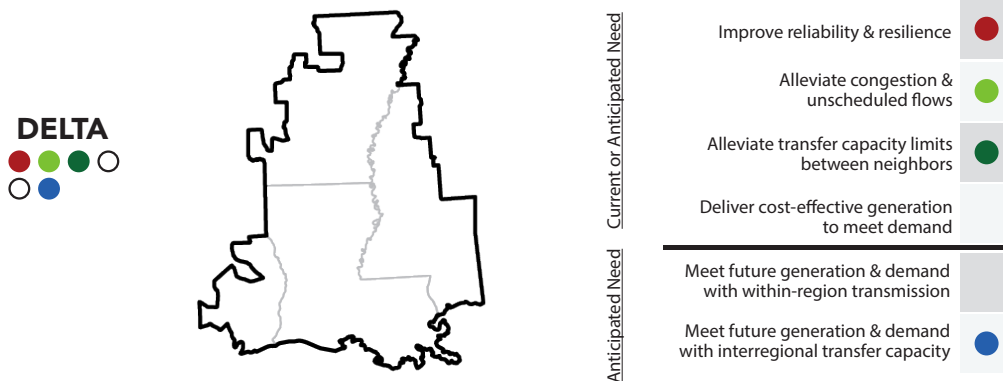


FACT SHEET

2023 NATIONAL TRANSMISSION NEEDS STUDY

DELTA REGION

The U.S. Department of Energy's Grid Deployment Office (GDO) released the National Transmission Needs Study ("Needs Study") in October 2023. The Needs Study is the Department's **triennial state of the grid** report. It identifies transmission needs and provides information about current and anticipated future capacity constraints and congestion on the Nation's electric transmission grid. In this fact sheet, we highlight the transmission needs of the Delta region. The Needs Study provides further detail on the benefits of transmission that could be realized throughout the country.



FINDINGS OF TRANSMISSION NEED IN THE DELTA REGION

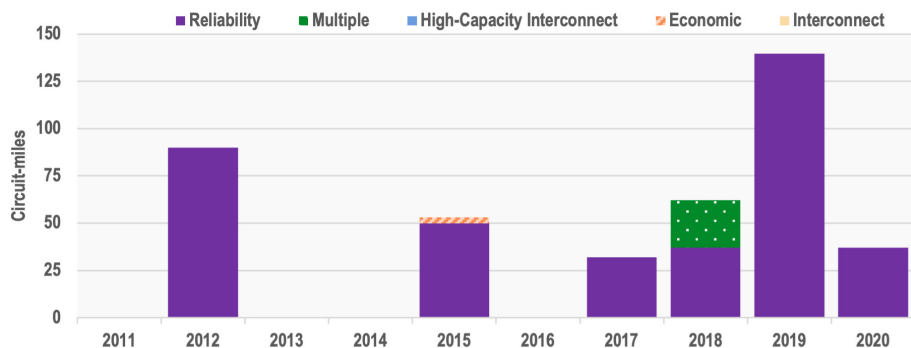
- › **Improve reliability and resilience.** Generation retirements over the next few years are anticipated to result in capacity shortfalls without additional generation or import transfer capability additions. Additional regional or interregional transmission to access diverse generation resources would help ensure resource adequacy. Additional interregional transfer capacity would also bolster system resilience and mitigate load shedding during extreme weather events, as was experienced during winter storms in both 2018 and 2021. The Delta region is also susceptible to increasingly severe hurricane storm surges, which can damage transmission facilities and result in power outages.
- › **Alleviate congestion and unscheduled flows.** Congestion costs in the combined Midwest and Delta regions have increased in recent years due to insufficient transmission to support wind generation and due to generation and transmission outages, including the recent impact of Hurricane Laura in the Delta region.
- › **Alleviate transfer capacity limits between the Delta region and its neighbors.** High congestion value of interregional transmission from 2012 through 2020 exists between the Delta region and Texas, with an average marginal value of transmission equal to \$16/MWh. A high congestion value indicates that additional transmission between the regions would reduce system congestion and constraints.
- › **Meet future generation and demand with additional interregional transfer capacity.** It is anticipated that the Delta region will need between 10.8 and 23.8 GW of additional transfer capacity with the Plains region in 2035 (median of 19.7 GW, a 414% increase relative to the 2020 system) to meet moderate load growth and high clean energy growth future scenarios. Smaller additional transfer capacity between the Delta and Southeast regions (median value of 5.1 GW) may also be required.

HELPFUL LINKS

- › Read the full study at: www.energy.gov/gdo/national-transmission-needs-study
- › Contact GDO with additional questions: transmission@hq.doe.gov

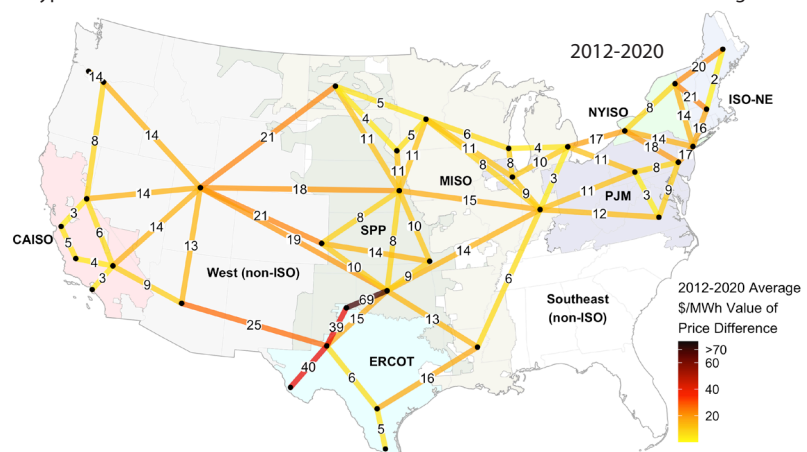
FINDINGS AT A GLANCE

Circuit-miles of new or rebuilt transmission lines (≥ 100 kV) energized between 2011 and 2020 by project driver.



Transmission projects energized over the last decade in the Delta region were predominantly installed to **address reliability concerns**.

Congestion value of hypothetical transmission links between select zonal nodes within and across regions.



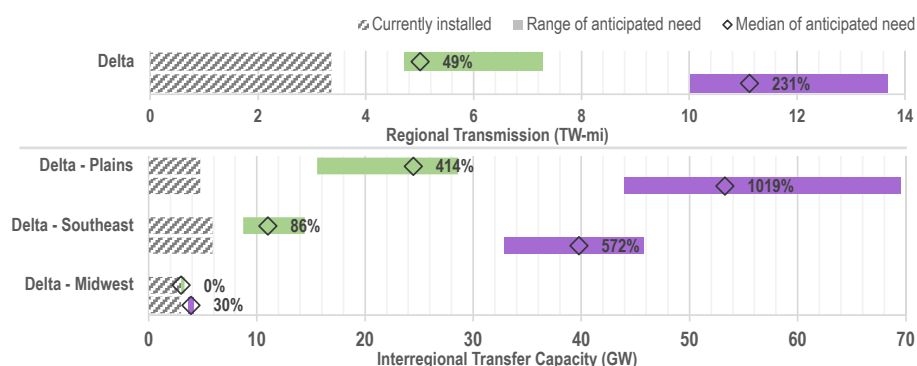
Wholesale market price differentials demonstrate that a **high value of new interregional transmission** exists **between the Delta region and Texas**.

The average marginal value of transmission between the Delta region and Texas from 2012 through 2020 is equal to \$16/MWh.

Note: Wholesale market price data is limited for non-Regional Transmission Organization (RTO)/Independent System Operator (ISO) regions. Absence of data does not necessarily indicate that there is no need for transmission to alleviate congestion and/or unscheduled flows in non-RTO/ISO regions. Findings are organized using geographic region nomenclature as described in the Needs Study. Source: D. Millstein, et al. (2022)

Within-region transmission and interregional transfer capacity need for the Delta region in 2035

Range of new transmission need for future scenarios with **moderate load and high clean energy growth** (green, top for each region) and **high load and high clean energy growth** (purple, bottom). Median % growth compared to 2020 system shown.



Capacity expansion modeling results for the Moderate/High scenario group suggest an anticipated need of **1.7 TW-miles of new within-region transmission by 2035** (49% growth relative to 2020) and **19.7 GW of new interregional transfer capacity with the Plains region by 2035** (414% growth relative to 2020).

Median 2035 capacity expansion modeling results for Moderate/High scenario group.