Welcome!

What are we doing here tonight?

We’re here to inform you about the proposed Broad Street Substation improvements AND get your input in some key areas:

- Preliminary Design
- Street Vacation
- Public Benefits

How can you participate?

Talk with project staff

We’re here to answer questions and listen

Put pen to paper

Share your input on flip charts or the comment board, or use a comment form

Need to think about it?

You can always send us an email: SCL_BroadSub@seattle.gov.
BROAD STREET Substation Inductor Project

PROJECT DESCRIPTION

Seattle City Light is committed to producing and delivering environmentally responsible, safe, low-cost, and reliable power. As part of this commitment, City Light plans to construct transmission system improvements that will increase reliability of the Puget Sound Area and Northern Intertie (PSANI) power grid.

The Broad Street Substation Inductor Project is one of three planned system improvements.

Project benefits

- Improve reliability of the regional electric transmission grid
- Meet energy demands of our growing region
- Reduce the likelihood of power outages

Technical components:

- Install a 6 Ohm oil insulated series inductor on the existing MA-US-BR transmission line
- Install a 21.3 MVAR 115kV capacitor bank
- Install a 115kV 2000A breaker, gas insulated switchgear (GIS) system
BROAD STREET Substation Inductor Project

Upgrading our power grid to meet growing demand and reduce outages

POWER DELIVERY 101

GENERATION

1. DAM
2. Generator
3. Transformer substation
4. turbine
5. Penstock
6. Generator
7. Spillway
8. Reservoir
9. River

TRANSMISSION

Electrons: Moving from one atom to another
Wire: Metals such as copper and aluminum are used because of their flexibility and conductivity
115 kV to 230 kV

DISTRIBUTION

Power delivered to the substation
Fuse boxes prevent overloads and short circuits from doing harm.

CUSTOMERS

Power delivery for residential and commercial customers

WATTS UP:

A guide to energy-speak

Amps (amperage) measure the AMOUNT of electricity used.
Volts (voltage) measure the pressure, or FORCE of electricity.
Watts (wattage) = amps x volts and measure the WORK that electricity does.
Ohms measure the RESISTANCE to the flow of current

ENLIGHTENING: How a light bulb works

A meter measures how much electricity is used by customers

Compact Fluorescent Bulb
A CFL is more efficient because it does not waste energy by putting out excess heat.
It also lasts longer than an incandescent bulb.

INCANDESCENT LIGHT BULB

Electricity excites the electrons in the tungsten wire. One electron bumps another and this bumping releases photons (light) and energy (heat). The tungsten would quickly burn out in oxygen, but lasts when surrounded by the inert gas, argon. Higher-watt bulbs have a bigger filament, so they produce more light.

ENLIGHTENING: How a light bulb works

ELECTRICITY

POWER DELIVERY 101

Scovell
electrical
telgraph
substation

Vault

Substation: Electricity is transformed into manageable voltages

13 kV or 26 kV

Watts delivered to the substation

Power delivery for residential and commercial customers

Seattle City Light

www.seattle.gov/light/broadsub
# SCHEDULE

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We are here.
City Light has selected a preferred alternative for substation improvements. This alternative expands the substation’s boundary at its northwest corner and provides a number of benefits, including:

- More efficient equipment layout
- Greater safety for workers
- Improved long-term flexibility
- Preserved views

City Light also evaluated an alternative that would not expand the substation’s footprint. This alternative was not selected because it would require:

- Locating some equipment on top of the crane tower, requiring structural improvements and an increase in height from 65 feet to 85 feet
- Relocating existing equipment closer to the sidewalk along Taylor Ave N and installing 25-foot-high firewalls
SUBSTATION OPTIONS

Vacation Option
(preferred)
- Requires street vacation
- Provides public benefits (as part of street vacation)
- New equipment is 20 ft tall
- New walls about 20 ft tall
- New equipment is accessible

No-Vacation Option
- No public benefits provided
- Some equipment installed on crane tower roof (for total height of 85 ft)
- Requires structural upgrades to crane tower
- Ground level equipment requires new firewall
- Some new equipment not easily accessible
- Landmark status constrains ability to put equipment on crane tower

Site Constraints
Area streets are congested with underground transmission and distribution lines, limiting possible areas for expansion outside of the substation boundary

www.seattle.gov/light/broadsub
Street vacation refers to the process whereby a property owner (in this case, City Light) petitions City Council to acquire adjacent street right-of-way for use other than as a public roadway. The portion of Broad Street proposed for street vacation is a permanently closed road that is no longer in use and would be used for substation expansion.

Where are we in the process?

- Street vacation petition submitted to SDOT for review
- Seeking public input on proposed public benefits
- Public hearing to be held in mid-2018

City Light seeks to acquire about 4,000 square feet for substation improvements.
PROPOSED PUBLIC BENEFITS

Why are we proposing public benefits?

- Street vacations require that the property owner provide public benefits to compensate for the loss of use of the public right-of-way.
- Benefits should be long-term and equal to the value of the right-of-way that is being vacated.

What are we proposing?

- City Light is proposing public benefits it feels are in alignment with the vacated area.
- The proposed benefits include a number of improvements to the streetscape on Thomas St between 6th Ave N and Taylor Ave N.
- Seattle City Council will ultimately determine if the proposal is sufficient.

How did we come up with the proposed benefits?

- Thomas Street will be reconnected after the tunnel is opened.
- To date there has been little investment in the public realm in this area.
- There are existing plans that identify improvements on Thomas and that have the public’s support.
- The proposed benefits would help implement parts of these plans.

Thomas St currently has a 6-foot-wide sidewalk with no amenities.

The Thomas Street Concept Plan and the Lake2Bay Concept Plan identify improvements next to the substation.
PROPOSED PUBLIC BENEFITS

The proposed public benefits on Thomas Street include:

1. **Street improvements**: Widen the sidewalk
2. **Bike lane**: Add a protected bike lane, with curbed protection and pavement markings
3. **Landscaping**: Add new street trees and irrigated planting areas
4. **Green stormwater infrastructure**: Add bioretention cells and Silva Cells
5. **Pedestrian lighting**: Improve lighting with pedestrian lights and streetlights
6. **Wayfinding signage**: Add signs to promote Lake2Bay Loop
7. **Furnishings**: Add benches and bike racks

*Proposed benefit #4: Silva Cells promote tree growth and treat stormwater*
PROPOSED PUBLIC BENEFITS

What do you think of the proposed public benefits?

Do you have other ideas for public benefits?
BROAD STREET Substation Inductor Project

Upgrading our power grid to meet growing demand and reduce outages

HOW CAN YOU STAY INVOLVED?

There are a number of ways to stay involved with the Broad Street Substation Inductor Project:

**Website**

Stay up to date and sign up to receive email updates at:
www.seattle.gov/light/broadsub

**Email**

Send us your comments and questions via email to:
SCL_BroadSub@seattle.gov

**Hotline**

Listen to project updates and record your comments or questions at:
(206) 801-3528

**Social media**

Follow us on social media:
facebook.com/SeattleCityLight
twitter.com/SEACityLight