

XCEL ENERGY

APPLYING GEOSPATIAL ASSET DATA TO GRID PLANNING

June 15, 2026

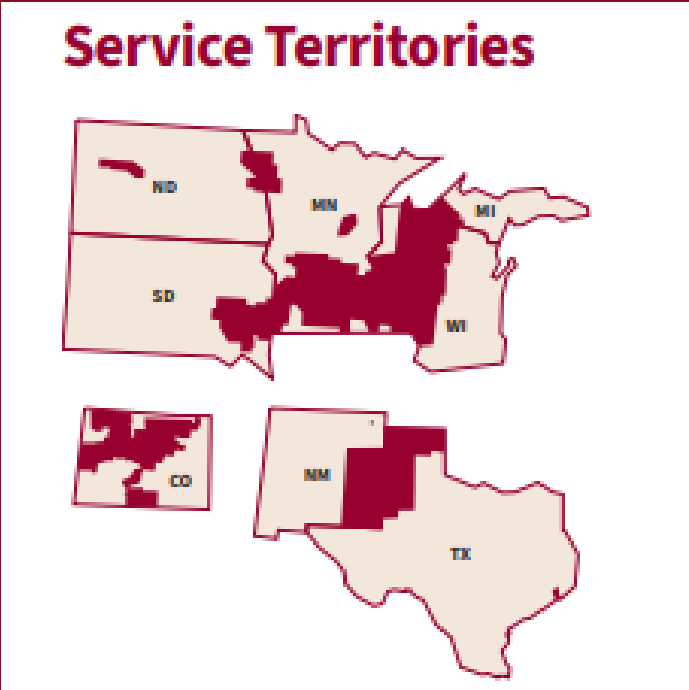
Stephanie Corey, Director Geospatial Asset Data



XCEL ENERGY OVERVIEW

CAPITAL FORECAST 2026-2030

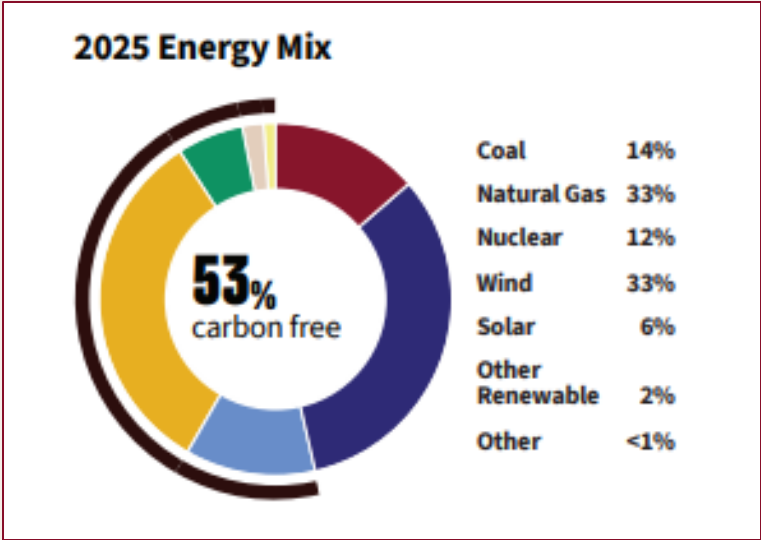
- \$60 billion** total capital investment
- ~7,500 MW** renewable generation
- ~3,000 MW** natural gas generation
- ~1,900 MW** energy storage
- ~1,500** new transmission line miles
- ~\$5 billion** for wildfire mitigation



3.9 MILLION
electric customers

2.2 MILLION
natural gas customers

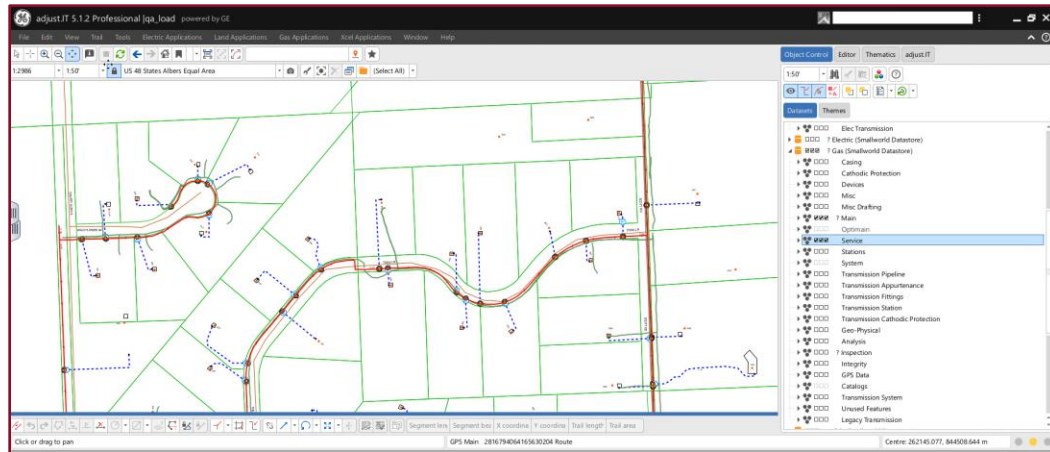
99.98%
electric reliability



GEOSPATIAL TOOLS

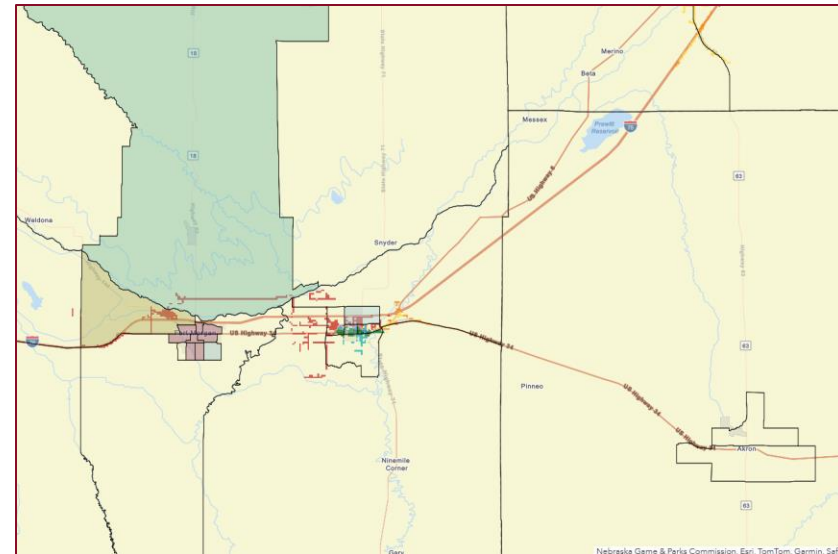
GE Smallworld

GE Smallworld is considered the system of record for geospatial asset data for Gas Distribution, Gas Transmission, Electric Distribution, and Electric Transmission



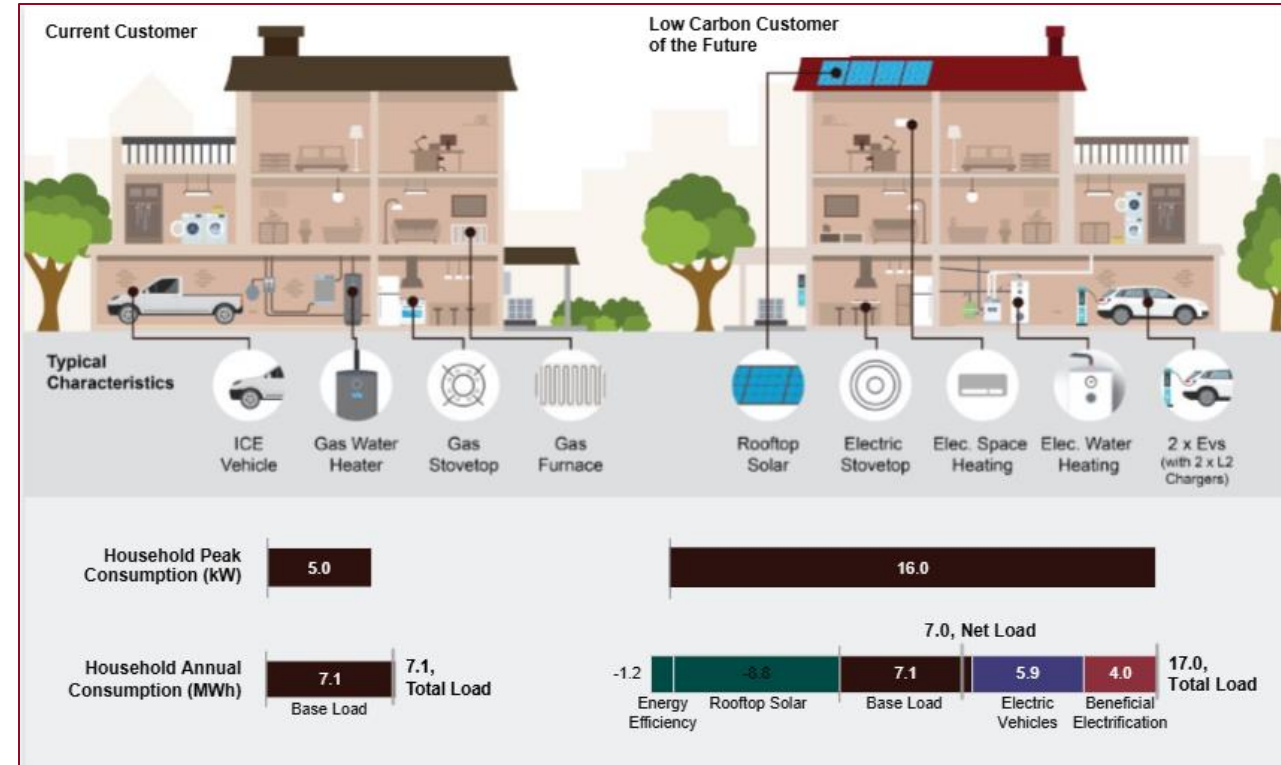
ESRI - ArcGIS

ESRI tools are utilized to support most of the planning for Electric Transmission and Distributed Generation projects.



INTEGRATED SYSTEM PLANNING

Xcel has formally moved toward **integrated system planning**, bringing generation, transmission, and distribution planning together under a single planning function. This integration explicitly relies on geospatial data to evaluate **where** resources can reasonably be built and connected, not just **how much** is needed.

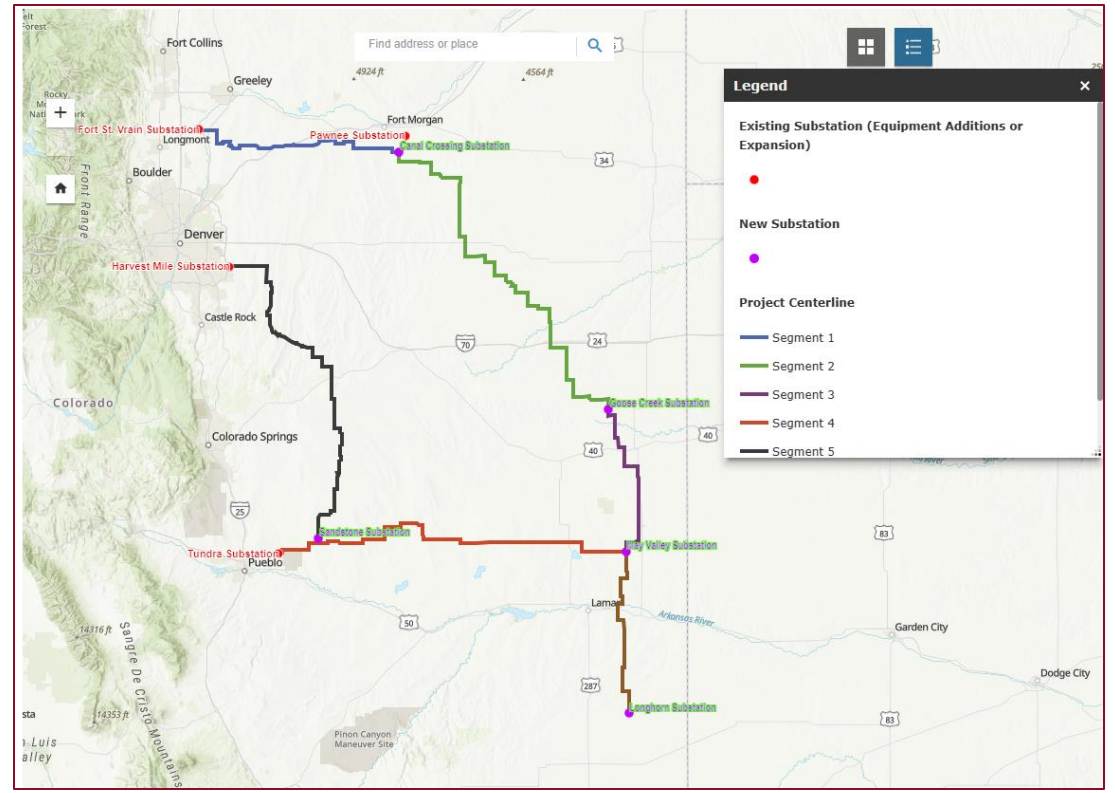


TRANSMISSION CORRIDORS: CORRIDOR REUSE AND SPATIAL OPTIMIZATION

Corridor-Based Transmission Planning

Across major transmission programs (i.e. Colorado's Power Pathway, Grid Forward/LRTP projects), Xcel has documented the use of:

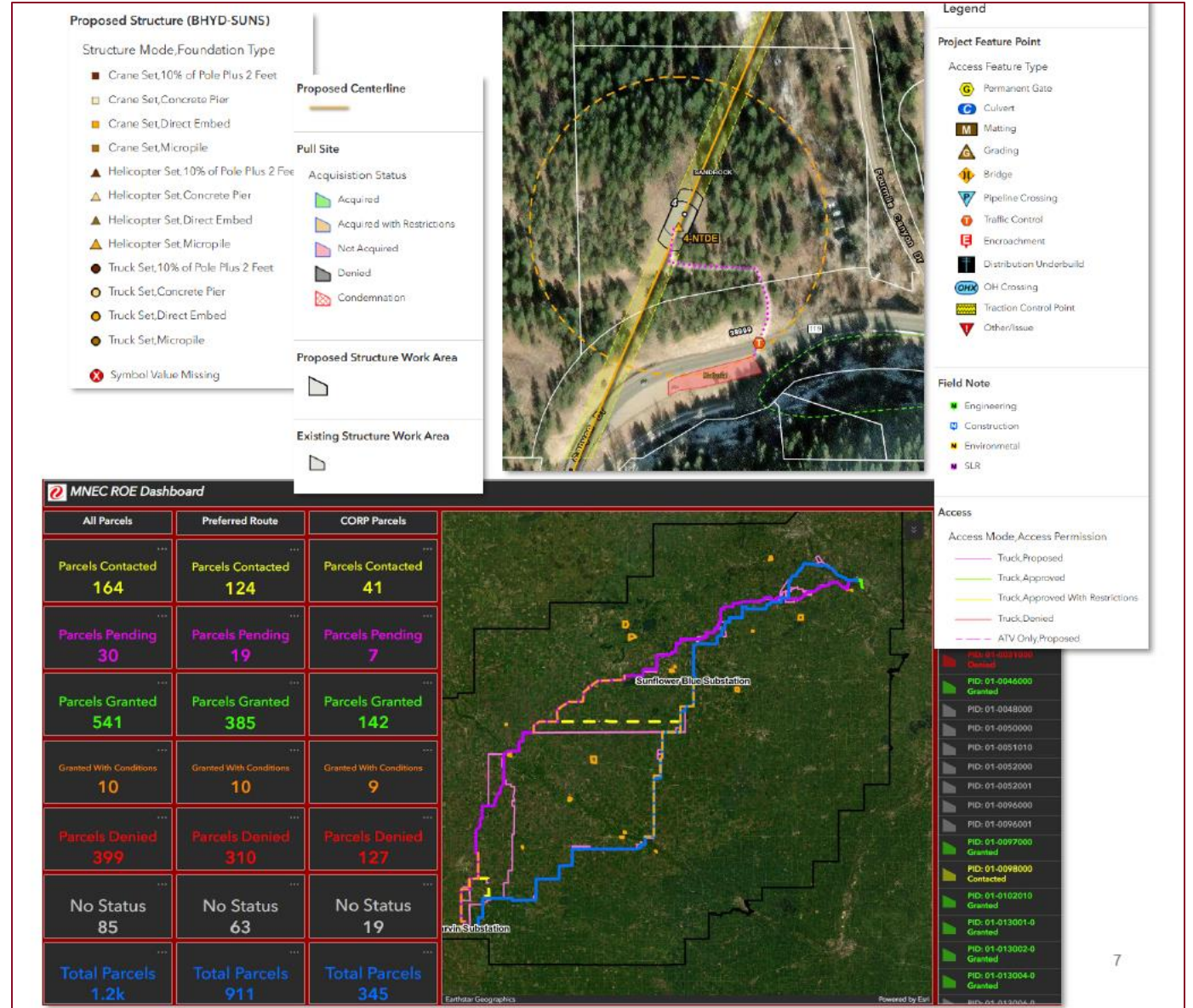
- Existing infrastructure corridors
- Environmental and land-use constraints
- Community impact minimization



TRANSMISSION PROJECT VISUALIZATION

The Geospatial department creates multiple versions of a corridor path for a project and then utilizes **ArcGIS Online Field Maps** to allow for project personnel to modify as the project progresses to show status to entire team.

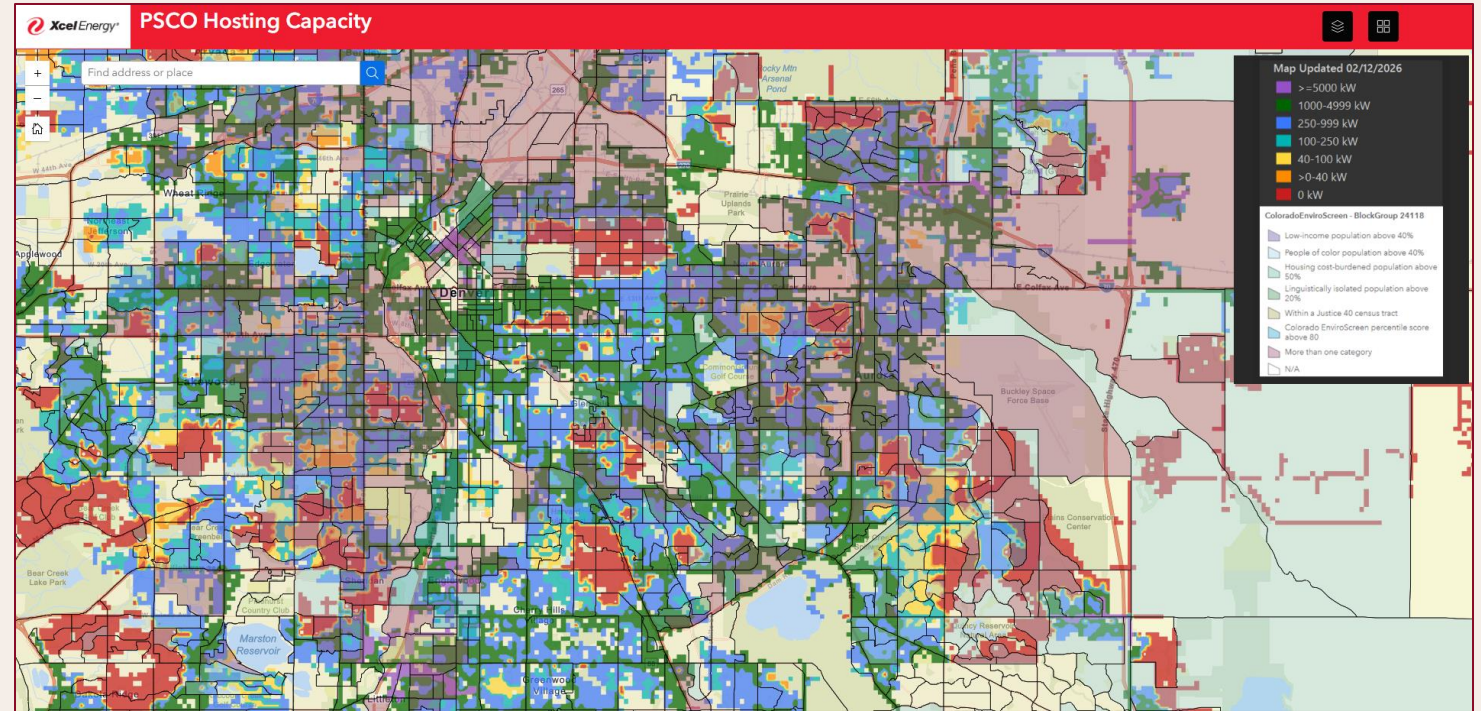
- Cloud-based
- Field data viewing, capture & editing
- Consumption of project data into mobile mapping platform
- Dashboarding & project tracking
- Offline enabled
- Collaboration with external partners



HOSTING CAPACITY ANALYSIS (HCA)

Xcel publishes geospatial hosting capacity maps to inform:

- Where distributed generation (solar, wind, batteries) can interconnect
- Where load growth (EVs, fast charging, new customers) can be accommodated
- Determine where and when we have load constraints



Disclaimer on Hosting Capacity Map

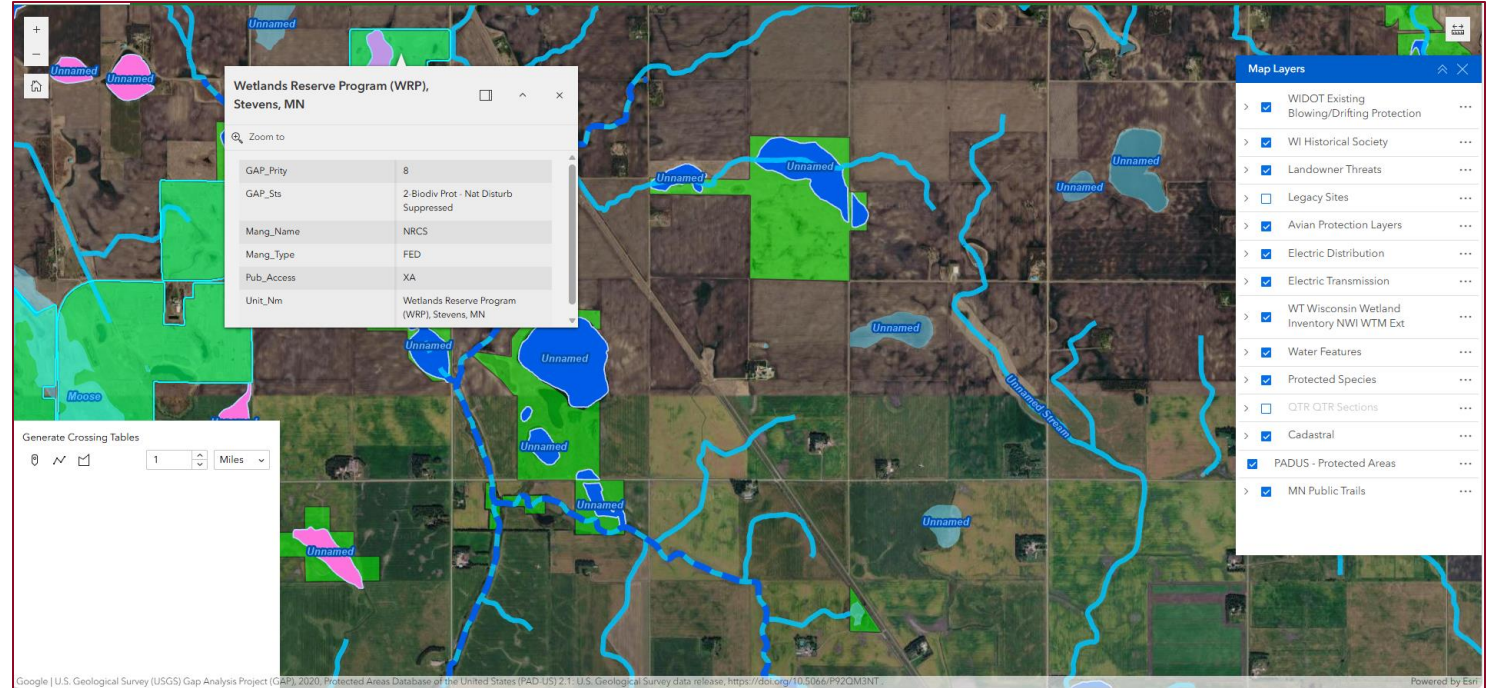
The hosting capacity map display is a high level estimate of the available hosting capacity for adding distributed generation. Hosting capacity is defined as the amount of generation that can be accommodated at a point on the distribution system without requiring some mitigations such as specialized inverter settings or infrastructure upgrades. This map is one tool you may use to help assess the available hosting capacity in a given general location. The determination of the amount of generation that can be accommodated at a point in the distribution system can include several steps, with more specific and more accurate information becoming available as the effort and expense to provide that more specific information increases. A detailed engineering design cost study determines the exact amount of generation that can be accommodated at a given location as well as the mitigations required to interconnect the generation capacity under review. The hosting capacity map is offered free of charge and correspondingly is not as accurate as the next steps for obtaining specific information. The map is being provided for informational purposes only, is not intended to be a substitute for the established interconnection process, does not confer any rights and is non-binding. The hosting capacity map is taken from data and is a moment in time and may not reflect current conditions in a given area. Information on other projects in the interconnection queue for various feeders, but not yet interconnected, may have an impact on hosting capacity. This information is not reflected in the maps because we lack certainty on whether the projects will proceed. The hosting capacity map also does not include limitations on the transmission system, on feeder reclosers involving reverse power flow, on single and two phase feeder construction, and on substation protective devices. You may make a pre-application request or a formal interconnection request for more information on system constraints beyond the distribution system.



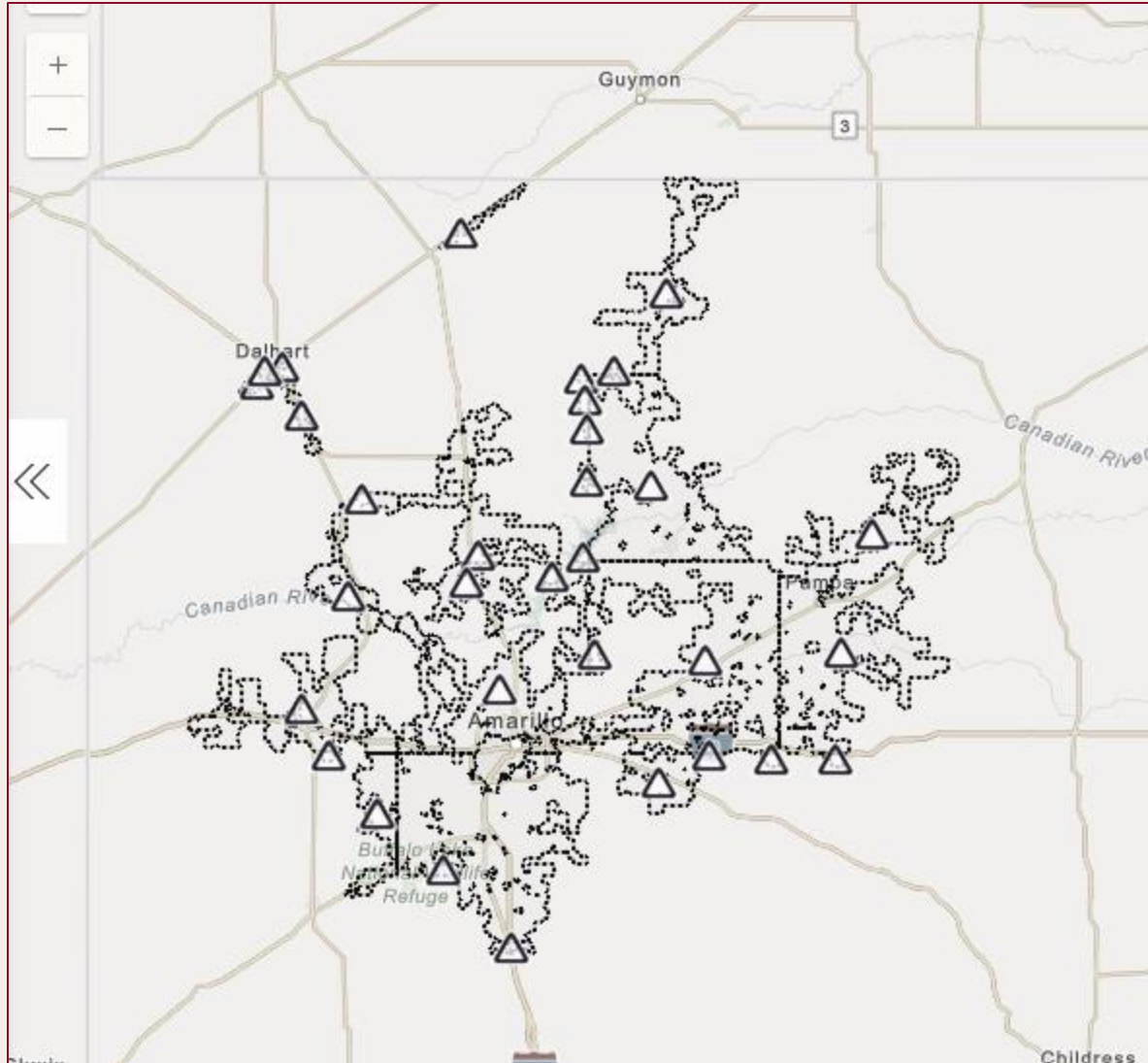
ENVIRONMENTAL REVIEW PORTAL

Tool generated to supporting permitting and project teams assess a proposed project corridor to check for potential environmental areas that need to be considered during planning.

- Protected Areas
- Protected Species
- Public Areas



PSPS EVENT



Xcel Energy

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[Customer Service](#)
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Residential Customers
Business Customers
Partner Resources
Clean Energy & EVs

Public Safety Power Shutoffs


A Public Safety Power Shutoff (PSPS) event is when we turn off power in certain areas to prevent wildfires during extreme or critical wildfire risk conditions.

Sign Up for Alerts
Outage Map
Wildfire Projects
Event Updates


[Home](#) > [Outages & Safety](#) > [Wildfire Preparedness](#) > [Public Safety Power Shutoffs](#)

During extreme or critical wildfire risk conditions, or if we're working near active wildfires, we may need to temporarily turn off electric service to customers in targeted areas. This is a risk reduction strategy known as a **Public Safety Power Shutoff (PSPS)**.


Proactively shutting off power is not a step we take lightly. We consider weather, wind speeds, relative humidity, fuel moisture and temperature as well as critical customers and infrastructure before deciding to implement a PSPS.



Low fuel moisture



Low relative humidity



Extreme wind speed

- **Extreme Winds:** wind speeds greater than or equal to the 99th percentile at specific locations.
- **Relative Humidity:** low relative humidity.
- **Low Fuel Moisture:** presence of drier fuel sources, calculated by considering day length, hours of rain and daily temperature and humidity ranges.

PSPS Communications

We start communicating with customers when the forecast includes extreme weather that may require a PSPS.

- **Up to 48 hours (or more if possible) before a PSPS event.** We will contact impacted customers using a phone call and/or email, depending on their notification preferences. Updates will be provided daily.

SUMMARY

GIS data is the foundation of credible grid planning

Integrated generation, transmission, and distribution planning depends on GIS to know where resources can be built, connected, and operated. Today's gaps impact the 2026–2030 forecasting:

- Why it matters: GIS underpins operations, corridor planning, environmental review, and PSPS response
- Where the gaps are: incomplete asset data and connectivity
- Impact on forecasting: risk of over- or under-building capacity and weaker scenario modeling

