A SMARTER, STRONGER GRID FOR TEXAS

TEXAS' 765KV STRATEGIC TRANSMISSION EXPANSION PLAN (STEP)

Texas is growing fast and so is the need for reliable electricity. That's why the state has introduced the use of 765 kilovolt (kV) transmission lines, to ease congestion and meet surging demand. In 2023, the Texas Legislature directed the Public Utility Commission (the Commission) to study the need for new electrical infrastructure. The Commission evaluated multiple options to meet growing electricity demand in ERCOT, including 765kV lines. After this review, in April 2025, the Commission selected the 765kV voltage level for its ability to support long-term reliability and growth.

What It Means

More Power, Fewer Lines

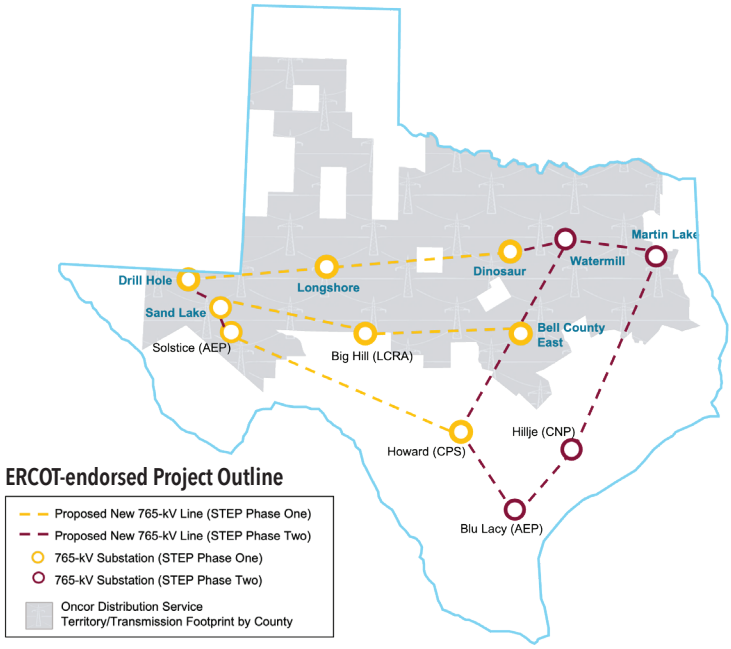
One 765kV line delivers the same capacity as three 345kV double-circuit lines, with only a slightly wider footprint.

A More Effective Grid

These lines reduce grid congestion so power can freely flow to where it is needed. This will help keep the lights on, especially during extreme weather/demand like Winter Storm Uri. That means more effective and efficient power delivery for homes and businesses.

Supporting Texas Growth

A 765kV network creates an electric expressway for the state that helps meet our state's surging electric demand – providing the flexibility to support the unprecedented current and future power needs of consumers across the state.



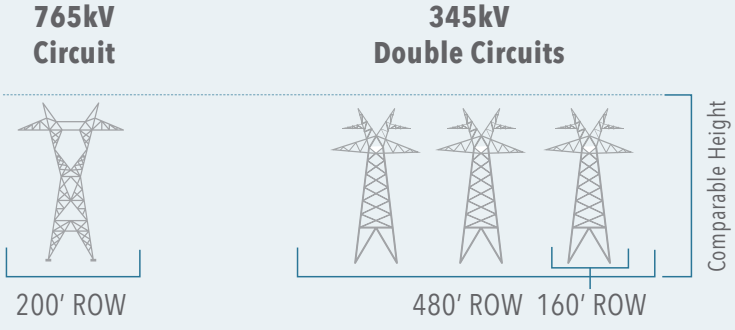
Why Now?

Texas is at an energy crossroads. The current and forecasted growth in Texas' electric demand requires adopting new solutions. By investing in 765kV infrastructure now, the state:

- Avoids substantial investments in volumes of 345kV and 138kV infrastructure that are needed if the grid does not add 765 kV capacity, which would require more time to execute and be more expensive while not providing the enhanced capacity and flexibility of a 765kV system.
- Provides long-term flexibility. The Electric Reliability Council of Texas (ERCOT) performed a detailed analysis of grid needs out to 2030 that demonstrates the superiority of 765kV.
- Ensures Texas stays powered – now and for generations to come.

Right of Way (ROW) Comparison

Requires only a moderately wider ROW than a single double-circuit 345 kV line, and significantly less ROW for the same transfer capability.



YOUR QUESTIONS ANSWERED

765kV: Texas's first major voltage upgrade since the 1960s

What is 765kV?

The 765kV transmission technology has been in use in the US and around the world for decades. Compared to the 345kV and 138kV voltages used in Texas today, 765kV systems are higher-voltage transmission lines that move more electricity, farther, more efficiently, with reduced land (ROW) requirements, given comparable capabilities. It is the natural next step in the evolution of the Texas electric grid.

Who benefits from 765kV?

Installation of the 765kV network is expected to provide significant economic and reliability benefits to the ERCOT System and the Texans within it. For example, 765kV lines help to significantly reduce line loss, which occurs when some electricity is lost as it travels long distances through power lines, and grid congestion, which occurs when too much electricity tries to move through a power line at once. Reducing line loss and grid congestion is essential for improving system reliability and consumer costs. In all, ERCOT generation capacity will go farther and Texans will get the benefit.

The 765kV network is critical for all Texans as electric demand soars exponentially. These lines will help support current and future growth in communities throughout the ERCOT region.

Where is it being built?

ERCOT's Plan will use the 765kV network across the state, ensuring the ability to keep up with Texas' growth by enabling efficient, two-way power flow. The Commission will review proposed routes, supplemental information and public feedback before ultimately selecting the final routes for the lines.

Is this new or experimental?

Not at all. There are already over 2,400 miles of 765kV lines in use across the U.S. and Canada. This is proven technology, which has been utilized elsewhere for decades, being deployed in Texas for the first time.

What's the bottom line?

Texas needs a grid that keeps up with its people. The 765kV network is the foundation for a future-ready power system that can more efficiently allow us to keep pace with the growth in our state.

For More Information

To learn more about Texas' Strategic Transmission Expansion Plan, visit **www.ercot.com/news/trendingtopics**

To learn more about Oncor's transmission planning and specific projects, visit **www.oncor.com/transmission**

For questions about an Oncor transmission project, please e-mail our team at **transmissionprojects@oncor.com**