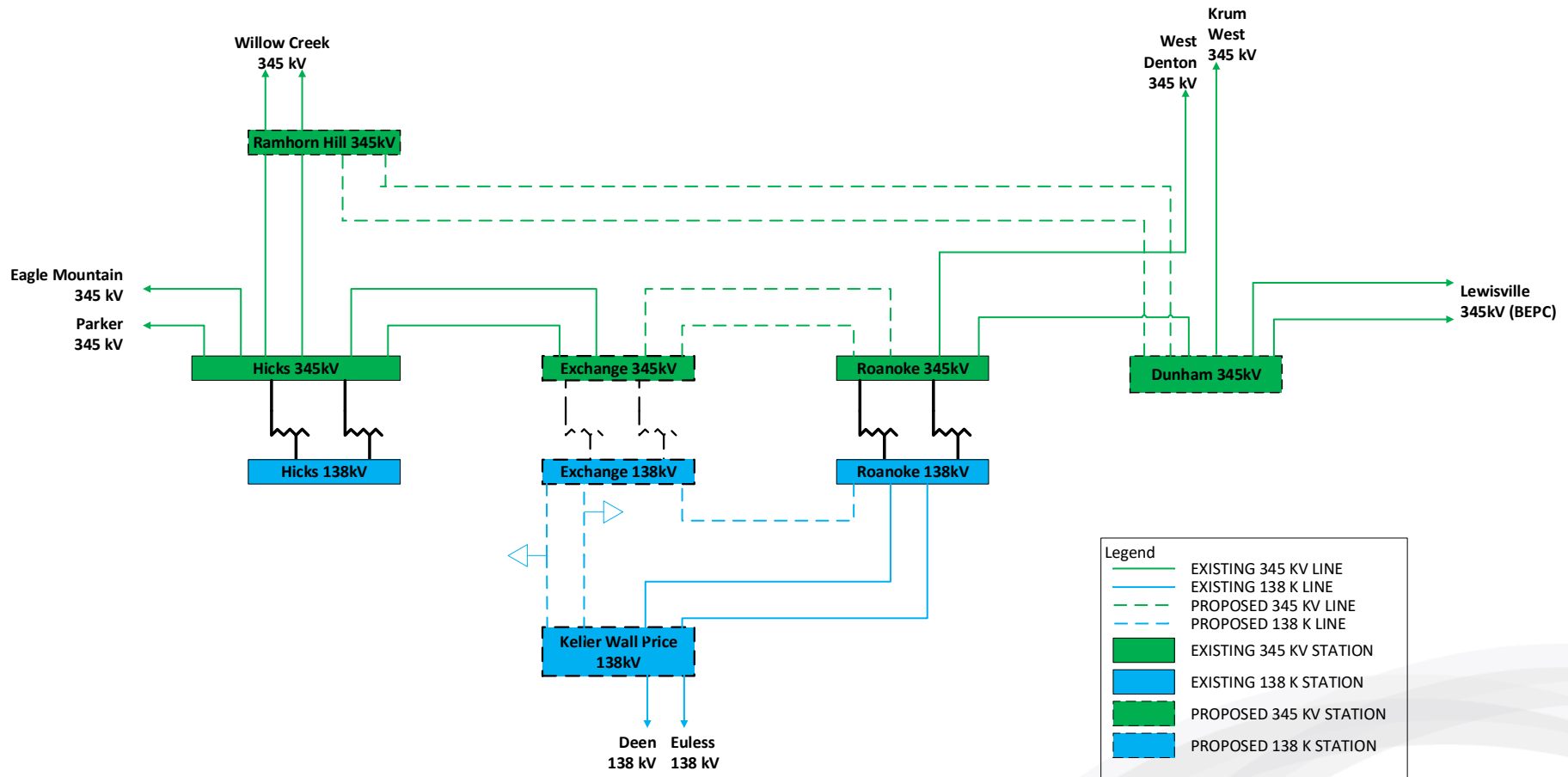
- 345/138 kV Autotransformer Overloads at Roanoke and Hicks
- Hicks – Roanoke 345 kV Line Overload

Roanoke – Deen/Euless 138 kV Double-circuit Line

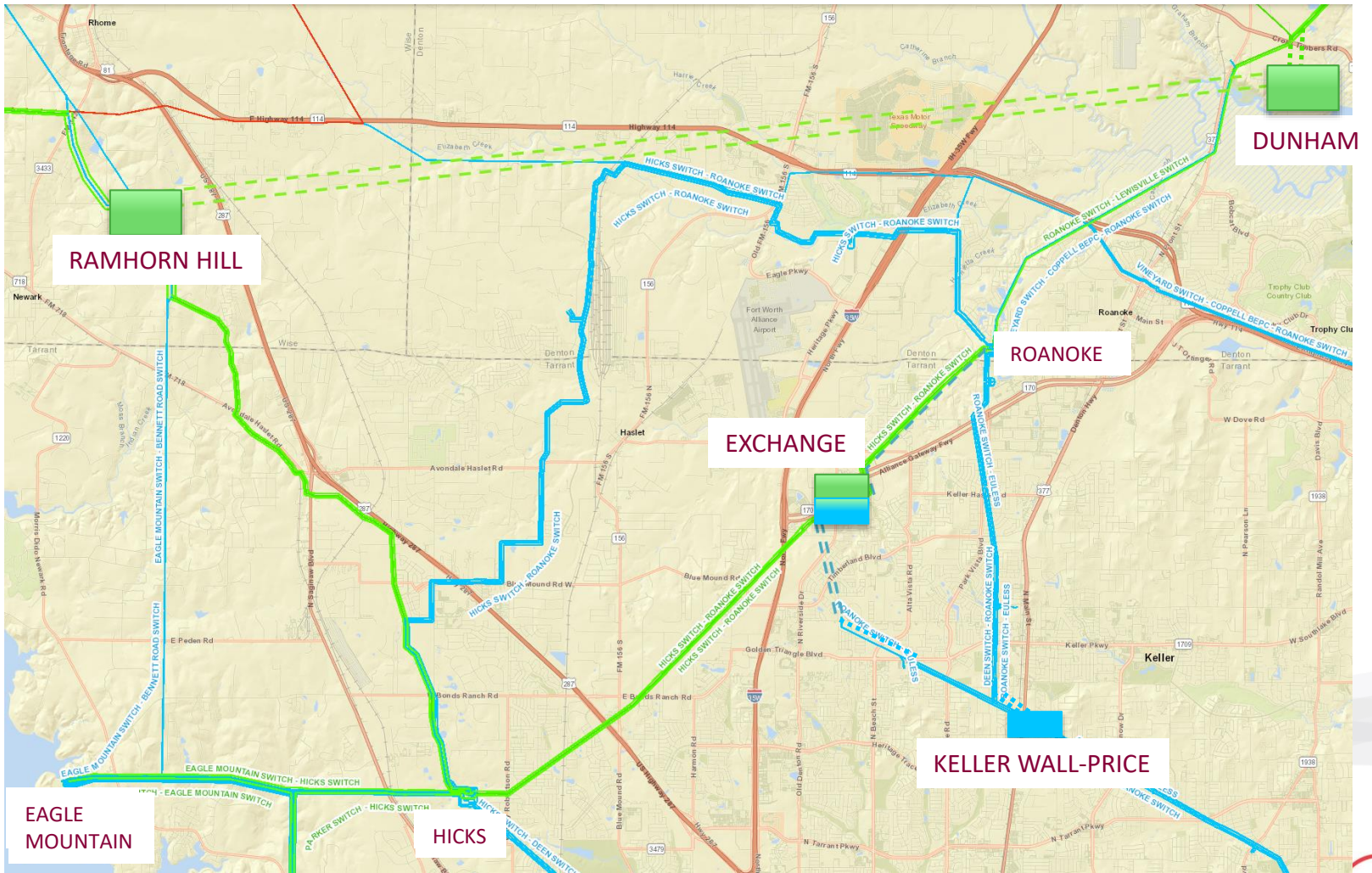
Line	Load in 2021 SSWG Cases (MW)						
	2022	2023	2024	2025	2026	2027	2028
Roanoke - Deen	471	478	494	500	504	517	527
Roanoke - Euless	474	481	509	516	523	536	546
Total	945	959	1003	1016	1027	1053	1073

- The Roanoke – Deen/Euless double-circuit line has a significant amount of load connected.
- Thermal overloads and voltage drop on the line limit the addition of new load in the area.
- The existing line is rated 502 MVA and 614 MVA.

Oncor's Proposed Project One-Line



Oncor's Proposed Project Map



Oncor Recommendation

- Establish the Exchange 345/138 kV switching station with two autotransformers
- Convert the existing Alliance 345 kV load serving substation to 138 kV operation
- Establish the Exchange – Keller Wall Price 138 kV double-circuit Line
- Establish the Ramhorn Hill 345 kV switching station
- Establish Dunham 345 kV switching station
- Construct an estimated 18-mile 345 kV triple-circuit line between Ramhorn Hill and Dunham with:
 - Two 345 kV circuits using conductor rated at least 5000 A
 - A vacant position for a future 138 kV circuit
- Establish the Exchange – Roanoke 138 kV circuit

Questions?

