

# Transportation Electrification Strategic Investment Plan

Angela Song, TE Portfolio Manager | April 7, 2022



Seattle City Light

WE POWER SEATTLE

# Outline

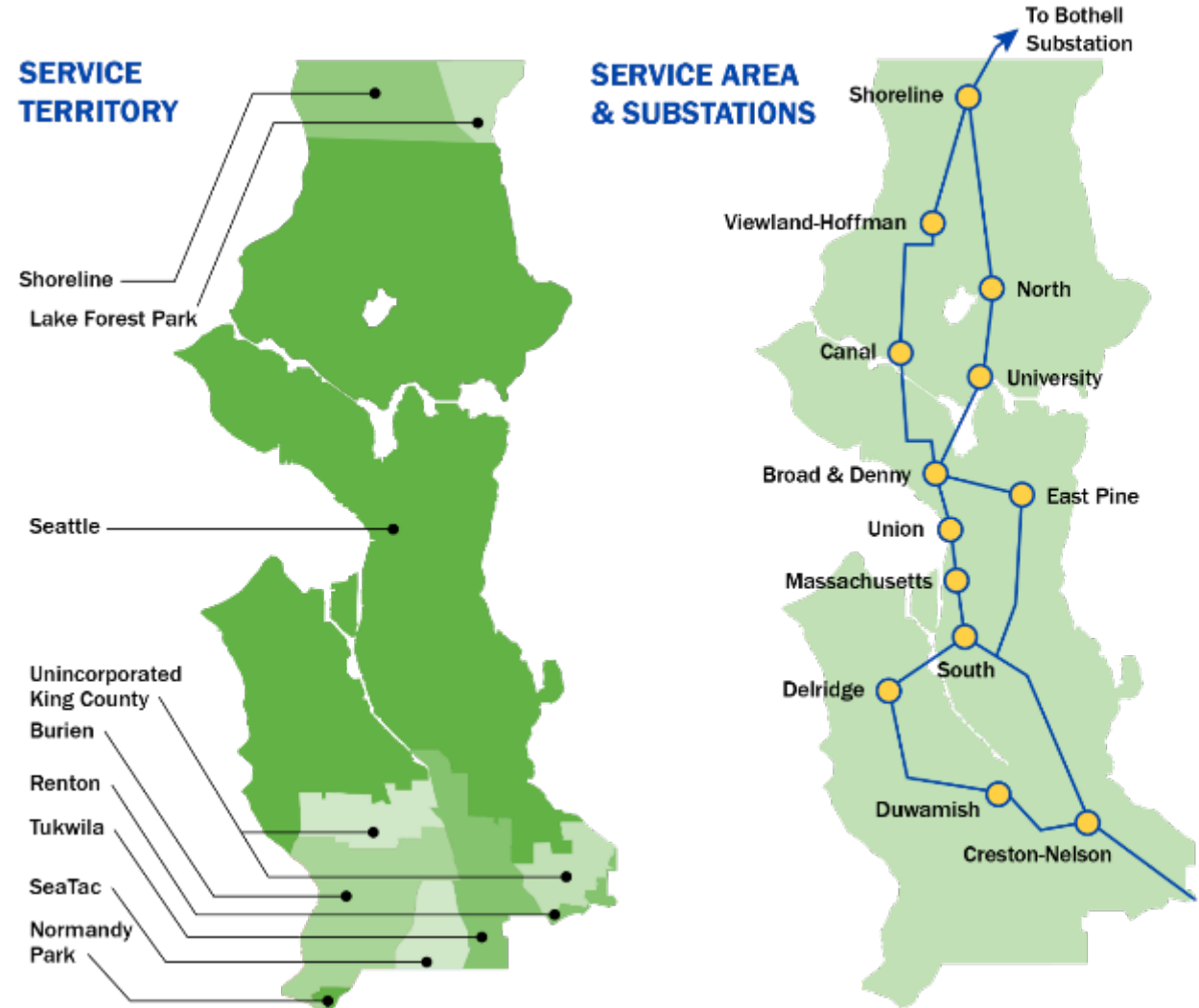
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- + SCL and electrification
- + How are we preparing?
- + What are we doing?
- + What is next?



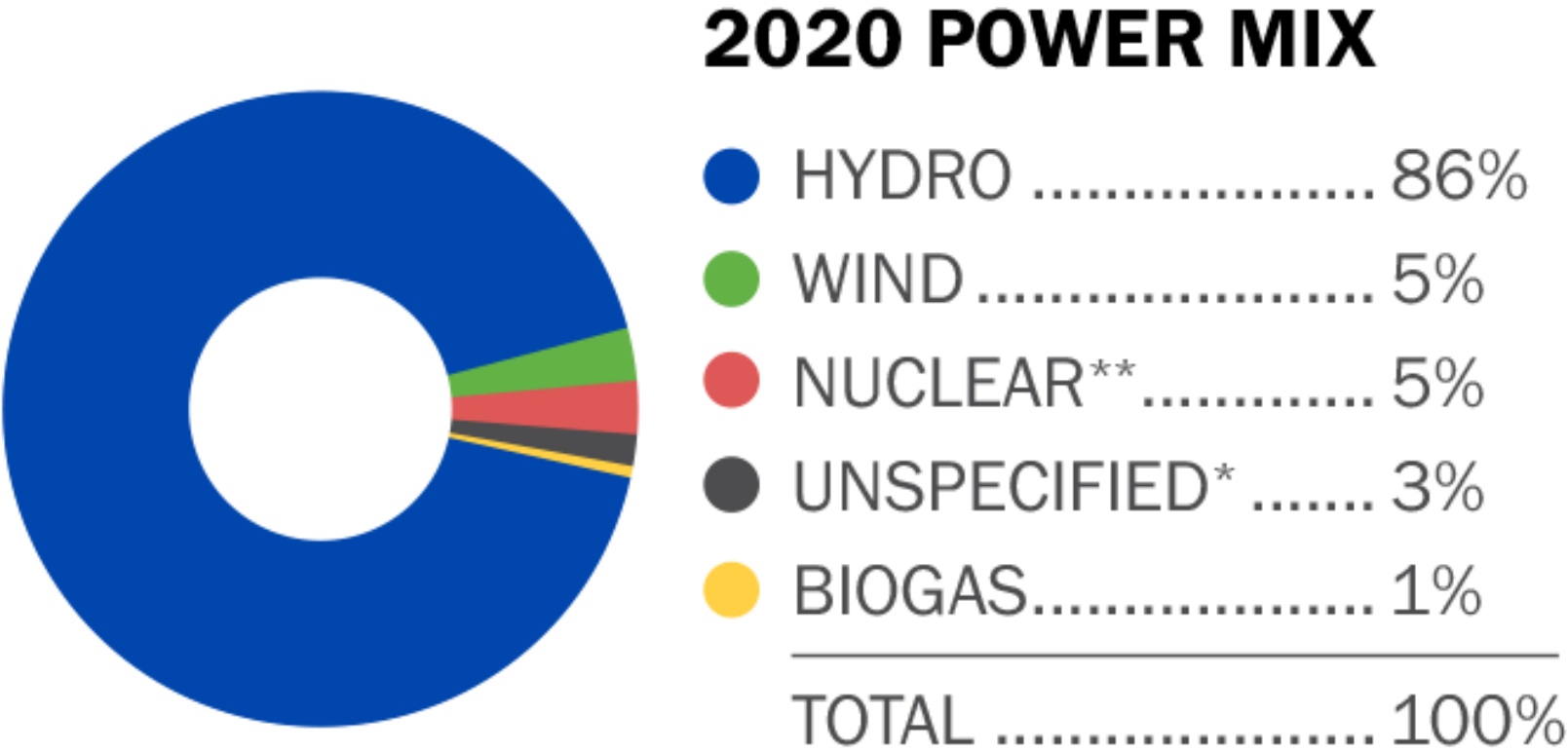
# About Seattle City Light

- + Founded in 1910
- + Serve population of 940,000
  - 419,601 residential customers
  - 50,779 non-residential customers



# About Seattle City Light

+ Net zero greenhouse gas emissions since 2005



*\*\*This fuel represents a portion of the power purchased from BPA.*



# 2022-2026 City Light Business Strategies

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Improve the Customer Experience



**Create our Energy Future**



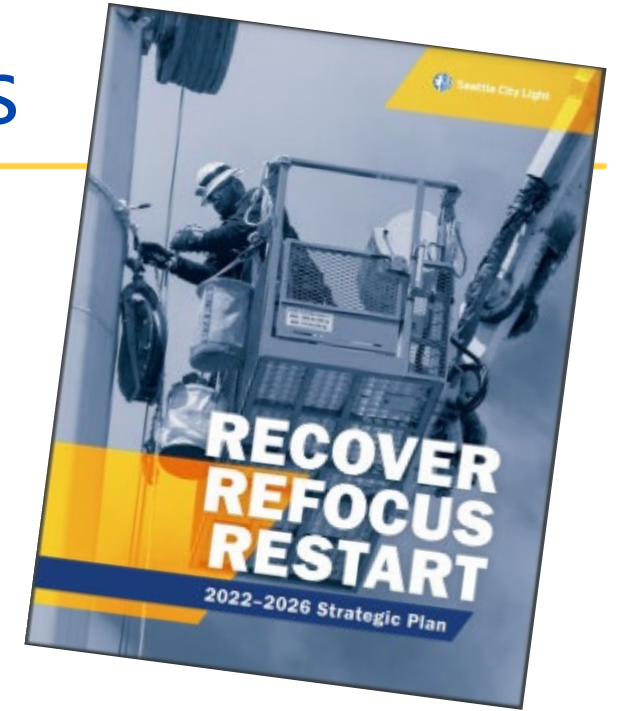
Develop Workforce and Organizational Agility



Ensure Financial Stewardship and Affordability



We Power



# Create our Energy Future Objectives:

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- + Grid & distribution of energy resources that **increase customer options**

- + Work to **reverse historical inequity** and avoid collateral harm

## Do this via:

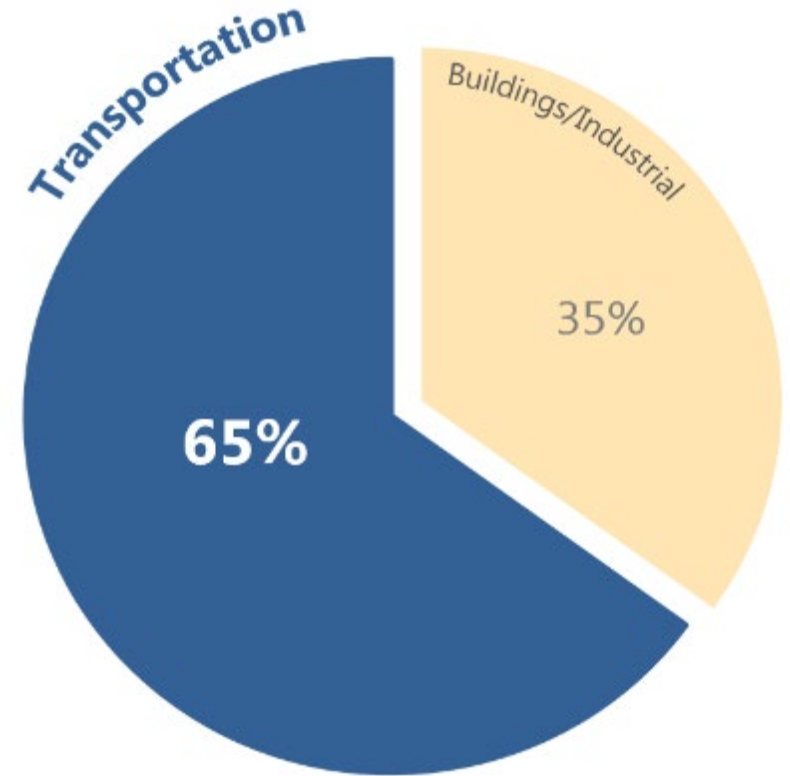
- + Grid modernization & integrated distribution system
- + Investment in electrification & Utility Next Portfolio
- + Implement building & transportation electrification
- + Regional leadership

- + Smart
- + Resilient
- + Flexible
- + Dynamic
- + Reliable

# Electric Vehicles: The Future is Here

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- + Transportation sector = 65% of greenhouse gas emissions
- + More electric vehicle options and **growing**
- + Better support and **financial incentives**



Greenhouse Gas Emissions by Sector

# How are we preparing?

## EPRI Electrification Assessment



Seattle City Light





# Scope of the Electrification Assessment

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- + How will electrification impact City Light's load over time?
- + How can City Light's distribution grid and resources best serve this load?



# Overview of Key Insights

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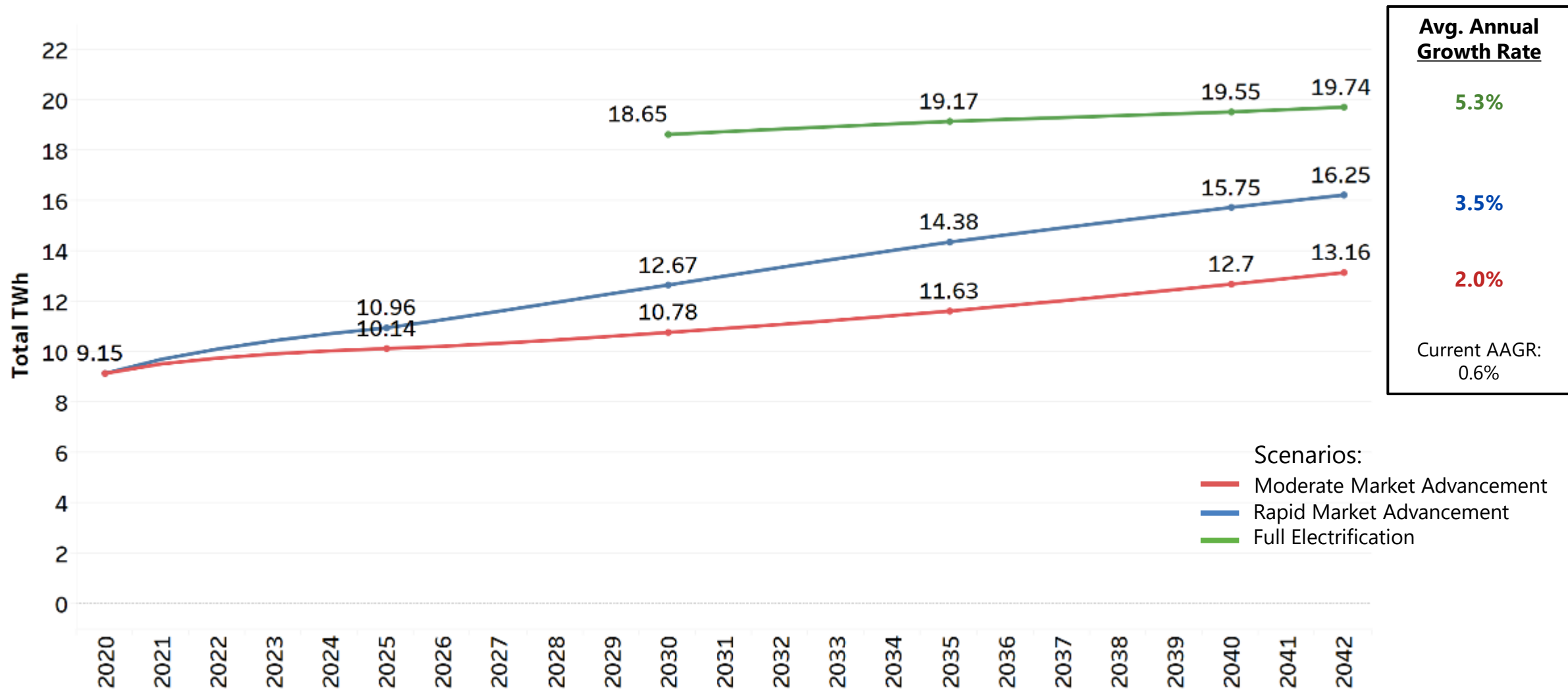


- + Electrification provides a path to meet the City's climate goals
- + Will increase SCL's load
- + We're laying the groundwork plan for a decarbonized future

# Scenarios

Scenario Name	Basis	Electric Transportation (electrified vehicle stock in 2030)	Buildings and Industry
<b>01</b> <b>Moderate Market Advancement</b>	<ul style="list-style-type: none"> <li>Baseline trajectory based on external projection/research</li> </ul>	<ul style="list-style-type: none"> <li>Passenger vehicles: 11%</li> <li><b>Transit &amp; school bus: 6-7%</b></li> <li>Light commercial, refuse, short-haul trucks: 3-4%</li> <li><b>Long-haul truck &amp; intercity bus: 0-0.3%</b></li> </ul>	<ul style="list-style-type: none"> <li>Future years driven by market growth, energy efficiency, and customer choice based on relative economics</li> </ul>
<b>02</b> <b>Rapid Market Advancement</b>	<ul style="list-style-type: none"> <li>Aggressive trajectory consistent with the Climate Action Plan (CAP), Drive Clean Seattle, Seattle's Clean Transportation Electrification Blueprint and ICCT</li> </ul>	<ul style="list-style-type: none"> <li>Passenger vehicles: 30%</li> <li><b>Transit &amp; school bus: 82%</b></li> <li>Light commercial, refuse, short-haul trucks: 27-30%</li> <li><b>Long-haul truck &amp; intercity bus: 0-1%</b></li> </ul>	<ul style="list-style-type: none"> <li>Increased electric adoption above and beyond moderate market advancement to align with 2017 CAP emissions targets</li> </ul>
<b>03</b> <b>Full Adoption of Electrification Technologies [single point estimation]</b>	<ul style="list-style-type: none"> <li>City of Seattle's Green New Deal and reference scenario that underlines the requirements for full electrification</li> </ul>	<ul style="list-style-type: none"> <li>Passenger vehicles and all MDHD vehicle classes: 100%</li> </ul>	<ul style="list-style-type: none"> <li>Full adoption of available electric technologies by 2030</li> </ul>

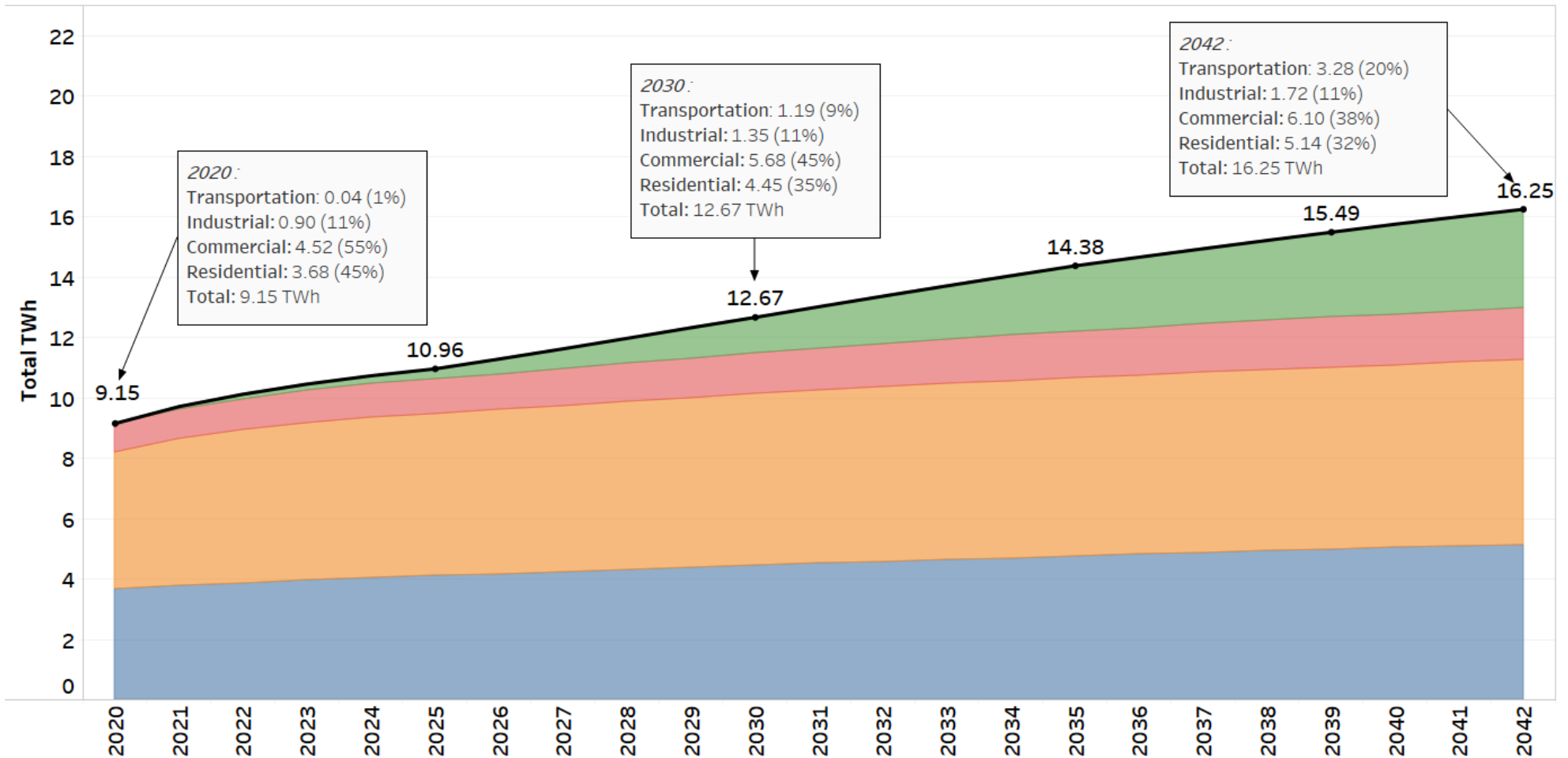
# Scenario Comparison: Total Load



Note: Total system capacity summed from hourly capacity



# Total Load, Scenario 2: Rapid Market Advancement



Note: Total system capacity summed from hourly capacity.

Source: EPRI, Seattle City Light Electrification Assessment, Figure 1-3.

Sectors

■ Total ■ Transportation ■ Industrial ■ Commercial ■ Residential

100% 100% 100% 100% 100%

# Conclusions & Insights—Electric Transportation

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- + Energy impacts from transportation:
  - Passenger vehicles
  - Transit buses might be an early player
  - Important to understand emerging fleet loads
  - Much of EV charging is flexible load; results highly dependent on customer behavior
  - Potential area for programs to mitigate peaks



# What are we doing?

Transportation  
Electrification Strategic  
Investment Plan



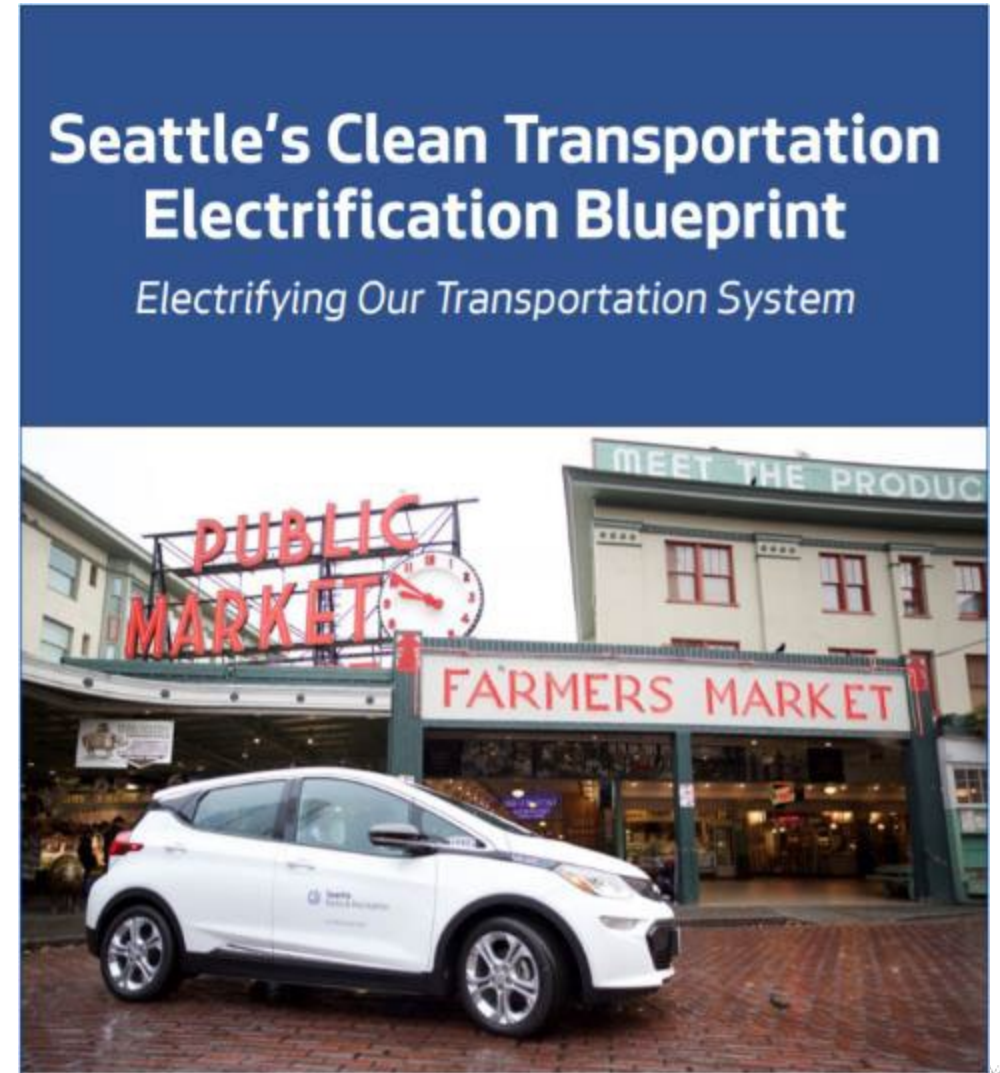
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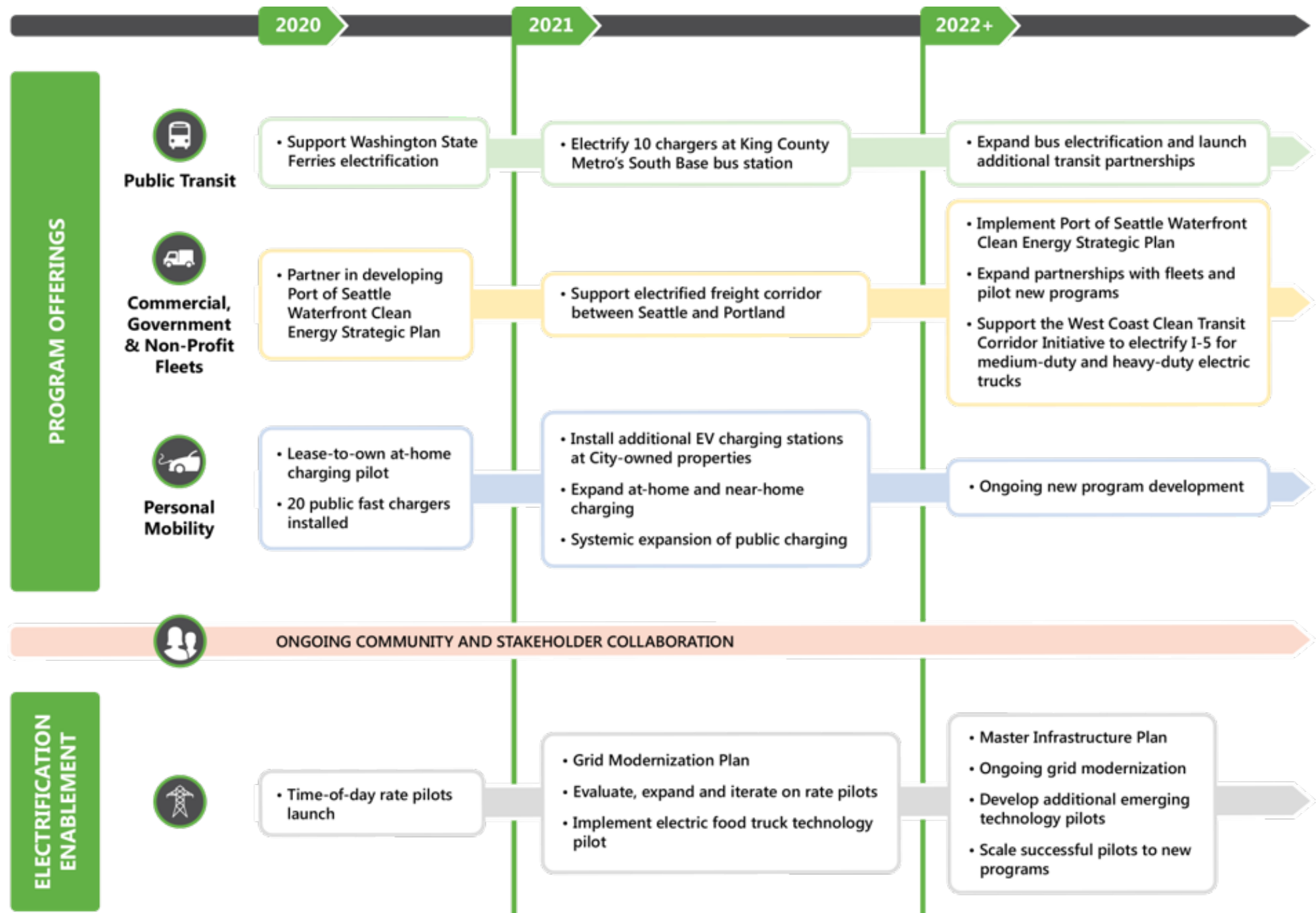


# Transportation Electrification Roadmaps

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# Maritime Transportation Electrification Program

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- + Seattle Waterfront Clean Energy Strategy
- + WSF Colman Dock Terminal Electrification
- + Port of Seattle Pier 66 Shore Power

# Seattle Waterfront Clean Energy Strategy Sites



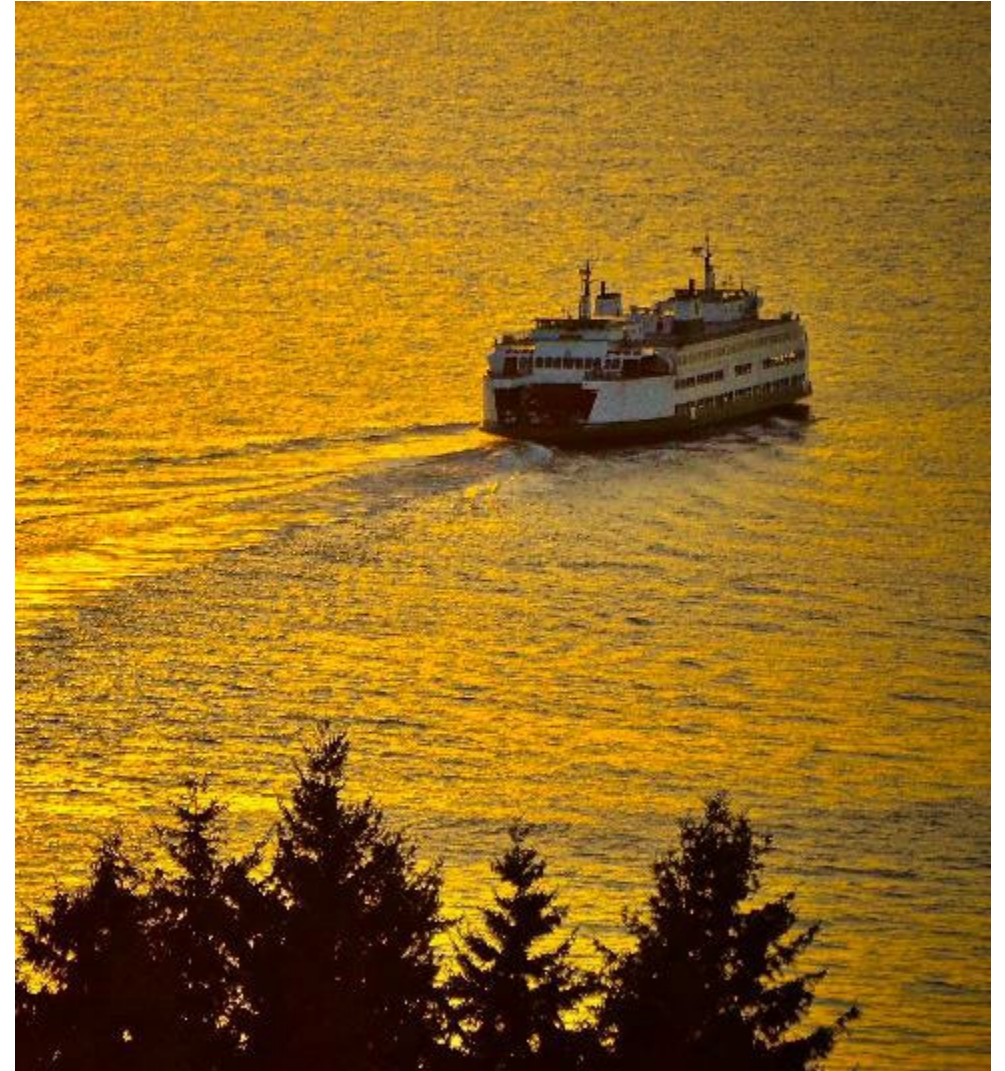
- Port of Seattle Properties
- Northwest Seaport Alliance Managed Properties



# Colman Dock Terminal Electrification

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- + Washington State Ferries already converting ferries to plug-in battery-electric
- + Providing power to charge at terminals
- + WSF & SCL working together for the most reliable, flexible, resilient solution





# Pier 66 Project

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# Seattle City Light Fleet Electrification Program

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## Fleet Advisory Services

- Free comprehensive, objective guidance from experts in EVs
- Customized fleet assessment reports with tailored EV recommendations, potential financial savings and emission reductions
- Incentive and grant program information and support



Available Now

## Charging Solution Incentives

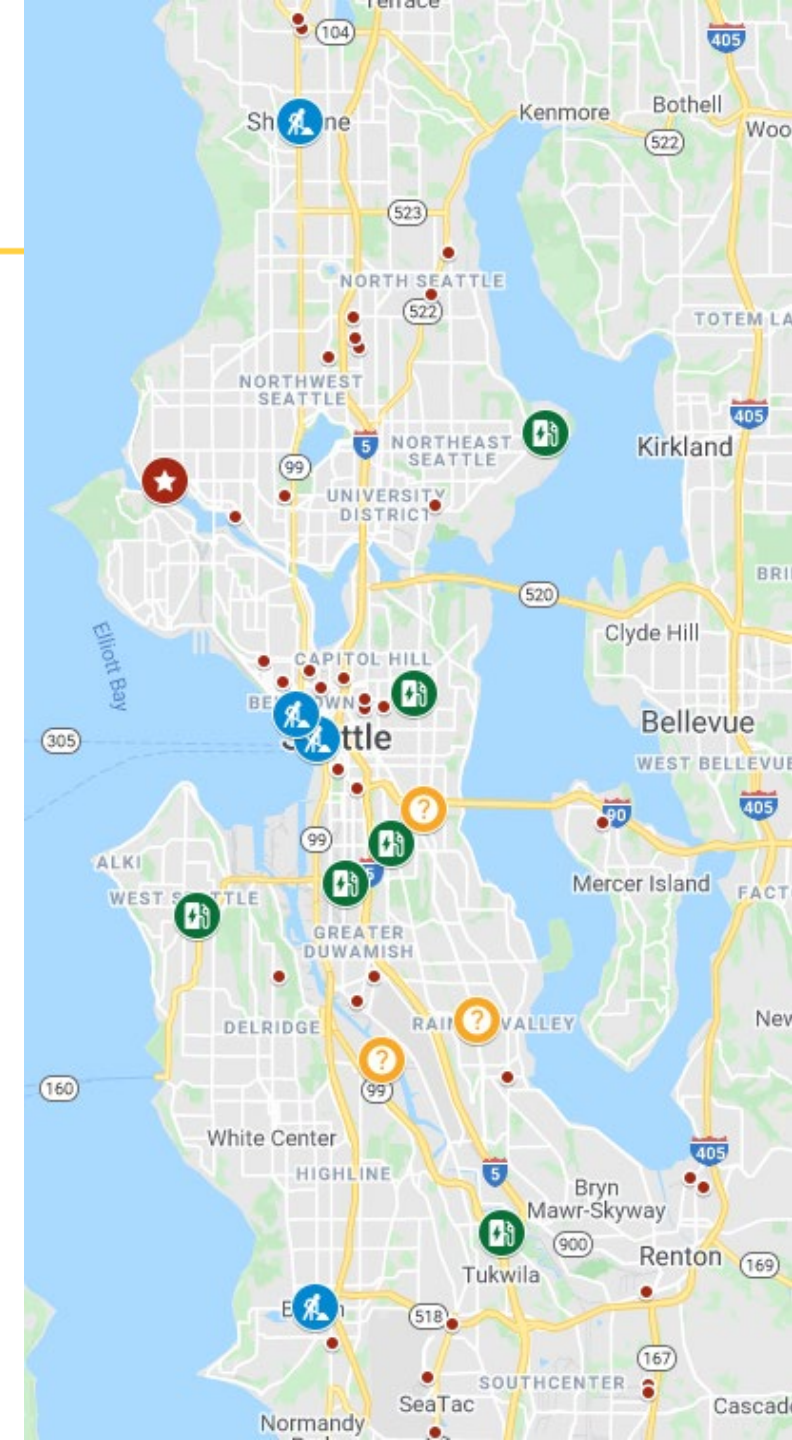
- Infrastructure funding and charger rebates to help offset capital costs
  - Customer-owned charger incentives
  - City-Light owned make-ready incentives
- Support through design, permitting, and construction processes



Launching June 2022

# EV Fast Chargers

+ Actual & Planned in the City Light Service Area





# What's Next?

2022+



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# King County Metro Bus Electrification

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- + South Test Bus Base
- + 52,000 sq. ft
- + Simultaneously charge 9 buses
- + Testing several technologies

# Personal Mobility Electrification

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- + Expand at-home and near-home charging for multi-unit dwelling residents
- + 52% of SCL customers are renters
- + Majority live in multi-unit dwellings
- + Launching late 2022



# What's Next?

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- + Community outreach and engagement
- + EPRI MD/HD Fleet Assessment
- + Hosting Capacity Maps
- + Roll out more programs
- + Leverage funding opportunities



# Contact Information

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**Seattle City Light**

# THANK YOU

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