



# TRANSPORTATION ELECTRIFICATION STRATEGY



# EVs IN SEATTLE

- Tremendous EV growth in Seattle
  - 3<sup>rd</sup> largest market of U.S. cities<sup>1</sup>
  - However, this is with comparatively little utility or government push
- Large opportunity
  - City's Light's low carbon resource
  - Inexpensive energy rates
  - Motivated customers



[1] Lutsey, N., et. al. 2015. Assessment of Leading Electric Vehicle Promotion Activities in United States Cities. International Council on Clean Transportation.

# PROJECT CHARTER

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- Problem Definition
  - City Light has not given clear direction on how and to what extent we can and should be enabling/encouraging the adoption of electric vehicles within our service territory.
- Developed Project Charter
  - Applied SCL's project management framework
  - Executive sponsors: Sephir Hamilton (lead), Kelly Enright, Craig Smith, Paula Lashchober
  - Assembled cross function team

# GOALS

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- Written strategy recommendation and presentation to E-Team at Nov 11th meeting
  - Financial, Grid, and Environmental Assessment
  - Market Assessment
- Clear recommendation of:
  - If City Light should encourage EV market
  - Vehicle adoption goal
  - Prefer SCL program approach




## FINDINGS

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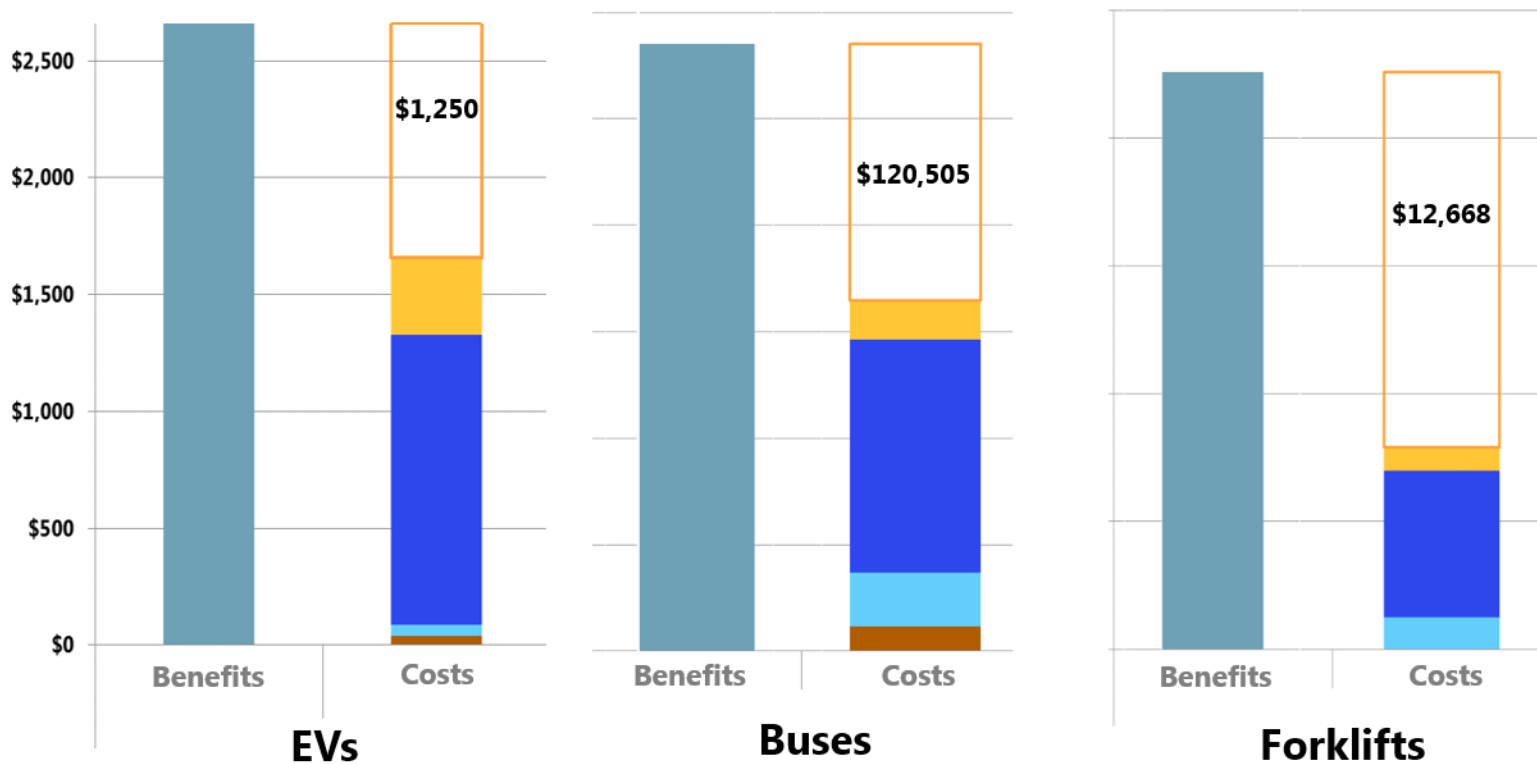
- There is a net benefit for vehicle charging
  - Cars, buses and forklifts
- Encouraging adoption creates value for the utility
  - Accelerating EV adoption 25% by 2030 will add an additional \$58 million of ratepayer value.
- The distribution system can largely handle the increase in transportation load
  - 80% of feeders can add at 550+ EVs without additional capacity
- Strong customer demand, particularly electrification of our transportation sector in socially responsible ways.

# TECHNICAL ANALYSIS METHODOLOGY

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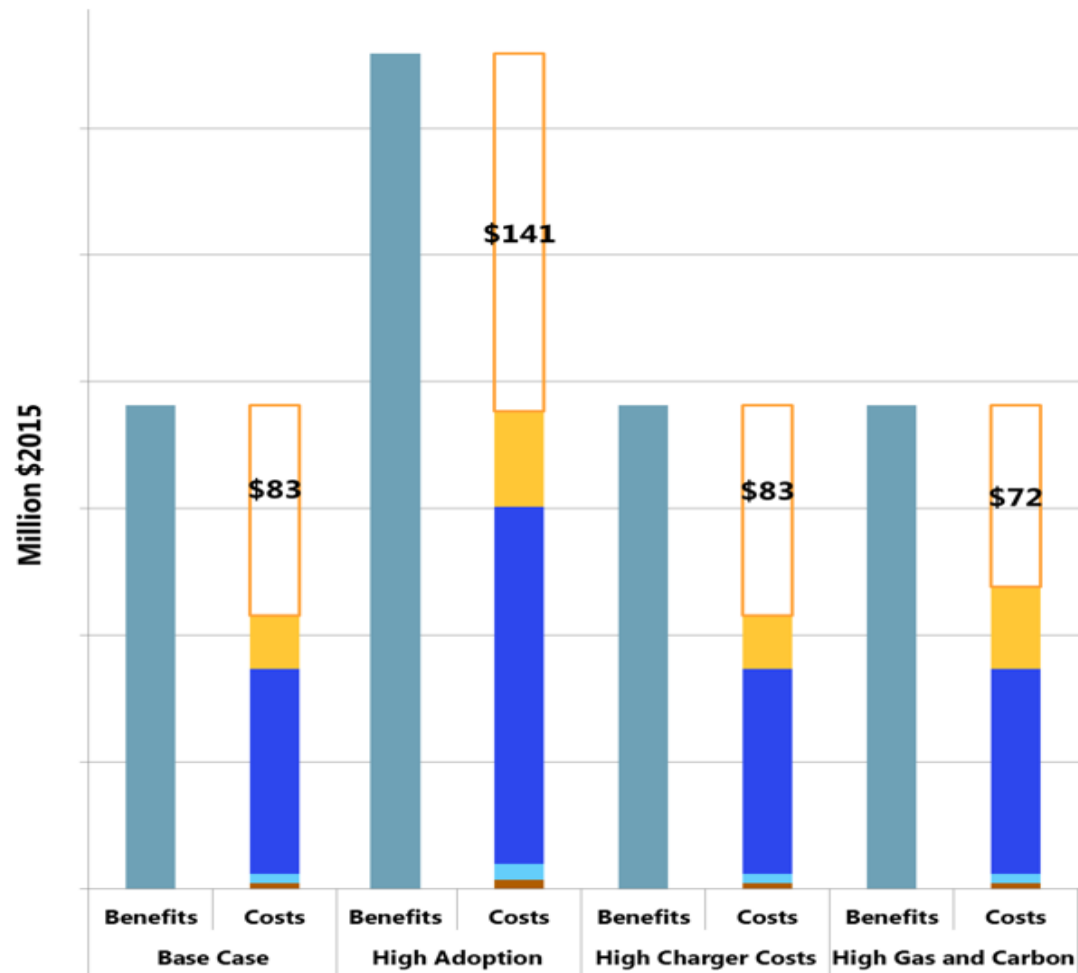
- Multiple transportation modes
  - Battery Electric Vehicles (BEVs) 
  - Plug in Hybrid Electric Vehicles (PHEVs)  + 
  - Heavy Duty Vehicles (Buses & Forklifts)  +  
- Six scenarios to reflect market uncertainty
- Base case assumed Washington State EV Plan Target
  - 14,000 Vehicles by 2020

# NET BENEFITS – PER VEHICLE



■ Utility Revenue ■ T&D Cost ■ Capacity Cost ■ Energy Cost ■ Carbon from Electricity □ Net Benefit

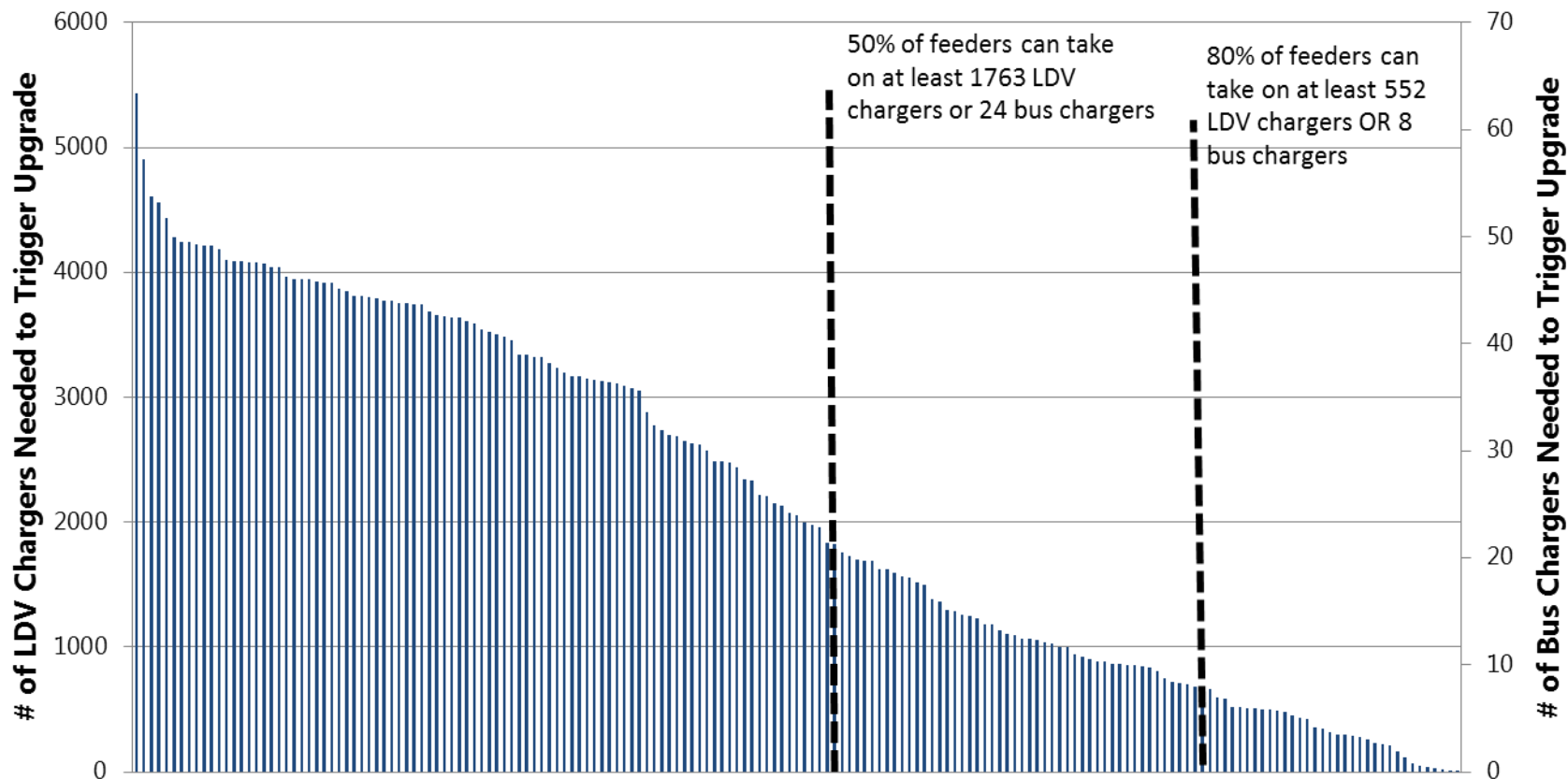
# TOTAL BENEFIT





# DISTRIBUTION IMPACTS

## SCL Available Capacity (2030)



## MARKET RESEARCH

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- Broad support for EV programs:
  - Customer perception of ownership by white, higher income residents
  - However, survey showed high interest in City EV program, regardless of race and income
- Transit and carsharing seen as an important part of the picture
- Vehicle price and education about the total cost of ownership are large opportunities

# PROGRAM ROADMAP

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- Mass Market
- Residential
- Non-residential

# PROGRAM ROADMAP—MASS MARKET

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- Robust advertising and education campaign
- Integrated with Nation's Greenest Campaign
  - Bill Stuffers
  - Website
  - Billboards
  - Bus Ads

# PROGRAM ROADMAP—RESIDENTIAL

- Neighborhood hubs in partnership with a charging network provider
- Contest for a free year of charging



# PROGRAM ROADMAP–NON-RES

- Incentives and technical assistance
  - Carsharing
  - Transit
  - Fleets
  - Industrial



## NEXT STEPS

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- 1 Develop Resource Plan
  - Staffing, budgets, measurement and verification
- 2 Detailed Program Plan
  - Program design and equity outreach
- 3 Establish Legislative Authority
  - Define transportation electrification as conservation



# CITY LIGHT

## OUR VISION

To set the standard—to deliver the best customer service experience of any utility in the nation.

## OUR MISSION

Seattle City Light is dedicated to exceeding our customers' expectations in producing and delivering environmentally responsible, safe, low-cost and reliable power.

## OUR VALUES

Excellence, Accountability, Trust and Stewardship.

