# Electric Grid Capacity Study

## Overview and Implementation

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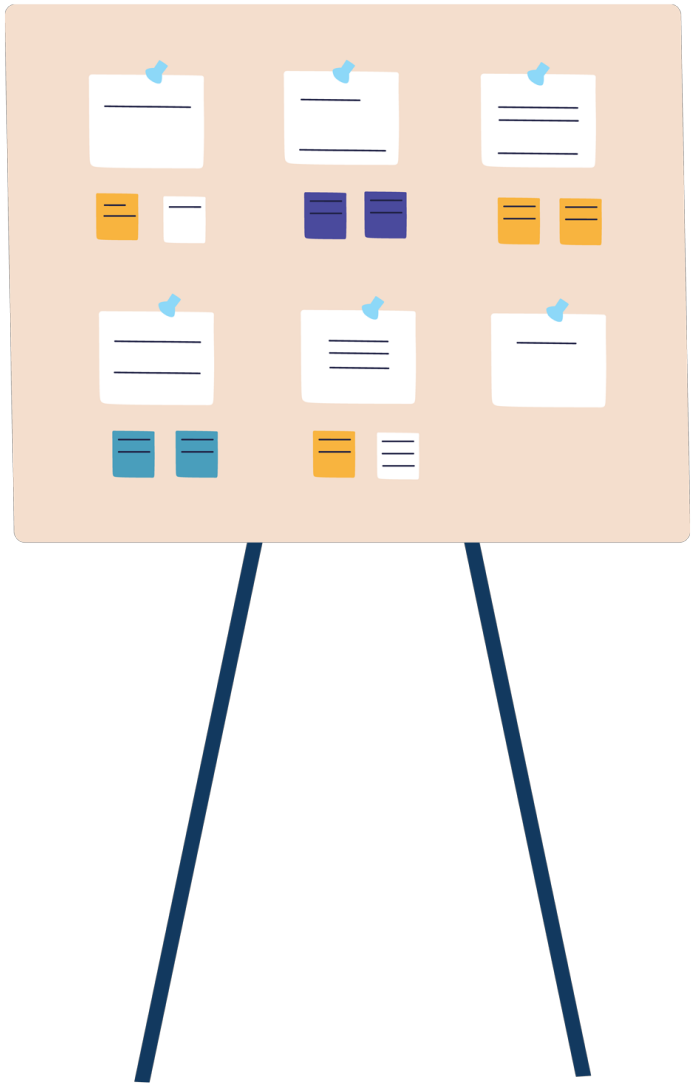
June 23, 2026

# Information Only

Tonight's meeting will focus on a review of the Grid Capacity Study and its recommendations for future implementation.

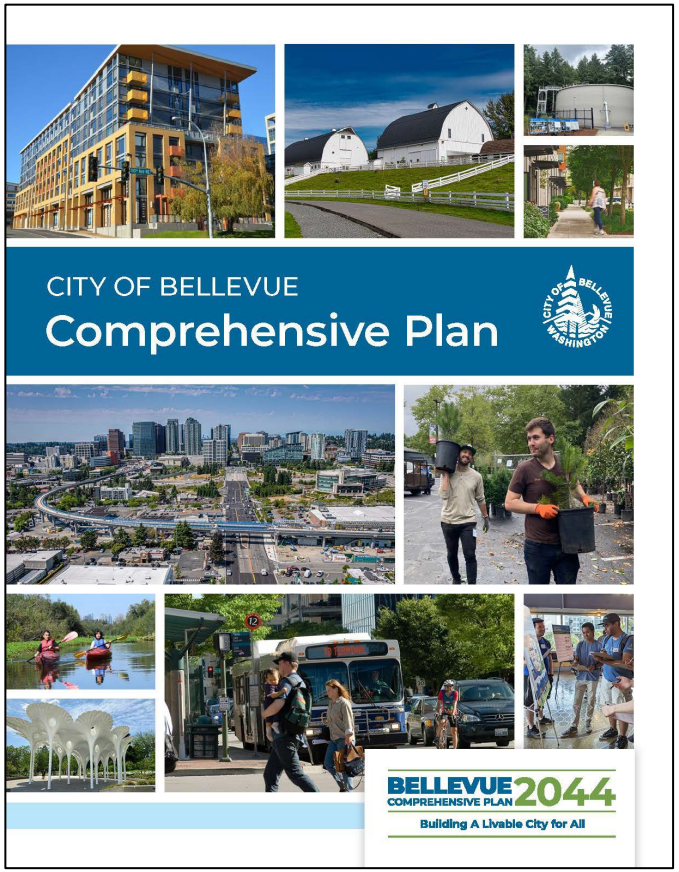
# Agenda

1. Background
2. Purpose and Goals
3. Partnerships
4. Consultant Presentation
    a) Technical Scope
    b) Key Findings
5. Recommendations
6. Next Steps



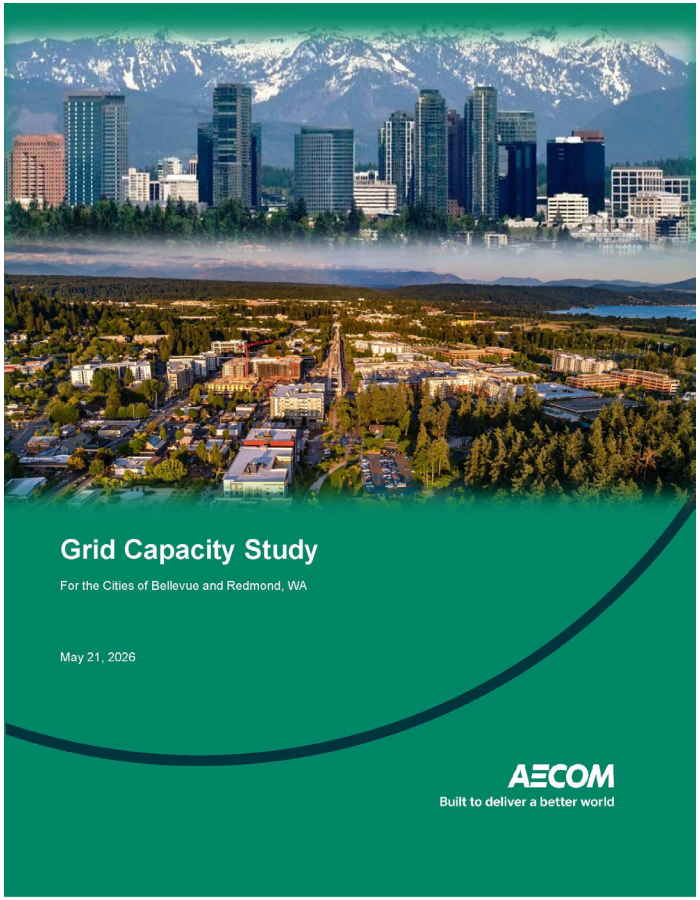
# Background

- Bellevue's growth targets for 2019-2044
  - +35,000 housing units
  - +70,000 jobs
- Goals to reduce greenhouse gas emissions.
- Council included funding for the study in current budget.



# Purpose and Goals

- Independent assessment by consultant.
- Assesses current and future grid capacity.
- Workshops with PSE to strengthen coordination.

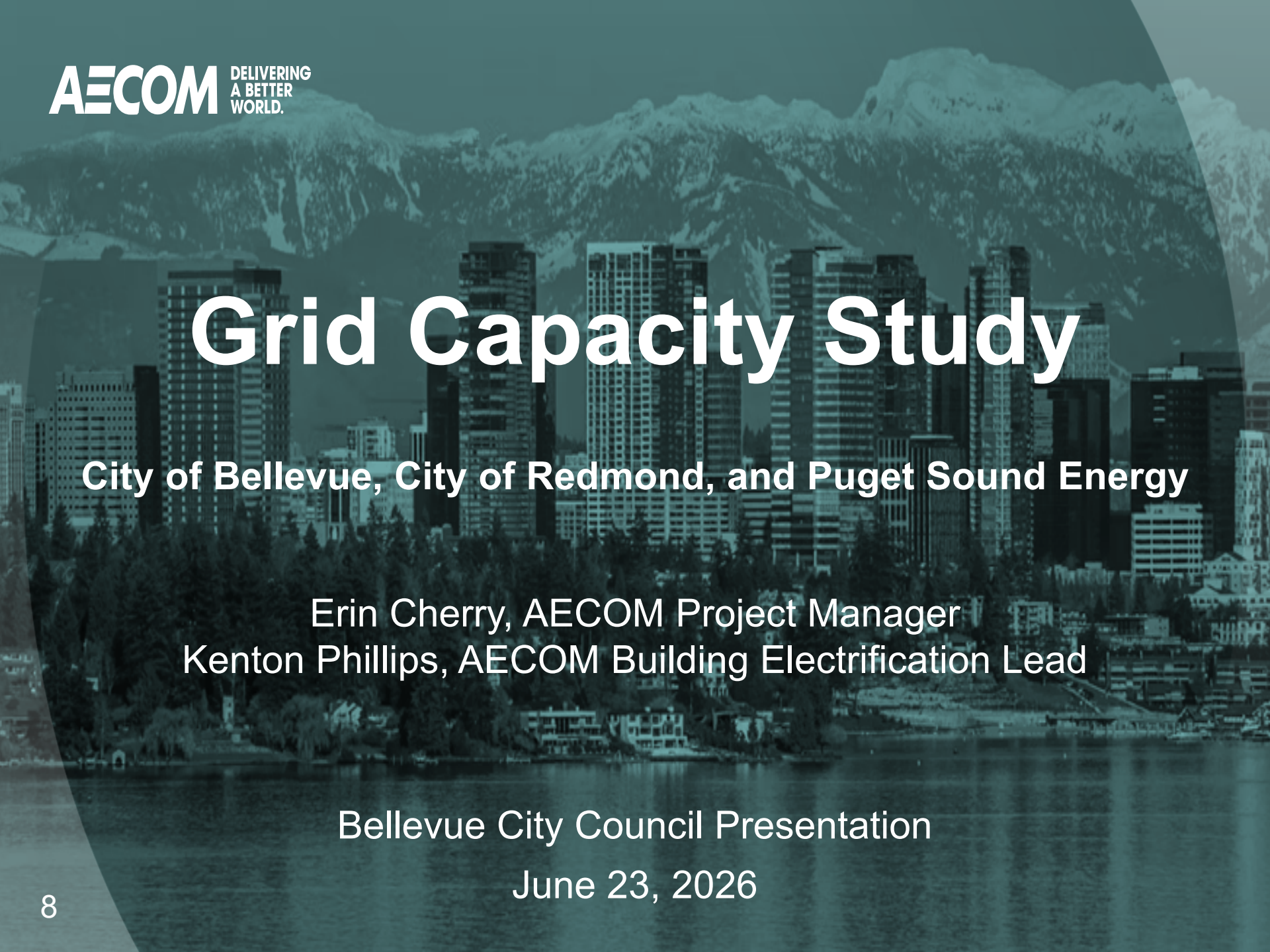


# Purpose and Goals

- Support goals around growth, economic development, and sustainability.
- Evaluate local substation capacity.
- Identify potential constraints to address proactively and timely.
- Inform future investments and joint planning.
- Deepen strategic coordination, including for future large loads (data centers, biotech, etc.).

# Joint Study & PSE Engagement

- Partnership with Redmond:
  - Created economies of scale.
  - Funding contribution.
  - More robust study.
- Close collaboration with PSE:
  - Shared data inputs and assumptions.
  - Informed technical scope.
  - Participated in workshops to strengthen coordination.

# Grid Capacity Study

## City of Bellevue, City of Redmond, and Puget Sound Energy

Erin Cherry, AECOM Project Manager
Kenton Phillips, AECOM Building Electrification Lead

Bellevue City Council Presentation

June 23, 2026

# Study Goals

## Technical Assessment

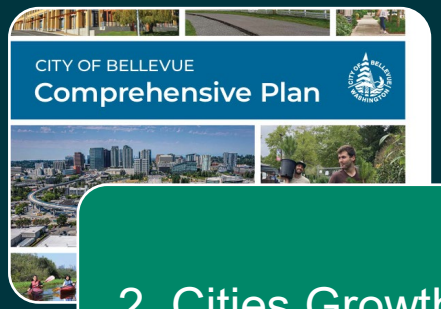
Technical evaluation of projected loads and grid capacity

## Workshops

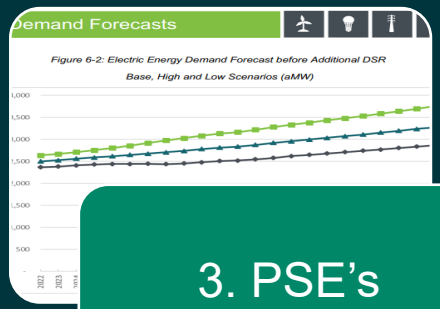
Workshop series with PSE to strengthen partnership

# Study Approach

1. Existing Conditions Review



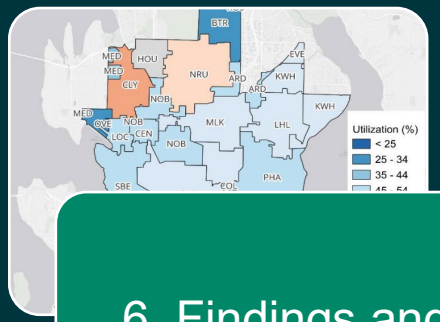

2. Cities Growth Plans




3. PSE's Demand Forecasts


4. Develop a Partner Cities Demand Forecast

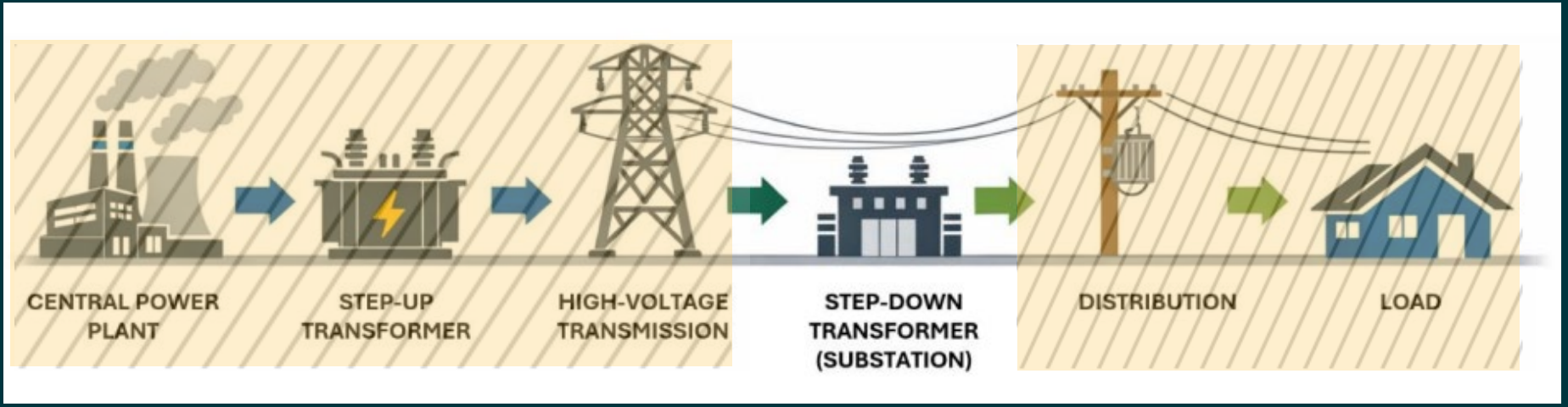

5. Incorporate PSE's Planned Substation Upgrades




6. Findings and Recommendations

# Study Scope & Context

- Capacity analysis completed at the substation-level.
- Reflects PSE's planned substation upgrades and load transfers.
- Different planning horizons:
  - PSE: Forecasts and improvements plans extend 10 years.
  - Cities: Don't forecast load directly, but plan for growth in 20+ year timeframes.



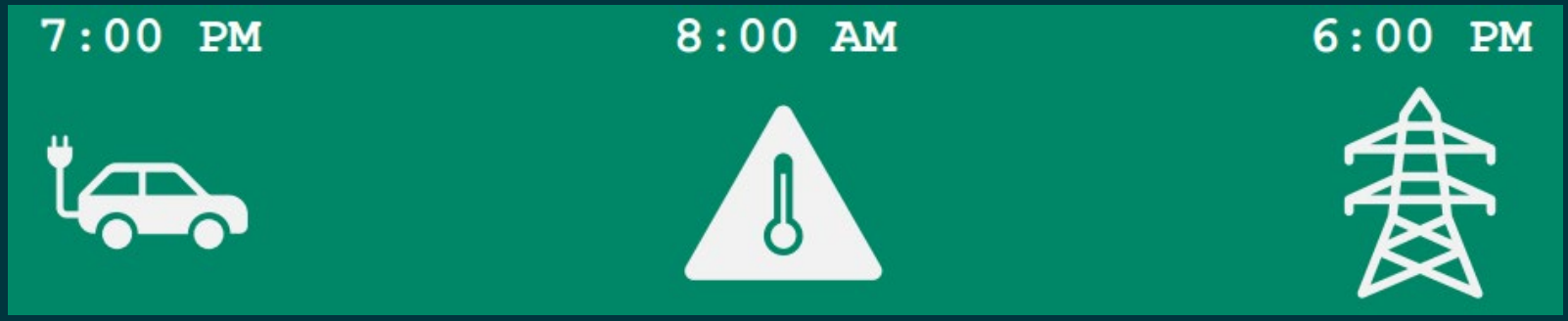
# Technical Assessment

## Electricity Demand Forecast Findings

**70%** increase in total electricity demand by 2050 from transportation and building electrification and new construction across the Partner Cities

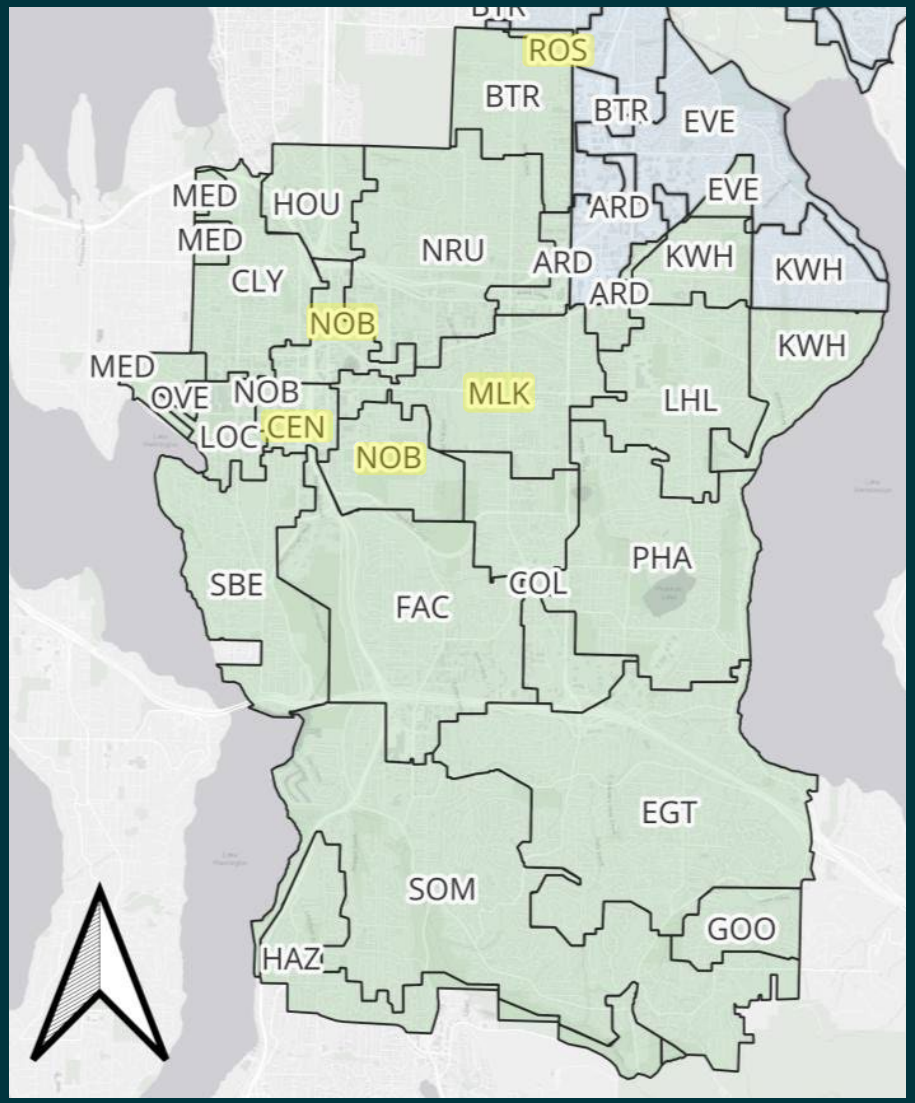
**3 of the 23** local substations at risk of exceeding their capacity by 2050, if not thoughtfully prepared for and managed

Both the magnitude and the timing of load is changing. EV, heating, and system-wide grid demand peak at different times.



# Key Findings

Enough substation capacity is expected to serve the needs of Bellevue over the next 10 years, assuming timely completion of planned upgrades.




**Substation Capacity Upgrades:**

- Center (CEN): By 2035
- Midlakes (MLK): By 2030
- North Bellevue (NOB): By 2035
- Rose Hill (ROS)*: By 2030

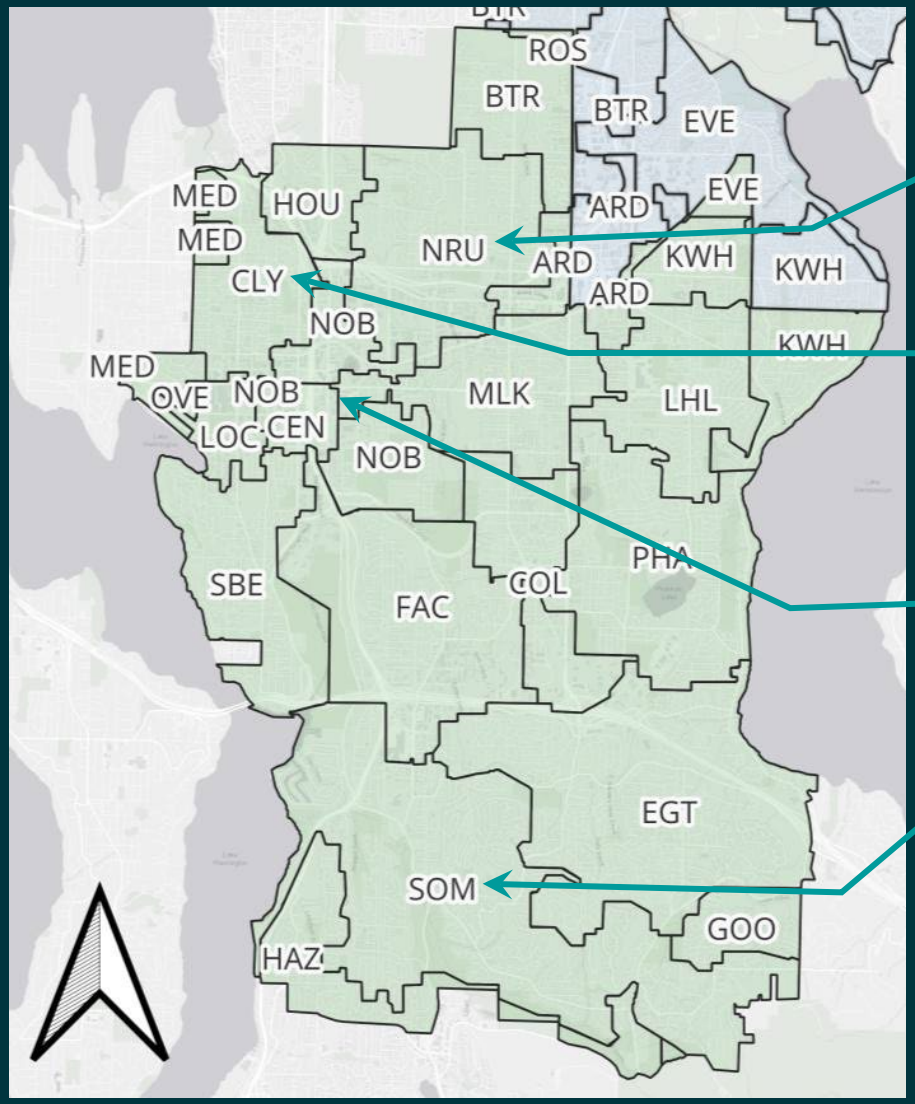
**Other Improvements:**

- Adding a Vernell substation, which could expand capacity near the North Bellevue substation.
- Potential future load shifting.

* *Mostly serves Redmond*

# Key Findings

Four substations are most likely to experience capacity pressures by 2035, requiring closer monitoring and potential upgrades.




**Northrup (NRU)**
Driven by growth in BelRed.

**Clyde Hill (CLY)**
Driven by growth in Downtown (City Center North).

**North Bellevue (NOB)**
Driven by growth Downtown and in Wilburton. *Planned upgrades address constraints*.

**Somerset (SOM)**
Driven by electrification in Newport and Somerset.

# Key Findings

1. PSE and Bellevue forecast growth with varying planning horizons and methodologies.

2. Primary driver of demand change is population growth, but study produces relatively stable results in the near-term.

3. Continued coordination between Bellevue and PSE and expanded use of demand-side resources and demand management will be important to sustain growth.

# Recommendations

1. Strengthen data sharing to improve demand forecasts.
2. Share information on expected large loads.
3. Harmonize forecasting horizons.
4. Promote regulatory responsiveness.
5. Address local permitting processes.
6. Implement demand-side management and distributed generation technologies to reduce peak demand.
7. Communicate value to residents.

# Proposed Next Steps

- Initiate semi-annual joint forecasting session.
- Use high-priority grid project to help identify improvements to permitting processes.
- Collaborate with PSE on a pilot project to implement demand-side management strategies reducing peak demand.
- Improve communications around grid capacity planning and investments to instill greater confidence in long-range planning efforts.

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