City of Kenmore

City of Kenmore - 18120 68th Avenue NE - Kenmore, WA 98028
Phone: 425-398-8900 - E-mail: cityhall@kenmorewa.gov

City Council Special & Regular Meeting

ON-SITE

May 19, 2025 - 6:30 PM

In addition, we try to provide access to the meeting virtually:
ZOOM LINK: https://kenmorewa-gov.zoom.us/j/85013749518
ZOOM PASSWORD: 051925
Or Telephone Dial US: +1 253 205 0468
Webinar ID:850 1374 9518
ZOOM PASSWORD: 051925
SIGN UP FOR VIRTUAL PUBLIC COMMENT HERE: www.kenmorewa.gov/virtualpubliccomment
Technical Difficulties? Contact the Deputy City Clerk at mkang@kenmorewa.gov.
Listen to the Clerks' Podcast Episode: What to Expect at City Council Meetings

Land Acknowledgement to Honor First Peoples

We acknowledge that the City of Kenmore is situated upon the ancestral lands of the Snohomish, Snoqualmie, Sauk-Suiattle, Duwamish, Stillaguamish, Tulalip, Suquamish, Muckleshoot, and other tribes who are part of the Coast Salish Peoples. We recognize and express our deepest respect for their enduring stewardship and profound relationship with this land, which they have cherished and protected since time immemorial. We honor the First Peoples, acknowledge their vibrant cultures, and commit ourselves to learning from their wisdom in our journey to promote justice, equity, and mutual understanding. We pledge to stand alongside these communities in acknowledging past injustices and working towards a future that respects and celebrates the diverse heritage of this land.

I. CALL SPECIAL MEETING TO ORDER - 6:30 PM

II. EXECUTIVE SESSION

A. Pursuant to RCW 42.30.110(1)(i), the City Council will now enter an executive session to discuss potential litigation. The session is slated to last 30 minutes, until approximately 7:00 PM.

III. POSSIBLE ACTION RELATING TO EXECUTIVE SESSION

IV. ADJOURN SPECIAL MEETING

V. CALL REGULAR MEETING TO ORDER - 7:00 PM

VI. ROLL CALL

VII. LAND ACKNOWLEDGEMENT

VIII. FLAG SALUTE

IX. AGENDA APPROVAL

X. WHERE'S THE FUN?

XI. PUBLIC COMMENTS

Welcome to the Council's meeting. Please address your comments to the Mayor and Council. You'll have three minutes to speak. If there are more than 20 speakers, time will be reduced to two minutes per speaker. The Clerk will call your name when it's your turn. The Presiding Officer may choose to alternate between in-person and online comments. Please state your name and city of residence and keep within the allotted time. To make every person feel welcome and safe here, please refrain from booing, clapping, heckling, yelling, or other interruptions. Please note: Under Washington State law (RCW 42.17A.555), public comment time may not be used to support or oppose candidates or ballot measures. Thank you for keeping remarks focused on City business. The meeting is recorded for transparency. Thank you for being here, and for sharing your input respectfully.

VIRTUAL PUBLIC COMMENT PRE-REGISTRATION PROCESS: To provide public comments virtually, please fill out the Virtual Public Comment Request Form in advance of the meeting. The form opens Tuesdays at 12:00 Noon and closes Mondays at 12:00 Noon. You will be confirmed by the City Clerk. If you are having difficulty, please reach out to the City Clerk at awarhol@kenmorewa.gov.

XII. CONSENT AGENDA

A. Authorize Interim City Manager to execute Agreement 25-C3136 in an amount not to exceed $1,250,000 to construct the Muck Creek Restoration Project.
Agenda Bill - Muck Creek Restoration Project 25-C3136

B. Receive and File Camp United We Stand Report.
Agenda Bill - CUWS Report to Council 5/12/25
Attachment 1 - Temporary Permit TMP24-0858
Attachment 2 - CUWS 2025 Report

XIII. PRESENTATIONS

A. New Staff Introduction - Rukia Yosif, Climate & Sustainability Intern

B. King County Library Systems (KCLS) Programs, presented by Librarian and Information Services Manager Katie Boyes, Operations Manager Ben Resler, and Regional Manager Alice Darnton
Presentation - KCLS at City Council

C. Legislative Session Recap, presented by State Lobbyist Shelly Helder of Gordon Thomas Honeywell (GTH)
GTH Government Budget Overview (added 5/13)
2025 Bills Impacting Cities (added 5/13)

2025 Bills Likely to Return in 2026 (added 5/13)
City of Kenmore EOS Report (added 5/13)
Legislature Adopted Revenue (added 5/13)
AWC 25-27 Budget Matrix - Final (added 5/13)
Presentation GTH - End of Session 2025 - Kenmore (added 5/13)

XIV. BUSINESS AGENDA

A. Kenmore Electric Vehicle Infrastructure Plan, presented by Climate Action Plan Program Manager Nina Rasmussen and Environmental Services Director Richard Sawyer, *for Information Only*
Agenda Bill - Electric Vehicle Infrastructure Plan
Attachment 1 - Kenmore Electric Vehicle Infrastructure Plan 2025
Presentation - Kenmore Electric Vehicle Infrastructure Plan (EVIP) (added 5/19)

XV. PUBLIC HEARING

VIRTUAL PUBLIC COMMENT PRE-REGISTRATION: To provide public comments virtually, please fill out the Virtual Public Comment Request Form in advance of the meeting. The form opens Tuesdays at 12:00 Noon and closes Mondays at 12:00 Noon. You will be confirmed by the City Clerk. If you are having difficulty, please reach out to the City Clerk at awarhol@kenmorewa.gov.

A. Proposed Resolution No. 25-428, 2026-2031 Transportation Improvement Program (TIP), presented by Engineering Director John Vicente
Agenda Bill - Transportation Improvement Program
Attachment 1 - Resolution No. 25-428 Transportation Improvement Program
Presentation - TIP

XVI. BUSINESS AGENDA (continued)

B. Proposed Resolution No. 25-428, 2026-2031 Transportation Improvement Program (TIP), presented by Engineering Director John Vicente, *for adoption*
Agenda Bill - Transportation Improvement Program
Attachment 1 - Resolution No. 25-428 Transportation Improvement Program
Presentation - TIP

XVII. STAFF REPORTS

A. Bicycle and Pedestrian Facilities Web Map - Update, presented by Traffic Engineering Intern Zeke Cohn and GIS Intern Neal Hicks

Staff Memorandum - Bike Ped Facility Web Map
Presentation - Bike Ped Facility Web Map

B. Other - Interim City Manager Stephanie Lucash

XVIII. COUNCILMEMBER REPORTS & COMMENTS

XIX. ADJOURNMENT

UPCOMING MEETINGS

Monday, May 26, 2025 - CANCELED HOLIDAY
Tuesday, May 27, 2025 7:00 PM - City Council Regular Meeting
Monday, June 9, 2025 7:00 PM - City Council Regular Meeting

NOTICE OF POTENTIAL QUORUMS

Click here for information about Potential Quorums of the City Council. Now found on the City website under City Council Meetings.

City Council Agenda Bill
City of Kenmore, WA

Meeting Date: 4/19/2025

Subject/Topic:	**Proposed Council Action/Motion:**
Kenmore Electric Vehicle Infrastructure Plan **Department:** Environmental Services **Prepared by:** Nina Rasmussen Climate Action Plan Program Manager Richard Sawyer Environmental Services Director **Attachments:** 1 – Kenmore Electric Vehicle Infrastructure Plan	☒Information Only ☐Receive and File ☐Discuss ☐Provide Direction ☐Public Hearing ☐Adopt/Approve ☐Authorize ☐Other:

Approvals:

Department Head	RS 5/7/2025	City Attorney	NA	Finance Director	NA	City Manager	SL 5/8/2025	Optional	Initials & Date

Summary/Background:

The Climate Action Plan identifies the electrification of vehicles as a major strategy to reduce greenhouse gas emissions. An Electric Vehicle Infrastructure Plan (EVIP) was developed as a way to strategically implement more charging for the public as well as to assess the City's transition to an all-electric fleet.

This project was funded through a grant from the State of Washington Department of Commerce. Accenture was selected as the consultant to lead the EVIP effort.

The EVIP project includes a current conditions report, modeling to inform future fleet needs, and an evaluation of potential public charger sites taking into account current electrical hosting capacity throughout the city. A community workshop and survey were conducted to gather public input on the priorities and preferences surrounding charging. Additionally, staff were interviewed to understand future needs, existing projects, and current challenges.

The resulting report incorporates these aspects into recommended actions and suitable charging locations by charger type. Vehicle substitutions for fleet are also provided based on the type and frequency of usage of current vehicles.

With the completion of the EVIP, staff will begin prioritizing and selecting charger placements this fall.

Previous Council Action(s):

N/A

Fiscal Consideration:

State of Washington Department of Commerce Climate Planning funds in an amount of $110,000 were provided to the City for EVIP development and no City match was required.

The 2025-2026 Biennium Budget allocates $150,000 for EVIP implementation under Special Projects. The EVIP will guide the spending of those funds based on the recommendations established.

City Council Priorities or Budget Objective Being Addressed:

1. Continue to implement the adopted Climate Action Plan and promote environmental stewardship, including water, air, forest, and habitat restoration and preservation.

THE CITY OF KENMORE'S ELECTRIC VEHICLE INFRASTRUCTURE PLAN (EVIP)

April 2025

CITY OF KENMORE

ENVIRONMENTAL SERVICES

CITY OF KENMORE

ENVIRONMENTAL SERVICES

ACKNOWLEDGMENTS

KENMORE ENVIRONMENTAL ACTION NOW

Thank you to the City Staff:

Nina Rasmussen - Climate Action Plan Program Manager

Richard Sawyer - Environmental Services Director

Sammie Roeun - Administrative Specialist - Environmental Services

Jennifer Gordon - Public Works Operations Director

Chuck Worek - Public Works Project Manager

Garrett Oppenheim - Assistant to the City Manager/Diversity, Equity, Inclusion, and Accessibility (DEIA) Coordinator

Special thanks to City Staff from all departments

Thank you to Local Partners:

City of Kenmore Diversity, Equity, Inclusion and Accessibility (DEIA) Advisory Committee

- Alinafe Matenda
- Juliana Pooley
- Lev Elson-Schwab
- Ben Resler
- Mariel Mehdipour
- Nancy Thai

City of Kenmore Climate Action Advisory Committee members

- Mariana Lassalle
- Chris Eastland

Puget Sound Energy (PSE)

Northwest Electric & Solar

accenture ENERGEIA ENCODE

Executive Summary

Chapter 1

CITY OF KENMORE

ENVIRONMENTAL SERVICES

- PROJECT OVERVIEW
- CLIMATE ACTION PLAN – TRANSPORTATION & LAND USE
- INFRASTRUCTURE
- FUNDING
- STAKEHOLDER AND COMMUNITY ENGAGEMENT
- IMPACT OF PUBLIC CHARGING
- INFRASTRUCTURE ALLOCATION
- FLEET TRANSITION
- 2025 NEXT STEPS
- 2026 AND BEYOND

CITY OF KENMORE

ENVIRONMENTAL SERVICES

PROJECT OVERVIEW

KENMORE ENVIRONMENTAL ACTION NOW

The city of Kenmore's (the city or Kenmore) **Electric Vehicle Infrastructure Plan (EVIP)** is a critical initiative designed to guide the transition to electric vehicles (EVs) within the city's fleet and across the broader community. This plan is an integral part of **Kenmore's commitment to achieving carbon neutrality by 2050**, aiming to reduce greenhouse gas (GHG) emissions by 95%, enhance sustainability, and create a cleaner, energy-efficient future in support of the city's climate action plan (CAP).

Kenmore recognizes that a robust EV charging infrastructure is essential for supporting the growing adoption of EVs by residents, businesses, and visitors. By focusing on **expanding charging networks** and **electrifying the city's own vehicle fleet**, Kenmore is reinforcing its dedication to creating a sustainable vibrant community. The EVIP serves as the foundation for these efforts, helping to fulfill the city's long-term goals aforementioned.

To develop the EVIP, a project team led by Accenture and supported by energeia and encode conducted an in-depth analysis of Kenmore and the existing EV infrastructure in surrounding areas. This work included **evaluating relevant regulations** and **incentives** that could be leveraged to **accelerate the development of EV infrastructure** for both public and city-owned EVs. The team also identified potential **barriers** and **opportunities** for the city's consideration as it moves forward with the implementation of the EVIP.

Through this thorough planning process, research, and community engagement, the project team has developed a comprehensive strategy that **identifies key potential locations** for charging stations (including businesses to collaborate with) **evaluates the electrification of the city's vehicle fleet**, and outlines how to **overcome challenges to widespread EV adoption, including highlighting key funding sources**. The EVIP is designed to meet the city's sustainability goals by supporting the transition to a cleaner, more energy-efficient transportation system.

CLIMATE ACTION PLAN – TRANSPORTATION & LAND USE

KENMORE ENVIRONMENTAL ACTION NOW

The City of Kenmore's Transportation & Land Use Goals | Climate Action Plan (CAP)

This EVIP is in support of the CAP Community Priorities

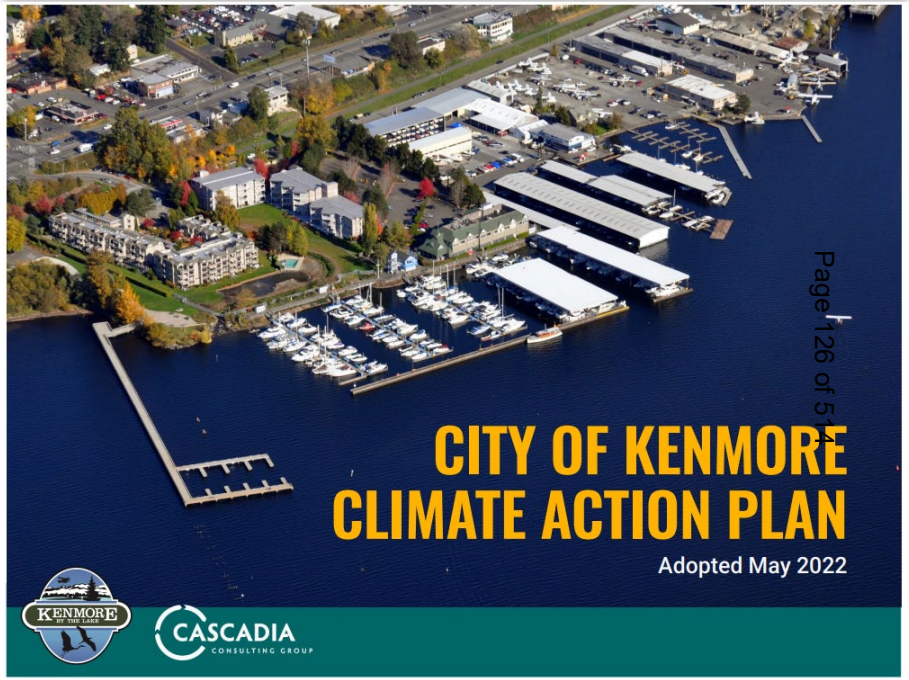
Goal: Prioritize sustainable and equitable land use planning, accessible multi-modal and low-carbon transportation options, and expanded electric vehicle incentives to reduce GHG emissions from transportation and development

Namely, community priority *Transition to electric vehicles (EVs)*:

Strategy #3: Drive cleaner vehicles

- TL 3.1 Encourage transition to electric vehicles - Promote existing and develop new incentives to encourage the purchase of electric vehicles (including stronger incentives for low-income residents).
- TL 3.2 Expand EV charging - Expand incentives for EV charging for multi-family homes, apartment buildings, major employers, and parking garages

As of 2023, transportation accounts for about a third of Kenmore's greenhouse gas emissions, with 31% of the city's total emissions coming from the transportation sector, primarily from on-road vehicles such as cars and trucks. (Kenmore 2023 Inventory of Community and Government Greenhouse Gas Emissions, 2025)



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INFRASTRUCTURE

KENMORE ENVIRONMENTAL ACTION NOW

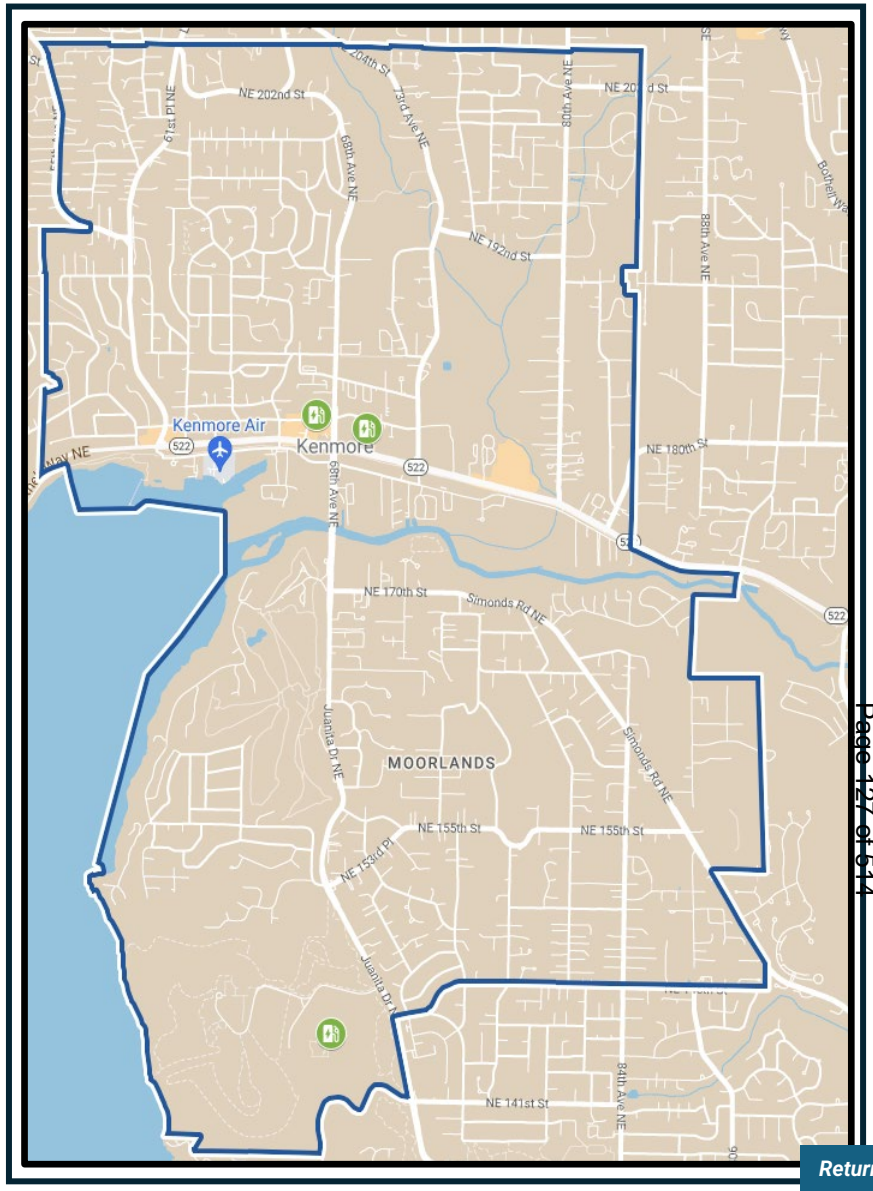
This EVIP is designed to accelerate the adoption of EVs while ensuring equitable access to chargers and infrastructure across the city. The current condition of Kenmore's EV infrastructure reveals strengths and challenges in the City's efforts to implement a robust and inclusive plan. Key findings from the assessment include:

Existing Infrastructure:

- Kenmore currently has a limited number of publicly available EV chargers. Kenmore is the home of **seven (7) public EV Level 2 (L2) chargers**, two of which are City-owned chargers designated for the Kenmore fleet and located in the City Hall Garage (18120 68th Ave NE, Kenmore, WA). **Five (5) charging locations are public**, with two (2) Shell Recharge (formerly Volta) chargers located at Safeway, two (2) located at Bastyr University (which require a parking pass from the University to access), and the last charger, a public Blink charger located in the town square. St. Edward Park is a potential long-term site for public charging, and the Lodge provides a guest-only charger; however, this is not public (Plugshare, 2025)
- Kenmore is building a Public Works Operation Center (PWOC) and, at the time of this report, has **planned six (6) L2 dual-port chargers for the PWOC**. These chargers, coupled with the existing chargers at City Hall, will allow adequate charging capacity for Kenmore's internal fleet as of the fleet composition of the time of this report.

Infrastructure Gaps:

- The city's EV charging infrastructure is currently underdeveloped, especially in low-income and multi-family residential areas, where access to at-home charging is limited. Kenmore recognizes the clear need for more strategically placed chargers, particularly in areas of high demand and where accessibility issues exist. This gap in infrastructure poses a barrier to EV adoption, especially for residents who cannot charge at home due to living conditions or limited public charging options.
- With King County having over **110,000 registered EVs in 2024**, there is a need for targeted expansion to support EV adoption across the city to support local and regional growth, namely in high-traffic corridors, parks, commercial shopping and entertainment hubs, and multifamily units (WSDOT, 2025).



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FUNDING

State and Local Funding Opportunities: Kenmore has access to several key state funding programs to support expanding its EV infrastructure and vehicle electrification efforts. Notable programs include:

PSE Up & Go Electric Programs: A series of incentives that support fleet electrification, workplace charging, and multi-family housing infrastructure. These programs are designed to help Kenmore electrify its fleet and improve access to charging stations. PSE's Up & Go Electric for Workplace program covers up to 100 percent of the cost for qualifying customers to install and maintain Level 2 charging for their employees.

Supporting PSE EV Home Charger Rebate: Depending on household income and size, the enhanced Empower Mobility incentives offer up to $600 in rebates for qualifying EV home chargers and up to $2,000 towards installation costs. Encourage Kenmore residents to evaluate this program when considering the purchase of an EV.

Washington State EV Charging Program: This program provides financial incentives for installing charging infrastructure, particularly for multi-family housing and public charging stations. In 2023, $64 million was allocated, with 40% directed towards overburdened communities, making it an opportunity for Kenmore to expand charging access in underserved areas.

Charging and Fueling Infrastructure (CFI) Discretionary Grant Program: This program offers grants for developing public charging stations and associated infrastructure, presenting an opportunity for Kenmore to further invest in its charging network.

Recommendations for Improvement:

PSE Up & Go: Kenmore should continue to work with PSE and aggressively apply for PSE's Up & Go Electric Programs to take advantage of local funding while it is still available.

- **Up & Go Electric for Fleet**: Up & Go Electric Fleet
- **Up & Go for Public**: Up & Go Public
- **Up & Go Electric for Workplace**: Up & Go Workplace
- **Up & Go Electric for Multifamily**: Up & Go Multifamily

- **Engage Local Businesses**: To enhance local business participation, Kenmore could highlight how funding for EV infrastructure can benefit businesses, such as through tax incentives or by increasing customer traffic to charging locations.
- **Targeted Funding for Low-Income Areas**: Kenmore can seek additional funding specifically for low-income households and neighborhoods that currently lack sufficient charging infrastructure. Targeted incentives can reduce barriers to EV adoption and help bridge equity gaps.

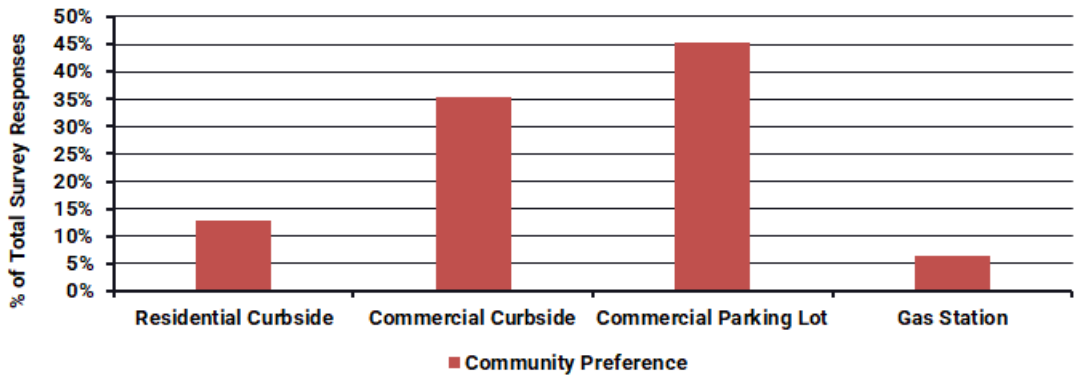
Sources: PSE

STAKEHOLDER AND COMMUNITY ENGAGEMENT

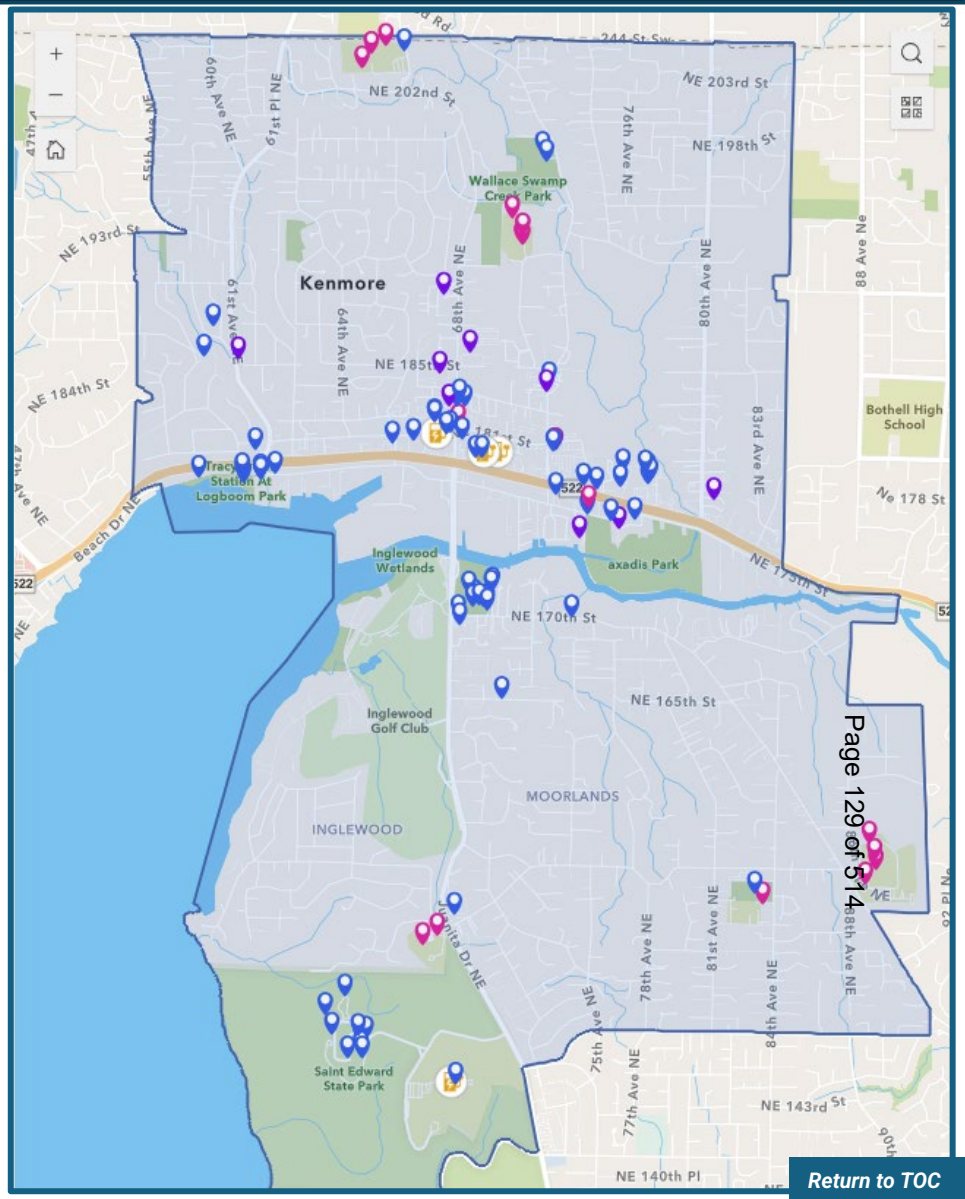
KENMORE ENVIRONMENTAL ACTION NOW

- **Community Engagement Efforts**: Kenmore has utilized mixed engagement methods including in-person and virtual convenings such as, community meetings and online surveys to gather feedback from a sample set of residents, businesses, and stakeholders; meetings were held at City Hall on October 22, 2024, and virtual sessions on October 28 and November 1, 2024. This allowed the Project Team to capture feedback on desirable charging locations as shown on the adjacent map. As noted, a majority of charging priorities were given to public charging around corridors and parks. It is important to note that the sample size received (23 survey responses, roughly 80 pins on the GIS map, and just over 20 pins on the physical map) does not represent the entirety of the Kenmore community, and it is recommended that continued community engagement efforts persist throughout the entirety of the process.
- **Education on EVIP and Incentives**: A key challenge identified was the lack of awareness about available financial incentives for EV adoption and home charging infrastructure. Many residents were unaware of these benefits, presenting a barrier to widespread EV adoption. Future engagement efforts should prioritize clear, accessible education on EV adoption, incentives, and the benefits of transitioning to electric vehicles.
- **Opportunities for Broader Outreach**: Kenmore can expand its outreach by partnering with community-based organizations (CBOs) and local businesses to reach underserved and hard-to-reach populations. These partnerships can help ensure that the City's engagement efforts are inclusive and accessible to a wider audience, especially those who may not typically engage in local government processes.
- **Feedback Integration and Ongoing Communication**: To maintain trust and long-term support, community feedback must continue to be integrated into the EVIP. Key feedback given orbited around the availability of incentives and rebates, safety around public charging, and equitable access.

Charging Location Preference Survey Responses Mapped to Charging Solutions



Source: City of Kenmore, Accenture, Energeia Analysis (2025)



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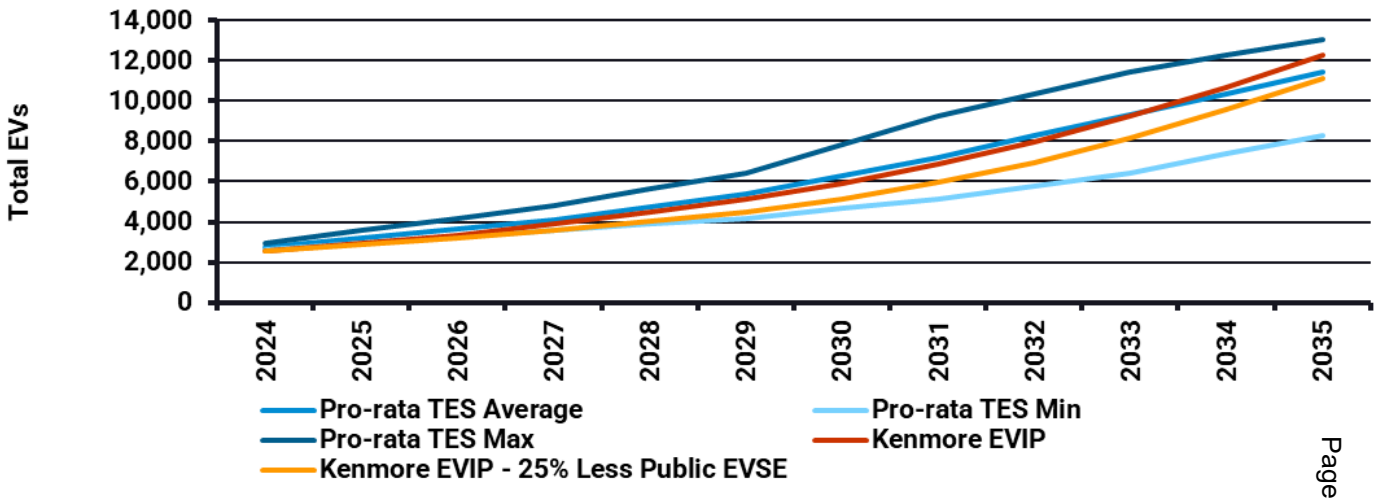
IMPACT OF PUBLIC CHARGING

KENMORE ENVIRONMENTAL ACTION NOW

- The Project Team conducted an in-depth analysis of various EV adoption scenarios, including the development of a bespoke forecast, using the Washington State Department of Commerce's Transport Electrification Strategy (TES) as a benchmark. Key elements from the analysis include:
- **Scaled EV Adoption Scenarios**: The team scaled the TES EV adoption scenarios to Kenmore's population and current EV stock in 2024, providing a benchmark forecast for the city's adoption trajectory.
- **Kenmore's Adoption Forecast**: The bespoke adoption forecast for Kenmore shows an **EV adoption rate 5% higher** than the TES average adoption scenario by 2035, indicating a stronger shift to electric vehicles than anticipated for the state based on income and current market and sales share trends.
- **Impact of Public Charging Infrastructure**: The team also modeled an adoption scenario with 25% fewer public charging stations to demonstrate the critical role of infrastructure in supporting EV adoption. This scenario **showed an 11% reduction in adoption, highlighting the importance of expanding public charging** infrastructure to reduce the barrier to adoption.
- These findings underscore the significant potential for EV adoption in Kenmore and emphasize the need for continued investment in public charging infrastructure to support this transition.

WA State TES Scenarios vs. Kenmore EVIP Forecast



Source: WA Dept. of Commerce (2024), Energeia Analysis (2024)

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FINDING SUMMARY - INFRASTRUCTURE ALLOCATION METHOD COMPARISON

KENMORE ENVIRONMENTAL ACTION NOW

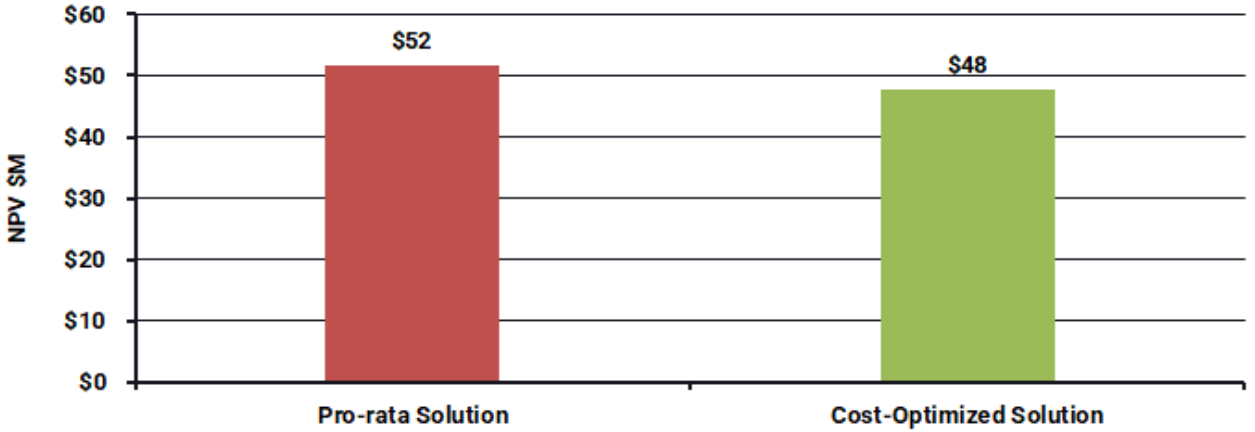
Two infrastructure solutions were developed for the City: the Pro-rata as a **base case** and the Cost-Optimized to meet demand at **least cost**.

The Cost-Optimized charging solution delivers approximately **$3.7 million in total savings** over the forecasted deployment period, assuming a **2.5% discount rate**. The 2.5% rate reflects guidance from federal circulars and commonly used planning discount rates.

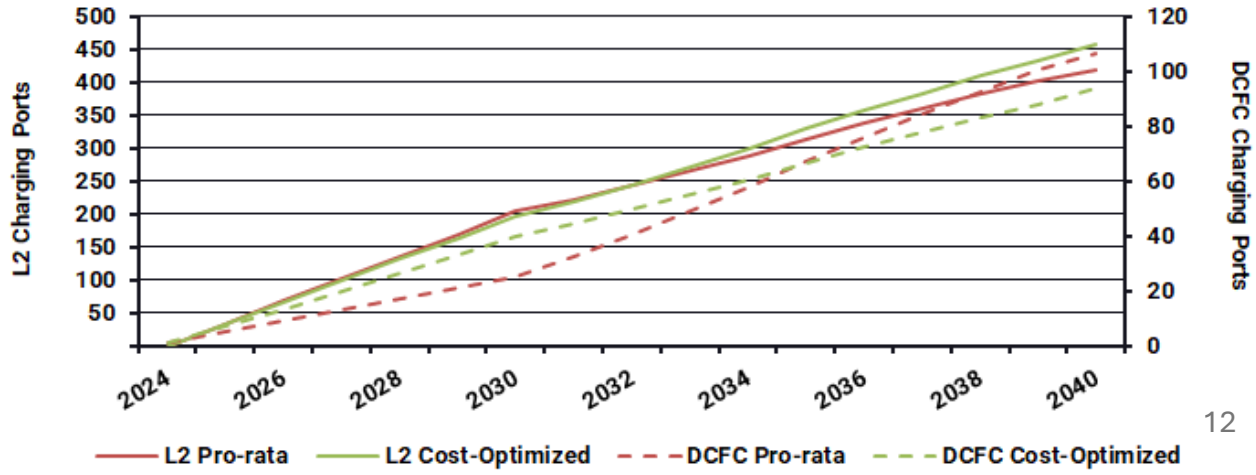
This approach prioritizes **earlier deployment of DC fast chargers (DCFCs),** while Level 2 charger (L2s) deployment accelerates in the **2030s**. Level 1 chargers (L1s) may be used for existing residential and multi-family use cases.

- In the initial years, the **utilization-to-cost ratio for DCFCs is higher,** driving greater investment in fast charging infrastructure.

Net Present Value Charger Deployment Costs by Allocation Method



Charging Port Counts by Level and Allocation Method



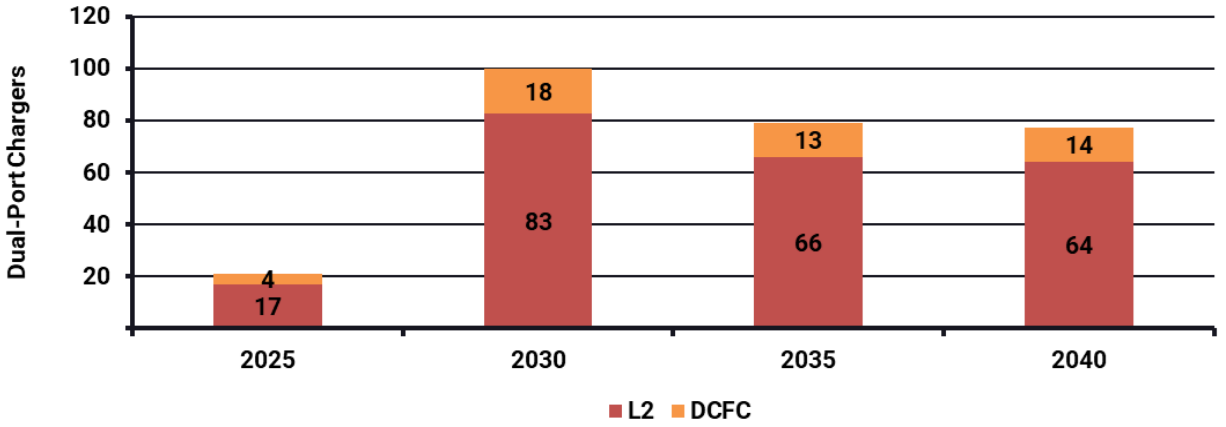
Source: Energeia Analysis

MODELED CHARGING INFRASTRUCTURE NEEDS

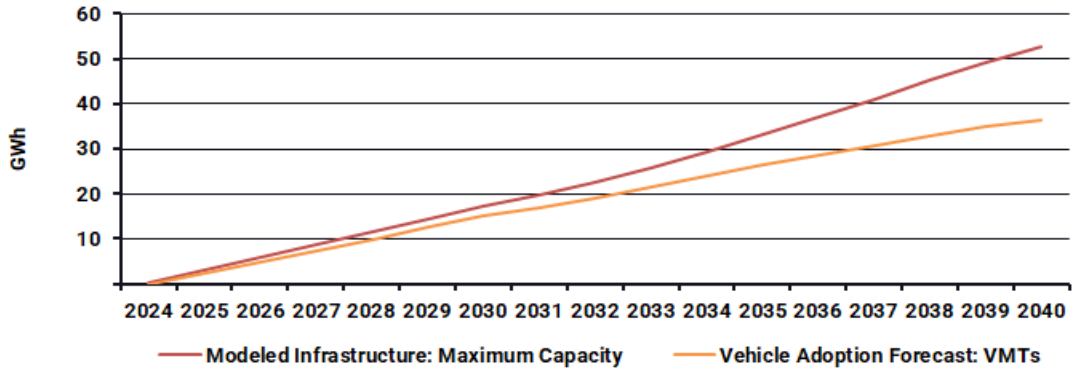
KENMORE ENVIRONMENTAL ACTION NOW

- The Project Team developed a **5-year phased deployment plan** based on modeled infrastructure demand in the City and the Cost-Optimized charging infrastructure solution.
- The deployment plan indicates the largest infrastructure development from **2025 to 2030**, driven by high demand for public charging as **forecast EV adoption rates increase**.
- Additionally, the team estimated **maximum energy capacity** based on modeled infrastructure versus estimated charging demand from vehicle miles traveled. Post-2030, the **charging infrastructure capacity grows faster** than **energy demand**, driven by **improved vehicle efficiency** and **higher nameplate charging power**.
- This surplus capacity could **help absorb additional demand** from regional traffic congestion, leading to **higher infrastructure utilization rates**.

5-Year Phased Charger Deployment Summary



Maximum Infrastructure Capacity vs. Demand



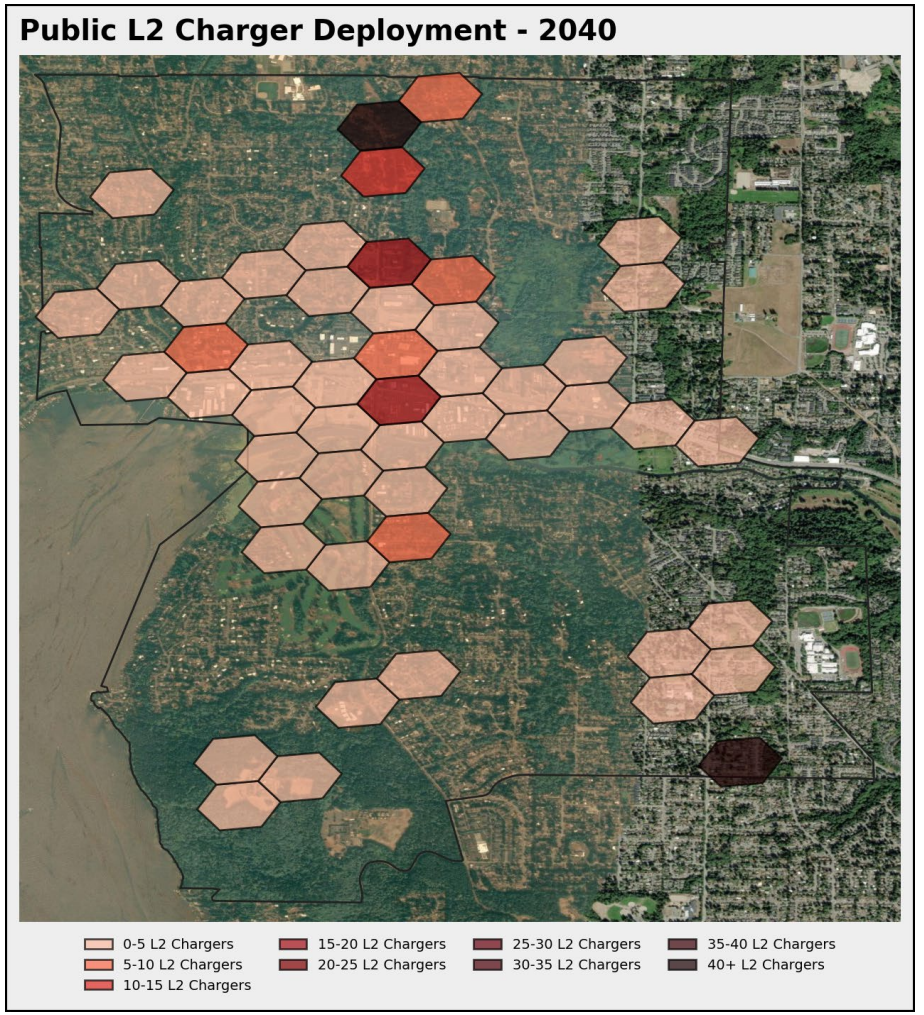
Source: Energeia Analysis (2025)

2040 L2 Charger Allocation

KENMORE ENVIRONMENTAL ACTION NOW

L2 Spatial Allocation: 2040

- Hexagonal charge zone cells used to estimate spatial charging demand across the City on a standardized basis and allocate infrastructure accordingly.
- Shown at right is cumulative spatial allocation of L2 chargers based on:
  - Site availability by charging solution type
  - Non-dedicated driver density, which refers to the number of potential EV users without dedicated home charging—i.e., multifamily residents or workers
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- Majority of chargers allocated near central corridor, with some L2s spread out across key residential areas and parks, based on high trip density, land use mix, and public access.



Source: Energeia Analysis (2025)

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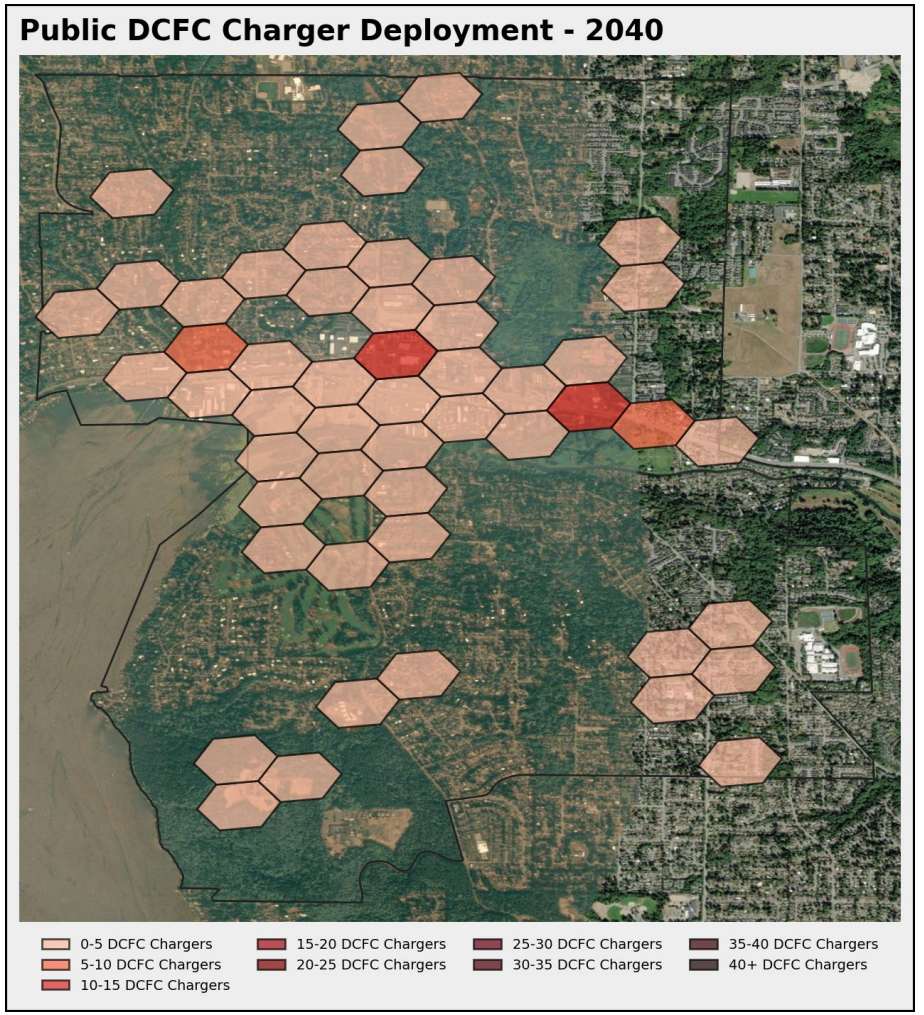
2040 DCFC Charger Allocation

KENMORE ENVIRONMENTAL ACTION NOW

DCFC Spatial Allocation: 2040

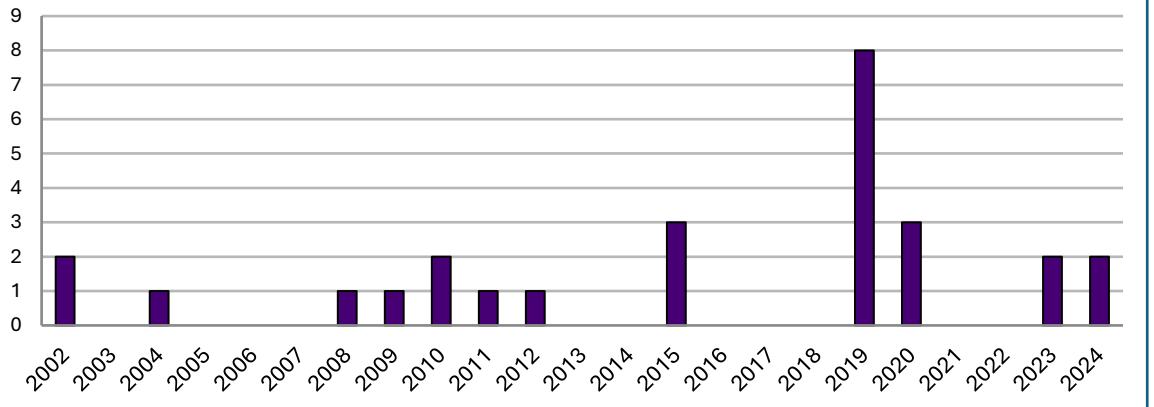
- Similarly, shown at right is cumulative spatial allocation of DCFC chargers based on:
  - Site availability by solution type
  - Non-dedicated driver density
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- The main commercial corridor in the City is a key area of density, which is an expected outcome based on spatial charging demand modeling, land use and traffic congestion.
- Additional DCFC chargers allocated at NE Bothell Park and Ride, multi-family residential sites, elementary schools and churches.
- Key near-term (2025-2030) potential partner sites for public charging identified based on L2 and DCFC spatial infrastructure allocation.

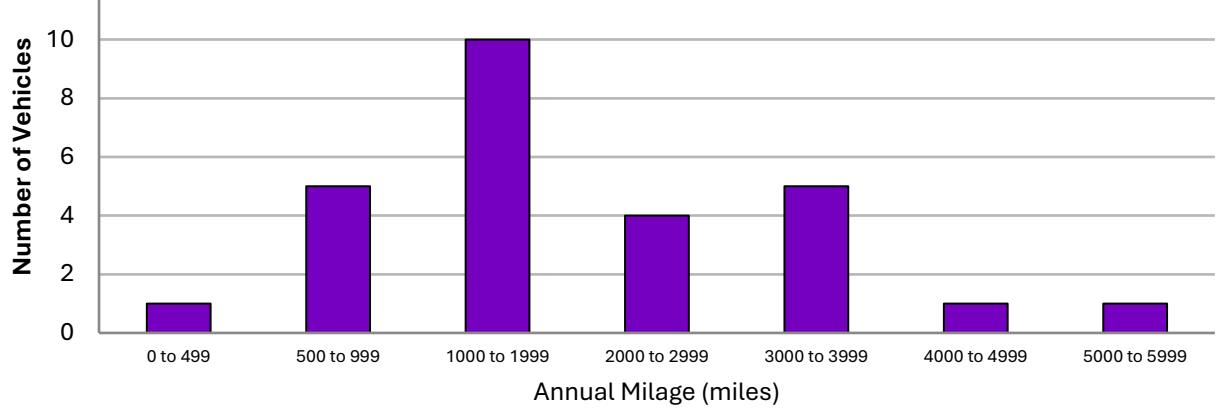


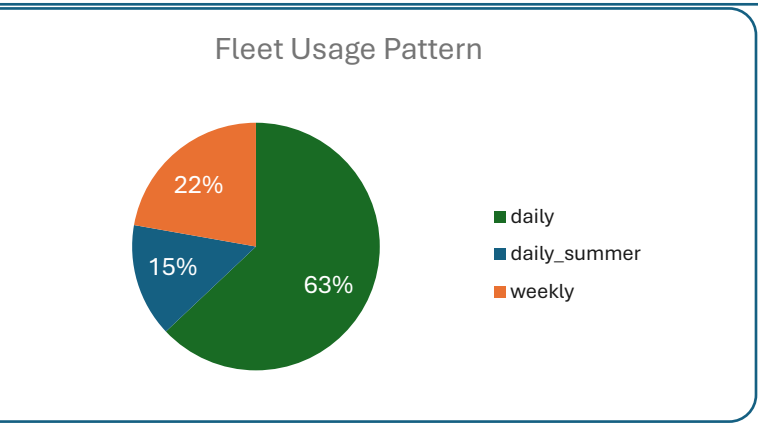
Source: Energeia Analysis (2025)

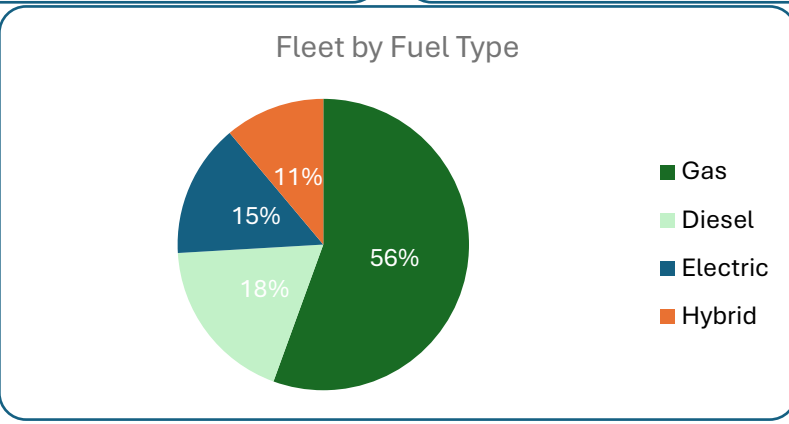
Existing Fleet Snapshot | FY24-25

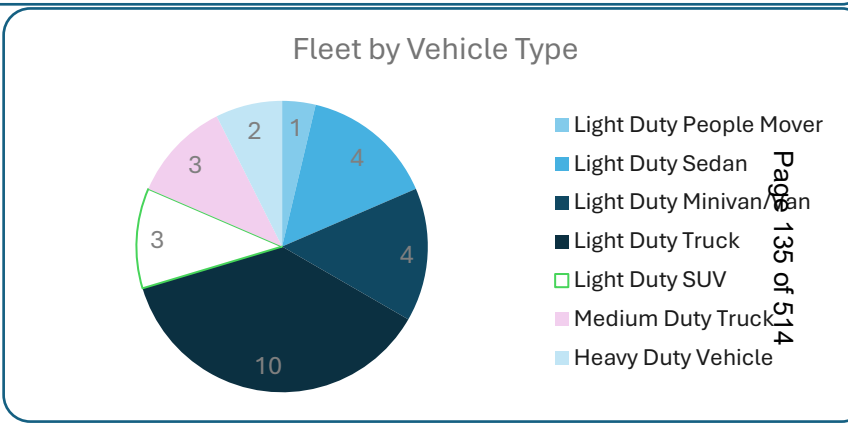
KENMORE ENVIRONMENTAL ACTION NOW











Count: 27 Vehicles (aged 2002-2024)
Breakdown: Light, Medium & Heavy Duty | Diesel, Gasoline, Hybrid and EV Powertrains
Department Use: Multi-department Use, Development Services, Engineering, Water, Public Works, General Use
Usage: Daily, Weekly, Summer Usage Patterns
Mileage: 211- 5,706 Miles/Yr

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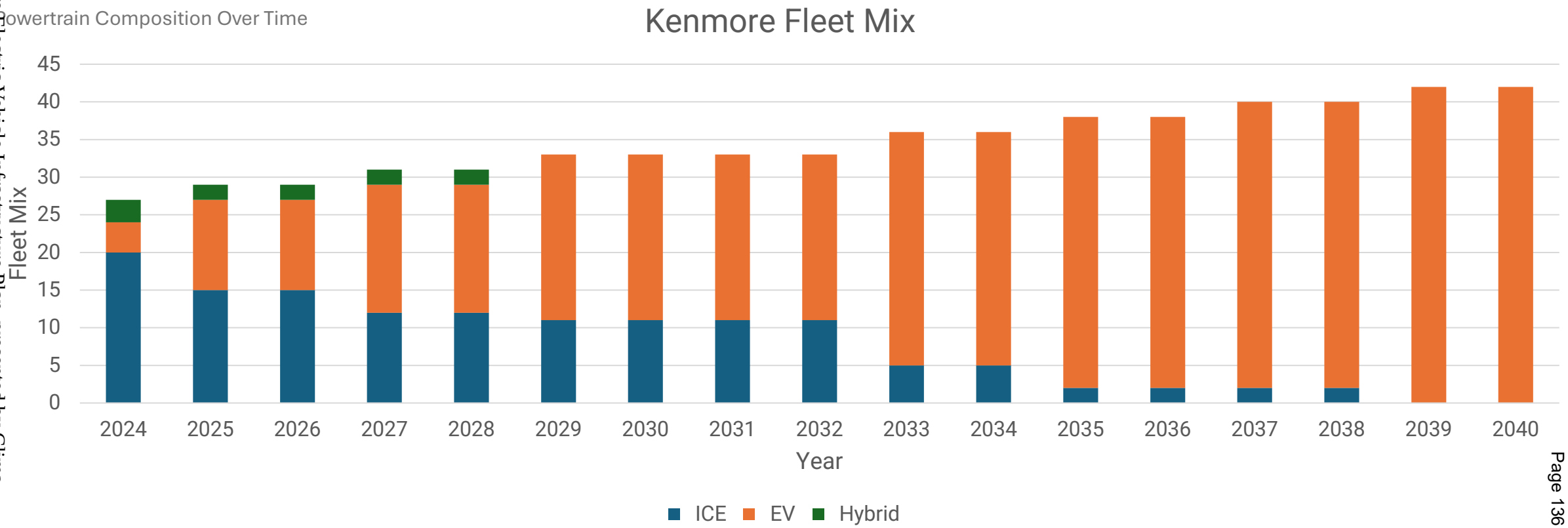
FINDING SUMMARY - KENMORE FLEET TRANSITION PLAN

KENMORE ENVIRONMENTAL ACTION NOW

Powertrain Composition Over Time



The analysis of the City of Kenmore's fleet electrification strategy reveals the following key findings:

- **Fleet Transition to BEVs**: Existing gas, diesel, and hybrid vehicles within the City's fleet will be replaced with Battery Electric Vehicles (BEVs) according to their planned replacement schedules.
- **Annual Addition of BEVs**: On average, one new BEV will be added to the fleet each year, coinciding with regularly scheduled vehicle purchases and replacements.
- **Fleet Growth and Electrification Timeline**: The fleet will grow from 27 to 42 vehicles between 2024 and 2040, with full electrification expected by 2039. Increase in fleet due to anticipated population growth and required growth by the city to meet the growing demands.

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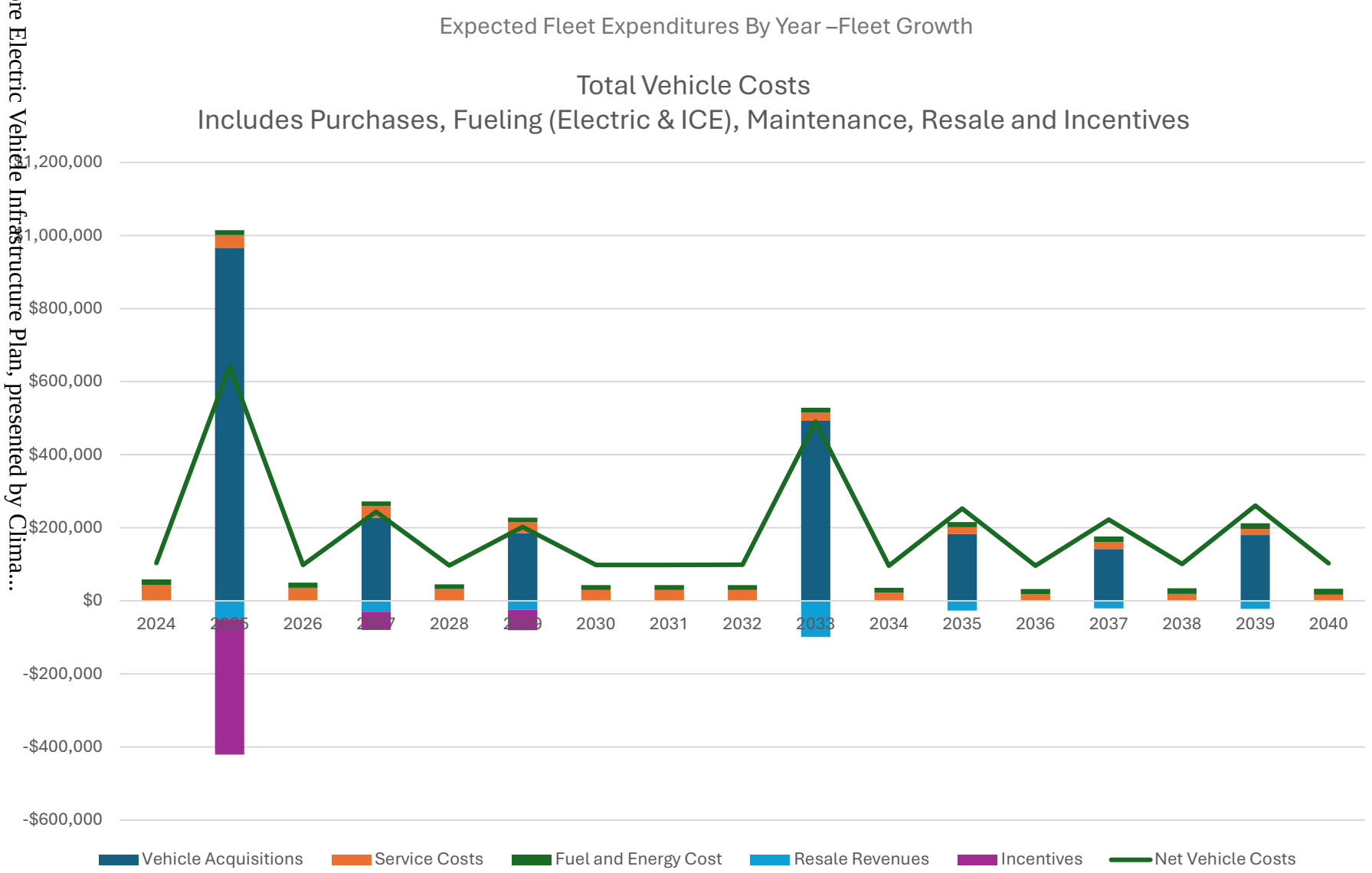
FINDING SUMMARY - FLEET TRANSITION PLAN EXPENDITURES

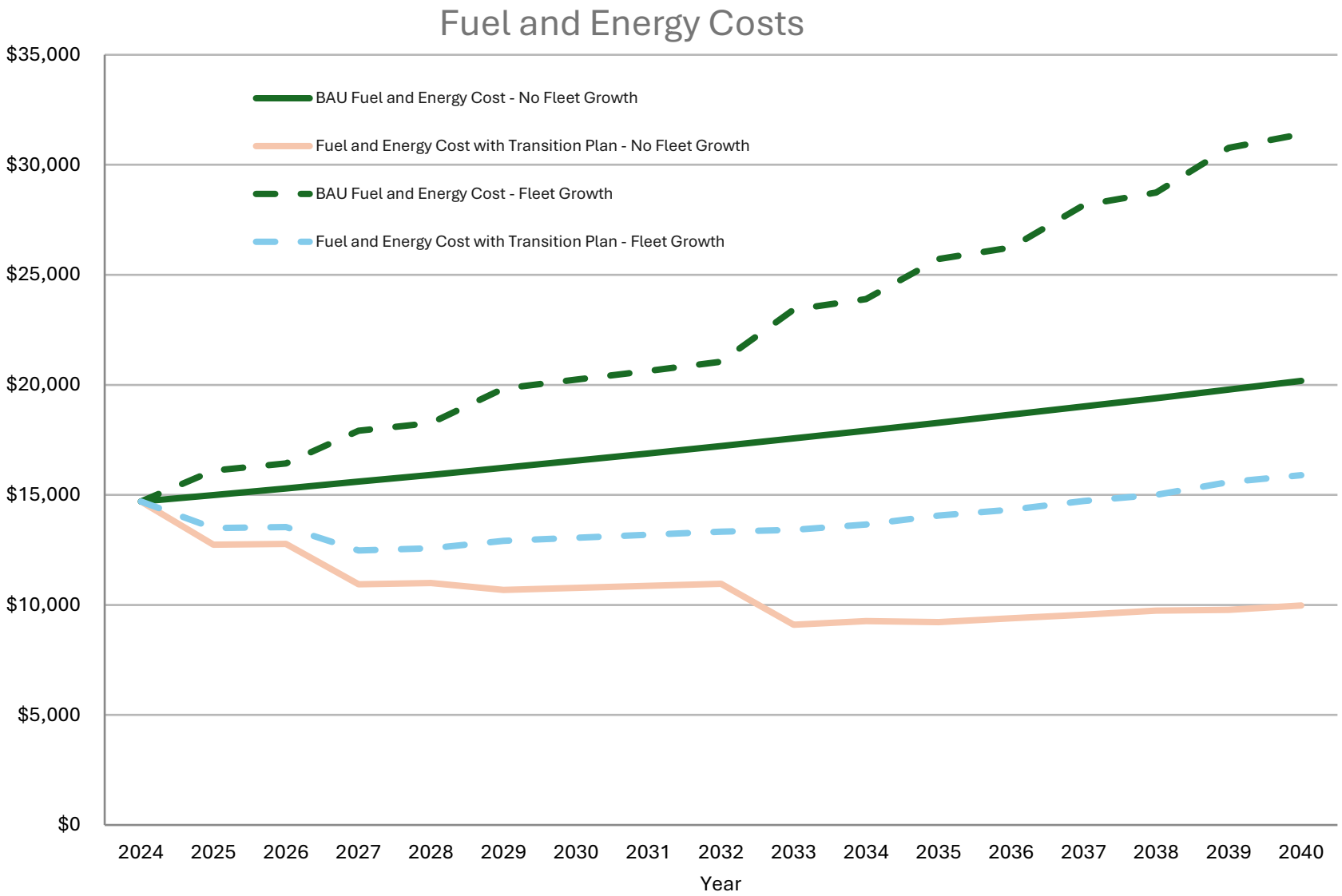
KENMORE ENVIRONMENTAL ACTION NOW



- Significant peaks occur in 2025 and 2033 due to high vehicle acquisition costs, however, offset by projected fuel and maintenance savings, which creates a net positive NPV over the lifecycle.
- Other smaller peaks in 2027, 2029, 2035, 2037, and 2039 for periodic investment cycles in fleet expansion and replacements.
- Incentives (purple bars) are greatest in 2025 due to certainty, and taking advantage as soon as possible is recommended before these fundings are capped or otherwise lost.
- A notable negative expenditure in 2025 is due to an anticipated $600k street sweeper, and those incentives significantly reduce total costs in that year.
- Expenses include:
  - Vehicle purchases
  - Fueling Costs
- Maintenance
  - Revenue includes:
  - Vehicle Resale
  - Incentives & Tax Credits

DIFFERENCES BETWEEN ICE OPERATIONS AND EV TRANSITION

KENMORE ENVIRONMENTAL ACTION NOW



- Without further EV transition, **fuel costs are projected to rise annually by 2-5%**, with electricity costs following a similar trend.
- Regardless of fleet growth, transitioning to EVs is expected to generate **net savings in energy fueling expenses** compared to the business-as-usual (BAU) scenario.
- From **2024 to 2040**, estimated savings are:
  - **$113K** with no fleet growth
  - **$147K** with fleet growth

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2025-2026 KEY NEXT STEPS

KENMORE ENVIRONMENTAL ACTION NOW

- **Business Community Engagement**
  - Develop a strategic engagement plan with local businesses to **collaboratively build EV charging infrastructure** at the identified potential partner sites.
  - Focus on deploying **seventeen (17) Level 2 chargers** and **four (4) DC fast chargers** along Kenmore's **central commercial corridor**.
- **Public Works Operations Center — Initial Build-Out**
  - **Install at least three (3) dual-port chargers** (providing six (6) total charging ports) during the initial phase.
  - **Aim to install the full six (6) dual-port chargers** (twelve (12) ports total) as initially planned.
- **Public Works Operations Center — Future Build-Out**
  - **Design for seven (7) additional dual-port chargers** to achieve **26 total ports** (including existing City Hall chargers).
  - **Pre-wire for twenty (20) 10kW AC charge ports** to enable cost-effective future expansion.
- **Electrical Infrastructure Enhancements**
  - **Install separate meters for EV chargers** to enable specialized EV $/kWh utility rate structures.
  - **Utility Partnership and Incentive Programs**
  - **Leverage Puget Sound Energy (PSE) programs**:
    - **Up & Go Electric for Fleet**: Pursue the installation of **one to two (1-2) DC fast chargers** to support fleet and backup charging capacity.
    - **Up & Go Public**: Engage with PSE to facilitate the deployment of public chargers throughout City limits.
    - **Up & Go Electric for Workplace**: Explore workplace charging opportunities for City staff and local businesses.

Next Steps

•Prioritize outreach to business and property owners.
•Coordinate with PSE for grant application timing and technical assessments.
•Finalize charger siting and preliminary engineering designs for the PWOC.

Goal: Accelerate equitable EV adoption, ensure citywide charging coverage, and future-proof municipal infrastructure.

2025-2026 KEY PARTNERSHIP OUTREACH SITES

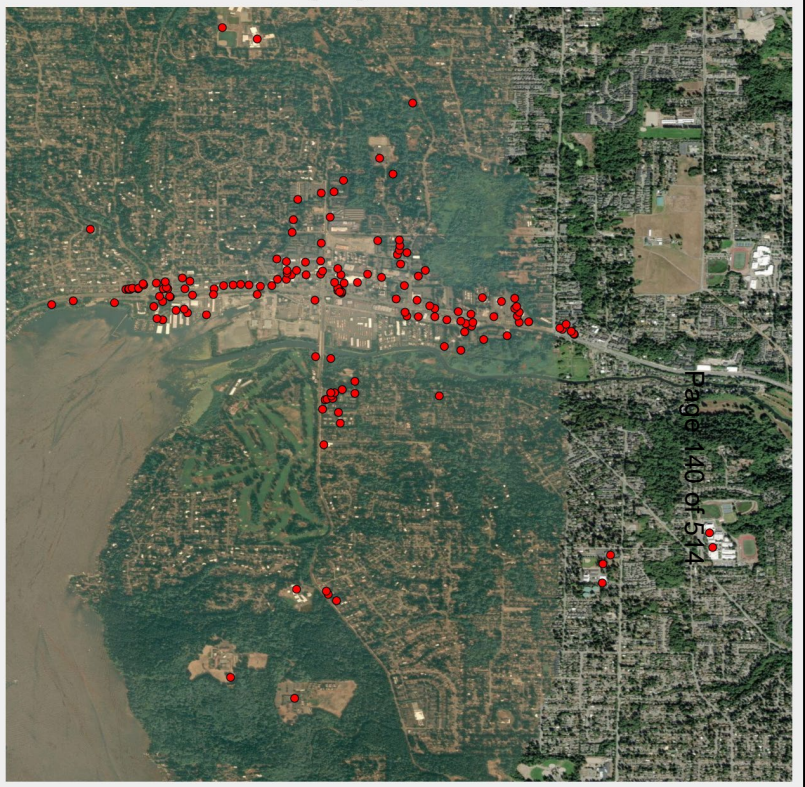
KENMORE ENVIRONMENTAL ACTION NOW

The following locations have been identified as **priority partnership opportunities** for EV infrastructure deployment in the City of Kenmore. The **project team selected these sites** based on a combination of key factors, including:

- **High frequency of community feedback ("pins")** received during public engagement.
- **Diversity of asset classes** — ensuring a mix of multi-family housing, parks, schools, businesses, and mobility hubs.
- **Concentration in high-activity areas** where public congregation and vehicle turnover are naturally higher, maximizing utilization potential. Engaging with these site owners and operators will be critical to building an **equitable and accessible EV charging network** that serves Kenmore's growing needs and supports broader sustainability goals. A full list of potential partnership sites and organizations can be found in the appendix, and it is essential to note that these are a subset of examples and not meant to be a prescriptive list.

Category	Site Name	Address
Multi-Family Residential	Vermont Apartment Homes	16724 Juanita Dr NE, Kenmore, WA 98028
	Green Leaf Apartments	16714 Juanita Dr NE, Kenmore, WA 98028
Public Parks & Recreation	Saint Edward State Park Playground	14445 Juanita Dr NE, Kenmore, WA 98028
	Moorlands Park	15221 84th Ave NE, Kenmore, WA 98028
	Kenmore 68th Avenue Boat Launch	17181–17299 68th Ave NE, Kenmore, WA 98028
Schools & Educational	Kenmore Middle School	20323 66th Ave NE, Kenmore, WA 98028
	Kenmore Elementary	19121 71st Ave NE, Kenmore, WA 98028
Community & Religious Sites	Kenmore Community Church Parking Lot	7504 NE Bothell Way, Kenmore, WA 98028
Retail & Service Centers	Les Schwab Tire Center	6330 NE Bothell Way, Kenmore, WA 98028
	Kenmore Dental	5723 NE Bothell Way, Suite B, Kenmore, WA 98028
	Chevron	8002 NE Bothell Way, Kenmore, WA 98028
	76 Gas Station (Kenmore Food Mart)	6115 NE Bothell Way, Kenmore, WA 98028
Transit & Mobility Hubs	Kenmore Park and Ride (BikeLink)	7346 NE Bothell Way, Kenmore, WA 98028

Potential Public Charging Partner Sites (2025-2030)



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2025-2026 VEHICLE REPLACEMENTS

KENMORE ENVIRONMENTAL ACTION NOW

Replace the following vehicles with like replacements:

Vehicle Make	Vehicle Model	Model Year	Annual Fuel Cost	Vehicle Location	Usage	Department	Fuel Type	Replacement Make	Replacement Model	Replacement Incentives	Annual Energy Cost
Ford	Escape	2009	$564	Kenmore City Hall	Permit Inspections	Devel Svcs	Hybrid	Chevrolet	Equinox	$10,000	$301
Ford	Escape	2008	$225	Kenmore City Hall	Construction Inspection	Engineering	Gas	Chevrolet	Equinox	$10,000	$120
Inter-national	Maxx-force	2012	$1,565	PWOC	Street Sweeper	Surface Water	Diesel	Global Environmental Products	M4EV	$300,000	$477

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2027 -2030 NEXT STEPS

KENMORE ENVIRONMENTAL ACTION NOW

Strategize for engagement with the business community to collaboratively build charging infrastructure at the identified potential partner sites, focused on deployment of **83 dual-port L2 chargers** and **18 dual-port DC fast** chargers along the central commercial corridor.

The 2018 Washington State Energy Code (WSEC) is based on the 2018 International Energy Conservation Code (IECC). Kenmore can consider implementing more stringent building code requirements, such as additional requirements beyond the 2018 Energy Code requirement for new commercial and multifamily buildings with parking to provide EV-ready parking spaces. For example, the 2018 WSEC Group R-2 occupancies (e.g., apartments) with parking require at least 5% of spaces to be EV-ready, meaning conduit and panel capacity must be installed for future EVSE (electric vehicle supply equipment). Other occupancies (office, retail, etc.) under the 2018 WSEC typically require 1 or more spaces EV-capable or EV-ready, depending on total parking

Recommended Updates to Codes: Kenmore can improve its EV infrastructure by adopting updated EV readiness codes, informed by best practices from other cities in Washington State:

- **King County's Ordinance 19316**: This ordinance mandates that at least 10% of parking spots in new multi-family residential buildings, substantially improved buildings, and expanded parking lots be dedicated to EV chargers, with an additional 25% set aside for future installation.
- **Seattle's EV Readiness Code**: Seattle requires new multi-family developments to install wiring for EV chargers in 100% of parking spaces, with 20% of spaces fully equipped for charging.
- **Tacoma's EV Charger Installation Mandate**: Tacoma's building codes require new multi-family buildings to install at least one EV charger per 10 units, ensuring that every building contributes to the broader charging network.

Consider financial incentives for businesses and property owners to install or upgrade EV charging stations, similar to the Solarize Kenmore 2025 project ($1,000 rebate), especially in high-demand areas like transit hubs. This will encourage private sector participation in expanding charging infrastructure.

Explore partnerships with local educational institutions, such as **UW Bothell and K-12 institutions**, to create specialized training programs for EV infrastructure installation and maintenance. This will ensure a skilled workforce to support Kenmore's growing EV infrastructure needs. Recommendations for evaluating school installation opportunities in collaboration with the school district and PSE's grant programs.

- Continue engaging the community to refine and adapt the plan based on emerging needs and trends, including expanding support for E-mobility and bike infrastructure.
- Replace the vehicles on the following page from 2027-2029. Recommend that EV planning be coordinated with long-term land use and economic development plans
- When incentives and funding sources dry up, consider recommendations for public-private partnerships, including potential incentive models for retailers and service providers

2027-2030 VEHICLE REPLACEMENTS

KENMORE ENVIRONMENTAL ACTION NOW

Make	Model	Year	Type	Fuel Cost	Projected Replacement Year	Vehicle Location	Department	Replacement Make	Replacement Model	Replacement MSRP	Replacement Incentives	Annual Energy Cost
Ford	F-550	2010	Flat Bed	$596	2027	PWOC	Public Works	Chevy	Silverado EV	$55,000	$10,000	$167
Chevy	Colorado	2010	Mid Size Truck	$902	2027	PWOC	Public Works	Canoo	Pickup	$35,000	$10,000	$542
Ford	F-150	2011	Ford F-150	$1,581	2027	PWOC	Surface Water	Ford	F150 Lightning	$47,000	$10,000	$423
Ford	C-Max	2015	Hybrid Sedan	$422	2029	PWOC	Engineering	Ford	E-Transit	$51,000	$16,000	$494
Ford	C-Max	2015	Hybrid Sedan	$203	2029	PWOC	General Use	GEM	elxd	$20,000	$10,000	$40
Ford	F-150	2015	Large Truck	$940	2029	PWOC	Parks/Facilities	Ford	F150 Lightning	$47,000	$10,000	$534

Plan Overview & Introduction

Chapter 2

CITY OF KENMORE

ENVIRONMENTAL SERVICES

PLAN OVERVIEW

CAP OVERVIEW

CORE COMPONENTS OF THE EVIP

GUIDING PRINCIPLES

CITY OF KENMORE

ENVIRONMENTAL SERVICES

PLAN OVERVIEW

KENMORE ENVIRONMENTAL ACTION NOW

In recent years, public awareness of electric vehicles (EVs) and EV technology has surged, driving a shift toward cleaner and more sustainable transportation options. Across Washington, individuals, fleet operators, businesses, and government agencies are increasingly replacing internal combustion engine (ICE) vehicles with EVs. To facilitate this transition and ensure its long-term success, the development of a robust and accessible EV charging network is crucial. This network is not only essential for current EV owners but also plays a pivotal role in encouraging wider adoption by providing the infrastructure needed to support and inspire future EV drivers.

The City of Kenmore, through the help of the Project Team, has developed this **Electric Vehicle Infrastructure Plan (EVIP)** to provide a framework for creating **widespread, convenient**, and **accessible** EV charging options across the city. As EV technology continues to evolve, this plan is designed to adapt, ensuring that Kenmore can continue to meet the needs of its residents, workers, and visitors. The development of this EVIP positions Kenmore to access funding opportunities, inform long-term planning efforts, and set near-term goals that will help the community embrace EV technology and enjoy the benefits of electric vehicles. This EVIP is designed to complement ongoing efforts, including statewide efforts from the Department of Commerce, regional work by King County and Puget Sound Energy (PSE), and other local initiatives to support the adoption of sustainable transportation options.

The development of this plan comes at a pivotal moment when electric vehicle (EV) adoption is accelerating both locally and globally. In Kenmore, while the number of registered EVs is currently modest, adoption is poised for rapid growth. According to the Washington Department of Ecology (2022), **100% of new vehicles sold in Washington will be clean-powered by 2035**, a significant milestone that underscores the imminent shift toward sustainable transportation. The City of Kenmore is proactively preparing for this transformation by ensuring that its infrastructure can fully support the future of electric, clean transportation—not only for the City's internal fleet but also for the broader Kenmore community.

As the shift toward EVs continues, it's crucial to recognize that while the benefits of EVs are numerous, residents and visitors in Kenmore face certain barriers to adoption. A major challenge is the limited visibility and availability of charging stations. **While gas stations are a common sight in most neighborhoods, many residents are uncertain about where they can charge their EVs, creating a gap in accessibility.** This Electric Vehicle Infrastructure Plan (EVIP) aims to assess Kenmore's current charging infrastructure and identify key areas where additional charging stations are needed to ensure convenient and equitable access to EV charging. By addressing these gaps, this plan will help make EV adoption easier and more accessible for all, positioning Kenmore as a leader in sustainable, clean transportation.

This EVIP plays a crucial role in advancing the City of Kenmore's climate action goals by helping to reduce greenhouse gas emissions. Aligned with the City's Climate Action Plan and the Climate Action Element of the Comprehensive Plan, the EVIP supports the objective of reducing tailpipe emissions and reaching a **95% reduction in heavy-duty vehicle emissions**, with a goal of net zero by 2050. In addition to local goals, **regional targets aim for 100% of light-duty vehicles**, 60% of medium-duty vehicles, and **40% of heavy-duty vehicles to be electric by 2050**. The EVIP is designed to help make this ambitious transition possible by providing a clear framework to expand infrastructure, ensuring that the community has the necessary support to transition to electric vehicles.

CITY OF KENMORE CAP OVERVIEW

KENMORE ENVIRONMENTAL ACTION NOW

The City of Kenmore, located in King County, Washington, is making headway in its goal to reduce carbon emissions by 50% in 2030 and 75% by 2040 and eventually reach a 95% reduction by 2050, plus net zero emissions. This is expressed in the City's 2022 Climate Action Plan. A recent greenhouse gas inventory shows Kenmore's 2023 communitywide GHG emissions: **144,491 MT CO_2e** (metric tons of carbon dioxide equivalent) broken down into three primary categories.

57%

- **Buildings & Energy**
  The electricity and natural gas consumed for powering and heating Kenmore account for **57%** of emissions (Electricity + Natural Gas).

31% 

- **Transportation & Land Use**
  On-road vehicles, such as cars and trucks, along with off-road vehicles like boats, lawnmowers, and construction equipment, represent **31%** of community emissions (On and off-road vehicles).

12% 

- **Other Sources**
  Refrigerants found in air conditioning and refrigeration systems contribute to **10%** of total emissions, while waste disposal adds an additional **1%** and wastewater less than **1%**.

Compared to the community, City operations produced 742 MT CO_2e in 2023, 0.5% of communitywide emissions.

76% 

- **Buildings & Energy**
  Electricity and natural gas powering municipal operations and city-owned buildings contribute to **76%** of total municipal emissions.

22%

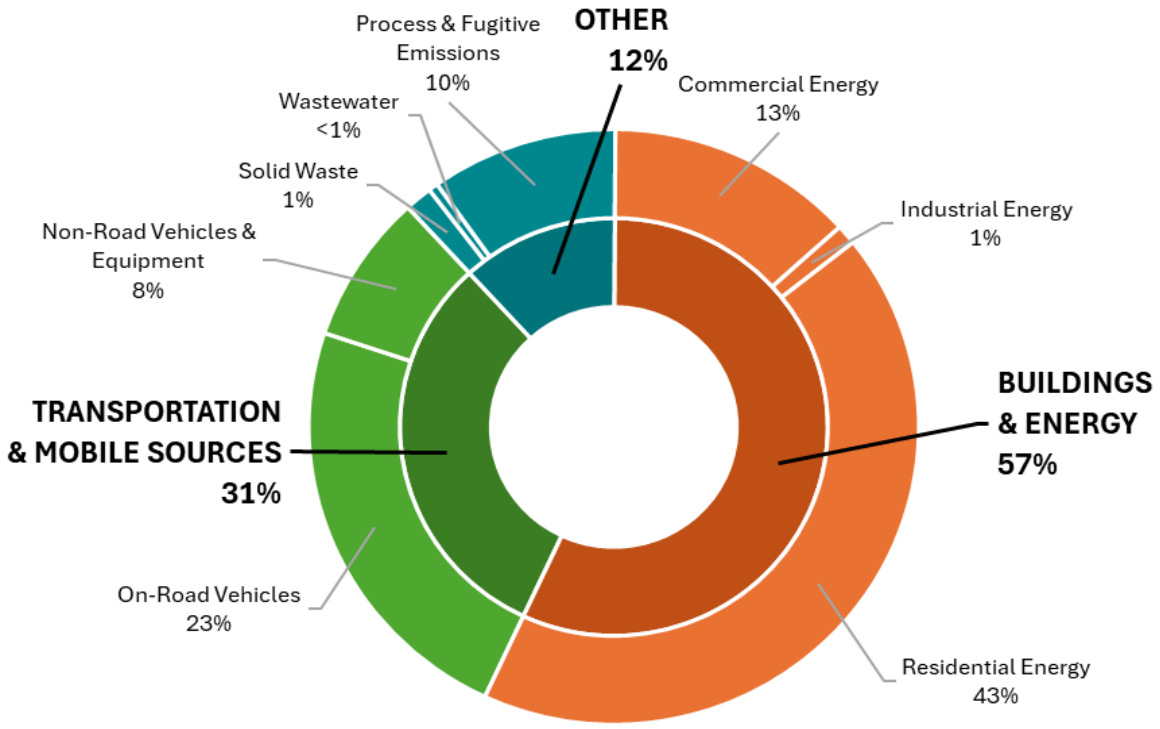
- **Transportation & Land Use**
  Employee commutes and government fleet vehicles account for **22%** of city operations emissions.

2% 

- **Solid Waste**
  Solid waste disposal contributes to **2%** of Kenmore's municipal emissions.

CAP OVERVIEW - GREENHOUSE GAS INVENTORY UPDATE (2023)

KENMORE ENVIRONMENTAL ACTION NOW



Communitywide GHG Emissions Trend 2019 to 2023

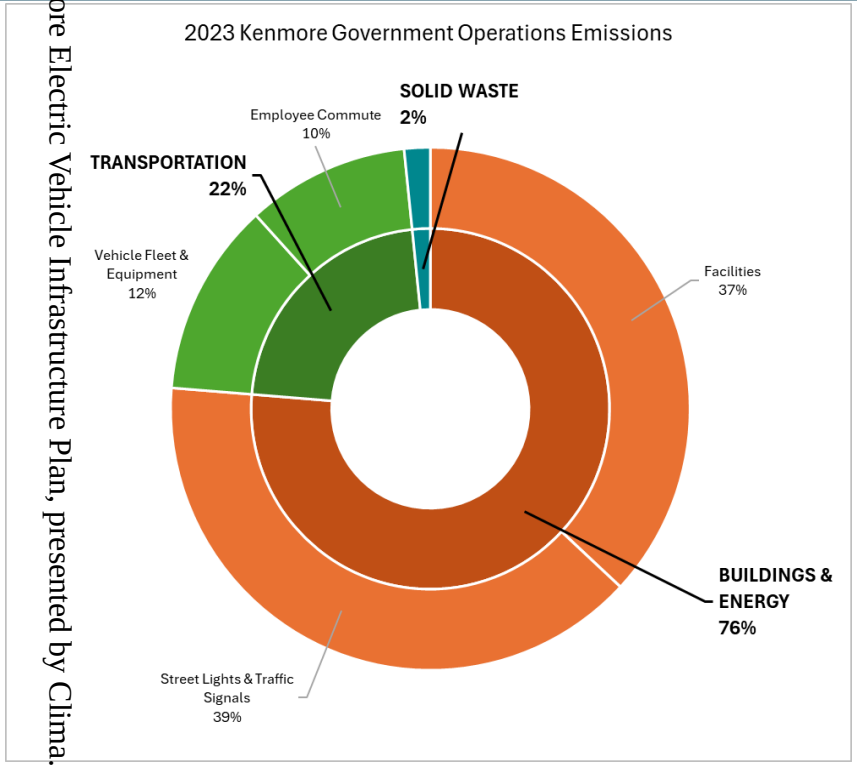
	2019 Emissions ($MT CO_2e$)	2023 Emissions ($MT CO_2e$)	% Change
ENERGY	97,286	82,160	-15.5%
TRANSPORTATION	52,889	45,165	-14.6%
SOLID WASTE	1,742	2,114	21.4%
WASTEWATER	351	724	106.3%
PROCESS & FUGITIVE	14,514	14,328	-1.3%
UPSTREAM IMPACTS	3,174	N/A	N/A
TOTAL	169,956	144,491	-15%
PER CAPITA	7.29	5.96	-18.2%

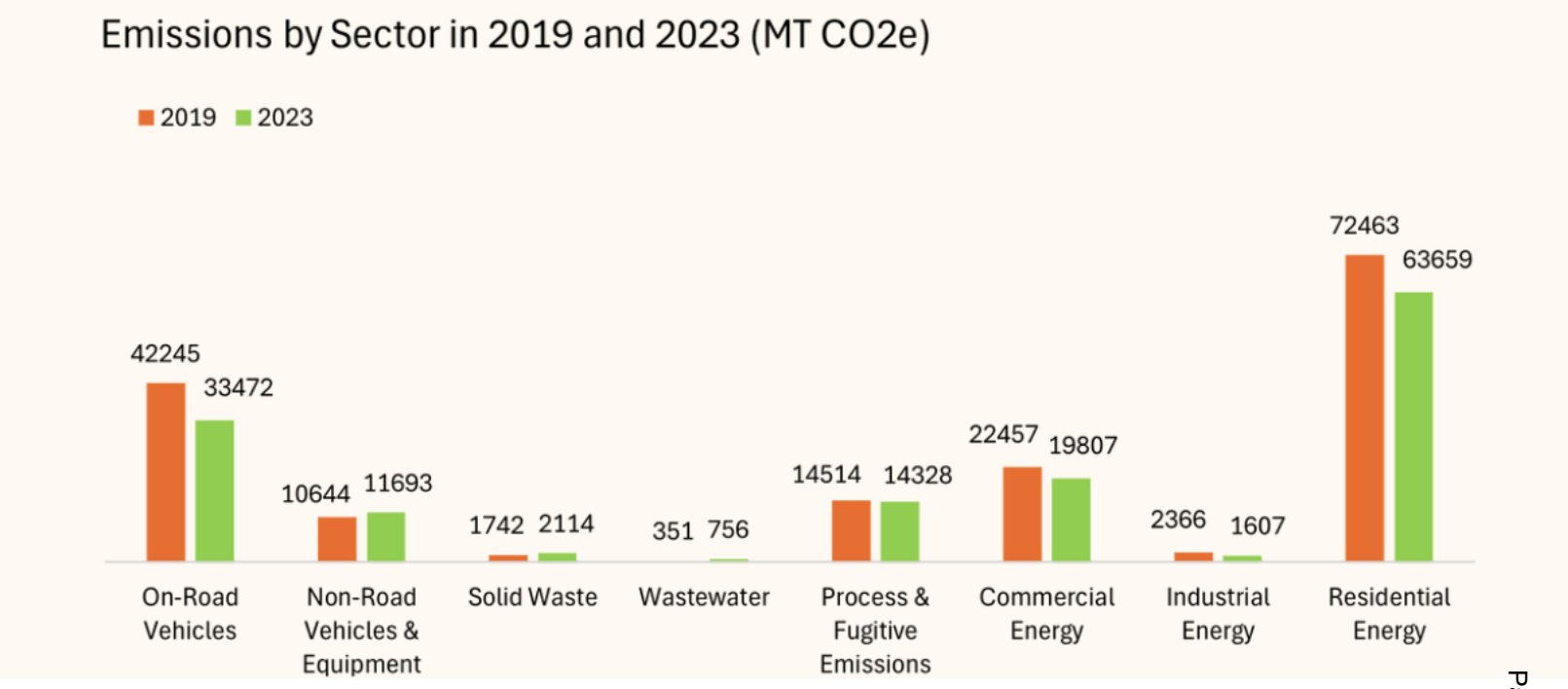
Highest emitting sectors:

- Buildings & Energy and Transportation & Mobile Sources
- Emissions decreased 25,465 MT CO2e or 15% from 2019
- Government operations emissions represent 0.5% of Kenmore's total community emissions (742 MT CO2e)
- While population grew, emissions per person decreased 18.2% from 2019

CAP OVERVIEW - GREENHOUSE GAS INVENTORY UPDATE (2023)

KENMORE ENVIRONMENTAL ACTION NOW





What we're working on to lower emissions

- Long-range strategic planning for EV charging
- Tree planting & care
- Residential solar campaign
- Education on how residents can reduce their carbon footprint
- Coordination with PSE

What's Next?

- EV charging installations
- Tree planting prioritization and events
- Incentives for residents
- Policies related to energy, waste
- Robust collaboration with businesses and multifamily property owners
- Update to Kenmore's Climate Action Plan (2026)

CORE COMPONENTS OF THE EVIP

KENMORE ENVIRONMENTAL ACTION NOW

The following assessment aims to identify viable solutions for building resilient EV infrastructure and supporting the transition of the city's fleet and community charging needs in line with the long-term sustainability goals outlined in the CAP. The EVIP prioritizes inclusive access for all residents by ensuring that public EV charging stations are distributed equitably throughout the city. This evaluation provides a foundational analysis and recommendations for the City's charging infrastructure. This report has considered the following to inform recommendations:

- A current conditions assessment of the EV infrastructure and regulatory landscape
- Available local, state, federal, and utility incentives and funding strategies
- Cost analysis and developing a comprehensive business case for recommended solutions
- Needs of underserved and marginalized populations

EVIP is a strategic, equity-driven framework designed to:

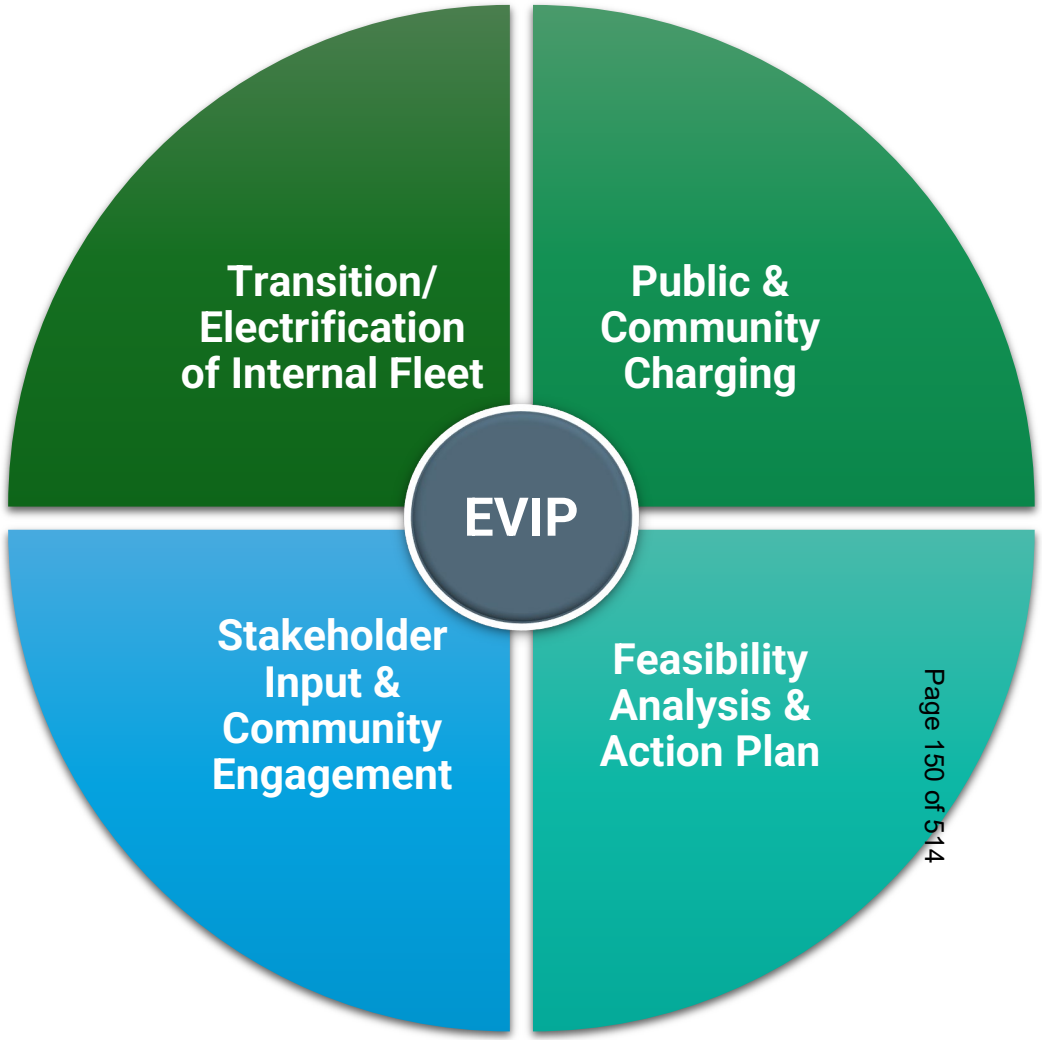
- Ensure inclusive access for public EV charging stations.
- Support City Fleet Electrification Planning.

Community Centered Approach. The plan prioritizes the community and Diversity, Equity, Inclusion, and Accessibility (DEIA) by:

- Expanding EV infrastructure to serve all communities, especially underserved and marginalized populations.
- Promoting community input to address residents' and businesses' needs and preferences.

Strategic EV Charger Placement. The EVIP guides short- and long-term planning by considering:

- Proximity to existing chargers to create a robust network.
- High-traffic areas: commercial corridors, shopping centers, and parking garages.
- Partnership opportunities: Collaborating with property owners for shared costs and co-location.
- Community engagement to ensure inclusivity and equitable service.
- Additional factors: zoning regulations, existing infrastructure, and technical requirements.



Guiding Principles for EV Infrastructure Plan (EVIP) Creation

KENMORE ENVIRONMENTAL ACTION NOW

1. **Foster Increased EV Adoption**
   - **Promote Awareness:** Educate Kenmore's residents and the general public on the environmental and financial benefits of switching the City's fleet from internal combustion engine (ICE) vehicles to electric vehicles (EVs), to encourage wider adoption across the city, county and broader region.
   - **Support Adoption Across Sectors:** Design the plan to meet the needs of all stakeholders, including residents, low-income communities, City staff, businesses, and public services, ensuring that EV adoption is inclusive and widespread across the city and representative sectors.
2. **Address Current Challenges in Infrastructure**
   - **Ensure Visibility and Accessibility of Charging Stations:** Prioritize the strategic placement of charging stations in visible, equitable, easily accessible locations, especially in communities with multifamily housing.
   - **Conduct Comprehensive Infrastructure Assessment:** Evaluate the current charging network in the city to identify gaps and underserved areas, ensuring that the infrastructure grows in tandem with the increasing demand for EVs and enhances the user experience. This includes the anticipated growth of the City of Kenmore municipal government, and associated growth of the city and region.
3. **Establish Clear Objectives for EV Infrastructure Development**
   - **Create a Comprehensive Charging Network:** Recommend a well-connected and convenient network of EV charging station locations throughout the city, making them accessible to residents, commuters, and other visitors.
   - **Future-Proof the Infrastructure:** Ensure the plan accommodates emerging EV technologies and future advancements in charging systems, maintaining relevance and adaptability as the industry evolves. This includes recommendations for future city-owned facilities.
4. **Plan for Projected Growth in EV Adoption**
   - **Anticipate Growth:** Project that EV adoption in Kenmore will increase significantly, with up to 30% of vehicles in the city transitioning to EVs by 2035.
   - **Ensure Infrastructure Scalability:** Design the EV infrastructure plan to be flexible and scalable, accommodating the projected growth in EV adoption and ensuring that the infrastructure can support the increasing number of EVs on the road over time.
5. **Maximize Benefits of EV Infrastructure**
   - **Identify Opportunities for Expansion:** Identify key areas where charging infrastructure is lacking or underdeveloped and prioritize expansion in these locations to meet future demand.
   - **Leverage Funding Opportunities:** Enable the city to access available local, state, and federal funding opportunities to support the development of EV infrastructure, ensuring financial resources are maximized.
   - **Support Long-Term and Near-Term Goals:** Align the plan with Kenmore's long-term sustainability goals while setting clear, actionable near-term objectives to ensure widespread EV adoption and the realization of associated community benefits, such as improved air quality and reduced transportation costs.
6. **Prioritize Robust and Accessible Charging Networks**
   - **Comprehensive Network Design:** Ensure that the infrastructure plan covers the entire city, with strategically located charging stations to meet current and projected demand, making EV charging accessible to all residents and businesses.
   - **Ensure Equitable Distribution:** Focus on equitable access by prioritizing underserved areas, such as lower-income neighborhoods and communities with multifamily housing, to ensure that all residents and businesses benefit from the growing EV infrastructure.

Current Conditions

Chapter 3

CITY OF KENMORE

ENVIRONMENTAL SERVICES

- CURRENT CONDITION REVIEW PURPOSE
- CURRENT CONDITIONS OVERVIEW
- LOCAL AND REGIONAL INFRASTRUCTURE
- EVS AND PROJECTED GROWTH IN WASHINGTON
- SUPPLY CHAIN CONSIDERATIONS
- EXISTING INFRASTRUCTURE PROJECTS IN KENMORE
- REGULATORY FRAMEWORK, FORMAT & BUILDING CODES
- LOCAL REVIEW & CITY OF KENMORE REGULATIONS
- REGIONAL CODES AND REGULATIONS
- BARRIERS AND OPPORTUNITIES
- FUNDING
- RECOMMENDATIONS & CONCLUSION

CITY OF KENMORE

ENVIRONMENTAL SERVICES

Current Conditions Purpose

KENMORE ENVIRONMENTAL ACTION NOW

The **Current Conditions Summary** for the **Electric Vehicle Infrastructure Plan (EVIP)** in the City of Kenmore, WA, serves several critical purposes:

Baseline Assessment: It provides a clear understanding of the current state of EV adoption and infrastructure in Kenmore. This includes the number of registered EVs in the city, the existing charging stations, and the distribution of those stations across different neighborhoods. This helps establish how far Kenmore has already progressed in transitioning to electric vehicles.

Identifying Gaps and Challenges: The summary highlights any infrastructure gaps or areas where charging stations are insufficient, particularly in neighborhoods with multifamily housing or other underserved areas. It also identifies challenges such as accessibility, the visibility of charging stations, and current limitations in charging speed or technology. This assessment ensures that future infrastructure investments are directed to areas of greatest need.

Informing Strategy Development: By analyzing the current conditions, the summary provides insights into the specific needs of different sectors in Kenmore, including residents, businesses, public services, and low-income communities. This helps ensure that the EVIP is inclusive, equitably addressing the needs of all stakeholders while supporting widespread EV adoption throughout the city.

Understanding Local Context: The summary accounts for Kenmore's unique characteristics, such as population density, urban development trends, and the transportation patterns of its residents. Understanding these factors is crucial for designing an EV infrastructure plan that aligns with the city's growth and transportation needs, ensuring that the infrastructure supports future demands.

Guiding Future Investment: The current conditions summary helps Kenmore's leadership identify where to direct future investments and resources for EV infrastructure development. It also highlights available funding opportunities at local, state, and federal levels, enabling the city to leverage these resources to expand and enhance its EV infrastructure efficiently.

In summary, the **Current Conditions Summary** for Kenmore's EVIP provides a foundational understanding of the city's existing EV landscape. It helps identify gaps, challenges, and opportunities, guiding the development of an EV infrastructure plan that is tailored to the city's unique needs and poised to support the future growth of electric vehicles in the community.

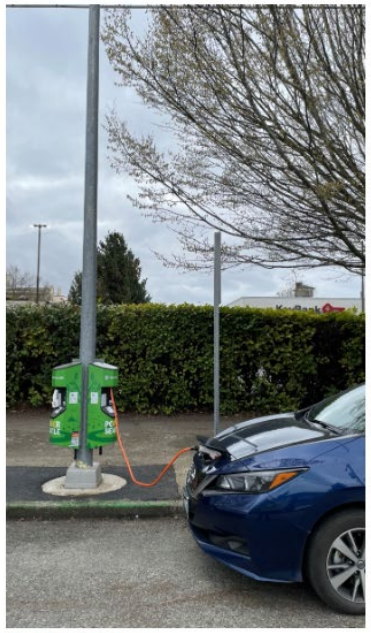
Current Conditions Overview

KENMORE ENVIRONMENTAL ACTION NOW

Kenmore EV Infrastructure

Kenmore is the home of seven (7) EV Level 2 (L2) chargers, two of which are City-owned chargers designated for the Kenmore fleet and located in the City Hall Garage. Five charging locations are public, with two Shell Recharge (formerly Volta) chargers located at Safeway, two located at Bastyr University (which require a parking pass from the University to access), and the last charger, a public Blink charger located in the town square. As Kenmore residents continue to transition to electric vehicles, more chargers will be needed. Additionally, the city's location along State Route 522 makes it ideal for visitors and pass-through drivers to charge their vehicles. EVs make up an average of 22.6% of Kenmore's vehicle registration for 2024 year-to-date (YTD).

Pedestal Charger



Steel Pole Charger

Wood Pole Charger

Seattle Curbside Charger Examples

Chargers overlaid with the City of Kenmore

EV Growth in WA

KENMORE ENVIRONMENTAL ACTION NOW

Washington's zero-emission vehicle standard (Washington State Department of Ecology, 2025)

- The policy mandates that vehicle manufacturers progressively increase the share of clean vehicles they sell. By 2035, all new passenger cars and light-duty trucks sold in Washington must be zero-emission vehicles, producing no tailpipe air pollution. This includes battery-electric vehicles, hydrogen fuel cell vehicles, and plug-in hybrids with a minimum electric range of 50 miles.
- Washington's ZEV standard begins in this year's (2025) model year vehicles, requiring roughly 8% of new vehicles to qualify. In 2026, however, that standard jumps up to 35% and continues climbing until 100% in 2035.
- Washington ranked third in the nation in terms of EV market share, according to data from the Alliance for Automotive Innovation. **Electric vehicle registrations increased 34% from 2023 to 2024 (166,800 to 223,995).**
- The total EV count in Washington for 2024 **included 177,151 battery electric vehicles (BEVs) and 46,844 plug-in hybrid electric vehicles (PHEVs)**.

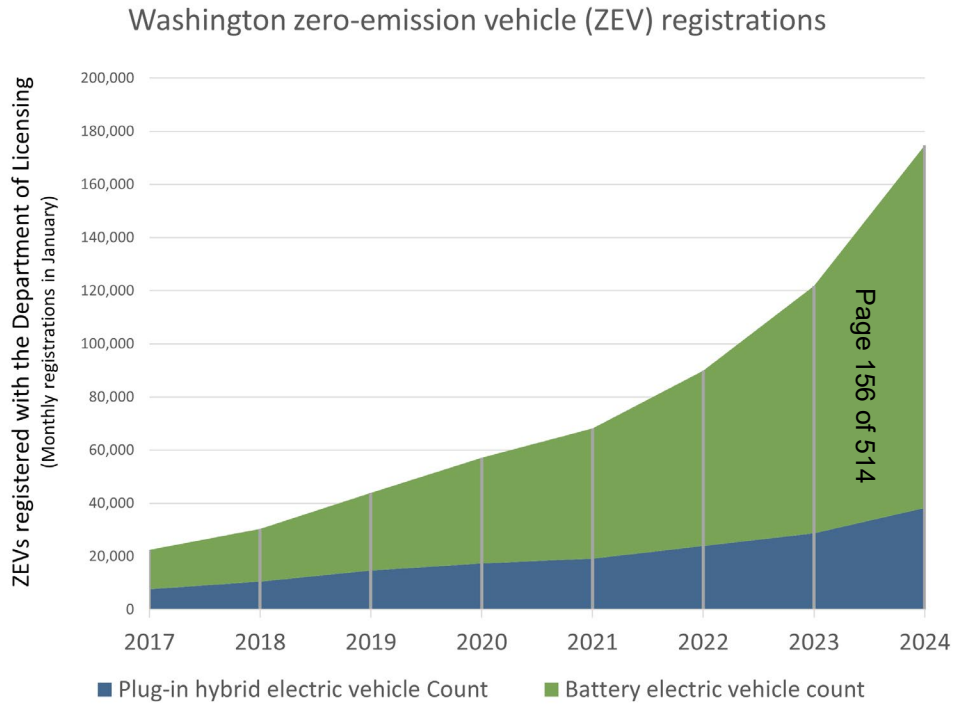
Total electric vehicle registrations in Washington

Number of electric vehicle registrations by vehicles type; Includes battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV)

Vehicle type	2020	2021	2022	2023	2024
PHEV	17,967	23,038	26,831	36,507	46,844
BEV	45,292	64,647	87,769	130,293	177,151
Total	63,259	87,685	114,600	166,800	223,995

ZEV Growth in King County (WSDOT)

County	2020	2021	2022	2023	2024
King	34,028	45,718	60,059	86,594	113,169



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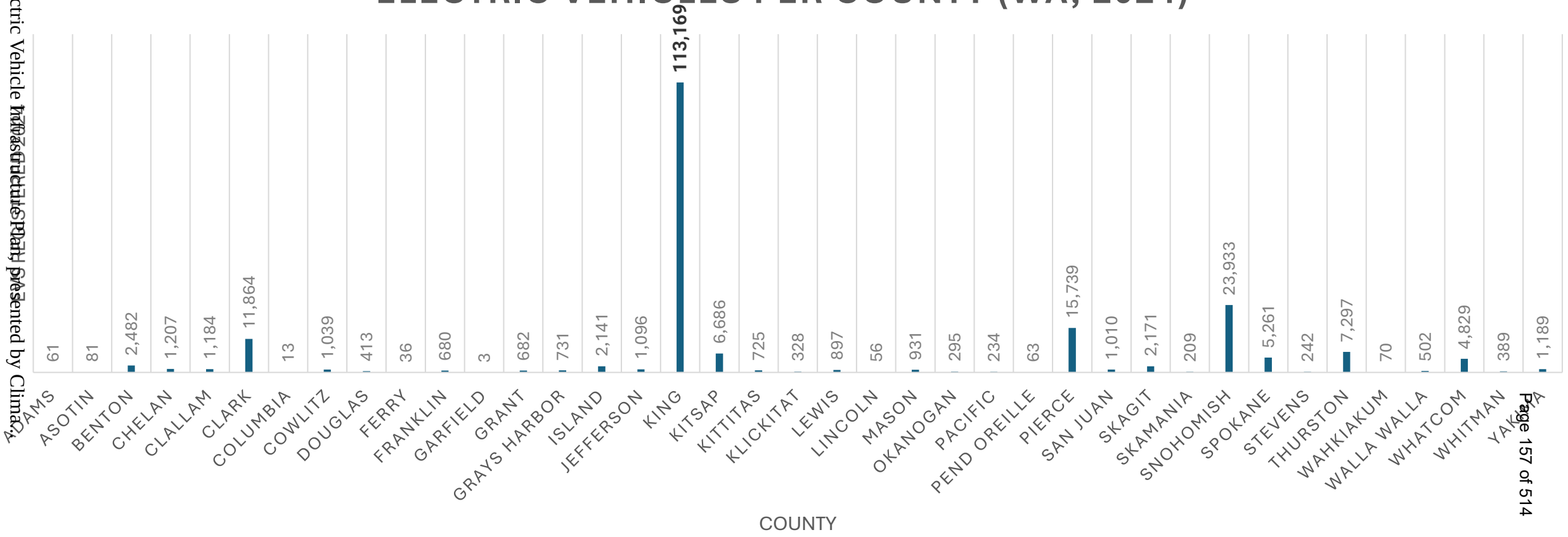
EVs Registered Per County (WA)

KENMORE ENVIRONMENTAL ACTION NOW



As of 2024 (Wa.gov, 2024), King County leads the state of Washington in electric vehicle (EV) adoption, with **over 110,000 registered EVs**. This is by far the highest number of any county in the state, reflecting the region's strong commitment to sustainability and the growing demand for EVs. The high concentration of EVs in King County highlights the county's role as a hub for clean transportation and signals the increasing need for expanded charging infrastructure to support this growth. As Kenmore is located within King County, the city is poised to benefit from and contribute to this shift toward a cleaner, more sustainable transportation future.

Local and Regional Infrastructure

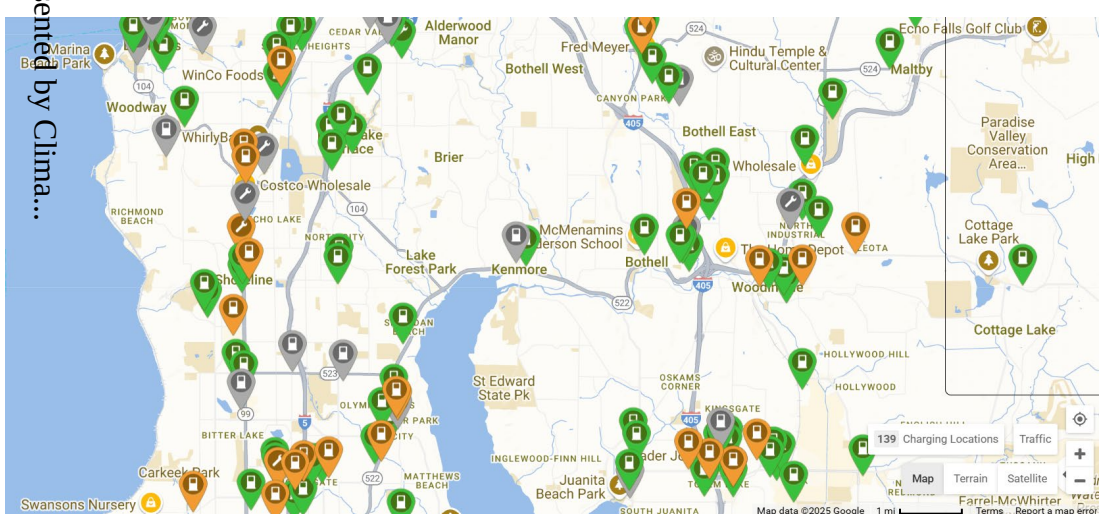
KENMORE ENVIRONMENTAL ACTION NOW

In Kenmore specifically, EVs account for **22.6% of vehicle registrations in 2024** (WSDOT, 2024). Most notably, the Motor Vehicle Emission Standards law includes new requirements to gradually increase the number of new zero-emission vehicles (ZEV) sold in Washington until all new vehicles meet the ZEV standard starting in 2035.

Kenmore has seven Level 2 charging stations (five public, two City-owned), primarily operated by Blink and Shell Recharge. Although no DC fast chargers (DCFC) or Tesla superchargers are available in the immediate Kenmore area, nearby cities such as Seattle offer a broader range of charging options, including 689 EV stations, with 133 DCFC and 23 Tesla superchargers as of June 2024.

This positions Kenmore within a regional hub that provides significant EV charging access, especially in Seattle, Bellevue, and surrounding areas. As of May 1, 2024, Seattle City Light has installed 25 public Level 2 curbside EV chargers. These chargers can provide up to 9.6 kilowatts (kW) and up to 30 miles of range per hour of charge time. These chargers will allow residents to charge at work, in the city, and overnight.

Bellevue has the second-largest number of EV chargers in King County. Currently, it has 304 stations, including 28 fast chargers and 5 Tesla superchargers. The City of Bellevue also created an electric vehicle roadmap which was released in October 2024. The Roadmap takes into consideration input from the community from various efforts, including an interactive map for residents to voice where they feel charging would be most utilized.



Source: Plugshare, 2025

Total electric vehicle registrations in Washington

# of EV registrations by vehicles type; Includes battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV) (WSDOT, 2025)

Vehicle type	2020	2021	2022	2023	2024
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Total	*63,259*	*87,685*	*114,600*	*166,800*	*223,995*

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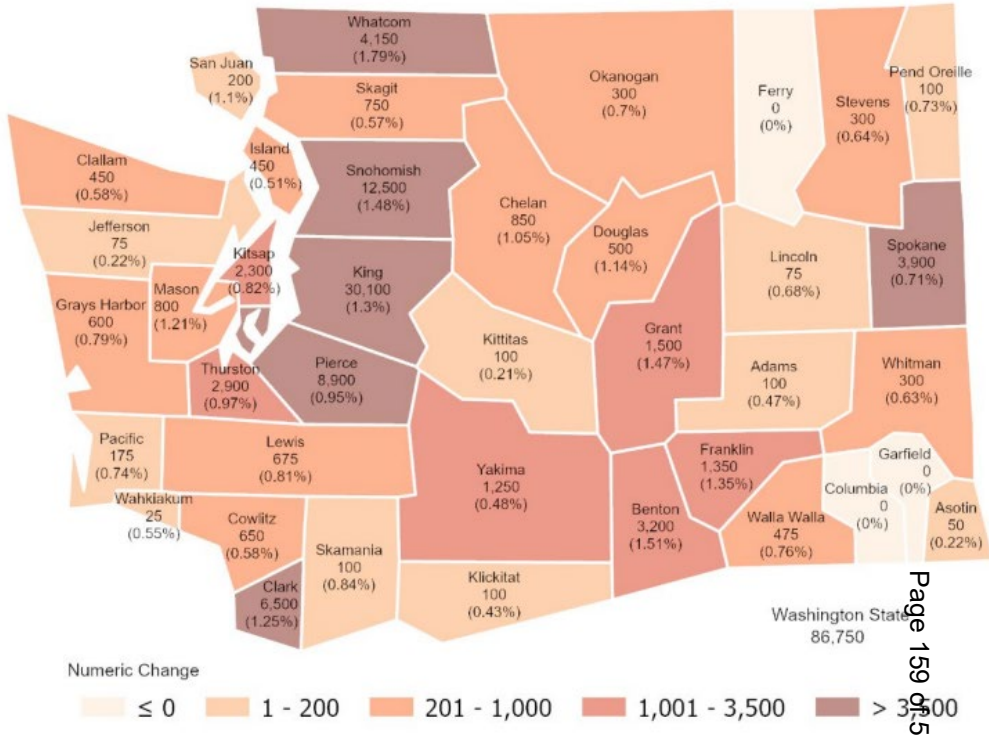
Washington Population Growth

KENMORE ENVIRONMENTAL ACTION NOW

- Vehicle electrification, expanding charging infrastructure, and emission reductions are key trends in the U.S., Washington, and the West Coast. As of July 2023, Washington ranks #2 for advanced tech vehicle market share and #4 for BEVs (Auto Innovate, 2023).
- Washington's population grew 16.8% from 2010-2020, with nearly 70% of growth in metropolitan counties like Clark, King, Pierce, Snohomish, and Spokane. This increase in population leads to more drivers on the road.
- As of April 2023, Washington's population reached 5.2 million, with 66,250 added in the past year. The state's unincorporated areas—Pierce, Snohomish, King, Clark, and Kitsap—nearly match the five largest cities' populations (EIA, 2024).
- Gas prices, averaging $4.15/gallon in Washington in September 2024. With some of the lowest electricity rates in the U.S. ($0.1121/kWh residential, $0.0986/kWh commercial), EVs offer significant savings. Since 2016, chargers have increased by 133%, with over 460 charging stations added in 2021 alone. The state continues prioritizing EV infrastructure with $85 million allocated for charging and $51.4 million for transit decarbonization in 2024-2025.



Washington State Population Increase 2022-2023

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Supply Chain and Logistics Considerations

KENMORE ENVIRONMENTAL ACTION NOW

Key Challenges:

- Global supply chain disruptions, worsened by the pandemic, impact the availability and pricing of EV charging equipment. While the lead times have significantly declined since the pandemic levels, there are still potential delays in the deployment of charging stations in Kenmore due to the supply chain, namely specialty equipment and DC fast chargers.
- Fluctuating prices of essential materials like copper, cobalt, and lithium, along with skilled labor shortages, can complicate project timelines for EV infrastructure development. Examples may include federal tariffs on imported goods.
- Delays in acquiring critical components (e.g., transformers, cabling) and maintenance parts (e.g., batteries, wiring) could affect the long-term reliability of both the City's electric vehicle fleet and charging stations.

Workforce Considerations:

- The demand for specialized labor, including electricians for EV charger installation and technicians for vehicle repair, is growing; however, there is still a shortage of skilled labor. Kenmore may face challenges sourcing these skilled workers.
- Collaborating with local educational institutions, such as the University of Washington Bothell, and vocational training programs will help ensure a local workforce with the necessary certifications and skills to support EV infrastructure and maintenance.

Proactive Solutions for Kenmore:

- The city should proactively order equipment for long lead times, particularly for components like switchgear.
- When planning projects, Kenmore should factor in these potential delays and build them into construction timelines to ensure smooth implementation.
- Kenmore prioritizes continued collaboration and coordination with the local utility provider (PSE) to ensure the availability of planned capacity to support upcoming infrastructure projects. Planning for charging station sites, including installing underground wiring and upgrading transformers, will add complexity but is necessary to ensure successful implementation.
- Engage with local higher education and K-12 schools to provide awareness of the gap in the skilled labor workforce and potential opportunities for training and workforce development.

Fleet Management Considerations:

- Implementing fleet management software will help Kenmore track vehicle performance, monitor battery health, and manage charging station availability, optimizing logistics and operational efficiency for the City's electric vehicle fleet.

Existing Projects: Kenmore's Infrastructure Initiatives

KENMORE ENVIRONMENTAL ACTION NOW

- **EV Infrastructure Plan**: The City of Kenmore is developing an EV Infrastructure Plan (EVIP) to strategically place EV charging stations across the city, addressing the growing demand for electric vehicles (EVs). The plan factors in traffic patterns, station proximity, potential partnerships with commercial properties, and community input. The EVIP will help support the city's transition to a cleaner, more sustainable transportation system. It highlights current conditions, identifies challenges, and provides recommendations for advancing EV infrastructure in alignment with Kenmore's broader environmental goals.

- **Solarize Kenmore 2025**: City of Kenmore and nonprofit Olympia Community Solar have partnered to provide free site assessments for solar, a group purchasing discount, and an added $1,000 rebate.

- The Switch Is On website connects residents with knowledgeable and skilled contractors in their area and helps residents identify what incentives they qualify for from local governments, federal programs, and utilities (Building Decarbonization Coalition, 2025).

- **Public Works Operations Center**:
Currently in the design and permitting stages, the new Public Works Operations Center is set to begin construction in 2025, with completion expected in 2026. This facility will include:
  - A two-story administrative building
  - Operations support areas
  - Environmentally sustainable features, including EV charging stations (planned for six (6) dual port chargers), solar energy systems and energy-efficient designs
  - A focus on minimizing neighborhood impact and preserving local trees.

Regulatory Framework

KENMORE ENVIRONMENTAL ACTION NOW

Kenmore and surrounding areas are influenced by state and local regulations supporting EV infrastructure development. The Washington state building code, effective July 2023, requires all new residential buildings with parking to be EV capable and 20% of parking spaces in new commercial buildings to be EV-ready.

The clean energy transformation act mandates a carbon-free electricity supply by 2045, accelerating EV infrastructure growth. Department of commerce has also coordinated with other state agencies to develop a statewide implementation roadmap, called the transportation electrification strategy, to meet the state's 2030 GHG emissions limits by maximizing transportation electrification. King county incentivizes EV charger installations through grants and policies, particularly for multifamily housing and underserved areas.

Kenmore could benefit from adopting progressive ev-readiness codes for buildings (like many other cities have across the state) and emphasizing equity and community engagement throughout the planning process to ensure EV charging is accessible and utilized to the fullest extent. Exploring local incentives, partnerships, and public-private collaborations could enhance EV charging accessibility.

Washington has been a leader in policies aimed at reducing transportation emissions and supporting large-scale transportation electrification. Since 2007, the **RCW 43.19.648** law required local governments to switch their fleets to electricity or biofuels by June 1, 2015. While deadlines were extended and some exemptions were granted, as of June 1, 2018, all local governments were expected to transition 100% of their publicly owned vehicles, vessels, and construction equipment to electric or biofuel power "to the extent practicable." (Washington State Legislature, 2023)

However, flexibility in the rules—like cost, fuel availability, and infrastructure—allowed for delays. Reporting requirements only applied to agencies using more than **200,000 gallons** of gas or diesel annually. While the regulations didn't accelerate EV adoption initially, **Kenmore** now has a significant opportunity to align with these regulatory goals as the city moves toward electrification.

Washington has adopted **California's vehicle emissions standards** (RCW 70A.30.010), expanding the availability of **zero-emission vehicles (zevs)** to replace internal combustion engine vehicles. Starting in 2035, all new vehicles in Washington will need to meet ZEV standards, with **light-duty vehicles** (LDVS) requiring 100% ZEV sales by then. The **advanced clean trucks (ACT)** regulation also mandates increasing ZEV sales for medium- and heavy-duty vehicles (MHDVS), reaching 40%-75% by 2035, depending on weight class (WA Department of Ecology, 2024)

In 2022, the **move ahead Washington** package (chapter 182, laws of 2022) was passed, investing in **transit**, **alternative fuels**, and **electrification** to reduce vehicle miles traveled and emissions. It set a **nonbinding goal** of 100% electric passenger vehicle sales by 2030, five years earlier than the federal ZEV requirement (NESCAUM, 2024).

These policies accelerate EV adoption and offer a **clear path** for local governments like **Kenmore** to transition their fleets and meet **RCW 43.19.648**'s alternative fueling requirements.

Regulatory Format & Building Codes

KENMORE ENVIRONMENTAL ACTION NOW

Regulatory Format

- Kenmore's building and energy codes, particularly for **EV charging infrastructure**, align with state and federal regulations but allow local customization. Under the **Washington State Energy Code (WSEC)**, new constructions and major renovations must integrate **EV-ready parking spaces**. These spaces must have the wiring and capacity to support future EV chargers (Washington State Building Code Council, 2023).
- Kenmore can exceed state standards through local ordinances and codes, such as requiring all parking spaces in specific developments to be **EV-ready**, but cannot reduce the state's minimum requirements. This flexibility allows Kenmore to **promote EV adoption** while maintaining consistency with state goals.
- At the federal level, the **Bipartisan Infrastructure Law** and funding programs support **EV infrastructure** development. While Kenmore can access federal resources, its projects must comply with federal guidelines. This creates opportunities for local customization while ensuring alignment with broader energy objectives.

Building and Energy Codes

- The **Washington State Building Code** sets minimum standards for construction safety and integrity, updated every three years by the **Washington State Building Code Council (WSBCC)**. Cities, including Kenmore, can amend the code but must adhere to its minimum performance standards.
- The **Washington State Energy Code** sets mandatory **energy efficiency requirements** for residential and commercial buildings, updated every three years. While local jurisdictions must comply with residential energy codes, they may adopt stricter codes for commercial buildings (Washington State Legislature, 2022).
- **Home Rule Authority -** Washington grants cities broad **home rule authority**, allowing Kenmore to create local ordinances as long as they don't conflict with state law. **RCW 35A.11.020** gives Kenmore the power to regulate its internal affairs, while **RCW 35A.11.050** emphasizes broad local self-governance. Under **home rule**, Kenmore can pass ordinances to address local issues related to electrification without state permission, although legal counsel should be consulted (Washington State Legislature, 2022).

Example Local Building Codes for EV Readiness

KENMORE ENVIRONMENTAL ACTION NOW

While Kenmore adheres to the state's minimum EV readiness building code, several municipalities in Washington have adopted more expansive measures to promote the development of EV infrastructure. Under RCW 19.27.040, cities can amend state codes, provided they meet the minimum standards and objectives.

Seattle Building Code (2018 Seattle Energy Code, Section 4.2):

- Seattle requires new commercial and multifamily buildings with parking to provide **EV-ready parking spaces**. At least **20% of parking spaces in new construction** must be designed to be ready for future EV charging, with **dedicated electrical capacity (City of Seattle**, 2024).
- For buildings with more than **4 parking spaces**, a percentage of those spaces must be wired and ready for EV chargers, ensuring ease of future installation.
- 2018 Seattle Energy Code (SEC), Chapter 8, and the **Seattle Municipal Code (SMC) 22.206.050**.
- Seattle City Light offers rebates and incentives through the **EV Charging Incentive Program**, which helps businesses, multi-unit housing, and other property owners install charging stations.

Bellevue Building Code (2018 International Energy Conservation Code, adopted with amendments):

- Bellevue requires that new multifamily and commercial buildings provide **EV-ready parking spaces** for at least **10% of parking spaces** in residential developments and **5% for non-residential developments**. This includes providing adequate **electrical infrastructure** to support future charging equipment. Bellevue Municipal Code (BMC), Title 23, **Chapter 23.15** for EV infrastructure requirements (**City of Bellevue**, 2024).
- Existing properties can be retrofitted to include EV charging stations if they are redeveloped or undergo major renovations. Bellevue also encourages the installation of public charging stations in public areas through partnerships with property owners and businesses.

Redmond Building Code (2018 International Energy Conservation Code, adopted with amendments):

- Redmond mandates that **new developments** with more than **4 parking spaces** must include **EV-ready parking spaces** for at least **5%** of the total parking capacity, which includes the necessary electrical conduit and panel capacity for easy future installation of EV chargers. Redmond Zoning Code **Chapter 21.78 (EV Charging Infrastructure, City of Redmond**, 2024).
- The city provides incentives for developers to include additional EV charging spaces beyond the required minimum, promoting sustainable infrastructure.

Spokane Building Code (Adopted 2018 International Energy Conservation Code with Local Amendments):

- New residential developments of 10 or more parking spaces and commercial developments with more than 5 parking spaces are required to provide **EV-ready parking spaces**. The number of spaces that must be equipped with infrastructure is typically **5%** of the total parking spaces, with the necessary wiring and electrical capacity for future charging installation. Spokane Municipal Code (SMC) **Chapter 17C.320 – Electric Vehicle Infrastructure** and **Title 17 of Spokane's Zoning Code** for EV parking requirements (City of Spokane, 2024)
- Spokane's zoning and permitting processes encourage public charging stations in **high-demand areas** such as transit stations and downtown centers.

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Ability to Create Local Rules

KENMORE ENVIRONMENTAL ACTION NOW

Rule Name	Category	Authority with Jurisdiction	Description	Kenmore's Ability to Create Local Rules
Washington State Building Code (Washington State Legislature, 2024).	Code	WSBSS	A mandatory statewide code that provides minimum standards for the construction of buildings and structures.	Kenmore may amend the state code so long as the minimum state code standards are not diminished.
Washington State Energy Code (Washington State Legislature, 2024).	Code	WSBSS	A mandatory statewide code that provides minimum energy efficiency requirements for both residential and commercial buildings.	Kenmore may only amend the state requirements for commercial buildings, and the amendments must exceed state code requirements. Residential requirements must align with state code.
Home Rule (Washington State Legislature, 2024).	Law	Washington Cities	It gives cities the power to create and enforce local regulations that don't conflict with state laws without requiring state legislation or permission.	Kenmore may create local ordinances as long as they do not conflict with state-mandated laws.

City of Kenmore EV Regulations Landscape (1/4)

KENMORE ENVIRONMENTAL ACTION NOW

CITY OF KENMORE EV REGULATIONS LANDSCAPE			
Regulation	**Agency**	**Description**	**Impacts on Kenmore**
RCW 70A.45.020 State Emissions Reductions Requirements	State Legislature	The State of Washington must limit greenhouse gas (GHG) emissions to achieve the following reductions: • By 2020, reduce overall GHG emissions in the state to 1990 levels • By 2030, reduce overall GHG emissions in the state to 45% below 1990 levels; and • By 2040, reduce overall emissions to 70% below 1990 levels; and, • By 2050, emissions will be reduced to 95% below 1990 levels. • Every other year, the Washington Departments of Ecology and Commerce must report to the governor and legislature on the total GHG emissions in the state for the previous two years (Washington State Legislature, 2024).	Directs public agencies to take action and reduce their GHG emissions in line with reduction goals.
Publicly owned vehicles, vessels, and construction equipment—Fuel usage (RCW 43.19.648, Chapter 194-29 WAC)	State Legislature	This law requires state agencies and local governments to fuel publicly owned vehicles, vessels, and construction equipment with electricity or biofuels to the extent practicable. The definition of practicable can be found in Chapter 194-28 WAC for state agencies and Chapter 194-29 WAC for local governments. The guides for local governments took effect June 1, 2018. The Washington Department of Commerce regularly collects reports from local governments using more than 200,000 gallons of fuel annually. These reports provide a record of fuel use and fleet developments by government entities around the state. This helps decision-makers at all levels develop action plans and react to opportunities to further their transition to clean fuels (Washington State Legislature, 2024).	It mandates that local governments (such as the City of Kenmore) fuel publicly-owned vehicles using clean, alternative fuel sources.
Motor Vehicle Emission Standards – Zero-Emission Vehicles law (RCW 70A.30.010)	State Legislature	Directs the state to adopt California's vehicle emission standards. This includes new requirements to gradually increase the number of new zero-emission vehicles (ZEV) sold in Washington until all new vehicles meet the ZEV standard starting in 2035 (Washington State Legislature, 2024).	It requires building infrastructure to support the increasing adoption of electric vehicles across the state (and the West Coast).

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City of Kenmore EV Regulations Landscape (2/4)

KENMORE ENVIRONMENTAL ACTION NOW

CITY OF KENMORE EV REGULATIONS LANDSCAPE

Regulation	Agency	Description	Impacts on Kenmore
Chapter 173-423 WAC, Clean Vehicles Program	Washington Dept. Ecology	Since the State was directed by the Motor Vehicle Emission Standards law (RCW 70A.30.010) to adopt California vehicle emission standards, including the zero-emission vehicle (ZEV) program, The Washington Department of Ecology adopts California's rules for: • New light-duty (i.e., passenger) vehicles (LDVs): the Advanced Clean Cars I and II (ACC I and ACC II) regulations, which require a progressively stringent zero-emissions vehicle (ZEV) sales share, culminating in a 100% sales requirement by 2035. • Medium—and heavy-duty vehicles (MHDVs): The Advanced Clean Trucks (ACT) regulation requires increasing new sales shares for larger vehicles, with 40%–75% ZEV sales required by 2035, depending on weight class. These regulations are the driving force behind the recent acceleration in EV adoption across the country and in Washington. • Heavy-Duty Engine and Vehicle Omnibus rules and associated amendments: Starting in model year 2026, these rules require that new internal combustion engines for heavy-duty vehicles emit much lower quantities of nitrogen oxides (NOx), particulate matter (PM), and greenhouse gases. • Advanced Clean Cars II: This rule will increase the percentage of passenger cars, light-duty trucks, and medium-duty vehicles sold in Washington that are zero-emission vehicles (ZEVs). The sales mandate would take effect in model year 2026 and begin by requiring 35% of new passenger vehicle sales to be zero-emission vehicles. That percent will increase 6-9% per year until zero-emission vehicles make up 100% of new sales starting in model year 2035. It will also require light and medium-duty vehicles to meet more robust emission standards. Also included are the following provisions to support Ecology's implementation of California's emission standards: • Early action zero-emission vehicle credits: This rule provides automakers with optional zero-emission sales credits for model years 2023 and 2024. This would: *Incentivize increased zero-emission vehicle sales. *Make sure Washingtonians have access to a wide variety of zero-emission vehicle models before the regulatory requirements take effect in model year 2025. *Allow participating automakers to bank credits to meet future compliance requirements under ACC I and II. • One-time fleet reporting requirement: This requires owners and operators (such as businesses, government agencies, municipalities, brokers, freight dispatchers, transit agencies, etc.) to report information about medium- and heavy-duty vehicles (defined as vehicles over 8,500 pounds) in their fleets by September 30, 2023. This requirement mirrors a similar requirement in California’s Advanced Clean Trucks rule. (Washington State Legislature, 2024).	It requires building infrastructure to support the increasing adoption of electric vehicles across the state (and the West Coast). One-time fleet reporting requirement, if applicable, but would have been completed in 2023.

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City of Kenmore EV Regulations Landscape (3/4)

KENMORE ENVIRONMENTAL ACTION NOW

CITY OF KENMORE EV REGULATIONS LANDSCAPE

Regulation	Agency	Description	Impacts on Kenmore
Move Ahead Washington (SB5974/RCW 43.392.020)	State Legislature	The Legislature passed Move Ahead Washington (Chapter 182, Laws of 2022) in March 2022. This monumental 16-year transportation package is known for its historic investments in transit, active transportation, ferries, alternative fuels, and rail, all intended to support mode shift, electrification of these modes, and reductions in vehicle miles traveled (VMT) along with their associated emissions. It also established the Interagency Electric Vehicle Coordinating Council (EV Council) and a nonbinding statewide target of reaching 100% new electric passenger vehicle sales by 2030 (2030 EV target) — five years earlier than the 100% new ZEV sales requirement under ACC II.	Requires building infrastructure to support the increasing adoption of electric vehicles across the state (and the West Coast).
Washington State Building Code/ RCW 19.27.540	State Legislature	Washington state has adopted building codes that require new construction (construction of new buildings and accessory structures, including parking lots and parking garages) to include EV charging infrastructure with the following requirements: • Developers are mandated to build charging station-equipped or -outfitted parking spots. RCW 19.27.540 requires new construction of multi-family residential or commercial buildings to designate the greater of one space, or 10% of total spaces, with wiring able to accommodate electric vehicle charging. An additional 20% of spaces must be charger station-ready. • All new multi-family residential or commercial developments must comply with state electrification rules unless otherwise exempted. Exempted “assembly, education, or mercantile” developments instead must wire 10% of employee parking and prepare an additional 20% of employee parking for electric vehicles. Utility and miscellaneous developments are fully exempted from electrification requirements. • For accessible parking spaces, the greater of one parking space or ten percent of accessible parking spaces, rounded to the following whole number, must be provided with electric vehicle charging infrastructure that may also serve adjacent parking spaces not designated as accessible parking.	New construction in Kenmore must meet or exceed State Building Code requirements for EV equipment and EV readiness.
ESHB 1793/RCW 64.90.51, Right to Charge	State Legislature	• Prohibits an association of unit owners in a common interest community from placing unreasonable restrictions on installing or using an electric vehicle charging station (EVCS) within the boundaries of an owner's unit or in a designated parking space. • Requires associations to approve an application to install an EVCS if the unit owner meets specified requirements. • Provides that a unit owner is responsible for all costs associated with the EVCS. • Provides a cause of action against an association for willful violations and establishes penalties. A common interest community (CIC) is a form of real estate in which each unit owner or homeowner has an exclusive interest in a Unit or lot and a shared or undivided interest in common area property. In Washington, several statutes govern residential CICs, such as condominiums, cooperatives, leasehold CICs, miscellaneous communities, and plat communities, sometimes referred to as homeowners' associations.	The City of Kenmore should note that these protections are in place and educate residents about their "Right to Charge.”
RCW 46.08.185, Signage, Fees, and Time Limits for Public Charging	State Legislature	To comply with RCW 46.08.185, local agencies must post signage at charging stations consistent with the Federal Highway Administration’s Manual on Uniform Traffic Control Devices. These posted signs must describe charges, fees, and costs (RCW 19.94.560). Drivers who park in designated spaces without charging their vehicles are subject to fines. Municipalities may want to consider “dwell time” or how long residents can park their vehicles when installing charging stations. Some municipalities increase fees if drivers park their cars there for extended periods. Local governments that have installed charging stations in parking garages may charge only for entry but do not add additional charging fees. Other local governments require drivers parked at charging stations to comply with parking regulations already in place; for instance, a driver may receive a ticket if they charge their vehicle for more than two hours in a two-hour parking zone.	Kenmore must meet or exceed these requirements for public charging stations.

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City of Kenmore EV Regulations Landscape (4/4)

KENMORE ENVIRONMENTAL ACTION NOW

CITY OF KENMORE EV REGULATIONS LANDSCAPE

Regulation	Agency	Description	Impacts on Kenmore
ESHB 1793/RCW 64.90.51, Right to Charge	State Legislature	• Prohibits an association of unit owners in a common interest community from placing unreasonable restrictions on installing or using an electric vehicle charging station (EVCS) within the boundaries of an owner's unit or in a designated parking space. • Requires associations to approve an application to install an EVCS if the unit owner meets specified requirements. • Provides that a unit owner is responsible for all costs associated with the EVCS. • Provides a cause of action against an association for willful violations and establishes penalties. A common interest community (CIC) is a form of real estate in which each unit owner or homeowner has an exclusive interest in a Unit or lot and a shared or undivided interest in common area property. In Washington, several statutes govern residential CICs, such as condominiums, cooperatives, leasehold CICs, miscellaneous communities, and plat communities, sometimes referred to as homeowners' associations.	The City of Kenmore should note that these protections are in place and educate residents about their "Right to Charge."
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Goals and Regulations in Surrounding Areas

KENMORE ENVIRONMENTAL ACTION NOW

Washington's Transportation Electrification Strategy (TES), developed by the Electric Vehicle Coordinating Council (EV Council) under the Move Ahead Washington legislation, outlines the state's roadmap to achieve its 2030 greenhouse gas (GHG) emissions goals through transportation electrification. While these regulations may not directly affect Kenmore, staying informed about state initiatives is beneficial for aligning local efforts with broader sustainability objectives. **Key Strategies from the TES Relevant to Kenmore** (Washington State Department of Transportation (WSDOT, 2025):

1. **Incentives for Zero-Emission Medium- and Heavy-Duty Vehicles (MHDVs):**
   - *Example:* The Washington State Department of Transportation (WSDOT) offers grants for installing electric vehicle charging equipment and hydrogen fueling infrastructure along priority corridors, supporting the adoption of zero-emission vehicles.
2. **Promoting Consumer Demand for Battery Electric Vehicles (BEVs):**
   - *Example:* The Zero-Emissions Access Program (ZAP) grant aims to expand access to clean-fuel transportation options, including zero-emission carshare programs in underserved communities, enhancing awareness and adoption of BEVs.
3. **Continued Funding for WSDOT's Zero-Emission Vehicle Infrastructure Partnerships (ZEVIP) Program:**
   - *Example:* WSDOT's ZEVIP provides funding for installing new electric vehicle charging equipment and hydrogen fueling infrastructure along priority corridors, supporting the state's electrification goals.
4. **Community Charging and EV Incentives for Low-to-Moderate Income (LMI) Consumers:**
   - *Example:* The TES includes recommended actions to ensure that the benefits of driving electric vehicles and accessing charging infrastructure are accessible to all Washingtonians, with a focus on equity and environmental justice.
5. **Equitable Access to Charging and Utility-Side Infrastructure Planning:**
   - *Example:* The TES emphasizes the importance of equitable access to charging infrastructure and includes recommendations for utility-side infrastructure planning to support widespread EV adoption across the state.

Aligning Kenmore's local initiatives with the TES's strategies allows the City to access state funding and leverage future programs aimed at EV development. This alignment ensures that Kenmore's efforts contribute to and benefit from the state's comprehensive approach to transportation electrification, fostering a cohesive and effective transition to a sustainable, electric transportation future.

Title 18 – Environmental Sustainability Program

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King County Vehicle Electrification Goals (Title 18 – Environmental Sustainability Program):

The City of Kenmore is located in King County, which has adopted the following vehicle electrification goals under King County Code Title 18 Environmental Sustainability Program:

- A 100% zero-emission revenue bus fleet by 2035;
- A 67% zero-emission ADA paratransit fleet by 2030;
- A 100% zero-emission rideshare fleet by 2030;
- Installation of 125 chargers at King County-owned park and rides by 2030;
- 50% of light-duty vehicles transitioned to electric by 2025 and 100% by 2030;
- 50% of medium-duty vehicles transitioned to electric by 2028 and 100% by 2033;
- 50% of heavy-duty vehicles transitioned to electric vehicles by 2038 and 100% by 2043;
- Installation of 150 chargers by 2030 in county facilities.

(King County, 2024)

Year	Category	Goal Description
2025	Light-Duty Vehicles	50% transitioned to electric
2028	Medium-Duty Vehicles	50% transitioned to electric
2030	Zero-Emission ADA Fleet	67% zero-emission ADA paratransit fleet
2030	Zero-Emission Rideshare Fleet	100% zero-emission rideshare fleet
2030	Light-Duty Vehicles	100% transitioned to electric
2030	Chargers (Park & Ride)	125 chargers installed
2030	Chargers (County Facilities)	150 chargers installed
2033	Medium-Duty Vehicles	100% transitioned to electric
2035	Zero-Emission Bus Fleet	100% zero-emission bus fleet
2038	Heavy-Duty Vehicles	50% transitioned to electric
2043	Heavy-Duty Vehicles	100% transitioned to electric

Return to TOC

Executive Order (EO) 21-04: Zero Emission Vehicle (ZEV)

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Washington State's Executive Order (EO) 21-04 (Washington State Governor, 2021) establishes the following targets, processes, and systems for electrifying state fleet vehicles. Currently, only state agencies are subject to this rule. Still, local government agencies may be required to meet similar targets in the future as more ZEV mandates are rolled out over time to help Washington achieve its emissions reduction targets.

- Fleet electrification targets
  - 100% of light-duty fleets electrified by 2035
  - 40% of light-duty fleets electrified by 2025
  - 75% of light-duty by 2030
  - 100% of medium and heavy-duty fleets electrified by 2040
- Acceptable pathways for fleet electrification
  - Light-duty fleets must be zero-emissions vehicles (ZEV)
  - Medium and heavy-duty fleets may utilize biofuels to reduce greenhouse gas (GHG) emissions until suitable alternatives exist and are available on state contract

Opportunities for Improvement in EV Infrastructure in Kenmore

KENMORE ENVIRONMENTAL ACTION NOW

1. **Bipartisan Infrastructure Law (BIL) – Federal Program.** The BIL allocates significant funding to support EV infrastructure nationwide. **Relevant Funding for Kenmore**:
   - **National Electric Vehicle Infrastructure (NEVI) Formula Program**: Provides funding to state and local governments to support EV charging infrastructure. It is important to note however, at the time of this report, the Federal Administration has put an immediate freeze on these funds (Federal Highway Administration (FHWA), 2024).
   - **Community Charging Grants**: Part of the BIL, these grants are designed to fund the installation of EV chargers in underserved and rural areas.
   - **Washington State** received over **$71 million** for NEVI through the BIL to support the expansion of EV charging infrastructure across the state. (Washington State Department of Transportation, 2025)
2. **Washington State Clean Energy Fund (CEF):** The CEF offers competitive funding to support clean energy projects, including EV charging infrastructure. The Washington State Department of Commerce administers these grants.
   - **Clean Energy Fund (CEF) Round 5**: Offers up to **$1 million** for projects that install EV chargers in underserved areas. Kenmore could apply for funding to expand charging infrastructure in key areas, especially near transit hubs and multi-family housing.
   - **Community Charging Projects**: Projects that expand public access to EV chargers in underserved communities may receive priority funding under CEF. (Washington State Clean Energy Fund, 2025)
3. **Washington State Department of Commerce – EV Infrastructure Grants:** The Department of Commerce offers grants to local governments, businesses, and other entities to develop EV charging infrastructure. These grants are typically aimed at increasing access to charging in underserved areas. Relevant Funding for Kenmore:
   - **EV Charging Infrastructure Grants**: These grants can support the installation of EV charging stations at strategic locations like government facilities, schools, or transit hubs in Kenmore.
   - **Focus on Underserved Areas**: Priority is often given to projects in low-income or underserved communities. Kenmore could target areas with limited access to charging infrastructure, aligning with the city's equity goals. (Washington State Department of Commerce EV Grants, 2024)
4. **King County's Zero Emissions Task Force Incentives:** King County's Zero Emissions Task Force works to provide financial incentives for local governments and businesses to develop charging infrastructure. The Task Force focuses on supporting the transition to zero-emission vehicles, including electric cars and buses, through various funding opportunities Relevant Funding for Kenmore:
   - **King County EV Infrastructure Grants**: The County offers funding to local municipalities and businesses to expand EV infrastructure, including installing public charging stations. Kenmore could apply for these incentives to support charging infrastructure across the city.
   - **Partnerships with Private Sector**: King County also incentivizes partnerships with private businesses to install EV charging stations, especially in shopping centers, hotels, and offices, which Kenmore could leverage for additional infrastructure. (King County Zero Emissions Task Force, 2023)

By leveraging these programs, along with others listed in this report, the City of Kenmore can access valuable funding and incentives to accelerate the development of a comprehensive EV charging network. These resources will enable the city to meet its sustainability goals, support the transition to electric vehicles, and provide equitable access to charging infrastructure.

Barriers & Opportunities EV Infrastructure – Financial

KENMORE ENVIRONMENTAL ACTION NOW

Financial Burden of EV Transition

Transitioning to EVs is critical for reducing carbon emissions but comes with a financial challenge. On average, EVs are approximately 10% more expensive than traditional ICE vehicles, with a typical price difference of around **$7,952**. While this price gap is decreasing, it remains a barrier for many consumers. Despite these higher upfront costs, EVs provide significant long-term savings, including:

- **Lower operating costs**: EVs expenses to charge are less than expenses to fuel gasoline-powered vehicles.
- **Reduced maintenance**: EVs typically require half the maintenance costs of ICE vehicles, according to Consumer Reports.

However, the financial barriers remain significant due to:

- Higher upfront costs and additional expenses, such as:
  - Registration fees: $150 for EVs and $75 for PHEVs.
- Charging infrastructure costs:
  - **Level 2 chargers**: These are typically priced around $4,000 or more, while at-home Level 2 chargers are significantly more affordable. The unit usually ranges from $300 to $800, and installation costs vary depending on the home's electrical setup (EnergySage, n.d.).
  - **DC Fast Chargers (DCFC)**: Can cost up to **$80,000**.
- Installation requirements: Many charging stations require electrical upgrades, adding to the total cost.

These financial factors present challenges for Kenmore, the city, and its residents as it transitions to EVs.

Mitigating the Financial Burden

- To ease the financial challenges associated with EV adoption, **Kenmore** should explore available **federal, state, and local funding** opportunities. Early identification and alignment with these funding programs, as outlined in the **Funding Opportunities** section, will allow the city to maximize support during the implementation of the EVIP.
- Kenmore does not need to shoulder the full cost of EV charging infrastructure. By strategically deploying funding, the city can:
  - Prioritize equitable charging access in underserved areas, including multi-family housing.
  - Attract private investment in public charging infrastructure, demonstrating community demand and creating opportunities for collaboration.
- Additionally, leveraging publicly owned land for charging stations can help stimulate private sector investment, furthering the city's goal of expanding EV infrastructure while effectively managing costs.

Barriers to EV Infrastructure- Community Participation in EV Adoption

KENMORE ENVIRONMENTAL ACTION NOW

Community Participation in EV Adoption

One of the key challenges Kenmore faces in transitioning to EVs is fostering community support for EV adoption and ensuring the strategic placement of public charging infrastructure. Community engagement is vital for the success of the City's electric vehicle transition, as it not only facilitates the deployment of charging stations but also aids in securing funding through public support, taxes, and grants.

Importance of Community Involvement

- Without strong community backing, the installation of EV chargers may face opposition, which could delay or hinder the implementation of necessary infrastructure. For this reason, Kenmore must prioritize effective communication to highlight the benefits of EV adoption, such as:
  - Improved air quality
  - Lower vehicle maintenance costs
  - Available state and federal subsidies
- Informing residents about these advantages is crucial for gaining their support. Additionally, explaining how state electrification mandates, like the **Clean Vehicles ZEV Sales Program**, will impact vehicle owners in the future is essential for aligning community expectations.

Educating and Engaging Residents

- It's important to dispel misconceptions within the community, such as the belief that only EV owners should care about the planning and placement of charging stations. With **increasing EV sales** driven by state mandates and incentives, many residents will eventually own EVs, making their input essential today. Moreover, as EVs become more affordable, programs like **Washington's EV Instant Rebate** will help lower-income households access cleaner transportation options. Kenmore must ensure that all residents, particularly those in low-income communities, are aware of these programs and can benefit from them.

Addressing Siting Concerns and Equity

- Community engagement should also address concerns around EV charging stations' locations. The **Transportation Electrification Strategy (TES)** emphasizes the importance of ensuring equitable access to EV infrastructure. Special attention should be given to avoiding the marginalization of vulnerable communities, including Black, Indigenous, People of Color (BIPOC), and low-income groups, in the planning and placement of chargers. As part of this EVIP, Kenmore solicited feedback from diverse community members to ensure that considerations were given for charging resources distributed fairly and in a way that meets the needs of all residents.

Building Awareness for Long-Term Success

- Even residents who don't currently own EVs will be impacted by the transition to electric vehicles in the near future. Education and engagement are crucial for building long-term support. As the EV market expands and becomes more accessible, Kenmore's proactive approach in involving residents in the planning process will help ensure a successful and inclusive EV transition.

Community Participation in EV Adoption- Opportunities

KENMORE ENVIRONMENTAL ACTION NOW

Kenmore has made strides in engaging residents and gathering feedback while developing this EVIP through in-person and online channels. As the plan nears formal adoption, the City will continue to engage the community by educating residents about the impacts of transportation electrification in their daily lives. Specifically, the City should focus on helping residents understand how state programs like the Clean Vehicle Program will influence future vehicle purchase options, ensuring they know their role in shaping the EVIP.

In addition, Kenmore should increase awareness about available incentives and rebates that can assist residents in leasing or owning EVs with particular emphasis on the state's EV Instant Rebate program. Providing educational materials and clear guidance on these benefits will enable all community members, including low-income households, to access opportunities for greater EV adoption.

The **Transportation Electrification Strategy (TES) Engagement Plan** offers several key recommendations for community engagement that Kenmore should adopt:

- **Educational Materials**: Create easy-to-understand materials that explain how electrification aligns with community values and the state's electrification priorities. This includes information on how electrification will benefit air quality, cost savings, and reduce reliance on fossil fuels.
- **Partnering with Community-Based Organizations (CBOs)**: Collaborate with CBOs and local leaders to ensure inclusivity, reach underrepresented groups, and provide support to overcome participation barriers. This is particularly crucial in engaging low-income, BIPOC, and rural communities.
- **Media Outreach**: Raise awareness through various media channels, including newsletters, social media, and local newspapers. Translate materials to ensure broad accessibility for non-English-speaking residents.
- **Community Events**: Host informational booths at local community events, such as libraries, farmers markets, and fairs, to raise awareness about EV incentives. This includes providing information on the EV Instant Rebate program and other available state incentives.
- **Ride-and-Drive Events**: Organize ride-and-drive events to offer residents hands-on experience with electric vehicles. Distribute educational materials like flyers, fact sheets, and FAQs to promote EV incentives and available charging options.
- Kenmore should adjust its educational initiatives to maintain engagement as the EV landscape evolves. Additionally, the city should seek to partner with organizations that administer programs like the EV Instant Rebate to expand outreach and build community interest. Collaborative ride-and-drive events have proven effective in increasing awareness and fostering interest in EV adoption.

Barriers to EV Infrastructure - Gaps in Access to At-Home Charging and EV Ownership

KENMORE ENVIRONMENTAL ACTION NOW

One significant challenge to achieving equitable EV adoption is the lack of access to at-home charging solutions for residents in multi-unit housing, such as apartments and condominiums. While community engagement is crucial for determining optimal locations for public charging stations, addressing the barriers preventing renters and multi-family housing residents from accessing home charging infrastructure is equally important for promoting widespread EV adoption.

- **Homeowners' Associations (HOAs)**: HOA rules may restrict the ability of residents of apartments or condominiums to install EV chargers, which may prohibit alterations to common areas or individual units.
- **Rental Restrictions**: Renters face even greater challenges, as rental agreements may prohibit modifying the property, such as installing an EV charging station(s).
- **Limited Parking Availability**: Many multi-family housing units lack designated parking spaces, which makes it difficult to install personal charging infrastructure. The absence of dedicated parking stalls further complicates the installation process for residents wishing to charge EVs at home. These issues create a significant accessibility gap between residents of single-family homes, who can install home chargers with relative ease, and residents of multi-family housing, who often lack both the infrastructure and permission to set up their own charging solutions.
- **Economic Impact:** For renters and multi-family housing residents, reliance on public charging stations, which are generally more expensive than home charging, makes EV ownership less financially feasible. On average, charging at public stations is more expensive than at home. This pricing disparity is particularly burdensome for mid- and low-income residents, making EV adoption more challenging and limiting access to the benefits of electrified transportation.

Solutions and Recommendations: To address this gap and promote equitable EV adoption, Kenmore should explore innovative solutions that provide accessible and affordable charging options for residents in multi-family housing, including:

- **Installing Public Chargers in Multi-Family Areas**: Targeted installation of public chargers in or near multi-family housing complexes can alleviate the lack of home charging options. Prioritizing high-demand areas, such as near transit hubs or commercial zones, can also help increase access.
- **Supporting Charging Infrastructure for Renters and HOAs**: Kenmore should work with local HOAs to develop guidelines that allow residents to install chargers or set up shared charging stations in common areas. Local legislation could be adopted to support the installation of EV chargers by renters or in HOA-managed properties.
- **Partnering with Developers**: Future housing developments should include provisions for EV charging infrastructure. Kenmore could incentivize developers to ensure that new multi-family buildings are EV-ready, integrating charging stations or the necessary electrical capacity for future installation.
- **Incentive Programs**: Kenmore could explore financial incentive programs that assist multi-family housing owners or renters install charging stations. Examples like the state's EV Charging Infrastructure Grants or programs like Washington's EV Instant Rebate could be expanded to target these underserved residents.

Opportunities to bridge the Gaps in Access to At-Home Charging and EV Ownership

KENMORE ENVIRONMENTAL ACTION NOW

Kenmore has a significant opportunity to increase access to at-home EV charging, particularly for residents of multi-family housing units. By expanding and enhancing the city's EV readiness codes and bolstering protections for the right to charge, Kenmore can ensure that all residents, regardless of housing type, have equitable access to EV infrastructure.

Expanding on the State's Building Code for EV Readiness

- Washington State's current building code requires new multi-family residential buildings to designate at least one parking space or 10% of total parking spaces with wiring to accommodate EV charging, with an additional 20% of spaces being "charger station-ready" for future installation. While these requirements are a step forward, Kenmore can go further to ensure greater access to charging infrastructure.
    - **King County Ordinance 19316:** King County has adopted more stringent measures, such as requiring new multi-family construction, substantially improved buildings, and expanded parking lots to dedicate at least 10% of parking spots to EV charging stations, with an additional 25% set aside for future installation.

Opportunity for Kenmore: Specific actions Kenmore could take include:

- **Ensure that designated parking spaces are connected to an individual unit's electricity meter**, enabling residents to have reliable access to electricity for charging their EVs. This approach preserves consumer charging level choices and allows for more flexible installation options. Allow for shared or common-space charging solutions when designated parking spaces are unavailable. For instance, California's policy allows renters and owners to install EV chargers in shared parking areas when they do not have their own designated parking space. Similarly, Connecticut's policy permits the creation of new parking spaces to accommodate EV charging, with shared costs for installation. These measures would help increase charging availability for renters and those in multi-family housing units and ensure that the transition to electric vehicles is accessible to all.

California's Right-to-Charge Policy

- California's legislation mandates that renters and unit owners can install EV chargers in shared parking areas when a dedicated space is unavailable. This policy ensures that renters can access charging infrastructure even if they do not have an exclusive parking spot.

Connecticut's EV Charging Policy

- Connecticut's regulations allow new parking spaces to accommodate EV charging, enabling cost-sharing among residents for charger installation. This policy ensures that renters and homeowners in multi-family buildings can benefit from shared infrastructure.

By adopting these policies and expanding EV readiness codes, Kenmore can ensure that its residents, regardless of housing type, have access to reliable and equitable EV charging infrastructure. This approach will enhance the city's sustainability goals and make EV adoption accessible to all residents, including renters and those in multi-family housing.

Opportunity Expanding EV Readiness Codes and the Right to Charge to Ensure Equitable Distribution of EV Chargers

KENMORE ENVIRONMENTAL ACTION NOW

Kenmore has the opportunity to bridge the gap between homeowners, who typically have access to private garages for easy charger installations, and multi-family housing residents, who face unique challenges with shared property rules. By adopting policies that address these challenges, Kenmore can make EV adoption more accessible to renters and condo owners, many of whom may belong to lower-income or marginalized communities. This will not only contribute to social equity but also help accelerate broader EV adoption in the city. One key strategy for ensuring equitable access to EV charging infrastructure is to focus on strategic siting in or near affordable and multi-family housing areas. Kenmore can integrate charging infrastructure into locations that are easily accessible for residents of these housing types, making the transition to EVs more feasible for them. **Examples of Potential Strategies:**

Install chargers on City-owned property adjacent to multi-family housing: By leveraging publicly owned land, the city can ensure that charging infrastructure is readily accessible to residents in multi-family housing without relying on private property owners or HOA approval.

Explore pole charging on utility poles: Utilizing existing infrastructure, such as poles for street lighting, to install EV chargers is another effective solution. Public utility companies, such as Puget Sound Energy (PSE), offer programs like the **Up & Go for Public–Pole Charging program**, which provides incentives of up to $250,000 per charging location for public pole-mounted EV chargers. Kenmore could take advantage of this funding opportunity to enhance the accessibility and affordability of EV charging in these areas. URL: PSE Up & Go for Public – Pole Charging Program

- These strategies can ensure that charging infrastructure is located not only in affluent areas but also in neighborhoods that need it most, especially those with higher concentrations of low-income residents and multi-family housing.

Washington's TES Strategies for Providing Equitable Access to Charging

- Kenmore can also draw from the TES to ensure that its EV infrastructure plan promotes equitable access to charging, particularly in historically marginalized communities. The TES includes strategies to reduce barriers to EV adoption in lower-income and underserved communities.

Opportunity Expanding EV Readiness Codes and the Right to Charge to Ensure Equitable Distribution of EV Chargers

KENMORE ENVIRONMENTAL ACTION NOW

Key TES Strategies Include:

- **Subsidies and rate protections for lower-income EV owners**: By offering subsidies for EV purchases and rate protections for consumers using private chargers, Kenmore can make EV ownership more accessible to low-income residents. This could be particularly impactful for residents of multi-family housing who may be discouraged from adopting EVs due to upfront costs and limited access to affordable charging options.
- **Public or community-owned chargers**: The TES emphasizes the importance of public or community-owned chargers to ensure everyone can access EV infrastructure, regardless of income or housing type. Kenmore could consider investing in public charging stations, especially in low-income and overburdened neighborhoods, to ensure equitable access for all residents.
- **Consumer protections to ensure fair pricing and alternative payment methods**: The TES also recommends establishing consumer protections to guarantee that EV charging prices are fair and that users can access various payment options. This would help alleviate affordability and accessibility challenges of EV charging for low-income residents.
- **Equitable distribution of chargers**: The TES advocates for strategically placing chargers in overburdened neighborhoods, ensuring that local communities benefit from sufficient access to charging infrastructure. By prioritizing these areas, Kenmore can help bridge the accessibility gap and ensure that underserved communities are not left behind in the transition to electric mobility.
- **Maintenance and repair of chargers**: The TES also stresses the importance of maintaining and repairing chargers, particularly high-speed chargers, where residents depend on public transportation or EVs for their livelihoods. Ensuring reliable access to EV charging stations is critical to maintaining the effectiveness of the infrastructure.

Recommendations for Kenmore

- By implementing the strategies outlined in the TES and focusing on the equitable distribution of EV chargers, Kenmore can ensure that its EV Infrastructure Plan (EVIP) meets the needs of its most vulnerable residents. When evaluating potential sites for public charging infrastructure and considering funding distribution for EV adoption projects, Kenmore should ensure that efforts are inclusive and prioritize underrepresented communities.
- This approach will help Kenmore:
    - Ensure **wider EV adoption** among low-income, multi-family, and marginalized communities.
    - Support **environmental justice** by reducing disparities in access to EV infrastructure and promoting equitable participation in the clean transportation transition.
    - Align its policies with the **state's electrification goals**, including those in the TES, emphasizing the importance of equitable access to EV charging for all socioeconomic groups.
- By prioritizing equity in deploying EV charging infrastructure, Kenmore can create a more sustainable and just community while accelerating the adoption of electric vehicles across the city.

Barriers & Opportunities EV Infrastructure – Severe Weather

Severe weather conditions may challenge adopting and consistently using EVs in Kenmore. The region's climate, marked by cold temperatures and the increasing threat of natural disasters such as wildfires, can negatively impact EV performance and the functionality of charging infrastructure. Given these events are unlikely, it is still important to cover the possibility.

Impact of Cold Temperatures on EV Performance

Kenmore's location in western Washington means it is susceptible to cold temperatures, which can temporarily reduce the battery range of electric vehicles by 10% to 40%. In colder climates, EVs experience several challenges:

- **Reduced Battery Efficiency**: Cold weather affects the chemical reactions inside EV batteries, decreasing their efficiency. This results in shorter driving ranges per charge. EVs in temperatures below freezing typically experience a range reduction, which can create range anxiety for residents, especially during winter months or unexpected cold snaps.
- **Increased Charging Times**: EV batteries need more time to reach optimal charging temperatures in freezing conditions. As a result, charging times can increase up to three times longer than usual. This can discourage EV adoption and use, as residents may fear being stranded with insufficient charge due to longer charging times in colder weather.
- The fear of diminished battery performance and slower charging times could limit the overall adoption of EVs in Kenmore, especially among residents who depend on their vehicles for daily commuting or trips up and through the Cascade mountains.

Challenges from Natural Disasters and Wildfires

In addition to cold temperatures, Kenmore is increasingly at risk from natural disasters, such as wildfires, which pose additional challenges to EV adoption and infrastructure.

- **Power Outages**: Recent wildfires have affected Washington State and the Kenmore area and can damage or disrupt the electrical grid. These outages may prevent residents from charging their EVs, particularly during an emergency when access to transportation is crucial. EVs cannot be charged without power, leaving residents with limited mobility during power outages or natural disasters.
- **Transportation Disruptions**: Wildfires and other natural disasters can block roads, making travel unsafe or impossible. For those reliant on electric vehicles, lack of accessible charging infrastructure or fully charged EVs could exacerbate these mobility issues. This is particularly concerning during emergency evacuations, when having a fully charged vehicle is essential for public safety. The inability to charge EVs in such circumstances could prevent residents from reaching safety or accessing vital services.
- The increasing frequency of wildfires and their impact on the electrical grid and infrastructure are significant barriers to EV adoption. This situation underscores the importance of planning for resilience in the region's EV infrastructure, ensuring that Kenmore residents are not left vulnerable in times of crisis.

Solutions and Recommendations

To mitigate these weather-related barriers and foster greater EV adoption, Kenmore should consider the following solutions:

- **Resilient Charging Infrastructure**: Invest in backup power systems for public charging stations, such as battery storage, to ensure charging availability during power outages. This would allow residents to charge their EVs during emergencies, even when the grid is down. For instance, **PSE's Clean Energy Transformation Act (CETA)** supports clean energy projects that could help make the electric grid more resilient and improve energy security during natural disasters.
- **Weather-Resilient Charging Stations**: Explore the installation of charging stations equipped to withstand severe weather conditions, including cold temperatures and wildfire-related disruptions. For example, designing charging stations with weatherproof covers, heating elements for cold weather, and alternative power sources could ensure the infrastructure remains functional during extreme weather events.
- **EV Readiness for Emergency Situations**: Encourage installing backup power systems and off-grid solutions for emergency evacuation zones or critical community centers. Having a charging infrastructure that operates independently of the main power grid could improve residents' ability to evacuate safely during a natural disaster. Diesel, natural gas, and propane generators are affordable and reliable, while solar power paired with energy storage offers a cleaner, though pricier, option. Exploring a mix of backup technologies like hydrogen fuel cells and mobile generators can further enhance the City's EV infrastructure, keeping Kenmore charged and ready, no matter the storm.

By addressing the weather-related challenges posed by Kenmore's unique climate, the City can ensure that EVs remain a reliable and feasible option for residents, even during extreme weather or natural disasters. These efforts will also help increase the overall adoption of EVs while improving the resilience and safety of the City's transportation infrastructure.

Barriers & Opportunities EV Infrastructure – Safety

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The installation and use of EV chargers present several safety concerns, including fire risks, electric shock, and physical hazards such as tripping. Though EVs are generally considered safer than traditional ICE vehicles, the infrastructure and components associated with EV charging require careful attention to ensure safety and reduce risks to users and maintenance staff.

Risks of Fire and Electric Shock

While EVs are **less likely to catch fire** than ICE vehicles (AutoinsuranceEZ, 2022), there are still safety risks associated with charging infrastructure:

- **Fire Risks**: Damaged cables or frayed wiring can lead to electrical fires. Lithium-ion batteries, while generally safe, can catch fire in rare instances, and such fires are difficult to extinguish without specialized equipment. While the likelihood of an EV fire is low, any malfunction in the charger or wiring still poses a significant threat.
- **Electric Shock**: Faulty wiring or exposed cables can cause electric shocks to users or maintenance workers, posing serious injury risks. Public charging stations, especially those located outdoors, are particularly vulnerable to weather-related damage, increasing the likelihood of electric shock incidents.
- **Tripping Hazards**: Improperly stored or coiled charging cables can create tripping hazards, particularly in public areas. Ensuring that cables are securely stored or are retractable can minimize the risk of accidents and injuries in high-traffic locations.
- **Cybersecurity Risks:** In addition to physical safety hazards, public EV chargers are susceptible to **cyber-attacks**, which can compromise users' sensitive data, such as credit card information. As EV charging stations are increasingly integrated with digital payment systems, maintaining robust cybersecurity measures is critical to protecting both the infrastructure and users' personal information.

Opportunity: Safety Mitigation

Kenmore can take several steps to reduce the risks associated with EV charging infrastructure by implementing safety mitigation measures during the installation, maintenance, and operation of charging stations.

- **Updated Permitting and Design Standards**: Kenmore can update its permitting and design standards for EV chargers to ensure that high-quality electrical connections are used. These updated standards should also address environmental concerns, such as exposure to harsh weather conditions. For instance, chargers could be equipped with **water-tight enclosures** to prevent water damage during rainy weather or freezing temperatures, reducing the likelihood of electrical failures and fire hazards.
- **Safety of EVs Compared to Gasoline-Powered Vehicles**: While some drivers remain concerned about the safety of EVs due to the potential for battery fires, it's important to note that EVs are statistically **much safer than gasoline-powered cars**. According to AutoinsuranceEZ (2022), there are only **25.1 fires per 100,000 electric vehicles** compared to **1,529.9 fires per 100,000 gasoline vehicles**. Newer EV models are also equipped with advanced safety features such as **collision warnings**, **driver assistance systems**, and **automatic crash notifications**, which further reduce the likelihood of accidents and fires.
- **Training for City Staff and First Responders**: Kenmore can improve safety by implementing training programs for city staff, maintenance workers, and first responders. These programs would ensure that individuals can identify potential hazards, such as **fraying cables**, and take appropriate action before they escalate. Training staff to handle charging cables properly, such as using **retractable cords** to avoid tripping hazards, will help reduce accidents at charging stations.
- **Cybersecurity Protocols**: To address the threat of cyber-attacks, Kenmore should establish strong **cybersecurity protocols** for public EV chargers. This could include encrypting user payment information, ensuring that charging stations comply with **Payment Card Industry Data Security Standards (PCI DSS)**, and conducting regular security audits to protect sensitive data from potential breaches.

By adopting these mitigation strategies, Kenmore can create a safer EV charging environment, reducing physical and cybersecurity risks. These proactive measures will not only protect users but also foster greater public confidence in the City's EV infrastructure.

Barriers & Opportunities EV Infrastructure – Vandalism

KENMORE ENVIRONMENTAL ACTION NOW

Vandalism poses a significant threat to the security and functionality of electric vehicle (EV) charging stations. As the adoption of EVs increases, so does the frequency of crimes such as **copper cable theft**, which is driven by the high value of copper. These thefts are becoming more prevalent as the energy transition causes copper prices to rise. In addition to theft, charging stations are also vulnerable to other damage, including **vehicles hitting chargers**, **running over cables**, or improper use of chargers. Such incidents can disrupt the availability of charging stations and lead to costly repairs, hindering the city's efforts to develop a reliable EV infrastructure.

Impact of Vandalism

Copper Theft: The rising value of copper has increased **cable theft** at charging stations. Thieves target the copper wiring in EV chargers, which can be sold for profit. As the demand for EVs and associated infrastructure grows, this type of crime is expected to continue and may impact the availability of functioning chargers.

Physical Damage: Charging stations are also at risk of physical damage. **Vehicles hitting chargers** or **running over charging cables** can render equipment inoperable or lead to costly repairs. Such damage disrupts the public's ability to rely on EV infrastructure, creating barriers to EV adoption.

Improper Use: Misuse of chargers, including **blocking charging stations** or failing to handle cables properly, can also result in damage. This misuse can lead to additional wear and tear, further increasing maintenance costs and reducing the reliability of the infrastructure.

Vandalism Prevention

Kenmore can take several proactive steps to reduce vandalism and mitigate the risks associated with theft and damage at EV charging stations. These measures include improving the physical security of charging stations, implementing damage-reducing features, and ensuring quick repairs when incidents occur.

Secure Locations for Chargers: One effective strategy is to install chargers in **secure, well-lit areas** that are not easily accessible to thieves or vandals. For example, placing chargers behind **gates**, **fences**, or within **buildings** can help deter theft and damage. Installing security cameras or hiring security personnel to monitor these locations can further enhance protection.

- **Protective Barriers**: Kenmore could install bollards or wheel stops around charging stations to prevent vehicle damage. These physical barriers would protect charging equipment from being hit or run over by vehicles, reducing the risk of damage and the need for costly repairs.
- **Durable and Replaceable Equipment**: Another strategy is prioritizing purchasing **chargers with easily replaceable parts**. Chargers with **retractable cables** can also deter theft, as they are stored securely when not in use, making it more difficult for thieves to access the valuable copper wiring.
- **Operations and Maintenance (O&M) Agreement**: To ensure the timely repair of damaged chargers, Kenmore can establish an **O&M agreement** with a vendor. This agreement would guarantee that chargers are repaired quickly, reducing downtime and ensuring the availability of charging stations for residents. Regular maintenance checks could also help identify vulnerabilities before they result in significant damage.
- By implementing these measures, Kenmore can reduce the risk of vandalism, theft, and physical damage to its EV infrastructure, making it more reliable and accessible for all residents.

Barriers & Opportunities EV Infrastructure – Utility Engagement

KENMORE ENVIRONMENTAL ACTION NOW

Utility/Location Constraints

The installation of EV chargers presents several challenges related to the **availability of sufficient power capacity** and **site-specific constraints**. Many locations in Kenmore may not have the necessary electrical infrastructure to support the installation of charging stations. If a site lacks the required power capacity, utilities may not be able to provide the necessary service, leading to additional costs for upgrades or modifications to the existing infrastructure. Other potential obstacles include **avoiding underground utilities** and ensuring the installation site complies with **Americans with Disabilities Act (ADA) regulations**. These constraints can delay installation timelines and increase the overall cost of building EV infrastructure.

Impact of Utility and Location Constraints

- **Insufficient Power Capacity**: Some locations may lack the electrical capacity to power EV chargers, especially high-power chargers like **DC fast chargers**. If the power demand cannot be met, additional infrastructure, such as upgrading transformers or installing new circuits, could be required, increasing both time and cost.
- **Underground Utilities**: Many sites face the challenge of **underground utilities**, which can make the installation of charging stations more complex. Excavating near utilities can require extra planning, coordination, and cost, further complicating the deployment process.
- **ADA Compliance**: Another critical consideration is ensuring charging stations comply with ADA accessibility standards. Sites must be designed with accessibility in mind, ensuring that individuals with disabilities can safely and conveniently access the chargers. ADA compliance may involve adjusting the layout of parking spaces or making structural modifications to the installation site, which can add additional costs and complexity.

Engagement with PSE

- Early and proactive engagement with PSE is essential to overcome these utility and location constraints. The project team and the City have worked closely with PSE to ensure any recommended chargers are strategically located in areas with sufficient electrical capacity and minimize the risk of encountering costly and time-consuming obstacles during installation. *PSE was foundational, and it is recommended that Kenmore continue to collaborate closely with PSE as the project continues.*
- **Identifying Grid Constraints**: PSE provided **local grid constraints** and helped determine where there is sufficient electrical capacity to support EV chargers. By understanding these limitations early on, Kenmore can make informed decisions about where to place charging stations and avoid potential delays.
- **Assessing Available Capacity**: Engaging with PSE allows Kenmore to assess the **available capacity** at potential charging locations, ensuring that the selected sites can accommodate the electrical demands of EV chargers without requiring significant upgrades to the local grid infrastructure.
- **Guidance on Optimal Locations**: PSE can assist in identifying the **optimal locations** for charging stations based on factors like grid capacity, proximity to high-traffic areas, and alignment with broader City goals for EV adoption. This helps Kenmore deploy charging stations in the most effective locations, maximizing accessibility for residents and minimizing unnecessary costs.
- **Utility Support**: PSE can also provide **technical support** during the installation of EV charging stations, offering advice on **electrical infrastructure** and helping navigate any regulatory or permitting requirements. Additionally, PSE can offer insights into **electricity rates** and **pricing structures** that may affect the charging stations' cost, allowing Kenmore to make informed decisions about the financial viability of various charging options.

Barriers & Opportunities EV Infrastructure – Building Ownership

KENMORE ENVIRONMENTAL ACTION NOW

Installing EV chargers on privately owned properties can present significant challenges, especially when the building is rented to tenants or used by business owners. **Conflicts between property owners**, **tenants**, and **the City** can complicate the decision-making process and lead to disputes over the installation of EV charging infrastructure. These conflicts may arise due to differences in priorities, concerns about costs, or the impact on existing lease agreements, which can create friction and slow progress on EV adoption. The impact of building ownership issues may include:

- **Property Owner and Tenant Disagreements**: Property owners may be hesitant to allow the installation of EV chargers if they believe it will require significant changes to the building's infrastructure or result in added costs. On the other hand, tenants may desire EV chargers as an amenity but may not have control over installing them. This disconnect between owners and tenants can create barriers to adopting EV infrastructure in multi-tenant buildings.
- **Lease Agreement Challenges**: Commercial or residential lease agreements may contain clauses prohibiting alterations to the property, which could include the installation of EV chargers. These restrictions can create legal obstacles and require renegotiation of terms, which may delay or prevent the installation process.
- **City and Building Owner Coordination**: The city's involvement in planning and coordinating the installation of EV chargers on private properties requires clear communication with building owners. Differences in vision, cost concerns, or perceived liabilities may hinder cooperation and complicate the planning and permitting process.

Opportunity: Stakeholder Engagement

- Early and proactive stakeholder engagement is essential to overcome these challenges and facilitate the installation of EV chargers on privately owned properties. By involving all relevant parties in the planning process, Kenmore can address conflicts and build consensus.
- **Engaging Property Owners Early**: Kenmore should initiate conversations with **property owners, developers and/or potential interested parties** early in the planning phase to inform them about the benefits of EV chargers and the potential for increased property value and tenant satisfaction. By clearly communicating the long-term benefits, such as attracting environmentally-conscious tenants and enhancing property value, the City can help address any concerns and foster cooperation.
- **Building Consensus with Tenants**: For multi-tenant buildings, it is important to engage with tenants to gauge their interest in EV chargers and identify any concerns they may have. Ensuring tenants are informed about available incentives, such as state rebates or utility discounts, can help generate support for installing charging infrastructure.
- **Collaborating with Businesses**: Kenmore should also reach out to businesses that may already be interested in hosting EV chargers. Many businesses see installing charging stations as an opportunity to attract customers, enhance their sustainability efforts, and differentiate themselves in the market. **Engaging business owners** early on and offering incentives or guidance on installation can lead to stronger partnerships and support for broader EV adoption.
- **Inclusive Decision-Making**: Engaging a diverse set of stakeholders, including **city staff**, **business owners**, and community **representatives**, ensures that the installation process is both collaborative and inclusive. This approach helps incorporate various perspectives and concerns, making the decision-making process smoother and more transparent. It also helps ensure that EV infrastructure is deployed equitably across the community, addressing the needs of both residential and commercial properties.
- By involving all relevant stakeholders early on, Kenmore can foster collaboration, build trust, and mitigate conflicts, making the installation of EV chargers on private properties more feasible and efficient. This proactive engagement will help smooth the process and encourage widespread participation in the City's EV infrastructure plans.

Barriers & Opportunities EV Infrastructure -EV Charger Maintenance

KENMORE ENVIRONMENTAL ACTION NOW

EV charger maintenance is critical for ensuring the continuous, reliable, and safe operation of EV charging stations. However, a significant barrier to widespread EV adoption is the **lack of accountability for repairs**. Many chargers remain out of service for extended periods, sometimes months, due to delays in maintenance and repair processes. This issue often arises from:

- **Difficulty Reaching Manufacturers**: In some cases, the manufacturers of the EV chargers may be difficult to contact or may not provide timely responses to maintenance requests. This can result in long wait times for repairs, leaving charging stations unavailable for extended periods.
- **Shortage of Trained Maintenance Staff**: A lack of qualified technicians with the expertise to repair and maintain EV chargers can contribute to delays in addressing issues. As the number of EV chargers increases, the demand for trained staff also grows, but the supply of such personnel may not always keep pace.

This barrier is critical because broken chargers reduce public confidence in EV infrastructure, discourage adoption, and create inconvenience for EV owners who rely on these stations for charging.

mpact of Lack of Charger Maintenance

- **Reduced Availability of Charging Stations**: When chargers are not properly maintained, they may break down and remain out of service for long periods, making it difficult for EV owners to find accessible charging options. This undermines the overall user experience, leading to frustration and reluctance to adopt EVs.
- **Safety Risks**: Unaddressed maintenance issues can lead to safety hazards, such as electrical malfunctions, which could cause fires or electric shocks. Proper maintenance ensures that safety protocols are followed and that charging stations function as intended.
- **Decreased Trust in EV Infrastructure**: Long periods of charger inaccessibility or poor performance can create a perception that EV infrastructure is unreliable, which could discourage potential EV buyers from making the switch.

pportunity: Operations and Maintenance Contracts

Kenmore has a significant opportunity to improve the reliability and longevity of its EV charging infrastructure by **entering into Operations and Maintenance (O&M) contracts** with charger manufacturers or service vendors. These contracts should include provisions that ensure repairs are made promptly and the chargers remain operational over the long term.

- **Contract Duration and Accountability**: Kenmore should establish O&M contracts for **at least five years** post-installation. These contracts should include clear terms that make the vendor responsible for repairs, with **penalties for non-compliance** or delays. This ensures that the vendors are incentivized to maintain the chargers and respond quickly to issues.
- **Routine Maintenance and Inspections**: The O&M contract should also specify **regular maintenance and inspections** of the chargers to identify any potential issues before they escalate into more significant problems. Routine checks can help ensure the chargers continue functioning properly and safely, minimizing downtime and reducing the likelihood of safety risks.
- **Vendor Support and Expertise**: By partnering with a reliable vendor for ongoing maintenance, Kenmore ensures that the city has access to technical expertise and support for any issues that arise. This can help resolve problems quickly, keeping charging stations operational and minimizing user disruptions.
- **Long-Term Reliability**: The O&M contract ensures that chargers are maintained and establishes a framework for **long-term reliability** and **cost-effective maintenance**. The City can also consider warranties or extended service agreements that guarantee the performance of the equipment for the contract duration.

By implementing an O&M contract, Kenmore can ensure that its EV chargers remain functional, safe, and reliable, improving the overall user experience for EV owners and helping to build trust in the City's EV infrastructure. This proactive approach will contribute to the long-term success and expansion of the City's EV initiatives.

Funding

KENMORE ENVIRONMENTAL ACTION NOW

Funding for EV Infrastructure

Kenmore can accelerate its EV infrastructure development by securing **external funding** to reduce the financial burden on local taxpayers. By leveraging strategic partnerships, pursuing grants, and tapping into state and federal programs, the city can access critical financial resources to support its sustainability initiatives. These efforts will not only ensure the long-term success of Kenmore's EVIP but can also position the city as a model for others to follow in advancing EV infrastructure.

The Bigger Funding Picture (Federal):

Public funding plays a crucial role in accelerating EV adoption in the U.S. Several federal programs provide significant financial support for EV infrastructure:

- As previously mentioned, the NEVI Formula Program and the Charging and Fueling Infrastructure (CFI) Discretionary Grant Program are key federal funding sources supporting the installation of EV charging stations across the country. The Bipartisan Infrastructure Law, passed in 2021, allocated substantial funds to create a nationwide network of 500,000 EV chargers by 2030. However, at the time of this report, the federal administration is in the process of reviewing these funds, which may jeopardize federal funding support.

In addition to federal programs, **Washington State** offers several funding opportunities:

- **Charge Where You Are** grant and the **Zero-emission Vehicle Infrastructure Partnerships (ZEVIP) grant** support the installation of **Level 2 chargers** at workplaces, fleets, and multi-unit residential properties.
- The state is also focusing on ensuring **equitable access** to EVs and charging infrastructure through programs like the **EV Instant Rebate**, which provides rebates ranging from $2,500 to $9,000 to low-income residents, and the **Zero-emissions Access Program (ZAP)**, which supports **ZEV carshare programs** in underserved communities.
- In 2023, Washington's EV Charging program allocated **$64 million** in incentives, with **40% directed to overburdened communities**, ensuring that equity is a central focus in expanding EV infrastructure.

Partnering with PSE for localized funding

- In addition to federal and state funding, Kenmore should prioritize funding and grant opportunities, along with collaborative partnerships (such as pilot programs) with PSE. It is strongly recommended that the City of Kenmore work with PSE to provide pilot programs, rebates, and incentives for residential and commercial EV installations, fleet electrification, and infrastructure planning, which are key. PSE's Up & Go Electric program offers specific incentives to assist with these efforts, as detailed on the next pages.

Funding

KENMORE ENVIRONMENTAL ACTION NOW

PSE INCENTIVE PROGRAM	DESCRIPTION
Up & Go Electric for Fleet	Up & Go Electric for Fleet offers different ownership models for installing electric vehicle supply equipment (EVSE). With PSE-owned turnkey service, PSE will take care of planning, design, installation, and maintenance of EVSE, covering most utility infrastructure and facility upgrades necessary to complete the installation. This service includes incentives of up to $12,000 per Level 2 (L2) charging port and up to $125,000 per DC fast charging (DCFC) port, up to $250,000 total per charging location. Or choose the customer-owned option. You'll install, own, and maintain all EVSE while taking advantage of PSE incentives of up to $4,000 per L2 charging port and $60,000 per DCFC port, up to $250,000 total per charging location, to offset the infrastructure upgrades and equipment costs. Customers who directly serve and/or benefit highly impacted communities and vulnerable populations may be eligible to receive additional technical advisory services and special Empower Mobility incentives on both EVSE and electric vehicles. Empower Mobility Incentives: Qualified customers – including community-based organizations, Tribal entities, government agencies, and BIPOC-owned small businesses – who directly serve and/or benefit highly impacted communities and vulnerable populations may be eligible to receive additional technical advisory services and enhanced Empower Mobility incentives on both electric vehicle service equipment and electric vehicles. Kenmore will need to confirm whether the City is eligible for Empower Mobility Incentives with their PSE representative, as the criteria for "vulnerable populations" can be left for interpretation.

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Funding

KENMORE ENVIRONMENTAL ACTION NOW

PSE INCENTIVE PROGRAM	DESCRIPTION
Up & Go for Public	Up & Go Electric for Public allows businesses and communities to easily and affordably provide EV charging by covering up to 100% of the costs to install, maintain, and operate a public charging station. Up & Go Electric for Public incentives cover up to the full cost of equipment and installation for Level 2 and DC fast charging ports and transmission upgrades. Save time on installation and enjoy greater reliability by taking advantage of PSE's electric vehicle expertise. For customers who want more control over the charging station, you'll fully manage installation, ownership, and maintenance. • Direct control over charger purchase, installation, and maintenance options • Ability to receive revenue and Washington State Clean Fuel Standard credits from the station Customers whose sites directly serve or benefit historically underrepresented communities may be eligible for enhanced incentives and services. See the Empower Mobility section below for more information. PSE will manage charging station installation and operation from end to end, including infrastructure upgrades, making this the easiest and most worry-free way to host a public charging station. • Step-by-step, comprehensive planning by PSE's experts: we'll coordinate equipment purchasing, site design, construction, and final inspection for the project to save you time and money • Reliable, high-quality service from charging providers and installers vetted by PSE • Worry-free operations: PSE will manage charger operations. Empower Mobility incentives Customer-owned projects whose sites directly serve and/or benefit historically underrepresented communities may be eligible for enhanced incentives and service. PSE will provide upfront incentives covering 100 percent of charger and installation costs up to $4,000 per Level 2 port and $100,000 per DC fast charging port.

Funding

KENMORE ENVIRONMENTAL ACTION NOW

PSE INCENTIVE PROGRAM	DESCRIPTION
Up & Go Electric for Multifamily	Save up to $40,000 on EV chargers for tenants. Prepare for the future of transportation by installing electric vehicle charging for the use of tenants at low or no cost. PSE's Up & Go Electric for Multifamily program covers up to 100 percent of the cost for qualifying multifamily properties to install and maintain Level 2 charging for their tenants. Applicants can choose the ownership model that best fits their organization's unique needs. **PSE-owned turnkey service** • PSE handles 100 percent of installation and maintenance costs up to $10,000 per Level 2 charging port • Step-by-step, comprehensive planning by PSE's electric vehicle experts: we'll coordinate equipment purchasing, site design, construction, and inspection to save your businesses valuable time and money • Reliable, high-quality service from PSE-vetted charging providers and installers • PSE covers all operational and maintenance needs for ten years **Customer-owned option** • PSE funding offsets 50 percent of equipment and installation costs up to $2,000 per Level 2 charging port • Site hosts design and manage purchasing, installation, and maintenance of all charging equipment **Empower Mobility incentive details.** For these multifamily housing providers, PSE will cover: • 100 percent of charger installation costs up to $10,000 per port under our PSE-owned turnkey service • Or, 100 percent of installation costs up to $4,000 per port under the customer-owned option • Line extension costs for customers who need a new transformer to accommodate charger installation **Empower Mobility EV rebates for shared mobility.** In support of a car, scooter, or bike share program, PSE will also provide up to $7,500 for one light-duty electric vehicle or up to $1,000 per non-road EV —including electric bicycles, scooters, and wheelchairs—up to $7,500.

Funding

KENMORE ENVIRONMENTAL ACTION NOW

PSE INCENTIVE PROGRAM	DESCRIPTION
Up & Go Electric for Workplace	Save up to $120,000 on EV chargers for employees. PSE's Up & Go Electric for Workplace program covers up to 100 percent of the cost for qualifying customers to install and maintain Level 2 charging for their employees. Applicants can choose the ownership model that best fits their organization's unique needs. **PSE-owned turnkey service** • PSE handles 100 percent of installation and maintenance costs up to $12,000 per Level 2 charging port for up to 10 ports per property • Step-by-step, comprehensive planning by PSE's electric vehicle experts: we'll coordinate equipment purchasing, site design, construction, and inspection to save your businesses valuable time and money • Reliable, high-quality service from PSE-vetted charging providers and installers **Customer-owned option** • PSE funding offsets 50 percent of equipment and installation costs up to $2,000 per Level 2 charging port for up to 10 ports per property • Retain autonomy over PSE-qualified chargers, installation partners, and maintenance plans for your organization • Qualified workplaces that serve or employ highly impacted communities and vulnerable populations may be eligible for enhanced incentives through Empower Mobility **Empower Mobility customer-owned incentive.** PSE funds 100 percent of installation and upgrades costs up to $4,000 per Level 2 charging port for up to 10 ports as part of our enhanced Empower Mobility incentives for qualifying workplaces. Kenmore will need to confirm whether the City is eligible for Empower Mobility Incentives with their PSE representative, as the criteria for "vulnerable populations" is rather vague.

List of other Incentives

- **Clean School Bus Program Rebates**: EPA Clean School Bus Program
- **Charging and Fueling Infrastructure (CFI) Discretionary Grant Program**: DOE CFI Discretionary Grant Program
- **Alternative Fuel Vehicle Refueling Property Credit**: IRS Alternative Fuel Vehicle Refueling Property Credit
- **Commercial Electric Vehicle Tax Credit**: IRS Commercial EV Tax Credit
- **Credits for New Clean Vehicles Purchased in 2023 or After**: IRS Clean Vehicle Tax Credits
- **Communities Taking Charge Accelerator**: DOE Communities Taking Charge
- **Climate Pollution Reduction Grants**: EPA Climate Pollution Reduction Grants
- **Energy Efficiency and Conservation Block Grant (EECBG) Program**: DOE EECBG Program
- **National Electric Vehicle Infrastructure (NEVI) Formula Program**: FHWA NEVI Program
- **Washington State EV Charging Program**: Washington State EV Charging
- **Zero Emission School Bus Grants**: EPA Zero Emission School Bus Program
- **Volkswagen Enforcement Action Grants: Charge Where You Are**: Washington State Charge Where You Are
- **Clean Energy Grant Programs**: DOE Clean Energy Grants
- **Zero-Emission Vehicle Infrastructure Partnership Grant Program**: DOE ZEV Infrastructure Grants
- **Washington State Clean Diesel Program**: Washington State Clean Diesel
- **Clean Alternative Fuel and Plug-In Hybrid Vehicles - Sales/Use Tax Exemptions**: Washington State Tax Exemptions
- **Clean Alternative Fuel Commercial Vehicle and Vehicle Infrastructure B&O or PUT Tax Credit**: Washington State Tax Credits
- **Electric Vehicle Charging Reliability and Accessibility Accelerator Grant**: DOE EV Charging Accelerator
- **Zero-Emissions Access Program Grant**: DOE Zero-Emissions Access Program
- **Electric Vehicle Infrastructure (Charging Stations), Batteries, and Fuel Cells – Sales/Use Tax Exemption**: Washington State EV Infrastructure Tax Exemption
- **Green Transportation Capital**: Washington State Green Transportation Capital
- **Washington EV Instant Rebate Program**: Washington EV Instant Rebate
- **Up & Go Electric for Fleet**: Up & Go Electric Fleet
- **Up & Go for Public**: Up & Go Public
- **Up & Go Electric for Workplace**: Up & Go Workplace
- **Up & Go Electric for Multifamily**: Up & Go Multifamily

Please note that program availability and details may change over time. Further details on funding and incentives can be found in the Appendix.

Recommendations for EV Infrastructure Development

KENMORE ENVIRONMENTAL ACTION NOW

EV-Ready Parking for New Developments

- **Recommendation**: For all new commercial and multifamily developments, require **5-10% of parking spaces** to be **EV-ready**, with the necessary **electrical capacity** and **conduit** in place for future charging stations.
- **Example**: Much like **Seattle**'s policy that mandates 20% of parking spaces in new buildings to be EV-ready, Kenmore could tailor this requirement to its own growth and needs.
- **Rationale**: Planning for EV infrastructure from the start helps avoid costly retrofits down the line. By embedding charging readiness into new developments, Kenmore ensures that its buildings are prepared for the growing demand for electric vehicles, making the transition smoother, faster, and more cost-effective.

Incentives for Retrofit and Expansion

- **Recommendation**: Introduce **financial incentives** to support local businesses and property owners in installing or upgrading EV charging stations, focusing on **high-demand areas** such as near **transit hubs** and **city-owned properties**.
- **Example**: Inspired by **Kenmore's Solarize program**, which incentivizes solar panel installations, similar incentives can be offered for EV charging stations, helping to reduce the financial burden for businesses eager to support the city's green transition.
- **Rationale**: Financial incentives will motivate the private sector to increase the number of charging stations, especially in underserved communities. This ensures that all residents and visitors have easy access to the resources they need to charge their vehicles.

Zoning Code Amendments

- **Recommendation**: Revise Kenmore's zoning codes to require **EV-ready infrastructure** in new developments and major renovations, specifying that **5-10% of parking spaces** be set aside for EV charging readiness.
- **Example**: Following Bellevue's lead, Kenmore could mandate EV-readiness based on the size of a development, such as requiring EV-ready spaces for properties with more than **5-10 parking spaces**.
- **Rationale**: By ensuring that parking lots in new developments are equipped to accommodate future EV demand, these zoning amendments will foster consistent growth in EV infrastructure. As Kenmore continues to expand, these changes will make it easier to keep up with technological advancements and evolving transportation needs.

Workforce Training and Partnerships

- **Recommendation**: Collaborate with local educational institutions, such as **University of Washington Bothell**, to create targeted **training programs** for **EV infrastructure installation** and **maintenance**.
- **Example**: By working with local universities and trade schools, Kenmore can ensure that there is a skilled workforce ready to meet the demands of installing and maintaining EV chargers as well as servicing electric vehicles.
- **Rationale**: Developing specialized training programs will not only help create job opportunities for local residents but will also ensure that Kenmore has the skilled labor necessary to support its growing EV infrastructure needs. As demand for EVs rises, so will the need for highly trained professionals to keep the system running smoothly.

Conclusion

KENMORE ENVIRONMENTAL ACTION NOW

Progress Made: Kenmore has made significant strides in preparing for the transition to EVs with the development of this EVIP. Initial community engagement and planning efforts have paved the way for further adoption across the region.

Key Challenges: Despite progress, Kenmore faces challenges such as limited access to at-home charging for residents in multi-family housing, potential weather impacts on EV performance, and the need for equitable infrastructure distribution across the city.

Opportunities for Growth: The city has a unique opportunity to leverage state and federal funding, expand EV readiness codes, and improve stakeholder collaboration to build a robust, inclusive, and future-proof EV infrastructure.

Path Forward: Continued community engagement, partnerships with PSE and other local entities and nonprofits, and a focus on equitable access to charging stations will be critical in ensuring the successful adoption of EVs across Kenmore. Kenmore can become a leader in EV infrastructure and sustainability with a well-developed plan and strategies.

Stakeholder & Community Engagement

Chapter 4

CITY OF KENMORE

ENVIRONMENTAL SERVICES

STAKEHOLDER AND COMMUNITY ENGAGEMENT OVERVIEW

COMMUNITY ENGAGEMENT

SURVEY RESULTS

CONCLUSION

CITY OF KENMORE

ENVIRONMENTAL SERVICES

Stakeholder & Community Engagement Methodology

KENMORE ENVIRONMENTAL ACTION NOW

1. Interviews with Staff and Committee Members

We conducted in-depth interviews with key staff members and relevant committee representatives. These discussions were designed to capture expert insights on specific project goals, challenges, and opportunities. The interviews focused on understanding the perspectives of individuals directly involved in the project's planning and execution, as well as their experience with previous initiatives. By tapping into their knowledge, we identified potential barriers to implementation and ensured alignment between internal stakeholders and the broader community objectives.

2. Community Engagement Through In-Person and Virtual Events

A combination of in-person and virtual community engagement events was held to ensure broad accessibility and inclusivity. In-person meetings took place at central community locations, such as libraries and town halls, where residents could meet face-to-face with project leaders, ask questions, and voice their concerns. Virtual events were equally important in providing access to those unable to attend in person due to time constraints or mobility issues. These online events utilized interactive tools such as live polls, Q&A sessions, and breakout discussions to encourage participation from diverse groups, ensuring that all voices were heard, regardless of location or circumstance.

3. Surveys and GIS Mapping for Data Collection

A comprehensive survey was distributed to gather quantitative and qualitative data from a broad cross-section of the community. The survey included multiple-choice questions and open-ended prompts, allowing residents to provide detailed feedback on their concerns, preferences, and suggestions for the project. Additionally, we employed Geographic Information System (GIS) mapping to allow residents to pinpoint specific areas of interest, such as locations where they would like to see infrastructure improvements or where they encounter challenges related to transportation. Combining these tools allowed us to collect geographically relevant data, offering a clear picture of community needs based on location and demographic factors.

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Stakeholder & Community Engagement Purpose

KENMORE ENVIRONMENTAL ACTION NOW

Stakeholder and community engagement was crucial in the creation of this EVIP for several reasons not limited to:

- **Building Trust and Support**: Engaging the community fosters transparency and trust. When residents, business owners, and other stakeholders feel included in the decision-making process, they are more likely to support and adopt the plan.
- **Identifying Local Needs and Concerns**: Every community is unique. Through engagement, Kenmore can better understand local needs, such as where charging stations are most needed, concerns about accessibility, or any potential resistance to EV adoption. Input from a diverse range of community members ensures the plan addresses real issues.
- **Promoting Equity**: Engaging historically underserved communities is essential for equitable access to EV infrastructure. Community engagement ensures that marginalized and low-income groups have a voice in the process and are not left behind in the transition to electric vehicles.
- **Improving Implementation Success**: When key stakeholders, such as local businesses, utility companies, and property owners, are involved early, the implementation process is smoother. Their insights help overcome practical barriers, like zoning issues or technical constraints, and create stronger, more efficient collaborations.
- **Maximizing Outreach and Awareness**: Effective community engagement can enhance awareness of EV adoption benefits, rebates, and incentives. By reaching out through various channels, the City can increase participation in EV programs and help residents make informed choices about adopting electric vehicles.

Ultimately, engaging stakeholders and the community in the EVIP process makes the plan more inclusive, practical, and successful, ensuring that the transition to EVs benefits everyone in Kenmore. This EVIP was created with input from a diverse group of local agencies, including an Advisory Committee composed of stakeholders from various sectors. In addition to the City's Diversity Equity Inclusion and Accessibility (DEIA) Committee, feedback was gathered through stakeholder listening sessions with City departments, a public survey, an in-person community engagement event, and two virtual community engagement sessions. The participants in this process brought valuable insight, technical expertise, and lived experiences essential for shaping the EV adoption scenarios, needs analysis, and implementation recommendations for the EVIP.

Community Engagement

KENMORE ENVIRONMENTAL ACTION NOW

To ensure robust and inclusive community participation in the EVIP process, the Project Team organized multiple opportunities for engagement, both in-person and virtual, to accommodate various preferences and needs.

In-Person Farmers' Market Table: July 31st & August 28th, 2024
- **Goal:** To introduce the EVIP project, receive initial input on charger locations and promote future opportunities to learn more and provide feedback.
- **Approach:** Use an existing event to connect with community members in an accessible format, encourage questions, and gather initial thoughts on the project.
- Location: Kenmore Town Square, 6728 NE 181st St, Kenmore, WA 98028

In-Person Community Engagement Meeting: October 22nd, 2024
- **Goal:** To foster meaningful, face-to-face dialogue with community members and stakeholders.
- **Approach:** This meeting provided an open, accessible space for community members to share their input, ask questions, and learn about the EVIP firsthand. Active participation from diverse groups was encouraged, ensuring that voices from all backgrounds were heard.
- **Location:** Kenmore City Hall, 18120 68th Ave NE, Kenmore, WA 98028

Key Highlights:
- Presentation of the EVIP process
- Interactive discussions on EV charger placement
- Opportunities for direct feedback

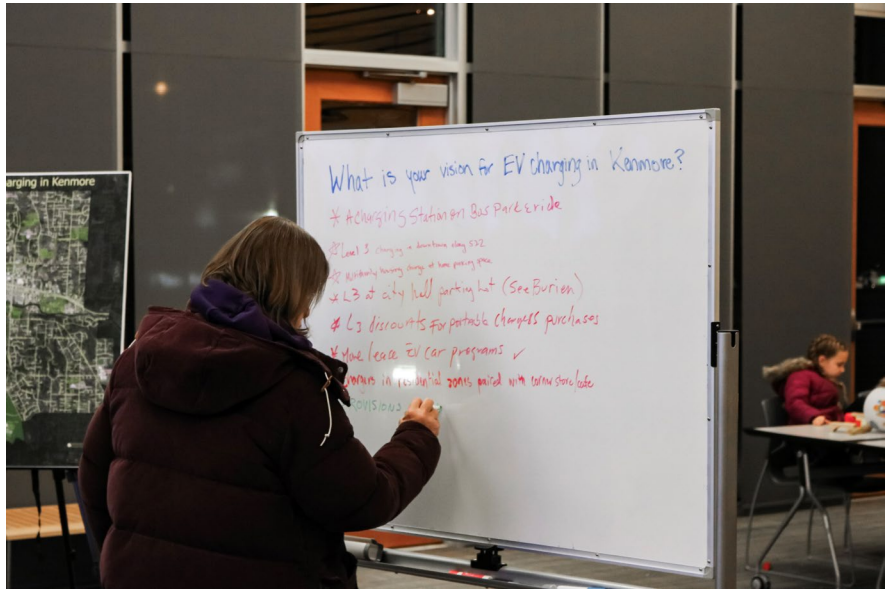
Virtual Community Meetings: October 28th & November 1st
- **Goal:** To provide flexible options for participation, making it easier for those who could not attend in person to contribute. The meetings were tentatively scheduled for 6 pm and 12 pm.
- **Approach:** These virtual sessions were designed to be inclusive and accessible, ensuring community members with varying schedules or mobility limitations could participate. Breakout rooms were used for small group discussions (if needed), and digital tools were employed for real-time feedback collection.
- **Platform:** Microsoft Teams meeting

Key Highlights:
- Detailed overview of the EVIP process
- Interactive polls and Q&A sessions
- Focused discussions on DEIA considerations for infrastructure planning

Through these efforts, the team aimed to gather diverse perspectives, ensure broad community representation, and ensure that the EVIP reflected the needs and values of all Kenmore residents.

In Person Community Engagement

KENMORE ENVIRONMENTAL ACTION NOW



Community Engagement – Desired Charging Locations

KENMORE ENVIRONMENTAL ACTION NOW

During the community engagement process, residents were invited to provide input on where they believe EV charging stations should be located across Kenmore. This was done through two methods:

Physical Map with Pins:

- At the in-person community event, a large physical map of Kenmore was displayed. Attendees were given physical pins to place on the map, marking areas where they felt charging stations were most needed or would be most useful. The locations marked included key areas such as downtown, near retail centers, along main roads, residential neighborhoods, parks, and transit hubs.

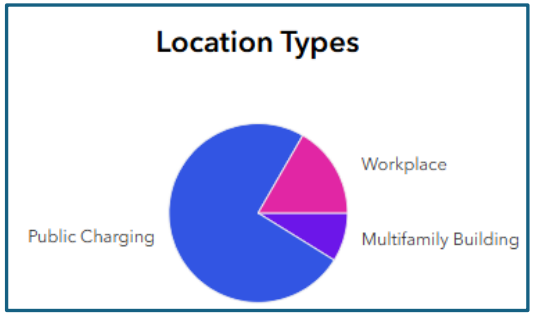
- This hands-on approach allowed residents to directly contribute their ideas, providing valuable insights into the highest demand and interest areas.

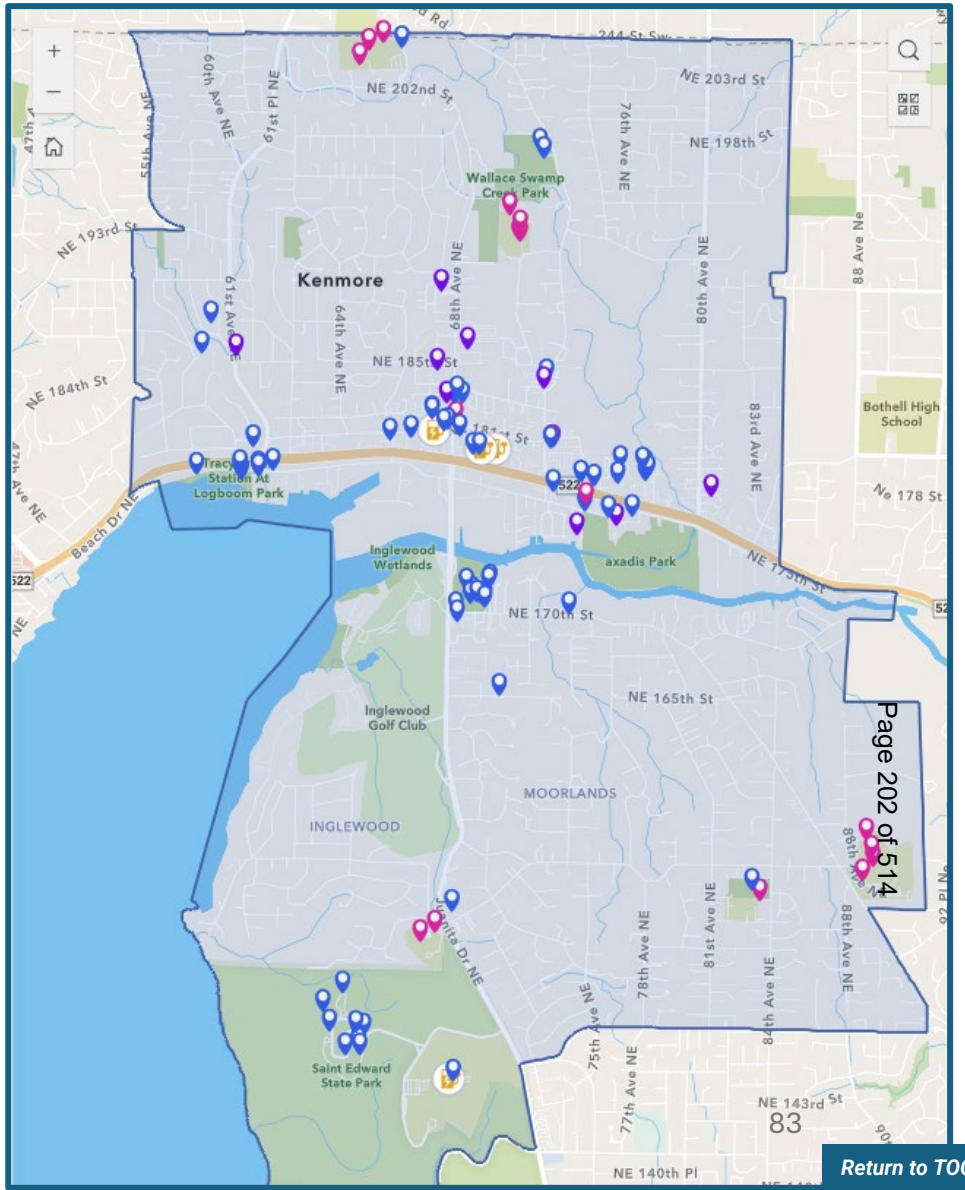
Community Engagement – Desired Charging Locations

KENMORE ENVIRONMENTAL ACTION NOW

GIS Tool on Kenmore's home website:

- In parallel, an interactive GIS tool was made available on the project website. This online tool allowed community members to digitally place markers on a map of Kenmore, selecting locations where they would like to see EV charging stations.
- The tool provided an easy-to-use interface where residents could zoom in on specific areas, identify preferred locations, and submit their feedback. Data collected through this GIS tool was automatically compiled and analyzed, offering a detailed, scalable view of community preferences for charging infrastructure across the city.
- Both methods allowed the City to capture valuable data on community priorities, identifying areas with high potential demand for EV charging infrastructure and ensuring that future developments align with residents' needs.





Community Engagement – Survey Results

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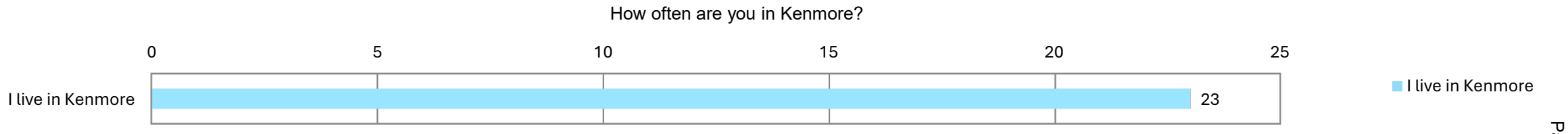
It is important to note that while the methods outlined above provide valuable insights from a range of community members, the sample size for some engagement activities may not fully represent the entire population. As with any survey or public engagement effort, there are inherent limitations in the extent to which the feedback gathered reflects the diversity of the broader community. Efforts were made to include a wide cross-section of residents, but further engagement may be necessary to ensure that all voices, particularly from underrepresented groups, are included in future stages of the project.



Key Takeaways:

- All survey respondents are residents of the City of Kenmore, ensuring the feedback reflects the views of local community members.
- This targeted engagement effort highlights that the people most likely to use or be impacted by the EV infrastructure were the ones providing input.
- It is important to note that the results may not fully represent the broader community, as individuals from neighboring areas or other cities who could also benefit from the infrastructure did not fill out the survey.

Community Engagement – Survey Results

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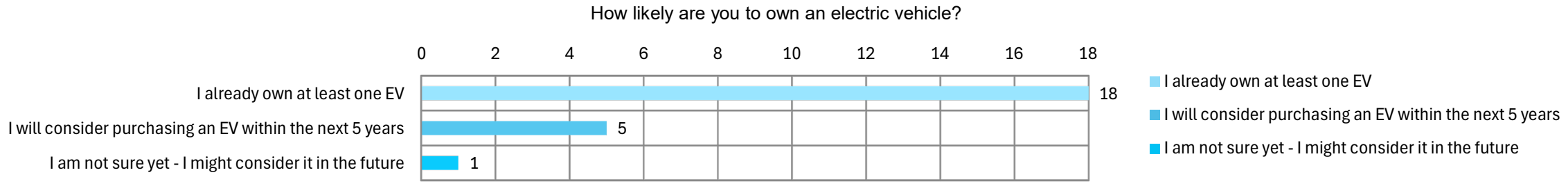
Key Takeaways:

- The survey sample consists primarily of single-family homeowners, with 17 out of 23 respondents in this category.
- One respondent is a renter of a single-family home, three own multifamily properties, and three rent in multifamily properties.
- This distribution suggests that the sample is skewed toward single-family homeowners, who may face fewer barriers to installing EV infrastructure compared to residents of multifamily properties.

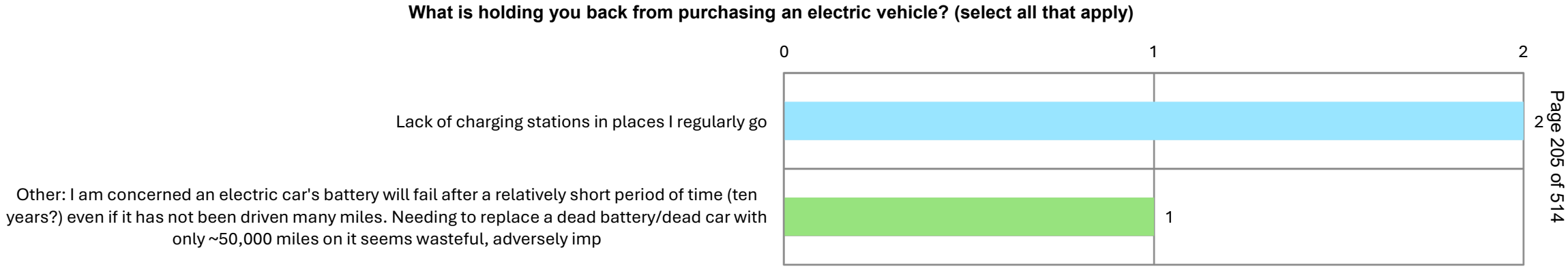
Community Engagement – Survey Results

KENMORE ENVIRONMENTAL ACTION NOW



Key Takeaways:

- 18 out of 23 survey respondents currently own an EV, five are considering purchasing one within the next five years, and one is unsure.
- This suggests that respondents generally support or already engage with electric vehicles.
- The high level of current EV ownership aligns with trends tracked by the Washington Department of Licensing, while those considering a future purchase indicate potential for continued adoption in the coming years.

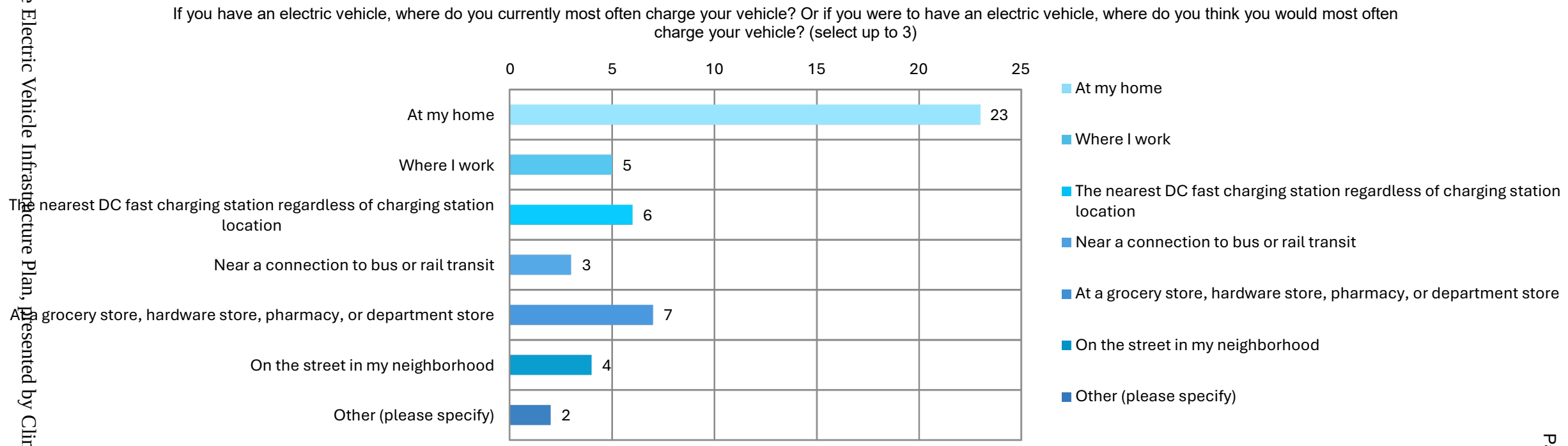


Key Takeaways:

- Respondents expressed concerns about the lack of nearby charging stations and uncertainties regarding the viability and functionality of EV batteries as primary reasons for hesitancy in purchasing an electric vehicle.

Return to TOC

Community Engagement – Survey Results



Key Takeaways:

- The majority of respondents (23) indicated they would most often charge their EV at home, followed by retail locations (7) and fast charging stations (6).
- Some respondents also considered workplace charging (5) and charging at bus or rail stations (3).
- A few participants (4) would charge within their neighborhood, while 2 mentioned other locations.
- Overall, home charging is the most common choice, underscoring the need to expand home charging options, particularly in multifamily settings, workplace, and public charging infrastructure, including fast charging stations and retail locations.

Community Engagement – Survey Results

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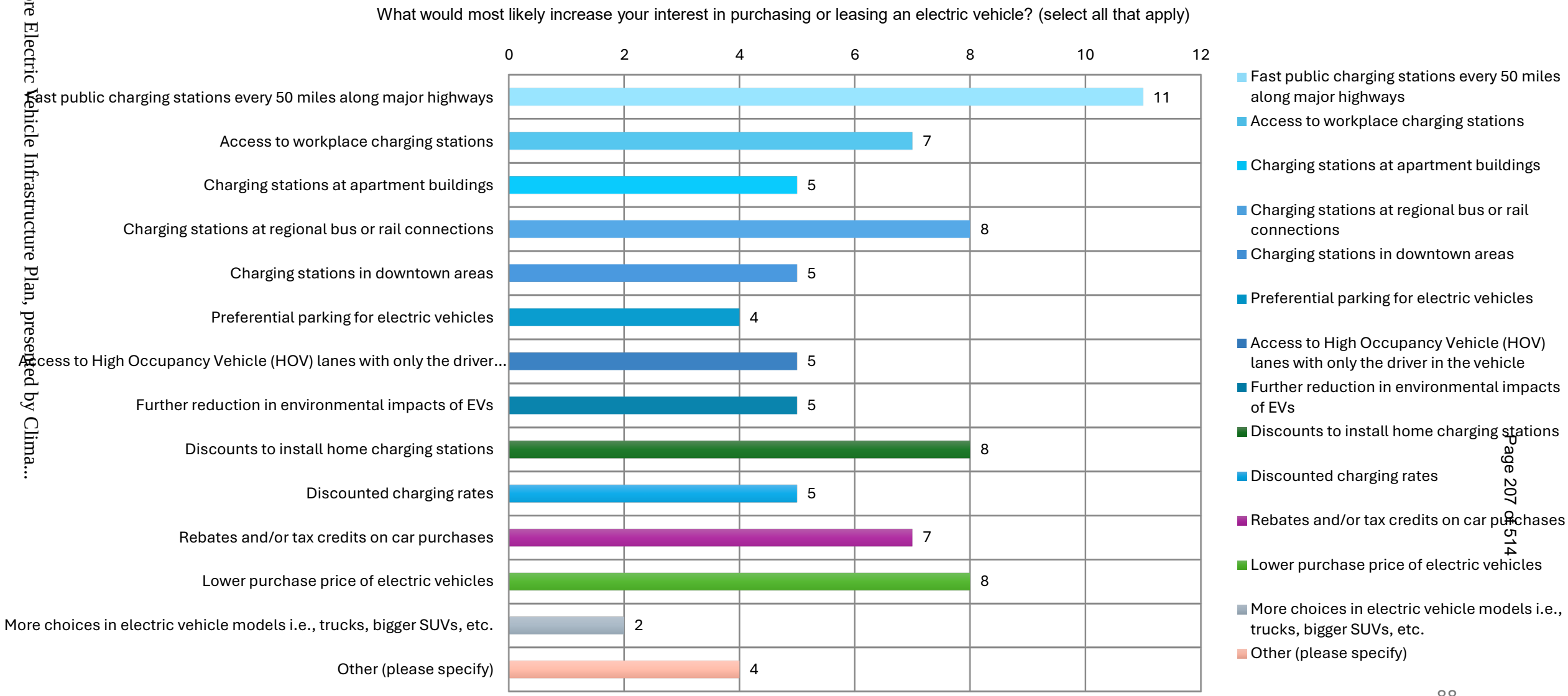

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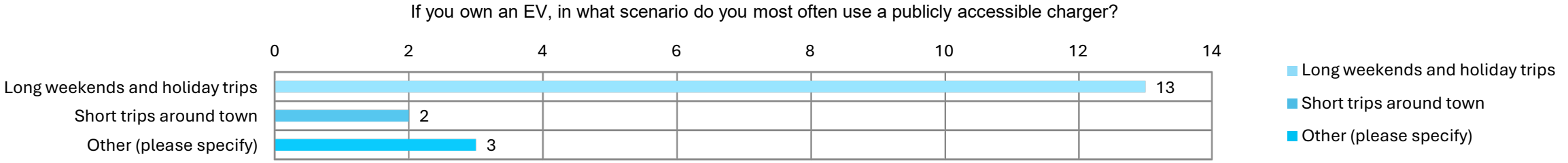
Community Engagement – Survey Results

Fast Public Charging (11 responses): The top factor that would increase interest is access to fast public charging, with 11 respondents indicating this as a key consideration. This suggests that convenience and the ability to quickly charge an EV in public spaces are critical for potential buyers.
Lower Purchase Price of EVs (8 responses): Lowering the purchase price of EVs is also a significant motivator, with 8 respondents mentioning this. This reflects that cost remains a major barrier for many potential buyers, and reducing the upfront price would encourage more purchases.
Discounts to Install Home Charging Stations (8 responses): Offering discounts for home charging station installation is another highly favored option, with 8 respondents selecting it. This points to the importance of making home charging more accessible and affordable for potential EV owners.
Bus/Rail Stops (8 responses): Charging availability at bus or rail stops is another popular factor, with 8 respondents indicating it would increase their interest. This suggests the desire for charging infrastructure integrated with public transportation hubs, making EVs more convenient for daily commutes.
Workplace Charging (7 responses): Access to workplace charging is also a key factor for 7 respondents, highlighting that many people would benefit from being able to charge their EV at work, especially those who don't have home charging options.
Rebates/Tax Credits (7 responses): Financial incentives like rebates or tax credits are important motivators for 7 respondents. This reinforces the idea that financial incentives can help reduce the cost barrier for potential EV buyers.
Access to HOV Lanes (5 responses): The ability to use high-occupancy vehicle (HOV) lanes is seen as an attractive benefit by 5 respondents, which suggests that certain perks tied to driving an EV could influence their decision.
Apartment Buildings (5 responses): Charging access at apartment buildings is another consideration, with 5 respondents selecting it. This indicates that EV adoption could be limited for people living in multifamily housing unless charging infrastructure is made available in these settings.
Environmental Impact Reduction (5 responses): A further reduction in environmental impacts is a motivating factor for 5 respondents, reflecting that some potential buyers are motivated by the environmental benefits of EVs.
Preferred EV Parking Spots (4 responses): Having designated EV parking spots is an incentive for 4 respondents, indicating that convenience and ease of access to parking could sway purchasing decisions.
More EVs (2 responses): A desire to see more EVs on the road (2 responses) shows that some potential buyers may feel more inclined to purchase an EV when they see more widespread adoption.
- **Other (4 responses)**: The "Other" category (4 responses) suggests there may be additional factors not listed that could influence interest, though specific details aren't provided.

Key Takeaways:
- **Fast public charging** and **lower EV prices** are the most significant factors for increasing interest in EVs.
- **Charging infrastructure**, including **workplace charging**, **bus/rail stops**, and **apartment buildings**, is essential to potential buyers.
- **Financial incentives** like **rebates/tax credits** and **discounts for home charging installation** are also highly motivating.
- **Environmental benefits** and **HOV lane access** are additional considerations that could appeal to certain buyers.
- This data suggests that improving EV infrastructure, offering financial incentives, and reducing the cost of EVs are the key actions that could boost interest and adoption.

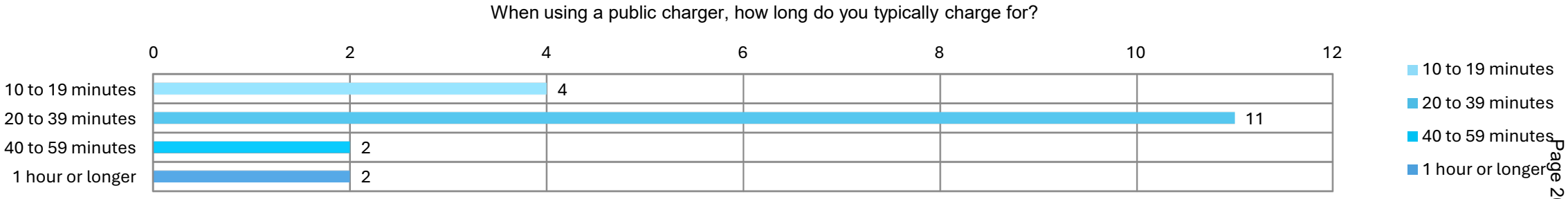
Community Engagement – Survey Results

KENMORE ENVIRONMENTAL ACTION NOW



Key Takeaways:

- Public charging is mainly used for **long-distance trips** or travel beyond the range of home charging, rather than for daily or short trips.
- This highlights the importance of **public charging infrastructure** for supporting EVs during longer journeys, especially in locations where home charging may not be available or practical



Key Takeaways:

- **Most Common Charging Duration**: The majority of respondents (46%) typically charge their EVs for **20-39 minutes**, indicating that a significant portion of users may be looking for a quick charge boost during a short stop.
- **Shorter Charging Sessions**: **17%** of respondents charge for **10-19 minutes**, suggesting that some users are likely charging during short stops or while running errands, perhaps not needing a full charge.
- **Longer Charging Sessions**: A smaller group (16%) reports charging for **40 minutes or longer**, which could indicate users seeking to charge their vehicle fully or those using public chargers that offer a slower charging rate.
- **Need for Efficient Charging Options**: The higher percentage of users in the **20-39 minute** range suggests a strong demand for chargers that balance speed and convenience, potentially aligning with the availability of fast chargers.

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Community Engagement – Survey Results

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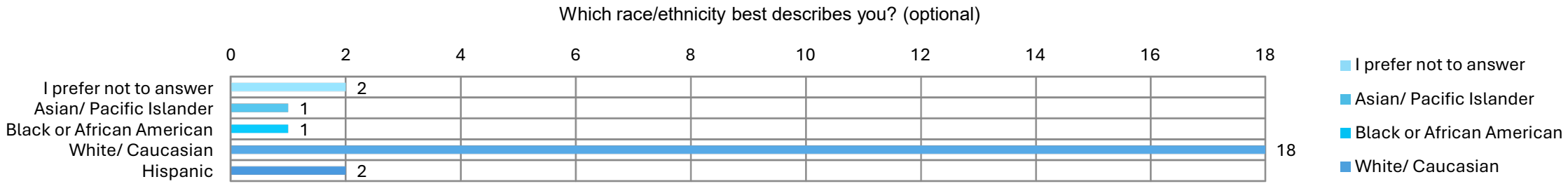

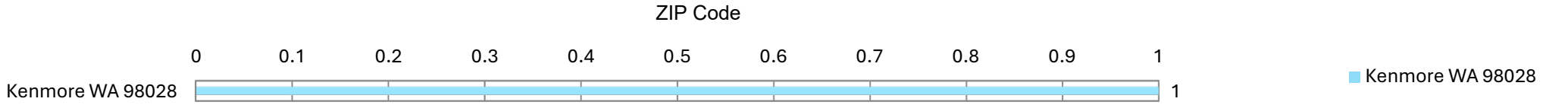

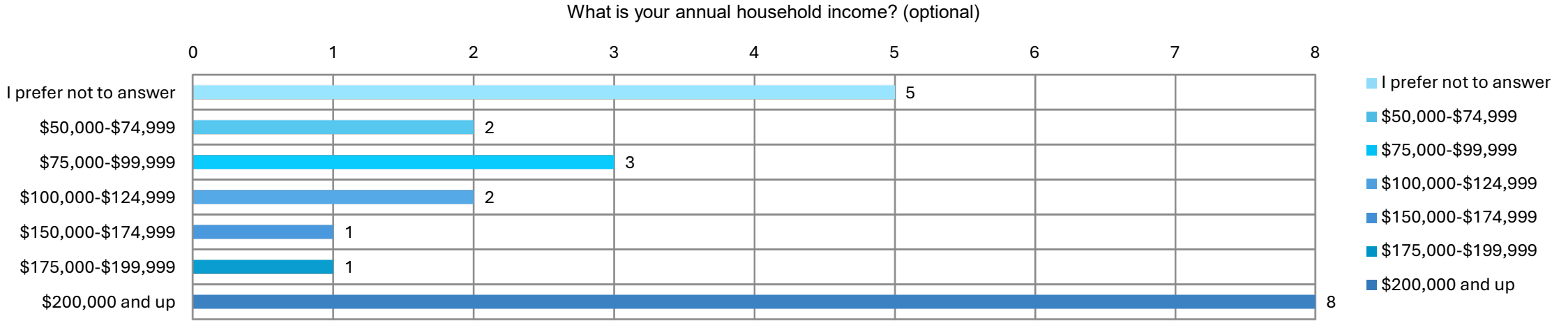

According to US Census data (US Census, 2024) , the survey results indicate the primary participating demographics are slightly over-represented with White/Caucasian and under-represented with minority groups. Per US Census data, the median household income (in 2023 dollars), from 2019-2023 was $137,926.

Conclusion: Key Insights and Actions for Boosting EV Adoption in Kenmore

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- **Infrastructure is key**: Expanding access to fast public charging stations, workplace charging, and charging at bus/rail stops is essential to meet the needs of potential EV buyers. Special attention is needed for apartment buildings and multifamily housing.
- **Cost reduction is critical**: Lowering the purchase price of EVs and offering financial incentives such as rebates and discounts for home charging installation are major motivators for increasing adoption.
- **Environmental and convenience perks matter**: Many potential buyers are attracted to environmental benefits and access to perks like HOV lanes and designated EV parking spots.
- **Community engagement**: As demand for EV infrastructure grows, it's important to continue gathering community feedback to ensure that the infrastructure plan aligns with residents' needs and preferences.
- Qualitatively, during in-person community engagement events, there was strong support for **E-mobility solutions beyond EVs**, including electric bike charging, bike lanes, and secure bike parking areas.

Next steps:

- Focus on expanding charging infrastructure across key locations (home, workplace, public spaces) as per this EVIP and the recommendations made herein.
- Explore financial incentives and cost-reduction strategies, such as the incentives in this report, to make EVs more accessible.
- Continue engaging the community to refine and adapt the plan based on emerging needs and trends, including expanding support for E-mobility and bike infrastructure.

EV Market Assessment & Community Charging

Chapter 5

CITY OF KENMORE

ENVIRONMENTAL SERVICES

EV ADOPTION FORECASTING | MODELING METHODOLOGY

EV ADOPTION FORECASTING | INPUTS AND ASSUMPTIONS

EV ADOPTION FORECASTING | RESULTS

COMMUNITY CHARGING INFRASTRUCTURE | MODELING METHODOLOGY

COMMUNITY CHARGING INFRASTRUCTURE | INPUTS AND ASSUMPTIONS

COMMUNITY CHARGING INFRASTRUCTURE | RESULTS

CITY OF KENMORE

ENVIRONMENTAL SERVICES

EV ADOPTION MODELING METHODOLOGY

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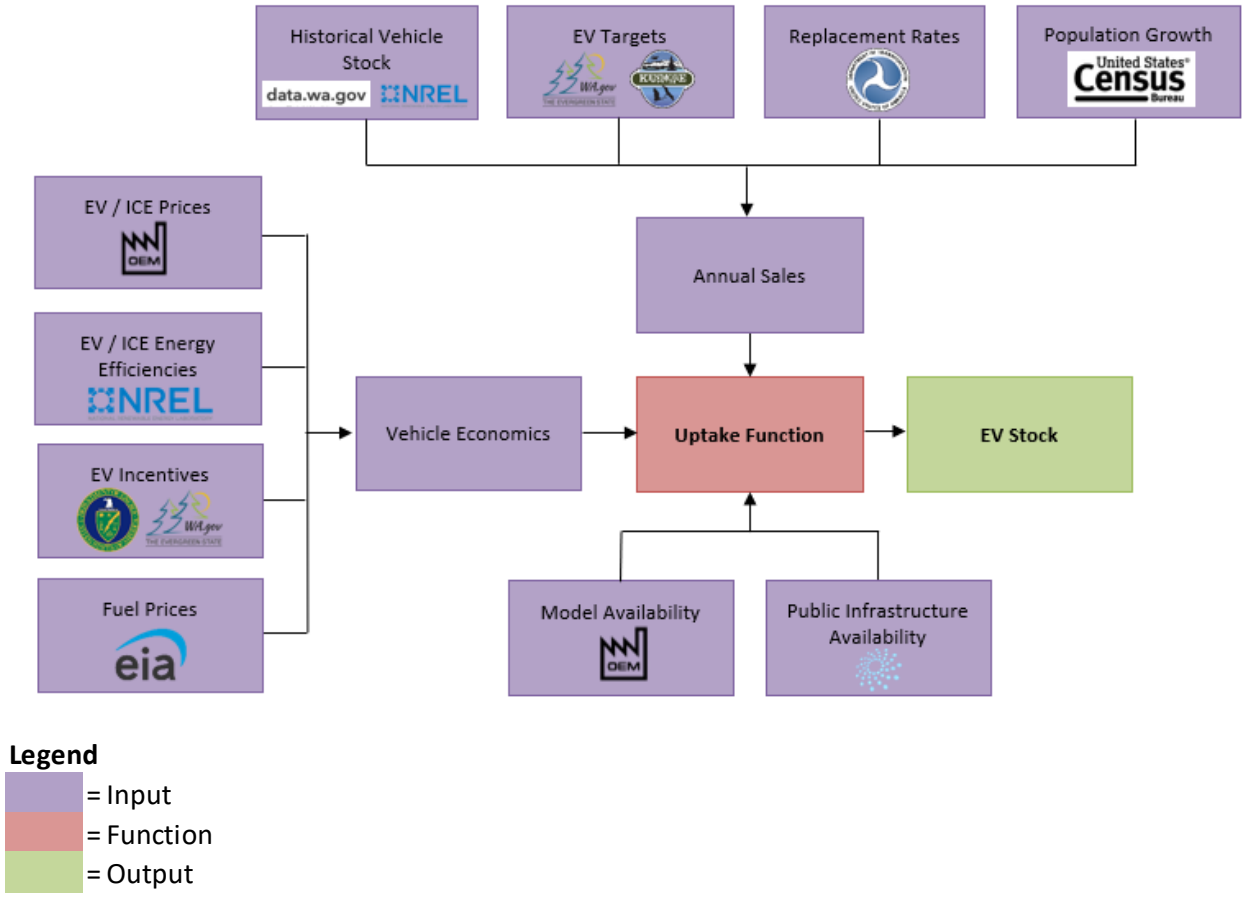
EV Adoption Modeling Diagram



Note: ICE = Internal Combustion Engine
Source: Energeia (2024)

Objective:

- Inform community charging infrastructure needs by forecasting electric vehicle (EV) adoption in the City of Kenmore

EV adoption forecasting approach:

- Vehicle stock and turnover model that calculates EV adoption based on economics, i.e. customer return on investment (ROI), vehicle choice / availability and public infrastructure availability specific to the City of Kenmore

Detailed process:

- Forecast vehicle ROI by major vehicle class and year
- Estimate EV model availability over forecast period
- Estimate vehicle stock growth based on population forecasts
- Capture key ZEV targets and requirements
- Calculate EV uptake based on ROI, vehicle model availability and zero-emission vehicle (ZEV) market share requirements

Modeled ZEV Regulatory Requirements

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- The Project Team captured key requirements from the CA Advanced Clean Cars and Clean Trucks regulations
- Key 100% sales share targets by vehicle class are shown at right
- EV adoption model will be configured to comply with key sales requirements by vehicle class
- The Project Team acknowledges potential changes to the sales mandates shown at right under the current administration may lead to changes in adoption

100% Zero Emission Sales Requirement Schedule by Vehicle Class

Vehicle Type	100% PEV Sales Schedule	Legislation
Passenger Cars	2035	EO N-79-20
Passenger Trucks	2035	EO N-79-20
Drayage Fleet	2035	EO N-79-20
Medium Duty Fleet	2045	EO N-79-20
Heavy Duty Fleet	2045	EO N-79-20
Ride-Hailing Fleet	2030	Clean Miles Standard (SB 1014)
Transit Buses	2040	CARB Release 18-65
Medium and Heavy Duty Fleet	2045	CARB Advanced Clean Fleets

Note: EO = Executive Order, SB = Senate Bill
Source: CARB (2024)

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ZEV Incentives, Rebates and Tax Credits

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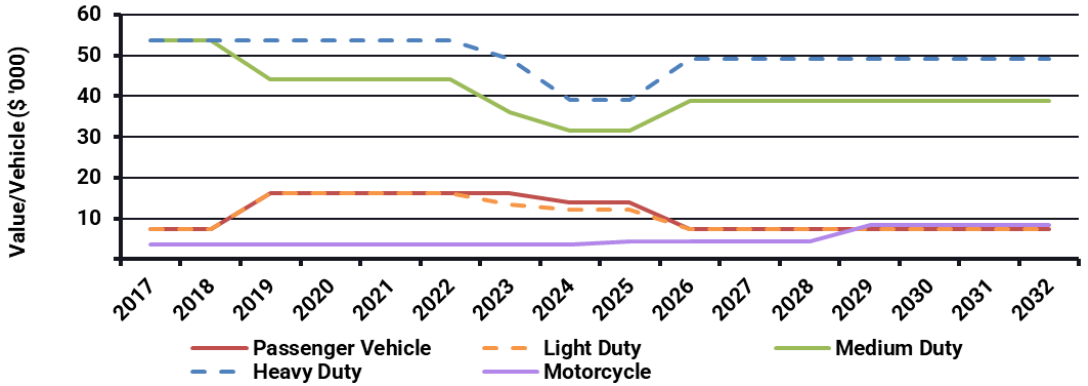
- EV incentives, rebates and tax credits reduce EV premium barrier to consumers and improve fuel switching economics
- Modeled programs include:
  - US IRS Passenger EV Tax Credit
  - US IRS Commercial EV Tax Credit
  - US EPA Clean School Bus Rebates (not shown due to axes)
  - WA Dept of Revenue Clean Vehicle Tax Credit
  - WA Dept of Commerce EV Instant Rebate Program
  - WA Dept of Ecology Zero Emission School Bus Grants (not shown due to axes)

Annual Incentive Value/Vehicle by Vehicle Class to 2032



Source: US IRS (2023), US EPA (2021), State of WA Agencies (2024)

Vehicle Models

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- Tesla Model Y is the most registered EV in Kenmore, while the Toyota RAV-4 is the most registered ICE, and the models are similar in size and function
- The upfront premium for the Model Y is ~$15k before incentives, but comes with increased efficiency and 78 kWh battery
- Electric models in commercial vehicle classes (first row per category) are generally more expensive than their ICE equivalents, but benefit from incentives and rebates to reduce premium
- Battery costs will play a key role in changes to EV prices over time

Tesla Model Y vs. Toyota RAV-4 Vehicle Specifications

Vehicle	Price (USD)	Range (Mi)	Efficiency (MPGe)
Tesla Model Y	$44,990	337	117.4
Toyota RAV-4	$28,475	392	32.3

Modeled Commercial Vehicle Specifications

Vehicle Class	Vehicle Type	Model	Price
Light Duty	EV	eSprinter	$63,475
	ICE	Sprinter	$50,830
Medium Duty	EV	Freightliner eM2	$139,000
	ICE	Freightliner M2 106	$102,604
Heavy Duty	EV	Tesla Semi	$150,000
	ICE	Freightliner Cascadia	$160,000
Bus	EV	Proterra eBus	$750,000
	ICE	Generic ICE Bus	$480,000
Motorcycle	EV	Zero SR/S	$20,595
	ICE	Honda Shadow	$7,899

Source: OEM Websites (2024), WashDOT (2024), Energeia Analysis (2024)

Battery Costs

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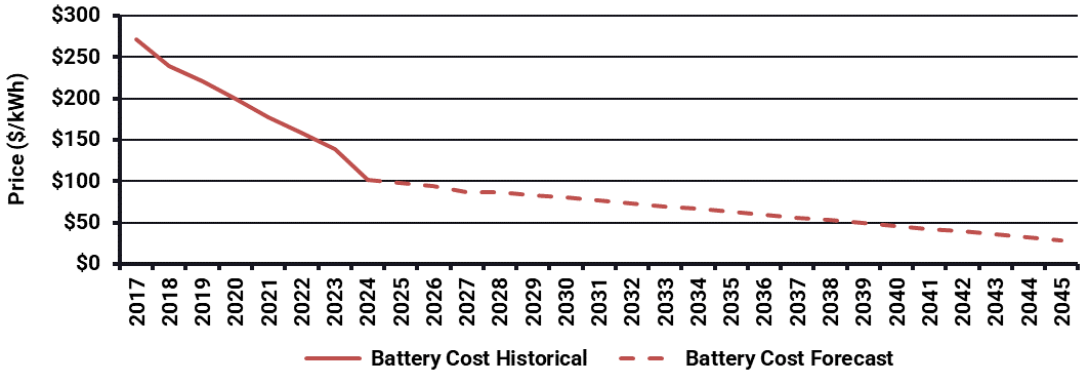
- Battery costs on a $/kWh basis are expected to continue to decrease significantly over the next 15 years, per US DOE technology forecasts
- Reduced battery costs improve customer ROI of EV premium, in turn driving EV adoption

BEV Battery Cost Forecast

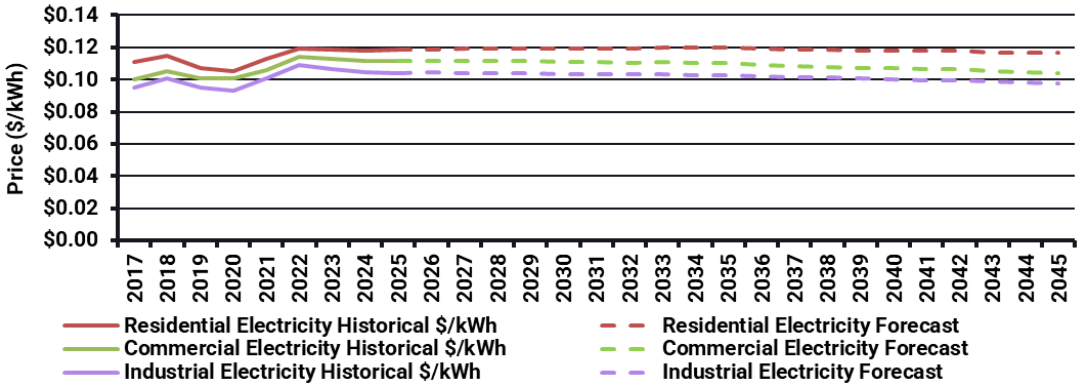


Source: US Department of Energy (DOE)

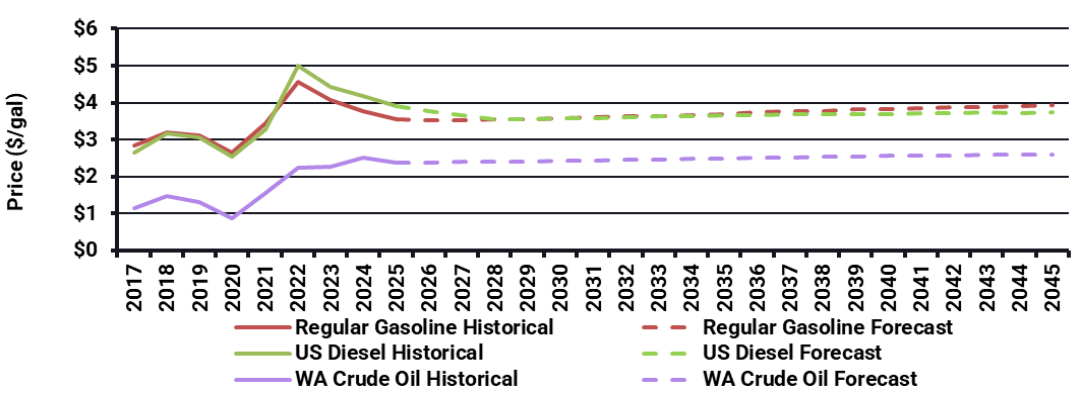
Fuel Costs

- Electricity price forecasts in Kenmore are forecasted to slightly decrease until 2040, and may continue decline with electrification of transport and building sectors and as electricity sales rise
- Gas prices are expected to recover from recent highs, followed by a slight increase over time

Retail Electricity Price Forecast by Segment



ICE Fuel Price Forecast by Type



Source: Energy Information Administration (EIA) (2024), Energeia Analysis (2024)

Annual VMT/Vehicle

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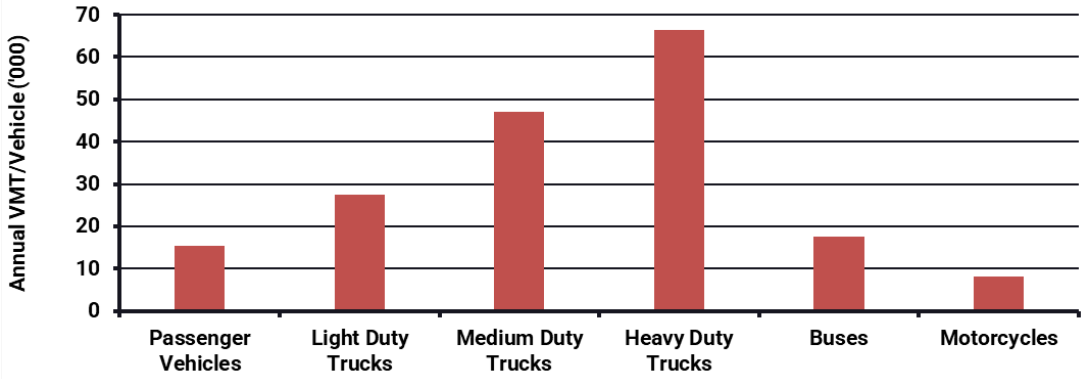
- The Project Team developed average vehicle miles traveled (VMTs)/vehicle using US DOT total VMTs for King County scaled to Kenmore by vehicle stock
- All classes of trucks (light, medium and heavy duty) comprise the majority of annual VMTs in Kenmore on a per vehicle basis
- Passenger vehicles average ~15k miles/year
- Annual VMTs are used to calculate fuel cost portion of vehicle total cost of ownership

Annual Vehicle Miles Traveled/Vehicle by Class



Source: Washington State Department of Transportation (WashDOT) (2024)

Commercial Vehicle Efficiency Adjustments

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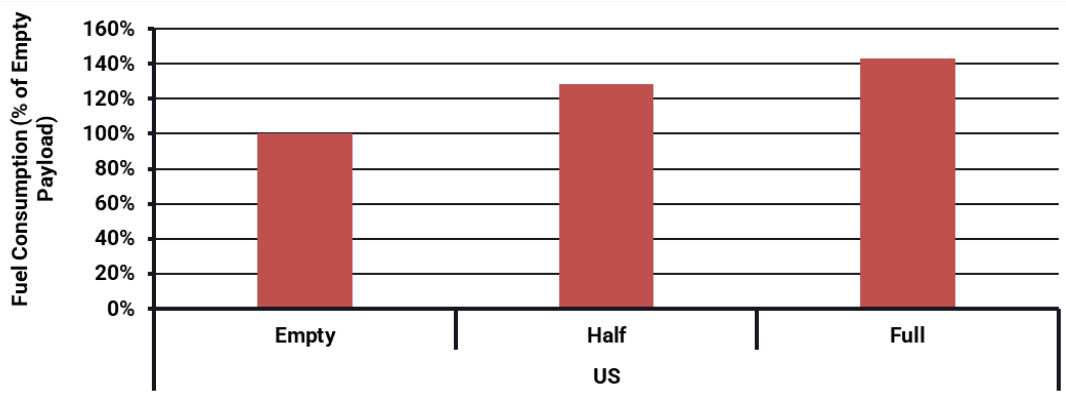
- Commercial vehicle efficiencies vary widely based on assumed payload, especially medium and heavy-duty trucks
- The Project Team applied an efficiency scaling factor to reduce efficiency of medium and heavy-duty truck to half or full payload efficiencies, resulting in a more accurate annual fuel cost calculation
- OEM-advertised efficiencies assume empty payload
- The International Council for Clean Transportation (ICCT) conducted a commercial vehicle efficiency study, including payload analysis from vehicle samples across various continents

US Commercial Truck Fuel Consumption by Payload Category



Source: ICCT, Energeia Analysis (2024)

Energy Efficiencies and Specifications

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Vehicle Efficiencies and Specifications by Class and Type

Vehicle Class	Vehicle Type	Model	Range	Units	Battery Size	Units	Efficiency	Units
Passenger Vehicle	EV	Model Y	337	miles	78	kWh	3.6	mi/kWh
	ICE	RAV 4	392	miles			32.3	mpg
Light Duty	EV	eSprinter	173	miles	81	kWh	0.5	kWh/mi
	ICE	Sprinter	368	miles			15.0	mpg
Medium Duty	EV	Freightliner eM2	215	miles	194	kWh	1.3	kWh/mi
	ICE	Freightliner M2 106	800	miles			14.3	mpg
Heavy Duty	EV	Freightliner eCascadia	365	miles	438	kWh	1.2	kWh/mi
	ICE	Freightliner Cascadia	800	miles			13.4	mpg
Bus	EV	Proterra eBus	200	miles	372	kWh	1.9	kWh/mi
	ICE	Generic ICE Bus	500	miles			5.0	mpg
Motorcycle	EV	Zero SR/S	156	miles	13	kWh	0.1	kWh/mi
	ICE	Honda Shadow	207	miles			56.0	mpg

Source: OEM Websites (2024)

- The Project Team has captured key representative vehicle model specifications such as efficiencies, range, and typical battery size from original equipment manufacturer (OEM) websites
- Vehicle battery sizing is adjusted over time to the City of Kenmore's VMTs based on vehicle efficiencies

Normalized Fuel and Vehicle Costs

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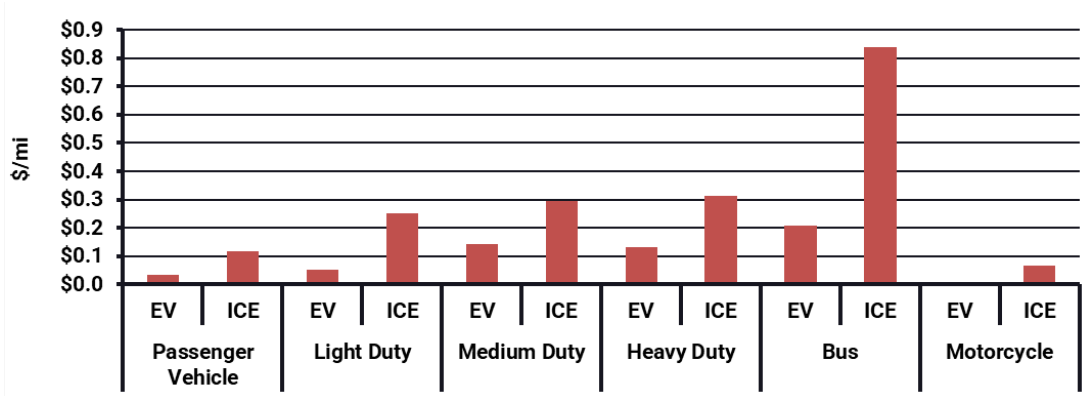
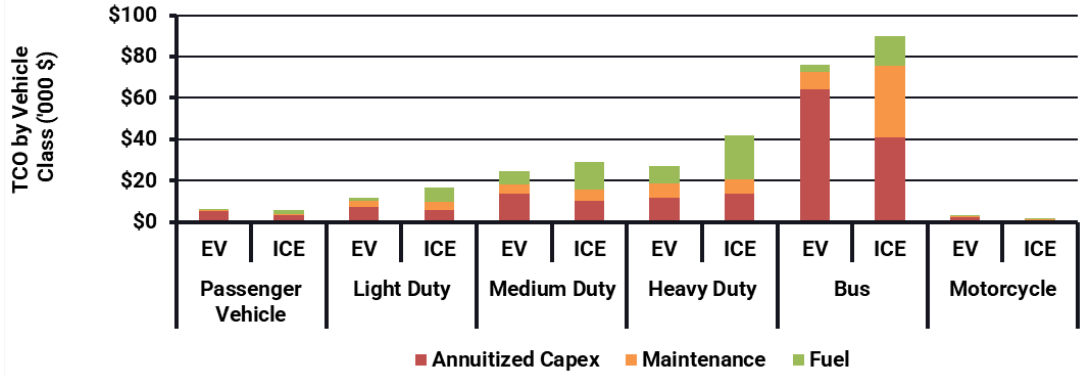
- The Project Team calculated $/mi by vehicle class and ICE/EV to visualize differences in vehicle efficiencies on a normalized basis
- Annual total cost of ownership (TCO) by vehicle class and ICE/EV shown at right, including:
  - Annual fuel cost
  - Annual maintenance cost
  - Annuitized upfront cost over the lifetime of the vehicle
- Note: Fuel costs assume a half payload efficiency scaling factor for medium and heavy-duty vehicles

Normalized Fuel Cost by Vehicle Class and ICE/EV



Annual TCO by Vehicle Class and ICE/EV



Source: Energeia Analysis (2024)

Vehicle Model Availability

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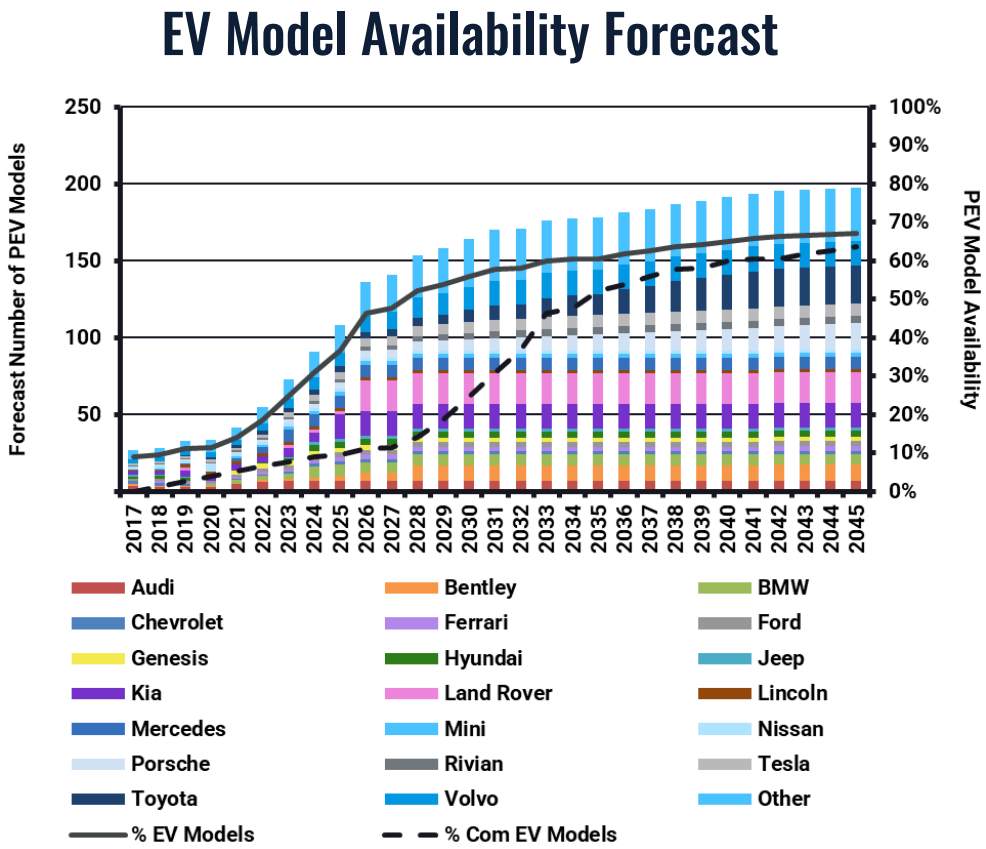
- All major manufacturers are expected to increase the market for EVs through 2035, tapering in growth to 2045
- Number of total EV models forecast to increase from 85 now to nearly 200 by 2045
- EV model market share is expected to increase from ~9% to ~67% by 2045
- Commercial EV model market share is expected to increase to ~64% by 2045



Source: Energeia Research (2024)

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Infrastructure Requirements

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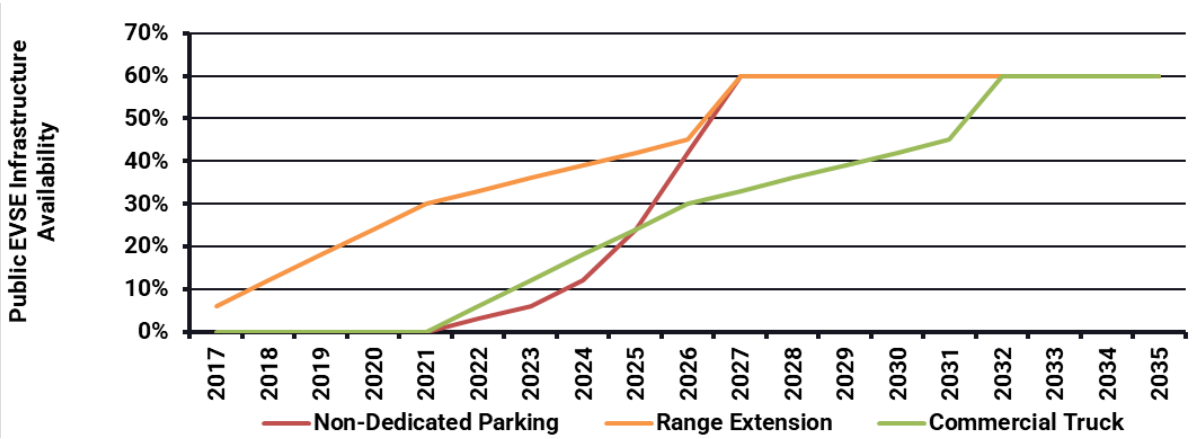
- The Project Team developed baseline infrastructure requirements to achieve 2035 EV adoption targets, based on research of the role of different charging infrastructure on adoption outcomes
- These curves can be adapted on a scenario basis to explore incremental outcomes of infrastructure investment
- **Non-Dedicated Parking** refers to Electric Vehicle Supply Equipment (EVSE) infrastructure at public parking locations or parking not assigned to a specific housing unit, person, or vehicle
- **Range Extension** refers to EVSE on major roadways and highways, extending vehicle range for higher VMT trips
- **Commercial Truck** refers to fast charging infrastructure specifically installed to serve commercial vehicles

Public EVSE Infrastructure Requirements by Type



Source: Energeia Research (2024)

Kenmore Population Growth

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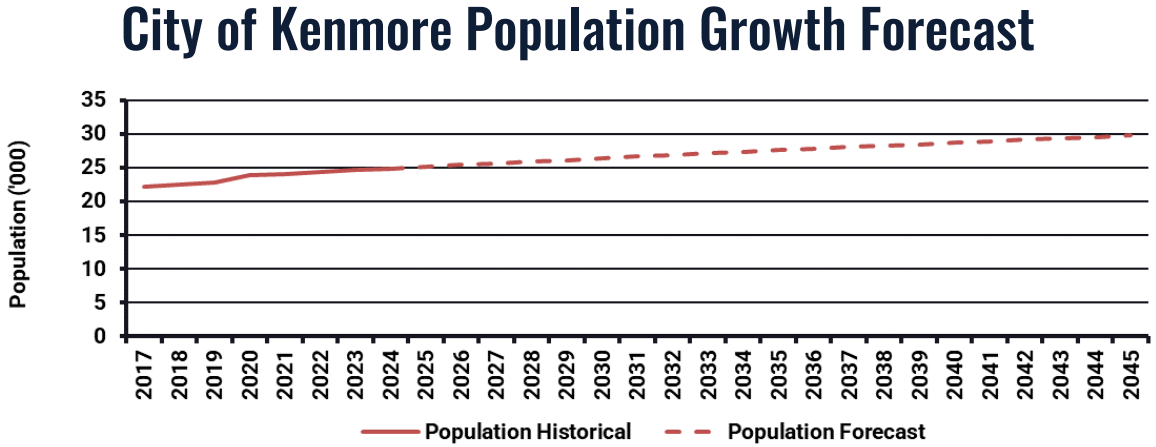
- Kenmore's population is estimated to grow from ~24,900 to ~30,000 in 2045
- The Project Team developed this forecast by applying statewide growth forecasts from the WA State Office of Financial Management to US Census population estimates for the City of Kenmore
- Forecast applied to current vehicle stock to estimate total forecast stock irrespective of drivetrain in the City



Source: WA State Office of Financial Management (2023)

Vehicle Stock

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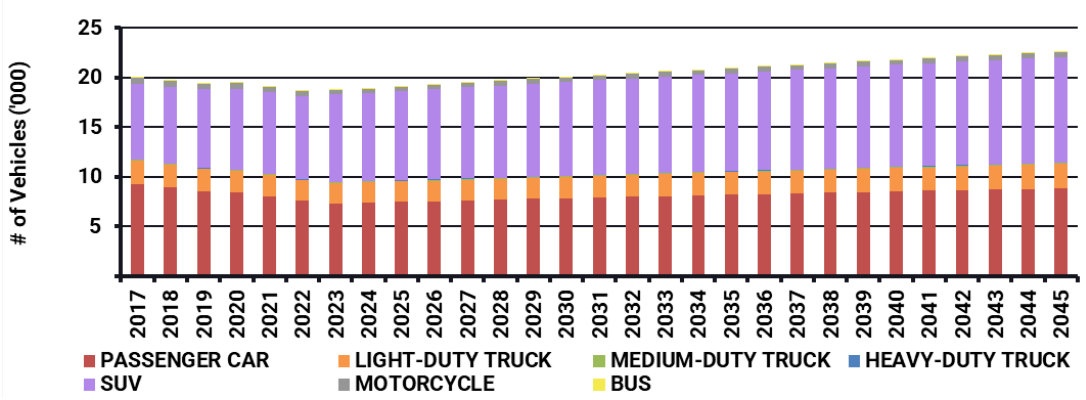
- Total vehicle stock dips in Covid and COVID years
- The Project Team expects continued increase as Kenmore population grows per King County forecast
- Passenger Car and SUV classes are aggregated into a single Passenger Vehicles class
- Proportional vehicle class breakdowns are forecasted based on historical relativities

Historical and Forecasted Vehicle Stock by Class



Source: WA State Open Data (2024)

Vehicle Replacement Rates

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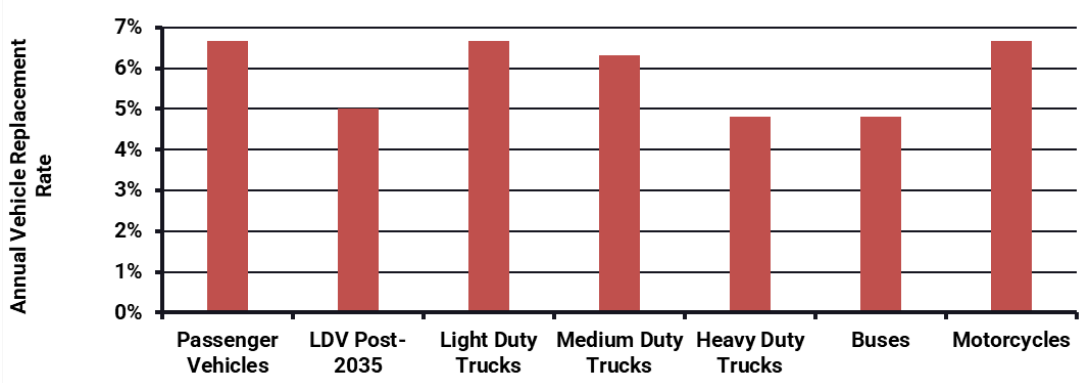
- Vehicle replacement rates were calculated in proportion to expected vehicle lifetimes, according to the US Bureau of Transportation Statistics
- ~8% of passenger vehicles, light-duty trucks, and motorcycles turn over each year, whereas medium and heavy-duty trucks and buses need to be replaced less often
- The Project Team reduced replacement rates for passenger vehicles to 5% after 2035 mandate to reduce ICE turnover
  - Used car market dynamics post the 2035 mandate are unknown – we may see an increase in ICE retention and increased out-of-state ICE purchases, which are permitted under the mandate
- Extended lifetime represents both above possibilities, while still modeling compliance with the State mandate

Annual Vehicle Replacement Rates by Class



Note: LDV = Light Duty Vehicle
Source: US Bureau of Transportation Statistics (BTS) (2024)

ROI and Sales Share

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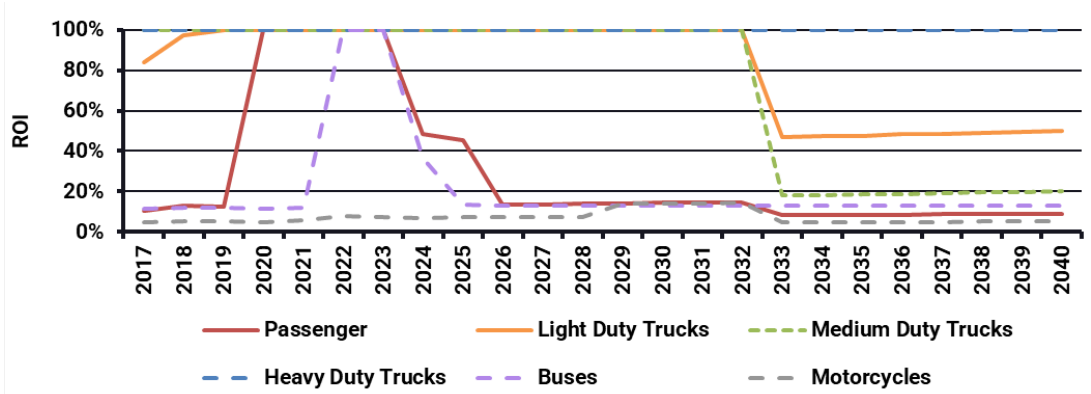
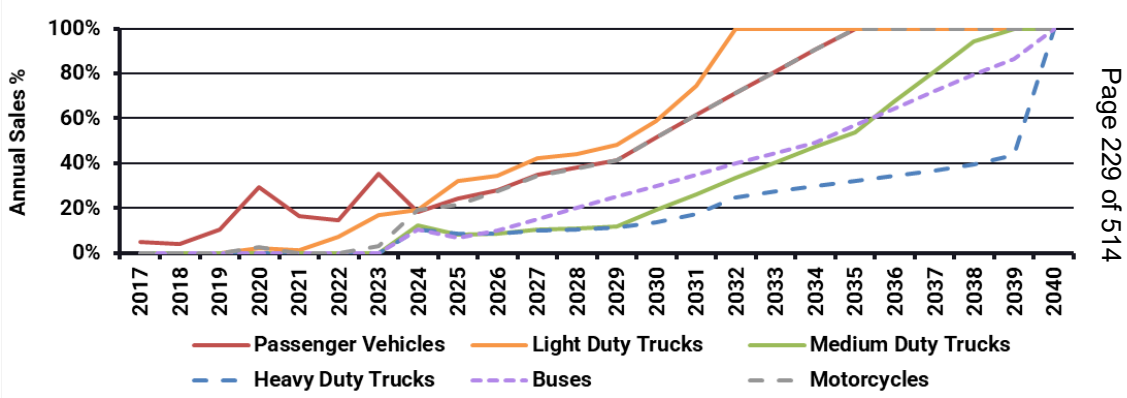
- Return on Investment (ROI) and EV model availability drive adoption, unless the adoption outcome does not meet the State sales requirement
- 100% ROI indicates a $0 EV premium net of incentives and rebates and Opex and fuel costs (TCO)
- Passenger vehicle sales share meets 100% target in 2035, while light duty trucks meet 100% target by 2031
- Model availability is a key driver in the uptake forecast, as is public charging infrastructure
- Medium and heavy duty trucks exceed 2045 sales target, while buses achieve 2040 sales target

ROI by Vehicle Class



Sales Share by Vehicle Class



Source: Energeia Analysis (2025)

Annual Vehicle Sales

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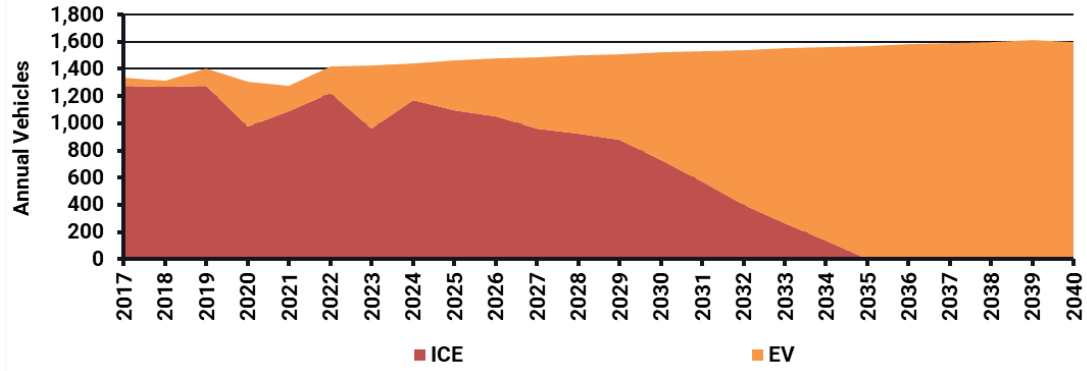
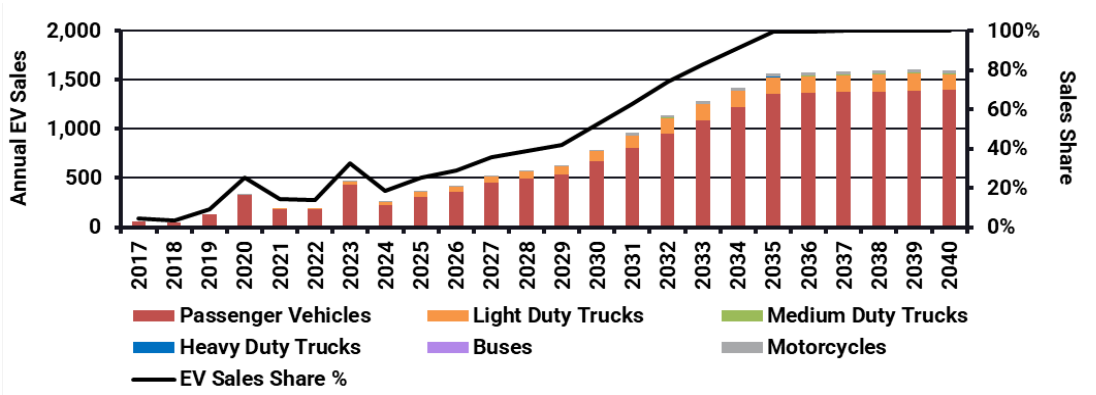
- Annual vehicle sales by fuel and class largely driven by ROI and model availability until 2029, when EV adoption ramps up to achieve State sales mandates
- EV sales volatility from 2019-2024 largely due to supply chain constraints and market dynamics related to COVID-19
- EV sales share reaches 98%+ by 2035 due to passenger vehicle sales mandate and relatively small commercial truck and bus stock

Annual Vehicle Sales by ICE/EV



Annual Vehicle Sales by Class



Source: Energeia Analysis (2025)

Cumulative Vehicle Stock

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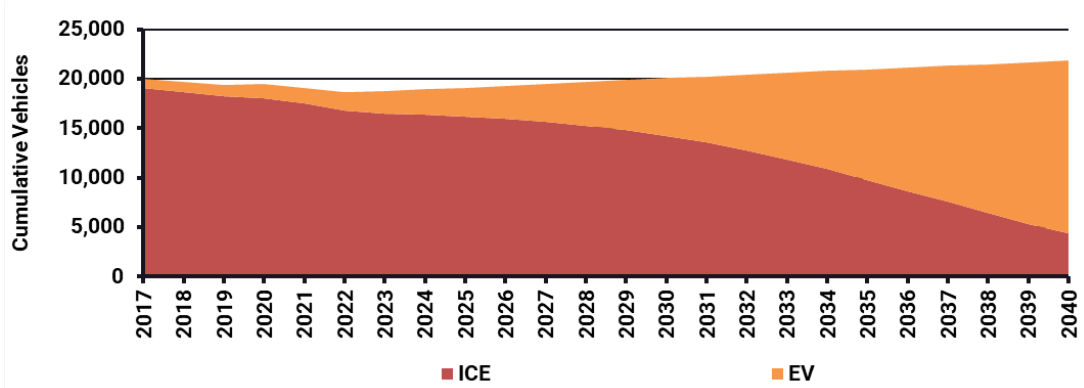
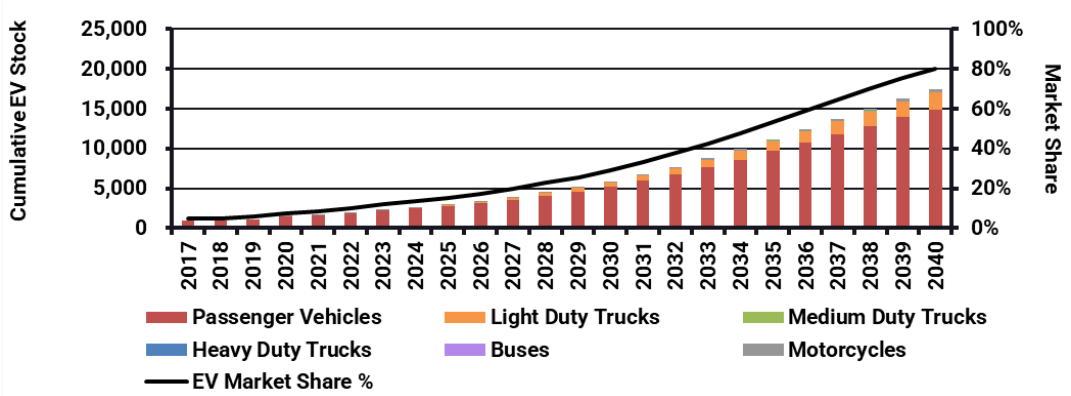
- EV market share in Kenmore reaches 80% by 2040 due to turnover of passenger vehicles after 2035 mandate and relatively small commercial truck and bus stock
- ~2.5k reduction in 2040 total EV stock after replacement rate adjustment

Cumulative Vehicle Stock by ICE/EV



Cumulative Vehicle Stock by Class



Source: Energeia Analysis (2025)

Cumulative Vehicle Stock

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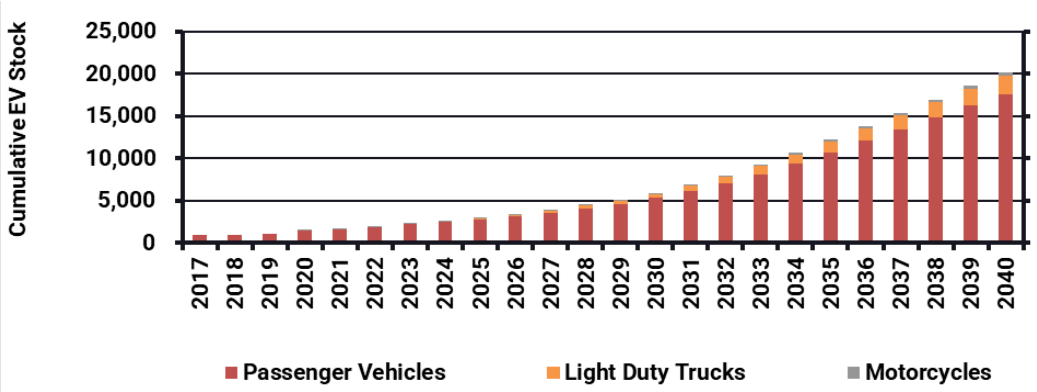
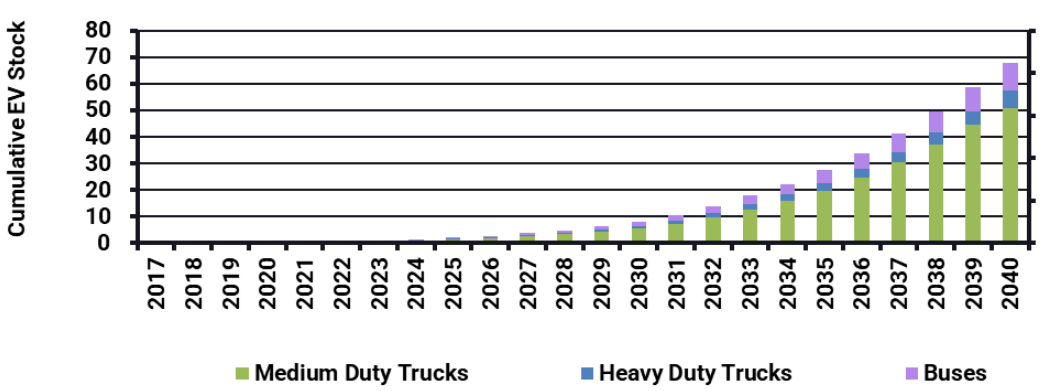
- Cumulative stock broken out for increased readability
  - Passenger Vehicles, Motorcycles, Light Duty Trucks
  - Medium Duty Trucks, Heavy Duty Trucks, Buses

Passenger Vehicle and Light Duty Cumulative EV Stock



Medium Duty, Heavy Duty and Bus Cumulative EV Stock



Source: Energeia Analysis (2025)

WA State TES Comparison

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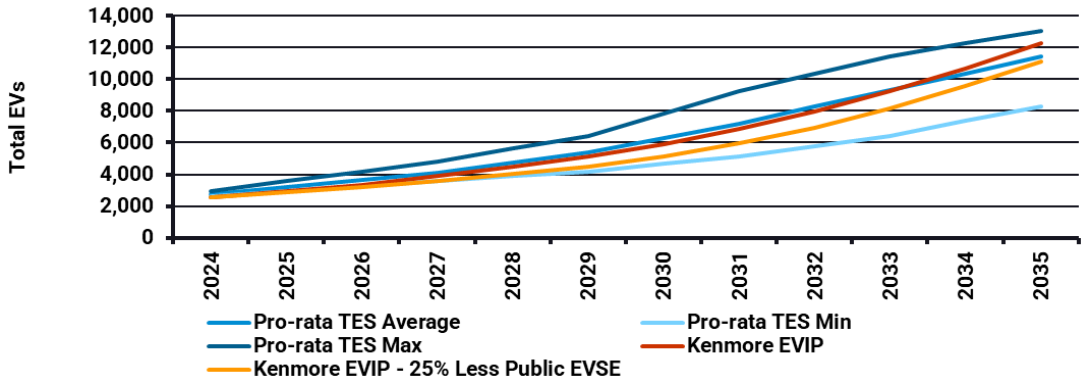
- The Project Team conducted an in-depth analysis of various EV adoption scenarios using the Washington State Department of Commerce's Transport Electrification Strategy (TES) as a benchmark for the bespoke forecast developed for the City
- Scaled TES EV adoption scenarios from the State to Kenmore based on population and 2024 actual EV stock in Kenmore
  - Calculated maximum, minimum, average TES scenarios
- Draft EV stock result for Kenmore is 5% higher than TES average adoption scenario in 2035
  - Kenmore sales and market shares are higher than WA average in 2024
- The Project Team also configured the forecasting model with a lower public charging deployment scenario to demonstrate the importance of public charger deployment
  - 25% less public charging infrastructure results in 11% reduction in adoption

WA State TES Scenarios vs. Kenmore EVIP Forecast



Source: WA Dept. of Commerce (2024), Energeia Analysis (2024)

EV Charging Energy Demand

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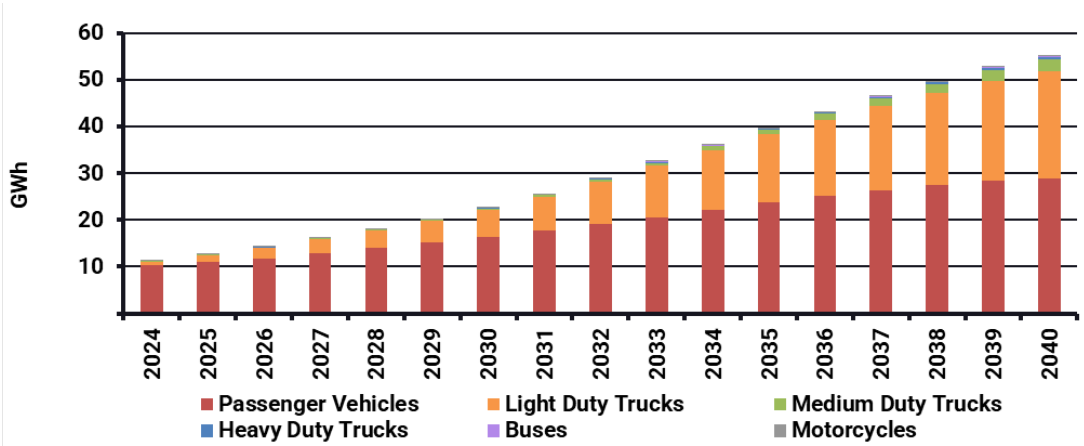
- The Project Team translated vehicle stock into charging energy needs by class using annual vehicle miles traveled, 2024 vehicle energy efficiency, and an assumed improvement in vehicle efficiency of ~1% each year derived from historical efficiency trends
- Passenger vehicles and light duty trucks will comprise majority of EV charging load
- Vehicles and associated energy consumption by vehicle class and year are allocated to charging solutions and site types to develop charging infrastructure recommendations for the EVIP

Annual Charging Energy Consumption by Vehicle Class



Source: Energeia Analysis (2025)

Community Charging Needs

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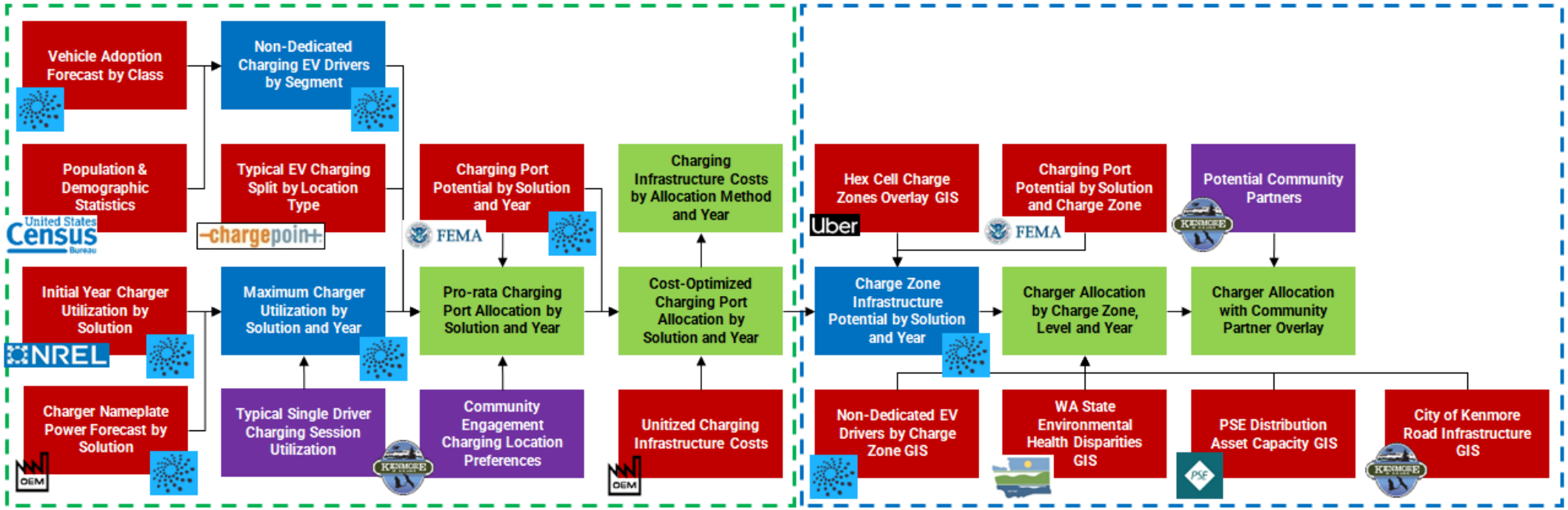
EV Charging Infrastructure Sizing & Spatial Allocation Modeling Inputs and Outputs



Infrastructure modeling approach:

- Map annual vehicle adoption to charging infrastructure needs based on drivers without dedicated charging and spatially allocate with City of Kenmore GIS data

Source: Energeia (2025)

Mapping Vehicles to Drivers

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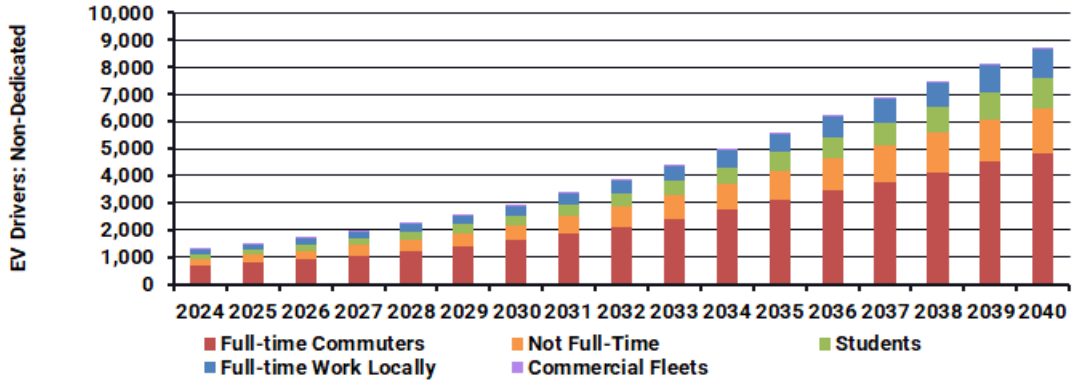
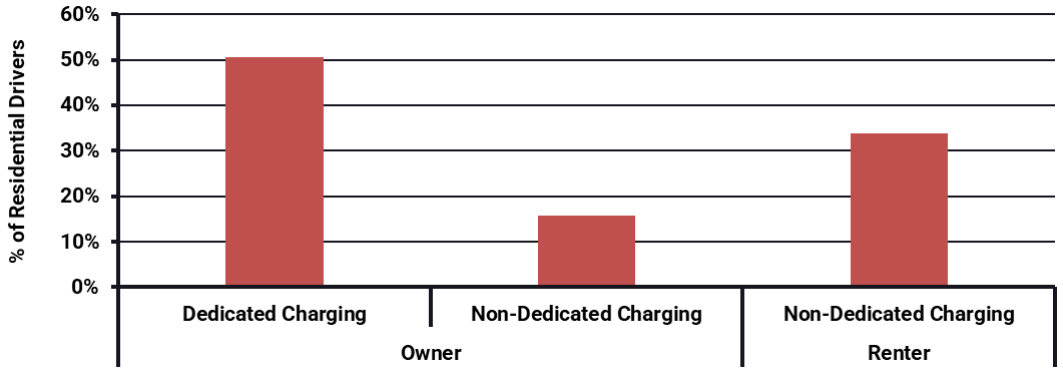
- The Project Team defines non-dedicated drivers as those who cannot charge at home and require public infrastructure to remove charging access as a barrier to EV adoption
- Using key demographic and population statistics from the 2024 US Census, The Project Team mapped the vehicle stock forecast to the shown non-dedicated driver segments
- Key data include:
  - Residential rent vs. own
  - Workforce commuter vs. local vs. Work-From-Home (WFH)
  - Workforce full-time vs. part-time
  - Retiree statistics
  - Student driver statistics

EVs by Non-Dedicated Charging Segment and Year



Kenmore Residential Dedicated vs. Non-Dedicated Charging Split



Source: US Census (2024), Energeia Analysis (2024)

Charging Solutions and Port Potential

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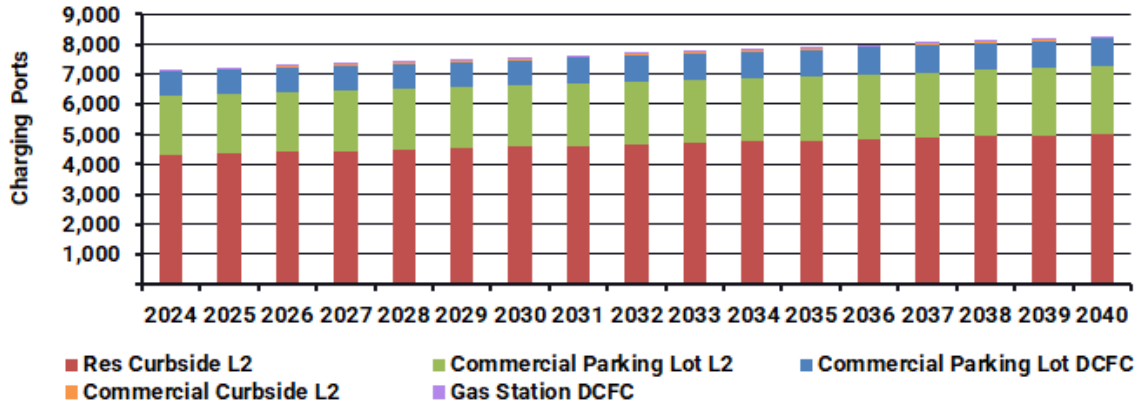
- The Project Team defines a charging solution as a charging technology at a specific site type or location
- Modeled solutions and associated assumptions are shown at right, including current and future utilization rates, outlooks for nameplate power in 2040, and typical operating hours
- The Project Team then used open-source geographic information systems (GIS) data to classify sites within these solution categories
- Curbside parking sites assume vehicles are 5m long and within 100m of a residential or commercial premise to be considered viable

Charging Solution Assumptions Summary

Data Category	Residential Curbside L2	Commercial Curbside L2	Commercial Parking Lot L2	Commercial Parking Lot DCFC	Gas Station Parking Lot DCFC
Typical Operating Hours	6am-10pm	7am-7pm	7am-7pm	7am-10pm	6am-12am
Typical Operating Hours / Day	16	12	12	15	18
Average Time-Based Utilization (2024)	13%	13%	13%	15%	15%
Average Time-Based Utilization (2040)	67%	50%	50%	63%	75%
Charger Type	Level 2	Level 2	Level 2	DCFC	DCFC
Average Parking Spots/Site	1	1	44	44	12
Nameplate Power (kW) (2024)	11	11	11	250	250
Nameplate Power (kW) (2040)	17	17	17	500	500

Total Kenmore Charging Port Potential by Solution and Year



Source: WashDOT Open Data, US FEMA, Energeia Research and Analysis; Note: DCFC = Direct Current Fast Charging, L2 = Level 2

Charger Utilization and Service Capacity by Solution

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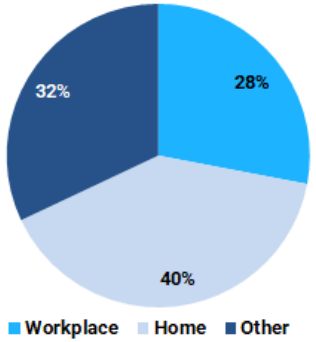
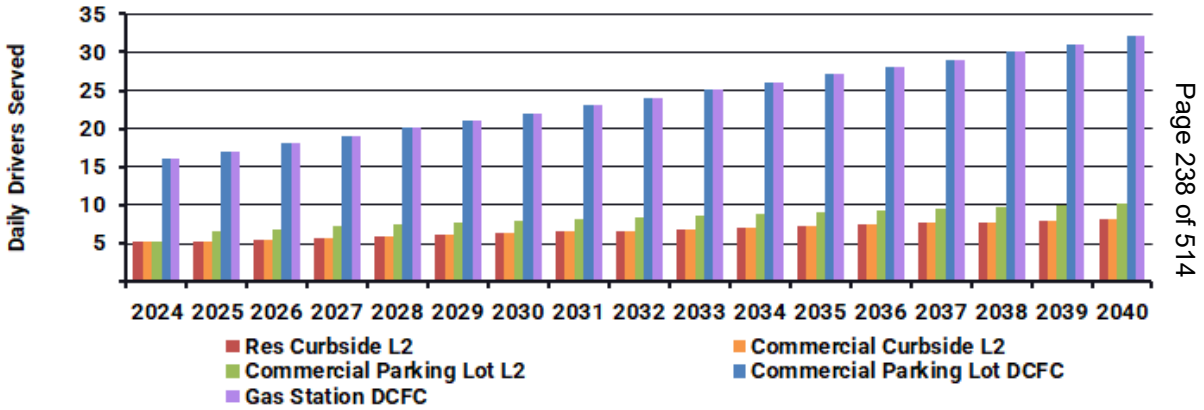
- The Project Team captured key inputs to develop a forecast of maximum daily drivers served/charging port, shown at right, including the following data sources:
  - Initial year charger time-based utilizations from NREL:
    - **L2**: 13%
    - **DCFC**: 15%
  - Typical EV driver charging location splits from ChargePoint network data reported by CBRE
  - Typical single driver charging session utilization from community engagement
  - Assumed operating hours by solution
  - And forecast increases in nameplate charger power by solution
- Forecast of drivers/port/day directly informs ability of each solution to meet non-dedicated driver needs in the City of Kenmore

Typical EV Driver Charging Split by Location Type



Maximum Drivers Served/Charging Port/Day by Solution and Year



Source: NREL (2024), CBRE , ChargePoint (2024), Energeia Analysis (2024)

Community Charging Preferences

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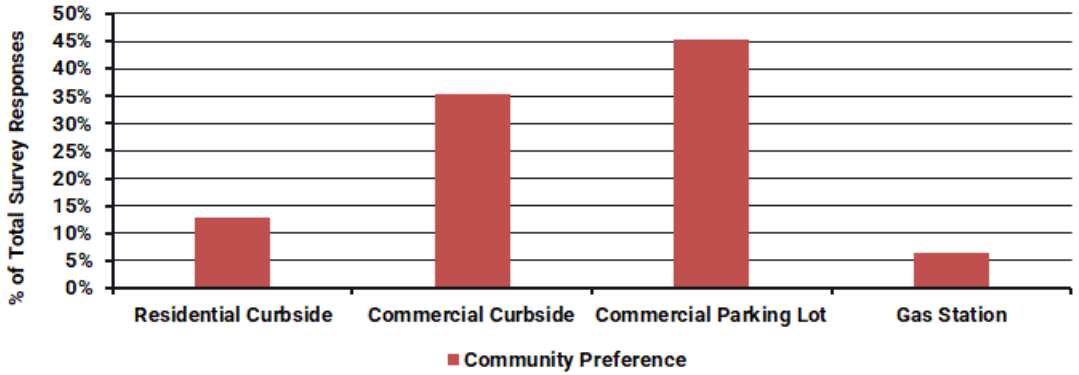
- The Project Team analyzed City community engagement results and mapped preference locations to charging solution categories, shown at right
- Initial infrastructure solution modeled to maximize alignment with community preferences within the “Other” charging location split category
- All modeled solutions ensure driver needs are met, and site constraints are not exceeded in the City
- Majority of survey results are likely from drivers who do not necessarily need public charging to adopt (drivers already own/operate an EV)

Charging Location Preference Survey Responses Mapped to Solutions



Source: City of Kenmore, Accenture, Energeia Analysis (2025)

Charger Allocation Methods

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Pro-rata vs. Cost-Optimized

- The modeling tool used to estimate infrastructure needs includes two key methods to allocate chargers to solutions to meet EV charging needs:
  - **Pro-rata:** Allocates based on relative site availability by solution, with some solutions weighted towards community preference when and where possible
  - **Cost-Optimized:** Starts from pro-rata solution, re-allocates to solutions that minimize NPV cost while still meeting driver port requirements each year
- Cost-Optimized details and assumptions:
  - Uses linear programming
  - Unitized infrastructure costs shown at right (same as fleet transition plan)
  - 2.5% discount rate
  - 5% maximum solution total variance in driver needs and nameplate power between pro-rata and optimized

Illustrative Charging Solution Cost Optimization Framework

Cost Optimization Results to 2040	
Solution Cost Savings (NPV)	$3,716,673
Charging Port Availability Deficiencies	0
Drivers Served (Pro-rata Solution)	9,419
Drivers Served (Cost-Optimized Solution)	9,424
Drivers Served (% Variation)	0%
Nameplate kW (Pro-rata Solution)	65,412
Nameplate kW (Cost-Optimized Solution)	64,844
Nameplate kW (% Variation)	1%

Unitized Charging Infrastructure Cost/kW by Level and Category

Level	Total Installed Cost ($/kW)	Installation ($/kW)	CapEx ($/kW)	Annual OpEx ($/kW)
Level II	$500	$300	$200	$40
DCFC	$1,000	$450	$550	$60

Source: OEM Websites, Accenture Analysis (2025)

Grid Integration Modeling Inputs

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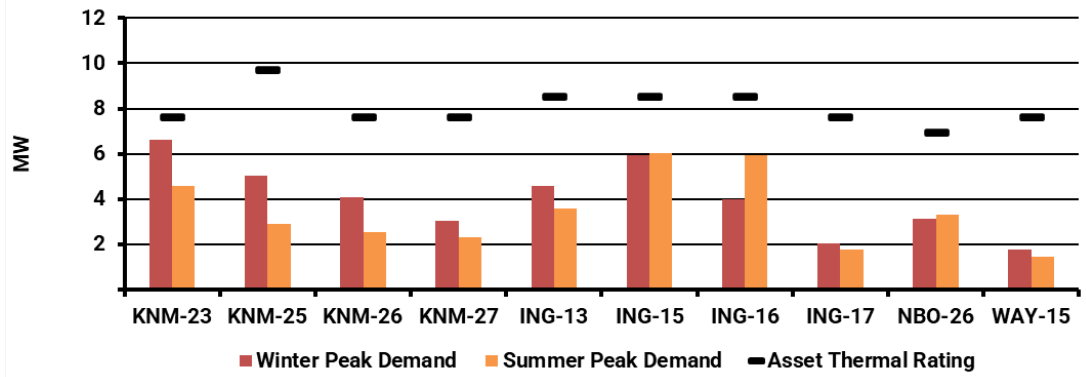
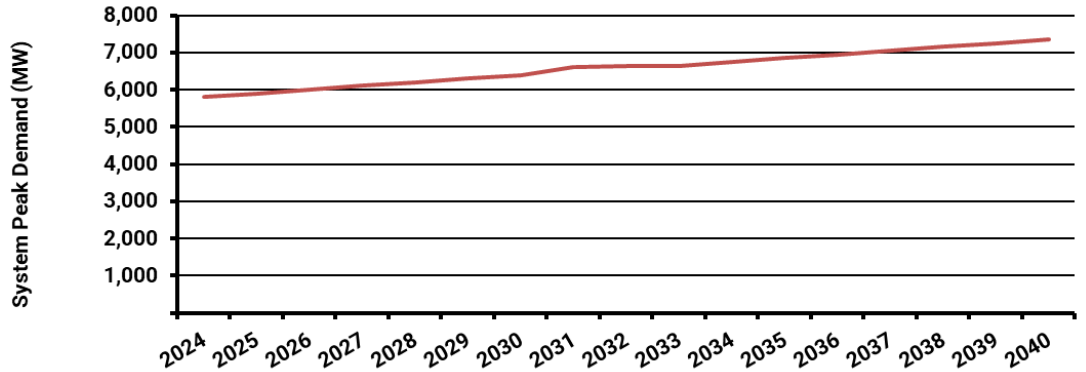
- The Project Team engaged with Puget Sound Energy (PSE) to acquire necessary data via their Hosting Capacity mapping team and System Planning teams
- PSE provided a summary of its circuits serving the City, including summer and winter peak demands, associated timings, and circuit thermal ratings
- PSE's latest Integrated Resource Plan (IRP) peak demand forecast used to derive average demand growth rate to apply to all circuits (~1.5%)
    - It is important to note that the system-level peak growth rate reflects more diversity than individual circuits, and thus circuit peak growth rates may be higher, however no circuit peak data was provided
- GIS for each circuit was used to spatially allocate potential sites to each circuit and estimate feasibility of integration

PSE Circuits Serving Kenmore



PSE IRP Peak Demand Growth Forecast



Source: Puget Sound Energy (PSE) (2025)

PSE Distribution System Capacity

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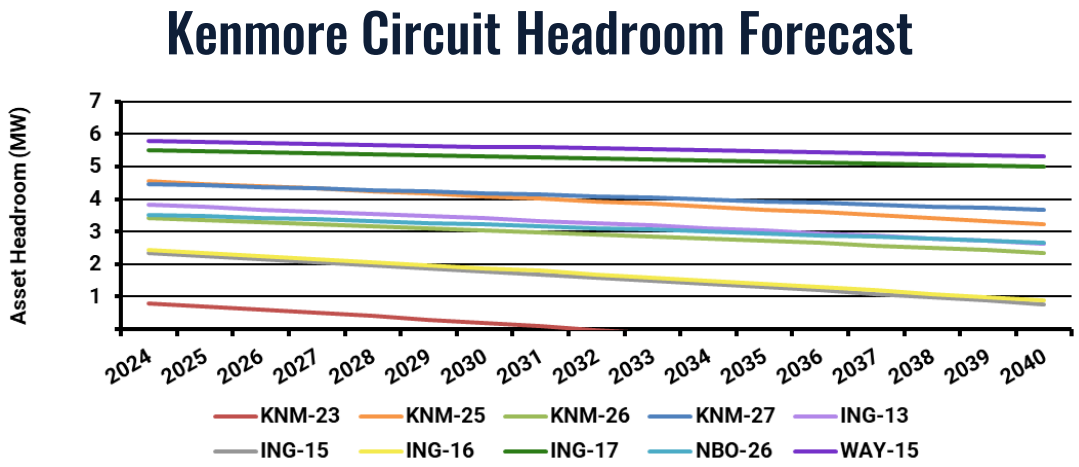
- The Project Team incorporated asset headroom over time into the charger spatial allocation based on circuit headroom by charge zone as an allocation weighting criterion, shown at right
- It is important to note that including this criterion can skew charger allocation to lower driver density areas in favor of leveling grid capacity
  - The Project Team developed two versions of 2040 charger deployment draft results, with and without grid capacity as an allocation criterion



Source: PSE (2025), Energeia Analysis (2025)

Charging Port Allocation by Solution

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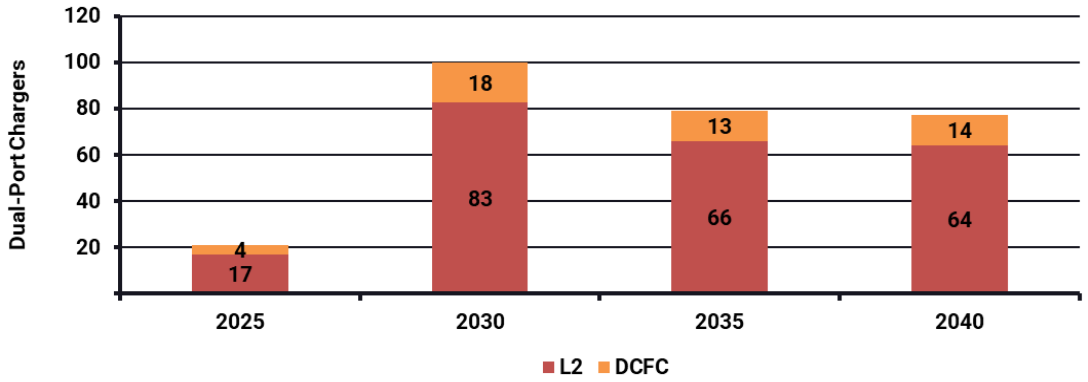
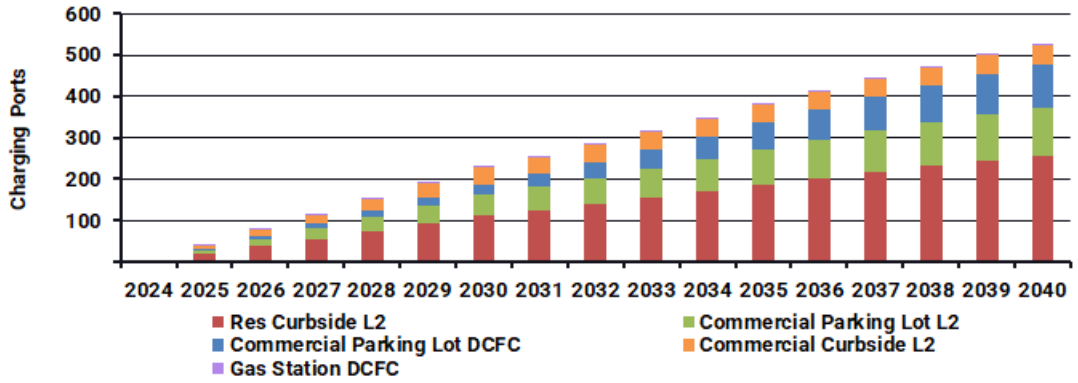
- Forecast charging solution mix by method shown at right, indicating similar residential curbside and commercial parking lot charger deployment
- Cost-Optimized solution shows more diverse mix of commercial curbside and DCFC solutions
- 5-year phasing of Cost-Optimized solution shown below, indicating largest investment period from 2025 to 2030

5-Year Phased Charger Deployment Summary: Cost-Optimized Solution

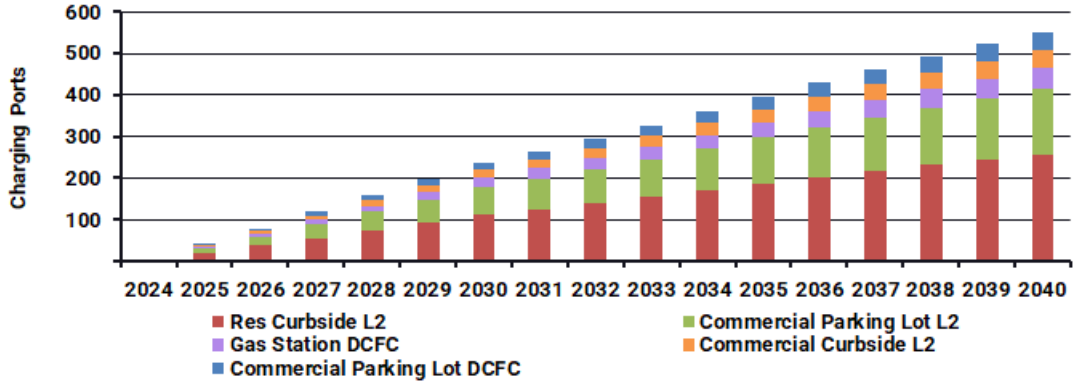


Source: Energeia Analysis (2025)

Pro-rata Cumulative Charger Allocation



Cost-Optimized Cumulative Charger Allocation



Return to TOC

Cumulative Costs by Allocation Method

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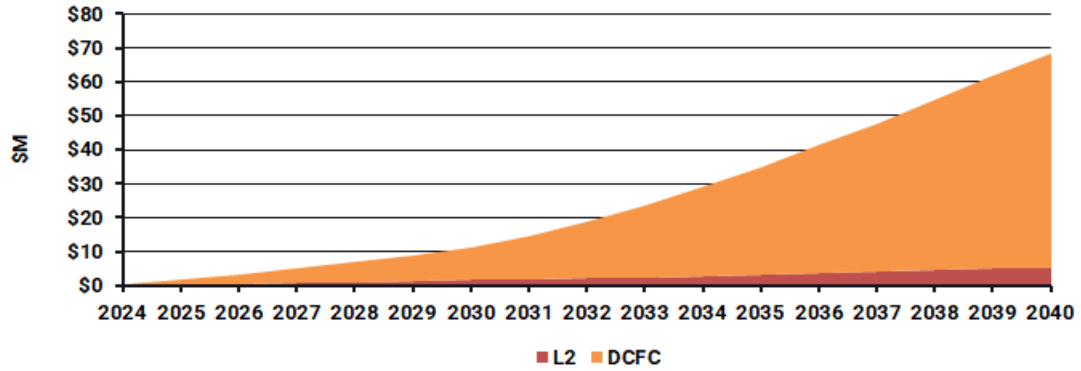
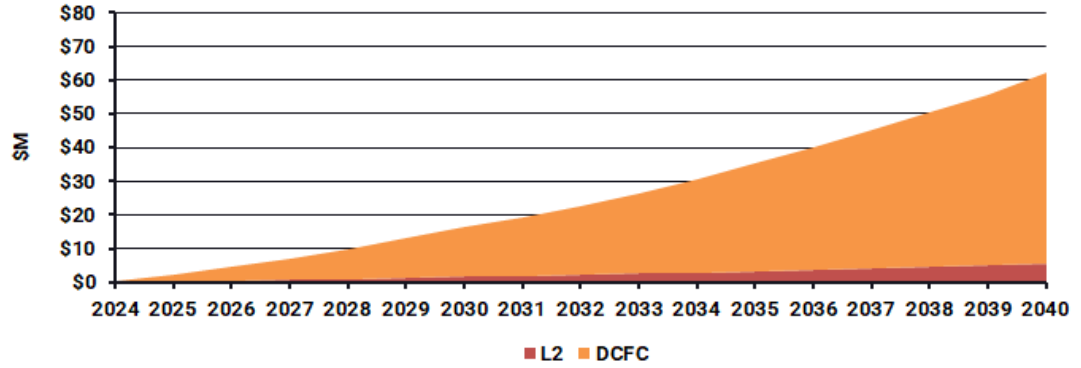
- Majority of cost for both allocation methods due to L2 charger deployment, with about ~$5M in cumulative DCFC costs by 2040
- Cost-Optimized solution saves ~$7M in undiscounted, cumulative costs by 2040 compared to Pro-rata solution due to lower cost L2 solutions
- Targeted deployment in high driver density areas leads to higher utilization, reducing need for total infrastructure

Pro-rata Solution Infrastructure Cost by Charger Level



Cost-Optimized Solution Infrastructure Cost by Charger Level



Source: Energeia Analysis (2025)

Infrastructure Allocation Method Comparison

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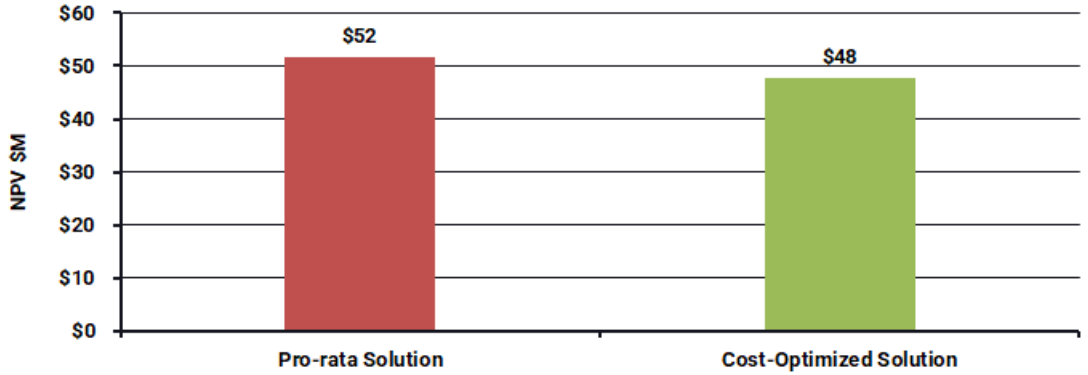
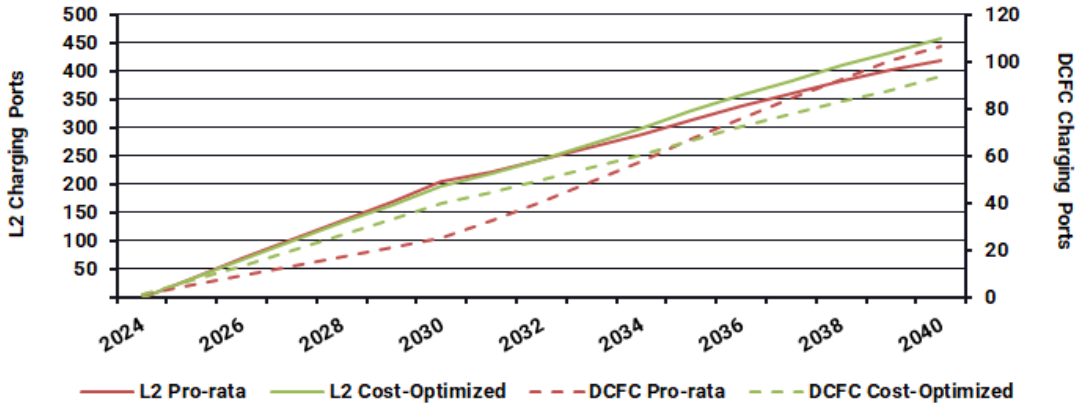
- In present value terms, assuming a 2.5% discount rate, the Cost-Optimized solution results in ~$3.7M in total savings over the forecast deployment period
- Cost-Optimized method results in earlier deployment of DCFCs, while L2s for Cost-Optimized begin to exceed the Pro-rata solution in the 2030s
- DCFC vs. L2 utilization to cost ratio higher in earlier years, resulting in higher DCFC deployment until 2030s, then L2s become relatively more cost effective

Net Present Value Charger Deployment Costs Allocation Method



Charging Port Counts by Level and Allocation Method



Source: Energeia Analysis (2025)

Benchmarking Modeled Charging Infrastructure

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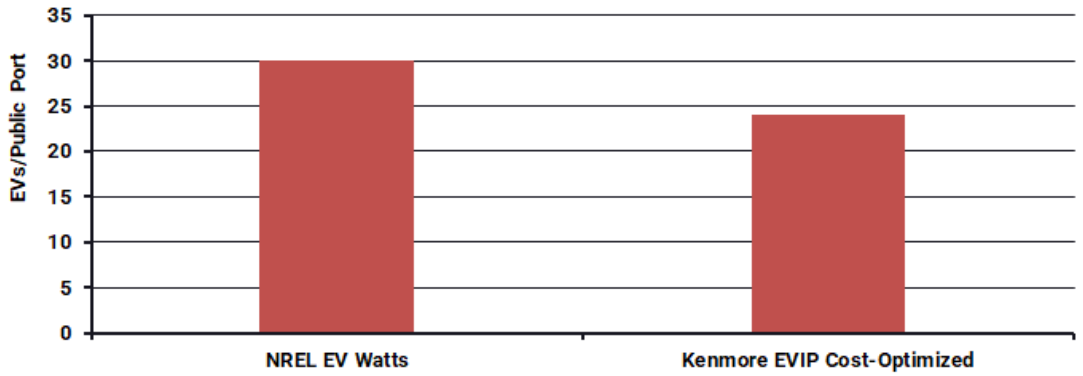
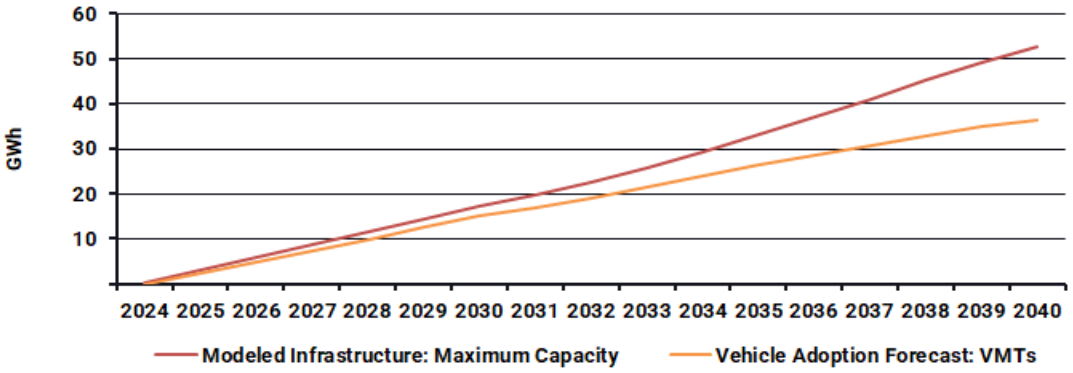
- The Project Team captured NREL's EV Watts tool results and calculated number of required public ports in Kenmore based on population
  - Cost-Optimized solution shows 24 total EVs/public port relative to NREL's 30 EVs/port in 2030, indicating a higher density of infrastructure need compared to NREL's modeling tool
- The Project Team also calculated maximum energy served based on the modeled infrastructure compared to estimated charging energy consumption based on vehicle miles traveled
  - Modeled charging infrastructure capacity trajectory is steeper than forecast energy needs after 2030, due to increases in vehicle efficiency and nameplate charging power
  - Additional nameplate capacity could accommodate additional charging from external congestion from County traffic, leading to higher utilization rates

Electric Vehicles/Public Charging Port Comparison (2030)



Maximum Energy Served vs. Consumed by Model



Source: National Renewable Energy Laboratory (NREL), Energeia Analysis

Charger Spatial Allocation

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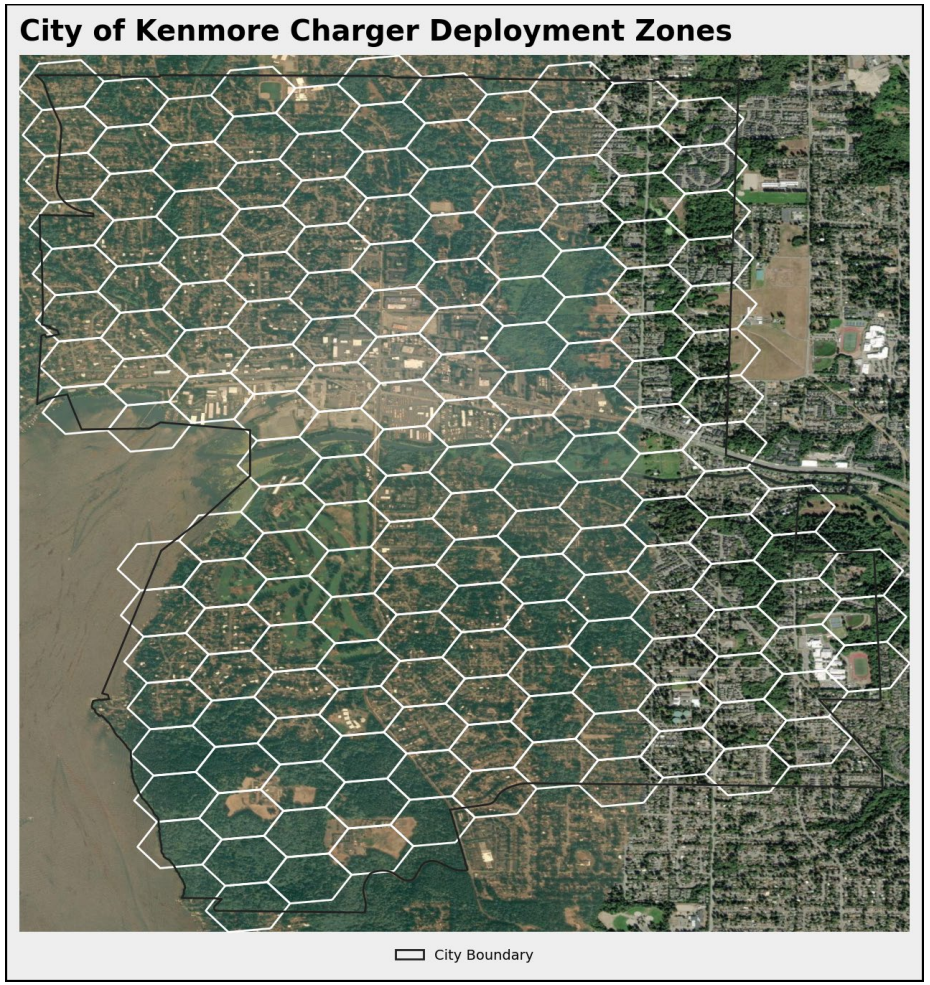
Hex Cell Overlay

- The Project Team uses a hexagonal cell overlay on the City where each cell is 500m across
- Hexagonal cells used to estimate spatial charging demand across the City and allocate infrastructure accordingly
- Charge zones (hexagonal cells) normalize geographic areas, allowing for standardized charger demand, site availability, equity-based weighting, and grid capacity modeling
- Charge zones were assigned allocation weights and constraints based on key environmental justice data, grid capacity, and driver demand
- Chargers by solution and year were then assigned to zones based on a weighted random selection from a probability density function
    - Cells with higher weighting more likely to be selected for infrastructure deployment
    - Cells without site availability for a given charging solution are ineligible for selection
    - Potential partner sites identified based on forecast charger allocation in key high-demand charge zones



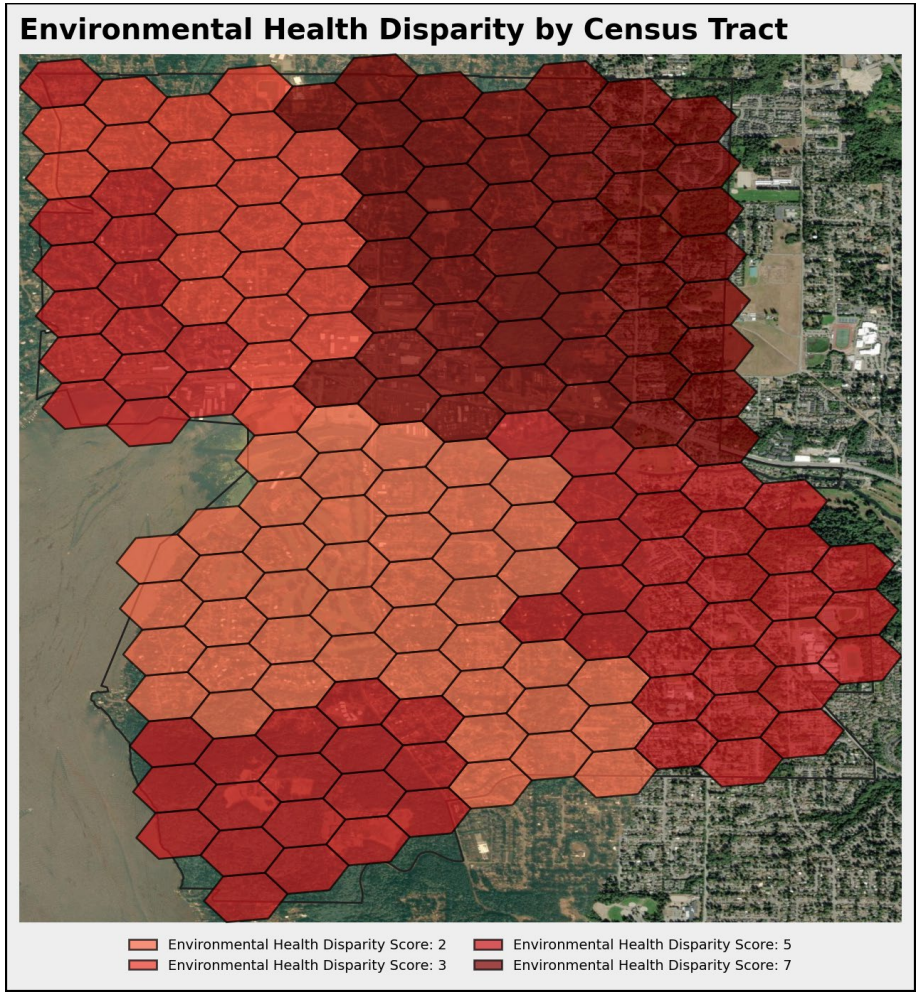
Source: H3 (Uber), Energeia

Charger Spatial Allocation

KENMORE ENVIRONMENTAL ACTION NOW

Environmental Health Disparity Indices by Zone

- Shown at right is the WA Dept. of Health Environmental Health Disparity Map by census tract, which The Project Team spatially joined with charge zones
- Env. Health Disparity Indices used as key allocation weighting criteria for charger deployment, ensuring equitable deployment of chargers to areas with higher scores
- Higher score = higher exposure to environmental health risks, indicating a greater relative benefit for reduced tailpipe emissions resulting from higher EV adoption rates



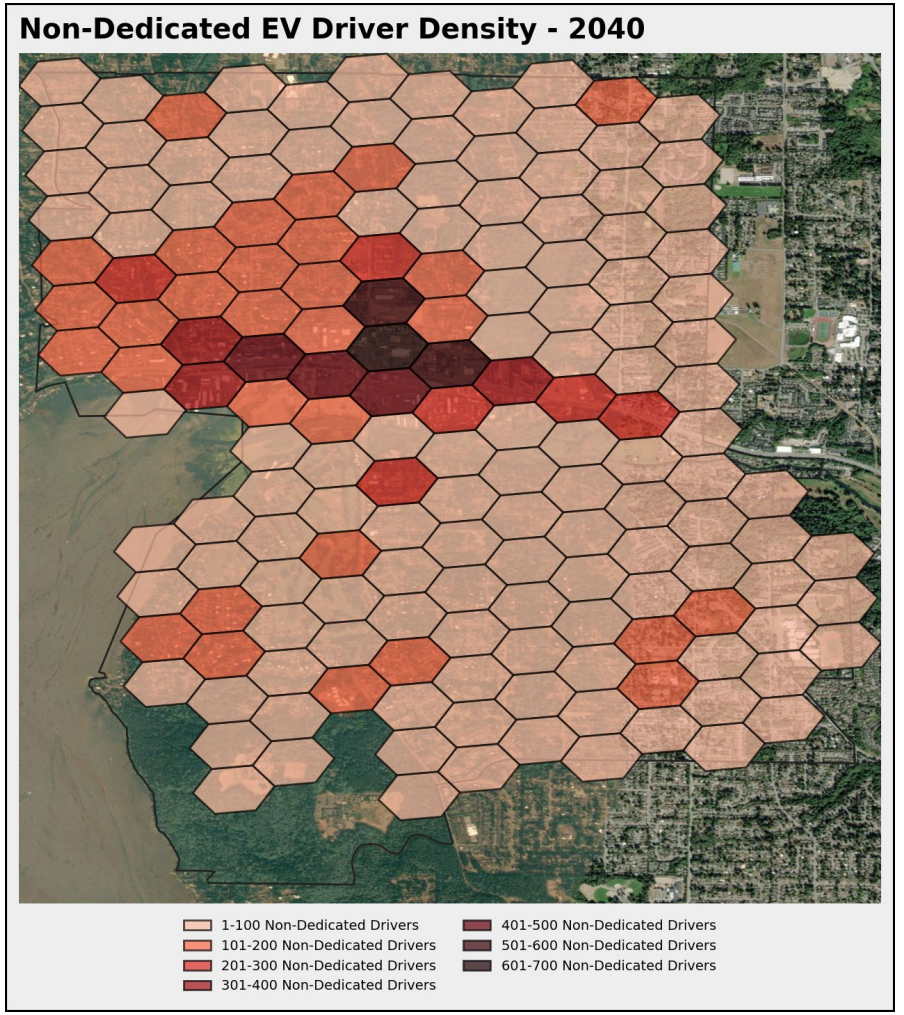
Source: WA Dept. of Health, Energeia Analysis

Charger Spatial Allocation

KENMORE ENVIRONMENTAL ACTION NOW

Non-Dedicated EV Driver Density by Zone

- Shown at right is The Project Team's forecast of EV charging demand in 2040, indicating a high density of drivers in the central corridor of the City near commercial premises and a relatively even distribution of drivers in residential areas
- Blank or missing charge zones indicate parks or areas without any allocated non-dedicated drivers
- Driver density used as key allocation weighting metric for charger allocation each year



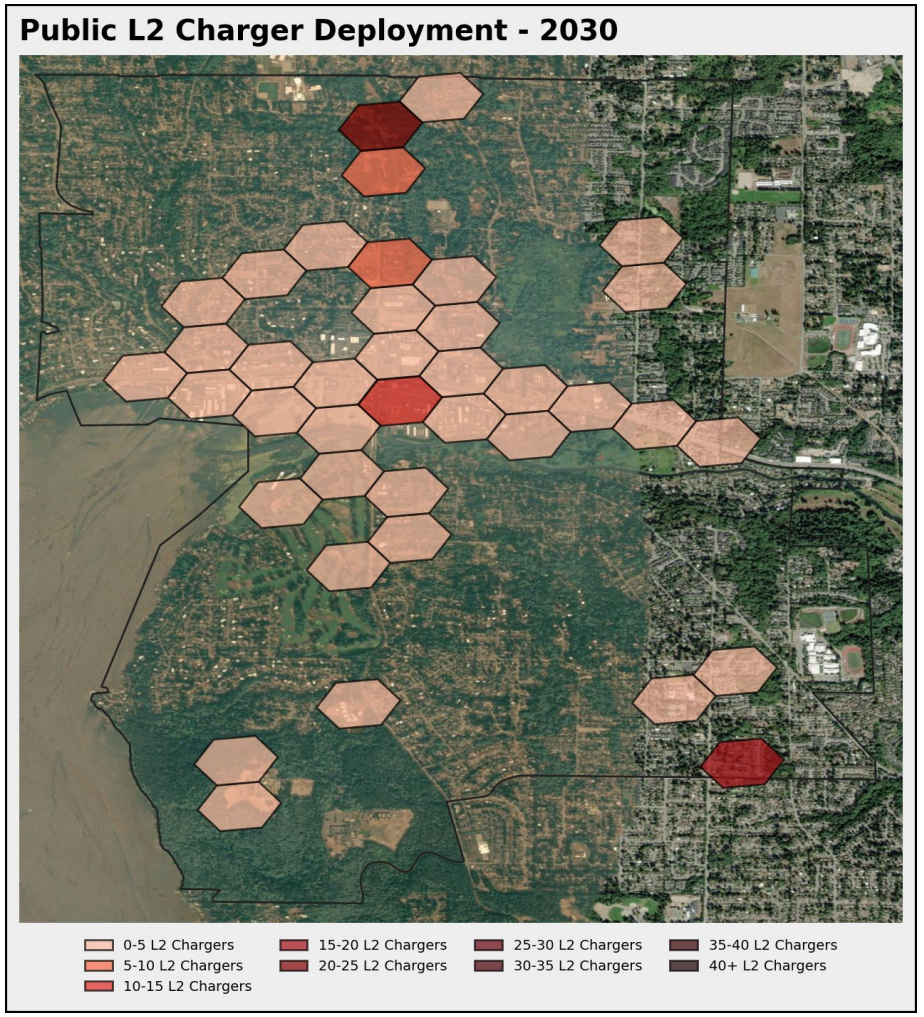
Source: Energeia Analysis (2025)

2030 L2 Charger Allocation

KENMORE ENVIRONMENTAL ACTION NOW

L2 Charger Cumulative Deployment: 2030

- Shown at right is 2030 spatial allocation of L2 chargers based on:
  - Site availability by solution type
  - Non-dedicated driver density
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- By 2030, majority of optimally deployed L2 chargers located near central commercial corridor, with few L2s spread out across key high-demand residential areas and parks



Source: Energeia Analysis (2025)

2035 L2 Charger Allocation

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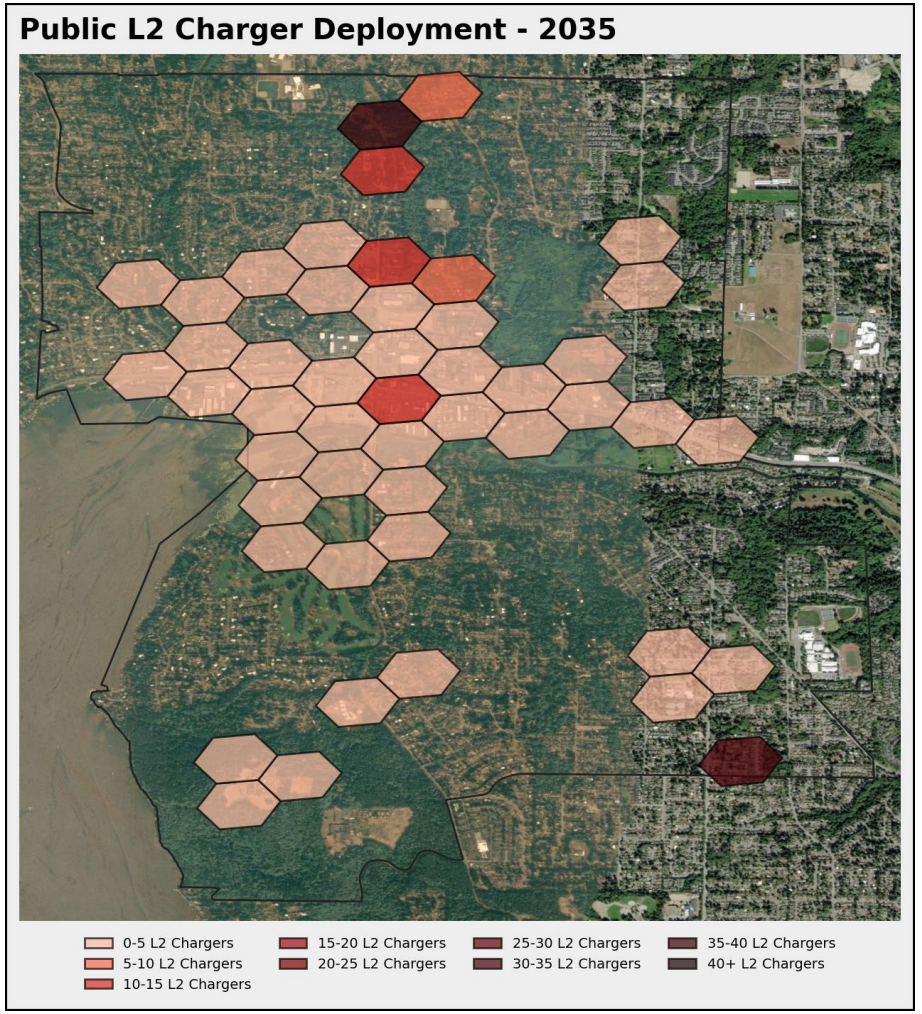
L2 Charger Cumulative Deployment: 2035

- Incremental deployment from 2030 to 2035 includes additional L2 infrastructure along key corridors such as intersection of 68th Ave and 522
- Expanded parking lot L2 charging near schools in SE corner of City, curbside L2 chargers in residential areas, and chargers and at St. Edward Park



Source: Energeia Analysis (2025)

2040 L2 Charger Allocation

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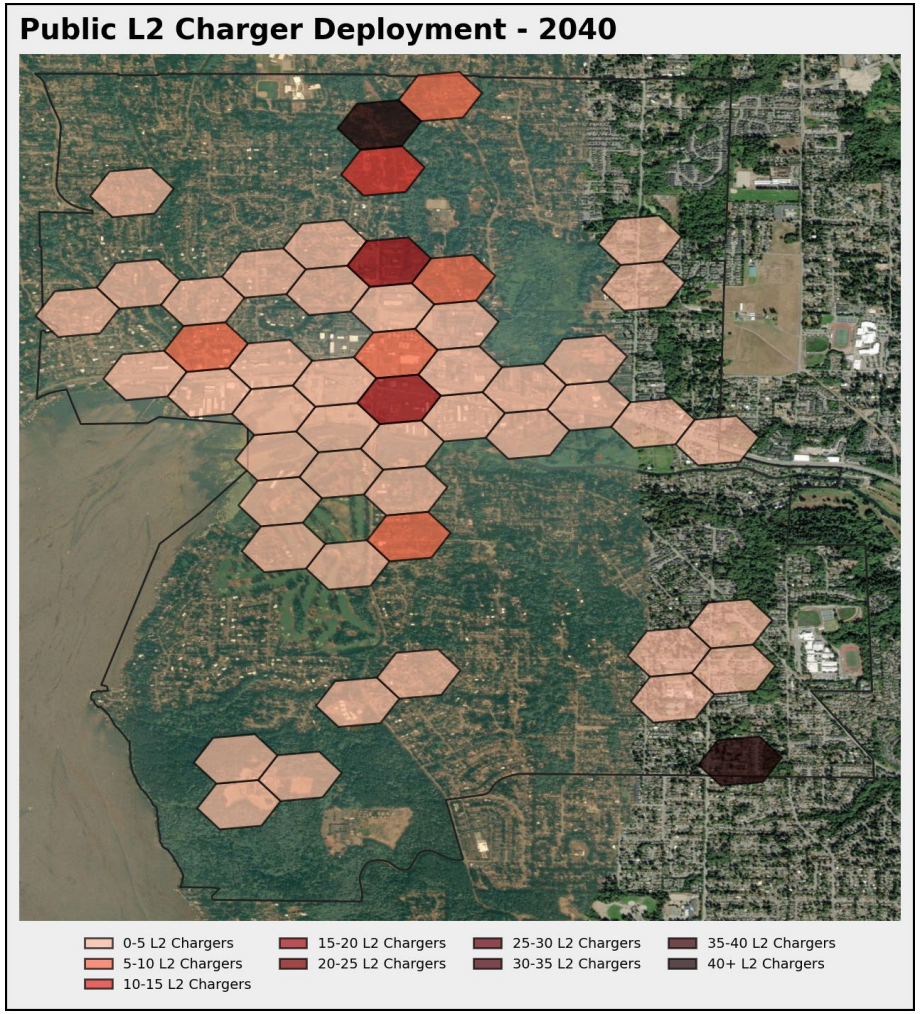
L2 Charger Cumulative Deployment: 2040

- By 2040, expanded L2 charging infrastructure deployment along Rt. 522, mostly deployed in partnership with commercial sites including larger parking lots and at existing gas stations (Safeway, Shell, Chevron), extending towards Kenmore Elementary
- Selected residential curbside charging in NW and NE sectors of the City to serve residents without dedicated at-home charging



Source: Energeia Analysis (2025)

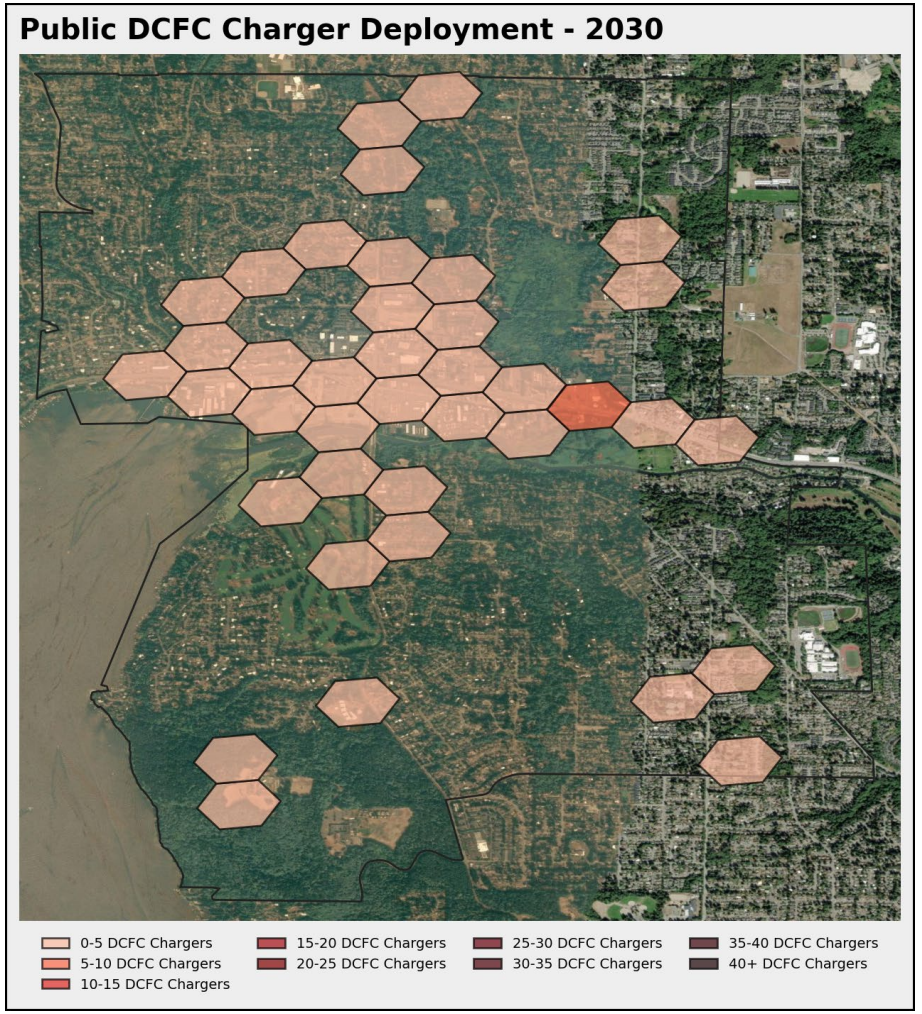
Return to TOC

2030 DCFC Allocation

KENMORE ENVIRONMENTAL ACTION NOW

DCFC Cumulative Deployment: 2030

- Similarly, shown at right is 2030 spatial allocation of DCFC chargers based on:
  - Site availability by solution type
  - Non-dedicated driver density
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- Main commercial corridor in the City is key area of density, which is an expected outcome due to high traffic density, public access, and density of potential commercial sites for infrastructure
- Relatively fewer DCFCs deployed in Southern areas of the City due to lower Environmental Health Disparity score in SE corner and lower charging demand



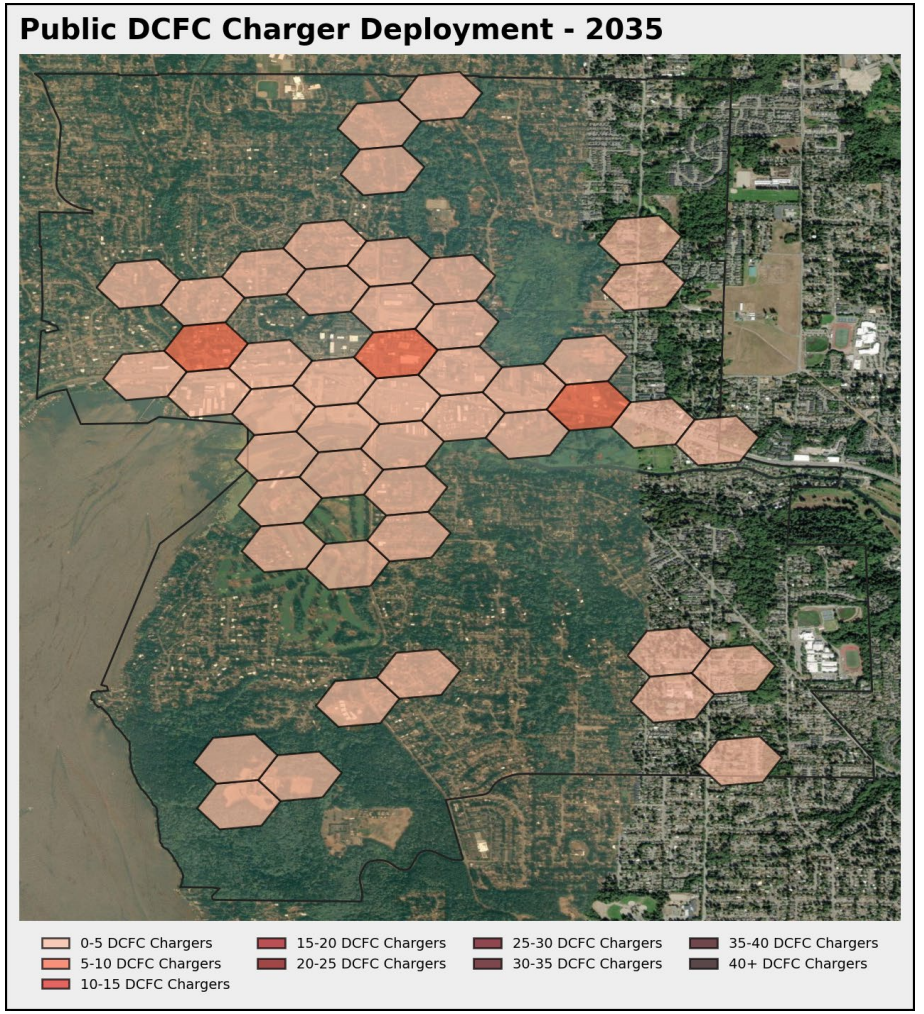
Source: Energeia Analysis (2025)

2035 DCFC Allocation

KENMORE ENVIRONMENTAL ACTION NOW

DCFC Cumulative Deployment: 2035

- From 2030 to 2035, incremental DCFC deployment in commercial and mixed use parking lots, at the NE Bothell Park and Ride, and multi-family residential sites such as Inglewood Forest and Green Leaf apartments
- Selected DCFC deployment at St. Edward Park, elementary schools, churches, and residential areas



Source: Energeia Analysis (2025)

2040 DCFC Allocation

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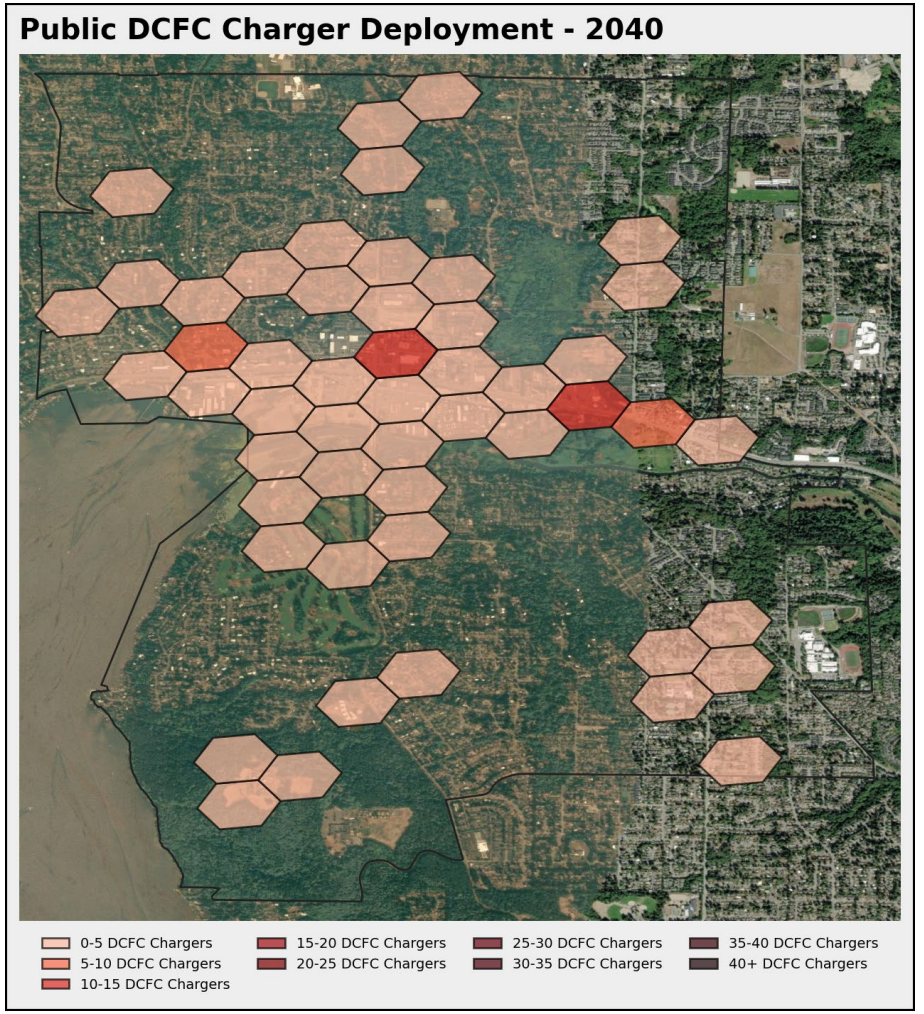
DCFC Cumulative Deployment: 2040

- By 2040, expanded DCFC infrastructure deployment located around key high traffic congestion and commercial areas to maximize utilization and benefit of infrastructure to reduce range anxiety and increase EV adoption
- Concentrated DCFCs in parking lots at schools and parks provides additional fast charging to residents without traveling to central 522 corridor



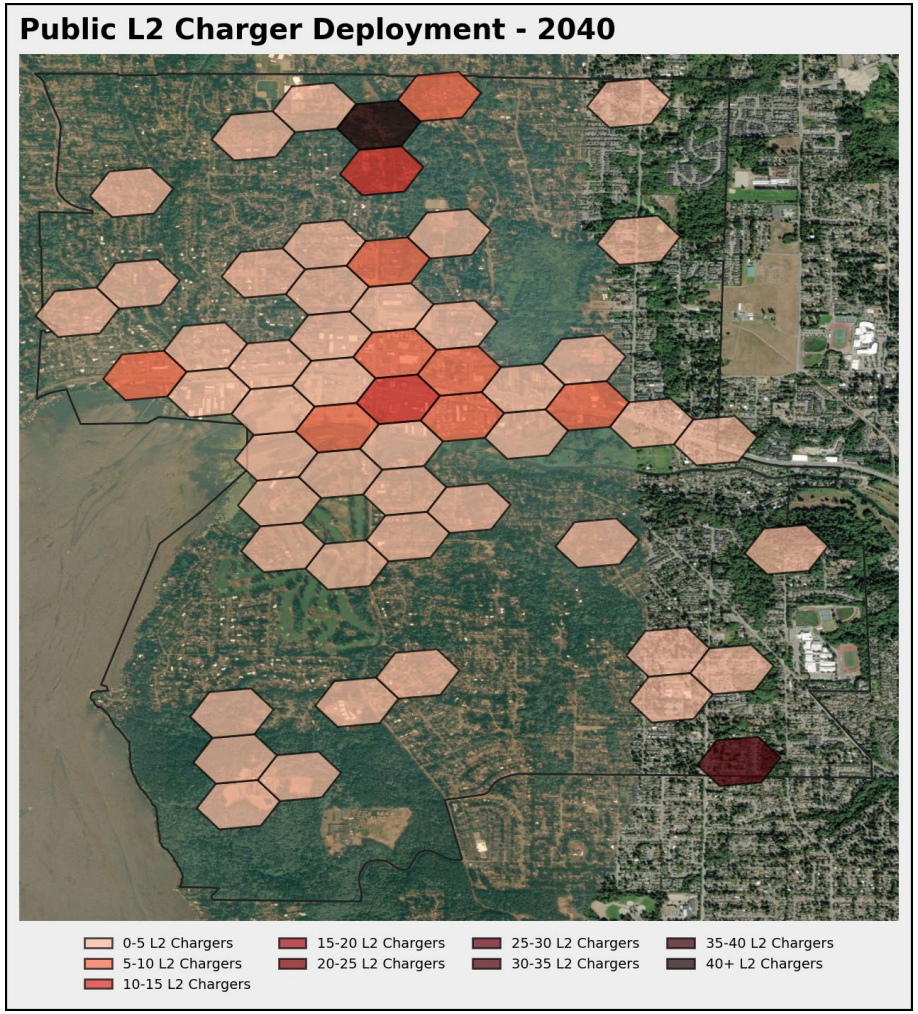
Source: Energeia Analysis (2025)

2040 L2 Charger Allocation

KENMORE ENVIRONMENTAL ACTION NOW

L2 Charger Spatial Allocation (excl. Grid Capacity)

- Shown at right is the same 2040 L2 charger allocation, excluding grid capacity as a key weighting criterion
- Sensitivity analysis excluding grid capacity as infrastructure modeling element leads to minimal change in spatial results
- Central corridor of the City remains key area of charger density



Source: Energeia Analysis

2040 DCFC Allocation

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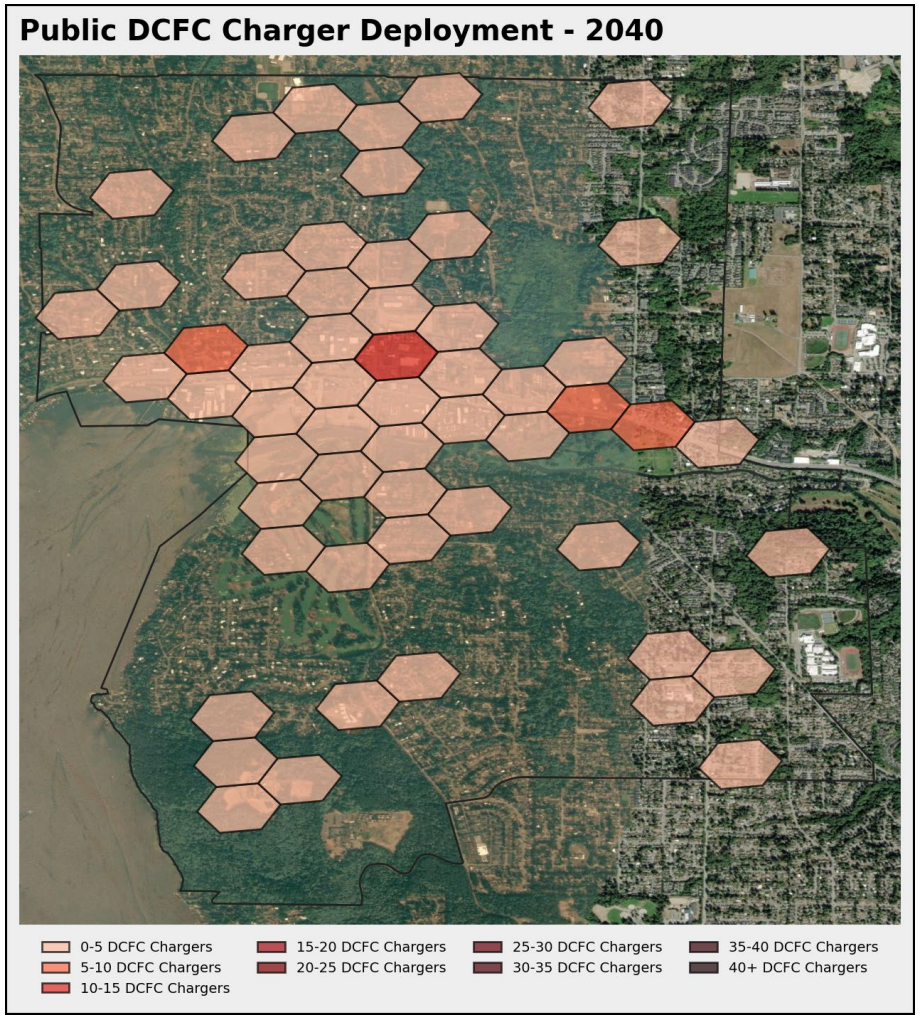
DCFC Spatial Allocation (excl. Grid Capacity)

- Without grid capacity as a weighting criterion, minimal DCFC deployment change
- This is potentially due to constraints related to commercial parking lot site availability and location of existing fueling stations
- Charger allocation modeling including grid capacity as allocation criterion taken forward into partnership site identification to minimize potential future grid integration constraints



Source: Energeia Analysis (2025)

Charging Site Partnerships

KENMORE ENVIRONMENTAL ACTION NOW

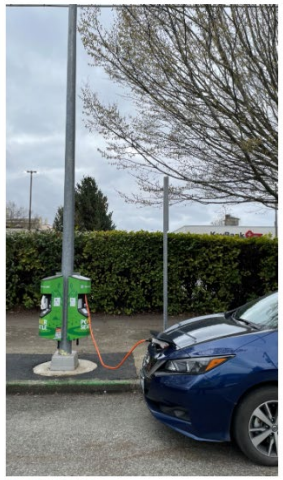
Based on charger spatial allocation, the Project Team identified potential partner sites at schools, community centers, commercial centers and businesses, and parking infrastructure.

Potential partner sites shown at right based on cumulative spatial charge zone allocation in 2030, translating modeled charge zones into public charging partnership options for focused engagement in the next 5 years to achieve near-term infrastructure deployment targets.

- Potential partner sites, including names and addresses, in tabular form, are shown in the Appendix

Infrastructure may include pole chargers, in-ground or mounted chargers, depending on location and partner preference. Options shown as examples below.

Pedestal Charger



Steel Pole Charger

Wood Pole Charger

Source: Accenture, Energeia (2025)

Fleet Electrification Transition

Chapter 6

CITY OF KENMORE

ENVIRONMENTAL SERVICES

- MODELING PROCESS
- EXISTING CONDITIONS
- COMPARISON TO ICE OPERATIONS
- FLEET TRANSITION
- INFRASTRUCTURE RECOMMENDATIONS

CITY OF KENMORE

ENVIRONMENTAL SERVICES

City Fleet Electrification

KENMORE ENVIRONMENTAL ACTION NOW

Why would the City of Kenmore consider electrifying its fleet?

1. Aligning with State decarbonization and clean transportation goals
2. Actions described in Kenmore Climate Action Plan
3. Resources to support EV charging infrastructure: utility incentives, grants, rebates, tax credits
4. Increasing demand from community

Key Drivers

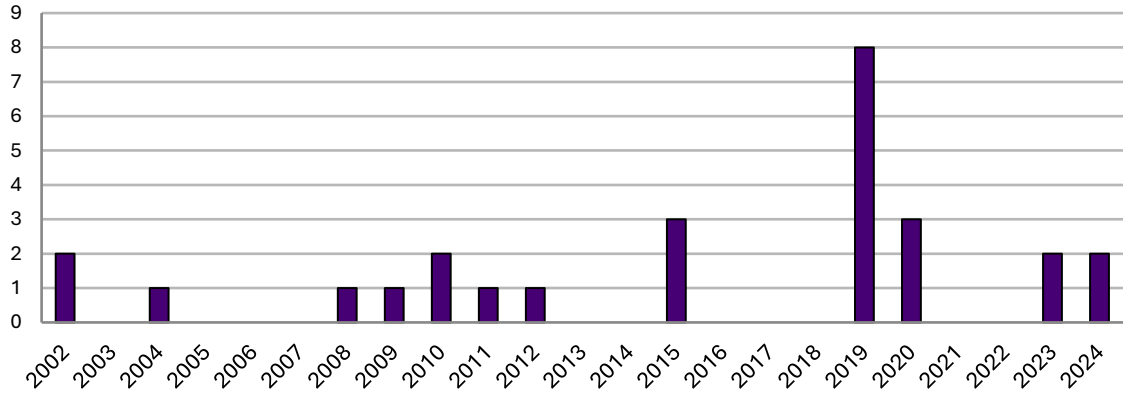
- State Goals, Building Codes and Regulations
- Alignment with Kenmore Sustainability Policy
- City Sustainability Commitments
- Funding Opportunities & Partnerships
- Federal Policy and Support

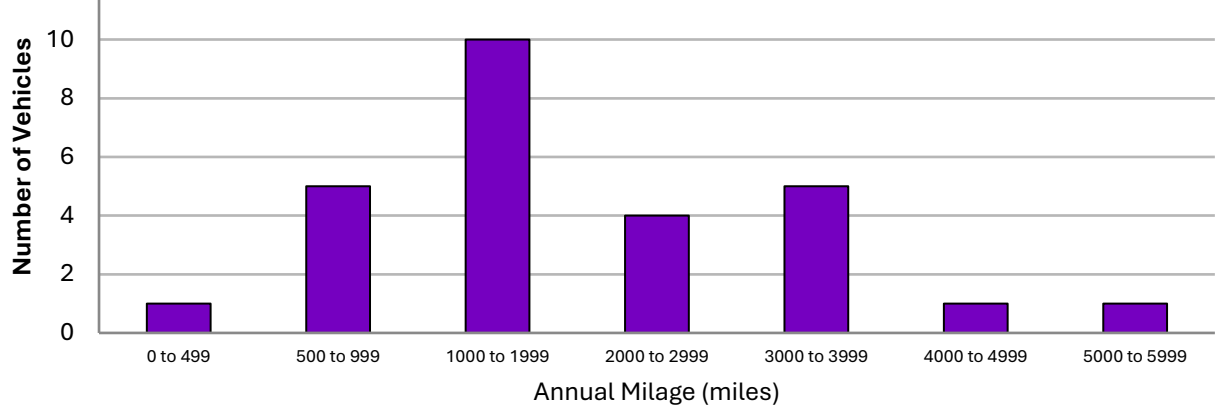
Benefits

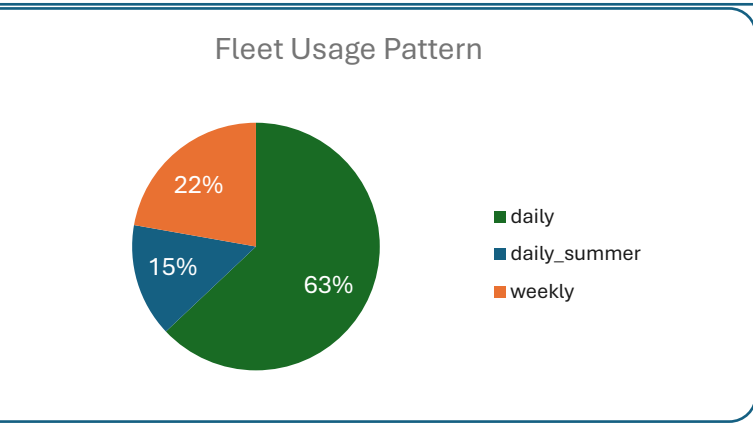
- Equity and Accessibility
- Recruitment and Retention
- Localized Pollution Reduction and Air Quality Improvements
- Economic Growth and Green Jobs
- Support for Regional Transportation Plans
- Educational Opportunities & Workforce Training

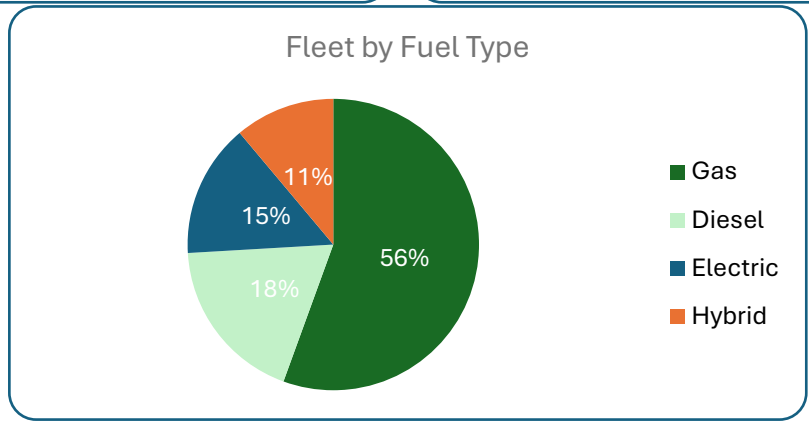
City of Kenmore Existing Fleet Snapshot

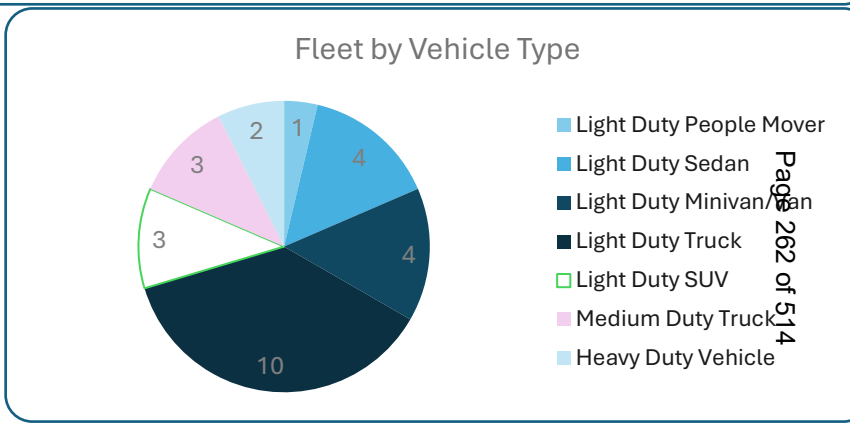
KENMORE ENVIRONMENTAL ACTION NOW











Count: 27 Vehicles (aged 2002-2024)
Breakdown: Light, Medium & Heavy Duty | Diesel, Gasoline, Hybrid and EV Powertrains
Department Use: Multi-department Use, Development Services, Engineering, Water, Public Works, General Use
Usage: Daily, Weekly, Summer Usage Patterns
Mileage: 211- 5,706 Miles/Yr

Return to TOC

MODELING PROCESS

KENMORE ENVIRONMENTAL ACTION NOW

Map vehicles to specific use cases

To map vehicles to specific use cases, the Project Team began by compiling a list of vehicles in the Kenmore fleet, noting their scheduled replacement year and annual mileage. The "Usage" column then segmented this dataset, and the Project Team estimated the daily mileage for each vehicle based on this information.

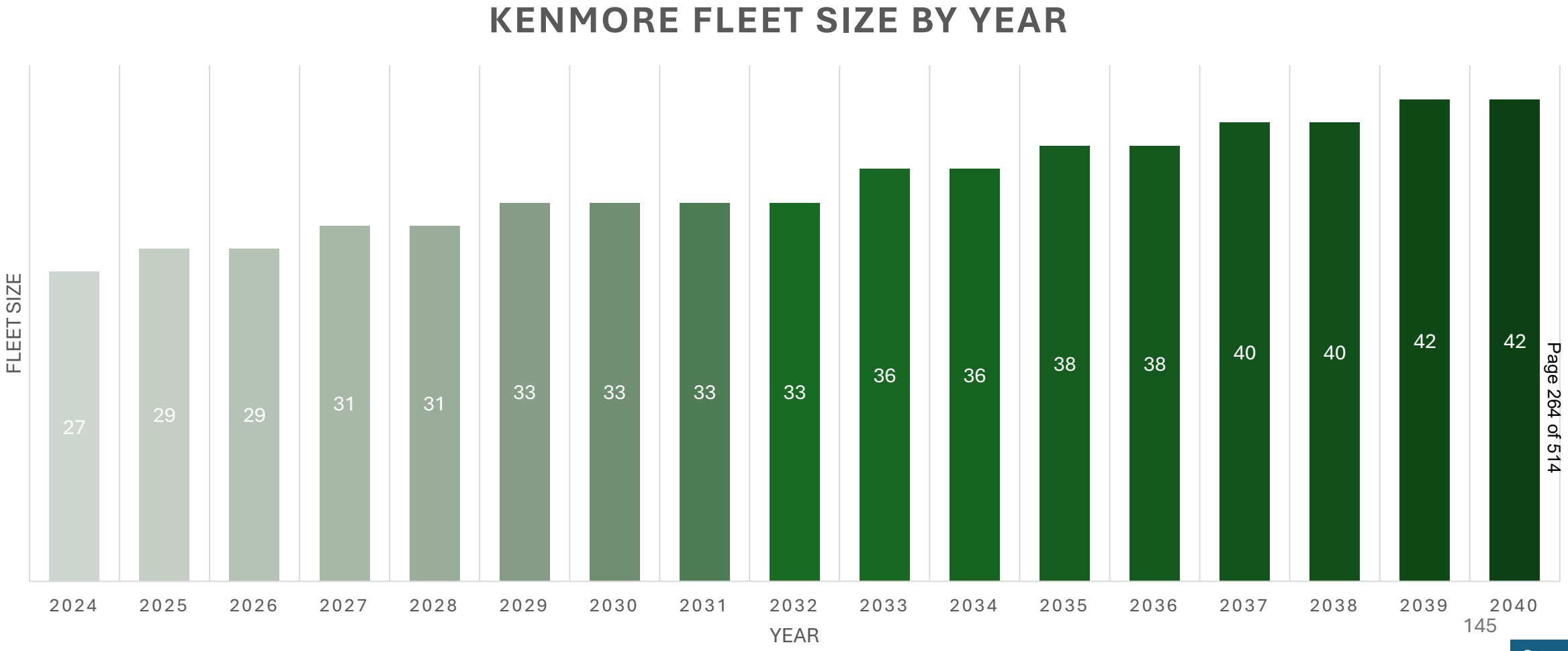
Veh #	Model Year	Projected Replacement Budget Year	Make	Model	Description	GVWR	4WD/ AWD	Gas/Hybrid/ Diesel	Department	Usage	Annual Mileage (based on 2023)	Daily Mileage	Vehicle Location
337	2019	2033-2034	Nissan	Leaf S	Electric Sedan		No	Electric	Devel Svcs	Permit Inspections daily	2,378	9	Kenmore City Hall
338	2020	2035-2036	Ford	EcoSport	Small SUV	3,300	No	Gas	Devel Svcs	Code Enforcement daily	837	3	Kenmore City Hall
310	2009	2025-2026	Ford	Escape	Hybrid SUV		No	Hybrid	Devel. Svcs	Permit Inspections - daily	2,634	10	Kenmore City Hall
321	2015	2029-2030	Ford	C-Max	Hybrid Sedan		No	Hybrid	Engineering	ROW Inspections Daily	3,765	14	Kenmore City Hall
309	2008	2025-2026	Ford	Escape	SUV		Yes	Gas	Engineering	Construction Inspection	1,050	4	Kenmore City Hall
349	2023	2037-2038	Ford	Transit EV	Cargo Van		No	Electric	Env. Services	Inspections daily	677	3	PWOC
322	2015	2029-2030	Ford	C-Max	Hybrid Sedan		No	Hybrid	General Use	Weekly	1,810	7	Kenmore City Hall
327	2019	2033-2034	Dodge	Grand Caravan	Minivan		No	Gas	General Use	Weekly	550	2	Kenmore City Hall
336	2019	2033-2034	Nissan	Leaf SV	Electric Sedan		No	Electric	General Use	Weekly	211	1	Kenmore City Hall
350	2023	2037-2038	POLS ELXD	Gem	Small Utility Vehicle			Electric	General Use	Interns - daily summer only	new - no historical data	2	PWOC
319	2015	2029-2030	Ford	F-150	Large Truck	6,550	Yes	Gas	Parks/Facilities	PW Ops Crew - daily	3,394	13	PWOC
334	2019	2033-2034	Ford	F-750	Dump Truck	33,000	No	Diesel	Public Works	PW Ops Crew - weekly to monthly depending on projects	1,064	20	PWOC
312	2010	2027-2028	Ford	F-550	Flat Bed	19,500	Yes	Diesel	Public Works	PW Ops Crew - weekly	1,012	4	PWOC
307	2004	n/a	Ford	F-150	Large Truck		Yes	Gas	Public Works	PW Ops Crew - daily	1,922	7	PWOC
311	2010	2027-2028	Chevy	Colorado	Mid Size Truck		Yes	Gas	Public Works	PW Ops Crew - daily	3,448	13	PWOC
328	2019	2033-2034	Chevy	Silverado	Large Truck	7,200	4WD	Gas	Public Works	PW Ops Crew - daily	3,352	13	PWOC
329	2019	2033-2034	Ford	F-350	Large Truck	14,000	4WD	Diesel	Public Works	PW Ops Crew - daily	2,746	11	PWOC
330	2019	2033-2034	Ford	F-350	Large Truck	14,000	4WD	Diesel	Public Works	PW Ops Crew - daily	3,622	14	PWOC
332	2019	2033-2034	Chevy	Silverado	Large Truck	7,200	4WD	Gas	Public Works	PW Ops Crew - daily	4,804	18	PWOC
351	2024	2039-2040	Ford	F-150	Large Truck			Gas	Public Works	PW Ops Crew - daily	new - no historical data	10	PWOC
352	2024	2039-2040	Ford	F-150	Large Truck	6,550		Gas	Public Works	PW Ops Crew - daily	new - no historical data	10	PWOC
304	2002	n/a	GMC	Sonoma	Small Truck		No	Gas	Public Works	Interns - daily summer only	2,629	22	PWOC
316	2012	2025-2026	International	Maxxforce	Street Sweeper			Diesel	Surface Water	Weekly	1,993	8	PWOC
305	2002	n/a	GMC	Sonoma	Small Truck		No	Gas	Surface Water	Interns - daily summer only	871	7	PWOC
314	2011	2027-2028	Ford	F-150	Ford F-150	6,550	Yes	Gas	Surface Water	Interns - daily summer only	5,706	47	PWOC
339	2020	2035-2036	Ford	Transit Connect	Utility Van	5,420		Gas	Surface Water	Inspections daily	1,557	6	PWOC
340	2020	2035-2036	Ford	Transit Connect	Utility Van	5,420		Gas	Surface Water	Inspections daily	959	4	PWOC
						6,550				daily means 5 days per week			

MODELING PROCESS

KENMORE ENVIRONMENTAL ACTION NOW

Fleet Growth

The fleet growth is based on input from the City of Kenmore's staff, with a request to increase the fleet by one vehicle per year, on average. The vehicles added will be of a similar type and class to those already being replaced in that year. As a result, the fleet is projected to grow from 27 vehicles in 2024 to 42 vehicles by 2040.



Return to TOC

MODELING PROCESS

KENMORE ENVIRONMENTAL ACTION NOW

Defined sample routes for each use case
Created five distinct routes to capture Usage segments.
The goal was to model different driving patterns by department and intended use case.

Routes

View Interactive Map

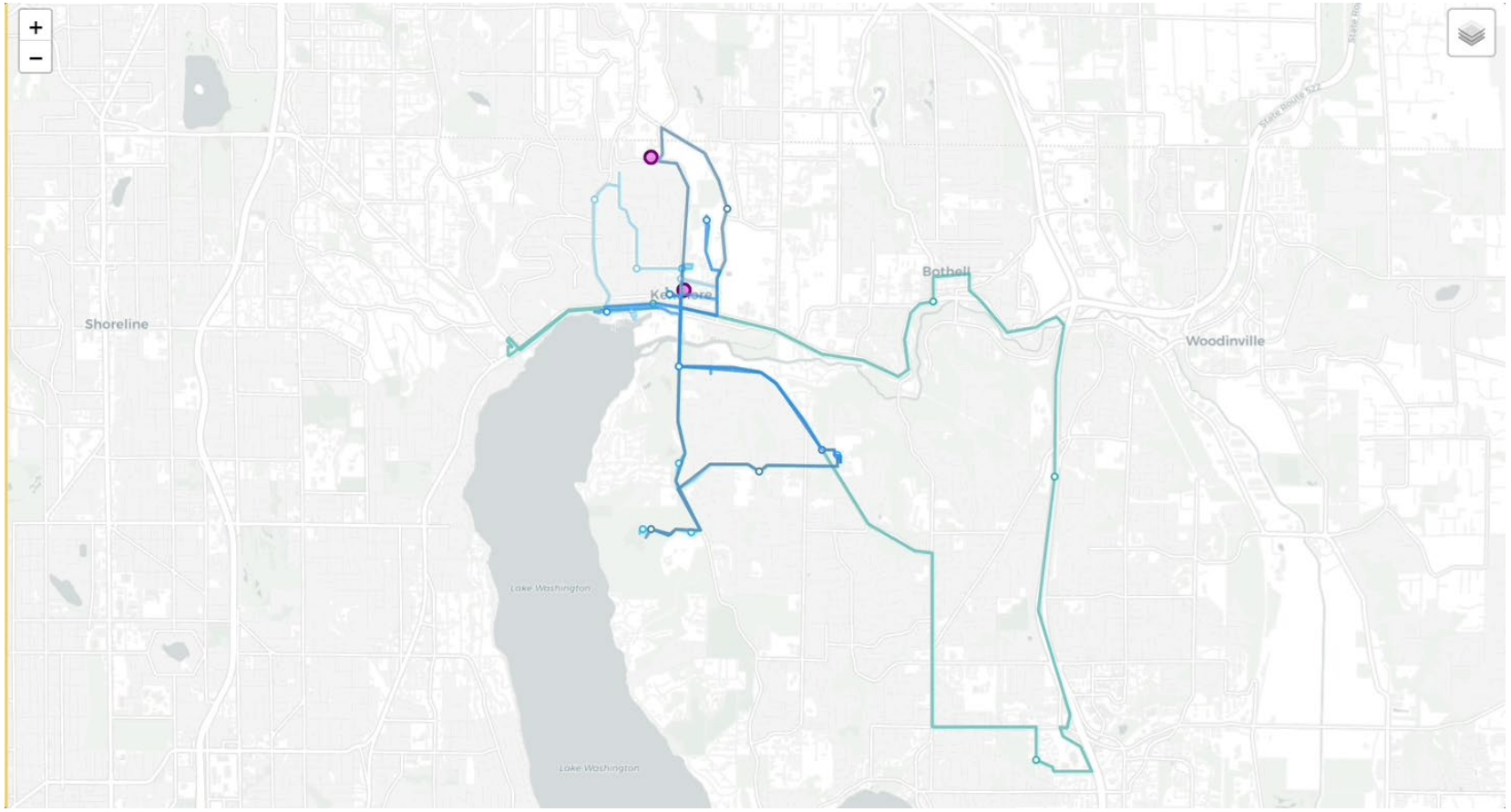
1. Public Works
   - Stops along public sites such as schools and parks.

2. Surface Water
   - Stops along potential storm water collection sites.

3. Street Cleaning
   - Covers downtown area and major roads.

4. Daily Inspections
   - Stops along parks and public domain in southern Kenmore.

5. General Purpose
   - Exits city boundaries for more regional driving.

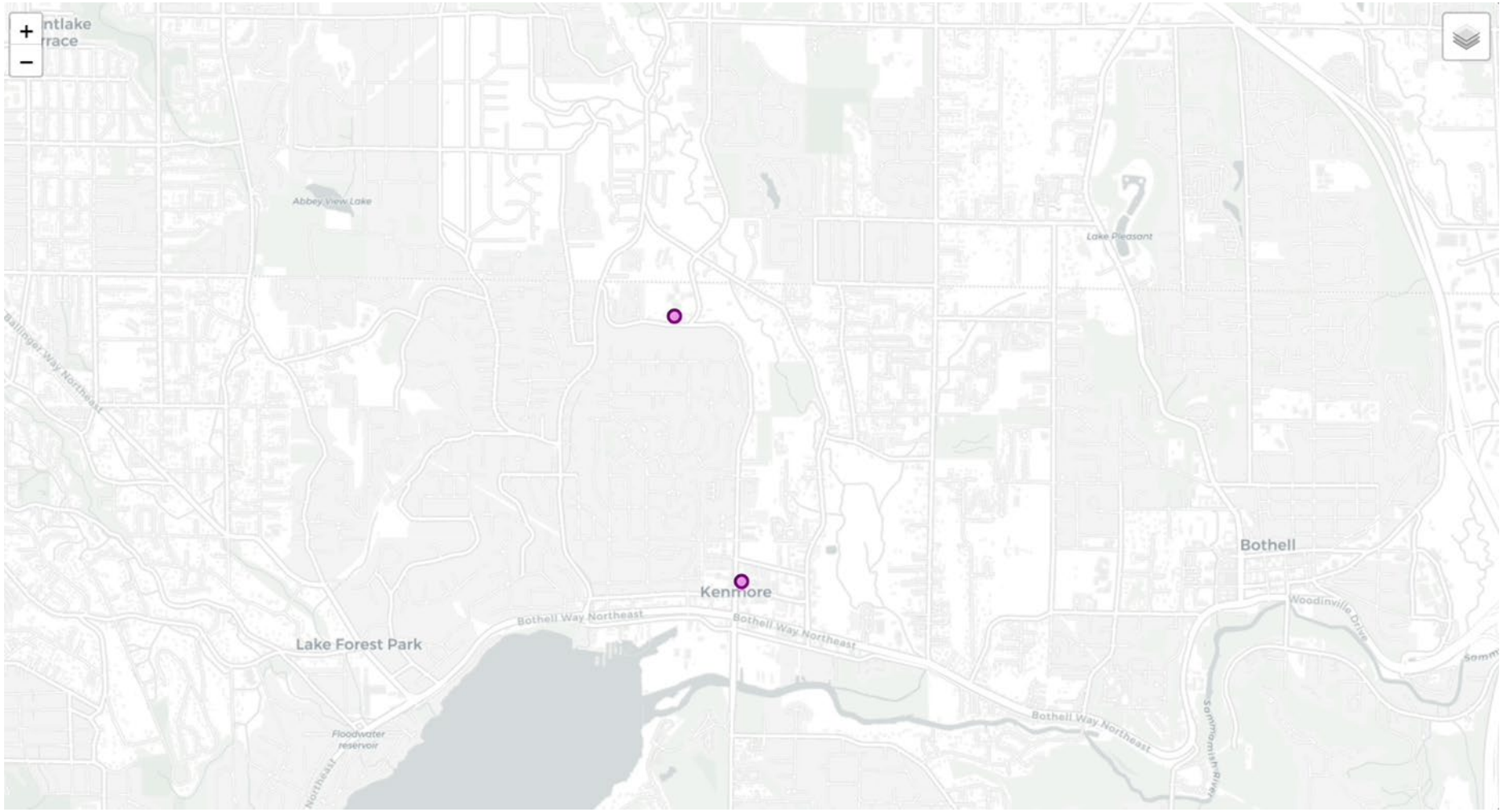


MODELING PROCESS

KENMORE ENVIRONMENTAL ACTION NOW

Defined charging at designated depots

The Project Team simulated overnight Level 2 (L2) charging at two depot locations: Kenmore City Hall and the new Public Works Operations Center. Multiple charger ratings were set, ranging from 6.6 kW to 19.2 kW, with charge thresholds set between 80% and 85%.



MODELING PROCESS

KENMORE ENVIRONMENTAL ACTION NOW

Found comparable electric vehicles

The Project Team matched each existing vehicle in the Kenmore fleet with a potential replacement EVs. The goal was to identify suitable replacement options—vehicles of a similar type—that represent how an electric Kenmore fleet may operate in the future. It is important to note that these vehicle recommendations are not prescriptive but illustrative.

Public Works

Vehicle Make / Model	Replacement Make / Model
Ford F150	Ford F150 Lightning
Chevy Silverado	Chevy Silverado EV
Chevy Colorado	Rivian R1T
Ford F350*	No Replacement
Ford F550*	No Replacement
Ford F750*	No Replacement
GMC Sonoma	Canoo Pickup

Street Cleaning

Vehicle Make / Model	Replacement Make / Model
International MaxxForce	Battle Motors Elgin Broom Bear
	Global Environmental M4EV

General Purpose

Vehicle Make / Model	Replacement Make / Model
Ford CMAX	Chevrolet Bolt EV
Dodge Grand Caravan	Volkswagen ID Buzz
Nissan Leaf SV	Already EV
Gem ELXD	Already EV

Daily Inspection

Vehicle Make / Model	Replacement Make / Model
Nissan Leaf S	Already EV
Ford EcoSport	Chevrolet Equinox EV
Ford Escape Hybrid	Chevrolet Blazer EV
Ford CMAX	Chevrolet Bolt EV (Used)
Ford Escape	Chevrolet Blazer EV
Ford E-Transit	Already EV

Surface Water

Vehicle Make / Model	Replacement Make / Model
Ford Transit Connect	Ford E-Transit
GMC Sonoma	Canoo Pickup
Ford F150	Ford F150 Lightning

** Direct BEV replacements from major manufacturers do not yet exist, so existing BEVs were modeled with a more intense route and payload to account for differences in GVWR.*

Return to TOC

MODELING PROCESS

KENMORE ENVIRONMENTAL ACTION NOW

Simulated vehicles along designated route

- The Project Team simulated vehicles along a designated route by running each vehicle through Encode's fleet simulation tool. This physics-based tool ingests vehicle specifications and daily mileage parameters, using them to simulate driving along real routes while accounting for factors such as speed, temperature, elevations, and congestion.
- The tool also simulates charging based on user-defined requirements. In this case, overnight charging was simulated with different charger kW ratings.
- Additionally, idle and parking time at specific stops was incorporated into the simulation, which helped estimate the energy required for each route and the necessary charging to complete the journey.

```
Simulating route: Kenmore Surface Water Route
Simulating vehicle: ford_etransit_Kenmore Surface Water Route_0

Debug - Full vehicle type: ford_etransit
Debug - Route config: [{'type': 'ford_etransit', 'count': 3, 'daily_miles': 5}, {'type': 'canoo_pickup', 'count': 1, 'daily_miles': 7}, {'type': 'f150_lightning', 'count': 1, 'daily_miles': 47}]
Debug - Found assignment: {'type': 'ford_etransit', 'count': 3, 'daily_miles': 5}
Debug - Using configured daily_miles: 5 miles (8.05 km)
Processing stop at waypoint 0: United States Postal Service (depot)
Adding stop info to segment: {'name': 'United States Postal Service', 'type': 'depot', 'waypoint_index': 0, 'location': [-122.249057, 47.760068]}

🚗 Starting route simulation with 5 planned stops
🔵 Arriving at United States Postal Service (depot)
```

MODELING PROCESS

KENMORE ENVIRONMENTAL ACTION NOW

Aggregated results for data analysis.

The results were aggregated for data analysis. The Encode tool outputs driving time, distance, and energy consumption for each vehicle along each route. It also provides energy consumption data for idling. This information is then fed into a charging simulator, which projects energy requirements based on the type and rating of the charger.

Results Dataset as seen in the Appendix

Route Analysis

File Edit View Insert Format Data Tools Extensions Help

Share

A1 time

	time	vehicle_id	location	stop_name	stop_type	activity_type	duration_minute	energy_consum	energy_type	temperature	initial_energy	final_energy
2	1736755200	f150_lightning_Kenmore Public Works Route_0	(-122.251532, 4	United States Pc	depot	parking	2.88					
3	1736755200	f150_lightning_Kenmore Public Works Route_0	(-122.251532, 4	United States Pc	depot	idling	9.89	0.15	kWh	4.97	79.95	79.64
4	1736756213	f150_lightning_Kenmore Public Works Route_0	(-122.249982, 4	Rhododendron F	service_area	parking	31.49					
5	1736758728	f150_lightning_Kenmore Public Works Route_0	(-122.24456, 47.	Kenmore Eleme	service_area	parking	31.5					
6	1736758728	f150_lightning_Kenmore Public Works Route_0	(-122.24456, 47.	Kenmore Eleme	service_area	idling	64.3	1	kWh	4.88	75.68	74.45
7	1736764944	f150_lightning_Kenmore Public Works Route_0	(-122.252544, 4	Log Boom Park	service_area	parking	27.14					
8	1736764944	f150_lightning_Kenmore Public Works Route_0	(-122.252544, 4	Log Boom Park	service_area	idling	62.71	0.98	kWh	5.02	72.46	71.26
9	1736770583	f150_lightning_Kenmore Public Works Route_0	(-122.226129, 4	Inglemoor High S	service_area	parking	27.97					
10	1736772420	f150_lightning_Kenmore Public Works Route_0	(-122.251532, 4	United States Pc	depot	parking	2.81					
11	1736772836	f150_lightning_Kenmore Public Works Route_0	(-122.249982, 4	Rhododendron F	service_area	parking	28.39					
12	1736774849	f150_lightning_Kenmore Public Works Route_0	[-122.223065, 4	United States Pc	depot	parking	2.82					
13	1736774849	f150_lightning_Kenmore Public Works Route_0	[-122.223065, 4	United States Pc	depot	idling	10.34	0.16	kWh	4.2	66.89	66.56
14	1736775677	f150_lightning_Kenmore Public Works Route_0	[-122.225932, 4	Rhododendron F	service_area	parking	27.82					
15	1736775677	f150_lightning_Kenmore Public Works Route_0	[-122.225932, 4	Rhododendron F	service_area	idling	56.95	0.89	kWh	4.29	66.45	65.32
16	1736780814	f150_lightning_Kenmore Public Works Route_0	[-122.229538, 4	Kenmore Eleme	service_area	parking	28.73					
17	1736780814	f150_lightning_Kenmore Public Works Route_0	[-122.229538, 4	Kenmore Eleme	service_area	idling	60.8	0.95	kWh	4.41	65.87	64.68
18	1736786240	f150_lightning_Kenmore Public Works Route_0	[-122.233519, 4	Log Boom Park	service_area	parking	32.5					
19	1736788220	f150_lightning_Kenmore Public Works Route_0	[-122.236274, 4	Inglemoor High S	service_area	parking	31.27					
20	1736790102	f150_lightning_Kenmore Public Works Route_0	[-122.237025, 4	United States Pc	depot	parking	2.75					
21	1736790102	f150_lightning_Kenmore Public Works Route_0	[-122.237025, 4	United States Pc	depot	idling	10.69	0.17	kWh	4.85	64.69	64.36
22	1736755200	f150_lightning_Kenmore Public Works Route_1	(-122.251532, 4	United States Pc	depot	parking	2.83					
23	1736755200	f150_lightning_Kenmore Public Works Route_1	(-122.251532, 4	United States Pc	depot	idling	10.45	0.16	kWh	4.97	79.95	79.63
24	1736756244	f150_lightning_Kenmore Public Works Route_1	(-122.249982, 4	Rhododendron F	service_area	parking	27.75					
25	1736758535	f150_lightning_Kenmore Public Works Route_1	(-122.24456, 47.	Kenmore Eleme	service_area	parking	31.19					
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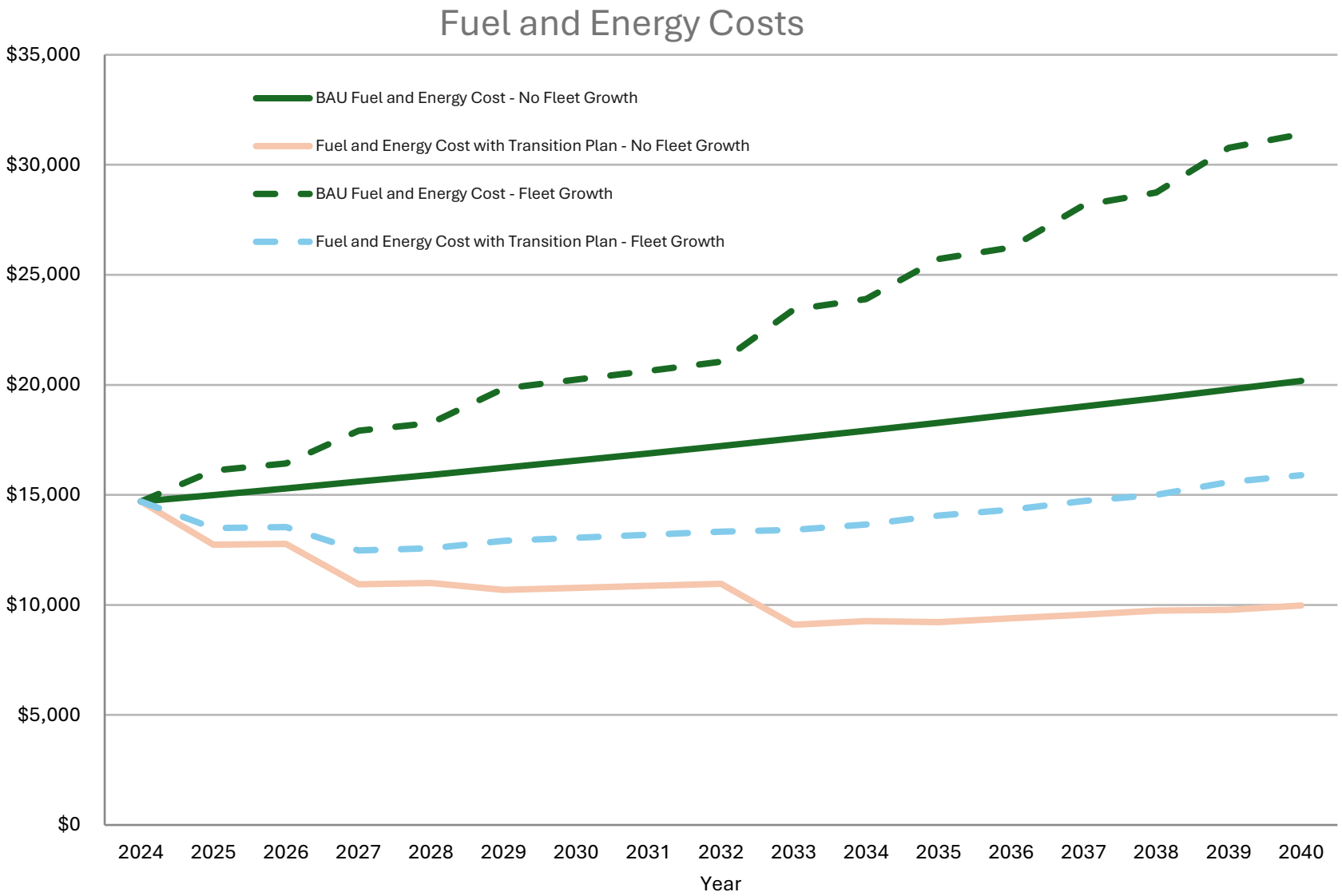
27	1736762763	f150_lightning_Kenmore Public Works Route_1	(-122.226129, 4	Inglemoor High S	service_area	parking	27.93					
28	1736762763	f150_lightning_Kenmore Public Works Route_1	(-122.226129, 4	Inglemoor High S	service_area	idling	61.78	0.97	kWh	4.41	72.4	71.2
29	1736768302	f150_lightning_Kenmore Public Works Route_1	(-122.251532, 4	United States Pc	depot	parking	3.04					
30	1736768731	f150_lightning_Kenmore Public Works Route_1	(-122.249982, 4	Rhododendron F	service_area	parking	30.33					

Convert to table

energy_events_publicworks_6kw | stop_events_publicworks_6kw | ice_simulation_publicworks_6kw | bev_simulation_pw_10kw | stop_events_pw_10kw | energy_events_p

DIFFERENCES BETWEEN ICE OPERATIONS AND EV TRANSITION

KENMORE ENVIRONMENTAL ACTION NOW

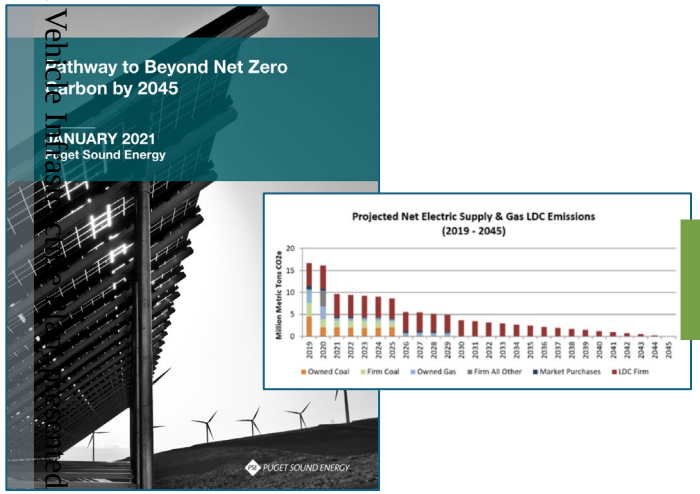


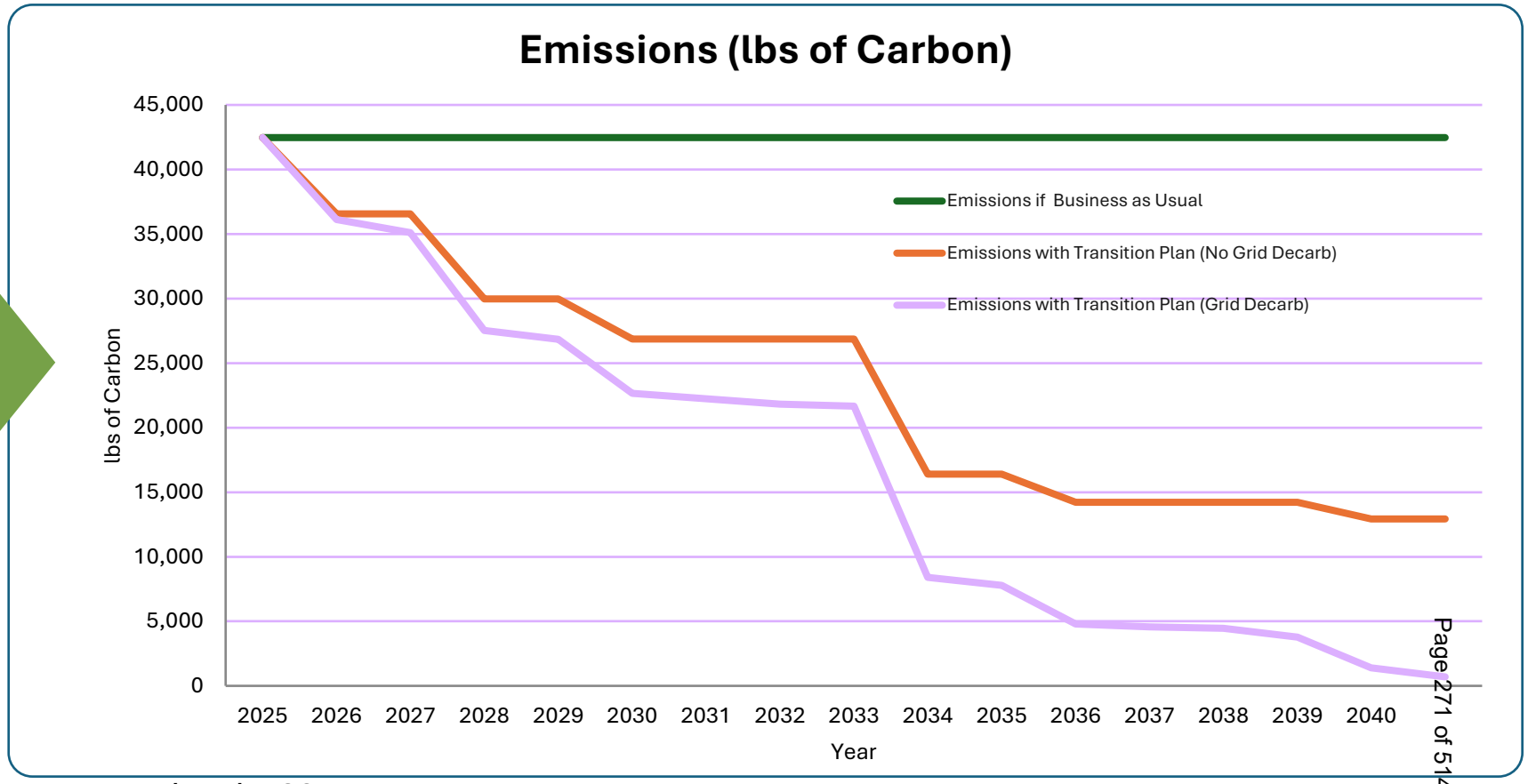
- Without any further EV transition, fuel costs will continue to escalate annually at ~2-5%
- Electricity costs are also projected to escalate similarly
- With or without fleet growth, net savings in “energy fueling” expenses is expected vs. BAU
- 2024-2040 expected savings:
  - $113k (no fleet growth)
  - $147k (fleet growth)

Return to TOC

DIFFERENCES BETWEEN ICE OPERATIONS AND EV TRANSITION

KENMORE ENVIRONMENTAL ACTION NOW

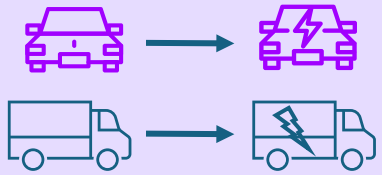




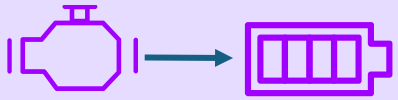
- PSE has goals to reduce grid emissions to net zero carbon by 2045
- Old: Grid-sourced electricity emissions constant
- New: Grid-sourced electricity emissions ramped down through 2045
- Effect: Further reduction in emissions from grid-charged EVs, even if new EVs are added

FLEET TRANSITION PLAN OVERALL STRATEGY

KENMORE ENVIRONMENTAL ACTION NOW

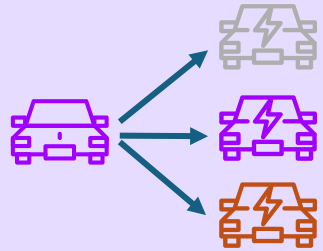


1. Replace Vehicles Like-for-Like with vehicles of a similar class



2. Replace ICE and Hybrid Vehicles with BEVs at Projected Replacement Year

3. Leverage State and Federal EV Tax Credits and Incentives



4. Replacement BEVs shown are Proxy Only, buy what you like!

Return to TOC

AVAILABLE GRANTS AND INCENTIVES

KENMORE ENVIRONMENTAL ACTION NOW

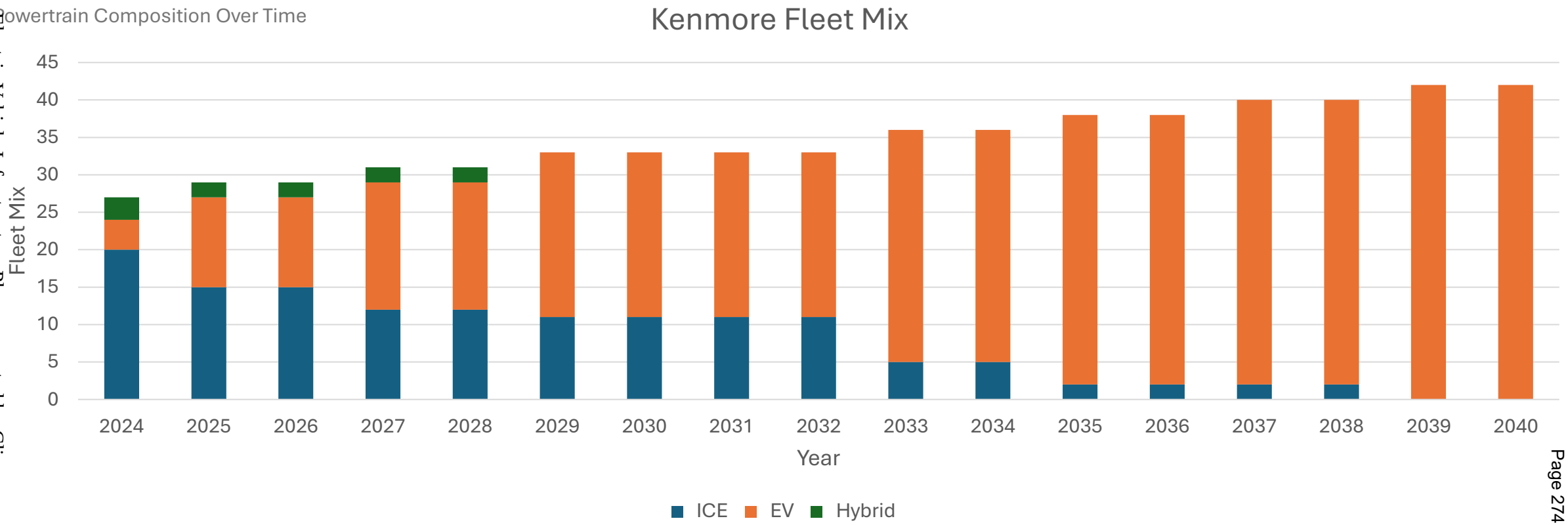
The major incentives and grants used in the calculation are shown in the table below:

City of Kenmore EVIP Funding Opportunities Matrix

Government Level	Program	Agency	Incentive Type	Technology or Technology Portfolio	Incentive Amount	Application Opening Date	Application Closing Date	Annually Recurring?
Federal	Charging and Fueling Infrastructure (CFI) Discretionary Grant Program	USDOT	Grant	EV Charging and Fueling Infrastructure	$1,321,200,000 total for most recent round of funding; Federal cost-sharing is up to 80 percent; applicant must provide the remaining 20 percent for individual awards	May 30, 2024	August 28, 2024	Yes
Federal	Commercial Electric Vehicle Tax Credit	US Dept. Treasury - IRS	Tax Credit	Electric vehicles, Zero Emission vehicles	Maximum credit is $7,500 for qualified vehicles with gross vehicle weight ratings (GVWRs) of under 14,000 pounds and all other vehicles may qualify for a maximum credit of $40,000	2022	2033	Yes
Federal	Credits for new clean vehicles purchased in 2023 or after	US Dept. Treasury - IRS	Tax Credit	Electric vehicles, Zero Emission vehicles	Base credit amount is $2,500. Maximum credit is $7,500	2023	2032	Yes
State	Clean Energy Grant Programs	WA Dept. Commerce	Grant	emissions reduction; clean energy	Varies, based on specific grant	Currently, there are no grants that Kenmore would qualify for, but Kenmore is encouraged to continue monitoring this site for more funding opportunities	Currently, there are no grants that Kenmore would qualify for, but Kenmore is encouraged to continue monitoring this site for more funding opportunities	Unknown
State	Clean alternative fuel and plug-in hybrid vehicles - sales/use tax exemptions	WA Dept. Revenue	Tax Exemption	Electric Vehicle	Up to $16,000 of the sales or lease price	August 1, 2019	The exemption for sales of new and used qualifying vehicles expires July 31, 2025. Leases that qualify for this exemption on or before July 31, 2025, can continue to claim the exemption on lease payments due through July 31, 2028.	Unknown
State	Electric vehicle infrastructure (charging stations), batteries, and fuel cells – sales/use tax exemption, leasehold tax exemption	WA Dept. Revenue	Tax Exemption	Electric Vehicle and Charging	N/A	August 1, 2019	July 1, 2025	
State	Washington EV Instant Rebate Program	WA Dept. Commerce	Rebate	Electric Vehicles	New Evs: Purchase or 24-35 Month lease: $5,000 36 Month + lease: $9,000 Used Evs: Purchase or lease: $2,500	August 1, 2024	June 2025 (or until all funds are used)	Unknown
Local Investor-owned Utility	Up & Go Electric for Fleet	PSE	Rebate	Electric Vehicle Charging	Up to $250,000 total per charging	Ongoing	Ongoing	Unknown

FLEET TRANSITION PLAN

KENMORE ENVIRONMENTAL ACTION NOW

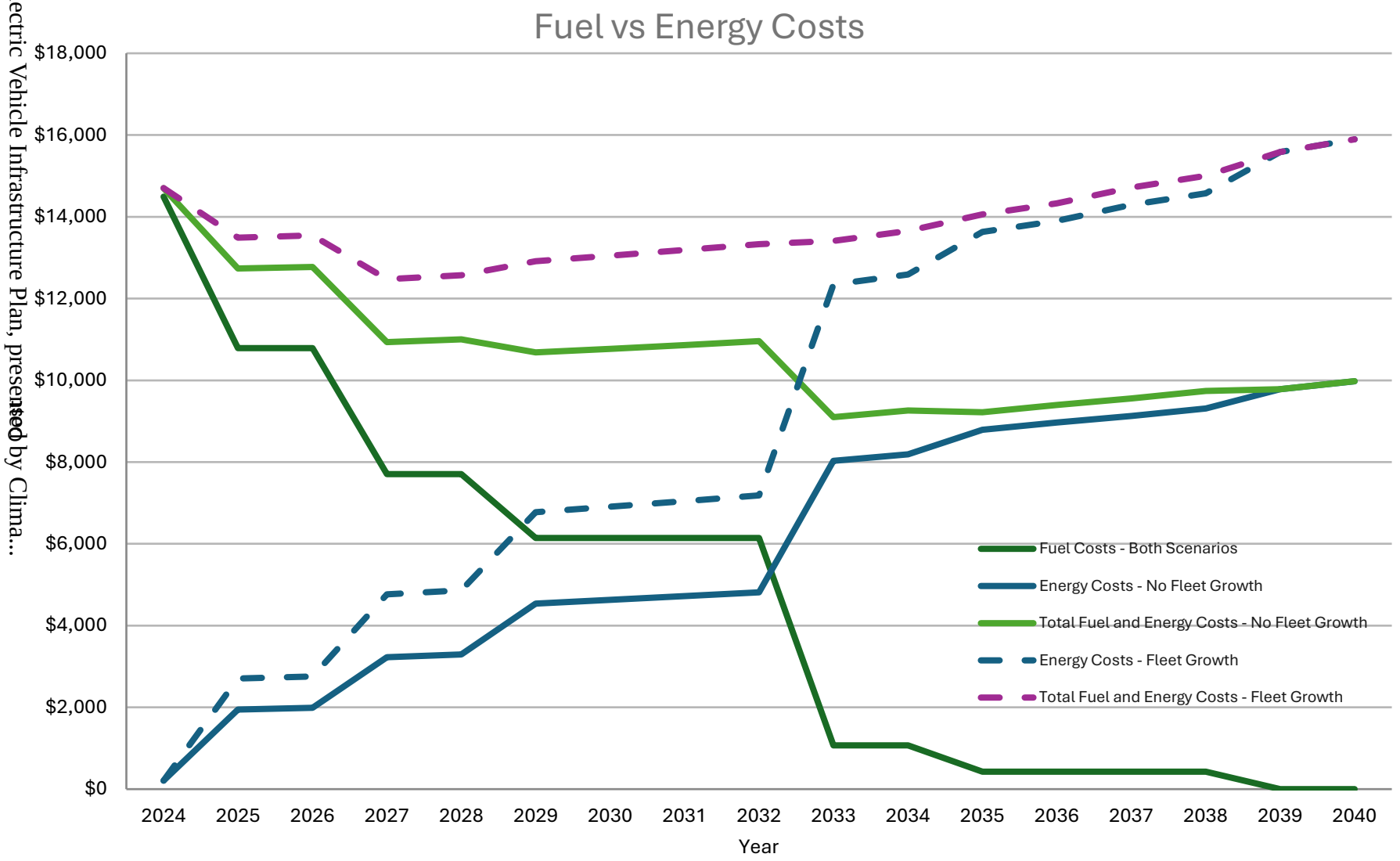


- Existing gas, diesel and hybrid vehicles will be replaced with BEVs at planned replacement intervals
- One new BEV will be added per year, on average. Added when other vehicles are being purchased.
- Fleet grows from 27-42 vehicles between 2024-2040 and will be fully BEV by 2039

FLEET TRANSITION PLAN

KENMORE ENVIRONMENTAL ACTION NOW

Fueling Cost Comparison Over Time

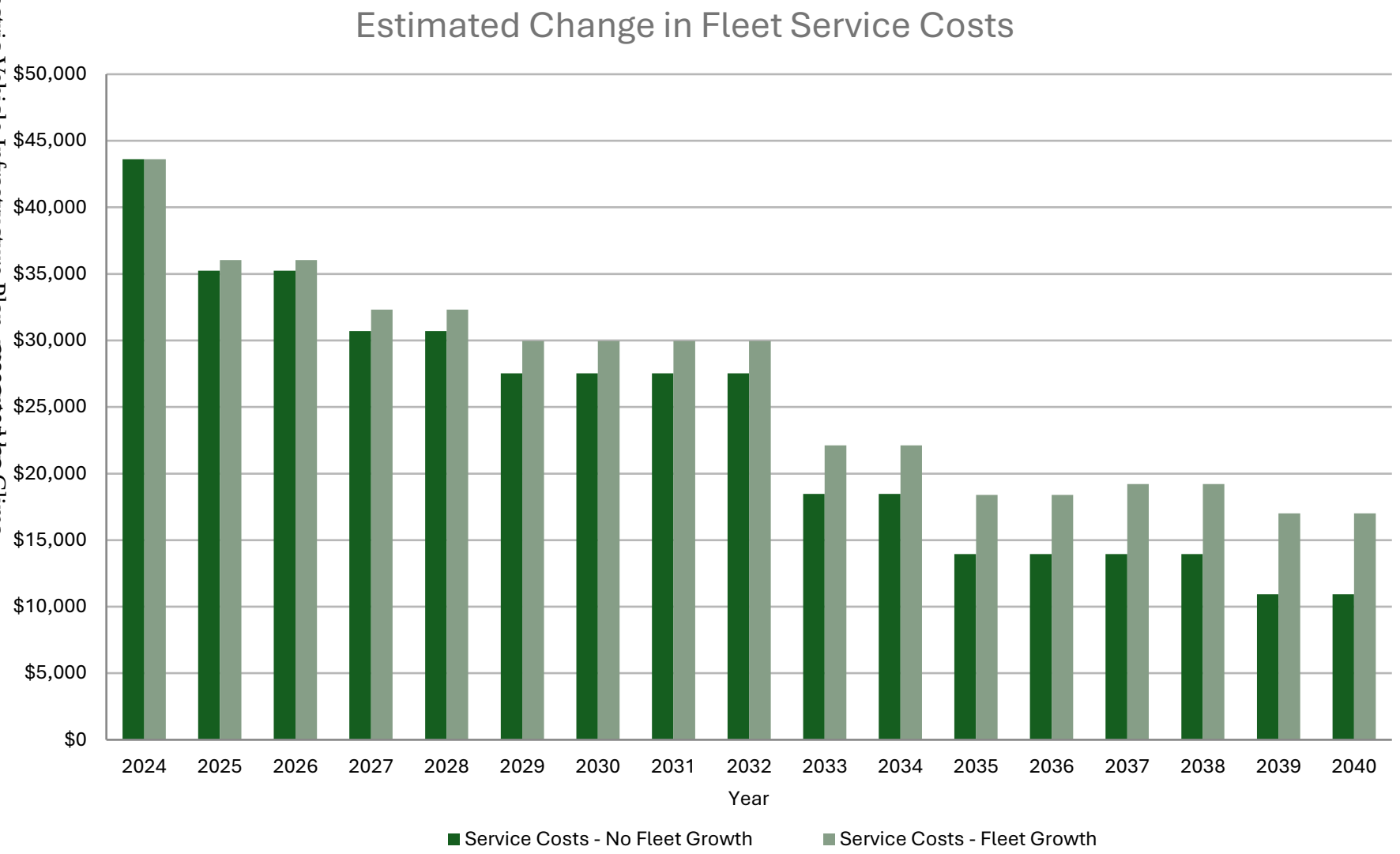


- Gas/Diesel costs drop as ICE vehicles are replaced with BEV
- Electricity costs increase to charge BEVs
- With no fleet growth, total fuel and energy cost decreases over time
- With 50% fleet growth, fuel and energy costs increase only 8%

FLEET TRANSITION PLAN

KENMORE ENVIRONMENTAL ACTION NOW

BEVs require less service than ICE vehicles



- Service costs are based on Kenmore's existing data on ICE, Hybrid and BEV service costs
  - Minimal fluid changes
  - Less brake wear

Maintenance	Cost/mile
ICE	$0.88
EV	$0.43
Hybrid	$0.45

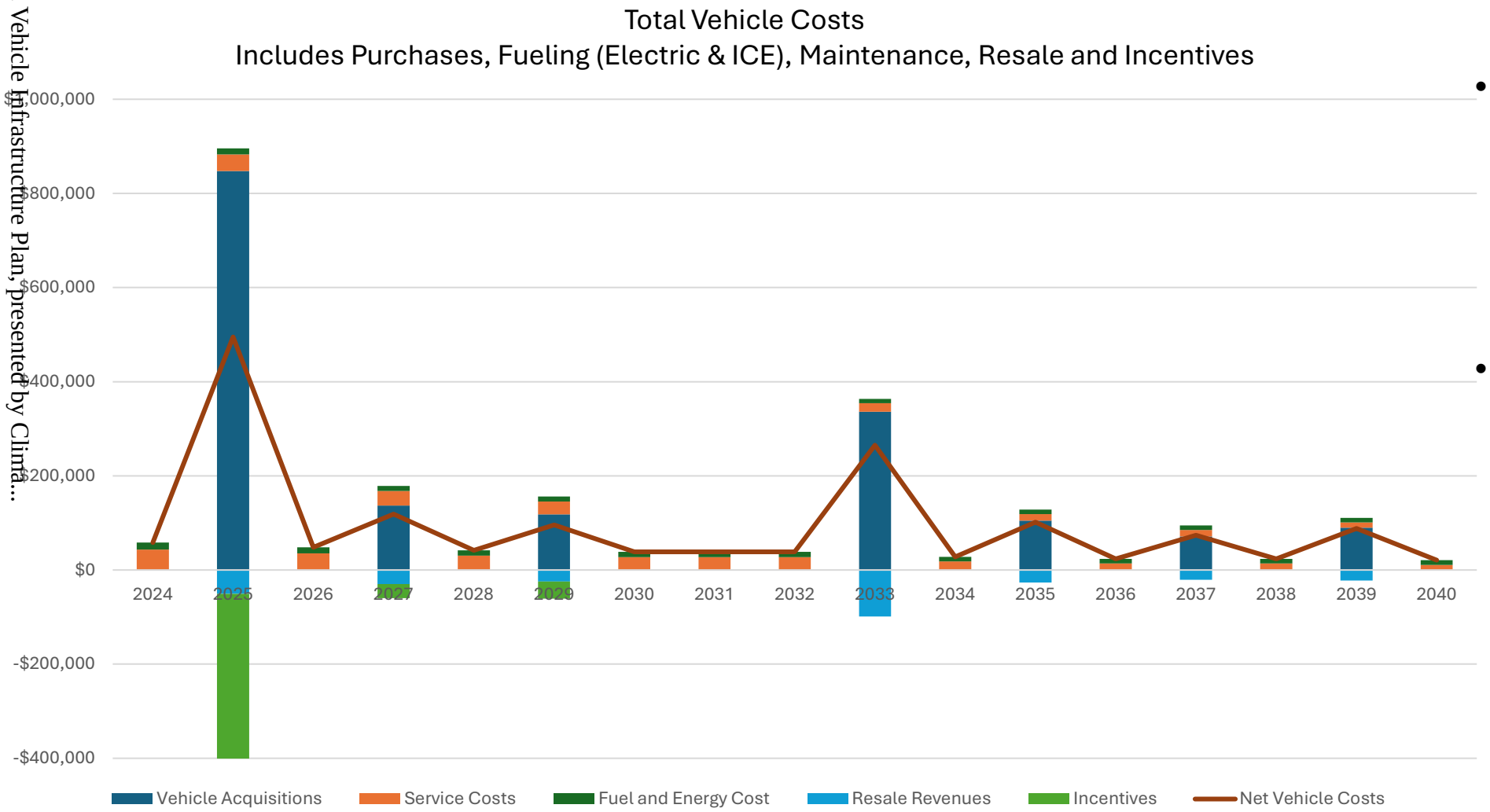
- Even with 50% fleet growth, still expected to decrease vs. today

Return to TOC

FLEET TRANSITION PLAN

KENMORE ENVIRONMENTAL ACTION NOW

Expected Fleet Expenditures By Year – No Fleet Growth



- Expenses include:
  - Vehicle purchases
  - Fueling Costs
  - Maintenance
- Revenue includes:
  - Vehicle Resale
  - Incentives & Tax Credits

ADDITIONAL CONSIDERATIONS

KENMORE ENVIRONMENTAL ACTION NOW

Electric vehicle options from major manufacturers are currently available for all models and use cases, with the exception of medium and heavy-duty trucks (e.g., F-350, F-550). These products are expected to become available in the coming years.

The electrification of street sweepers is a significant investment opportunity. If existing electric street sweeper products meet the City's needs, it is advisable to purchase sooner rather than later to take advantage of available incentives.

Incentives such as the Clean Alternative Fuel Commercial Vehicle and Vehicle Infrastructure B&O or PUT Tax Credit, Green Transportation Capital funding, and the Diesel Emissions Reductions Grant offer opportunities to offset costs.

- Clean Alternative Fuel Commercial Vehicle and Vehicle Infrastructure B&O or PUT Tax Credit
- Green Transportation Capital
- Diesel Emissions Reductions Grant

- The Project Team's recommendations are based on offerings from U.S.-based OEMs; however, additional options may be available if the search is expanded to include international manufacturers.

INFRASTRUCTURE RECOMMENDATIONS

KENMORE ENVIRONMENTAL ACTION NOW

With the calculated daily needs for Kenmore's fleet, Level 2 AC Charging was considered

Lite-On IC32/40

- 6.6kW
- 32A @ 208V

Chargepoint CPF 50 Dual Port

- 10.4kW
- 50A @ 208V

Enphase IQ80

- 12.4kW
- 60A @ 208V

BTC Power L2 MaX 80A Dual Port

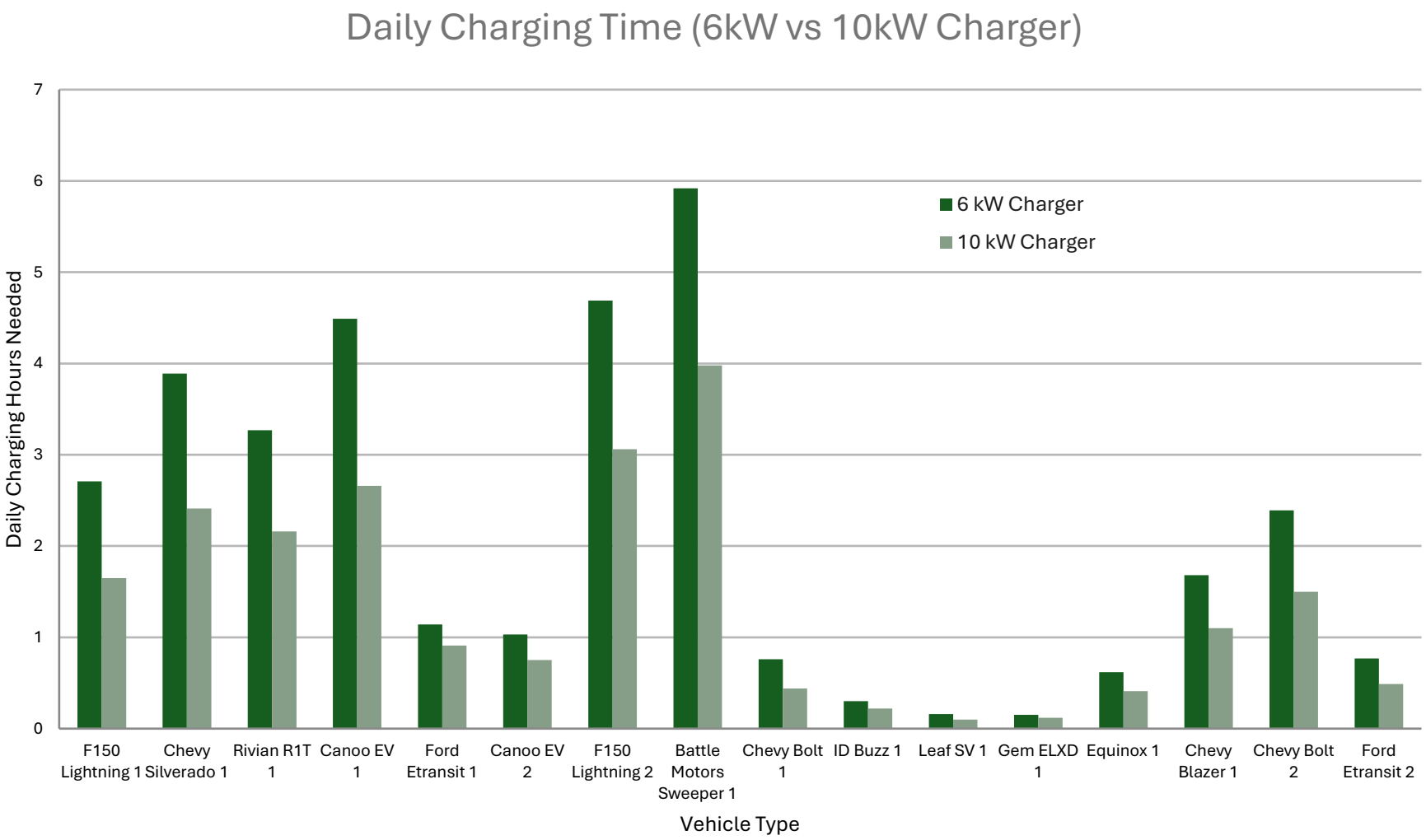
- 16.6kW
- 80A @ 208V

Delivered Power (kW)	Hardware Cost	Installation Cost	Annual O&M	Total Installed Cost
6.6	$1,320.00	$1,980.00	$264.00	$3,300.00
10.4	$2,000.00	$3,000.00	$400.00	$5,000.00
12.4	$2,640.00	$3,960.00	$528.00	$6,600.00
16.6	$3,320.00	$4,980.00	$664.00	$8,300.00

EV CHARGER PHASE-IN PLAN

KENMORE ENVIRONMENTAL ACTION NOW

Choosing a Charging Power & Charger to Vehicle Ratio



Determining vehicle-to-charger ratio:

- Daily charging needs are relatively low
- Any charger/ any vehicle simplicity
- Strive for <4 hr charge times
- Allows for 2 vehicle charges/day(night)

Or

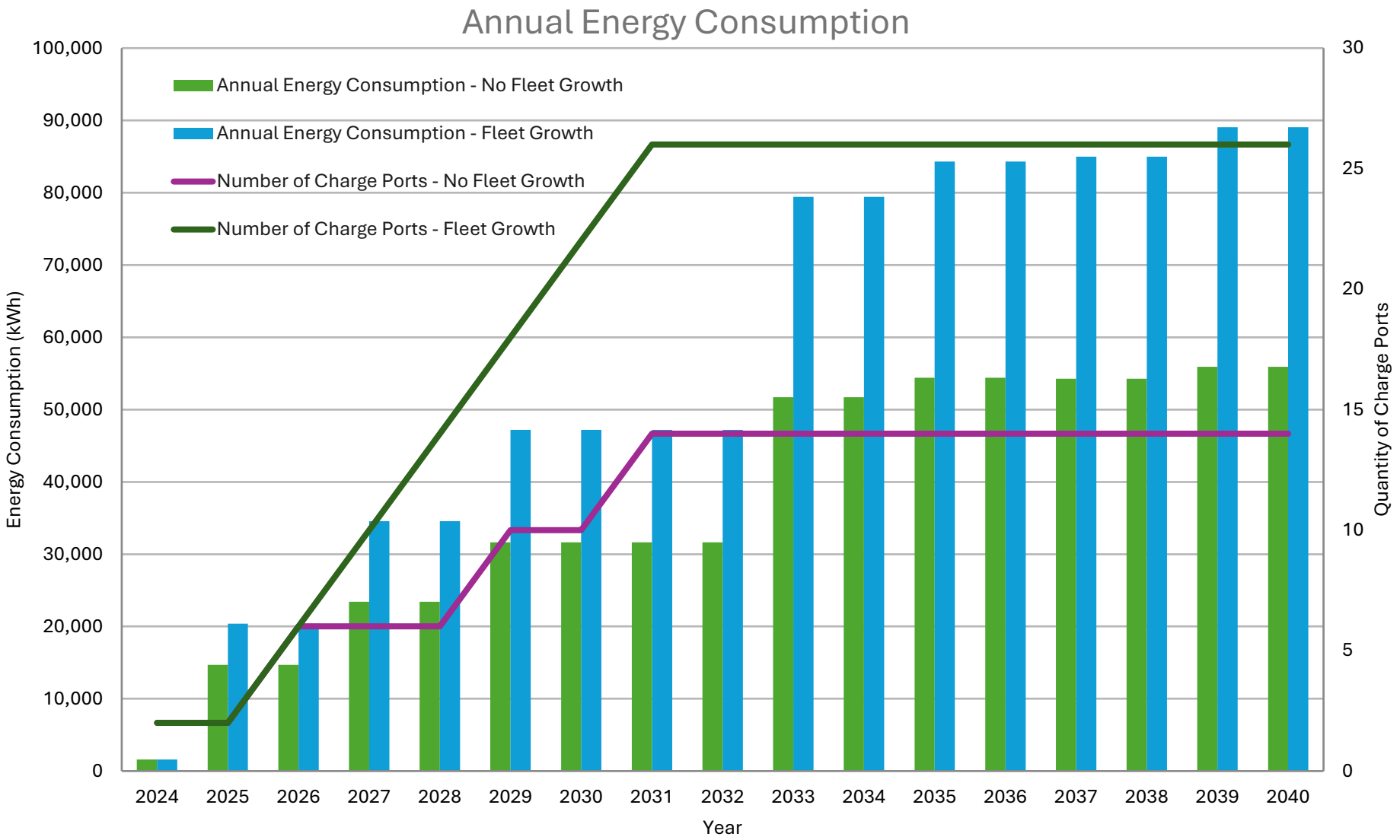
- Charge a vehicle every other day
- Minimize charging power = lower cost

Return to TOC

EV CHARGER PHASE-IN PLAN

KENMORE ENVIRONMENTAL ACTION NOW

Chargers are installed as fleet needs increase

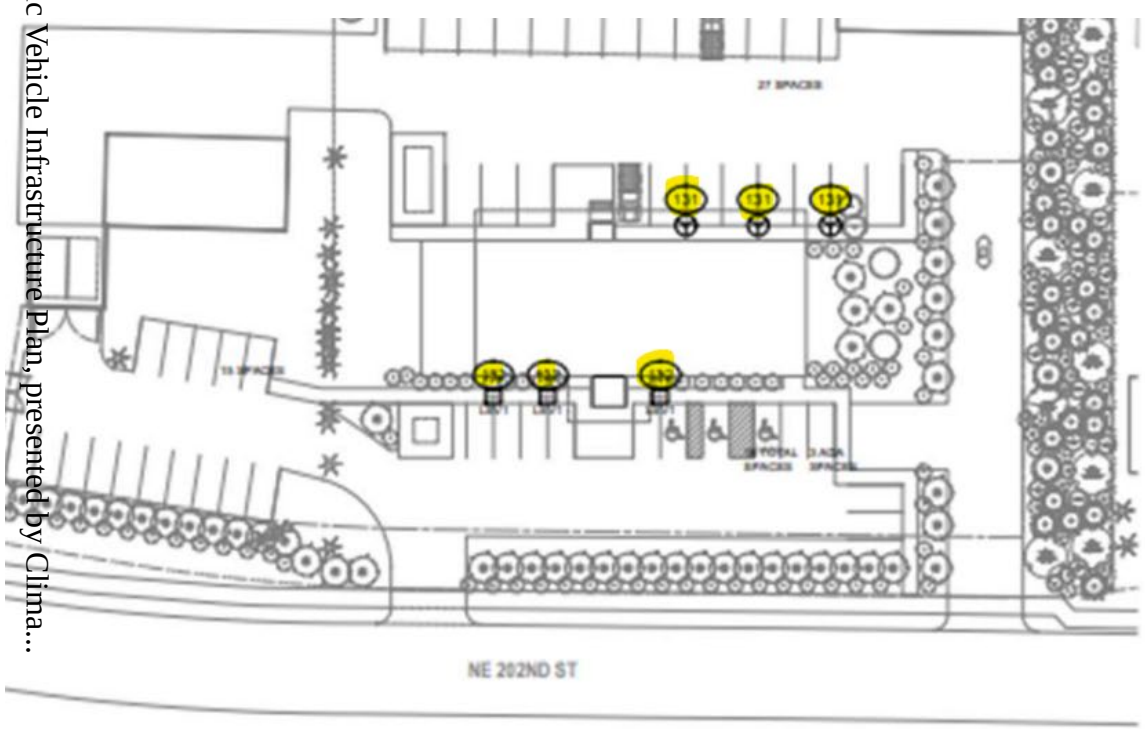


- Install 6 charging ports (3 dual ports) in 2026
- Continue installs to keep pace with 2 vehicles : 1 charger ratio as new BEV purchases are made.
- End with 14 charging ports by 2032 if there is no fleet growth or 26 charging ports if the fleet grows by 50%.

CHARGING INFRASTRUCTURE RECOMMENDATIONS

KENMORE ENVIRONMENTAL ACTION NOW

Consider the following adjustments when planning for charging at the new O&M facility



SITE PLAN EV CHARGERS

9. PROVIDE MINIMUM TWO BARRIER POST BOLLARDS IN FRONT OF EACH CHARGING STATION. SEE SHEET E6.0 DETAIL 2 FOR ADDITIONAL INFORMATION.

PLAN NOTES

131 PROVIDE CHARGEPOINT DUAL PORT, PEDESTAL MOUNT WITH 18' CABLE AND 6' CABLE MANAGEMENT KITS CPF50-L18-CMK-DUAL AND ALL ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION AND OPERATION INCLUDING CHARGEPOINT GATEWAY. PROVIDE (1) 1-1/2"C WITH 4#6, 2#8G COPPER CONDUCTORS FOR EV CHARGERS.

132 PROVIDE LOCKABLE HANDHOLE FOR FUTURE EV PARKING STALLS. HANDHOLE SHALL BE SIZED TO ALLOW (2)2"C FROM ALL SIDES OF HANDHOLE. PROVIDE (2)2"C WITH PULLSTRING FROM PANEL AS SHOWN ON DRAWINGS.

- Design & size infrastructure for 7 more 10kW dual port L2 chargers at new Public Works Operations Center (13 total dual port chargers, 26 total ports)
- Install 3 chargers/6 ports at Initial Build-out
- Ensure initial install includes one charge port serving existing ADA stalls
- Pre-wire for (20) additional 10kW AC Charge Ports
- Separately meter EV Chargers for special EV Rate
- Leverage Up & Go Electric for Fleet to install 1-2 DCFC for spare charging capacity

Conclusion & Next Steps

Chapter 7

CITY OF KENMORE

ENVIRONMENTAL SERVICES

CONCLUSION

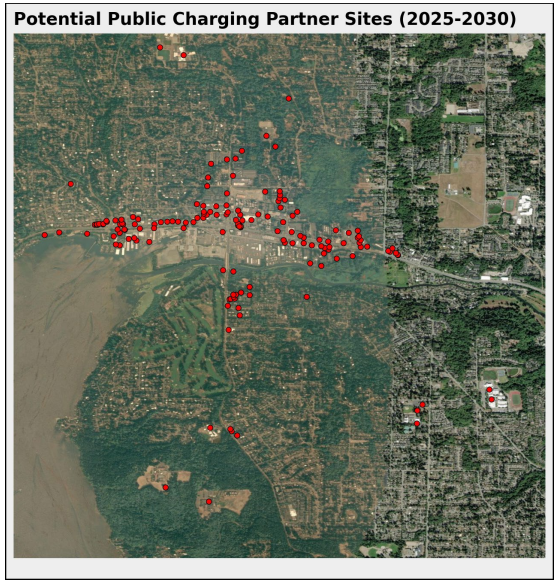
KENMORE ENVIRONMENTAL ACTION NOW

- **Current Conditions:** Currently, Kenmore has seven Level 2 chargers, including two designated for the City fleet. Public charging locations include Safeway, Bastyr University, and the town square. Plans are underway to install six additional dual-port chargers at the new Public Works Operations Center to support fleet electrification. However, gaps remain in underserved areas, particularly in multi-family residential communities. Key recommendations include modeling building codes after similar local municipalities, including Seattle and Bellevue, partnering to provide rebates for EVs, exploring partnerships with businesses and education/training partners (UW Bothell), maintenance contracts, resiliency proofing, pole charging, and vandalism prevention.
- **Stakeholder & Community Engagement:**
  - **Feedback priorities**: public charging around corridors and parks, advocacy for e-bikes, and more incentives for multifamily units to access high-quality charging.
  - **Key concerns**: Availability of incentives/rebates, safety around public charging, and equitable access.
- **State and Local Funding Sources**
  - **PSE Up & Go Electric PrPrograms:** Incentives for fleet electrification, workplace charging, and multi-family housing infrastructure.
    - *Up & Go Electric for Fleet*: Supports municipal fleet electrification.
    - *Up & Go Electric for Public*: Expands public EV charging.
    - *Up & Go Electric for Workplace*: Covers up to 100% of installation and maintenance costs for workplace Level 2 chargers.
    - *Up & Go Electric for Multifamily*: Provides apartment and condo charging installation incentives.
  - **PSE EV Home Charger Rebate:** Based on household income and size, this program offers rebates of up to $600 for an EV home charger and up to $2,000 toward installation costs.
  - **Washington State EV Charging Program:** This program financially supports charging stations, particularly in multi-family housing and public areas. $64 million was allocated in 2023, with 40% directed toward overburdened communities.
- **Federal Funding Sources**
  - **Charging and Fueling Infrastructure (CFI) Discretionary Grant Program:** Supports the development of public charging infrastructure to accelerate EV adoption at the municipal level.
- **EV Market Assessment & Community Charging:** The assessment identifies charging gaps and opportunities, ensuring an equitable and accessible EV network across Kenmore.
  - In present value terms, assuming a 2.5% discount rate, the Cost-Optimized solution results in ~$3.7M in total savings over the forecast deployment period
  - The cost-optimized method results in earlier deployment of DCFCs, while L2s for Cost-Optimized begin to exceed the Pro-rata solution in the 2030s. L1s can be explored for existing multifamily units that have the local infrastructure needed, and it is recommended that Kenmore provide information on the availability of all potential charging units (L1, L2, L3, and DCFC).
  - DCFC vs. L2 utilization to cost ratio higher in earlier years, resulting in higher DCFC deployment until 2030s, then L2s become relatively more cost-effective
- **Fleet Electrification Transition:** A phased approach to fleet electrification is underway, which will improve efficiency, reduce emissions, and set a model for regional sustainability.
  - 2024-2040 expected savings: $113k (no fleet growth) vs. $147k (fleet growth), assuming transition of three vehicles in 2025, three in 2027, and three in 2029.
  - If/when additional vehicles are added to the fleet, purchase fully electric vehicles. Low daily fleet mileage pairs nicely with the EV range on sale today.
  - Design for seven more dual-port chargers (26 total ports) at new Public Works Operations Center + Leverage Up & Go Electric for Fleet to install 1-2 DCFC for spare charging capacity

2025 KEY NEXT STEPS

KENMORE ENVIRONMENTAL ACTION NOW

Engage the business community to explore partnerships for collaboratively developing charging infrastructure at potential partner sites. Aim to deploy **seventeen (17) public L2 chargers** and **four (4) public DCFCs.**
Install a minimum of three (3) dual-port chargers (totaling six ports) at the initial build-out of the **Public Works Operations Center**, to complete all six planned chargers.
Design infrastructure for seven (7) additional dual-port chargers at the new Public Works Operations Center, bringing the total to **26 ports**, including those at City Hall.
Pre-wire for 20 AC charge ports (10kW) at the Public Works Operations Center to support future expansion.
Implement separate metering for EV chargers to enable special EV $/kWh pricing.
Utilize Up & Go Electric for Fleet to install **1-2 DC fast chargers (DCFCs)** for additional charging capacity.
Collaborate with PSE on planned charger deployments within the city limits.
Replace aging fleet vehicles with like-for-like electric replacements to align with fleet transition plan – per the below 2025 replacement schedule:



Vehicle Make	Vehicle Model	Model Year	Annual Fuel Cost	Vehicle Location	Usage	Department	Fuel Type	Replacement Make	Replacement Model	Replacement Incentives	Annual Energy Cost
Ford	Escape	2009	$564	Kenmore City Hall	Permit Inspections	Devel Svcs	Hybrid	Chevrolet	Equinox	$10,000	$301
Ford	Escape	2008	$225	Kenmore City Hall	Construction Inspection	Engineering	Gas	Chevrolet	Equinox	$10,000	$120
Inter-national	Maxx-force	2012	$1,565	PWOC	Street Sweeper	Surface Water	Diesel	Global Environmental Products	M4EV	$300,000	$477

2026 AND BEYOND NEXT STEPS

KENMORE ENVIRONMENTAL ACTION NOW

Consider implementing more stringent building code requirements, such as Seattle's additional requirements beyond the 2018 Energy code requirement for new commercial and multifamily buildings with parking to provide **EV-ready parking spaces**. At least **20% of parking spaces in new construction** must be designed to be ready for future EV charging, with **dedicated electrical capacity**. **Recommended Updates to Codes**: Kenmore can improve its EV infrastructure by adopting updated EV readiness codes, informed by best practices from other cities in Washington State:

- **King County's Ordinance 19316**: This ordinance mandates that at least 10% of parking spots in new multi-family residential buildings, substantially improved buildings, and expanded parking lots be dedicated to EV chargers, with an additional 25% set aside for future installation. Adopting a similar policy in Kenmore would ensure that new developments are EV-ready and aligned with the city's long-term electrification goals.
- **Seattle's EV Readiness Code**: Seattle requires new multi-family developments to install wiring for EV chargers in 100% of parking spaces, with 20% of spaces fully equipped for charging. Kenmore could adopt similar policies to future-proof its infrastructure and support EV adoption in newly constructed areas.
- **Tacoma's EV Charger Installation Mandate**: Tacoma's building codes require new multi-family buildings to install at least one EV charger per 10 units, ensuring that every building contributes to the broader charging network. Kenmore could adopt or modify this requirement to suit its unique needs, particularly in higher-density areas.
- **Washington State's Existing EV Readiness Standards**: The state requires new multi-family buildings to designate at least one space or 10% of spaces with wiring for EV charging. Kenmore could enhance this by adopting stronger codes that increase accessibility, particularly for low-income and multi-family housing residents.

Consider financial incentives for businesses and property owners to install or upgrade EV charging stations, similar to the Solarize Kenmore 2025 project ($1,000 rebate), especially in high-demand areas like transit hubs. This will encourage private sector participation in expanding charging infrastructure. Further community engagement is recommended, along with an emphasis on sharing information on total cost of ownership benefits, including reduced fuel and maintenance costs, to encourage adoption and address common concerns.

- Explore partnerships with local educational institutions like the University of Washington Bothell to create specialized training programs for EV infrastructure installation and maintenance. This will ensure a skilled workforce to support Kenmore's growing EV infrastructure needs.
- Continue engaging the community to refine and adapt the plan based on emerging needs and trends, including expanding support for E-mobility and bike infrastructure. Should multifamily and residential charger adoption slow, the Project Team recommends exploring L1 charging systems or incentives with metered billing per outlet to support equitable cost recovery. Replacement vehicle recommendations are found on the following page.

2026 AND BEYOND VEHICLE REPLACEMENTS

KENMORE ENVIRONMENTAL ACTION NOW

Make	Model	Year	Type	Fuel Cost	Projected Replacement Year	Vehicle Location	Department	Replacement Make	Replacement Model	Replacement MSRP	Replacement Incentives	Annual Energy Cost
Ford	F-550	2010	Flat Bed	$596	2027	PWOC	Public Works	Chevy	Silverado EV	$55,000	$10,000	$167
Chevy	Colorado	2010	Mid Size Truck	$902	2027	PWOC	Public Works	Canoo	Pickup	$35,000	$10,000	$542
Ford	F-150	2011	Ford F-150	$1,581	2027	PWOC	Surface Water	Ford	F150 Lightning	$47,000	$10,000	$423
Ford	C-Max	2015	Hybrid Sedan	$422	2029	PWOC	Engineering	Ford	E-Transit	$51,000	$16,000	$494
Ford	C-Max	2015	Hybrid Sedan	$203	2029	PWOC	General Use	GEM	elxd	$20,000	$10,000	$40
Ford	F-150	2015	Large Truck	$940	2029	PWOC	Parks/Facilities	Ford	F150 Lightning	$47,000	$10,000	$534

Key Terms and Definitions

Chapter 8

CITY OF KENMORE

ENVIRONMENTAL SERVICES

KEY TERMS AND DEFINITIONS

KENMORE ENVIRONMENTAL ACTION NOW

- **AC Level 1** – Alternating Current Level 1
  The slowest charging option, using a standard 120-volt outlet (like a regular household outlet).
- **AC Level 2** – Alternating Current Level 2
  A faster charging option that uses 240-volt circuits, commonly found in home installations and public charging stations.
- **Battery Electric Vehicles (BEVs)**
  Also known as "all-electric vehicles", BEVs are powered only by an electricity battery and are charged by an external power source.
- **Battery Swap Stations**
  A service station where a depleted EV battery can be exchanged for a fully charged one, rather than waiting for a battery to charge. This is often seen as a potential solution to speed up EV refueling.
- **BIPOC** – Black, Indigenous, and People of Color
  A collective term used to represent marginalized racial groups and their communities.
- **CBO** – Community-Based Organizations
  Organizations that represent and serve local communities, particularly in underserved or underrepresented areas.
- **Charging Load Management**
  The process of controlling and optimizing the demand for electricity at EV charging stations, especially in areas with high concentrations of EVs. This includes balancing the load on the electrical grid during peak demand times.
- **Charging Network Operator (CNO)**
  A company or organization that manages and operates a network of charging stations. They are responsible for station maintenance, pricing, and access policies.
- **Charging Station Utilization**
  A metric that tracks how frequently charging stations are used, which can help guide future infrastructure investments and site selection.
- **Charging and Fueling Infrastructure (CFI)**
  Infrastructure specifically for fueling or charging vehicles, including electric vehicle charging stations.
- **CNO** – Charging Network Operator
  A company or entity responsible for the operation and maintenance of a network of EV charging stations.
- **Demand Response (DR)**
  A system that adjusts the demand for electricity from EV charging stations in response to signals from the utility to either reduce or increase power consumption during periods of high demand.
- **DC Fast Charger** – Direct Current Fast Charger
  A high-speed charging option for EVs that delivers DC electricity directly into the battery, allowing for rapid charging.

KEY TERMS AND DEFINITIONS

KENMORE ENVIRONMENTAL ACTION NOW

- **DCFC** – Direct Current Fast Charging
  A type of EV charging that uses direct current (DC) for a quicker charge, often found at public fast-charging stations.
- **Electric Vehicle (EV)**
  A vehicle powered by one or more electric motors for propulsion. This plan focuses on BEVs and PHEVs, both of which can be plugged in and recharged from external sources of electricity.
- **Electric Vehicle Service Provider (EVSP)**
  A company or service that provides and manages electric vehicle charging infrastructure, including installation, maintenance, and operations.
- Electric Vehicle Supply Equipment (EVSE)
  The equipment needed to transfer energy from the electric grid to the EV. It includes charging stations, plugs, cables, and related components.
- **EV Charging Hub**
  A location that offers multiple charging stations, typically located in high-traffic areas. These hubs are designed to serve as key points for EV drivers to access fast charging.
- **EVSE** – Electric Vehicle Supply Equipment
  The equipment needed to transfer energy from the electric grid to the EV. It includes charging stations, plugs, cables, and related components.
- **EVSP – Electric Vehicle Service Provider**
  A company providing EV infrastructure installation, operation, and maintenance services.
- **Fleet Electrification**
  The process of replacing fossil fuel-powered vehicles in a fleet (e.g., delivery vehicles, buses, etc.) with electric vehicles to reduce emissions and fuel costs.
- **Fuel Cell Electric Vehicles (FCEVs)**
  FCEVs use hydrogen to power an electric motor.
- **GIS – Geographic Information System**
  A framework for gathering, managing, and analyzing spatial and geographic data. Useful for EV infrastructure planning and siting.
- **Hybrid Electric Vehicles (HEVs)**
  HEVs have an electric battery that operates an electric motor AND an internal combustion engine (ICE) that fuels a motor.
- **Interoperability**
  The ability for different EV charging networks and vehicles to work together seamlessly. This includes the compatibility of chargers with different vehicle models and the ability to use different network stations with a single payment method.
- **Level 1 Charging**
  A charging level that uses a standard 120-volt electrical outlet (like a household outlet). It is typically used for home charging and offers the slowest charging speed.
- **Level 2 Charging**
  A faster type of charging that uses a 240-volt electrical supply, often found in public charging stations and homes. It typically charges EVs much faster than Level 1 chargers.
- **Level 3 Charging (DC Fast Charging)**
  The fastest form of EV charging, using direct current (DC) to rapidly charge vehicles. These stations are often found along highways for long-distance travel.

KEY TERMS AND DEFINITIONS

KENMORE ENVIRONMENTAL ACTION NOW

- **NPV** – Net Present Value
  A financial metric that evaluates the profitability of a project by comparing the present value of cash inflows to the present value of cash outflows.
- **PSE** – Puget Sound Energy
  A utility company providing energy services in Washington State, involved in EV charging and incentives for EV infrastructure.
- **Private Charging Infrastructure**
  Charging stations that are located on private property, typically in homes, private parking lots, or workplace facilities, which are not open for public use.
- **Public Charging Infrastructure**
  The network of publicly available EV charging stations. It includes Level 2 and Level 3 chargers that can be accessed by EV owners at various locations, such as shopping centers, parking lots, and transit stations.
- **Range Anxiety**
  The fear or concern that an electric vehicle will run out of charge before reaching a charging station or destination.
- **Range Per Charge**
  The distance an EV can travel on a single charge. This varies between different types of vehicles and is an important consideration in planning charging station placement.
- **Smart Charging**
  The process of adjusting charging times or power levels in order to optimize the use of the electrical grid, reduce costs, and ensure efficient distribution of energy. Smart chargers can be controlled remotely and can charge vehicles at off-peak hours.
- **TES** – Transportation Electrification Strategy
  A strategy or plan designed to increase EV adoption and infrastructure development within a region or city.
- **V2G** – Vehicle-to-Grid
  Also known as Vehicle-to-home (V2H) or Vehicle-to-load (V2L), it describes a technology that enables energy to be pushed back to the power grid from the battery of an electric car using bidirectional charging equipment.
- **V2H** – Vehicle-to-Home
  A variant of V2G, where EVs can supply power directly to a home.
- **V2L** – Vehicle-to-Load
  A system that allows an EV to supply power to external devices or loads.
- **Zero Emission Vehicle Infrastructure (ZEVI)**
  The infrastructure specifically developed to support the charging or fueling of zero-emission vehicles, including BEVs, PHEVs, and FCEVs.
- **ZEV** – Zero-Emission Vehicle
  A vehicle that produces no harmful emissions during operation. Includes BEVs, PHEVs (when running on electric power), and FCEVs.

Appendices

Chapter 9

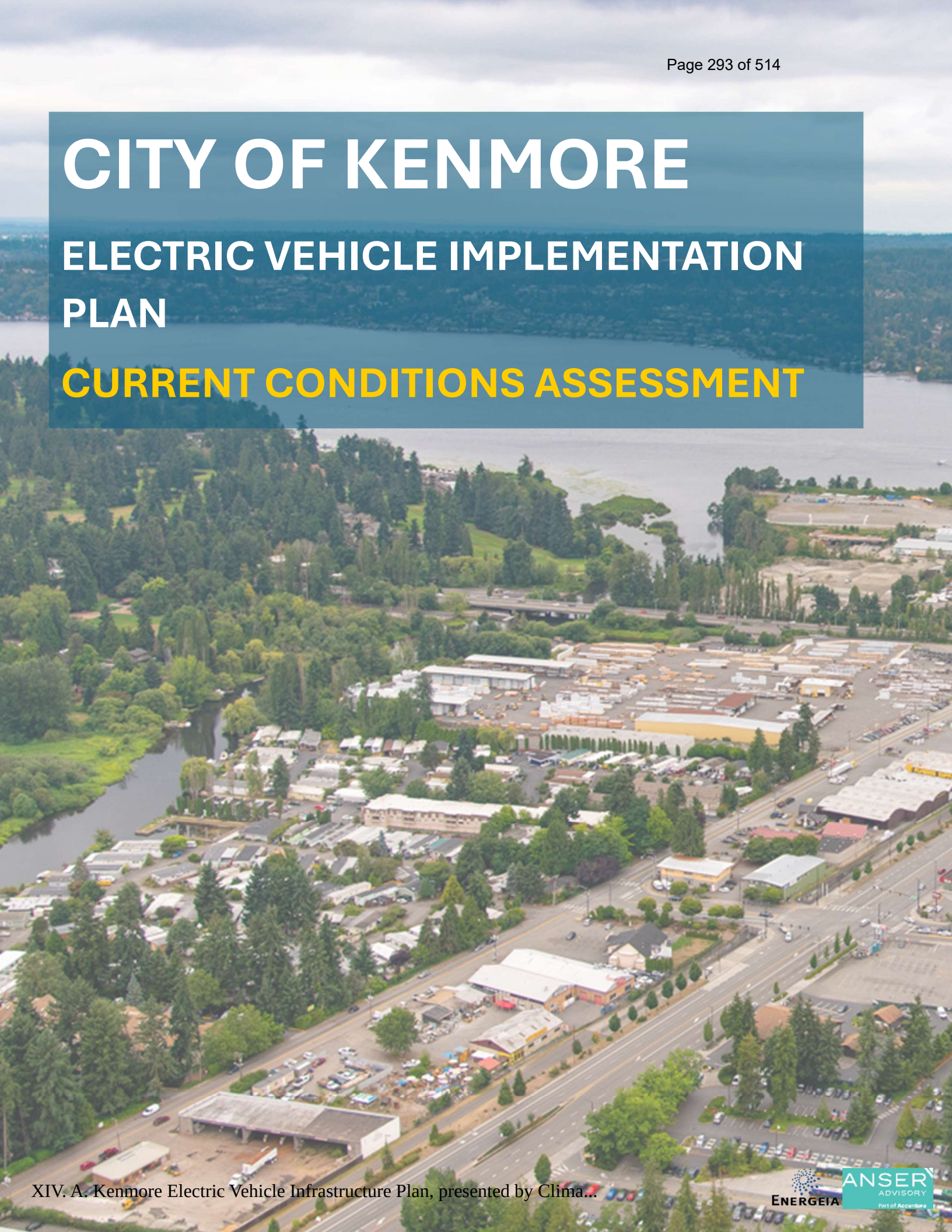
CITY OF KENMORE

ENVIRONMENTAL SERVICES

CITY OF KENMORE

ELECTRIC VEHICLE IMPLEMENTATION PLAN

CURRENT CONDITIONS ASSESSMENT



ENERGEIA

ANSER ADVISORY Part of Accenture

PURPOSE OF ASSESSMENT

The Project Team, collectively Anser Advisory (now part of Accenture) and Energeia, has developed this document. It includes an in-depth analysis of the City and surrounding areas' existing Electric Vehicle (EV) infrastructure, as well as regulations and incentives that can be leveraged to spur further development of EV infrastructure for both public and city-owned EVs. It also includes an evaluation of potential barriers and opportunities for the City's consideration as it moves forward in the creation of its EV Infrastructure Plan (EVIP).

DOCUMENT CONTROL

Report Title	City of Kenmore Electric Vehicle (EV) Infrastructure Plan (EVIP) – Current Conditions Assessment		
Doc ID	Section 1: Current Conditions Assessment	**Project Ref**	N/A
Project	EVIP Creation Project		

CONTENTS

EXECUTIVE SUMMARY

The City of Kenmore (the City), Washington, is proactively pursuing its goal of achieving carbon neutrality by 2050, emphasizing increasing electric vehicle (EV) ownership across various vehicle classes. To facilitate this ambitious target, the City recognizes the need for a robust electric vehicle charging infrastructure to support residents and visitors and drive demand for EV adoption.

This report, developed by Anser Advisory, serves as the Current Conditions Assessment. It is part of the broader Electric Vehicle Infrastructure Plan (EVIP) to guide Kenmore towards its transportation electrification objectives. It comprehensively evaluates the EV infrastructure landscape within Kenmore, King County, Washington, and the broader West Coast. Key findings include:

Local and Regional Infrastructure

Kenmore and surrounding areas in King County are actively expanding their electric vehicle (EV) charging infrastructure to accommodate the rapid growth of EV adoption. King County leads Washington in EV ownership, with 102,061 EVs recorded as of August 2024. In Kenmore specifically, EVs account for 22.6% of vehicle registrations in 2024. Most notably, The Motor Vehicle Emission Standards law includes new requirements to gradually increase the number of new zero-emission vehicles (ZEV) sold in Washington until all new vehicles meet the ZEV standard starting in 2035. Kenmore has seven Level 2 charging stations (five public, two City-owned), primarily operated by Blink and Volta. Although no DC fast chargers (DCFC) or Tesla superchargers are available in the immediate Kenmore area, nearby cities such as Seattle offer a broader range of charging options, including 689 EV stations, with 133 DCFC and 23 Tesla superchargers as of June 2024. This positions Kenmore within a regional hub that provides significant EV charging access, especially in Seattle, Bellevue, and surrounding areas.

Regulatory Framework

Kenmore and surrounding areas are influenced by state and local regulations supporting EV infrastructure development. The Washington State Building Code, effective July 2023, requires all new residential buildings with parking to be EV-capable and 20% of parking spaces in new commercial buildings to be EV-ready. The Clean Energy Transformation Act mandates a carbon-free electricity supply by 2045, accelerating EV infrastructure growth. Department of Commerce has also coordinated with other state agencies to develop a statewide implementation roadmap, called the Transportation Electrification Strategy, to meet the state's 2030 GHG emissions limits by maximizing transportation electrification. King County incentivizes EV charger installations through grants and policies, particularly for multifamily housing and underserved areas. Kenmore could benefit from adopting progressive EV-readiness codes for buildings (like many other cities have across the state) and emphasizing equity and community engagement throughout the planning process to ensure EV charging is accessible and utilized to the fullest extent. Exploring local incentives, partnerships, and public-private collaborations could enhance EV charging accessibility.

Barriers to EV Infrastructure Expansion

Several key challenges hinder the expansion of EV charging infrastructure. Financial burdens remain significant, with high installation, equipment, and ongoing maintenance costs. Limited community

engagement and awareness also reduce support for new projects, while gaps in at-home charging access, particularly in multifamily residences, restrict adoption. Severe weather conditions can affect the reliability and durability of charging stations, raising concerns about long-term performance. Safety concerns, including vandalism, pose risks to both infrastructure and users. Utility constraints, such as limited grid capacity and upgrade requirements, can delay projects, while issues related to building ownership, especially in rental properties, complicate the charger installation process. Addressing these barriers will require enhanced coordination among city officials, property owners, utilities, and residents, alongside targeted financial and policy interventions to drive EV infrastructure growth.

Opportunities for Improvement in EV Infrastructure in Kenmore

Several strategies have been proposed to address barriers to EV infrastructure expansion. One key approach is to enhance community engagement through awareness campaigns, which can help increase local support and participation in EV initiatives. Expanding EV readiness codes to require EV infrastructure in new developments and major renovations would ensure long-term growth. Collaborating with local utilities like Puget Sound Energy can help address utility constraints and ensure an equitable distribution of EV chargers, particularly in underserved areas. Fostering public-private partnerships can unlock funding, streamline installations, and address building ownership and maintenance issues. These initiatives will strengthen Kenmore's EV infrastructure, supporting broader sustainability goals.

Funding Strategies

Numerous external incentive programs are available to the City of Kenmore. Federal programs such as the Infrastructure Investment and Jobs Act provide grants for EV charger installations. Washington State also offers funding through the Clean Energy Fund and grants via the Department of Commerce, prioritizing projects that increase access in underserved areas. King County's Zero Emissions Task Force provides financial incentives for local governments and businesses to develop charging infrastructure. By leveraging these programs, Kenmore can significantly reduce costs and accelerate EV charger deployment across the city. The following provides a list of available external funding opportunities available.

- Clean School Bus Program Rebates
- Charging and Fueling Infrastructure (CFI) Discretionary Grant Program
- Alternative Fuel Vehicle Refueling Property Credit
- Commercial Electric Vehicle Tax Credit
- Credits for new clean vehicles purchased in 2023 or after
- Communities Taking Charge Accelerator
- Climate Pollution Reduction Grants
- Energy Efficiency and Conservation Block Grant (EECBG) Program
- National Electric Vehicle Infrastructure (NEVI) Formula Program
- Washington State EV Charging program
- Zero Emission School Bus Grants
- Volkswagen enforcement action grants: Charge Where You Are
- Clean Energy Grant Programs
- Zero-Emission Vehicle Infrastructure Partnership Grant Program

- Washington State Clean Diesel Program
- Clean alternative fuel and plug-in hybrid vehicles - sales/use tax exemptions
- Clean Alternative Fuel Commercial Vehicle and Vehicle Infrastructure B&O or PUT Tax Credit
- Electric Vehicle Charging Reliability and Accessibility Accelerator grant
- Zero-emissions Access Program Grant
- Electric vehicle infrastructure (charging stations), batteries, and fuel cells – sales/use tax exemption
- Green Transportation Capital
- Washington EV Instant Rebate Program
- Up & Go Electric for Fleet
- Up & Go for Public
- Up & Go Electric for Workplace
- Up & Go Electric for Multifamily

Existing Projects

The City of Kenmore is involved in several capital projects related to electric vehicle (EV) infrastructure, reflecting its commitment to sustainability and the Climate Action Plan. One of the key initiatives is the development of this EV Infrastructure Plan. This project focuses on strategically placing EV charging stations throughout the City to accommodate the growing demand for EVs. The plan considers factors like traffic patterns, proximity to other charging stations, potential partnerships with commercial properties, and input from the community.

The City of Kenmore's **Public Works Operations Center** project is currently in the design and permitting stages, with construction expected to begin in 2025 and be completed by 2026. The center will serve as a new maintenance hub for the City's Public Works and Environmental Services departments. The facility will include a two-story administrative building, operations support areas, and environmentally friendly features such as EV charging stations, solar energy systems, and energy-efficient designs. The project also focuses on minimizing the impact on the surrounding neighborhood and preserving local trees.

In short, this assessment is a crucial foundation for Kenmore's development of an EVIP and the ultimate transition to a cleaner, more sustainable transportation system. It outlines the current conditions surrounding Kenmore, emphasizing the importance of overcoming barriers and leveraging opportunities to establish a comprehensive EV infrastructure that aligns with the City's broader environmental goals. The report culminates in a series of recommendations and next steps for advancing the electric vehicle agenda in Kenmore.

INTRODUCTION

The City of Kenmore, located in King County, Washington, is making headway in its goal to reduce carbon emissions by 50% in 2030 and 75% by 2040 and eventually reach a 95% reduction by 2050 and net zero emissions by 2050. In 2022, the City of Kenmore adopted its Climate Action Plan. The chart below shows Kenmore's 2019 communitywide GHG emissions: 170,255 MT CO2e (metric tons of carbon dioxide equivalent) broken down into three primary categories.

- **Buildings & Energy**
  - The electricity and natural gas consumed for powering and heating the City account for 60% of our emissions (Electricity + Natural Gas).
- **Transportation & Land Useed**
  - On-road vehicles, such as cars and trucks, along with off-road vehicles like boats, lawnmowers, and construction equipment, represent 31% of our community's emissions (On and off-road vehicles).
- **Other Sources**
  - Refrigerants found in air conditioning and refrigeration systems contribute to 8% of total emissions, while waste disposal adds an additional 1%.

Compared to the community, City operations produced 776 MT CO_2e in 2019, 0.5% of communitywide emissions.

- **Buildings & Energy**
  - Electricity and natural gas used to power municipal operations and city-owned buildings contribute to 73% of total municipal emissions.
- **Transportation & Land Use**
  - Employee commutes and government fleet vehicles account for 26% of city operations emissions.
- **Solid Waste**
  - Solid waste disposal contributes to 1% of Kenmore's municipal emissions.

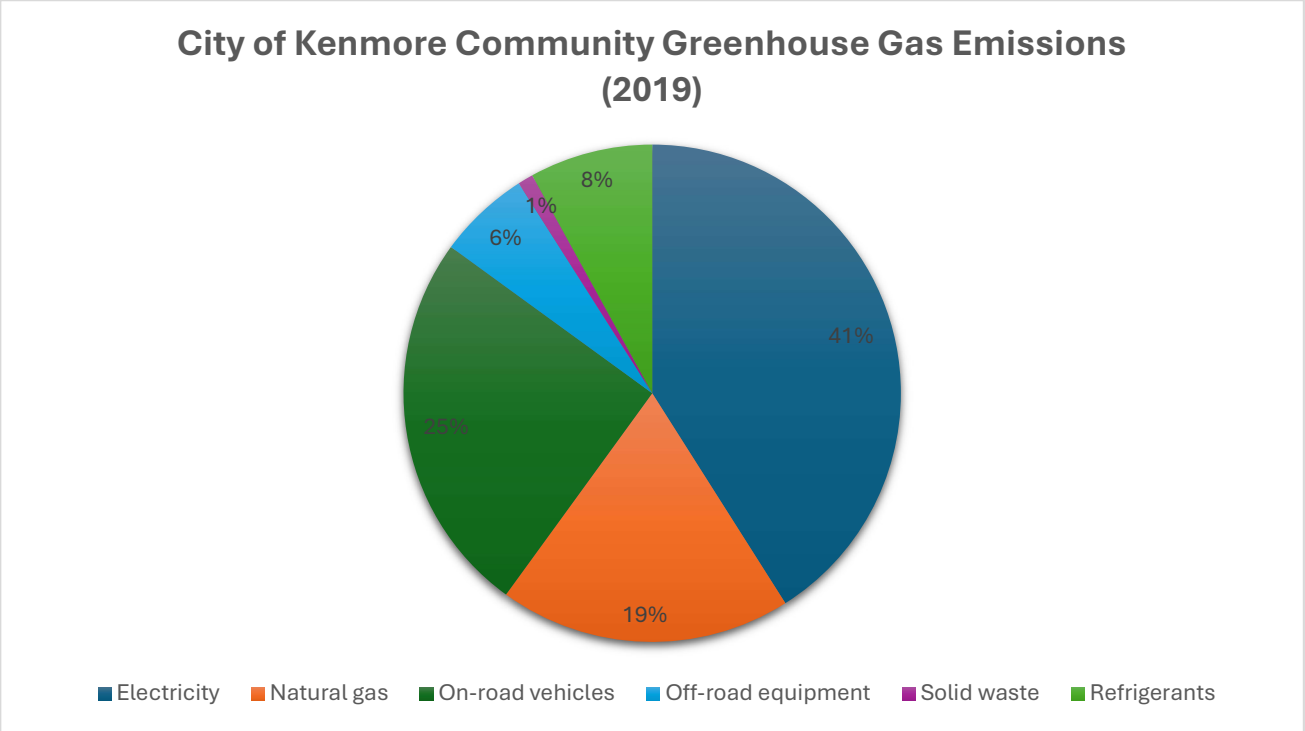


Figure 1: City of Kenmore Community Greenhouse Gas Emissions 2019

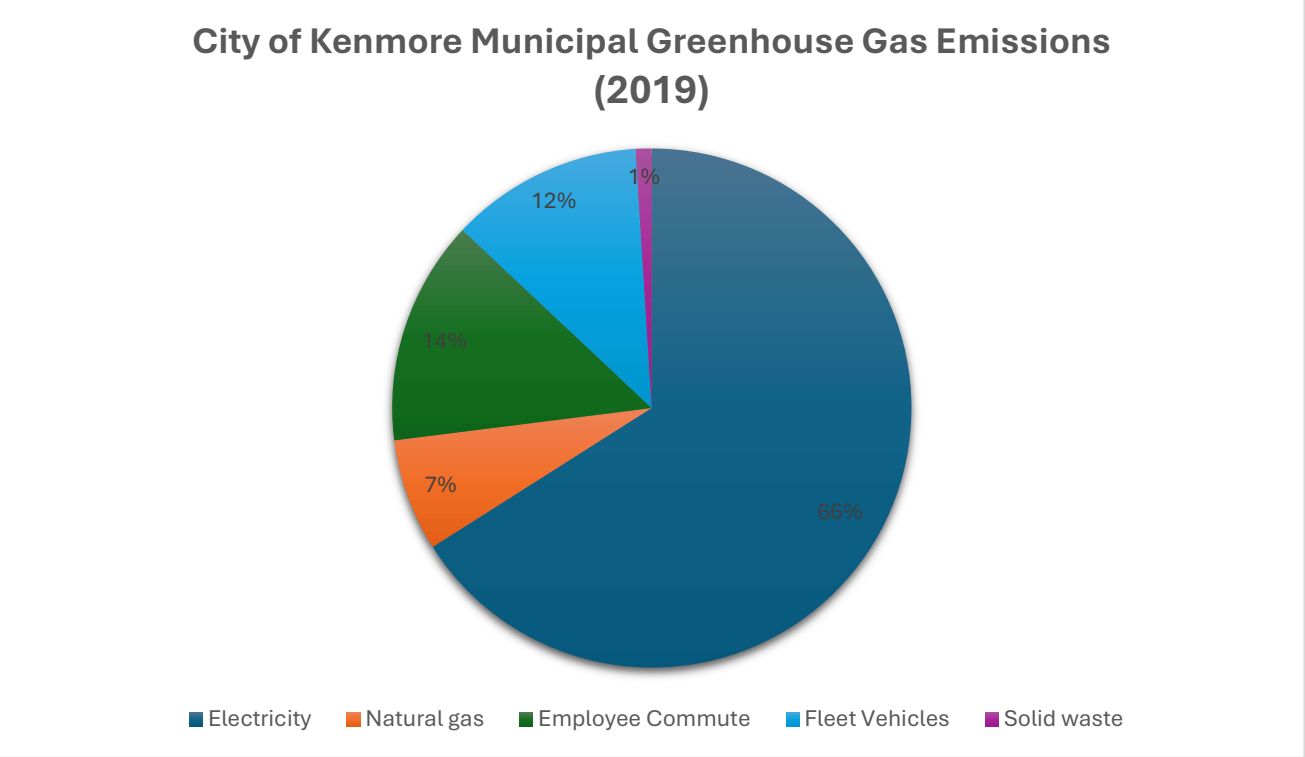


Figure 2: City of Kenmore Municipal Greenhouse Gas Emissions 2019

This report will focus on **Transportation**. In 2050, the City aims to increase electric vehicle (EV) ownership to 100% of light-duty vehicles, 60% of medium-duty vehicles, and 40% of heavy-duty vehicles (Kenmore CAP, pg. 32).[1] With this report, the City will be prepared to make informed decisions on the best strategies to expand EV charging for multi-family homes, apartment buildings, major employers, and parking garages within the Kenmore community. To realize these vehicle electrification goals, Kenmore must provide sufficient charging infrastructure to allow residents and visitors to charge their vehicles and encourage those without EVs to convert from their internal combustion engine (ICE) vehicles. This may entail expanding incentives for EV charging for multi-family homes, apartment buildings, and major employers to encourage the transition to electric vehicles and promote existing and develop new incentives to encourage the purchase of electric vehicles (including more substantial incentives for low-income residents).

Anser Advisory and Energeia are developing an Electric Vehicle Infrastructure Plan (EVIP) to help realize Kenmore's transportation electrification and carbon emissions goals. The Plan will be divided into multiple parts, including developing a current conditions assessment, conducting meetings with City staff, developing a fleet recommendations report, conducting community engagement, developing a complete recommendations draft, and finalizing the EV Infrastructure Plan.

The first section of the EVIP is this Current Conditions Assessment. This document will serve as background information for the City to learn more about the current local EV landscape and how it can improve its transportation electrification goals. This assessment will explore the current and future EV charger infrastructure projects in Kenmore, King County, Washington, and the West Coast. It will also review overall EV trends from the surrounding areas. It will then examine different regulations applicable to Kenmore or that Kenmore may consider adopting from other areas nearby. Furthermore, this assessment will describe potential barriers to adopting electric vehicles and chargers and the opportunities to overcome those challenges. Finally, an in-depth review of possible funding opportunities for EVs and chargers will be presented. The Current Conditions Assessment will serve as a basis for informing Kenmore of the following steps and considerations when transitioning to electric vehicles.

EV INFRASTRUCTURE LANDSCAPE

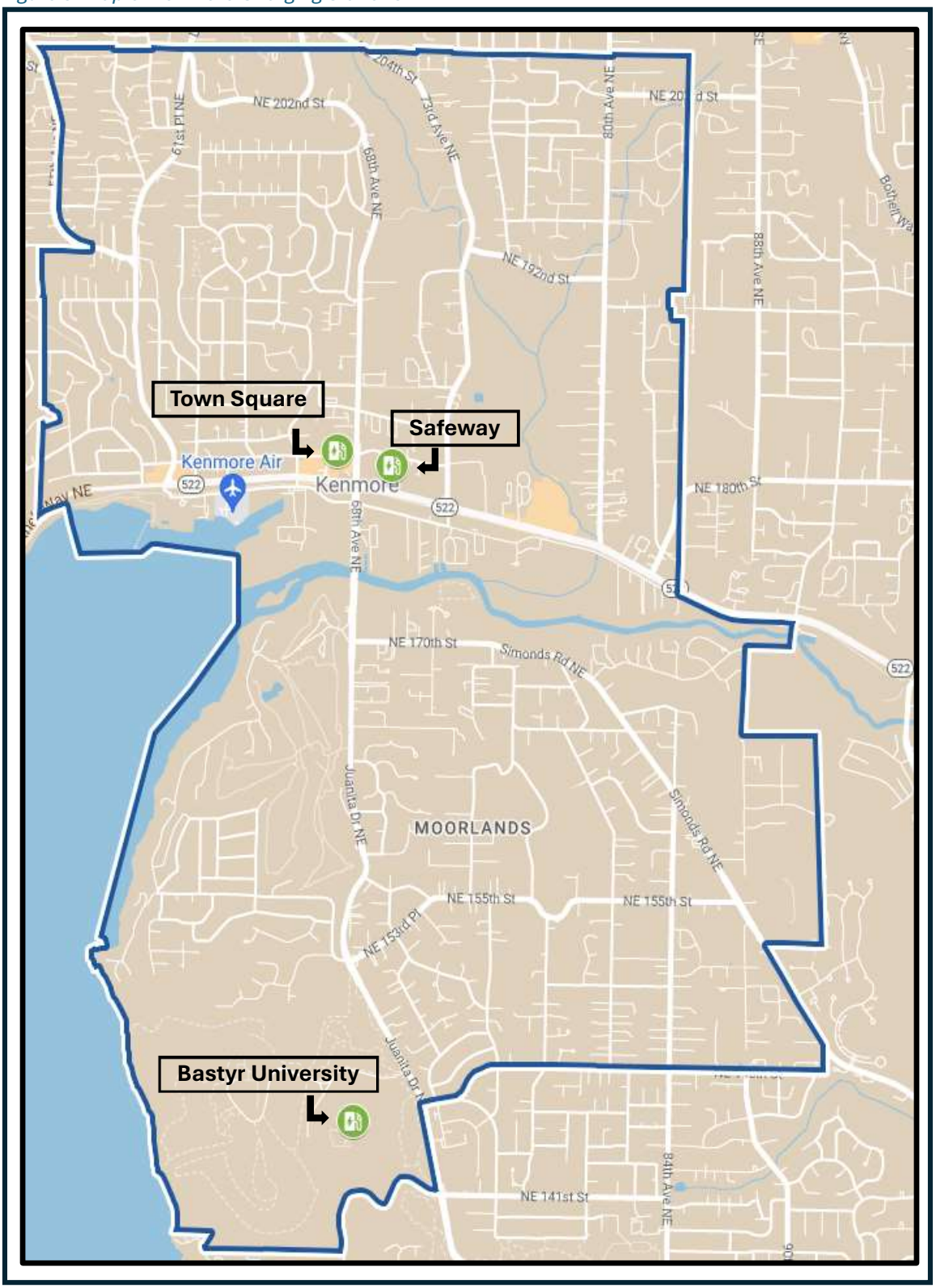
Kenmore EV Infrastructure

Kenmore is the home of seven EV Level 2 (L2) chargers, two of which are City-owned chargers designated for the Kenmore fleet and located in the City Hall Garage. Five charging locations are public, with two Shell Recharge (formerly Volta) chargers located at Safeway, two located at Bastyr University (which require a parking pass from the University to access), and the last charger, a public

[1] 637898707618200000 (kenmorewa.gov)

Blink charger located in the town square. Figure 3 displays these chargers overlaid with the City of Kenmore.

Figure 3: Map of Kenmore Charging Stations



As Kenmore continues developing EV charging infrastructure, more chargers will be needed. The City's location along Lake Washington and Route 522 makes it ideal for its residents and tourists to charge their vehicles. EVs make up an average of 22.6% of Kenmore's vehicle registration for the 2024 year-to-date (YTD), as illustrated in Figure 4 below.[2] The overall registration of electric vehicles has increased since the vehicle shortfall in 2020, increasing the need for EV infrastructure as more residents adopt EVs. Furthermore, Kenmore ranks in the 82nd percentile for diesel particulate matter exposure, meaning it has high diesel fumes emitted from trucks driving through the area.[3] With these high levels of fumes, Kenmore has an additional reason to convert its city to electric vehicles and help protect the health of residents and the environment.

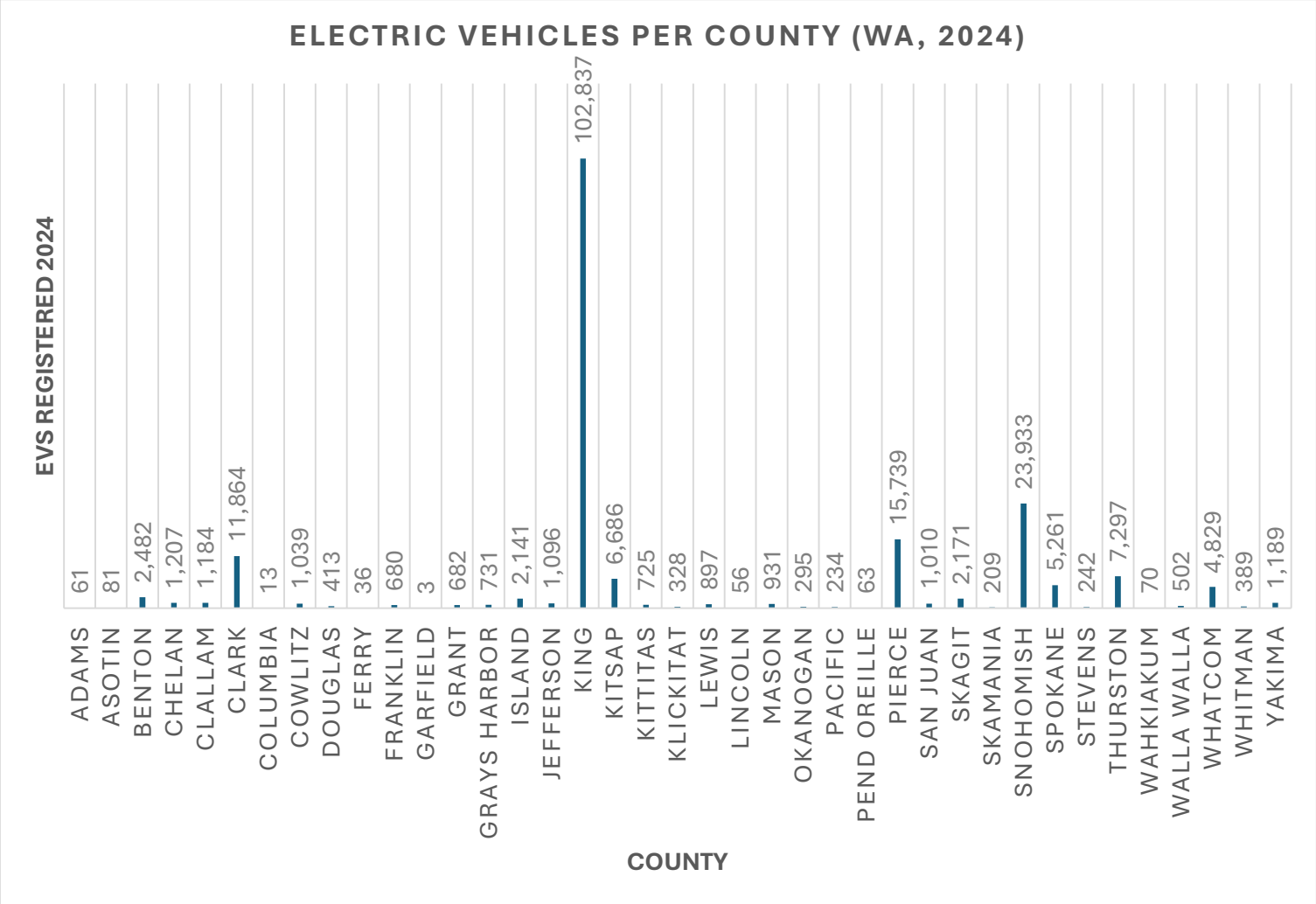


Figure 4: ELECTRIC VEHICLES PER COUNTY (WA, 2024)

[2] Wa.gov. (2018). Electric Vehicle Share of New Registrations | Data.WA | State of Washington. [online] Available at: https://data.wa.gov/Transportation/Electric-Vehicle-Share-of-New-Registrations/wzin-vviu

[3] EPA (2019). *EJSCREEN*. [online] Epa.gov. Available at: https://ejscreen.epa.gov/mapper/.

King County EV Infrastructure

An ever-growing EV landscape surrounds Kenmore. King County has the most electric vehicles per county in Washington, with 102,061 recorded EVs as of August 2024.[4]

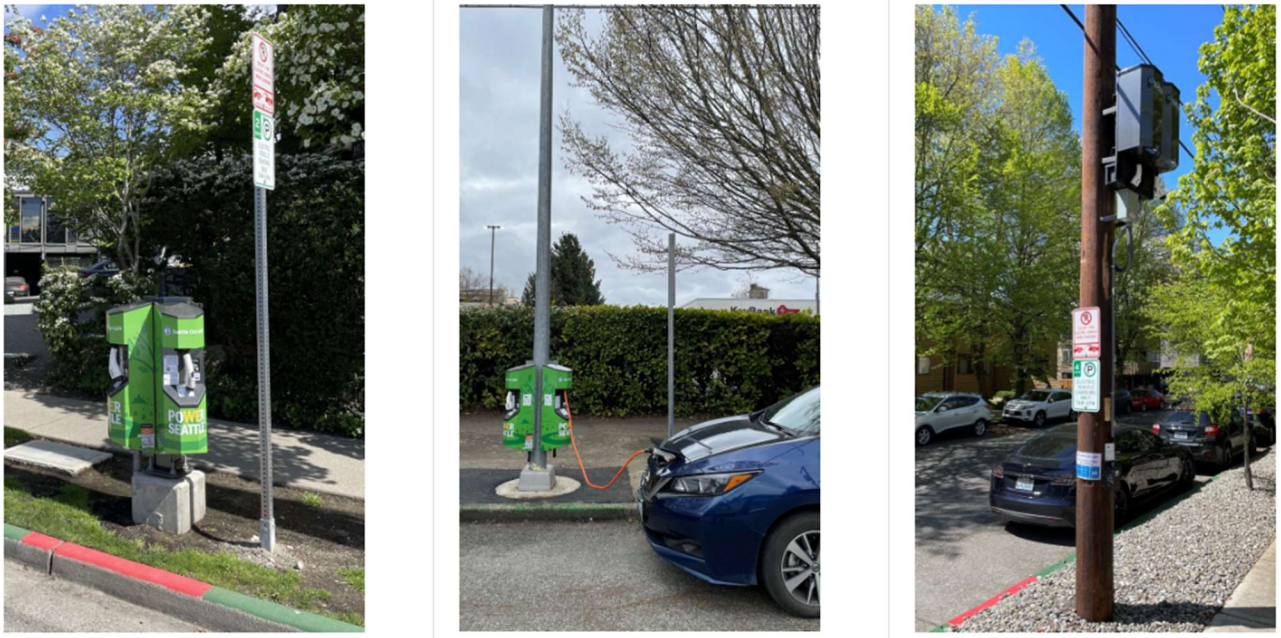
King County is dedicated to eliminating greenhouse gas emissions and recently received a $6 million grant from the Washington State Department of Commerce to create more than 400 electric vehicle charging ports throughout the County. The County partnered on this grant with community centers, multifamily housing, and retail businesses to provide the public with 55 charging locations, including nine County sites, 13 multifamily residential buildings, and 16 other places, such as Metro bus bases.

King County Metro strives to eliminate greenhouse gas emissions from its bus fleet by 2035.[5] King County Metro has started this transition by constructing an "Interim Base" where 6-10 megawatts of electricity will be used to charge Metro and the County's EV fleet. This base will act as a prototype for future vehicle electrification throughout the County. [6] Furthermore, the local utility, Puget Sound Energy (PSE), is transitioning its fleet and providing resources to encourage its customers to do the same.

Other cities within the County have also started making headway with their electric vehicle charging infrastructure. As of June 2024, Seattle has installed 689 EV charging stations, including 133 Direct Current fast chargers (DCFC) and 23 Tesla superchargers.[7] It contains the most chargers per city within the State of Washington, most located downtown. Seattle is also conducting a pilot program with Seattle City Light. The program is designed to install chargers on the curbside to charge residents who can only utilize street parking. As of May 1, 2024, Seattle City Light has installed 25 public Level 2 curbside EV chargers. These chargers can provide up to 9.6 kilowatts (kW) and up to 30 miles of range

[4] data.wa.gov. (n.d.). Electric Vehicles By County | Data.WA | State of Washington. [online] Available at: https://data.wa.gov/Demographics/Electric-Vehicles-By-County/smxa-ttv3
[5] 2020 Strategic Climate Action Plan (kingcounty.gov)
[6] Metro Matters. (2024). *King County Metro 'charges toward zero-emissions' with Interim Base groundbreaking*. [online] Available at: https://kingcountymetro.blog/2024/03/06/king-county-metro-charges-toward-zero-emissions-with-interim-base-groundbreaking/
[7] Evhype.com. (2024). *Seattle, Washington, EV Charging Stations | EVhype*. [online] Available at: https://evhype.com/map/united-states/washington/seattle

per hour of charge time. These chargers will allow residents to charge at work, in the city, and overnight. A picture of the different types of curbside chargers can be found in the figure below.[8]



Pedestal Charger | Steel Pole Charger | Wood Pole Charger

Figure 5: Seattle Curbside Charger Examples

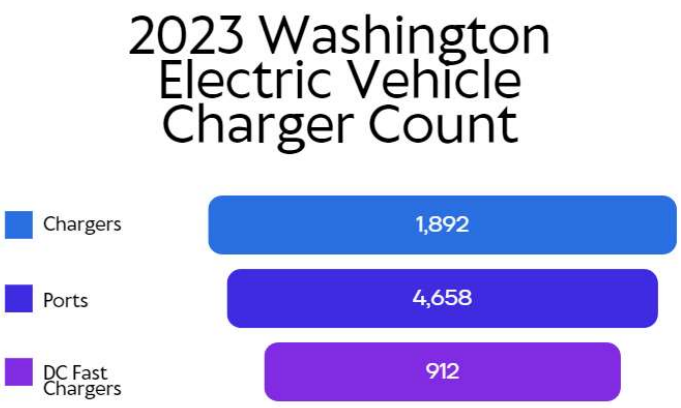
Bellevue has the second-largest number of EV chargers in King County. Currently, it has 304 stations, including 28 fast chargers and 5 Tesla Superchargers.[9] The City of Bellevue is also creating an electric vehicle roadmap. It launched in 2023 and is currently in the development phase, with input from the community. Bellevue has even created an interactive map for residents to voice where they feel charging would be most utilized. The roadmap is expected to be published in the summer of 2024.[10]

The different EV charging installation structures used by Seattle, Bellevue, and King County can help inform Kenmore about its journey to vehicle electrification. King County has successfully received grant funding to expand its EV charging infrastructure, and King County Metro is transitioning its fleet. Seattle's curbside charging pilot program is a unique charging project that Kenmore could consider implementing. Finally, Bellevue is in the process of its EV charging roadmap and has created an interactive map that Kenmore can use to model its own process and community outreach.

[8] Seattle.gov. (2021). Curbside Level 2 Electric Vehicle Charging - City Light | seattle.gov. [online] Available at: https://www.seattle.gov/city-light/in-the-community/current-projects/curbside-level-2-ev-charging
[9] Evhype.com. (2024). Bellevue, Washington, EV Charging Stations | EVhype. [online] Available at: https://evhype.com/map/united-states/washington/bellevue
[10] City of Bellevue. (2024). Transportation and Electric Vehicles. [online] Available at: https://bellevuewa.gov/city-government/departments/community-development/environmental-stewardship/transportation-land-use

Washington and West Coast EV Infrastructure

The City of Kenmore has an advantage over other cities in America regarding the expansion of vehicle electrification and infrastructure due to its favorable political climate, state mandates, and location surrounded by cities, counties, and a state that has already started making headway with vehicle conversions. As of September 2023, Washington has 1,892 charging stations with 4,658 ports, including 912 DC fast charging ports.



In 2021, Washington installed over 460 charging stations and hopes to continue increasing this number of chargers installed yearly.[11] These charging stations will help Washington reach its goal of a 95% carbon reduction by 2050.[12]

Kenmore also has excellent access to multiple funding paths for EV infrastructure. Washington State has instituted a carbon-cap law that monetizes emissions, and businesses that use fewer than their allotted credits are eligible to sell those credits to other businesses. Businesses must purchase credits equal to their emissions through State-run auctions. These auctions are expected to generate $500 million—$1 billion annually in the next few years, which can help fund projects such as EV charging infrastructure.[13] Furthermore, the Washington State Department of Commerce (DOC) announced in February 2024 that $85 million will be the first round of investment funding through the Washington Electric Vehicle Charging Program. The goal is to install 4,710 Level 2 chargers with 5,362 ports and 271 DC Fast Chargers with 420 ports. These chargers will be distributed across 213 multifamily properties, 211 fleets and workplaces (primarily government and school facilities), and 211 public locations such as libraries and recreation centers.[14]

AVAILABLE EV FUNDING

WSDOC **$85 million** through the Washington EV Charging Program

$71 million through the NEVI program with a **$17.75** million 20% non-federal match

[11] www.recurrentauto.com. (n.d.). Washington Electric Vehicle Trends. [online] Available at: https://www.recurrentauto.com/research/washington-electric-vehicles.
[12] Cascade PBS. (2023). How Washington plans to spend money from the new carbon-cap law. [online] Available at: https://www.cascadepbs.org/politics/2023/04/how-washington-plans-spend-money-new-carbon-cap-law
[13] Cascade PBS. (2023). How Washington plans to spend money from the new carbon-cap law. [online] Available at: https://www.cascadepbs.org/politics/2023/04/how-washington-plans-spend-money-new-carbon-cap-law
[14] https://komonews.com/news/local/electric-vehicle-ev-charging-station-washington-olympia-seattle-governor-jay-inslee-grant-85-million-4000-new-stations-department-commerce-investment-program-communities-negative-health-effects-fossil-fuel-pollution

Washington plans to deploy the National Electric Vehicle Infrastructure (NEVI) funding it has received from the federal government's Department of Energy (DOE) in 2024. The 2023 Washington State Plan for Electric Vehicle Infrastructure Deployment states that Washington expects to invest $71 million from the NEVI program with a $17.75 million 20% non-federal match. The locations of the chargers will be determined by the Zero-Emission Vehicle Mapping and Forecasting Tool (ZEV-MFT), which is currently under development and will be located on Alternative Fuel Corridors (AFC), US 101, I-90, I-82/I-182, I-5, US 395 (south of Spokane), US 195, I-205, I-405, I-705, US-2, US-12, US-97, and US 395 (north of Spokane), as dictated by NEVI. As the charging sites are not yet identified, Washington will seek proposals by full corridors, and the proposers will determine the final charger locations along these corridors.[15]

Washington also plans on submitting a tristate proposal along with Oregon and California for the West Coast Truck Charging Corridor Project which would be funded by a Charging and Fueling Infrastructure (CFI) Grant. The proposal is in partnership with Caltrans, the California Energy Commission (CEC), the Oregon Department of Transportation (ODOT), and the Washington State Department of Transportation (WSDOT). The project would include seven charging sites from Washington to California along I-5, supporting medium- and heavy-duty charging for vehicle and goods movement.[16]

Kenmore can use Washington's resources and different funding avenues to help further its electric vehicle infrastructure. By expanding its infrastructure, Kenmore will help Washington reach its goal of 95% emissions reductions by 2050. Kenmore should take advantage of resources both Washington State and King County are providing to maximize its EV infrastructure and emissions reductions.

EV Trends

Vehicle electrification, expanding EV charging infrastructure, and reducing emissions have become common trends in the United States, Washington, and the greater West Coast region. As of July 2023, Washington ranks #2 for overall advanced technology vehicle market share and #4 for battery electric vehicles (BEV).[17] The population in Washington State continues to trend upwards and grew 16.8% from 2010 – 2020, and almost 70% of the growth is in the most significant metropolitan counties: Clark, King, Pierce, Snohomish, and Spokane.[18] With the increase in population also comes an increase in drivers on the road. The graphic below illustrates the geographic distribution of population change by county in

[15] Washington State Plan for Electric Vehicle Infrastructure Deployment. (2023). Available at: https://wsdot.wa.gov/sites/default/files/2023-09/WSDOT-NEVI-Plan-Update-2023.pdf
[16] California Energy Commission (2024). *Workshop on the Development of Applications to Round 2 of the U.S. Department of Transportation's Charging and Fueling Infrastructure Grant Program*. [online] California Energy Commission. Available at: https://www.energy.ca.gov/event/workshop/2024-07/workshop-development-applications-round-2-us-department-transportations
[17] www.autosinnovate.org. (n.d.). *electric-vehicle-sales-dashboard*. [online] Available at: https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard
[18] Washington State Plan for Electric Vehicle Infrastructure Deployment. (2023). Available at: https://wsdot.wa.gov/sites/default/files/2023-09/WSDOT-NEVI-Plan-Update-2023.pdf

2023. In 2023, Whatcom County led with a growth rate of 1.8%, followed by Benton, Snohomish, and Grant counties, each with a 1.5% increase. Overall, 11 counties grew by 1.0%, including King County and three nonmetropolitan counties. According to the Washington State Office of Financial Management, as of April 1, 2023, the population of incorporated places reached 5,200,000, reflecting an increase of 66,250 individuals since the previous year. Meanwhile, the population in unincorporated areas rose by 20,500 from the prior year. The five most populous unincorporated counties—Pierce, Snohomish, King, Clark, and Kitsap—almost match the total population of the state's five largest cities, which are Seattle, Spokane, Tacoma, Vancouver, and Bellevue, with populations of 1.49 million and 1.59 million, respectively.

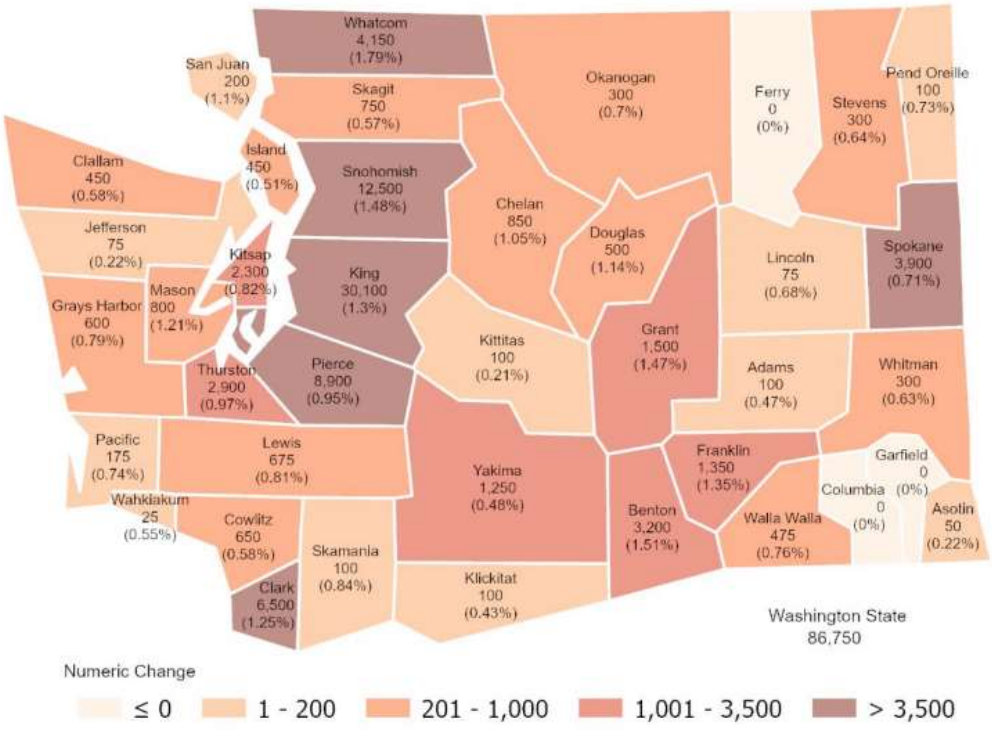


Figure 6: Washington State Population Increase 2022-2023

Fortunately, many of these drivers are driving electric vehicles since not only is it better for the environment, but Washington has some of the highest gas prices in the US, with an average of $4.153 in September 2024[19], and some of the least expensive electricity in the US with average costs of $0.1121/kWh for residential rates and $0.0986/kWh for commercial rates[20]. The savings by switching to electric vehicles are so substantial that it only helps Washington persuade drivers to switch to electric. Chargers have also grown with the number of electric vehicles in the state. Since 2016, the

[19] Eia.gov. (2024). *Washington Gasoline and Diesel Retail Prices*. [online] Available at: https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_swa_w.htm

[20] www.recurrentauto.com. (n.d.). *Washington Electric Vehicle Trends*. [online] Available at: https://www.recurrentauto.com/research/washington-electric-vehicles.

number of chargers has grown at least 133%, and more than 460 charging stations were built in 2021, with Washington hoping to continue to surpass that number per year. The majority of these chargers are installed in more densely populated areas where EV owners are more likely to live in multi-family homes and have less access to at-home charging. Furthermore, the State continues to prioritize funding for vehicle electrification and has allocated $85 million[21] for charging infrastructure and $51.4 million for transit agency decarbonization for fiscal years 2024 - 2025[22].

Outside of the state, the West Coast is still dominating the EV market, with California coming in first for EV sales in 2022, followed by a tie among Washington, Oregon, and Hawaii. Tesla is the most sold electric vehicle brand, and the cost difference between electric vehicles and internal combustion engine (ICE) vehicles is slowly dwindling, with about a $7,952 difference on average. Hawaii has also emerged as a leader in EV sales, most likely due to the number of incentives the State offers. It offers incentives to buy EVs, provides refunds for the cost of charging, and occasionally provides free parking. Oregon also provides an additional $7,500[23] off an EV purchase, and Washington offers up to an additional $9,000 off of an EV purchase, both in conjunction with the federal EV purchase rebate (up to $7,500) [24].

Supply Chain and Logistics Considerations

A reliable supply chain for EV charging equipment is essential, encompassing a range of charging stations, including Level 2 chargers for public areas and DC fast chargers for fleet use. However, global supply chain disruptions, exacerbated and exemplified by the pandemic, present challenges by impacting the availability and pricing of charging equipment, potentially leading to deployment delays.

Fluctuations in necessary raw materials prices, such as copper for wiring and cobalt/lithium for batteries, the cost of skilled labor, and broader supply chain constraints are inherently difficult to predict. Delays in procuring critical components like transformers and cabling can further complicate deployment. Maintaining the new electric fleet and charging infrastructure also depends on a reliable supply chain for maintenance parts. Components like spare batteries, wiring, and cooling systems must

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[21] Staff, K.N. (2024). *Washington state to add nearly 5,000 electric vehicle charging stations*. [online] KOMO. Available at: https://komonews.com/news/local/electric-vehicle-ev-charging-station-washington-olympia-seattle-governor-jay-inslee-grant-85-million-4000-new-stations-department-commerce-investment-program-communities-negative-health-effects-fossil-fuel-pollution.

[22] www.recurrentauto.com. (n.d.). Washington Electric Vehicle Trends. [online] Available at: https://www.recurrentauto.com/research/washington-electric-vehicles.

[23] kgw.com. (2023). *West Coast states dominated the electric vehicle market in 2022*. [online] Available at: https://www.kgw.com/article/money/business/oregon-and-washington-second-most-ev-sales/283-b97edc21-3b82-43e8-856a-7ace368e8c17.

[24] Washington State Department of Commerce. (2024). *EV Instant Rebate Program - Washington State Department of Commerce*. [online] Available at: https://www.commerce.wa.gov/growing-the-economy/energy/electric-vehicles/ev-instant-rebate-program/#:~:text=The%20Washington%20State%20Department%20of%20Commerce%E2%80%99s%20EV%20Instant

be readily available, and long-term supplier agreements are crucial to prevent downtime for charging stations and vehicles.

Workforce training and availability are equally critical. Installing and maintaining EV infrastructure, as well as servicing electric vehicles, requires specialized labor. Electricians trained in EV charger installation and technicians certified in electric vehicle repair will be increasingly in demand, potentially creating a bottleneck as the industry grows.

To address supply chain delays, the City should order equipment as advanced as possible to account for long lead times. It is also important for Kenmore to consider these long lead times when creating project schedules, as some items, such as switchgear, can take over a year to arrive and can greatly impact construction. It is ideal for Kenmore to remain proactive when addressing supply chain issues.

Regarding workforce training, the City should consider collaborating with educational institutions such as the University of Washington Bothell and vocational programs to ensure the workforce has the necessary certifications and skills to handle emerging EV technologies. Effective fleet management software is another key element in transitioning to electric vehicles. This software will enable the City to track vehicle performance, monitor battery health, and check charging station availability, optimizing logistics and improving operational efficiency.

While monitoring market conditions and planning for potential shortages or price increases is important, the City should focus its resources on factors within its control, such as securing permits, coordinating with the local utility provider PSE, ensuring a skilled local labor force is made aware of upcoming capital projects with the City, and proactively selecting appropriate sites for charging. Preparing these sites—such as installing underground wiring and upgrading transformers—adds logistical complexity but is necessary for successful implementation.

City Residents EV Ownership & Charging Preferences

The City of Kenmore has conducted extensive community outreach using a variety of methods to assess interest in EVs and potential preferred charging locations to guide the development of an EVIP that will effectively serve the community's needs as EV adoption grows across Kenmore and the state.

Figure 7: Community EVIP Workshop October 22, 2024, at City Hall

Kenmore's community engagement efforts for the EVIP have included:

- Developing the https://speakupkenmore.com/evcharging website, which includes:
  - The Public EV Charger Location Survey: A digital, interactive map upon which participants could pinpoint preferred charging locations.
  - The EV Charging Preferences Survey: A traditional survey that gathered information about participants' preferences and thoughts around electric vehicles and charging.
- Hosting an in-person workshop (shown in the photo above) at City Hall where community members had the opportunity to meet with city staff and their fellow community members to:
  - Discuss and address questions about the EVIP
  - Pinpoint preferred charger locations on physical maps or through the EV Charger Location Survey digital map
  - Complete the EV Charging Preferences Survey online or using a physical copy

- Hosting two virtual workshops for community members to discuss and address questions about the EVIP and walk through the two surveys available through the EVIP website.

The results from both surveys circulated through all these opportunities are available in Appendix B: Community Engagement Feedback: Survey Results. The results contain responses from a small sample of Kenmore residents that will be used to form recommendations and a path forward for where chargers should be placed, what types of chargers are best for each scenario, and where collaboration may be possible. Location suggestions will be evaluated for feasibility during the modeling phase of the EVIP to make final recommendations on public EV charging spots once the City moves forward with implementation, and preferred location types will be used to make alternative location recommendations that can still help meet community preferences even if specific suggested locations are found to be infeasible. Survey responses will also help inform the City's strategies to engage with and support residents in the transition towards increased EV adoption as part of its work to comply with its Climate Action Plan goals and state requirements.

EV REGULATORY LANDSCAPE

Regulations Applicable to Kenmore

The State of Washington has been an early adopter of ambitious policies and goals to reduce transportation emissions and provide the infrastructure to support the state and the nation's large-scale transportation electrification efforts needed to get there. As far back as 2007, the Washington State Legislature adopted the provisions of RCW 43.19.648, which required all local governments to convert their vehicle fleets to electricity or biofuel by June 1, 2015.[25] Since the adoption of the original legislation, amendments were enacted, pushing the deadlines back, modifying some of the provisions, and providing exemptions for specific vehicles and fleets. As a result, as of June 1, 2018, all local governments were expected to satisfy 100% of their fuel usage for operating publicly owned vessels, vehicles, and construction equipment from electricity or biofuel but were only required to do so "to the extent practicable by the rules adopted by the department of commerce." Specifically, WAC 194-29-020 (7) allowed local governments to make fueling choices based on the cost and availability of fuels and vehicles, implementation costs, changes in fueling infrastructure, operations, and other factors. Furthermore, reporting under this regulation is required only by agencies using more than 200,000 gallons of gas or diesel annually. The impact of these ambitious regulations on EV adoption was limited, even in the public sector, due to the flexibility of the regulations and the limited availability of alternative vehicle options to replace ICE vehicles during the early stages of EV adoption. However, Kenmore now

[25] Mrsc.org. (2024). *MRSC - Alternative Fuel Requirement Deadline Fast Approaching*. [online] Available at: https://mrsc.org/stay-informed/mrsc-insight/may-2018/alternative-fuel-requirement-deadline-fast-approac

has ample opportunity and reason to start on its journey to meet these regulatory goals. Major pieces of EV legislation that the City needs to be aware of are discussed in the sections below.

Clean Vehicle Programs and ZEV Sales Mandates

In recent years, Washington has made significant strides toward realizing the ambitions of its earlier policy goals by adopting California's vehicle emissions standards under Washington's Motor Vehicle Emission Standards (RCW 70A.30.010). This required expanding the availability of zero-emissions vehicles (ZEV) replacement options for internal combustion engine vehicles.[26] The Motor Vehicle Emission Standards law includes new requirements to gradually increase the number of new zero-emission vehicles (ZEV) sold in Washington until all new vehicles meet the ZEV standard starting in 2035. Under the passing of the Clean Vehicles Program rule, the Advanced Clean Cars I and II (ACC I and ACC II) regulations require a progressively more stringent zero-emissions vehicle (ZEV) sales share, culminating in a 100% sales requirement for new light-duty (i.e., passenger) vehicles (LDVs) by 2035. For medium- and heavy-duty vehicles (MHDVs), the Advanced Clean Trucks (ACT) regulation requires increasing new sales shares for larger vehicles, with 40%–75% ZEV sales required by 2035, depending on weight class. Additionally, in 2022, the Legislature passed Move Ahead Washington (Chapter 182, Laws of 2022), a monumental 16-year transportation package known for its historic investments in transit, active transportation, ferries, alternative fuels, and rail. This is intended to support mode shift, electrification of these modes, and reductions in vehicle miles traveled (VMT) along with their associated emissions, and established a nonbinding statewide target of reaching 100% new electric passenger vehicle sales by 2030 (2030 EV target) — five years earlier than the 100% new ZEV sales requirement under ACC II.[27] Zero-emission vehicle regulations and goals have been recognized as the driving force behind the recent acceleration in EV adoption across the country and in Washington.[28] The adoption of these zero-emission vehicle policies does not necessarily add new regulatory requirements for local government entities. Still, they do 1) present a more "practicable" path forward for entities, like the City of Kenmore, to begin transitioning their fleets and 2) provide an avenue for entities to begin fulfilling their alternative fueling obligations as mandated under RCW 43.19.648.

[26] Wa.gov. (2020). *RCW 70A.30.010: Department of ecology to adopt rules to implement California motor vehicle emission standards.* [online] Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=70A.30.010
[27] Jinkins, L. (2025). CERTIFICATION OF ENROLLMENT ENGROSSED SUBSTITUTE SENATE BILL 5974. *Chapter*, [online] 206. Available at: https://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/Senate/5974-S.SL.pdf?q=20231103131612
[28] Washington State Department of Commerce. (n.d.). *Transportation Electrification Strategy*. [online] Available at: https://www.commerce.wa.gov/growing-the-economy/energy/clean-transportation/ev-coordinating-council/transportation-electrification-strategy/.

Regulatory Format

The City of Kenmore's building and energy codes, particularly regarding EV charging infrastructure, are influenced by state and federal regulations while allowing local customization. Washington State mandates that cities integrate EV charging infrastructure into new constructions and major renovations under the Washington State Energy Code (WSEC). This requirement aligns with the state's overarching objectives to promote electrification and reduce greenhouse gas emissions. Specifically, the WSEC stipulates that a designated percentage of parking spaces in new commercial, multifamily, and residential developments must be "EV-ready," meaning they are equipped with the necessary wiring and capacity to accommodate future installation of EV charging stations.

Local jurisdictions, such as Kenmore, are obligated to adhere to these minimum standards but are permitted to exceed them by establishing a higher percentage of EV-ready or fully equipped charging spaces. For instance, Kenmore could implement a requirement that mandates all parking spaces in certain types of developments to be EV-ready, whereas the state would not require this for compliance. This flexibility enables the city to establish more stringent local objectives to promote EV adoption. However, it is important to note that Kenmore cannot diminish or bypass the state's minimum requirements, as these are designed to maintain consistency in energy and infrastructure development across Washington.

On a federal level, initiatives such as the Bipartisan Infrastructure Law and associated funding programs further described herein in this report are facilitating the advancement of EV infrastructure. Federal incentives and grants are often available to municipalities like Kenmore, particularly for projects that enhance public charging accessibility or foster increased EV adoption. While local governments can utilize these resources, they must ensure their initiatives comply with federal guidelines. Thus, while Kenmore possesses some degree of autonomy in implementing its EV infrastructure requirements, it operates within a framework that guarantees alignment with state and federal energy objectives, creating opportunities and constraints in developing its EV policies.

Rulemaking Authority for Washington Cities

It is also important to note that Kenmore has certain enumerated powers that could help advance its path toward vehicle electrification as a Washington city, such as its rights to amend certain aspects of state codes and create local ordinances.

For clarity, a few key terms for this section are listed below:

- **Law:** Federal or state written rule of general force and effect, in that they apply to all persons/entities in the covered jurisdiction.
- **Code:** Codes are statutes organized and codified by subject area.

Ordinance: *A local law.*

Building Codes

The Washington State Building Code is a set of minimum regulations and standards designed to ensure the safety and integrity of structures in the state.[29] The Washington State Building Code Council (WSBCC) sets and updates it every three years. These codes cover various aspects of construction, including building design, materials, and safety measures, to promote sound construction practices and protect public welfare. Under RCW 19.27.040, Washington cities and counties are authorized to amend the state building code so long as the amendments do not diminish the minimum performance standards of the codes and the objectives enumerated in RCW 19.27.020.[30]

Energy Codes

The 2018 Washington State Energy Code is a state-developed code that is mandatory statewide and provides minimum energy efficiency requirements for residential and commercial buildings. It is based on the International Energy Conservation Code (IECC) and is updated every three years.[31] The State of Washington requires all local jurisdictions to comply with the state-mandated residential building energy codes, but it permits local jurisdictions to have more stringent commercial codes.[32]

Home Rule Authority

Additionally, the state of Washington grants its cities broad "home rule" authority, meaning that municipal code (code) cities may exercise the same powers as the state as long as they are not in conflict with general law, except for any powers specifically denied in law. This allows the City to pass Ordinances it finds necessary to ensure good governance over its local affairs.[33] RCW 35A.11.020 specifically grants each code city the "power to organize and regulate its internal affairs within the provisions of this title and its charter," allowing each city to "adopt and enforce ordinances of all kinds relating to and regulating its local or municipal affairs and appropriate to the good government of the city…." RCW 35A.11.050 similarly states that:

> *The general grant of municipal power conferred by this chapter and this title . . . is intended to confer the greatest power of local self-government consistent with the Constitution of this state and shall be construed liberally in favor of such cities. Specific mention of a particular municipal power or authority contained in this title or the general law shall be construed as in addition and supplementary to, or explanatory of, the powers conferred in general terms by this chapter.*

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[29] Wa.gov. (2018). State Building Code | SBCC. [online] Available at: https://sbcc.wa.gov/state-codes-regulations-guidelines/state-building-code#:~:text=The%20Washington%20State%20Building%20Code

[30] Wa.gov. (2024). *RCW 19.27.040: Cities and counties authorized to amend state building code—Limitations.* [online] Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=19.27.040

[31] Wa.gov. (2018). *Energy Code | SBCC*. [online] Available at: https://sbcc.wa.gov/state-codes-regulations-guidelines/state-building-code/energy-code.

[32] Aceee.org. (2018). Energy Code Stringency | ACEEE. [online] Available at: https://database.aceee.org/city/energy-code-stringency

[33] You have it, use it Home rule in Washington. (n.d.). Available at: https://wacities.org/docs/default-source/resources/sochomerulereport2021.pdf?sfvrsn=f1b8244f_21

If either the state constitution or state statutes are silent about a city's power on a specific local issue, then under home rule, a code city is technically free to pass ordinances to address the issue and is not required to obtain state permission to act but should proceed with caution under the advisement of legal counsel.

Below is a table summarizing Kenmore's ability to create local laws to help advance the City's electrification efforts.

Table 1: Kenmore's Ability to Create Local Rules

Rule Name	Category	Authority with Jurisdiction	Description	Kenmore's Ability to Create Local Rules
Washington State Building Code	Code	WSBSS	A mandatory statewide code that provides minimum standards for the construction of buildings and structures.	Kenmore may amend the state code so long as the minimum state code standards are not diminished.
Washington State Energy Code	Code	WSBSS	A mandatory statewide code that provides minimum energy efficiency requirements for both residential and commercial buildings.	Kenmore may only amend the state requirements for commercial buildings, and the amendments must exceed state code requirements. Residential requirements must align with state code.
Home Rule	Law	Washington Cities	It gives cities the power to create and enforce local regulations that don't conflict with state laws without requiring state legislation or permission.	Kenmore may create local ordinances as long as they do not conflict with state-mandated laws.

Building EV Readiness Code

Under RCW 19.27.540, the State of Washington has adopted its own State Building Requirements that require new buildings to be pre-wired for EV charging. Building requirements for EV charging helps prepare the state to accommodate the anticipated growth of EV adoption by requiring the development of charging infrastructure. These requirements may vary by state or local jurisdiction depending on their anticipated infrastructure needs with predicted increases in EV adoption.[34] Different codes may require buildings to pursue varying levels of EV readiness based on those needs and may require different levels of EV-capable parking spots, whereby spots are equipped with electrical panel capacity and wiring to

[34] afdc.energy.gov. (n.d.). *Alternative Fuels Data Center: Electric Vehicle Readiness*. [online] Available at: https://afdc.energy.gov/fuels/electricity-ev-readiness.

support future EV charger installation; EV ready, whereby spots are equipped with all required infrastructure is installed to power an EV charger, including the wires and circuit breakers which may be terminated in a junction box or to a receptacle; or EV installed, whereby a charging station has been fully installed (as can all be seen in the figure below).[35]

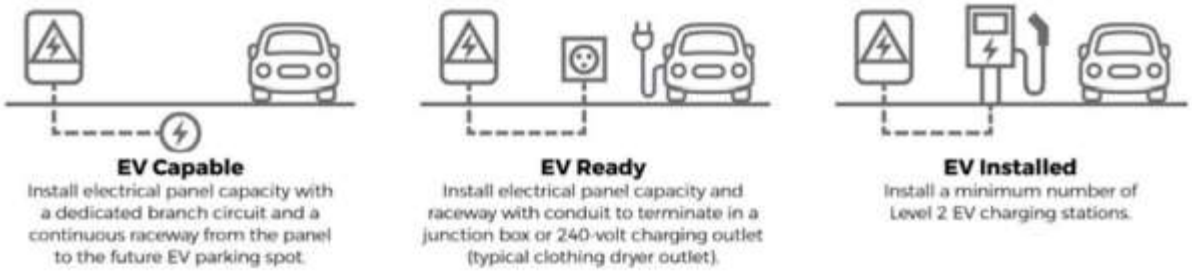

Figure 1: Levels of Readiness for EV Charging. EV Capable is the electrical capacity and wiring. EV Ready includes an outlet, EV Installed includes an installed charging station. *Source: City of Edmonds.*

Figure 8: Levels of Readiness for EV Charging

The state building code in Washington requires that new construction (construction of new buildings and accessory structures, including parking lots and parking garages) must include EV charging infrastructure that meets the following requirements (as applicable):

- Developers are mandated to build charging station-equipped or -outfitted parking spots. RCW 19.27.540 requires new construction of multi-family residential or commercial buildings to designate the greater of one space, or 10% of total spaces, with wiring able to accommodate electric vehicle charging. An additional 20% of spaces must be charger station-ready or EV-ready.
- All new multi-family residential or commercial developments must comply with state electrification rules unless otherwise exempted. Exempted "assembly, education, or mercantile" developments instead must wire 10% of employee parking and prepare an additional 20% of employee parking for electric vehicles. Utility and miscellaneous developments are fully exempted from electrification requirements.
- For accessible parking spaces, the greater of one parking space or ten percent of accessible parking spaces, rounded to the following number, must be provided with electric vehicle charging infrastructure that may also serve adjacent parking spaces not designated as accessible parking.

EV charging readiness policies, such as those mandated under the state building code, help support the growing adoption of EVs. They can help future-proof infrastructure for increasing demand for charging

[35] (Bellevue Development Committee, 2024*) Levels of Readiness for EV Charging: EV Capable has the capacity to support a 40-ampere, 208/240-volt branch circuit; EV Ready has the capacity and an outlet; EV Installed includes the capacity, outlet, and a charging unit.* Available at:

over time and limit the costs of retrofitting charging infrastructure as demand continues to grow. In cases where EV-ready and EV-capable spots are required, these codes can also help simplify future charger installation and effectively reduce those future installation costs by avoiding work like concrete or asphalt cut and patching that may be necessary for retrofit projects otherwise.[36] New construction projects in the City of Kenmore are subject to meeting the minimum requirements of the state's building code.

The Right to Charge

In June 2022, RCW 64.90.51 went into effect, codifying the "Right to Charge" for units and homeowners within a common interest community (CIC) in Washington.[37] A common interest community (CIC) is a form of real estate in which each unit owner or homeowner has an exclusive interest in a unit or lot and a shared or undivided interest in common area property. In Washington, several statutes govern residential CICs, such as condominiums, cooperatives, leasehold CICs, miscellaneous communities, and plat communities, sometimes referred to as homeowners' associations (HOAs). Under RCW 64.90.51, the following rules apply:

- RCW 64.90.51 prohibits an association of unit owners in a common interest community from placing unreasonable restrictions on installing or using an electric vehicle charging station (EVCS) within the boundaries of an owner's unit or in a designated parking space.
- Requires associations to approve an application to install an EVCS if the unit owner meets specified requirements.
- Provides that a unit owner is responsible for all costs associated with the EVCS.
- Provides a cause of action against an association for willful violations and establishes penalties.

In essence, the right-to-charge prevents HOAs from placing unreasonable EVCS installation restrictions on multi-family dwellings and single-family homes, but only in cases where someone owns their dwelling/unit within a qualified CIC. In some states, right-to-charge protections are also being extended to apartment renters, but this is not currently the case in Washington.[38] In any case, it is important that the City of Kenmore be aware of this protection and push to educate resident unit-owners in CICs about their protected right-to-charge in case they face opposition from an HOA. The following page summarizes EV regulations that impact and/or require action from the City of Kenmore.

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[36] (American Cities Climate Challenge Electrification Coalition, 2021) *Electrifying Transportation in Municipalities: A Policy Toolkit for Electric Vehicle Deployment and Adoption at the Local Level*. Available at: https://electrificationcoalition.org/wp-content/uploads/2021/08/Electrifying-Transportation-in-Municipalities-FINAL-9.9.21.pdf

[37] Inslee, J. (2022). *CERTIFICATION OF ENROLLMENT ENGROSSED SUBSTITUTE HOUSE BILL 1793 Governor of the State of Washington Secretary of State State of Washington*. [online] Available at: https://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/House/1793-S.SL.pdf#page=1

[38] www.enelxway.com. (n.d.). *Right-to-Charge states and their policies | Enel X Way*. [online] Available at: https://www.enelxway.com/us/en/resources/blog/right-to-charge-state-policies.

Table 2: City of Kenmore EV Regulations Landscape

CITY OF KENMORE EV REGULATIONS LANDSCAPE			
Regulation	**Agency**	**Description**	**Impacts on Kenmore**
RCW 70A.45.020 State Emissions Reductions Requirements	State Legislature	The State of Washington must limit greenhouse gas (GHG) emissions to achieve the following reductions: • By 2020, reduce overall GHG emissions in the state to 1990 levels • By 2030, reduce overall GHG emissions in the state to 45% below 1990 levels; and • By 2040, reduce overall emissions to 70% below 1990 levels; and, • By 2050, emissions will be reduced to 95% below 1990 levels. • Every other year, the Washington Departments of Ecology and Commerce must report to the governor and legislature on the total GHG emissions in the state for the previous two years.	Directs public agencies to take action and reduce their GHG emissions in line with reduction goals.
Publicly owned vehicles, vessels, and construction equipment—Fuel usage (RCW 43.19.648, Chapter 194-29 WAC)	State Legislature	This law requires state agencies and local governments to fuel publicly owned vehicles, vessels, and construction equipment with electricity or biofuels to the extent practicable. The definition of practicable can be found in Chapter 194-28 WAC for state agencies and Chapter 194-29 WAC for local governments. The guides for local governments took effect June 1, 2018. The Washington Department of Commerce regularly collects reports from local governments using more than 200,000 gallons of fuel annually. These reports provide a record of fuel use and fleet developments by government entities around the state. This helps decision-makers at all levels develop action plans and react to opportunities to further their transition to clean fuels.	It mandates that local governments (such as the City of Kenmore) fuel publicly owned vehicles using clean, alternative fuel sources.
Motor Vehicle Emission Standards – Zero-Emission Vehicles law (RCW 70A.30.010)	State Legislature	Directs the state to adopt California's vehicle emission standards. This includes new requirements to gradually increase the number of new zero-emission vehicles (ZEV) sold in Washington until all new vehicles meet the ZEV standard starting in 2035.	It requires building infrastructure to support the increasing adoption of electric vehicles across the state (and the West Coast).

CITY OF KENMORE EV REGULATIONS LANDSCAPE

Regulation	Agency	Description	Impacts on Kenmore
Chapter 173-423 WAC, Clean Vehicles Program	Washington Dept. Ecology	Since the State was directed by the Motor Vehicle Emission Standards law (RCW 70A.30.010) to adopt California vehicle emission standards, including the zero-emission vehicle (ZEV) program, The Washington Department of Ecology Adopts California's rules for: • New light-duty (i.e., passenger) vehicles (LDVs): the Advanced Clean Cars I and II (ACC I and ACC II) regulations, which require a progressively stringent zero-emissions vehicle (ZEV) sales share, culminating in a 100% sales requirement by 2035. • Medium—and heavy-duty vehicles (MHDVs): The Advanced Clean Trucks (ACT) regulation requires increasing new sales shares for larger vehicles, with 40%–75% ZEV sales required by 2035, depending on weight class. These regulations are the driving force behind the recent acceleration in EV adoption across the country and in Washington. • Heavy-Duty Engine and Vehicle Omnibus rules and associated amendments: Starting in model year 2026, these rules require that new internal combustion engines for heavy-duty vehicles emit much lower quantities of nitrogen oxides (NOx), particulate matter (PM), and greenhouse gases. • Advanced Clean Cars II: This rule will increase the percentage of passenger cars, light-duty trucks, and medium-duty vehicles sold in Washington that are zero-emission vehicles (ZEVs). The sales mandate would take effect in model year 2026 and begin by requiring 35% of new passenger vehicle sales to be zero-emission vehicles. That percent will increase 6-9% per year until zero-emission vehicles make up 100% of new sales starting in model year 2035. It will also require light and medium-duty vehicles to meet more robust emission standards. Also included are the following provisions to support Ecology's implementation of California's emission standards: • Early action zero-emission vehicle credits: This rule provides automakers with optional zero-emission sales credits for model years 2023 and 2024. This would: *Incentivize increased zero-emission vehicle sales. *Make sure Washingtonians have access to a wide variety of zero-emission vehicle models before the regulatory requirements take effect in model year 2025. *Allow participating automakers to bank credits to meet future compliance requirements under ACC I and II. • One-time fleet reporting requirement: This requires owners and operators (such as businesses, government agencies, municipalities, brokers, freight dispatchers, transit agencies, etc.) to report information about medium- and heavy-duty vehicles (defined as vehicles over 8,500 pounds) in their fleets by September 30, 2023. This requirement mirrors a similar requirement in California's Advanced Clean Trucks rule.	It requires building infrastructure to support the increasing adoption of electric vehicles across the state (and the West Coast). One-time fleet reporting requirement, if applicable, but would have been completed in 2023.

CITY OF KENMORE EV REGULATIONS LANDSCAPE

Regulation	Agency	Description	Impacts on Kenmore
Move Ahead Washington (SB5974/RCW 43.392.020)	State Legislature	The Legislature passed Move Ahead Washington (Chapter 182, Laws of 2022) in March 2022. This monumental 16-year transportation package is known for its historic investments in transit, active transportation, ferries, alternative fuels, and rail, all intended to support mode shift, electrification of these modes, and reductions in vehicle miles traveled (VMT) along with their associated emissions. It also established the Interagency Electric Vehicle Coordinating Council (EV Council) and a nonbinding statewide target of reaching 100% new electric passenger vehicle sales by 2030 (2030 EV target) — five years earlier than the 100% new ZEV sales requirement under ACC II.	It requires building infrastructure to support the increasing adoption of electric vehicles across the state (and the West Coast).
Washington State Building Code/ RCW 19.27.540	State Legislature	Washington state has adopted building codes that require new construction (construction of new buildings and accessory structures, including parking lots and parking garages) to include EV charging infrastructure with the following requirements: • Developers are mandated to build charging station-equipped or -outfitted parking spots. RCW 19.27.540 requires new construction of multi-family residential or commercial buildings to designate the greater of one space, or 10% of total spaces, with wiring able to accommodate electric vehicle charging. An additional 20% of spaces must be charger station-ready. • All new multi-family residential or commercial developments must comply with state electrification rules unless otherwise exempted. Exempted “assembly, education, or mercantile” developments instead must wire 10% of employee parking and prepare an additional 20% of employee parking for electric vehicles. Utility and miscellaneous developments are fully exempted from electrification requirements. • For accessible parking spaces, the greater of one parking space or ten percent of accessible parking spaces, rounded to the following whole number, must be provided with electric vehicle charging infrastructure that may also serve adjacent parking spaces not designated as accessible parking.	New construction in Kenmore must meet or exceed State Building Code requirements for EV equipment and EV readiness.

CITY OF KENMORE EV REGULATIONS LANDSCAPE

Regulation	Agency	Description	Impacts on Kenmore
ESHB 1793/RCW 64.90.51, Right to Charge	State Legislature	• Prohibits an association of unit owners in a common interest community from placing unreasonable restrictions on installing or using an electric vehicle charging station (EVCS) within the boundaries of an owner's unit or in a designated parking space. • Requires associations to approve an application to install an EVCS if the unit owner meets specified requirements. • Provides that a unit owner is responsible for all costs associated with the EVCS. • Provides a cause of action against an association for willful violations and establishes penalties. A common interest community (CIC) is a form of real estate in which each unit owner or homeowner has an exclusive interest in a Unit or lot and a shared or undivided interest in common area property. In Washington, several statutes govern residential CICs, such as condominiums, cooperatives, leasehold CICs, miscellaneous communities, and plat communities, sometimes referred to as homeowners' associations.	The City of Kenmore should note that these protections are in place and educate residents about their "Right to Charge."
RCW 46.08.185, Signage, Fees, and Time Limits for Public Charging	State Legislature	To comply with RCW 46.08.185, local agencies must post signage at charging stations consistent with the Federal Highway Administration's Manual on Uniform Traffic Control Devices. These posted signs must describe charges, fees, and costs (RCW 19.94.560). Drivers who park in designated spaces without charging their vehicles are subject to fines. Municipalities may want to consider "dwell time" or how long residents can park their vehicles when installing charging stations. Some municipalities increase fees if drivers park their cars there for extended periods. Local governments that have installed charging stations in parking garages may charge only for entry but do not add additional charging fees. Other local governments require drivers parked at charging stations to comply with parking regulations already in place; for instance, a driver may receive a ticket if they charge their vehicle for more than two hours in a two-hour parking zone.	Kenmore must meet or exceed these requirements for public charging stations.

Goals and Regulations in Surrounding Areas

In addition to the regulations discussed above that directly oblige the City of Kenmore to take action to support increased EV adoption, there are trends in state and local regulations and goals that have been adopted that do not directly affect Kenmore at this time but that are important to be aware of as they shape the state's transportation electrification future.

Washington State Department of Commerce Transportation Electrification Strategy (TES)

Under the Move Ahead Washington rule, the state's Department of Commerce was mandated to establish an EV Council to align existing transportation electrification efforts across state agencies. As a result, the EV Council was developed as an interagency effort co-led by the Department of Commerce and the Washington State Department of Transportation (WSDOT), with representation from the State Efficiency and Environmental Performance (SEEP) Office, the Office of Financial Management, the Office of Superintendent of Public Instruction (OSPI), the Utilities and Transportation Commission (UTC) and the Departments of Agriculture, Ecology, Enterprise Services and Health. As one of its first orders of business, the EV Council was directed to develop an equitable and inclusive Transportation Electrification Strategy (TES). The TES is the state's implementation roadmap for meeting the state's 2030 GHG emissions limits by maximizing transportation electrification in a way that supports other clean transportation strategies, setting Washington up for the most equitable and cost-effective zero-emissions future possible.[39]

The TES cites local governments as key entities whose partnerships are essential for implementing and realizing the benefits of its transportation electrification. Specifically, strategies it lists that are relevant to Kenmore include:

- Increasing requirements and incentives for zero-emissions MHDVs by:
  - Pursuing Advanced Clean Fleet adoption rates (discussed in more detail in the section below)
  - Funding and implementing an MHDV incentive and infrastructure program
- Growing broad consumer demand for passenger BEVs by:
  - Increase consumer awareness of incentives
  - Extend and expand the state sales and use tax exemptions for BEVs
  - Accelerate and fund school bus electrification to meet needed adoption rates
- Continuing to fund the WSDOT zero-emission vehicle and infrastructure program by:
  - Continuing to fund WSDOT's ZEVIP grant program to provide support for charging along state routes
  - Continuing to fund the Zero-Emissions Access program

[39] Washington Department of Commerce. (2024). Final_RMI-US-WA-Transportation-Electrification-Strategy_full-report_020224.pdf | Powered by Box. [online] Available at: https://deptofcommerce.app.box.com/s/uphekt6rwpmtvbhojyi6eifjxdwttdvh .

    - Continuing to fund the WSDOT Green Transportation Capital grant program
    - Supporting and expanding the e-bike rebate and lending library programs
- Expanding and accelerating funding Commerce community charging and EV incentive programs for low-to-moderate income (LMI) consumers by:
    - Expanding community charging programs through formula funding
    - Expediting funding for Commerce's EV incentive program
    - Creating a state-supported low-cost leasing program with an EV equity objective
    - Providing block grants to increase CBO staff capacity
- Supporting planning and building necessary utility-side charging infrastructure
- Making charging access more equitable and speeding up project timelines
- Monitoring equity indicators and measuring outcomes

These key recommended strategies, among others in the TES, represent the state's likely transportation electrification future, as the EV council is mandated to implement the TES using the priority strategies it identifies. Kenmore can use the TES and its upcoming annual reports as guiding documents to plan an EVIP that accounts for and can leverage planned future legislation, programs, and funds to help implement Kenmore's EV vision. Additionally, the City of Kenmore has expressed that advancing diversity, equity, and inclusion are top priorities for the development and execution of the EVIP. As such, the TES should be consulted as a guiding framework for developing equity measures, policies, programs, and metrics that can help advance EV equity and meet state goals. Furthermore, developing plans that align with the initiatives prescribed by the TES may open up future opportunities for Kenmore to leverage state funding that focuses on projects advancing EV and environmental justice and equity.

California's Advanced Clean Fleets (ACF) Regulation

California's Advanced Clean Fleets Regulation (ACF) was not adopted under Washington's Clean Vehicles Program rule. Still, it has been cited as the most powerful tool for accelerating medium- and heavy-duty (MHD) truck electrification and a significant boost to reducing on-road emissions to help meet Washington's GHG emissions reduction goals.[40] ACF requires fleets well suited for electrification to reduce emissions through phase-in requirements for targeted fleets and that manufacturers only manufacture ZEV trucks starting in the 2036 model year. In California, the regulation applies to trucks performing drayage operations at seaports and railyards, fleets owned by state, local, and federal government agencies, and high-priority fleets.[41] High-priority fleets are

[40] Washington Department of Commerce. (2024). Final_RMI-US-WA-Transportation-Electrification-Strategy_full-report_020224.pdf | Powered by Box. [online] Available at: https://deptofcommerce.app.box.com/s/uphekt6rwpmtvbhojyi6eifjxdwttdvh

[41] Ca.gov. (2024). Advanced Clean Fleets Regulation Overview | California Air Resources Board. [online] Available at: https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-regulation-overview#:~:text=Which%20fleets%20does%20the%20ACF

those entities that own, operate, or direct at least one vehicle in California and have either $50 million or more in gross annual revenue or that own, operate, or have common ownership or control of a total of 50 or more vehicles. The regulation affects medium- and heavy-duty on-road vehicles with a gross vehicle weight rating greater than 8,500 pounds, off-road yard tractors, and light-duty mail and package delivery vehicles. The TES recommends adopting this regulation, so there's a high likelihood that the state and Kenmore, as a local government agency, will be subject to this regulation in the future.

Example Local Building Codes for EV Readiness

While new construction in Kenmore is required to meet the state's building code for EV Readiness at minimum, many local agencies in Washington have also developed their own more expansive ordinances or codes in accordance with this state law.[42] As previously stated, under RCW 19.27.040, Washington cities and counties are authorized to amend state building codes so long as the amendments do not diminish the codes' minimum performance standards and the objectives enumerated in RCW 19.27.020.[43] For example, some municipalities have included "substantially improved" buildings and parking lot expansions to encourage EV readiness at existing buildings in addition to new construction. Municipalities have also increased EV readiness spot requirements compared to what is required by state code or implemented varying requirements on the number of EV-ready parking spaces based on land use.

Examples include:

- ***Covington*** *Municipal Code Sec. 18.50.170 – Requiring a different number of EV-ready parking spot minimums depending on zoning*
- ***Mountlake Terrace*** *Municipal Code Sec. 19.126.040 – Includes a table identifying the percentage of parking spaces for EV charging based on land use type*
- ***SeaTac*** *Municipal Code Sec. 15.430.100 – Addresses converting existing off-site parking spaces to EV charging spaces for certain zones*
- ***Tacoma:***
  - *Ordinance No. 28640 – Outlining merger of City Land Use and Building Codes related to electric vehicle charging infrastructure*
  - *Building and Development Code Sec. 2.02.136 – Regulating percentages of parking spaces depending on occupancy and use*

Progressive EV readiness building codes are crucial in accelerating the deployment of EV charging infrastructure. By integrating these requirements into building regulations, cities, and municipalities

[42] Mrsc.org. (2024). MRSC - Electric Vehicles. [online] Available at: https://mrsc.org/explore-topics/environment/sustainability/electric-vehicles

[43] Wa.gov. (2024). RCW 19.27.040: Cities and counties authorized to amend state building code—Limitations. [online] Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=19.27.040.

ensure that the infrastructure for EV charging is readily available as soon as the demand arises, avoiding costly and time-consuming retrofits.

King County Vehicle Electrification Goals

The City of Kenmore is located in King County, which has adopted the following vehicle electrification goals under King County Code Title 18 Environmental Sustainability Program:[44]

- A one-hundred percent zero-emission revenue bus fleet by 2035;
- A sixty-seven percent zero-emission ADA paratransit fleet by 2030;
- A one-hundred percent zero-emission rideshare fleet by 2030;
- Installation of one hundred twenty-five chargers at King County-owned park and rides by 2030;
- Fifty percent of light-duty vehicles are transitioned to electric by 2025 and one hundred percent by 2030;
- Fifty percent of medium-duty vehicles will be transitioned to electric by 2028 and one hundred percent by 2033;
- Fifty percent of heavy-duty vehicles will be transitioned to electric vehicles by 2038 and one hundred percent by 2043, and
- Installation of one hundred fifty chargers by 2030 in county facilities.

Year	Category	Goal Description
2025	Light-Duty Vehicles	50% transitioned to electric
2028	Medium-Duty Vehicles	50% transitioned to electric
2030	Zero-Emission ADA Fleet	67% zero-emission ADA paratransit fleet
2030	Zero-Emission Rideshare Fleet	100% zero-emission rideshare fleet
2030	Light-Duty Vehicles	100% transitioned to electric
2030	Chargers (Park & Ride)	125 chargers installed
2030	Chargers (County Facilities)	150 chargers installed
2033	Medium-Duty Vehicles	100% transitioned to electric
2035	Zero-Emission Bus Fleet	100% zero-emission bus fleet
2038	Heavy-Duty Vehicles	50% transitioned to electric
2043	Heavy-Duty Vehicles	100% transitioned to electric

These goals apply only to County-owned department facilities and vehicles, so the City of Kenmore is not mandated to take any action to meet these requirements. However, the City may want to collaborate with King County to help prioritize Electric Vehicle Supply Equipment (EVSE)

[44] Kingcounty.gov. (2024). *Title 18 Environmental Sustainability Program - King County, Washington*. [online] Available at: https://kingcounty.gov/en/legacy/council/legislation/kc_code/21_Title_18.aspx

placement at County-owned facilities in Kenmore that align with both the County and the City's EVIP goals.

Executive Order (EO) 21-04: Zero Emission Vehicle (ZEV)

Washington State's Executive Order (EO) 21-04 establishes the following targets, processes, and systems for electrifying state fleet vehicles. Currently, only state agencies are subject to this rule. Still, local government agencies may be required to meet similar targets in the future as more ZEV mandates are rolled out over time to help Washington achieve its emissions reduction targets.

- Fleet electrification targets
  - 100% of light-duty fleets electrified by 2035
  - 40% of light-duty fleets electrified by 2025
  - 75% of light-duty by 2030
  - 100% of medium and heavy-duty fleets electrified by 2040
- Acceptable pathways for fleet electrification
  - Light duty fleets must be zero-emissions vehicles (ZEV)
  - Medium and heavy-duty fleets may utilize biofuels to reduce greenhouse gas (GHG) emissions until suitable alternatives exist and are available on state contract

As previously mentioned, the goals and policies above do not require Kenmore to take any action; they help Kenmore understand the ever-evolving EV regulatory landscape and how it can prepare itself for that future.

BARRIERS AND OPPORTUNITIES TO INCREASING EV INFRASTRUCTURE AVAILABILITY AND ACCESS IN THE CITY OF KENMORE

As the City of Kenmore prepares to begin its exciting journey of vehicle electrification, it is essential to keep in mind that there are some potential challenges the City may face along the way. For a successful transition to EVs, the city must overcome the barriers that make it more difficult for residents and the city to transition their vehicles. This includes overcoming financial burdens and gathering community interest. It also includes creating a plan to account for poor weather, safety and vandalism issues, multifamily housing constraints, utility and location constraints, ownership constraints, and identifying who is responsible for the maintenance of the chargers.

Barrier 1: Financial Burden

Converting vehicles to electric is vital to reducing carbon emissions. However, this conversion comes at a price. On average, electric vehicles are 10% more expensive than their ICE counterparts, or about $7,952 more.[45] This gap is slowly decreasing, but it still prevents many drivers from having access to electric vehicles. Fortunately, electricity tends to be cheaper than gas, and maintenance costs for EVs tend to be much less than those of their ICE counterparts, as there are fewer overall parts and thus fewer that would need to be repaired. Consumer Report's survey finds that BEV and PHEV owners pay about half the maintenance costs of ICE drivers.[46] Even though electric vehicles have much lower overall lifetime costs, drivers can find it challenging to afford the upfront costs associated with them, even with various rebates and incentives.

Additionally, electric vehicles and plug-in hybrid electric vehicles (PHEV) have higher registration fees than ICE vehicles to help make up for the taxes that ICE vehicle owners pay for gas. Currently, EV owners pay an additional $150 for their registration, and PHEV owners pay an additional $75 in the state of Washington, which can be another hurdle a driver must overcome to convert their vehicle to electric.[47].

Furthermore, electric vehicle charging infrastructure can be very costly. Installing a charger can range from $4,000 for Level 2 to $80,000 or more for DC Fast Charging (DCFC). At-home chargers can be cheaper, but an EV driver would likely need to upgrade their electrical panel. Most of the costs incurred are due to necessary electrical upgrades, as most buildings do not have the required transformers and panels for installing chargers. Additionally, power sources are often a long distance from where chargers would be installed; thus, longer trenching, conduits, and wiring would incur even more costs for the project. Kenmore must consider the financial impacts the City and residents may incur when transitioning to electric vehicles.

Opportunity 1: Overcoming Financial Burden

To help mitigate the financial burden of transportation electrification efforts on the City and its taxpayers, Kenmore should consider pursuing opportunities to secure external funding through the many federal, state, and local incentives available. These types of funding opportunities are discussed in more detail in the Funding Opportunities section. Evaluating these opportunities early on can help ensure Kenmore creates an EVIP consistent with as many funding guidelines as

[45] MOTOR. (2024). *MOTOR*. [online] Available at: https://www.motor.com/2024/01/electric-vehicles-costs-trends-and-statistics-2024/.
[46] Heisel, R. (2020). *Consumer Reports Study Finds Electric Vehicle Maintenance Costs Are 50% Less Than Gas-Powered Cars*. [online] Great Plains Institute. Available at: https://betterenergy.org/blog/consumer-reports-study-finds-electric-vehicle-maintenance-costs-are-50-less-than-gas-powered-cars/.
[47] www.recurrentauto.com. (n.d.). Washington Electric Vehicle Trends. [online] Available at: https://www.recurrentauto.com/research/washington-electric-vehicles.

possible to leverage these incentives during the implementation phase. Furthermore, taking advantage of external funding sources as early as possible is vital, as incentive availability decreases as technology adoption increases and becomes the norm over time.

Kenmore should also keep in mind that the City does not have to be the sole bearer of responsibility for installing EV charging for its residents. As with many cities of Kenmore's size, strategic deployment of EV charger funds can help the city achieve its strategic goals for EV charging (equity, near multi-family housing, etc.) and jumpstart private investment into public EV chargers. Leveraging its land, Kenmore can demonstrate a community need for EV charging and pave the way for private investment to flesh out the remainder of necessary EV charging for the community.

Barrier 2: Community Participation in EV Adoption

Another potential hurdle to overcome with electric vehicle transition planning is drumming up community interest in increasing EV adoption and deciding where to locate the public charging needed to support it. With the support and interest of the community, it can be easier to find effective locations to install charging stations, fund the stations with taxes, and convince drivers to convert to electric vehicles. Additionally, if residents and travelers are displeased with vehicle electrification efforts, it can harm the City. Voters and the City Council could decide to veto certain measures that would help with the expansion of EVs and can make the process of installing chargers much more difficult if they do not participate in helping to develop an EVIP that benefits the whole community. The City of Kenmore will need to engage local community members to ensure they understand the impacts of growing EV adoption, from the more commonly known benefits such as improved air quality, reduced fueling and repair costs for EVs, subsidies available to increase individual EV ownership, to how state electrification plans and mandates may play a role in Washingtonians' futures as vehicle owners.

Kenmore residents should be aware of how transportation electrification relates to and supports the interests and values of community members and how the state is pursuing electrification. For example, City staff spoke to Kenmore Farmer's Market goers in late July and unearthed a commonly held misconception among the general populace that those who are not currently EV owners do not feel it necessary nor productive for them to provide input on desirable public charging locations. While understandable, this is a critical belief to address and dispel as many Washingtonians will be future EV owners impacted by charging infrastructure in the years and decades. With the enactment of the Clean Vehicles Zero Emissions Vehicle (ZEV) sales mandates, community members who plan to buy passenger vehicles from 2035 onwards will one day be EV owners, possibly sooner, as manufacturers gradually ramp up EV sales as required to meet the state's mandates.

Additionally, implementing a ZEV mandate can have ripple effects that can help make EVs more affordable and appealing as the EV market begins to expand. According to the International Parking & Mobility Institute, in the U.S., most EV owners have a higher income than the general population.[48] About 60% of EV owners have an annual income of more than $100,000, while only 20% have an annual income of less than $50,000. Furthermore, in leading the development of the State's Transportation Electrification Strategy (TES), the Washington Department of Commerce found that households with incomes below $100,000 are just as interested and ready to choose electric vehicles as those in higher-income households but are often limited by higher costs.[49] Commerce has recently released its EV Instant Rebate program, which focuses on supporting low-income residents by offering $2,500 to $9,000 off EVs at the time of purchase or lease, sometimes dropping leasing prices to just $200 a month. Ensuring that low-income residents in Kenmore are aware of and able to take advantage of this rebate program will be vital in bridging the gap for those who are interested in vehicle ownership. Increased awareness will mean ownership is nearer to qualifying low-income residents than they may have thought, providing a reason for them to engage in the EVIP development process.

Additionally, while many low-income residents may be interested in EV ownership, it will be essential to establish a dialogue with the community to voice and help resolve concerns around EVs. Washington State's TES stresses, "At the surface, transportation electrification will reduce adverse health effects caused by vehicle exhaust in these communities. However, without state action, it is possible that overburdened communities and vulnerable populations could be further marginalized by the siting of infrastructure and requirements for technologies that do not directly benefit them. Additionally, Black, Indigenous, and People of Color (BIPOC) communities have traditionally experienced higher energy burdens. Transportation electrification could risk worsening these inequities through loss of financial equity from devalued gasoline-fueled vehicles and the higher cost of charging EVs at public chargers versus at home."[50] Residents should be aware of EV siting efforts as early as possible to ensure the EVIP provides public charging solutions based on community feedback. This will help avoid any unintended consequences for community members

[48] Rysak, M. (2022). *Electric Vehicle Inequities*. [online] IPMI. Available at: https://www.parking-mobility.org/2022/12/19/electric-vehicle-inequities/.
[49] Lamb, A. (2024). *New state rebate program reduces cost to buy or lease electric vehicles for low-income drivers - Washington State Department of Commerce*. [online] Washington State Department of Commerce. Available at: https://www.commerce.wa.gov/news/commerce-opens-ev-rebate-program-2024/
[50] Washington State Department of Commerce (2024). Final_RMI-US-WA-Transportation-Electrification-Strategy_full-report_020224.pdf | Powered by Box. [online] Available at: https://deptofcommerce.app.box.com/s/uphekt6rwpmtvbhojyi6eifjxdwttdvh.

(such as the risk of displacement) and ensure that public chargers are located in areas where they will be the most useful.

As such, while residents may not feel that they are impacted by transportation electrification efforts at this time, they will be shortly and should be empowered to provide input on charging locations they believe will best serve their community's charging needs. Educating the public on the current EV landscape and how it can directly impact Kenmore residents is crucial and may help secure participation across Kenmore's diverse community.

Opportunity 2: Community Engagement

Kenmore has already taken great strides to engage local community members to gather and incorporate their feedback during EVIP development using in-person and online engagement and should continue to do so as the plan progresses and moves closer to formal adoption. To continue to promote community participation and interest in EVIP development, Kenmore should focus on educating its citizens about the impacts that transportation electrification could have on the community to help residents understand their stakes in the development of the EVIP. Specifically, Kenmore should provide targeted engagement focused on how Clean Vehicle Program rules will impact future vehicle purchase options for residents to help grow the local community's understanding of their stake in the EVIP. Kenmore should also provide educational materials on incentives and rebates that are available to help residents lease or own EVs and should focus on advertising the state's new EV Instant Rebate program to ensure that the entire Kenmore community is able to understand and access the benefits of increased EV adoption.

Washington State's TES Engagement Plan[51] Recommends using the following activities to engage with communities to help build trust, facilitate equity-based decision-making processes, and achieve community buy-in so that desired community outcomes are achieved from EV planning:

- Create Education & Awareness materials to explain how electrification relates to and supports the interests and values of community members and explain why Washington is prioritizing electrification
- Partner with community-based organizations (CBOs) and trusted local community leaders and liaisons to reach priority communities and follow community liaisons' lead when planning activities to foster a sense of belonging for participants and provide support and resources to overcome barriers to participation

[51] Washington Transportation Electrification Strategy Developed by the Interagency Electric Vehicle Coordinating Council. (n.d.). Available at: https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=WA-Transportation-Electrification-Strategy-Summary_0ac1fdab-1b85-4e37-9152-cc233756c5dd.pdf

- Raise awareness, educate, and equip Washington residents to utilize EV incentives through the statewide electrification website and associated online resources, regular newsletters, ad campaigns in traditional media and social media, billboards, and open houses, and provide translated versions
- Share information on the EV rebate program with low-income service providers through existing coalitions
- Host information booths about EV rebates and charging incentives at community centers such as libraries, farmers markets, festivals, and fairs.
- Host ride-and-drive events and share written information about incentives and rebates (fact sheets, flyers, FAQs)

Furthermore, as Kenmore continues with its community engagement activities throughout the development of the EVIP (as well as its eventual implementation), educational materials and initiatives will need to be adjusted as needed to ensure community members participate and provide feedback and questions.

Kenmore should also consider engaging directly with contacts running Commerce's EV Instant Rebate program to evaluate partnership opportunities. The rebate program's website advertises that program services will include providing EV and charging education through various customer outreach and engagement activities, including ride-and-drive events that have been proven to increase awareness.

Barrier 3: Gaps in Access to At-Home Charging and EV Ownership

The section above discusses how vital community engagement is in deciding where to place public EV charging. However, another significant barrier to widespread, equitable EV adoption is the availability of home-based EV charging solutions for residents who live in multi-unit or multi-family housing, such as apartments. Homeowners in apartments and condominiums are sometimes restricted by homeowners' associations (HOAs) from installing EV chargers, and renters can have an even harder time accessing charging stations since many leases and rental agreements prohibit material changes to property, such as installing a charging station.[52] Some dwellings even lack designated parking for residents. This can create a massive gap in accessibility to EVs between more affluent single-family homeowners and multi-family housing residents, as public charging is typically up to at least twice as expensive as at-home charging.[53] This represents a significant

[52] Plug In America. (2024). Right-To-Charge Policies - Plug In America. [online] Available at: https://pluginamerica.org/policy/right-to-charge-policies/

[53] Enel X. (2023). *How much does it cost to charge an electric car?* [online] Available at: https://www.enelxway.com/us/en/resources/blog/how-much-does-it-cost-to-charge-an-electric-vehicle#:~:text=Public%20charging%20systems%20that%20charge%20based%20on

barrier to increasing equitable, widespread EV adoption in the City as it limits the financial feasibility of charging EVs for mid- and low-income residents living in multi-family housing in Kenmore.

Opportunity 3: Expanding EV Readiness Codes and the Right to Charge to Ensure Equitable Distribution of EV Chargers

Kenmore has significant opportunities to ensure that at-home EV charging infrastructure is widely available to residents of multi-family housing units.

Expanding on the State's Building Code for EV Readiness

As mentioned, many localities have adopted building EV readiness codes that exceed state requirements. Adopting extensive EV readiness codes can encourage EV adoption and provide equity benefits. Specifically, EV-ready building codes can be applied to multi-family housing, which often houses low—and moderate-income populations, to significantly improve affordability.[54] State code already requires new construction of multi-family residential buildings to designate the more significant of one space, or 10% of total spaces, with wiring able to accommodate electric vehicle charging (an additional 20% of spaces must be charger station-ready). However, Kenmore could consider developing an ordinance requiring higher levels of EV readiness or EVCS installation for new construction projects or expanding the code to include construction or repairs for existing buildings/facilities. For example, King County has adopted Ordinance 19316, which applies to unincorporated King County and requires new multifamily construction, "substantially improved buildings," and parking lots to be expanded by at least 50% to dedicate 10% of parking spots to EV charging stations and set aside 25% for future charging station installation. Kenmore could consider adopting King County's more progressive policy outright.

EV readiness codes contribute to a more equitable charging infrastructure distribution across different buildings and neighborhoods. By requiring new and existing developments to be EV-ready, Kenmore can ensure that charging access is not limited to certain areas, promoting broader EV adoption and supporting climate goals across its diverse community.

Expanding on the State's Right-to-Charge Protections

The state of Washington currently has a right-to-charge law prohibiting common interest developments (including community apartments, condominiums, cooperative developments, and other types of multi-family housing communities) from undue burdens on residents that prevent the installation or use of EV chargers. This law helps ensure that residents in CICs have fewer

[54] Enel X. (2023). *How much does it cost to charge an electric car?* [online] Available at: https://www.enelxway.com/us/en/resources/blog/how-much-does-it-cost-to-charge-an-electric-vehicle#:~:text=Public%20charging%20systems%20that%20charge%20based%20on

barriers to installing charging infrastructure in parking garages and/or parking lots. However, these protections only extend to unit owners in these communities and do not include renters.

To help provide more equitable access to at-home charging, the City of Kenmore could pursue a more progressive ordinance to expand the right-to-charge protection to renters and owners. In order to ensure equitable access to charging, Plug In America suggests adopting the following types of policy language in right-to-charge policies:

- Protections for property renters in addition to owners
- Provisions that ensure that designated space charging is connected to a unit's electricity meter to ensure the greatest reliability and preserve consumer choice when choosing charging power levels (Level 1 or Level 2)
- Making relevant common space available for charging if unit-designated parking is unavailable. For example:
    - In California, the right-to-charge policy is extended to ensure that even if a renter/ owner does not have a designated parking spot to add EV charging, renters and owners should have access to common element (shared) parking spaces as available with which to install EV charging stations.
    - In Connecticut, if a parking space does not exist, an association of unit owners has the ability to create one to install an EV charging station. Notably, this can encourage cost-sharing for charging installation, recognizing that in some use cases, one charger might be sufficient for more than one renter/owner.

By implementing a more progressive right-to-charge policy, Kenmore could help encourage the development of more inclusive EV infrastructure. The City can help level the playing field between those who live in stand-alone single-family homes, where installing a charger is relatively straightforward, and those in multi-family housing communities, where shared property rights and rules complicate the process. This ensures that EV adoption is not limited to homeowners with private garages but is also accessible to renters and condo owners, many of whom may belong to lower-income or marginalized communities. This would contribute to the broader adoption of EVs across all socioeconomic groups, supporting environmental goals and social equity by making clean transportation options available to more people.

Siting Chargers Near Affordable and Multi-Family Housing

Through the development of the EVIP, the City will also have an opportunity to intentionally place charging (when feasible) nearby or in neighborhoods or complexes that predominantly provide multi-family and/or affordable housing to provide access to community charging. The City could place chargers on city-owned property adjacent to these housing units. It could also investigate

including pole charging on city-owned poles used for purposes such as curbside street lighting. The City could also coordinate with PSE to install pole charging on utility poles, as PSE has an Up & Go for Public – Pole Charging program that encourages municipalities to explore the use of pole charging in their communities and provides incentives of up to $250,000 per charging location (see additional details in the Local Incentives section).

Washington's TES Strategies for Providing Equitable Access to Charging

Additionally, the TES recommends the following additional strategies to ensure the build-out of EV charging infrastructure is equitable and beneficial to historically burdened, low-income communities:

- Directly addressing the effects of higher public charging costs on lower-income households without access to EV charging at home. Options could include providing subsidies for lower-income EV owners, extending rate protections to consumers at privately owned chargers, and creating a system of public or community-owned chargers.
- Codifying and enforcing consumer protections related to prices and price transparency, information and signage, language access, and alternative ways to pay (other than credit cards) to ensure that EV charging is available to everyone.
- Ensuring an equitable share of EV charging infrastructure and its benefits is cited in overburdened communities. Options could include creating a system of public or community-owned chargers or subsidies for companies to locate charging infrastructure in these neighborhoods. Communities must participate in this development to ensure solutions meet local needs.
- Requiring that chargers are regularly maintained and repaired promptly, irrespective of location, and that the siting of high-speed chargers considers the cascading effects of lack of transportation on lower-income families and workers whose livelihoods depend on getting to work on time.
- The TES also includes recommendations for establishing (1) a transportation equity baseline, (2) an equitable distribution process, and (3) a clear model for adaptive management to help reach these goals.

These measures aim to bridge the accessibility gap and promote wider, fairer EV adoption in Kenmore. When considering where to invest its funding to provide public charging, Kenmore can use the above to evaluate potential sites.

Barrier 4: Severe Weather

Weather can be an added barrier when it comes to electric vehicles. Since Kenmore is located in western Washington, it is susceptible to low temperatures and natural disasters like wildfires. On average, temperatures range from 37°F to 77°F, but the temperatures can occasionally go as low or

lower than 28°F and as high or higher than 86°F[55]. The colder temperatures can be concerning for electric vehicles since the cold can temporarily reduce the battery range from 10% – 40%. Furthermore, this battery depletion can extend charging times up to 300%[56].

Unfortunately, natural disasters, specifically wildfires, are far too common in Washington. As of August 2024, five active large fires had spread across the state, burning over 265,000 acres.[57] Wildfires can damage or shut down the electric grid, affecting one's access to electricity and a working EV charger. In an emergency, it can be detrimental not to be able to charge vehicles and allow service vehicles and residents to travel safely.

Opportunity 4: EV Infrastructure Education and Resiliency

While current battery technology is impacted by cold weather, public education can help mitigate these negative effects. For example, EV owners can be informed to stay plugged in overnight while preconditioning their cabin and battery.

Since severe weather can cause charging stations to lose power, providing resiliency is the best way to ensure the charging stations continue running. One of the most reliable and cheapest ways to ensure power stays running during an outage is through backup generators. Generators can be powered by diesel, natural gas, and propane and can be stationary or mobile. They can provide ample power to back up EV chargers, and as long as they have access to fuel, they can keep running (provided they adhere to air quality restrictions). A cleaner but more expensive backup power solution is to install solar PV and pair it with a battery electric storage system (BESS). Solar energy can generate power during the day, and the BESS can store it until it needs to be discharged, like during an outage. There are also a variety of other stationary and mobile resiliency solutions that Kenmore could incorporate into its EV infrastructure projects, such as hydrogen fuel cells, linear generators, and solutions that combine a multitude of technologies and chargers.

Barrier 5: Safety

With the installation of EV chargers, owners must be aware of certain safety hazards that EV users could experience while charging their vehicles. These safety hazards can be caused by weather, normal wear and tear, accidental destruction, or vandalism. After EVCS is installed, the largest safety risks are the chance of fire and electric shock. If cables fray or are damaged, they can cause harm to people handling the chargers and can spark a fire. While electric vehicles catch fire

[55] Weatherspark.com. (2024). *Kenmore Climate, Weather By Month, Average Temperature (Washington, United States) - Weather Spark*. [online] Available at: https://weatherspark.com/y/857/Average-Weather-in-Kenmore-Washington-United-States-Year-Round
[56] Recurrentauto.com. (2022). *How Temperature Affects EV Range*. [online] Available at: https://www.recurrentauto.com/research/how-temperature-affects-ev-range.
[57] Msn.com. (2024). *MSN*. [online] Available at: https://www.msn.com/en-us/news/us/gov-inslee-proclaimed-statewide-emergency-amid-wa-s-wildfire-surge-here-s-what-to-know/ar-AA1olb9a

0.0251% less than their ICE counterparts, lithium-ion battery fires can be difficult to fully extinguish without proper equipment.[58] Furthermore, frayed or faulty wiring can shock drivers or those performing maintenance on the charger, which can lead to serious or even deadly incidents. Another potential hazard is if people are not careful when wrapping the cables after use; others can potentially fall and injure themselves if they trip on the cable.

Safety risks are not just physical when addressing EVCS. There is also the potential for cyber-attacks on public chargers. EV owners who pay for charging are at risk of having their sensitive data, such as credit card information, stolen. If this happens, it can affect drivers and their personal lives.

Opportunity 5: Safety Mitigation

To mitigate these risks, Kenmore can update permitting and design standards to reflect high-quality electrical connections, especially considering its propensity to weather events. Other measures, such as water-tight enclosures, can be evaluated and potentially adopted to protect EV chargers from damage. Many drivers fear converting to EVs will increase their risk of vehicle fire due to the highly flammable lithium-ion battery.

However, EVs have a higher level of overall safety when compared to vehicles powered by gasoline. According to AutoinsuranceEZ[59], a study conducted in 2022 showed 25.1 electrical vehicle fires per 100,000 electric vehicles sold versus 1,529.9 gas-powered vehicle fires per 100,000 gas-powered vehicles sold. Additionally, newer EVs are often equipped with advanced safety features such as collision warning, collision intervention, driver control assistance, and other systems, such as automatic high beams, backup cameras, and automatic crash notifications.

The City can examine and adopt proper training and provide material to City staff, maintenance personnel, and First Responders. They will be well equipped with the knowledge of spotting potential safety risk factors at the chargers, such as a fraying charger cable, and how to help alleviate the situation if there is an issue. The City can also train its staff to roll up charger cables or look to purchase retractable cables to avoid tripping hazards.

Furthermore, as the City evaluates potential EV Chargers to install, they can follow their cybersecurity guidelines to protect users' confidential information.

[58] www.autoinsuranceez.com. (2021). *Gas vs. Electric Car Fires [2021 Findings]*. [online] Available at: https://www.autoinsuranceez.com/gas-vs-electric-car-fires/.
[59] www.autoinsuranceez.com. (2021). *Gas vs. Electric Car Fires [2021 Findings]*. [online] Available at: https://www.autoinsuranceez.com/gas-vs-electric-car-fires/.

Barrier 6: Vandalism

Vandalism is a common occurrence at EV charging stations. The most common form of vandalism is that the cables can be frequently cut and stolen. This generally happens because vandals are able to collect copper from the cables and sell it. The price of copper has been on the rise partly due to the energy transition to electric technology. This makes copper much more valuable and, thus, more susceptible to theft. Other parts of the chargers also can be stolen but are less likely than the cable. Additionally, different types of vandalism or accidental charger destruction can occur. Vehicles can hit and subsequently damage the chargers, they can run the charging cables over if cables are not properly placed back on the charger by the previous user, and users can improperly use the chargers, causing potential harm to both the driver and the charger.

Opportunity 6: Vandalism

To avoid vandalism, theft, and damage to EVCS, Kenmore could take multiple precautionary actions. The City can install chargers in locations shielded by gates, fences, bushes, or the backside of buildings. It can also install security cameras or hire security in lots with chargers. It is also highly recommended and most often required to install bollards, wheel stops, or other barriers to protect the electric vehicle supply equipment (EVSE) from being damaged by a vehicle.

Furthermore, the City can adapt its EV charging purchasing practices to help recover from damaged EVSE. They can purchase chargers where the parts and cables are more easily replaced, thus making repairs potentially cheaper. They can also purchase retractable cables to help deter theft and damage to the cables. Finally, the City should sign an operations and maintenance (O&M) agreement so that there is a vendor responsible for fixing any nonworking chargers.

Barrier 7: Utility/Location Constraints

When installing EV chargers, unfortunately, one must consider more than one's ideal location. There are many reasons why sites may or may not be good candidates for EVCS. Some of these constraints are due to a lack of excess power at the building or location and a lack of circuit availability through the utility company. Many buildings or sites may not have enough capacity for EV chargers to pull power from their existing meters. This is not always an issue, as the utility company can potentially allow the owner to request more capacity. However, if the utility does not have the capacity to give the owner the chargers, the owner will either need to spend significantly more money to install chargers at their ideal location or may not be able to install chargers there at all.

Other issues with charger locations may arise when reviewing different sites. The owner may need to avoid underground utilities during installation or issues with ADA compliance due to the site's makeup.

Opportunity 7: Engagement with Puget Sound Energy (PSE)

With all EV infrastructure projects, engaging with the local utility and reviewing local EVSE requirements from the beginning, even in the conceptual stage, is important. Some amount of coordination with the local utility is necessary for almost all charging station installation projects, as the stations will likely be reliant on electricity from the local utility, and the utility will have invaluable insight into grid constraints and capacity, equipment, and appropriate locations for charging stations. This can help avoid costly, time-consuming changes later in the process.[60] They can also help determine the best ownership model, electricity rates, and pricing structures for locations and provide technical and programmatic support for EVSE installations.[61]

Barrier 8: Building Ownership

The EV charger installation process can be complicated depending on where Kenmore wants to install chargers. Many privately owned sites are rented to tenants/business owners who may have a different opinion about EVCS installation versus the building owner. This can cause confusion and potential disputes among building owners, tenants, and the City.

Opportunity 8: Stakeholder Engagement

Engaging stakeholders is crucial when planning any modifications to City land. Community stakeholders should be involved in the EVSE project as early as possible. Kenmore should also contact any landowners under consideration for charger installations and their neighbors before advancing too far in the planning stage. The more Kenmore informs those potentially affected by the EV charger installations, the smoother the overall process will be. Additionally, Kenmore should engage the community to identify business owners who may already be interested in hosting EV chargers at their sites.

As part of this initiative, the Project team interviewed several City staff and stakeholders.

- **Jennifer Gordon** - Public Works
- **Samantha Loyuk** - Development Services
- **Amanda Larson** - GIS (Geographic Information Systems)
- **Garrett Oppenheim** - Diversity, Equity, and Inclusion (DEI)
- **Tambi Cork** - Housing and Human Services

[60] Transportation.gov. (2020). Electric Utilities as EV Planning Partners | US Department of Transportation. [online] Available at: https://www.transportation.gov/urban-e-mobility-toolkit/e-mobility-partnership-opportunities/electric-utilities.
[61] CHARGING FORWARD A TOOLKIT FOR PLANNING AND FUNDING URBAN ELECTRIC MOBILITY INFRASTRUCTURE. (n.d.). Available at: https://www.transportation.gov/sites/dot.gov/files/2023-06/Charging%20Forward-Urban%20Toolkit-June%202023-508%20compliant.pdf.

- **Todd Hall** - Planning
- **Tobin Bennett-Gold** - Traffic Engineering

These participants played essential roles in supporting various aspects of the project, including data gathering, map creation, community engagement, future city planning, committee review processes, and responding to requests for information (RFIs). Their expertise and dedication ensured a comprehensive and collaborative approach to the project's goals.

Through their efforts in diverse areas such as public works, development services, GIS mapping, DEI initiatives, housing and human services, planning, traffic engineering, and city infrastructure, these individuals helped influence and shape this current conditions report. Their collective work fostered a collaborative environment, genuine community ties, planning for the city's future, and streamlined decision-making processes.

Barrier 9: EV Charger Maintenance

EV charger maintenance is vital for charging stations as it ensures that the chargers work properly and safely. Unfortunately, one of the largest issues with installing EV charging stations is that once the chargers are installed, no one is held accountable for continuing to make sure that the stations are working properly. Chargers are often left broken and unusable for EV drivers for months or even longer. The time, energy, and money put into these charger installations are only beneficial if owners are able to fix their stations. This is often due to charger manufacturers being hard to reach or insufficient trained maintenance staff to go to sites to fix stations.

Opportunity 9: Operations and Maintenance Contracts

Kenmore is highly recommended to engage in an O&M contract with either the EV charger company or another O&M vendor for a minimum of 5 years after charger installation. This then places the responsibility of fixing chargers on the vendor, not the City. The vendor will be contractually obligated to help keep the chargers working correctly; it can be penalized if it fails. This also allows the City to have the chargers receive routine maintenance and inspections to ensure that the chargers are working correctly before a more substantial issue arises.

FUNDING OPPORTUNITIES

With the development of an EV Infrastructure Plan, Kenmore will be able to start to take steps toward implementing more sustainable transportation in and around the community. However, recognizing the financial implications of such actions, Kenmore should explore external funding sources to mitigate additional costs to taxpayers to finance city-sponsored public charging. By forging strategic partnerships, seeking grants, and leveraging state and federal programs, the City

can unlock financial resources to propel its sustainability initiatives forward. Kenmore's success in securing external funding will ensure the longevity of the Electric Vehicle Infrastructure Plan and set an example for other municipalities striving to embark on a similar path. While potential funding options are constantly in flux, the following sections demonstrate options that Kenmore can consider offsetting the upfront costs of public charging and fleet electrification.

The Bigger Funding Picture

Public funding for EVs across the US has been a significant driver in accelerating the adoption of cleaner transportation technologies. At the federal level, the U.S. government provides various incentives, including tax credits, grants, funding for charging infrastructure, and incentives to further the transition towards replacing ICE vehicles, such as school buses and heavy-duty, diesel-burning trucks, with clean, electric alternatives as part of broader efforts to reduce greenhouse gas emissions and combat climate change. The Bipartisan Infrastructure Law passed in 2021 allocated substantial resources towards EV infrastructure, aiming to establish a nationwide network of 500,000 chargers by 2030, and has resulted in significant investments from the federal government in programs such as the National Electric Vehicle Infrastructure (NEVI) Formula Program and Charging and Fueling Infrastructure (CFI) Discretionary Grant Program that set aside funds for grants to states and local governments to deploy EV chargers strategically.

In Washington State, there is a strong emphasis on expanding access to EVs and widespread, reliable charging for those using EVs. The state has introduced incentives such as sales tax exemptions, funding for purchasing EV alternatives, and funding for local governments and businesses to install and repair charging stations. Washington's commitment is further reflected in its Clean Vehicles Program rule, which mandates that all new passenger cars, light-duty trucks, and medium-duty vehicles sold in the state must be electric by 2035, positioning the state as a leader in EV adoption and infrastructure development. Under the state's Charge Where You Are grant, $2 million was available to install Level 2 charging stations across Washington for fleet and workplace charging, publicly available charging, and multi-unit/multi-family residential properties in 2024. The State's Zero-emission Vehicle Infrastructure Partnerships grant (ZEVIP) is another vital incentive program for funding the installation of new electric vehicle charging equipment and hydrogen fueling infrastructure along priority corridors. The State will also be releasing a new grant opportunity under the Electric Vehicle Charging Reliability and Accessibility Accelerator (EVC-RAA) program later this year, providing roughly $10 million in funding to repair or replace broken publicly accessible electric vehicle chargers, as authorized by the federal government's NEVI program.

At the same time, the state's attention has shifted towards recognizing and reckoning with the need to ensure that the benefits of EVs are equitably distributed by making EVs and charging more readily available to overburdened and vulnerable communities, mainly addressed through targeted equity incentives. One of these programs is the state's recently announced EV Instant Rebate program,

which focuses on supporting low-income residents by offering $2,500 to $9,000 off EVs at the time of purchase or lease. The Zero-emissions Access Program (ZAP), administered by the Washington State Department of Transportation (WSDOT), is another equity-focused program that offers grants to nonprofit organizations and local governments to design and create a ZEV carshare program in underserved and low-to-moderate-income communities. Grant awards may range from $50,000 to $200,000. Furthermore, the state released its first round of funding under its Washington State EV Charging program in fiscal year 2023, resulting in an offering of $64 million worth of incentives to public agencies, utilities, tribal entities, and non-profits to build charging infrastructure to support the growing adoption of EVs with a requirement to direct 40% of funding into overburdened and vulnerable communities.

Local Incentives

In addition to pursuing federal and state funding, it is also typically highly beneficial for local government agencies to partner with their electric utilities to evaluate other opportunities to lower costs associated with EV charging planning and installation. RCW 80.28.360 allows investor-owned utilities an incentive rate of return on charging stations developed for the benefit of ratepayers. [62] As a result, utilities often offer pilot programs and incentives to promote residential and commercial EV installation, fleet electrification, and infrastructure planning assistance. Furthermore, local utility rebate programs often offer a less competitive path toward securing funding than grant programs provided at the state and federal levels, which can attract large numbers of applicants with varying resources dedicated to submitting applications.

PSE, Kenmore's local electric utility provider, offers the following incentives through its Up & Go Electric program to help.

Table 3: PSE Incentive Programs

PSE INCENTIVE PROGRAM	DESCRIPTION
Up & Go Electric for Fleet	Up & Go Electric for Fleet offers different ownership models for installing electric vehicle supply equipment (EVSE). With **PSE-owned turnkey service**, PSE will take care of planning, design, installation, and maintenance of EVSE, covering most utility infrastructure and facility upgrades necessary to complete the installation. This service includes incentives of up to $12,000 per Level 2 (L2) charging port and up to $125,000 per DC fast charging (DCFC) port, up to $250,000 total per charging location. Or choose the **customer-owned option**. You'll install, own, and maintain all EVSE while taking advantage of PSE incentives of up to $4,000 per L2 charging port and

[62] Mrsc.org. (2024). *MRSC - Electric Vehicles*. [online] Available at: https://mrsc.org/explore-topics/environment/sustainability/electric-vehicles#partnerships

PSE INCENTIVE PROGRAM	DESCRIPTION
	$60,000 per DCFC port, up to $250,000 total per charging location, to offset the infrastructure upgrades and equipment costs. Customers who directly serve and/or benefit highly impacted communities and vulnerable populations may be eligible to receive additional technical advisory services and **special Empower Mobility incentives** on both EVSE and electric vehicles. **Empower Mobility Incentives:** Qualified customers – including community-based organizations, Tribal entities, government agencies, and BIPOC-owned small businesses – who directly serve and/or benefit highly impacted communities and vulnerable populations may be eligible to receive additional technical advisory services and enhanced Empower Mobility incentives on both electric vehicle service equipment and electric vehicles. Kenmore will need to confirm whether the City is eligible for Empower Mobility Incentives with their PSE representative, as the criteria for "vulnerable populations" is rather vague.
Up & Go for Public	Up & Go Electric for Public allows businesses and communities to easily and affordably provide EV charging by covering up to 100% of the costs to install, maintain, and operate a public charging station. **Choose the ownership option that's right for you.** Up & Go Electric for Public incentives cover up to the full cost of equipment and installation for Level 2 and DC fast charging ports and transmission upgrades. Save time on installation and enjoy greater reliability by taking advantage of PSE's electric vehicle expertise. **Customer-owned option** For customers who want more control over the charging station, you'll fully manage installation, ownership, and maintenance. • Direct control over charger purchase, installation, and maintenance options • Ability to receive revenue and Washington State Clean Fuel Standard credits from the station Customers whose sites directly serve or benefit historically underrepresented communities may be eligible for enhanced incentives and services. See the Empower Mobility section below for more information. **PSE-owned option** PSE will manage charging station installation and operation from end to end, including infrastructure upgrades, making this the easiest and most worry-free way to host a public charging station. • Step-by-step, comprehensive planning by PSE's experts: we'll coordinate equipment purchasing, site design, construction, and final inspection for the project to save you time and money • Reliable, high-quality service from charging providers and installers vetted by PSE • Worry-free operations: PSE will manage charger operations. **Empower Mobility incentives**

PSE INCENTIVE PROGRAM	DESCRIPTION
	Customer-owned projects whose sites directly serve and/or benefit historically underrepresented communities may be eligible for enhanced incentives and service. PSE will provide upfront incentives covering 100 percent of charger and installation costs up to $4,000 per Level 2 port and $100,000 per DC fast charging port.
Up & Go Electric for Multifamily	Save up to $40,000 on EV chargers for tenants. Prepare for the future of transportation by installing electric vehicle charging for the use of tenants at low or no cost. PSE's Up & Go Electric for Multifamily program covers up to 100 percent of the cost for qualifying multifamily properties to install and maintain Level 2 charging for their tenants. Applicants can choose the ownership model that best fits their organization's unique needs. **PSE-owned turnkey service** • PSE handles 100 percent of installation and maintenance costs up to $10,000 per Level 2 charging port • Step-by-step, comprehensive planning by PSE's electric vehicle experts: we'll coordinate equipment purchasing, site design, construction, and inspection to save your businesses valuable time and money • Reliable, high-quality service from PSE-vetted charging providers and installers • PSE covers all operational and maintenance needs for ten years **Customer-owned option** • PSE funding offsets 50 percent of equipment and installation costs up to $2,000 per Level 2 charging port • Site hosts design and manage purchasing, installation, and maintenance of all charging equipment **Empower Mobility incentive details.** For these multifamily housing providers, PSE will cover: • 100 percent of charger installation costs up to $10,000 per port under our PSE-owned turnkey service • Or, 100 percent of installation costs up to $4,000 per port under the customer-owned option • Line extension costs for customers who need a new transformer to accommodate charger installation **Empower Mobility EV rebates for shared mobility.** In support of a car, scooter, or bike share program, PSE will also provide up to $7,500 for one light-duty electric vehicle or up to $1,000 per non-road EV —including electric bicycles, scooters, and wheelchairs—up to $7,500.

PSE INCENTIVE PROGRAM	DESCRIPTION
Up & Go Electric for Workplace	Save up to $120,000 on EV chargers for employees. PSE's Up & Go Electric for Workplace program covers up to 100 percent of the cost for qualifying customers to install and maintain Level 2 charging for their employees. Applicants can choose the ownership model that best fits their organization's unique needs. **PSE-owned turnkey service** • PSE handles 100 percent of installation and maintenance costs up to $12,000 per Level 2 charging port for up to 10 ports per property • Step-by-step, comprehensive planning by PSE's electric vehicle experts: we'll coordinate equipment purchasing, site design, construction, and inspection to save your businesses valuable time and money • Reliable, high-quality service from PSE-vetted charging providers and installers **Customer-owned option** • PSE funding offsets 50 percent of equipment and installation costs up to $2,000 per Level 2 charging port for up to 10 ports per property • Retain autonomy over PSE-qualified chargers, installation partners, and maintenance plans for your organization • Qualified workplaces that serve or employ highly impacted communities and vulnerable populations may be eligible for enhanced incentives through Empower Mobility **Empower Mobility customer-owned incentive.** PSE funds 100 percent of installation and upgrades costs up to $4,000 per Level 2 charging port for up to 10 ports as part of our enhanced Empower Mobility incentives for qualifying workplaces. Kenmore will need to confirm whether the City is eligible for Empower Mobility Incentives with their PSE representative, as the criteria for "vulnerable populations" is rather vague.

The City of Kenmore should consult with their PSE account representative to better understand availability and eligibility for these incentives, to learn whether there are any other upcoming opportunities to be aware of, and to assess whether projects in Kenmore could qualify for any of the Empower Mobility Incentive add-ons. Additionally, the City should notify the PSE account representative of its EVIP efforts and work with them to evaluate any other partnership opportunities between PSE and Kenmore on potential pilot projects. As a PSE customer, Kenmore is likely to have relationships with the utility it can leverage to help bring both entities' mutual ambitions for vehicle electrification to fruition.

The table below summarizes federal, state, and local funding opportunities that Kenmore should consider tracking and pursuing:

Table 4: City of Kenmore EVIP Funding Opportunities Matrix

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
Federal	Clean School Bus Program Rebates	EPA	Rebate	State, Local, and Tribal governments, Public Charter schools, Eligible contractors, and Nonprofit transportation associations.	EV Charging	$9.4 billion	It authorizes the EPA to offer rebates to replace existing school buses with clean, zero-emission (ZE) models to reduce harmful emissions from older, dirtier buses.	January 1, 2021	August 22, 2023	Until FY2026
Federal	Charging and Fueling Infrastructure (CFI) Discretionary Grant Program	USDOT	Grant	States or political subdivisions of States, Metropolitan planning organizations, Units of local government, Special purpose districts or public authorities with a transportation function, Indian Tribes, U.S. Territories, Authorities, agencies, or instrumentalities or entities owned by one or more entities listed here, and State or local authorities with ownership of publicly accessible transportation facilities (applies to Community Program only)	EV Charging	$1,321,200,000 total for the last round of funding. Federal cost-sharing is up to 80 percent; the applicant must provide the remaining 20 percent for individual awards.	The Charging and Fueling Infrastructure Discretionary Grant Program (CFI Program) provides funding to strategically deploy publicly accessible electric vehicle charging, alternative fueling infrastructure, and other alternative fueling infrastructure. This grant program has two tracks: 1) Community Charging and Alternative Fueling Grants (Community Program): To install electric vehicle charging and alternative fuel in locations on public roads, schools, parks, and in publicly accessible parking facilities. 2) Charging and Alternative Fuel Corridor Grants (Corridor Program): To deploy electric vehicle charging and hydrogen/propane/natural gas fueling infrastructure along designated alternative fuel corridors. Community Program grants will prioritize rural areas, as well as low—and moderate-income neighborhoods with low private parking or high multiunit dwelling ratios.	May 30, 2024	August 28, 2024	Yes
Federal	Alternative Fuel Vehicle Refueling Property Credit	US Dept. Treasury - IRS	Consumer and Business Tax Credit	The credit is available to businesses and individuals who place qualified refueling property into service during the tax year. As of January 1, 2023, qualifying property is limited to property placed in service in eligible census tracts.	EV Charging	6% with a maximum credit of $100,000 for each single item of property. 30% for individuals, limited to $1,000.	It provides a tax credit for alternative fuel vehicle refueling and property charging in low-income and rural areas. Alternative fuels include electricity, ethanol, natural gas, hydrogen, biodiesel, and others.	FY 2023	FY 2032	
Federal	Commercial Electric Vehicle Tax Credit	US Dept. Treasury - IRS	Tax Credit	Businesses and tax-exempt organizations that buy a qualified commercial clean vehicle may qualify for the credit.	Electric vehicles, Zero Emission vehicles	Max credit is $7,500 for qualified vehicles with GVWRs under 14,000 pounds and $40,000 for all other vehicles.	Businesses and tax-exempt organizations that buy a qualified commercial clean vehicle may qualify for a clean vehicle tax credit of up to $40,000 under Internal Revenue Code (IRC) 45W. The credit equals the lesser of: • 15% of your basis in the vehicle (30% if the vehicle is not powered by gas or diesel) • The incremental cost of the vehicle			Yes

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
Federal	Credits for new clean vehicles purchased in 2023 or after	US Dept. Treasury - IRS	Tax Credit	The credit is available to individuals and their businesses. To qualify, you must buy it for your use, not resale, and use it primarily in the U.S.	Electric vehicles, Zero Emission vehicles	The base credit amount is $2,500. The maximum credit is $7,500	You may qualify for a credit of up to $7,500 under Internal Revenue Code Section 30D if you buy a new, qualified plug-in EV or fuel cell electric vehicle (FCV). The Inflation Reduction Act of 2022 changed the rules for this credit for vehicles purchased from 2023 to 2032. At the time of sale, a seller must give you information about your vehicle's qualifications. Sellers must also register online and report the same information to the IRS. Your vehicle won't be eligible for the credit if they don't. The amount of the credit depends on when you placed the vehicle in service (took delivery), regardless of the purchase date.			
Federal	Communities Taking Charge Accelerator	DOE - Joint Office of Energy and Transportation	Grant	1. Institutions of higher education; 2. For-profit entities; 3. Non-profit entities; and 4. State and local governmental entities and Indian Tribes.	EV Charging, Electric vehicles, Zero Emission vehicles	$54 Million total. Individual awards may vary between $250,000 and $4,000,000.	The Communities Taking Charge Accelerator FOA will seek to advance the mission and vision of the Joint Office by addressing discrete challenges to make it possible for everyone to ride and drive electric. In particular, this FOA will make strategic investments at the local level that address critical barriers to expanding access to electrified mobility options for individuals without home charging, accelerating the transition to electrified micro, light, and medium-duty fleets, and maturing the implementation of managed charging systems to mitigate impacts and optimize grid usage. There are three topic areas: 1) Solving for No-Home Charging: Expanding Charging Access for Privately Owned E-Mobility 2) Expanding E-Mobility Solutions through Electrified Micro, Light and Medium-duty Fleets 3) Managed Charging for Clean Reliable Energy	April 16, 2024	July 16, 2024	Unknown
Federal	Climate Pollution Reduction Grants	EPA	Grants	States, Tribes, cities	Emissions reduction	$5 billion total. For phase 1, up to: • $3 million to all 50 states, DC, and Puerto Rico, for a total of $156 million • $1 million to each of the 67 most populous metropolitan areas. Up to $500,000,000 individual award for phase 2.	The U.S. Environmental Protection Agency (EPA) announced the two-stage, $5 billion Climate Pollution Reduction Grant (CPRG) program, which includes $250 million in noncompetitive planning grants and $4.6 billion in competitive implementation grants. This program encourages states, air agencies, municipalities, and tribes to create and implement comprehensive climate pollution plans that ensure reductions and maximize benefits, especially for low-income and disadvantaged communities.	September 20, 2023	March 1, 2024, for phase 1 and April 1, 2024, for phase 2	Unknown

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
Federal	Energy Efficiency and Conservation Block Grant (EECBG) Program	DOE Office of State and Community Energy Programs	Grant	States, Tribes, Localities	Energy efficiency, EV Charging	$550,000,000 total	They are designed to assist states, local governments, and Tribes in implementing strategies to reduce energy use, reduce fossil fuel emissions, and improve energy efficiency. Through the Bipartisan Infrastructure Law (BIL), EECBG Program funding recipients can now use their allocations for zero-emission transportation and/or associated infrastructure. Both competitive and formula awards are available. 2,708 state, local, and Tribal governments are eligible for a formula award from the Energy Efficiency and Conservation Block Grant (EECBG) Program. The U.S. Department of Energy will announce these awards on a rolling basis. However, Kenmore does not appear eligible for formula funding, so the City would need to apply for competitive funding if it were to open back up.	FY 2023	October 2023 for competitive funding. October 31, 2024, for formula grants (awards available until expended)	Unknown
Federal	National Electric Vehicle Infrastructure (NEVI) Formula Program	USDOT Federal Highway Administration	Grant	Local governments, states, metropolitan planning organizations, port authorities, and Indian tribes.	EV Charging	FY22-FY26 formula grant range (to States, D.C., and P.R.1): $13,600,000 – $407,800,000.	The U.S. Department of Transportation's (DOT) Federal Highway Administration (FHWA) NEVI Formula Program provides funding to states to strategically deploy electric vehicle (EV) charging stations and to establish an interconnected network to facilitate data collection, access, and reliability. Funding is available for up to 80% of eligible project costs. FHWA must distribute the NEVI Program Formula Program funds made available each fiscal year (FY) through FY 2026 so that each state receives an amount equal to the state FHWA funding formula determined by 23 U.S. Code 104. To receive funding, states must submit plans to the FHWA and the Joint Office of Energy and Transportation for review and public posting annually, describing how the state intends to distribute NEVI funds. Additionally, 10% of NEVI Formula funding is set aside each FY for DOT to fund grants for states and localities requiring additional assistance to strategically deploy EV charging stations under this Program.			Yes

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
State	Washington State EV Charging program	WA Dept. Commerce	Incentive	• Electric utilities • Public agencies • Federally recognized Tribal governments, their members, and enterprises owned by Tribes and located off Tribal lands • Non-profit 501(c)(3) organizations	EV Charging	$64 million total for this round. • Level 2: $7,500 per plug • DCFC: $85,000 per plug	The Washington State EV Charging program offers the first round of funding—$64 million in incentives to install Level 2 and DC fast chargers throughout the state. The goal is to direct 40% of the funding into overburdened and vulnerable communities. Eligible EV charging project types are installing Level 2 stations for: • Multi-family residential charging • Publicly available charging in underserved communities • Fleet depot and workplace charging Installing DC Fast Charging stations for: • Publicly available charging in underserved communities The first of two funding cycles will be offered in 2023-2025. An additional $64 million is expected in 2024-2025. $64 million is available in this round:	FY 2023	December 1, 2023	Exhausted as of now, but more funds may be available in the future, according to the website.
State	Zero Emission School Bus Grants	WA Dept. Ecology	Grant	School bus owners that transport students to K-12 schools overseen by the Washington Office of Superintendent of Public Instruction for the 2023- 2024 school year.	EV Charging	$20 million	Funds may be used to scrap and replace diesel school buses with zero-emission school buses and to purchase and install charging/fueling infrastructure. Eligible Applicants: School bus owners that transport students to K-12 schools overseen by the Washington Office of Superintendent of Public Instruction (OSPI) for the 2023-2024 school year.	May 15, 2024	August 15, 2024	Yes until 2025
State	Volkswagen enforcement action grants: Charge Where You Are	WA Dept. Ecology	Grant	Public organizations, Tribal governments, nonprofit 501(c)(3) organizations, businesses	EV Charging	$2 million total. Up to $10,000 per plug or 80% of project costs	This grant program has $2 million available to install Level 2 charging stations across Washington, including fleet and workplace charging. Grants will be up to $10,000 per plug or up to 80% of eligible project costs. Projects that qualify for a reduced match may receive up to 100% of eligible project costs. Eligible project categories: Installing 4 to 10 Level 2 plugs for fleet and workplace charging, publicly available charging, and multi-unit/multi-family residential properties	July 9, 2024	August 29, 2024	Yes until 2025

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
State	Clean Energy Grant Programs	WA Dept. Commerce	Grant	1) Tribal Clean Energy Grants: federally-recognized tribal government or a tribe's contracted service provider 2) Community decarbonization grants: Educational institution, Federally recognized tribe, For-profit entity, Local government, Non-profit organization, Research institution, Retail electric utility, State agency, or a Tribes' contracted service provider 3) General solicitation for clean energy projects: Associate development organization, Federally recognized tribal government, For-profit entity, Investor-owned, co-operative, or public retail electric utility, K-12 school district, Local Government, Non-profit organization, Private educational institution or public higher education institution, Other academic or research institution, State agency, and a Tribes' contracted service providers	Emissions reduction; clean energy	$117 million total	In response to valuable feedback from a Request for Information (RFI) issued in the fall of 2023 and previous stakeholder input, the Energy Programs in Communities unit is implementing a new approach designed to reduce barriers for applicants, maximize the construction timeline for clean energy projects, and enhance equitable outcomes. Through a combination of fund sources, approximately $117 million will be available for grants through three tailored application opportunities. The three solicitations will be the primary opportunity to apply for these funds. Funding amounts are estimated and are subject to legislative authority and fund balances: 1) Tribal Clean Energy Grants 2) Community decarbonization grants 3) General solicitation for clean energy projects Projects whereby EV charging infrastructure that accelerates beneficial load integration and demand management are eligible for funds under all three grant application opportunities.	FY 2023	All are closed except for the Tribal Clean Energy grant, which closes on September 27, 2024	Unknown
State	Zero-Emission Vehicle Infrastructure Partnership Grant Program	WA Dept. Transportation	Grant	Nonprofit organizations, tribes, and state and local government agencies; grant recipients must partner with private-sector organizations to develop and implement their projects	EV Charging	2023-2025 cycle awarded $30,221,717 total	It supports projects that invest in fast-charging equipment, upgrade charging stations, and install new hydrogen fueling infrastructure. The program prioritizes fueling stations on interstate, U.S., and state routes within one mile of the priority corridor.	FY 2023	FY 2023	Every two years
State	Washington State Clean Diesel Program	WA Dept. Ecology	Grants	Businesses (2024 grant program only), Cities, Counties, Local clean air agencies, Non-profit organizations, Ports, Public utility districts/co-ops, School districts, State government, Transit authorities, Tribes	Electric Vehicle	Dependent on Grant, but up to $1,170,000 for transit buses	Clean Diesel grants help to buy and install clean diesel technology on publicly and privately owned heavy-duty diesel vehicles and equipment. The Local Toxics Control Account funds the grants. This program's primary purpose is to electrify school buses. It also supports reducing idling and replacing other diesel equipment engines.	May 24, 2024, for Air Quality Clean School Bus Grant Program 2023–2025; all others closed previously	August 15, 2024, Air Quality Clean School Bus Grant Program 2023–2025; all others closed	Yes

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
State	Clean alternative fuel and plug-in hybrid vehicles - sales/use tax exemptions	WA Dept. Revenue	Tax Exemption	New or used clean alternative fuel and certain plug-in hybrid vehicles	Electric Vehicle	Up to $16,000 of the sales or lease price	The exemption is applied to the sales price or fair market value when you purchase or lease a passenger car, light-duty truck, or medium-duty passenger vehicle that is powered exclusively by a clean alternative fuel or capable of traveling at least 30 miles using only battery power.		Exemption for sales of new and used qualifying vehicles expires July 31, 2025. Leases that qualify for this exemption on or before July 31, 2025, can continue to claim the exemption on lease payments due through July 31, 2028.	
State	Clean Alternative Fuel Commercial Vehicle and Vehicle Infrastructure B&O or PUT Tax Credit	WA Dept. Revenue	Tax Credit	Businesses that use commercial vehicles to transport commodities, merchandise, produce, refuse, freight, animals, or passengers must use vehicles that use clean alternative fuel and display a WA license plate.	Electric Vehicle	Up to 75% of incremental cost or $100,000, whichever is less	Businesses are eligible to receive tax credits for purchasing new or used medium- and heavy-duty AFVs and medium- and heavy-duty vehicles converted to alternative fuels, and installing alternative fueling infrastructure. Eligible alternative fuels are natural gas, propane, hydrogen, dimethyl ether, and electricity. Tax credits for qualified alternative fueling infrastructure are for up to 50% of the cost to purchase and install the infrastructure.			
State	Electric Vehicle Charging Reliability and Accessibility Accelerator grant	WA Dept. Transportation	Grants	Public and private partners and eligible applicants may include site hosts, property owners, network operators, or station owners.	Electric Vehicle Charging	$10 million dollars total. The maximum award will be set at 80 percent of the total project cost. Awardees must provide at least 20 percent of the total project cost.	Provides federal funding to repair or replace broken electric vehicle chargers. Projects must support repairing or replacing existing broken or non-operational publicly accessible chargers. *Note that the grant program is not currently accepting applications as the grant is still being developed.	TBD	TBD	TBD

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
State	Zero-emissions Access Program Grant	WA Dept. Transportation	Grants	nonprofit organizations or local governments in Washington	Electric Vehicle and Charging	$50,000-$200,000 per project.	The Zero-emissions Access Program (ZAP), administered by the Washington State Department of Transportation (WSDOT), offers nonprofit organizations and local governments grants to design and create a ZEV carshare program in underserved and low-to-moderate-income communities. Grant awards may range from $50,000 to $200,000. Eligible projects include: • Contract, lease, or purchase of ZEVs; • Construction or installation of correlated chargers or fueling infrastructure; and, • Operational costs to develop, implement, and manage a car share program. Applicants must provide matching funds as direct contributions or gifts-in-kind for at least 10% of the project's total cost.	April 1, 2025	May 1, 2025	Uncertain
State	Electric vehicle infrastructure (charging stations), batteries, and fuel cells – sales/use tax exemption	WA Dept. Revenue	Tax Exemption	Anyone who purchases an electric vehicle battery or fuel cell or installs an electric vehicle battery, fuel cell charging station, or hydrogen fueling station.	Electric Vehicle and Charging		A sales tax exemption is available for purchases on or after July 28, 2019, and the use tax exemption is available on purchases on or after Aug. 1, 2019.			

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
State	Green Transportation Capital	WA Dept. Transportation	Grant	City transit system, County public transportation authority, Metropolitan municipal corporation transit system, Public transportation benefit area, Unincorporated transportation benefit area, Regional transit authority, Special purpose district formed to operate a public transportation system	Electric vehicles and charging	Up to $9,000,000 has been awarded to previous projects	This grant program funds transit agencies' fleet electrification and hydrogen fueling projects, facility modification or replacement, and infrastructure construction as long as the agencies can pay 20% of project costs. Vehicles, equipment, and zero-emission transition plan applications must be two-year projects only. Construction projects may last two or four years. Capital projects and related expenditures may include: • Electrification of transit vehicle fleets, including battery and fuel-cell-operated electric vehicles. • Updating or modifying facilities for fleet electrification and/or hydrogen refueling infrastructure. • New facilities that directly and primarily support fleet electrification. • Construction of charging and fueling stations to support transit fleet electrification. • Necessary upgrades to electrical transmission and distribution systems. • In-house staff directly managing a capital construction project. • Acquisition of property rights for capital projects. Zero-emission fleet transition planning activities may also be an eligible project (contingent upon legislative appropriation of funding).	June 25, 2024	Sept. 12, 2024	Every two years

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
State	Washington EV Instant Rebate Program	WA Dept. Commerce	Rebate	Washington residents making 300% or below of the federal poverty level in household income, equivalent to $93,600 a year for a family of four	Electric Vehicles	New EVs: Purchase or 24-35 Month lease: $5,000 36 Month + lease: $9,000 Used EVs: Purchase or lease: $2,500	Washington is the first state to prioritize low-cost leases as part of an EV incentive program. While most EV models are not currently eligible for federal credits when purchased, all EV models are eligible if leased. To make new EVs affordable for all, Washington residents can use the federal credit to make leasing an EV as low as under $200 a month on some models. • The program will reimburse automakers and dealers that offer point-of-sale (POS) rebates to eligible residents who lease or purchase an EV. • POS rebates provide an easy-to-access discount at the same time as a purchase or lease agreement and require no advance or post-purchase application. • The program will provide EV and charging education through various customer outreach and engagement activities, including ride-and-drive events that have been proven to increase awareness.	August 1, 2024	June 2025 (or until all funds are used)	
Local/IOU	Up & Go Electric for Fleet	PSE	Rebate	Current non-residential PSE account holder and electric customer. Transmission-only (Schedules 448/449) customers are not eligible for this program.	Electric Vehicle Charging	Up to $250,000 total per charging	Up & Go Electric for Fleet offers different ownership models for installing electric vehicle supply equipment (EVSE). With PSE-owned turnkey service, PSE will manage, design, install, and maintain EVSE, covering most utility infrastructure and facility upgrades necessary to complete the installation. This service includes incentives of up to $12,000 per Level 2 (L2) charging port and up to $125,000 per DC fast charging (DCFC) port, up to $250,000 total per charging location. Or choose the customer-owned option. You'll install, own, and maintain all EVSE while taking advantage of PSE incentives of up to $4,000 per L2 charging port and $60,000 per DCFC port, up to $250,000 total per charging location, to offset the infrastructure upgrades and equipment costs.			Unknown

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
Local IOU	Up & Go for Public	PSE	Rebate	Customers are located in PSE's electric service area and not on transmission-only customer property.	Electric Vehicle Charging	Up to 100% of charger costs depending on ownership option	Up & Go Electric for Public allows businesses and communities to easily and affordably provide EV charging by covering up to 100% of the costs to install, maintain, and operate a public charging station. Customer-owned option For customers who want more control of the charging station. You'll fully manage installation, ownership and maintenance. • Direct control over charger purchase, installation, and maintenance options • Ability to receive revenue and Washington State Clean Fuel Standard credits from the station PSE-owned option PSE will manage charging station installation and operation from end to end, including infrastructure upgrades, making this the easiest and most worry-free way to host a public charging station. • Step-by-step, comprehensive planning by PSE's experts: we'll coordinate equipment purchasing, site design, construction, and final inspection for the project to save you time and money • Reliable, high-quality service from charging providers and installers vetted by PSE • Worry-free operations: PSE will manage charger operations, so any issues or errors can be directed to us			Unknown

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
Local DU	Up & Go Electric for Workplace	PSE	Rebate	Commercial PSE electric account holders with dedicated parking stall(s) for electric vehicles.	Electric Vehicle Charging	Up to 100% of the cost for qualifying customers up to $120,000	Applicants can choose the ownership model that best fits their organization's unique needs. PSE-owned turnkey service • PSE handles 100 percent of installation and maintenance costs up to $12,000 per Level 2 charging port for up to 10 ports per property • Step-by-step, comprehensive planning by PSE's electric vehicle experts: we'll coordinate equipment purchasing, site design, construction, and inspection to save your businesses valuable time and money • Reliable, high-quality service from PSE-vetted charging providers and installers Customer-owned option • PSE funding offsets 50 percent of equipment and installation costs up to $2,000 per Level 2 charging port for up to 10 ports per property • Retain autonomy over PSE-qualified chargers, installation partners, and maintenance plans for your organization • Qualified workplaces that serve or employ highly impacted communities and vulnerable populations may be eligible for enhanced incentives through Empower Mobility • Empower Mobility customer-owned incentive PSE funds 100 percent of installation and upgrades costs up to $4,000 per Level 2 charging port for up to 10 ports as part of our enhanced Empower Mobility incentives for qualifying workplaces.			Unknown

CITY OF KENMORE EVIP FUNDING OPPORTUNITIES MATRIX

Government Level	Program	Agency	Incentive Type	Eligible Recipients	Technology or Technology Portfolio	Incentive Amount	Incentive Description	Application Opening Date	Application Closing Date	Annually Recurring
Local, CU	Up & Go Electric for Multifamily	PSE	Rebate	Multifamily residential PSE electric account holders	Electric Vehicle Charging	Up to 100% of the cost for qualifying multifamily properties up to $40,000	PSE's Up & Go Electric for Multifamily program covers up to 100 percent of the cost for qualifying multifamily properties to install and maintain Level 2 charging for their tenants. Applicants can choose the ownership model that best fits their organization's unique needs. PSE-owned turnkey service • PSE handles 100 percent of installation and maintenance costs up to $10,000 per Level 2 charging port • Step-by-step, comprehensive planning by PSE's electric vehicle experts: we'll coordinate equipment purchasing, site design, construction, and inspection to save your businesses valuable time and money • Reliable, high-quality service from PSE-vetted charging providers and installers • PSE covers all operational and maintenance needs for ten years Customer-owned option • PSE funding offsets 50 percent of equipment and installation costs up to $2,000 per Level 2 charging port • Site hosts design and manage purchasing, installation, and maintenance of all charging equipment			Unknown

CONCLUSION AND NEXT STEPS

This Current Conditions Assessment identifies existing policies, codes, and utility incentives regarding electric vehicles that could aid the City of Kenmore in developing and eventually implementing an EVIP. It evaluates potential barriers and opportunities for widespread, equitable EV infrastructure deployment and adoption. Kenmore can now explore the possibilities in this document to develop an EVIP that will serve the City's EV charging needs.

Federal and state momentum to increase EV adoption in Washington has brought us closer than ever to electrifying transportation in cities like Kenmore and making critical strides in cutting greenhouse gas emissions. At the state level, mandates for increased ZEV sales under the Clean Vehicle program are beginning to create a more predictable and stable market for EVs, making it easier for cities to plan and execute long-term transportation strategies. At the federal level, cities can leverage substantial funding and tax incentives to expand their EV infrastructure. For instance, federal grants and loans can be used to develop a robust charging station network, making EV ownership more practical and convenient for residents. State programs also provide incentives for EV purchases and funding for infrastructure projects, empowering cities to prioritize EV adoption. This top-down support ensures that cities have the necessary resources to implement EV-friendly policies effectively. Furthermore, the efforts of neighboring cities in Washington who are further along in their electrification journeys can help guide and inspire the City of Kenmore to be innovative and ambitious in developing its EVIP to help spur EV adoption to the greatest possible extent.

The City's next steps in the EVIP development process will include:

- Exploring and mapping the City's current EV infrastructure
- Assessing opportunities to transition fleet vehicles to electric alternatives
- Conducting community engagement and outreach to assess charging needs
- Assessing and mapping opportunity areas for public and fleet charging using EV modeling and feedback from internal and external stakeholders
- Building partnerships with businesses, developments, and community groups to develop a plan and policies that promote equitable EV adoption and charging

This Current Conditions Assessment will be a baseline for measuring the EVIP's future progress. The opportunities it identifies can also guide the decision-making process for creating the City's final EVIP. Although the City of Kenmore is in the early stages of its EV adoption journey, it currently has significant opportunities to deploy infrastructure that will benefit the community both now and in the future, contributing to a sustainable future for all.

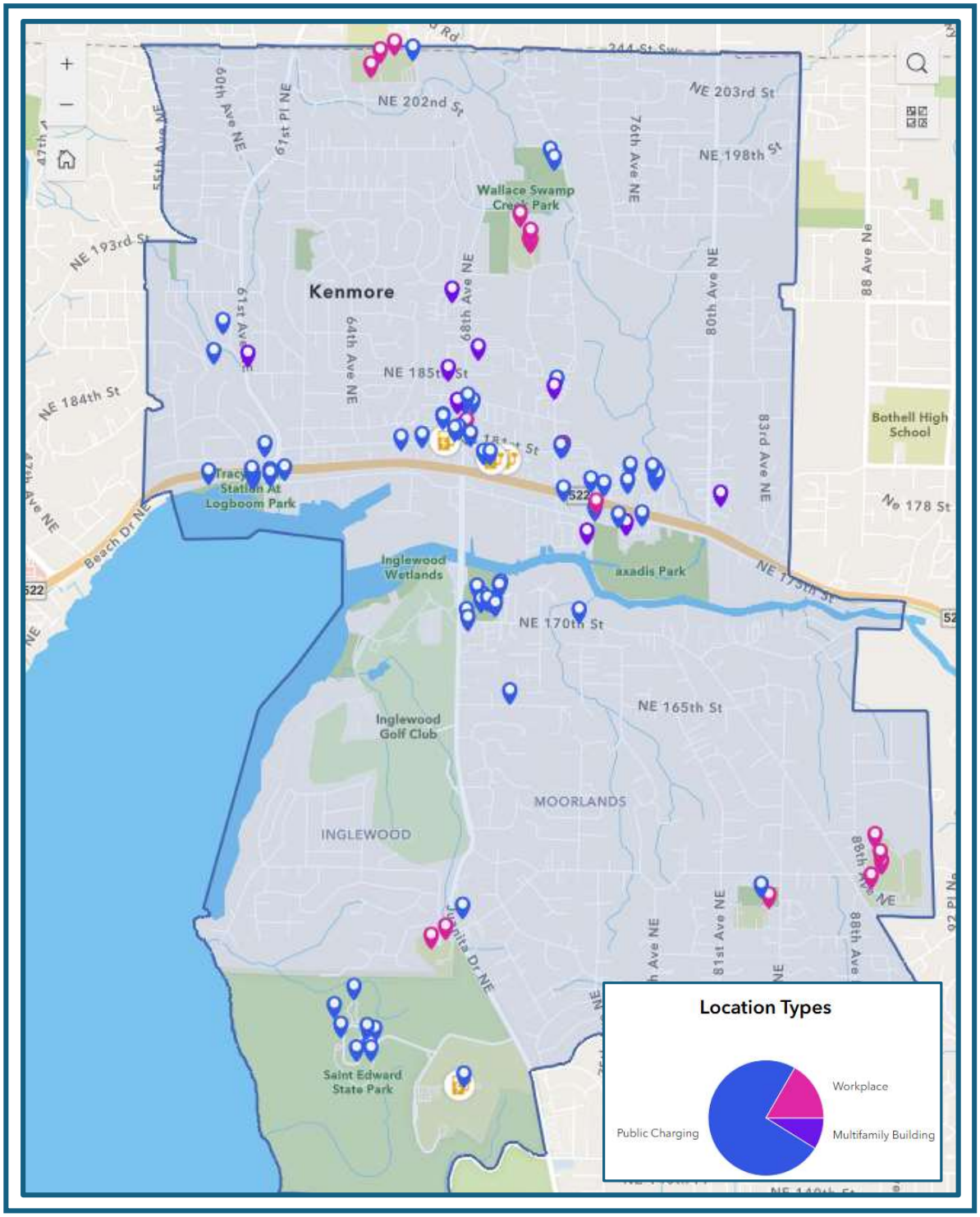
Appendix A: Glossary

ABBREVIATION	TERMINOLOGY
ACC I and ACC II	Advanced Clean Cars I And II
ACF	Advanced Clean Fleets
ACT	Advanced Clean Trucks
ADA	American Disabilities Act
AFC	Alternative Fuel Corridors
BESS	Battery Electric Storage System
BEV	Battery Electric Vehicles
BIPOC	Black, Indigenous, People of Color
CBO	Community-Based Organization
CEC	California Energy Commission
CFI	Charging And Fueling Infrastructure
CIC	Common Interest Community
DCFC	Direct Current Fast Charging (Or Charger)
DOE	Department Of Energy
EO	Executive Order
EV	Electric Vehicle
EVC-RAA	Electric Vehicle Charging Reliability and Accessibility Accelerator
EVCS	Electric Vehicle Charging Station
EVIP	Electric Vehicle Infrastructure Plan
EVSE	Electric Vehicle Supply Equipment
GHG	Greenhouse Gas
HDV	Heavy-Duty Vehicle
HOA	Homeowners Association
ICE	Internal Combustion Engine
kW	Kilowatts

ABBREVIATION	TERMINOLOGY
L2	Level 2
LDV	Light-Duty (I.E., Passenger) Vehicle
LMI	Low-To-Moderate Income
MDV	Medium-Duty Vehicle
MHD	Medium- And Heavy-Duty
MHDV	Medium- And Heavy-Duty Vehicle
NEVI	National Electric Vehicle Infrastructure
ODOT	Oregon Department of Transportation
O&M	Operations And Maintenance
OSPI	Office Of Superintendent of Public Instruction
PHEV	Plug-In Hybrid Electric Vehicles
PSE	Puget Sound Energy
SEEP	State Efficiency and Environmental Performance
TES	Transportation Electrification Strategy
UTC	Utilities And Transportation Commission
VMT	Vehicle Miles Traveled
WSDOC or DOC	Washington State Department of Commerce
WSDOT	Washington State Department of Transportation
YTD	Year To Date
ZAP	Zero-Emissions Access Program
ZEV	Zero Emissions Vehicle
ZEVIP	Zero-Emission Vehicle Infrastructure Partnerships Grant
ZEV-MFT	Zero-Emission Vehicle Mapping and Forecasting Tool

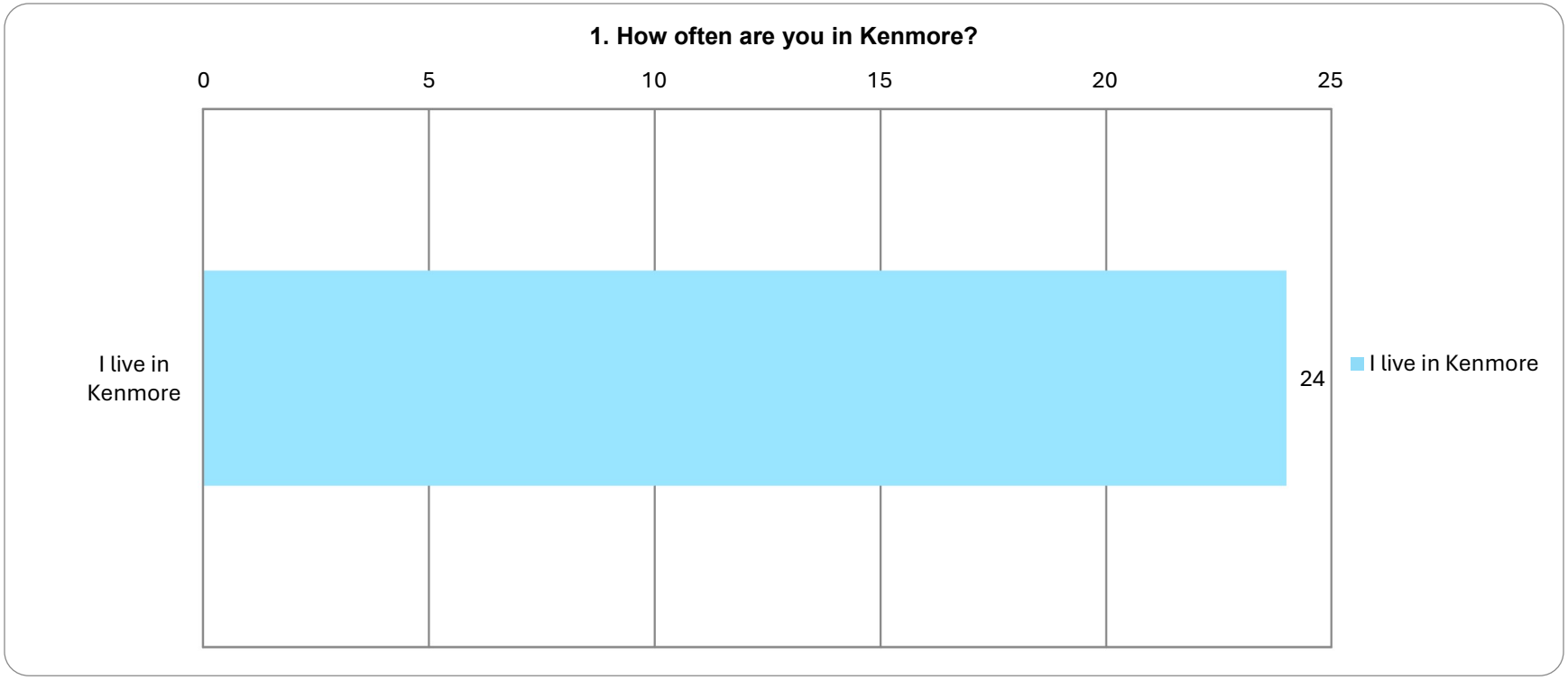
Appendix B: Community Engagement Feedback: Survey Results

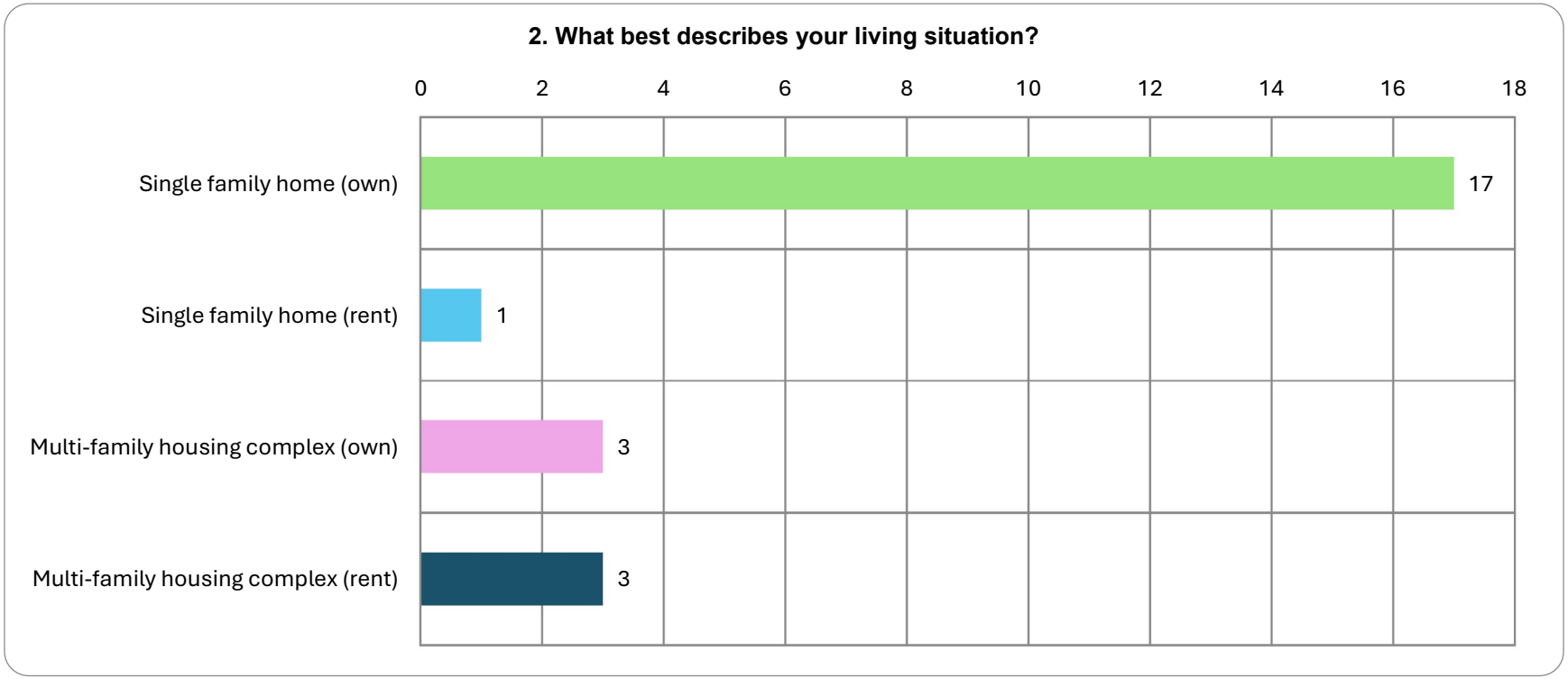
Public EV Charger Location Survey Results (Including locations pinpointed on page 67)

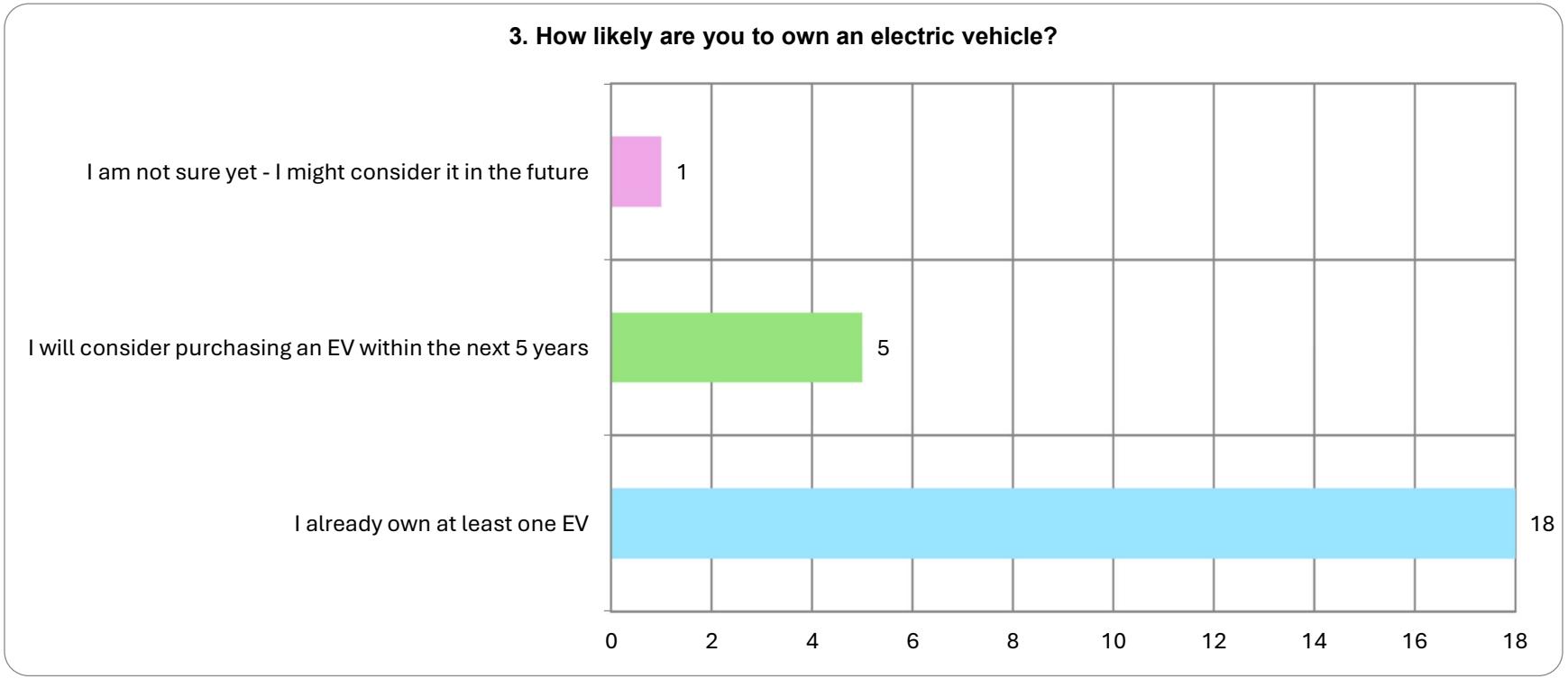


Locations pinpointed on the physical map at Kenmore's in-person EVIP Workshop (October 22, 2024 6:30-8:30pm)

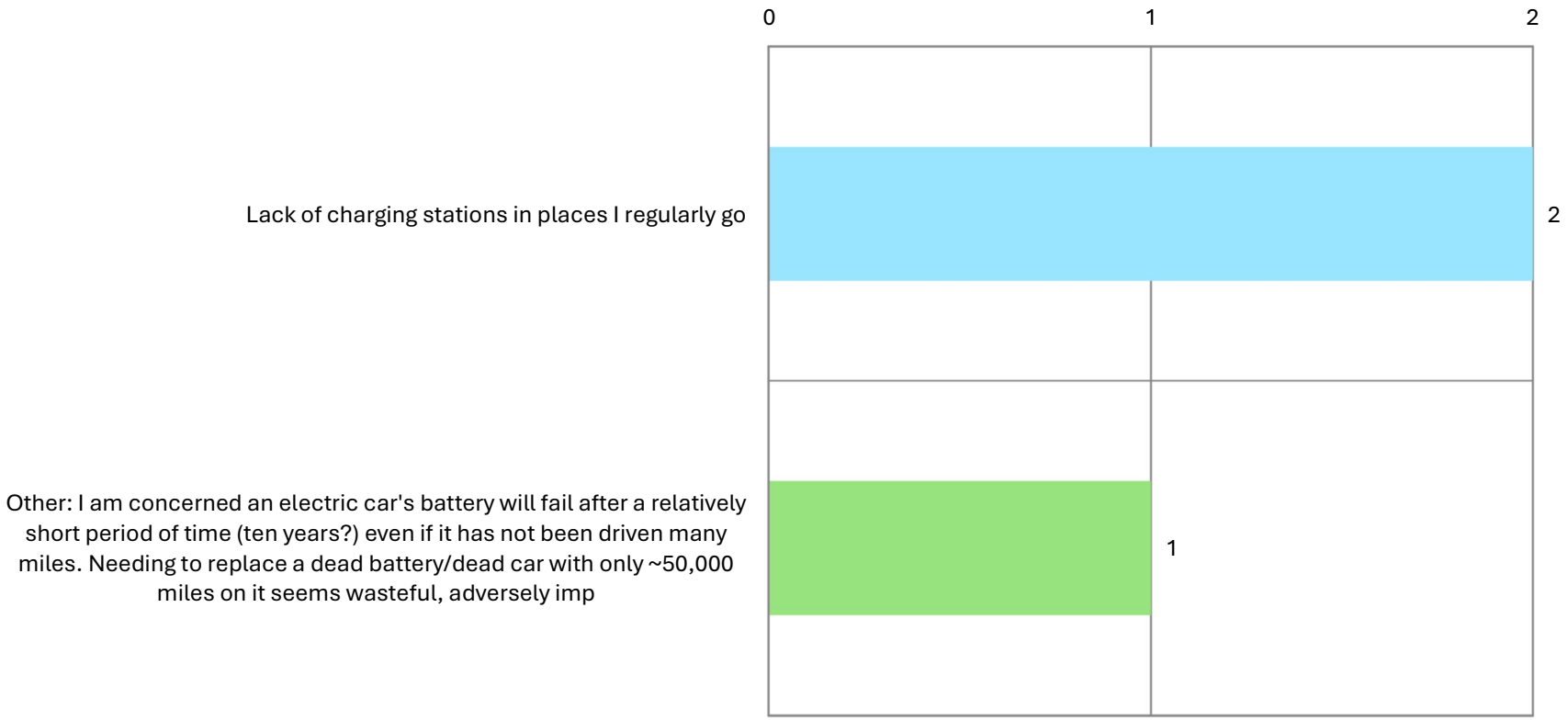
EV Charging Preferences Survey Results (Responses from the total 24 respondents)

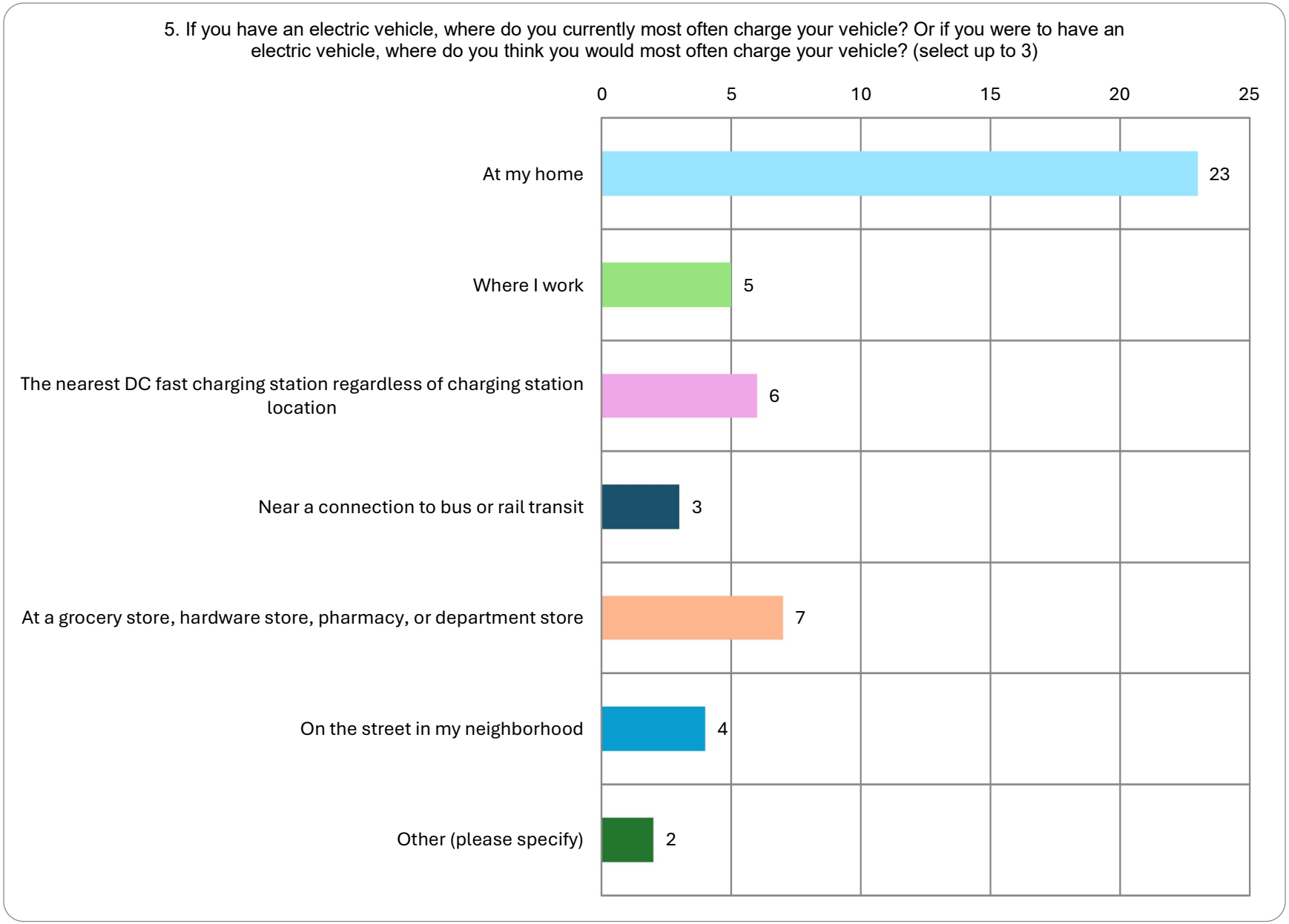


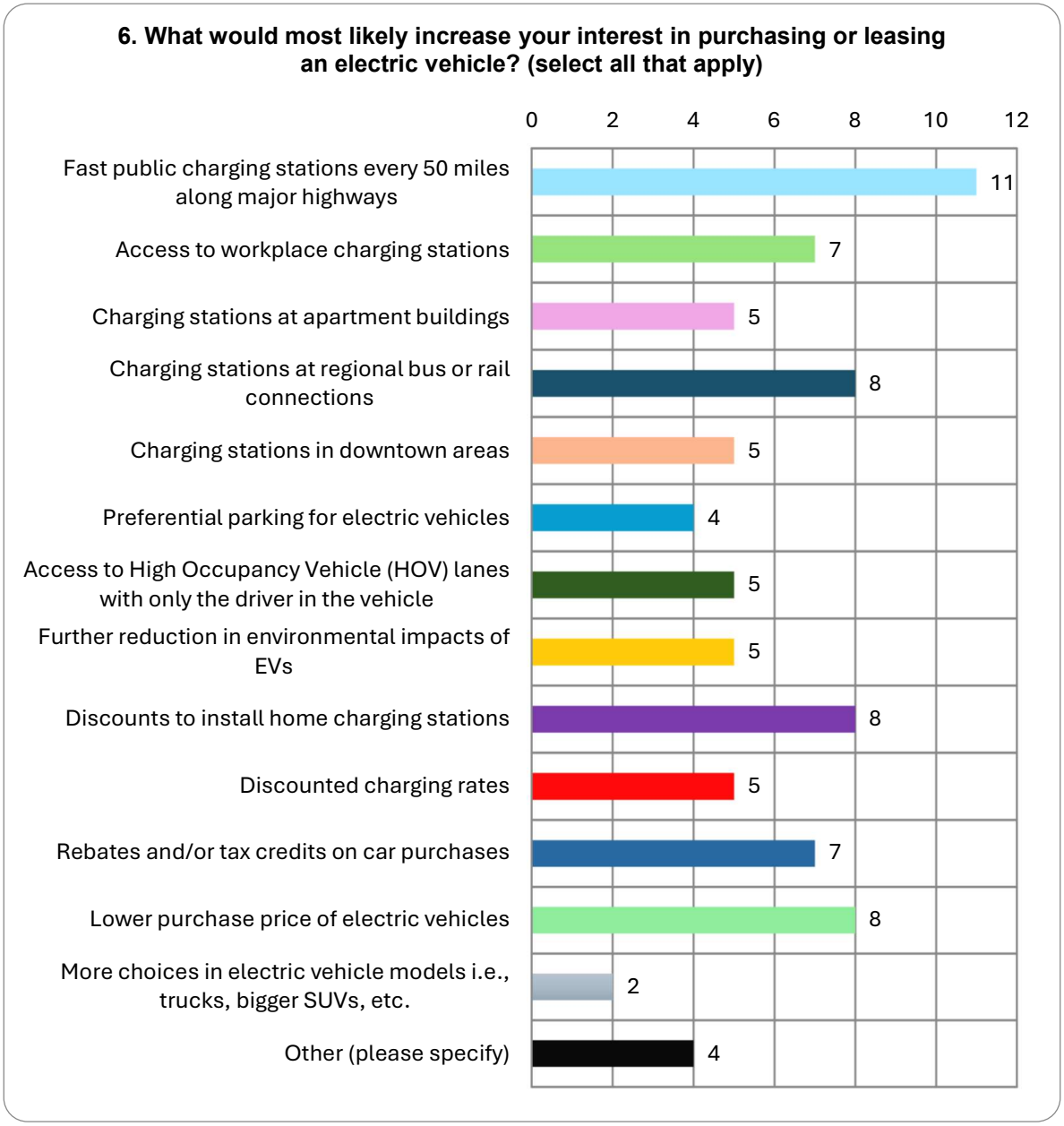

2. What best describes your living situation?
0
2
4
6
8
10
12
14
16
18
Single family home (own)
17
Single family home (rent)
1
Multi-family housing complex (own)
3
Multi-family housing complex (rent)
3

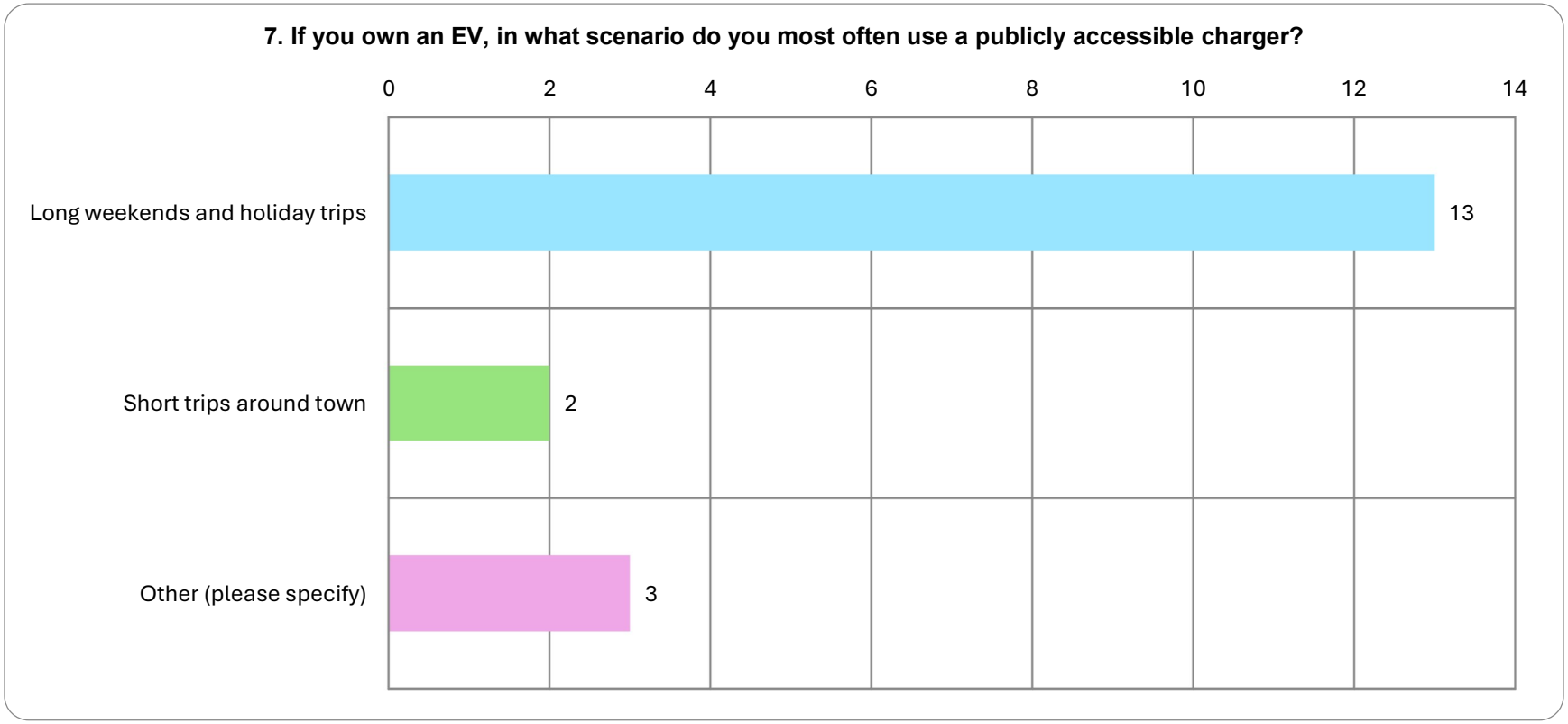

3. How likely are you to own an electric vehicle?
I am not sure yet - I might consider it in the future
1
I will consider purchasing an EV within the next 5 years
5
I already own at least one EV
18
0
2
4
6
8
10
12
14
16
18

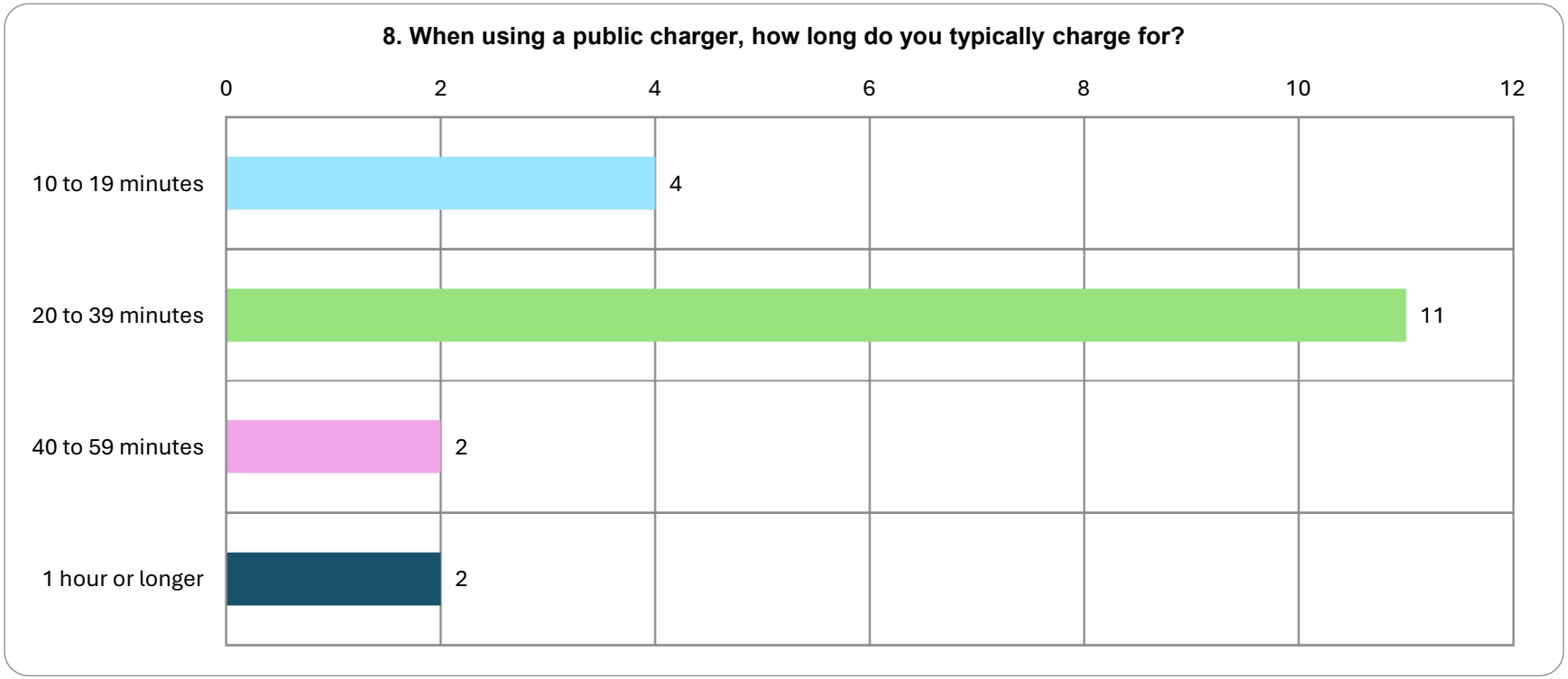
4. What is holding you back from purchasing an electric vehicle? (select all that apply)

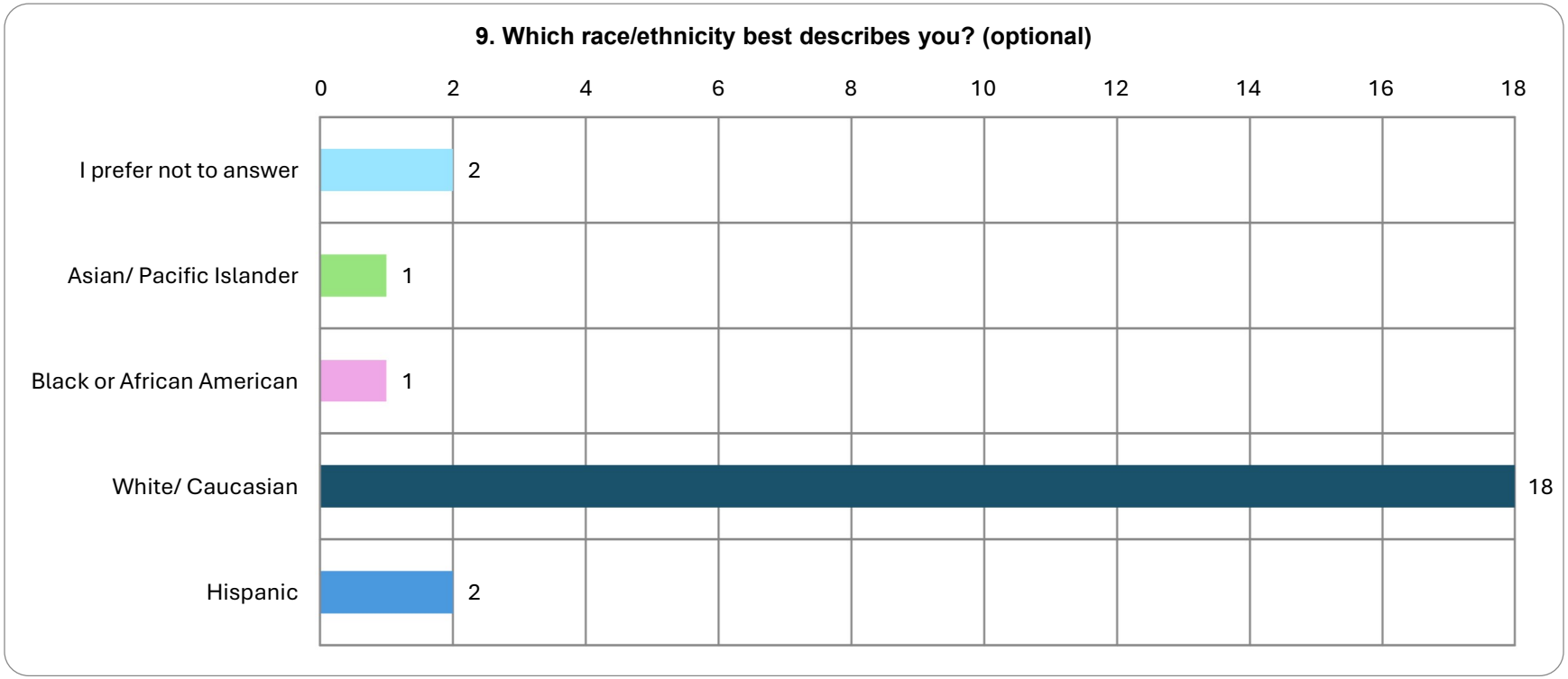


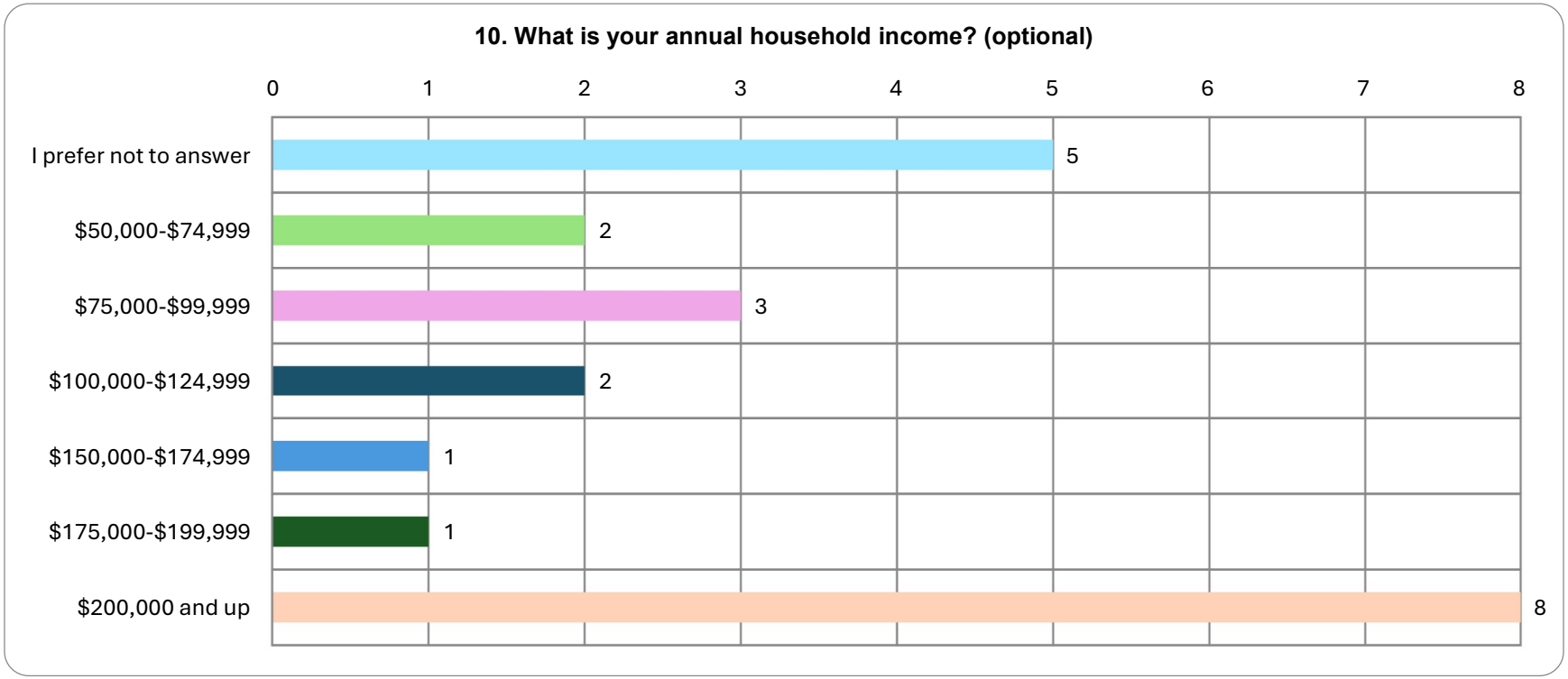

5. If you have an electric vehicle, where do you currently most often charge your vehicle? Or if you were to have an electric vehicle, where do you think you would most often charge your vehicle? (select up to 3)
0
5
10
15
20
25
At my home
23
Where I work
5
The nearest DC fast charging station regardless of charging station location
6
Near a connection to bus or rail transit
3
At a grocery store, hardware store, pharmacy, or department store
7
On the street in my neighborhood
4
Other (please specify)
2


6. What would most likely increase your interest in purchasing or leasing an electric vehicle? (select all that apply)
0
2
4
6
8
10
12
Fast public charging stations every 50 miles along major highways
11
Access to workplace charging stations
7
Charging stations at apartment buildings
5
Charging stations at regional bus or rail connections
8
Charging stations in downtown areas
5
Preferential parking for electric vehicles
4
Access to High Occupancy Vehicle (HOV) lanes with only the driver in the vehicle
5
Further reduction in environmental impacts of EVs
5
Discounts to install home charging stations
8
Discounted charging rates
5
Rebates and/or tax credits on car purchases
7
Lower purchase price of electric vehicles
8
More choices in electric vehicle models i.e., trucks, bigger SUVs, etc.
2
Other (please specify)
4


7. If you own an EV, in what scenario do you most often use a publicly accessible charger?
0
2
4
6
8
10
12
14
Long weekends and holiday trips
13
Short trips around town
2
Other (please specify)
3


8. When using a public charger, how long do you typically charge for?
0
2
4
6
8
10
12
10 to 19 minutes
4
20 to 39 minutes
11
40 to 59 minutes
2
1 hour or longer
2


9. Which race/ethnicity best describes you? (optional)
0
2
4
6
8
10
12
14
16
18
I prefer not to answer
2
Asian/ Pacific Islander
1
Black or African American
1
White/ Caucasian
18
Hispanic
2


10. What is your annual household income? (optional)
0
1
2
3
4
5
6
7
8
I prefer not to answer
5
$50,000-$74,999
2
$75,000-$99,999
3
$100,000-$124,999
2
$150,000-$174,999
1
$175,000-$199,999
1
$200,000 and up
8

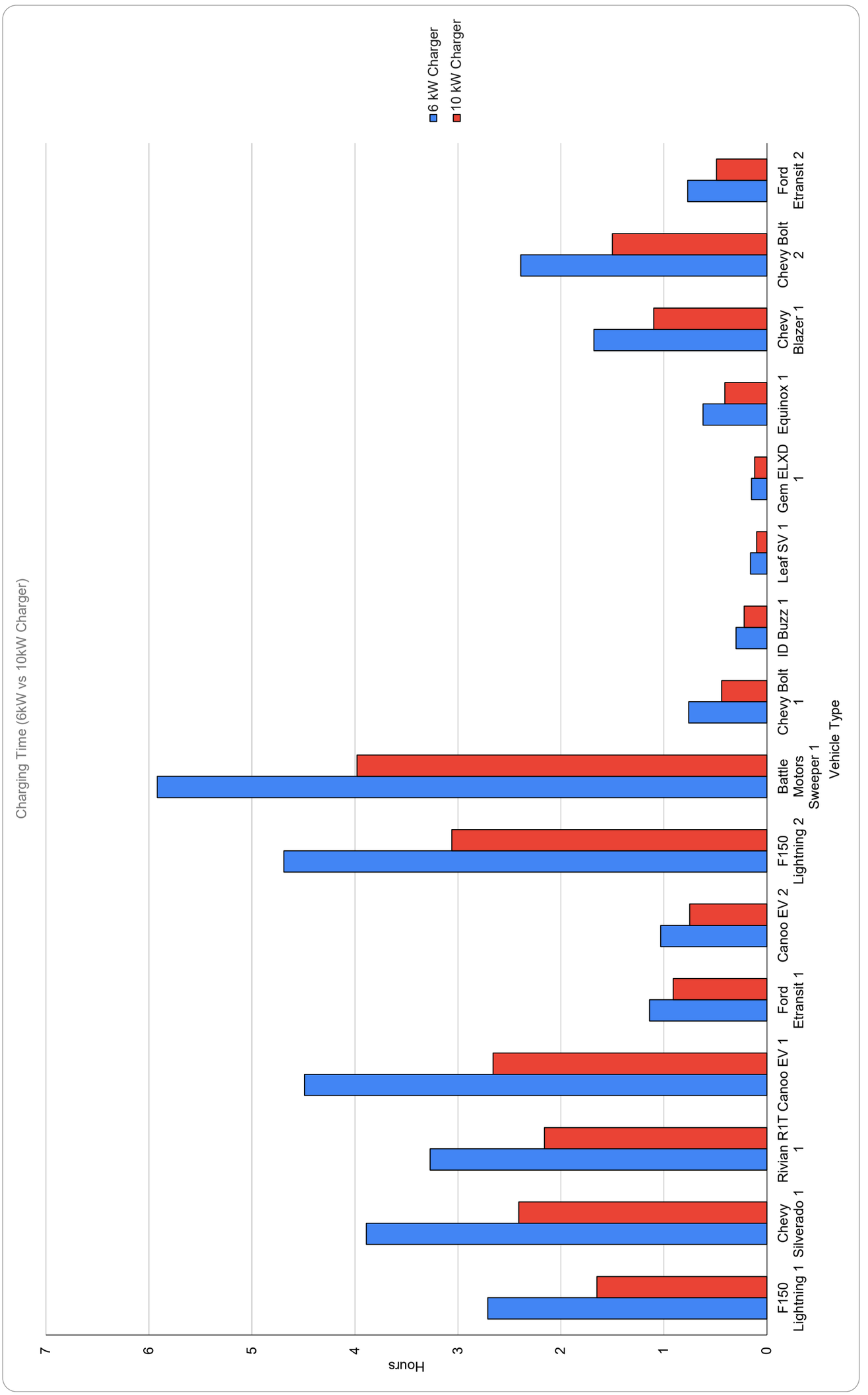
Replacement Year	Replacement Make	Replacement Model	Replacement MSRP	Replacement Energy Consumption per mile (kWh/mile)	Replacement Incentives	Replacement Annual Energy Consumption (kWh)	Annual Energy Cost	Annual Mileage
2025	Ford	F150 Lightning	$47,000	1.21	$10,000	2325.62	$302.33	1,922
2025	Rivian	R1T	$70,000	1.28	$10,000	3365.12	$437.47	2,629
2027	Chevy	Silverado EV	$55,000	1.27	$10,000	1285.24	$167.08	1,012
2027	Canoo	Pickup	$35,000	1.21	$10,000	4172.08	$542.37	3,448
2029	GEM	elxd	$20,000	0.17	$10,000	307.7	$40.00	1,810
2029	Ford	F150 Lightning	$47,000	1.21	$10,000	4106.74	$533.88	3,394
2033	Chevy	Silverado EV	$55,000	1.27	$0.00	4257.04	$553.42	1,064
2033	Ford	F150 Lightning	$47,000	1.21	$0.00	3322.66	$431.95	3,352
2033	Chevy	Silverado EV	$55,000	1.27	$0.00	4599.94	$597.99	2,746
2035	Ford	E-Transit	$51,000	1.01	$0.00	1572.57	$204.43	1,557
2035	Chevrolet	Bolt	$27,000	0.63	$0.00	604.17	$78.54	959
2037	Ford	E-Transit	$51,000	1.01	$0.00	683.77	$88.89	1,354
2037	GEM	elxd	$20,000	0.17	$0.00	85	$11.05	1,000
2039	Canoo	Pickup	$35,000	1.21	$0.00	1210	$157.30	1,000
2039	Chevy	Silverado EV	$55,000	1.27	$0.00	1270	$165.10	1,000

Vehicle ID	Vehicle Make	Vehicle Model	Model Year	Fuel Economy (mpg)	Route ID	Interval	Description	Annual Mileage	Fuel Cost	Projected Replacement Year	Vehicle Location	Usage	Department	MSRP	Total Estimated Mileage
1	Ford	Escape	2009	22	1	daily	Hybrid SUV	2,634	$563.92	2025	Kenmore City Hall	Permit Inspections	Devel Svcs	$26,000	42,144
2	Ford	Escape	2008	22	1	daily	SUV	1,050	$224.80	2025	Kenmore City Hall	Construction Inspection	Engineering	$26,000	17,850
3	International	Maxxforce	2012	6	5	weekly	Street Sweepe	1,993	$1,564.51	2025	PWOC	Street Sweeper	Surface Wate	$30,000	25,909
4	Ford	F-550	2010	8	3	weekly	Flat Bed	1,012	$595.82	2027	PWOC	PW Ops Crew	Public Works	$40,000	15,180
5	Chevy	Colorado	2010	18	3	daily	Mid Size Truck	3,448	$902.23	2027	PWOC	PW Ops Crew	Public Works	$30,000	51,720
6	Ford	F-150	2011	17	2	daily_summer	Ford F-150	5,706	$1,580.90	2027	PWOC	Intern daily summer	Surface Wate	$29,000	79,884
7	Ford	C-Max	2015	42	1	daily	Hybrid Sedan	3,765	$422.22	2029	PWOC	ROW Inspections	Engineering	$27,000	37,650
8	Ford	C-Max	2015	42	4	weekly	Hybrid Sedan	1,810	$202.98	2029	PWOC	General	General Use	$27,000	18,100
9	Ford	F-150	2015	17	3	daily	Large Truck	3,394	$940.34	2029	PWOC	PW Ops Crew	Parks/Facilitie	$28,000	33,940
10	Nissan	Leaf S	2019	0	1	daily	Electric Sedan	2,378	$0.00	2033	PWOC	Permit Inspections	Devel Svcs	$30,000	14,268
11	Dodge	Grand Carava	2019	17	4	weekly	Minivan	550	$152.38	2033	PWOC	Weekly	General Use	$34,000	3,300
12	Nissan	Leaf SV	2019	0	4	weekly	Electric Sedan	211	$0.00	2033	PWOC	Weekly	General Use	$33,000	1,266
13	Ford	F-750	2019	10	3	weekly	Dump Truck	1,064	$501.14	2033	PWOC	PW Ops Crew	Public Works	$70,000	6,384
14	Chevy	Silverado	2019	20	3	daily	Large Truck	3,352	$789.40	2033	PWOC	PW Ops Crew	Public Works	$28,000	20,112
15	Ford	F-350	2019	12	3	daily	Large Truck	2,746	$1,077.81	2033	PWOC	PW Ops Crew	Public Works	$50,000	16,476
16	Ford	F-350	2019	12	3	daily	Large Truck	3,622	$1,421.64	2033	PWOC	PW Ops Crew	Public Works	$50,000	21,732
17	Chevy	Silverado	2019	20	3	daily	Large Truck	4,804	$1,131.34	2033	PWOC	PW Ops Crew	Public Works	$34,000	28,824
18	Ford	EcoSport	2020	27	1	daily	Small SUV	837	$146.01	2035	PWOC	Code Enforcement	Devel Svcs	$25,000	4,185
19	Ford	Transit Conne	2020	24	1	daily	Utility Van	1,557	$305.56	2035	PWOC	Inspections	Surface Wate	$32,000	7,785
20	Ford	Transit Conne	2020	24	1	daily	Utility Van	959	$188.20	2035	PWOC	Inspections	Surface Wate	$32,000	4,795
21	Ford	Transit EV	2023	0	1	daily	Cargo Van	677	$0.00	2037	PWOC	Inspections	Env. Services	$51,000	1,354
22	POLS ELXD	Gem	2023	0	4	daily_summer	Small Utility Ve	500	$0.00	2037	PWOC	Interns	General Use	$18,000	1,000
23	Ford	F-150	2024	22	3	daily	Large Truck	1,000	$214.09	2039	PWOC	PW Ops Crew	Public Works	$37,000	1,000
24	Ford	F-150	2024	22	3	daily	Large Truck	1,000	$214.09	2039	PWOC	PW Ops Crew	Public Works	$37,000	1,000
25	Ford	F-150	2004	15	3	daily	Large Truck	1,922	$603.51	2025	PWOC	PW Ops Crew	Public Works	$37,000	40,362
26	GMC	Sonoma	2002	22	3	daily_summer	Small Truck	2,629	$562.85	2025	PWOC	Intern daily summer	Public Works	$25,000	60,467
27	GMC	Sonoma	2002	22	2	daily_summer	Small Truck	871	$186.47	2025	PWOC	Intern daily summer	Surface Wate	$25,000	20,033

Projected Value on Replacement (RV)	Type	Fuel Tyoe	Replacement Selection	Replacement Make	Replacement Model	Replacement MSRP	Replacement Energy Consumption per mile (kWh/mile)	Replacement Incentives	Replacement Annual Energy Consumption (kWh)	Annual Energy Cost
$7,800	Hybrid	Hybrid	inspection_equinox	Chevrolet	Equinox	$41,900	0.88	$10,000	2317.92	$301.33
$7,800	ICE	Gas	inspection_equinox	Chevrolet	Equinox	$41,900	0.88	$10,000	924	$120.12
$9,000	ICE	Diesel	sweeper_m4evglobal	Global Environmental Products	M4EV	$600,000	1.84	$300,000	3667.12	$476.73
$12,000	ICE	Diesel	publicworks_silverado	Chevy	Silverado EV	$55,000	1.27	$10,000	1285.24	$167.08
$9,000	ICE	Gas	publicworks_canoo	Canoo	Pickup	$35,000	1.21	$10,000	4172.08	$542.37
$8,700	ICE	Gas	surfacewater_lightning	Ford	F150 Lightning	$47,000	0.57	$10,000	3252.42	$422.81
$8,100	Hybrid	Hybrid	inspection_etransit	Ford	E-Transit	$51,000	1.01	$16,000	3802.65	$494.34
$8,100	Hybrid	Hybrid	general_gem	GEM	elxd	$20,000	0.17	$10,000	307.7	$40.00
$8,400	ICE	Gas	publicworks_lightning	Ford	F150 Lightning	$47,000	1.21	$10,000	4106.74	$533.88
$9,000	EV	Electric	inspection_blazer	Chevrolet	Blazer	$44,995	0.58	$0.00	1379.24	$179.30
$10,200	ICE	Gas	general_gem	GEM	elxd	$20,000	0.17	$0.00	93.5	$12.16
$9,900	EV	Electric	general_gem	GEM	elxd	$20,000	0.17	$0.00	35.87	$4.66
$21,000	ICE	Diesel	publicworks_lightning	Ford	F150 Lightning	$47,000	1.21	$0.00	1287.44	$167.37
$8,400	ICE	Gas	publicworks_silverado	Chevy	Silverado EV	$55,000	1.27	$0.00	4257.04	$553.42
$15,000	ICE	Diesel	publicworks_lightning	Ford	F150 Lightning	$47,000	1.21	$0.00	3322.66	$431.95
$15,000	ICE	Diesel	publicworks_silverado	Chevy	Silverado EV	$55,000	1.27	$0.00	4599.94	$597.99
$10,200	ICE	Gas	publicworks_lightning	Ford	F150 Lightning	$47,000	1.21	$0.00	5812.84	$755.67
$7,500	ICE	Gas	inspection_bolt	Chevrolet	Bolt	$27,000	0.63	$0.00	527.31	$68.55
$9,600	ICE	Gas	inspection_etransit	Ford	E-Transit	$51,000	1.01	$0.00	1572.57	$204.43
$9,600	ICE	Gas	inspection_bolt	Chevrolet	Bolt	$27,000	0.63	$0.00	604.17	$78.54
$15,300	EV	Electric	inspection_etransit	Ford	E-Transit	$51,000	1.01	$0.00	683.77	$88.89
$5,400	EV	Electric	general_gem	GEM	elxd	$20,000	0.17	$0.00	85	$11.05
$11,100	ICE	Gas	publicworks_canoo	Canoo	Pickup	$35,000	1.21	$0.00	1210	$157.30
$11,100	ICE	Gas	publicworks_silverado	Chevy	Silverado EV	$55,000	1.27	$0.00	1270	$165.10
$11,100	ICE	Gas	publicworks_lightning	Ford	F150 Lightning	$47,000	1.21	$10,000	2325.62	$302.33
$7,500	ICE	Gas	publicworks_rivian	Rivian	R1T	$70,000	1.28	$10,000	3365.12	$437.47
$7,500	ICE	Gas	surfacewater_lightning	Ford	F150 Lightning	$47,000	0.57	$10,000	496.47	$64.54

Site Address	Nearby Business/Org/Establishment	Reason for Location	How Long	Additional Information	Zip Code	Location Type	Longitude	Latitude
	Kenmore Self Storage, North Shore Utility District, Jake Crawford skate court (located next to a big seemingly public parking lot)--City owned	Other	Less than 30 minutes	Long time EV owner who's able to charge at home. However, locating charging stations where they can be used by residents in condos or apartments is critical to widespread EV adoption.	98028	Multifamily Building	-122.248722	47.7631377
Kenmore Library	Kenmore Library, Maser's Grooming and Pet Boutique, Pagliacci Pizza, Melanie Hiskey, Zeka	Recreate	30 minutes - 1 hour	Good place to wait while charging	98155	Public Charging	-122.252406	47.7592985
6800-6900 NE 170th St	Rhododendron park; Kenmore Public Boathouse; Kenmore Senior Center	Live	More than 4 hours		98028	Public Charging	-122.248436	47.752225
17415-17415 Burke Gilman Trl	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli	Recreate	1-4 hours		98028	Public Charging	-122.263464	47.7574617
18120 68th Ave NE	Kenmore City Hall	Work	More than 4 hours	It would be great to have a charging station near work. We also have a lot of apartments nearby and I'm sure they would appreciate the charging station(s) as well.	98087	Workplace	-122.249506	47.7599283
18126-18128 68th Ave NE	Kenmore city Hall	Live	30 minutes - 1 hour	The parking lot of the City of Kenmore is near to businesses and public services. It is underutilized with few cars occupying spaces either day or night. There should be a 1 or more Level-3 chargers for a full charge in about 1 hour	98028	Public Charging	-122.249583	47.7607804
18236-18236 73rd Ave NE	Multi-family housing apartment complexes hot spot; commercial areas nearby include Tab's Bar & Grill and large commercial area surrpoudning it with Grocery Outlet etc.; Safeway; Kenmore car wash; Jake Crawford skate court (located next to a	Live	More than 4 hours		98028	Public Charging	-122.243568	47.7617744
6112-6198 NE 175th St	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli located across the street	Recreate	1-4 hours	A charging station not AT Log Boom but on the street nearby would encourage people to use the street parking instead of parking on the grass at the park.	98028	Public Charging	-122.261456	47.7578548
18120-18128 68thAVE NE	Jake Crawford skate court (located next to a big seemingly public parking lot)--City owned	Shop	Less than 30 minutes	This is an underused parking lot for the city/police. It's Centralized in the area and as noted, appears to be under used.	98028	Public Charging	0	0
Kenmore Post Office	This pin is closer to US bank mortgage located on a big commercial lot with plenty of parking around, additionally located next to the Kenmore library and Pagliacci Pizza wich also have surrounding	Dine	30 minutes - 1 hour		98028	Public Charging	-122.2538	47.7592
Juanita Dr NE	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University	Recreate	1-4 hours	State Parks should be leading the way on providing public EV infrastucture (does not need to be free). The Lodge at Saint Edward Park had said they would install EV charging but then placed it in their garage for guests only.	98028	Public Charging	-122.255833	47.7329384
17415-17415 Burke Gilman Trl	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli	Recreate	1-4 hours	Local park and area to start a bike ride	98028	Public Charging	-122.263614	47.7575987
6704 NE 181st St	Minahan Dental, Zeeks Pizza, Diva Espresso, Stoup Brewing Kenmore, Kenmore Camera, USPS (seems to be around dedicated downtown	Shop	1-4 hours	Near Safeway as well as downtown restaurants and community areas	98028	Public Charging	-122.251083	47.7601519
Saint Edward State Park Access Rd	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University	Recreate	1-4 hours	The family often visits St Edwards during the week and on weekends to explore and have fun. Would be great to have some EV chargers in this location	98028	Public Charging	-122.255825	47.7328606
6704 NE 181st St	Minahan Dental, Zeeks Pizza, Diva Espresso, Stoup Brewing Kenmore, Kenmore Camera, USPS (seems to be around dedicated downtown	Other	Less than 30 minutes	Central to Kenmore and appears to be extra space.	98028	Public Charging	-122.251078	47.7600928
17050-17050 68th Ave NE	Kenmore Public boathouse; Kemore 68th Ave Boat Launch; Rhododendron Park	Recreate	30 minutes - 1 hour	Park area is ideal for EV charging	98028	Public Charging	-122.248812	47.7525958
Kenmore		Other	Less than 30 minutes	I disapprove Kenmore support of harmful ev vehicles. This money can be better spent providing tax relief to our citizens.	98028	Public Charging	0	0
North Trl	St Edwards park seems to be a good place with large parking lot (State parks-owned). Also Kenmore bowling alley, starbucks along the highway	Recreate	30 minutes - 1 hour	I charge my EV at my Kenmore home but I would like to see more charging stations for people traveling through Kenmore and other area. St Edwards park seems to be a good place with large parking lot. Also Kenmore bowling alley, starbucks along the hwyks	98028	Public Charging	-122.25685	47.7349191
18120 68th AVE NE	Jake Crawford skate court (located next to a big seemingly public parking lot)--City owned	Shop	Less than 30 minutes	This is a city parking lot that appears to be under utilized and as close to a little retail that is in Kenmore.	98028	Public Charging	0	0
ATM	Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong	Other	Less than 30 minutes	Significant traffic here - would be used by local residents and pass-through traffic	98028	Public Charging	-122.249538	47.7515397
Saint Edward State Park Access Rd	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University	Recreate	1-4 hours	Lots of people park while hiking or hanging out in the park	98028	Public Charging	-122.25548	47.7330815
98028	Kenmore Middle School			in-person pin point		Workplace	-122.255739	47.7756417
19731-19817 73rd Ave NE	Wallace Swamp Creek Park parking lot (City-			in-person pin		Public Charging	-122.243983	47.7718634
19055 71st Ave NE	Kenmore elementary school			in-person pin		Workplace	-122.245364	47.767919
6121-6121 Burke Gilman Trl	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli			in-person pin		Public Charging	-122.262375	47.7576817
6121-6121 Burke Gilman Trl	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli			in-person pin		Public Charging	-122.262375	47.7577177
6101 NE 175th St	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli			in-person pin		Public Charging	-122.26238	47.7576204
Minahan Dental	Minahan Dental, Zeeks Pizza, Diva Espresso, Stoup Brewing Kenmore, Kenmore Camera, USPS (seems to be around dedicated downtown parking			in-person pin		Multifamily Building	-122.25008	47.7607902
Great Play	Minahan Dental, Zeeks Pizza, Diva Espresso, Stoup Brewing Kenmore, Kenmore Camera, USPS (seems to be around dedicated downtown parking			in-person pin		Public Charging	-122.249994	47.7596146
7614 NE Bothell Way	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.			in-person pin		Public Charging	-122.238755	47.7579377
7514-7582 NE Bothell Way	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.			in-person pin		Public Charging	-122.238974	47.7572572
7423-7479 NE 175th St	Tl'awh-ah-dees Park (City-owned) parking lot; commercial lots around Crossfit Kenmore, autmotive, Pacific Topsoils, CARSTAR kenmore, Cairn Brewing, Plywood Supply Inc., Solarium Skylight, Seattle Water Sports and Ski, Kenmore Community Club			in-person pin		Public Charging	-122.241105	47.7560696
7237-7401 NE 170th St	Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong Photography with shared parking lot, Rhododendron Park Parking Lot, and Kenmore			in-person pin		Public Charging	-122.242124	47.7515613
6910 NE 170th St	Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong Photography with shared parking lot, Rhododendron Park Parking Lot, and Kenmore			in-person pin		Public Charging	-122.247596	47.7520086
Kenmore Senior Center	Next to Rhododendron Park Parking Lot, and Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong			in-person pin		Public Charging	-122.247875	47.7520086
6800-6900 NE 170th St	Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong Photography with shared parking lot, Rhododendron Park Parking Lot and Kenmore			in-person pin		Public Charging	-122.24854	47.7520374
Kenmore Senior Center	Next to Rhododendron Park Parking Lot, and Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong			in-person pin		Public Charging	-122.248118	47.7521033
6921-7163 NE 165th St	Epiphany Lutheran Church			in-person pin		Public Charging	-122.246686	47.7479632
15604-15604 88th Ave NE	Inglemoor High School Parking			in-person pin		Workplace	-122.222737	47.7416418
8305 NE 153rd St	Moorlands Park (City-owned), Moorlands elementary school, first Romanian Pentecostal			in-person pin		Workplace	-122.229716	47.7389689
Perimeter Trl	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University			in-person pin		Public Charging	-122.258207	47.7341234
Saint Edward State Park Access Rd	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University			in-person pin		Public Charging	-122.255876	47.7324496
Juanita Dr NE	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University			in-person pin		Public Charging	-122.256019	47.7331915
19055 71st Ave NE	Kenmore elementary school, Kenmore Elementary			in-person pin		Workplace	-122.245343	47.7678901
18886 67th Dr NE	Balbirnie Park Townhomes, Timbers at Kenmore Apartment Complex, Cedar Park Kenmore Church			in-person pin		Multifamily Building	-122.250493	47.765669
6101 NE 175th St	Log Boom Park Parking Lot (city-owned); Marina Cove Condominiums; Shimadzu Medical Systems,			in-person pin		Public Charging	-122.262359	47.7575915
7483-7499 NE 181st St	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.	Other	More than 4 hours	Kenmore Park and Ride. Cheap Level 1 chargers for commuters. Can leave charging all day.	98028	Public Charging	-122.241318	47.7573149
Aqua Club	Aqua Club	Recreate	1-4 hours	Charge while you swin	98028	Public Charging	-122.266077	47.7629579
19665-19729 73rd Ave NE	Wallace Swamp Creek Park parking lot (City-	Recreate	30 minutes - 1 hour	Charge while you explore the park	98028	Public Charging	-122.243766	47.7715461
Burke Gilman Trl	Log Boom Park Parking Lot (city-owned); Lakeview Smiles Family Dentistry	Recreate	1-4 hours	Charge your car while you bike on the BG trail. Also have 120V chargers available for EV bike battery rechargingg	98028	Public Charging	-122.266374	47.7576781
20375-20427 66th Ave NE	Kenmore Jr High, Lockwood Elementary School	Other	1-4 hours	Charge while attending school meetings	98028	Public Charging	-122.253019	47.7763482
15602-15602 88th Ave NE	Inglemoor High School Parking	Other	More than 4 hours	Level 1 or 2 chargers for teachers/school employees and students	98028	Workplace	-122.222984	47.7398236
18737 68th Ave NE, Kenmore, WA 98028	Balbirnie Park Townhomes, Timbers at Kenmore Apartment Complex, Cedar Park Kenmore Church	Live	30 minutes - 1 hour		98028	Public Charging	0	0
Kenmore Elementary School	Kenmore elementary school, Kenmore Elementary School Arboretum	Other	1-4 hours	Level 1 or 2 chargers for teachers, school staff and parents on school nights	98028	Workplace	-122.245313	47.7682868
6727-6747 NE Arrowhead Dr	Arrowhead Elementary School, Commercial center across the street with Butcher Shop Café, Grounds Coffee Co, Xhale fitness, and Leo's auto-repair	Other	1-4 hours	Level 1 or 2 chargers for teachers, school staff and parents on school nights	98028	Workplace	-122.2509	47.7375637
Kenmore	Bastyr University	Other	More than 4 hours	Level 1 or 2 chargers for students and staff	98028	Public Charging	-122.249714	47.7310743
NE 175th St	in the middle of the neighborhood, near-ish to Ivorywood Apartments complex	Other	More than 4 hours	Level 1 or 2 chargers for overnight charging at multifamily locations	98028	Multifamily Building	-122.239048	47.7554348
77th Ct NE	Kenmore Square (near grocery outlet, dollar tree	Shop	1-4 hours	Fast chargers fo shoppers and bowlers	98028	Public Charging	-122.237149	47.7573751
73rd Ave NE	Solarium Skylight, Cairn Brewing, CARSTAR Kenmore, Kenmore Community Club	Other	More than 4 hours	Level 1 or 2 for overnight charging at multifamily locations	98028	Multifamily Building	-122.24375	47.7614213
City of Kenmore	Jake Crawford skate court (located next to a big seemingly public parking lot)--City owned			in-person pin		Public Charging	-122.249071	47.7608118
Great Play	Minahan Dental, Zeeks Pizza, Diva Espresso, Stoup Brewing Kenmore, Kenmore Camera, USPS (seems to be around dedicated downtown parking			in-person pin		Public Charging	-122.250254	47.7595731
Kenmore Village	Lot around the UPS store, All the Best Pet Care, Kenmore Smiles Family Dentistry, Safeway			in-person pin		Public Charging	-122.249248	47.7593369
Domino's Pizza	Lot around the UPS store, All the Best Pet Care, Kenmore Smiles Family Dentistry, Safeway			in-person pin		Public Charging	-122.248411	47.7585435
Kenmore Community Club	Kenmore Community Club, Cairn Brewing			in-person pin		Public Charging	-122.243154	47.7569423
7638 NE Bothell Way	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.			in-person pin		Public Charging	-122.237146	47.7577934
77th Ct NE	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.			in-person pin		Public Charging	-122.236964	47.7575626
7638 NE Bothell Way	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.			in-person pin		Public Charging	-122.237339	47.75788
7519-7549 NE 175th St	Tl'awh-ah-dees Park (City-owned) parking lot; commercial lots around Crossfit Kenmore, autmotive, Pacific Topsoils, CARSTAR kenmore			in-person pin		Public Charging	-122.239571	47.7557738
16951-17085 70th Ave NE	Edward Jones Fiancial advisor, Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong Photography with shared parking lot, Rhododendron Park Parking			in-person pin		Public Charging	-122.247299	47.7527428
16951-17085 70th Ave NE	Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong Photography with shared parking lot, Rhododendron Park Parking Lot, and Kenmore			in-person pin		Public Charging	-122.247338	47.7526434
Juanita Dr NE	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University			in-person pin		Public Charging	-122.257756	47.7332719
Saint Edward State Park Access Rd	State parks-owned			in-person pin		Public Charging	-122.255782	47.7322391
Kenmore P&R	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.	Live	More than 4 hours	This would be good for commuters; they can ride Community Transit and charge at the same time.	98028	Public Charging	0	0
Kenmore Square (near grocery outlet, dollar tree and Starbucks)	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.	Shop	1-4 hours	Need infrastructure closer to 80th st.	98028	Public Charging	0	0
6016 NE Bothell Way, Kenmore, WA 98028	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli located across the street	Live	Less than 30 minutes	Large intersection close to log boom. Cameras for safety. Would like to see Tesla Superchargers since Blink charger is not fast enough	98028	Public Charging	0	0
17415-17415 Burke Gilman Trl	Log Boom Park Parking Lot (city-owned); Acapulco Fresh Mexican Grill and Uplake Grocery and Deli	Recreate	30 minutes - 1 hour	Frequent stop for walking, biking, recreating at the beach	98028	Public Charging	-122.263586	47.7577751
6830 NE Bothell Way	Safeway, UPS, Domino's Pizza, Rite Aid, All the Best Pet Care	Shop	Less than 30 minutes	I find the safeway chargers are normally full, so I'd vote to have more in the location	98028	Public Charging	-122.247982	47.7585223
Nsd Kenmore Middle	Kenmore Middle School, Lockwood Elementary School	Other		Lots of cars coming and going to/from the school. Would be beneficial for school staff to have a charger nearby - or for parents whole they wait for their kids.	98028	Workplace	-122.255177	47.77628
15400 Simonds Rd NE	Inglemoor High School Parking	Other		For students and staff from the High School + people going to events there	98028	Workplace	-122.22229	47.7404573
7504 NE Bothell Way	Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St.	Other	1-4 hours	Charging stations at the Kenmore Park and Ride would encourage people also to take public transit.	98028	Public Charging	-122.240475	47.7571305
Kenmore Elementary School	Kenmore elementary school, Kenmore Elementary			in-person pin		Workplace	-122.245987	47.7690295
16th Ave W	Wallace Swamp Creek Park parking lot (City-			in-person pin		Workplace	-122.254269	47.7766006
Allied Complete Furnace	Very residential area, closest business is the Aqua club (still not super close)			in-person pin		Public Charging	-122.265492	47.7642989
18502 61st Ave NE	Very residential area, closest business is the Aqua club (still not super close)			in-person pin		Multifamily Building	-122.263861	47.7628709
6101 NE 175th St	Log Boom Park Parking Lot (city-owned); Marina Cove Condominiums; Shimadzu Medical Systems,			in-person pin		Public Charging	-122.26238	47.7576059
Uplake Grocery	Uplake Grocery & Deli; Acapulco Fresh Mexican Grill; Bowwow Fun Towne			in-person pin		Public Charging	-122.262724	47.7588753
6700 NE 185th St	Little Food Bank (however, does not seem to have a ton of parking around); Northlake Lutheran			in-person pin		Multifamily Building	-122.250723	47.7622615
18132-18140 68th Ave NE	Jake Crawford skate court (located next to a big seemingly public parking lot)--City owned; Kenmore Car Wash; Town Market; CPG			in-person pin		Public Charging	-122.249417	47.7610192
Columbia Crest Montessori	Columbia Crest Montessori; Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St. Vincent De Paul Thrift			in-person pin		Public Charging	-122.243154	47.7588753
Columbia Crest Montessori	Columbia Crest Montessori; Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St. Vincent De Paul Thrift			in-person pin		Workplace	-122.243261	47.7588753
Columbia Crest Montessori	Columbia Crest Montessori; Kenmore Park & Ride; Kenmore Lanes, Grocery Outlet, Tab's Bar & Grill Kataliya Thai House; St. Vincent De Paul Thrift			in-person pin		Public Charging	-122.243304	47.758832
7339 NE 175th St	Kenmore Waterfront Activities center; Tl'awh-ah-dees Park; Kenmore Paddle Park			in-person pin		Multifamily Building	-122.241631	47.7549948
Pacific Topsoils	Pacific Topsoils, CARSTAR kenmore, Cairn Brewing, Plywood Supply Inc., Solarium Skylight, Seattle Water Sports and Ski, Kenmore Community			in-person pin		Workplace	-122.241046	47.7563761
NE 175th St	Residential Area with Ivory Woods Apartment complex nearby, closest business is Public			in-person pin		Public Charging	-122.238026	47.7558171
8009 NE 177th Ct	Taqueria La Raza; Bothell ski and Bike; By Design Salon; Kenmore Movement Studio; V2Works			in-person pin		Multifamily Building	-122.232833	47.7566971
6910 NE 170th St	Rhododendron park; Kenmore Public Boathouse; Kenmore Senior Center			in-person pin		Public Charging	-122.247617	47.7518643
Edward Jones	Commercial lot with Manhattan Express Grocery, Fortune Inn Restaurant and Jeffrey Fong Photography with shared parking lot, Rhododendron Park Parking Lot, and Kenmore			in-person pin		Public Charging	-122.249414	47.7512259
Arrowhead Elementary School	Arrowhead Elementary School; Commercial center across the street with Butcher Shop Café, Grounds Coffee Co, Xhale fitness, and Leo's auto-repair			in-person pin		Workplace	-122.251845	47.7371757
14479-14489 Juanita Dr NE	Lodge at St Edward Park; St Edward Park (State parks-owned); Bastyr University			in-person pin		Public Charging	-122.256683	47.732204
The Guest House	The Guest House (permanently closed per Google Maps); Commercial center across the street with Butcher Shop Café, Grounds Coffee Co, Xhale			in-person pin		Public Charging	-122.249783	47.7385358
15301-15405 84th Ave NE	Moorlands Park (City-owned), Moorlands elementary school, first Romanian Pentecostal			in-person pin		Public Charging	-122.230162	47.7394196
15400 Simonds Rd NE	Inglemoor High School Parking			in-person pin		Workplace	-122.222413	47.7408742

	6kw				10kw			
Vehicle ID	**Start Level**	**End Level**	**Energy Added**	**Duration**	**Start Level**	**End Level**	**Energy Added**	**Duration**
F150 Lightning 1	61.77	80	17.86	2.71	62.49	80	17.16	1.65
Chevy Silverado 1	67.47	80	25.68	3.89	67.76	80	25.09	2.41
Rivian R1T 1	64	80	21.59	3.27	63.33	80	22.5	2.16
Canoo EV 1	42.94	80	29.65	4.49	45.41	80	27.67	2.66
Ford Etransit 1	73.74	85	7.55	1.14	70.88	85	9.46	0.91
Canoo EV 2	71.46	80	6.83	1.03	70.27	80	7.78	0.75
F150 Lightning 2	48.43	80	30.94	4.69	47.53	80	31.82	3.06
Battle Motors Sweeper 1	70.13	80	39.1	5.92	69.53	80	41.44	3.98
Chevy Bolt 1	72.27	80	5.02	0.76	72.91	80	4.61	0.44
ID Buzz 1	77.69	80	1.97	0.3	77.33	80	2.27	0.22
Leaf SV 1	77.38	80	1.05	0.16	77.39	80	1.04	0.1
Gem ELXD 1	67.38	80	1.01	0.15	63.89	80	1.29	0.12
Equinox 1	74.16	80	4.09	0.62	73.83	80	4.32	0.41
Chevy Blazer 1	68.9	80	11.1	1.68	68.57	80	11.43	1.1
Chevy Bolt 2	55.75	80	15.77	2.39	55.96	80	15.63	1.5
Ford Etransit 2	77.41	85	5.09	0.77	77.47	85	5.05	0.49


Charging Time (6kW vs 10kW Charger)
6 kW Charger
10 kW Charger
Hours
0
1
2
3
4
5
6
7
F150 Lightning 1
Chevy Silverado 1
Rivian R1T 1
Canoo EV 1
Ford Etransit 1
Canoo EV 2
F150 Lightning 2
Battle Motors Sweeper 1
Chevy Bolt 1
ID Buzz 1
Leaf SV 1
Gem ELXD 1
Equinox 1
Chevy Blazer 1
Chevy Bolt 2
Ford Etransit 2
Vehicle Type

									Year									Total
Fleet Transition Plan	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
Vehicles																		
Vehicle Acquisitions																		
EV	0	8	0	5	0	5	0	0	0	11	0	5	0	4	0	4	0	
Vehicle Resale																		
ICE	0	5	0	3	0	1	0	0	0	6	0	3	0	0	0	2	0	
EV	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	
Hybrid	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	
Fleet Composition																		
ICE	20	15	15	12	12	11	11	11	11	5	5	2	2	2	2	0	0	
EV	4	12	12	17	17	22	22	22	22	31	31	36	36	38	38	42	42	
Hybrid	3	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	
Total Vehicle Quantity	27	29	29	31	31	33	33	33	33	36	36	38	38	40	40	42	42	
Costs																		
Acquisition Costs	$0	$964,800	$0	$227,000	$0	$185,000	$0	$0	$0	$492,995	$0	$183,000	$0	$142,000	$0	$180,000	$0	$2,374,795
Service Costs																		
ICE	$38,294	$28,721	$28,721	$22,976	$22,976	$21,062	$21,062	$21,062	$21,062	$9,574	$9,574	$3,829	$3,829	$3,829	$3,829	$0	$0	
EV	$1,619	$4,858	$4,858	$6,882	$6,882	$8,907	$8,907	$8,907	$8,907	$12,550	$12,550	$14,574	$14,574	$15,384	$15,384	$17,003	$17,003	
Hybrid	$3,694	$2,463	$2,463	$2,463	$2,463	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total Service Costs	$43,608	$36,041	$36,041	$32,322	$32,322	$29,968	$29,968	$29,968	$29,968	$22,124	$22,124	$18,404	$18,404	$19,214	$19,214	$17,003	$17,003	**$453,696**
Fuel Costs	$14,492	$10,786	$10,786	$7,707	$7,707	$6,142	$6,142	$6,142	$6,142	$1,068	$1,068	$428	$428	$428	$428	$0	$0	
Energy Consumption (kWh)	1,603.77	20,390.76	20,390.76	34,557.82	34,557.82	47,189.35	47,189.35	47,189.35	47,189.35	79,440.52	79,440.52	84,321.31	84,321.31	84,972.08	84,972.08	89,072.01	89,072.01	
Energy Costs	$208	$2,704	$2,758	$4,767	$4,863	$6,773	$6,909	$7,047	$7,188	$12,342	$12,589	$13,630	$13,902	$14,290	$14,575	$15,584	$15,896	
Total Fuel and Energy Cost	$14,701	$13,490	$13,544	$12,475	$12,570	$12,915	$13,050	$13,188	$13,329	$13,410	$13,657	$14,058	$14,330	$14,718	$15,004	$15,584	$15,896	$235,919
Total Fuel and Energy Cost no (	$14,701	$14,995	$15,295	$15,600	$15,912	$16,231	$16,555	$16,886	$17,224	$17,569	$17,920	$18,278	$18,644	$19,017	$19,397	$19,785	$20,181	$294,191
Insurance Costs	$45,198	$48,546	$48,546	$51,894	$51,894	$55,242	$55,242	$55,242	$55,242	$60,264	$60,264	$63,612	$63,612	$66,960	$66,960	$70,308	$70,308	$989,334
Total Vehicle Costs	$103,506	$1,062,877	$98,131	$323,690	$96,786	$283,125	$98,261	$98,399	$98,540	$588,793	$96,045	$279,074	$96,346	$242,891	$101,177	$282,896	$103,207	$4,053,744
Revenue																		
Resale Revenues	$0	$50,700	$0	$29,700	$0	$24,600	$0	$0	$0	$98,700	$0	$26,700	$0	$20,700	$0	$22,200	$0	
Incentives	$0	$370,000	$0	$50,000	$0	$56,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total Revenue	$0	$420,700	$0	$79,700	$0	$80,600	$0	$0	$0	$98,700	$0	$26,700	$0	$20,700	$0	$22,200	$0	$749,300
Net Profit/Loss	-$103,506	-$642,177	-$98,131	-$243,990	-$96,786	-$202,525	-$98,261	-$98,399	-$98,540	-$490,093	-$96,045	-$252,374	-$96,346	-$222,191	-$101,177	-$260,696	-$103,207	-$3,304,444
Fleet Valuation (MSRP not Curre	$911,000	$1,706,800	$1,706,800	$1,834,800	$1,834,800	$1,937,800	$1,937,800	$1,937,800	$1,937,800	$2,101,795	$2,101,795	$2,195,795	$2,195,795	$2,268,795	$2,268,795	$2,374,795	$2,374,795	
Infrastructure																		
Charger Acquisitions																		
L2 - 6.6kW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
L2 - 10kW	0	0	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	
L2 - 16.6kW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20kW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Charger Quantity																		
L2 - 6.6kW	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
L2 - 10kW	0	0	4	8	12	16	20	24	24	24	24	24	24	24	24	24	24	
L2 - 16.6kW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20kW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Charger Quantity	2	2	6	10	14	18	22	26	26	26	26	26	26	26	26	26	26	
Charging CapEx																		
Infrastructure Cost	$0.00	$0.00	$0.00	$8,000.00	$8,000.00	$8,000.00	$8,000.00	$8,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Installation Cost	$0.00	$0.00	$0.00	$12,000.00	$12,000.00	$12,000.00	$12,000.00	$12,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Charging OpEx	$528.00	$528.00	$2,128.00	$3,728.00	$5,328.00	$6,928.00	$8,528.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	
Total Infrastructure Costs	$528.00	$528.00	$2,128.00	$23,728.00	$25,328.00	$26,928.00	$28,528.00	$30,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$10,128.00	$228,976.00
Total Costs (Infrastructure + V	$104,034.18	$1,063,405.35	$100,259.43	$347,418.20	$122,113.55	$310,053.11	$126,788.57	$128,526.74	$108,667.67	$598,920.71	$106,172.55	$289,201.59	$106,474.19	$253,019.36	$111,305.15	$293,023.79	$113,335.47	**$4,282,719.61**
Total Cash Flow	-$104,034	-$642,705	-$100,259	-$267,718	-$122,114	-$229,453	-$126,789	-$128,527	-$108,668	-$500,221	-$106,173	-$262,502	-$106,474	-$232,319	-$111,305	-$270,824	-$113,335	**-$3,533,420**
Emissions																		
ICE	38372.41	30907.97	30907.97	21943.59	21943.59	18950.76	18950.76	18950.76	18950.76	4720.28	4720.28	1763.60	1763.60	1763.60	1763.60	0.00	0.00	
EV	877.48	3958.44	2638.96	4008.32	3206.65	4262.78	3789.14	3315.50	3141.00	4197.34	3497.78	3174.65	2930.44	2805.09	2103.82	1443.88	721.94	
Hybrid	3221.21	2187.63	2187.63	2187.63	2187.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Emissions (lbs of CO2)	42471.10	37054.04	35734.56	28139.54	27337.88	23213.55	22739.90	22266.26	22091.76	8917.61	8218.06	4938.25	4694.04	4568.69	3867.42	1443.88	721.94	**298418.47**
Emissions if business as usua	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	42471.10	**722008.67**
Inflation Adjusted Values																		
Total Vehicle Costs	$103,506	$1,084,135	$102,096	$343,503	$104,764	$312,593	$110,657	$113,029	$115,455	$703,662	$117,078	$346,993	$122,190	$314,206	$133,501	$380,740	$141,682	**$4,649,790**
Total Vehicle Revenue	$0	$429,114	$0	$84,578	$0	$88,989	$0	$0	$0	$117,956	$0	$33,198	$0	$26,778	$0	$29,878	$0	**$810,491**
Vehicle Net Profit/Loss	-$103,506	-$655,021	-$102,096	-$258,924	-$104,764	-$223,604	-$110,657	-$113,029	-$115,455	-$585,706	-$117,078	-$313,795	-$122,190	-$287,428	-$133,501	-$350,862	-$141,682	**-$3,839,299**
Fleet Valuation	$911,000	$1,740,936	$1,775,755	$1,947,104	$1,986,047	$2,139,488	$2,182,278	$2,225,923	$2,270,442	$2,511,840	$2,562,076	$2,730,195	$2,784,799	$2,934,928	$2,993,627	$3,196,161	$3,260,085	
Total Infrastructure Costs	$528.00	$538.56	$2,213.97	$25,180.34	$27,415.84	$29,730.69	$32,127.16	$34,607.60	$11,866.57	$12,103.90	$12,345.98	$12,592.89	$12,844.75	$13,101.65	$13,363.68	$13,630.95	$13,903.57	**$268,096.11**
Total Costs (Infrastructure + Veh	$104,034	$1,084,673	$104,310	$368,683	$132,180	$342,324	$142,785	$147,637	$127,322	$715,766	$129,424	$359,586	$135,035	$327,308	$146,865	$394,371	$155,585	**$4,917,886**
Total Cash Flow	-$104,034	-$655,559	-$104,310	-$284,105	-$132,180	-$253,335	-$142,785	-$147,637	-$127,322	-$597,810	-$129,424	-$326,388	-$135,035	-$300,530	-$146,865	-$364,493	-$155,585	**-$4,107,395**

EVIP SOURCES

1. AutoinsuranceEZ (2022). EV Fire Risks: Comparing Electric vs Gas Vehicle Fires. Available at: https://www.autoinsuranceez.com/are-electric-cars-safe/ [Accessed 23 Apr. 2025].

2. Axios Seattle. (2024). Washington had a record year for electric vehicles in 2023. [online] Available at: https://www.axios.com/local/seattle/2024/04/18/washington-record-year-electric-vehicles [Accessed Apr. 2025].

3. Biden-Harris Administration's EV Charging Goals. U.S. Department of Transportation (2024). Investing in America: Biden-Harris Administration announces $635 million awards to continue building EV charging infrastructure. Available at: https://www.transportation.gov/briefing-room/investing-america-biden-harris-administration-announces-635-million-awards-continue [Accessed 23 Apr. 2025].

4. Building Decarbonization Coalition. (2025). The Switch Is On Washington. Available at: https://wa.switchison.org/ [Accessed 23 Apr. 2025].

5. California Department of Motor Vehicles (n.d.). California Right-to-Charge Policy. Available at: https://www.dmv.ca.gov [Accessed 23 Apr. 2025].

6. California Legislative Information (2022). Civil Code § 4745: Right to Install Electric Vehicle Charging Stations. Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4745.&lawCode=CIV [Accessed 23 Apr. 2025].

7. Cascade PBS (2024). Washington Is Building Hundreds of EV Chargers, but Is It Enough? Available at: https://www.cascadepbs.org/environment/2024/10/washington-building-hundreds-ev-chargers-it-enough [Accessed 23 Apr. 2025].

8. City of Bellevue. (2024). Bellevue Development Code – Electric Vehicle Charging Requirements. Available at: https://bellevuewa.gov/sites/default/files/media/pdf_document/2024/dsd-11142024-bdc-november-2024-presentation.pdf [Accessed 23 Apr. 2025].

9. City of Kenmore. (2022). Climate Action Plan. [pdf] Kenmore, WA: City of Kenmore. Available at: https://www.kenmorewa.gov/home/showpublisheddocument/2209/637898707618200000 [Accessed Apr. 2025].

10. City of Kenmore. (2024). Building Codes. Available at: https://www.kenmorewa.gov/government/departments/development-services/codes-resources/building-codes [Accessed 23 Apr. 2025].

EVIP SOURCES

11. City of Kenmore (2024). Electric Vehicle Infrastructure Plan (EVIP) Community Engagement. Available at: https://www.kenmorewa.gov/government/departments/community-development [Accessed 23 Apr. 2025].

12. City of Portland (2022). EV Charging Ordinance for Multi-Family Housing. [pdf] Available at: https://www.portland.gov/sites/default/files/2022/ev-charging-multi-family.pdf [Accessed 23 Apr. 2025].

13. City of Redmond. (2024). 2025 Code Package – Requirements and Incentives. Available at: https://www.redmond.gov/DocumentCenter/View/35790/2024_12-18---2025-Code-Package-Part-2---Att-B---PC-Discussion-Matrix-PDF [Accessed 23 Apr. 2025].

14. City of Seattle. (2019). Electric Vehicle Readiness Ordinance. Available at: https://www.smartcitiesdive.com/news/seattle-passes-ev-readiness-requirements/553892/ [Accessed 23 Apr. 2025].

15. City of Seattle – Department of Construction & Inspections. (n.d.). Electric Vehicle Infrastructure Requirements (SMC 23.54.030). [online] Available at: https://www.seattle.gov/sdci (Search: "EV infrastructure requirements") [Accessed Apr. 2025].

16. City of Spokane. (2024). Spokane Municipal Code – Electric Vehicle Infrastructure. Available at: https://www.spokanecity.org/government/city-council/ordinances/2024/2024-0001 [Accessed 23 Apr. 2025].

17. Clean Vehicle Program (Washington State). Available at: https://www.energizewashington.org/clean-vehicles/ [Accessed 23 Apr. 2025].

18. Consumer Reports. (n.d.). Electric vehicles cost more than gas-powered, but offer long-term savings. Available at: https://www.consumerreports.org/hybrids-evs/electric-vehicles-cost-more-than-gas-powered-but-offer-long-term-savings/

19. Consumer Reports (2025). How Much Do Cold Temperatures Affect an EV's Driving Range? Available at: https://www.consumerreports.org/cars/hybrids-evs/how-much-do-cold-temperatures-affect-an-evs-driving-range-a5751769461/ [Accessed 23 Apr. 2025].

20. Connecticut Department of Energy and Environmental Protection (n.d.). Connecticut Electric Vehicle Charging Policy. Available at: https://www.ct.gov [Accessed 23 Apr. 2025].

21. Connecticut General Assembly (2022). General Statutes § 47-90h: Electric Vehicle Charging Station Installation in Unit Parking Spaces. Available at:

https://law.justia.com/codes/connecticut/2022/title-47/chapter-825/section-47-90h/ [Accessed 23 Apr. 2025].

22. Dark Reading (2023). EV Charging Stations Still Riddled With Cybersecurity Vulnerabilities. Available at: https://www.darkreading.com/ics-ot-security/ev-charging-stations-still-riddled-with-cybersecurity-vulnerabilities [Accessed 23 Apr. 2025].

23. Drive Electric (n.d.). Physical site security considerations for electric vehicle charging infrastructure. Available at: https://driveelectric.gov/files/physical-site-security.pdf [Accessed 23 Apr. 2025].

24. Eia.gov. (2024). Washington Gasoline and Diesel Retail Prices. [online] Available at: https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_swa_w.htm [Accessed Apr. 2025].

25. EVgo (2024). Chilly Charging: 5 Cold Weather Tips for EVs. Available at: https://evgo.com/blog/chilly-charging-5-cold-weather-tips-for-evs/ [Accessed 23 Apr. 2025].

26. Federal Highway Administration. (2024). State Plan Approval and Suspension Guidance. Available at: https://www.fhwa.dot.gov/environment/nevi/resources/state-plan-approval-suspension.pdf

27. HERE Technologies (2023). How Does Cold Weather Affect Electric Vehicles? Available at: https://www.here.com/learn/blog/ev-range-in-cold-weather [Accessed 23 Apr. 2025].

28. King County. (2020). 2020 Strategic Climate Action Plan. [pdf] King County, WA: King County Government. Available at: https://kingcounty.gov/depts/executive/climate/strategic-climate-action-plan.aspx [Accessed Apr. 2025].

29. King County. (2024). Zero Emissions Task Force and Incentives. Available at: https://kingcounty.gov/depts/environment/climate/zero-emissions.aspx

30. Kingcounty.gov. (2024). Title 18 Environmental Sustainability Program - King County, Washington. Available at: https://kingcounty.gov/en/legacy/council/legislation/kc_code/21_Title_18.aspx

31. Metro Matters. (2024). King County Metro ‘charges toward zero-emissions’ with Interim Base groundbreaking. [online] Available at: https://kingcountymetro.blog/2024/03/06/king-county-metro-charges-toward-zero-emissions-with-interim-base-groundbreaking/ [Accessed Apr. 2025].

32. NESCAUM. (2024). Advanced Clean Trucks (ACT) Regulation FAQ. Available at: https://www.nescaum.org/documents/ACT-FAQ_website-version_clean_FINAL_09-17-24.pdf [Accessed 23 Apr. 2025].

33. PlugShare. (2025). Electric Vehicle Charging Station – Location ID 294838. [online] Available at: https://www.plugshare.com/location/294838 [Accessed Apr. 2025].

34. Puget Sound Energy. (2024). Up & Go Electric for Fleet. [online] Available at: https://www.pse.com/en/pages/electric-cars/fleet-electrification [Accessed 23 Apr. 2025].

35. Puget Sound Energy. (2024). Up & Go Electric for Multifamily. [online] Available at: https://www.pse.com/en/pages/electric-cars/multifamily-charging [Accessed 23 Apr. 2025].

36. Puget Sound Energy. (2024). Up & Go Electric for Public. [online] Available at: https://www.pse.com/en/pages/electric-cars/Public-Charging [Accessed 23 Apr. 2025].

37. Puget Sound Energy. (2024). Up & Go Electric for Workplace. [online] Available at: https://www.pse.com/en/pages/electric-cars/Workplace-charging [Accessed 23 Apr. 2025].

38. Recurrent Auto. (n.d.). Washington Electric Vehicle Trends. Available at: https://www.recurrentauto.com/research/washington-electric-vehicles [Accessed Apr. 2025].

39. Staff, K.N. (2024). Washington state to add nearly 5,000 electric vehicle charging stations. KOMO News. Available at: https://komonews.com/news/local/electric-vehicle-ev-charging-station-washington-olympia-seattle-governor-jay-inslee-grant-85-million-4000-new-stations-department-commerce-investment-program-communities-negative-health-effects-fossil-fuel-pollution [Accessed Apr. 2025].

40. U.S. Department of Energy. (2020). Costs Associated with Non-Residential Electric Vehicle Supply Equipment (EVSE). Available at: https://afdc.energy.gov/files/u/publication/evse-costs-2020.pdf

41. U.S. Department of Energy. (2023). Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling Station Locator: First Quarter 2023. Available at: https://afdc.energy.gov/files/u/publication/evse_cost_report_2023.pdf

42. U.S. Department of Transportation. (2023). Federal Funding Programs for Electric Vehicle Infrastructure. Available at: https://www.transportation.gov/rural/ev/toolkit/ev-infrastructure-funding-and-financing/federal-funding-programs [Accessed 23 Apr. 2025].

EVIP SOURCES

43. U.S. Department of Transportation. (2024). Bipartisan Infrastructure Law: National Electric Vehicle Infrastructure (NEVI) Formula Program. Available at: https://www.transportation.gov/bipartisan-infrastructure-law [Accessed 23 Apr. 2025].

44. Washington State Building Code Council. (2018). 2018 Washington State Energy Code – Commercial (Chapter C405.10 Electric Vehicle Infrastructure). [online] Available at: https://sbcc.wa.gov/ (navigate to "Current Codes" > "2018 Codes") [Accessed Apr. 2025].

45. Washington State Building Code Council. (2023). WAC 51-50-0429 – Electric Vehicle Charging Infrastructure. Available at: https://app.leg.wa.gov/WAC/default.aspx?cite=51-50-0429 [Accessed 23 Apr. 2025].

46. Washington State Building Code Council. (2024). WAC 51-50-0429 – Electric Vehicle Charging Infrastructure. Available at: https://app.leg.wa.gov/WAC/default.aspx?cite=51-50-0429 [Accessed 23 Apr. 2025].

47. Washington State Department of Commerce. (2024). Clean Energy Fund. Available at: https://www.commerce.wa.gov/growing-the-economy/energy/clean-energy-fund/

48. Washington State Department of Commerce. (2024a). Energy Programs and EV Infrastructure Grants. Available at: https://www.commerce.wa.gov/growing-the-economy/energy/energy-programs/

49. Washington State Department of Commerce. (2024b). Transportation Electrification Strategy (TES). Available at: https://www.commerce.wa.gov/clean-transportation/tes/

50. Washington State Department of Commerce. (n.d.). 2018 Washington State Energy Code - Commercial Provisions. Available at: https://www.commerce.wa.gov/growing-the-economy/energy/buildings/washington-state-energy-code/ [Accessed Apr. 2025].

51. Washington State Department of Ecology. (2022). Chapter 173-423 WAC – Clean Vehicles Program. Available at: https://app.leg.wa.gov/wac/default.aspx?cite=173-423 [Accessed Apr. 2025].

52. Washington State Department of Ecology. (2024). A record year for electric vehicles and plug-in hybrids in Washington. Available at: https://ecology.wa.gov/blog/april-2024/a-record-year-for-electric-vehicles-and-plug-in-hybrids-in-washington [Accessed Apr. 2025].

53. Washington State Department of Ecology. (2024a). Clean cars and vehicle emissions. Available at: https://ecology.wa.gov/Air-Climate/Air-quality/Vehicle-emissions/Clean-cars [Accessed 23 Apr. 2025].

54. Washington State Department of Ecology. (n.d.). Washington sets path to phase out gas vehicles by 2035. Available at: https://ecology.wa.gov/About-us/Who-we-are/News/2022/Sept-7-Clean-Vehicles-Public-Comment [Accessed Apr. 2025].

55. Washington State Department of Licensing. (n.d.). Vehicle Registration Fees. Available at: https://www.dol.wa.gov/vehicleregistration/fees.html [Accessed 23 Apr. 2025].

56. Washington State Department of Transportation (WSDOT). (2023). Washington State Plan for Electric Vehicle Infrastructure Deployment. [pdf] Available at: https://wsdot.wa.gov/sites/default/files/2023-09/WSDOT-NEVI-Plan-Update-2023.pdf [Accessed Apr. 2025].

57. Washington State Department of Transportation (WSDOT). (2024). Gray Notebook: Electric Vehicles. Available at: https://wsdot.wa.gov/about/data/gray-notebook/gnbhome/environment/electricvehicles/default.htm [Accessed Apr. 2025].

58. Washington State Department of Transportation (WSDOT). (2024a). Washington Electric Vehicle Program (WAEVCP). Available at: https://ofm.wa.gov/relating-transportation-electrification-strategy [Accessed 23 Apr. 2025].

59. Washington State Department of Transportation (WSDOT). (2024b). Zero-emissions Access Program (ZAP) Grant. Available at: https://wsdot.wa.gov/business-wsdot/grants/zero-emission-vehicle-grants/zero-emissions-access-program-grant [Accessed 23 Apr. 2025].

60. Washington State Department of Transportation (WSDOT). (2024c). Zero-Emission Vehicle Infrastructure Partnerships (ZEVIP) Grant. Available at: https://wsdot.wa.gov/business-wsdot/grants/zero-emission-vehicle-grants/zero-emission-vehicle-infrastructure-partnerships-grant [Accessed 23 Apr. 2025].

61. Washington State Governor. (2021). Executive Order 21-04: Zero Emission Vehicles. Available at: https://www.commerce.wa.gov/wp-content/uploads/2022/07/Executive-Order-21-04_ZEV-FAQs.pdf [Accessed 23 Apr. 2025].

62. Washington State Legislature. (2022). RCW 35A.11.020 – Powers vested in legislative bodies of noncharter and charter code cities. Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=35A.11.020 [Accessed 23 Apr. 2025].

63. Washington State Legislature. (2022). RCW 35A.11.050 – Statement of purpose and policy. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=35A.11.050 [Accessed 23 Apr. 2025].

64. Washington State Legislature. (2022a). Engrossed Substitute Senate Bill 5974 (RCW 43.392.020) – Move Ahead Washington. Available at: https://app.leg.wa.gov/billsummary?BillNumber=5974&Year=2021 [Accessed 23 Apr. 2025].

65. Washington State Legislature. (2022b). RCW 64.90.513 – Electric Vehicle Charging Stations. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=64.90.513 [Accessed 23 Apr. 2025].

66. Washington State Legislature. (2023). RCW 70A.30.010 – Motor vehicle emission standards—California standards adopted. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=70A.30.010 [Accessed 23 Apr. 2025].

67. Washington State Legislature. (2024). RCW 19.27 – State Building Code. Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=19.27 [Accessed 23 Apr. 2025].

68. Washington State Legislature. (2024a). RCW 19.27A – Energy-Related Building Standards. Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=19.27A [Accessed 23 Apr. 2025].

69. Washington State Legislature. (2024b). RCW 19.27.540 – Electric Vehicle Infrastructure Requirements – Rules. Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=19.27.540 [Accessed 23 Apr. 2025].

70. Washington State Legislature. (2024c). RCW 43.19.648 – Publicly Owned Vehicles, Vessels, and Construction Equipment – Fuel Usage. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=43.19.648 [Accessed 23 Apr. 2025].

71. Washington State Legislature. (2024d). RCW 46.08.185 – Electric Vehicle Charging Stations – Signage – Penalty. Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=46.08.185 [Accessed 23 Apr. 2025].

72. Washington State Legislature. (2024e). RCW 64.90.513 – Electric Vehicle Charging Stations. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=64.90.513 [Accessed 23 Apr. 2025].

73. Washington State Legislature. (2024f). RCW 70A.30.010 – Department of Ecology to Adopt Rules to Implement Motor Vehicle Emission Standards. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=70A.30.010 [Accessed 23 Apr. 2025].

74. Washington State Legislature. (2024g). RCW 70A.45.020 – Greenhouse Gas Emissions Reductions – Reporting Requirements. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=70A.45.020 [Accessed 23 Apr. 2025].

KENMORE ELECTRIC VEHICLE INFRASTRUCTURE PLAN (EVIP)

May 19th, 2025

CITY OF KENMORE

ENVIRONMENTAL SERVICES

AGENDA

KENMORE ENVIRONMENTAL ACTION NOW

Project Purpose/Background

Stakeholder & Community Engagement

EV Modeling Methodology

Community Charging

Fleet Charging

Next Steps

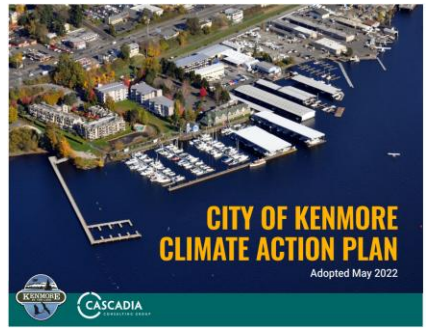
Kenmore's EVIP is supported with funding from Washington's **Climate Commitment Act**. The CCA supports Washington's climate action efforts by putting cap-and-invest dollars to work reducing climate pollution, creating jobs, and improving public health. Information about the CCA is available at www.climate.wa.gov.

FUNDED BY WASHINGTON'S CLIMATE COMMITMENT ACT

PROJECT PURPOSE

KENMORE ENVIRONMENTAL ACTION NOW

- The EVIP supports Kenmore's Climate Action Plan and **2050 carbon neutrality goal** by guiding the transition to EVs in both City operations and the broader community.
  - **CAP – Transportation & Land Use Strategy #3: Drive cleaner vehicles**
- Aligned with community priorities, the EVIP promotes sustainable land use, equitable access to low-carbon transportation, and expanded EV adoption to reduce greenhouse gas emissions.



EVIP Goals

- Provide a roadmap for public EV charging installations through 2040 by considering:
  - Community input
  - Electrical hosting capacity
  - Proximity to other chargers
  - Potential traffic/usage
- Conduct fleet transition plan for City vehicle replacements and additions

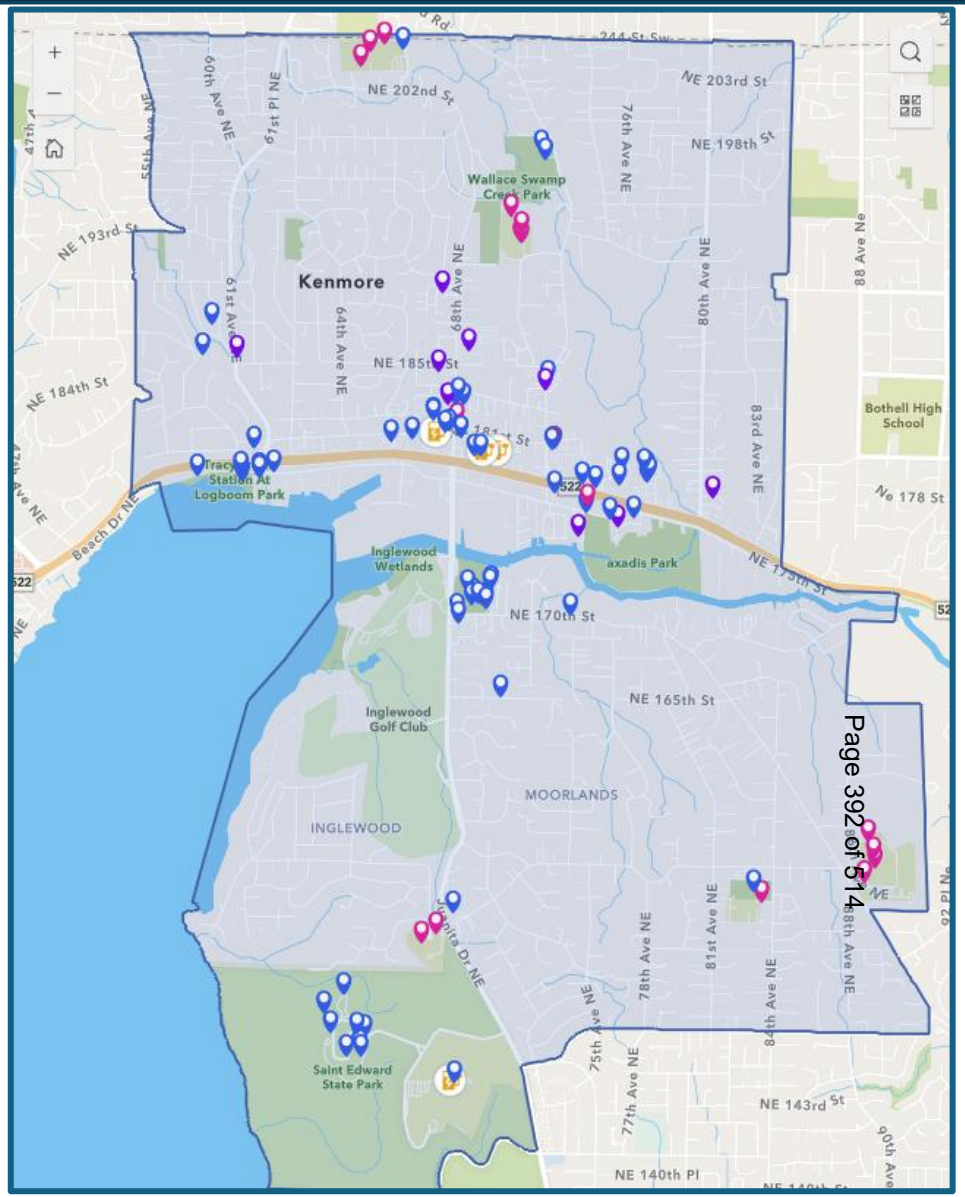
STAKEHOLDER AND COMMUNITY ENGAGEMENT - METHOLODY & RESULTS

KENMORE ENVIRONMENTAL ACTION NOW

- **Engagement Methods:**
  - Interviews with City staff and committee members
  - In-person and virtual community events
  - Survey and GIS mapping for data collection
  - Collaboration with Puget Sound Energy (PSE) - spatial and GIS data

- **Key Findings:**
  - Widespread lack of awareness about EV incentives and home charging support
  - Need for clearer, more accessible public education on EV benefits
  - Suggested charging locations from community input broke out to:
    - 45% in commercial parking lots
    - 35% at commercial curbside locations
    - 13% in residential areas
    - 7% at gas stations

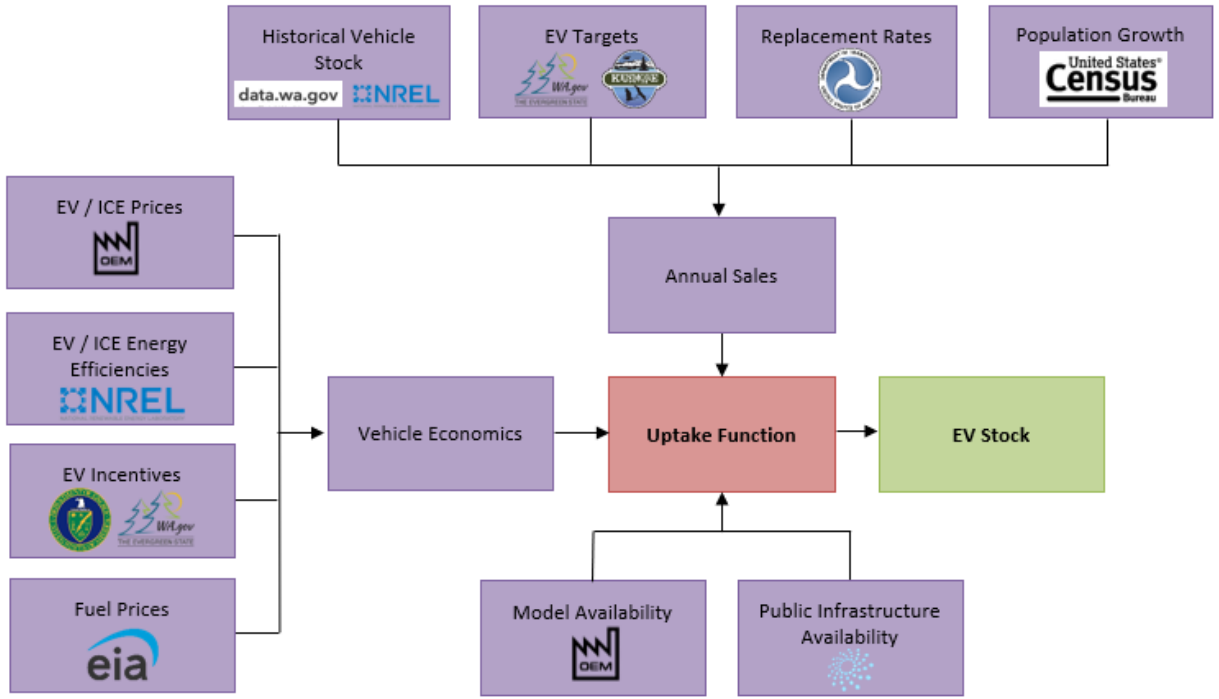
- **Future Outreach Priorities:**
  - Expand partnerships with community-based organizations (CBOs) and local businesses
  - Focus on reaching underserved and hard-to-reach populations
  - Continue incorporating community input into EVIP updates
  - Prioritize concerns about safety, equitable access, and financial incentives



EV ADOPTION MODELING METHODOLOGY

KENMORE ENVIRONMENTAL ACTION NOW

EV Adoption Modeling Diagram



Legend

= Input
= Function
= Output

Note: ICE = Internal Combustion Engine
Source: Energeia (2024)

- **Objective:**
  - Forecast EV adoption in Kenmore to inform community charging infrastructure needs.
- **Approach:**
  - Used a vehicle stock and turnover model driven by customer ROI, EV availability, and charging infrastructure access.
- **Key Steps:**
  - Forecast ROI by vehicle class and year.
  - Estimate EV model availability over time.
  - Project vehicle stock growth using population trends.
  - Incorporate ZEV targets and requirements.
  - Calculate EV adoption based on combined factors.

COMMUNITY CHARGER FINDING SUMMARY - INFRASTRUCTURE ALLOCATION METHOD COMPARISON

KENMORE ENVIRONMENTAL ACTION NOW

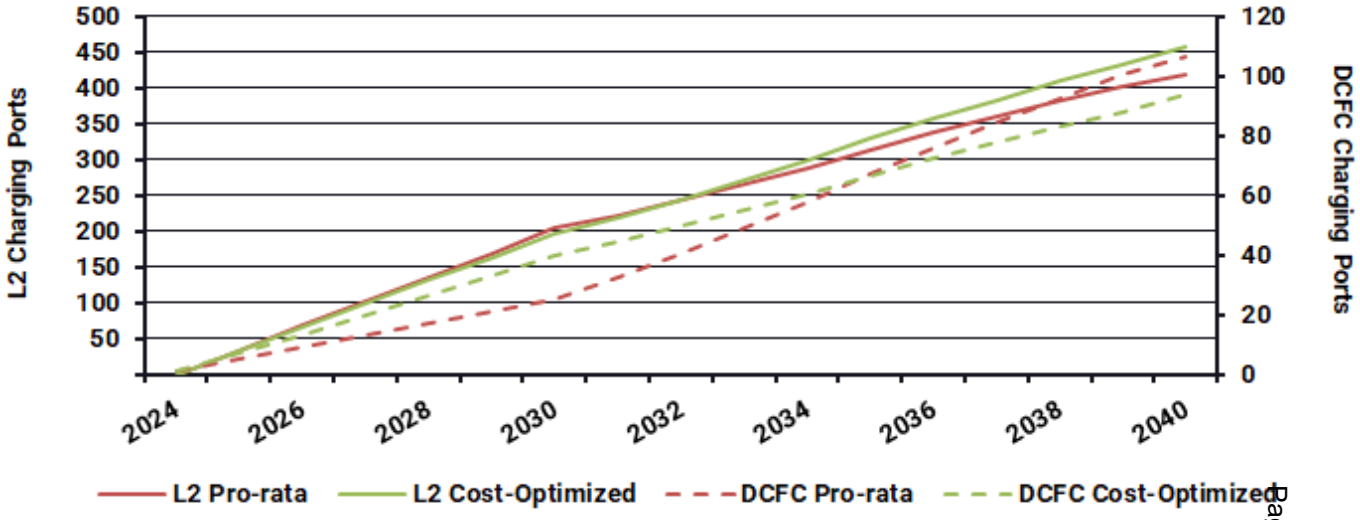
Two infrastructure solutions were developed:

1. **Pro-rata** base case – charging station installs are distributed evenly or proportionally based on some key factors, like population or vehicle density, without specifically optimizing for cost or demand ($52M total)
2. **Cost-Optimized** - minimizes costs while meeting demand ($48M total)

The Cost-Optimized solution saves about **$3.7 million** over the 15-year forecast period.

- Prioritizes early deployment of DC fast chargers (DCFCs)
- Accelerates Level 2 charger (L2) installation in the 2030s
- Level 1 chargers (L1) used for residential and multi-family areas

Community Charging Port Counts by Level and Allocation Method



Source: Energeia Analysis

- In the early years, DCFCs offer a better utilization-to-cost ratio, leading to more investment in fast charging infrastructure.

- DCFCs typically charge an EV to 80% in 20-45 minutes
- L2 chargers typically charge an EV to 80% in 4-10 hours

Charging times depend on charger power output and a vehicle's battery capacity and charging capability.

FINDING SUMMARY - KENMORE FLEET TRANSITION PLAN

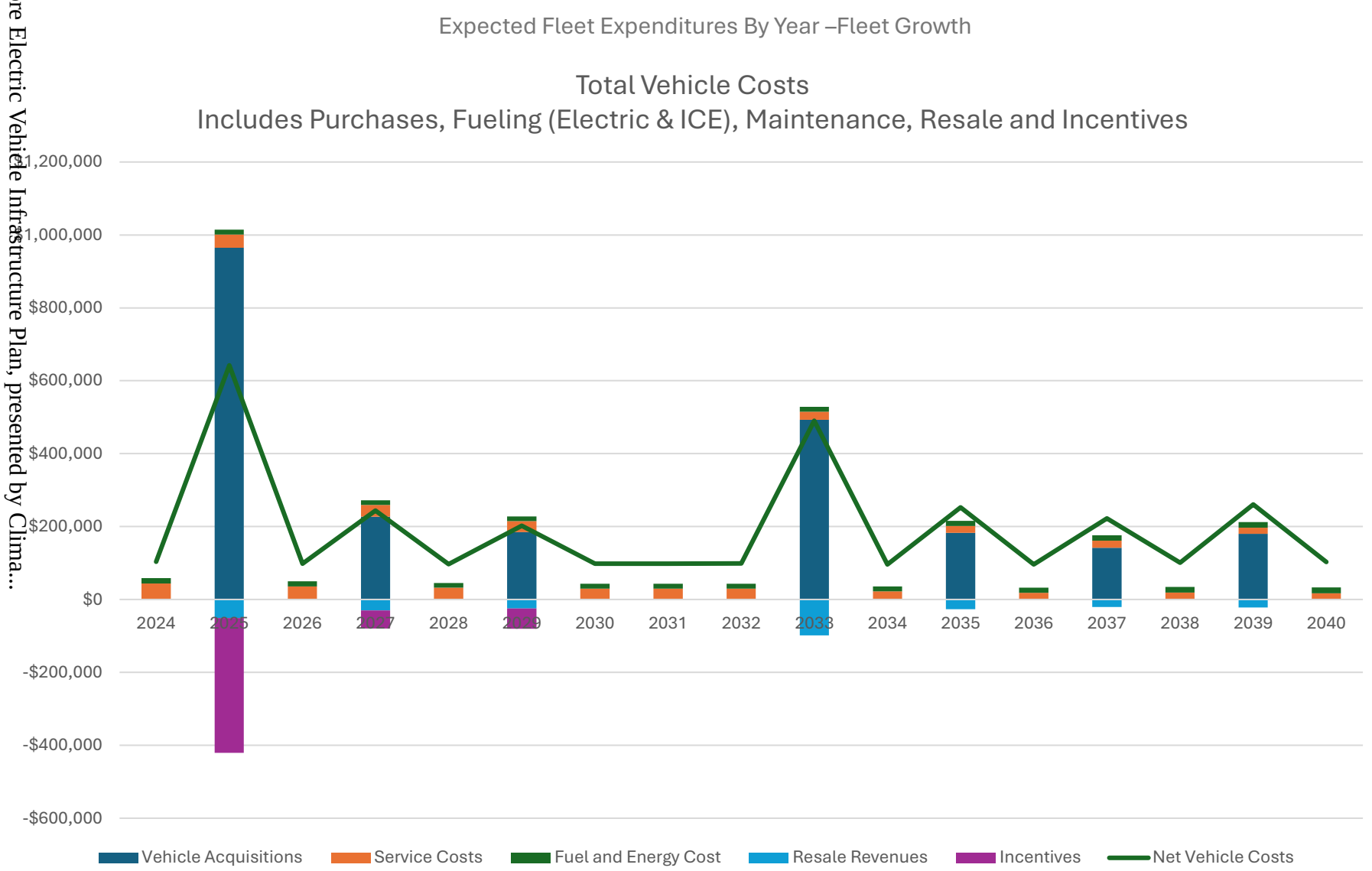
KENMORE ENVIRONMENTAL ACTION NOW

Analysis of the City of Kenmore's fleet electrification strategy reveals the following key findings:

- **Fleet Transition to BEVs**: Existing gas, diesel, and hybrid vehicles within the City's fleet will be replaced with Battery Electric Vehicles (BEVs) according to their planned replacement schedules.
- **Annual Addition of BEVs**: On average, one new BEV will be added to the fleet each year, coinciding with regularly scheduled vehicle purchases and replacements.
- **Fleet Growth and Electrification Timeline**: The fleet will grow from **27 to 42 vehicles between 2024 and 2040**, with full electrification expected by 2039. Increase in fleet due to anticipated population growth and required growth by the City to meet the growing service demands.

FINDING SUMMARY - FLEET TRANSITION PLAN EXPENDITURES

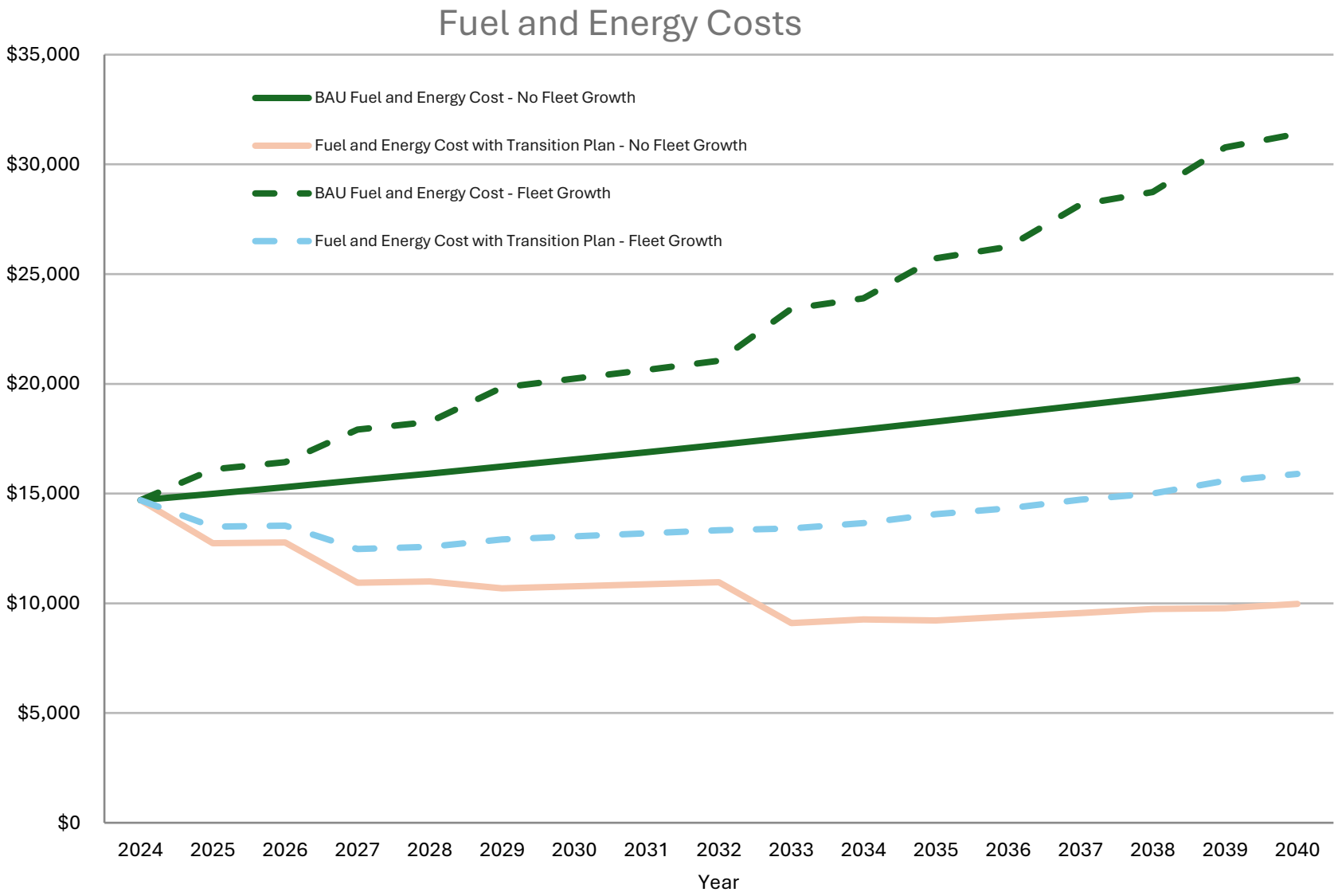
KENMORE ENVIRONMENTAL ACTION NOW



- **Major cost peaks occur in 2025 and 2033**, primarily due to **high vehicle acquisition costs**.
  - *However, these are offset by savings in fuel and maintenance, resulting in **net savings** over the fleet lifecycle.*
- **Smaller cost peaks** are expected in **2027, 2029, 2035, 2037, and 2039**, driven by **fleet expansions and vehicle replacements**.
- **Incentives are highest in 2025**, making it a strategic time to **capitalize on funding opportunities** before they **expire or reach their caps**.

DIFFERENCES BETWEEN ICE OPERATIONS AND EV TRANSITION

KENMORE ENVIRONMENTAL ACTION NOW



- Without further EV transition, **fuel costs are projected to rise annually by 2-5%**, with electricity costs following a similar trend.
- Regardless of fleet growth, transitioning to EVs is expected to generate **net savings in energy fueling expenses** compared to the business-as-usual (BAU) scenario.
- From **2024 to 2040**, estimated savings are:
  - **$113K** with no fleet growth
  - **$147K** with fleet growth

2025-2026 KEY NEXT STEPS

KENMORE ENVIRONMENTAL ACTION NOW

Community Charging

Deploy **seventeen (17) Level 2 chargers** and **four (4) DC fast chargers** along **Kenmore's central commercial corridor**.

Business Community Engagement

- Develop a strategic engagement plan with local businesses to collaboratively build EV charging infrastructure at identified potential partner sites.

Public Right-of-Way

- Install charging in existing parking areas along rights-of-way where grid hosting capacity is adequate.

Puget Sound Energy (PSE) Support Programs

- **Up & Go Public**: Engage with PSE to facilitate the deployment of public chargers throughout city limits.
- **Up & Go Electric for Workplace**: Explore workplace charging opportunities for **City staff and local businesses**.
- **PSE Pole Charging Pilot Program**:
  - Prioritize implementation of pole chargers in the public right-of-way.
  - Coordinate outreach to local **business and property owners**.
  - Work with PSE on **grant applications** and **technical assessments**.

Electrical Infrastructure Funding

- Install **separate meters** for EV chargers to enable access to **EV-specific utility rates**.
- Coordinate with PSE to fund **community charging installations** through available programs.

2025-2026 KEY NEXT STEPS

KENMORE ENVIRONMENTAL ACTION NOW

Fleet Transition

City Hall

- Continue with the addition of **three (3) dual-port chargers** for fleet or employee use.

Public Works Operations Center (PWOC) — Initial Build-Out – Fleet

- Install at least **three (3) dual-port chargers** (total of **six (6) charging ports**) during the initial build-out phase.
- Plan to expand to the full **six (6) dual-port chargers** (total of **twelve (12) charging ports**).

Public Works Operations Center — Future Build-Out

- Design for an additional **seven (7) dual-port chargers**, bringing the **total to 26 ports**, including City Hall infrastructure.
- **Pre-wire for twenty (20) 10kW AC charge ports** to support cost-effective future fleet expansion.

Puget Sound Energy (PSE) Support

- **Up & Go Electric for Fleet**: Pursue installation of **one to two (1–2) DC fast chargers** for fleet use and backup charging capacity.

Vehicle Replacement Planning

- Recommend replacing **three (3) vehicles** in **2025–2026** to align with EV infrastructure build-out and reduce emissions.

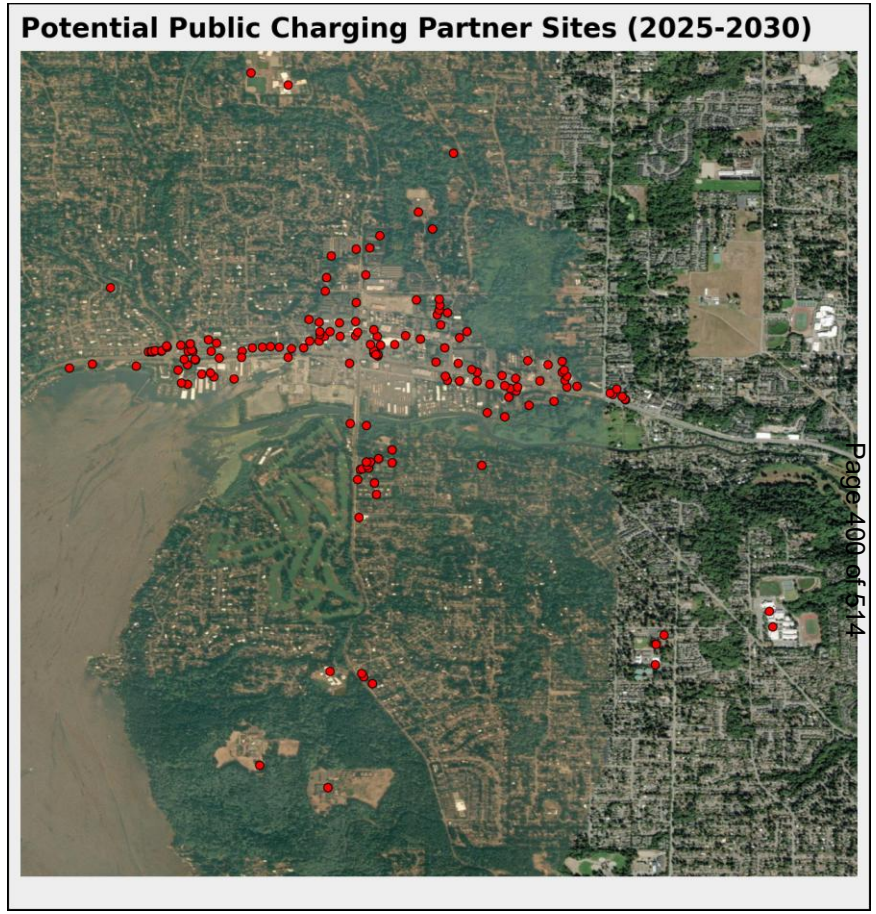
2025-2026 KEY PARTNERSHIP OUTREACH SITES

KENMORE ENVIRONMENTAL ACTION NOW

The following locations have been identified as **priority potential partnership opportunities** for EV infrastructure deployment in the City of Kenmore. The **project team selected these sites** based on a combination of key factors, including:

High frequency of community feedback ("pins") received during public engagement.
Diversity of asset classes — ensuring a mix of multi-family housing, parks, schools, businesses, and mobility hubs.
Concentration in high-activity areas where public congregation and vehicle turnover are naturally higher, maximizing utilization potential. Engaging with these site owners and operators will be critical to building an **equitable and accessible EV charging network** that serves Kenmore's growing needs and supports broader sustainability goals. A full list of potential partnership sites and organizations can be found in the appendix, and it is essential to note that these are a subset of examples and not meant to be a prescriptive list.

Category	Site Name	Charger Type
Multi-Family Residential	Vermont Apartment Homes	L2
	Green Leaf Apartments	L2
Public Parks & Recreation	Saint Edward State Park Playground	L2/DCFC
	Moorlands Park	L2/DCFC
	Kenmore 68th Avenue Boat Launch	L2/DCFC
Schools & Educational	Kenmore Middle School	L2
	Kenmore Elementary	L2
Community & Religious Sites	Kenmore Community Church Parking Lot	L2/DCFC
Retail & Service Centers	Les Schwab Tire Center	DCFC
	Kenmore Dental	DCFC
	Chevron	DCFC
	76 Gas Station (Kenmore Food Mart)	DCFC
Transit & Mobility Hubs	Kenmore Park and Ride (BikeLink)	DCFC

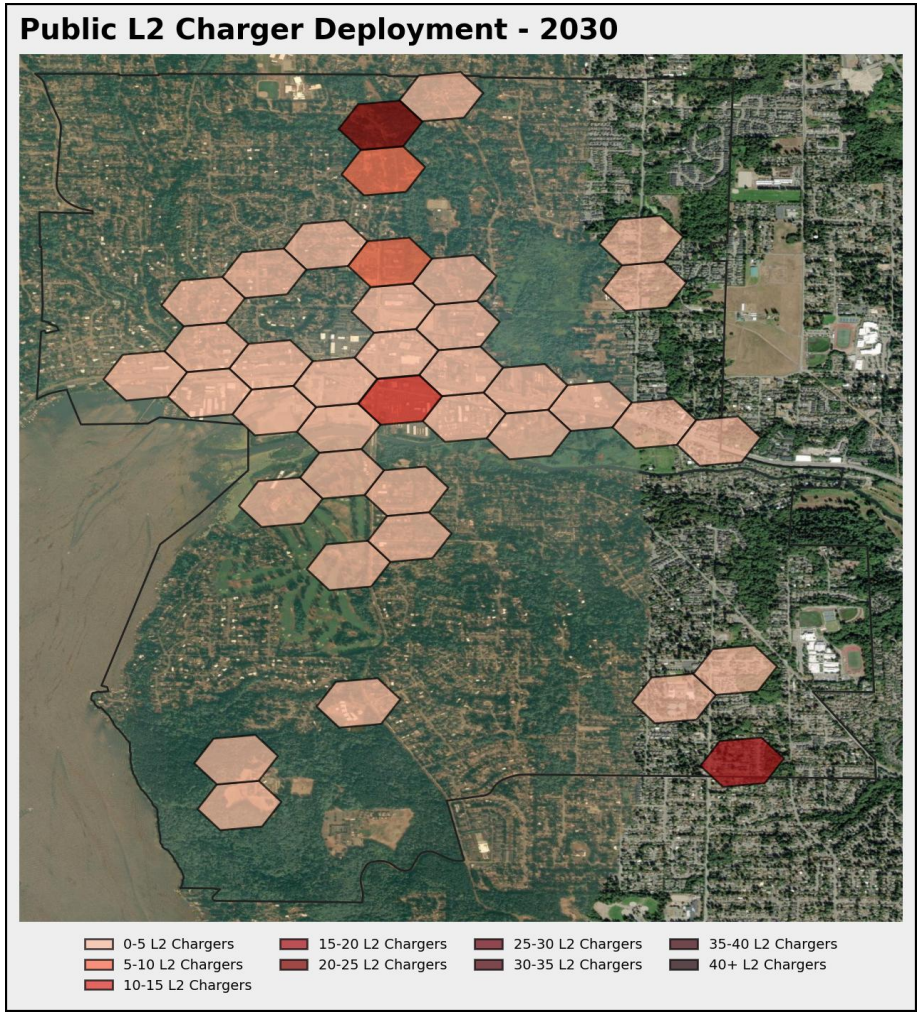


2030 L2 Charger Allocation

KENMORE ENVIRONMENTAL ACTION NOW

L2 Charger Cumulative Deployment: 2030

- 2030 spatial allocation of L2 chargers based on:
  - Site availability by solution type
  - Non-dedicated driver density
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- By 2030, majority of optimally deployed L2 chargers located near central commercial corridor
- A few L2s spread out across key high-demand residential areas and parks
- **42-85 L2 chargers installed by 2030**



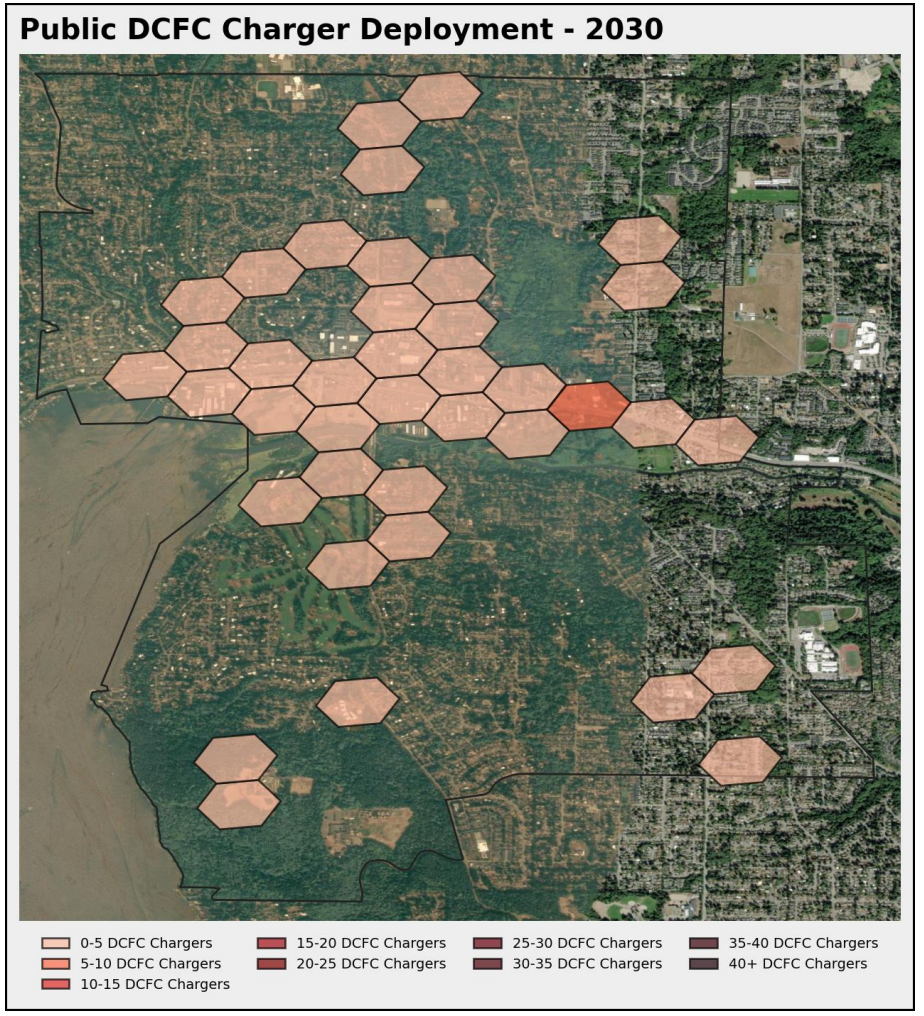
Source: Energeia Analysis (2025)

2030 DCFC Allocation

KENMORE ENVIRONMENTAL ACTION NOW

DCFC Cumulative Deployment: 2030

- 2030 spatial allocation of DCFC chargers based on:
  - Site availability by solution type
  - Non-dedicated driver density
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- Main commercial corridor in the City is key area of density, which is an expected outcome due to high traffic density, public access, and density of potential commercial sites for infrastructure
- Fewer DCFCs in south part of the city - lower Environmental Health Disparity score in SE corner, lower charging demand
- **10-18 DCFC chargers installed by 2030**



Source: Energeia Analysis (2025)

2027-2030 NEXT STEPS COMMUNITY CHARGING

KENMORE ENVIRONMENTAL ACTION NOW

Community Charging

1. Business Community Engagement

- Collaborate with businesses along Kenmore's central commercial corridor to install:
  - **83 dual-port Level 2 chargers**
  - **18 dual-port DC fast chargers**
- Focus on siting infrastructure at identified potential partner locations.

2. Building Code and Policy Recommendations

- Consider updating EV readiness requirements beyond the **2018 Washington State Energy Code (WSEC)**:
  - **Current WSEC**: 5% EV-ready parking for multifamily (Group R-2), 1+ EV-capable space for other uses.
- Look to regional best practices:
  - **King County Ordinance 19316**: 10% EV chargers, 25% future-ready.
  - **Seattle**: 100% EV wiring for parking; 20% of spaces charger-equipped.
  - **Tacoma**: One EV charger per 10 multifamily units.

3. Financial Incentives

- Provide rebates or other incentives (e.g., modeled on **Solarize Kenmore's $1,000 rebate**) to encourage businesses and property owners to install or upgrade chargers.
- Prioritize incentives near **transit hubs** and other high-demand areas.

4. Workforce Development

- Partner with **UW Bothell and K-12 schools** to develop EV infrastructure training programs.
- Coordinate with **PSE grant programs** to evaluate school-based charger installations.

5. Continued Community Engagement

- Regularly engage with the public to:
  - Adapt the plan to evolving transportation needs.
  - Expand to include **E-mobility** and **bike infrastructure**.

6. Long-Term Partnerships

- When current funding wanes:
  - Explore **public-private partnerships (P3) for install and or O&M**.
  - Create incentive models to attract **retailers and service providers**

2027-2030 FLEET NEXT STEPS

KENMORE ENVIRONMENTAL ACTION NOW

Internal Fleet Transitions

1. Vehicle Replacement Timeline

- Plan to **replace six (6) municipal vehicles between 2027–2029**.
- Ensure replacements align with **EV infrastructure planning** and **land use/economic development goals**.

2. Strategic Coordination

- EV fleet planning should be integrated with:
  - Long-term **land use strategies**.
  - Broader **economic development initiatives**.
  - Local infrastructure investment timelines.

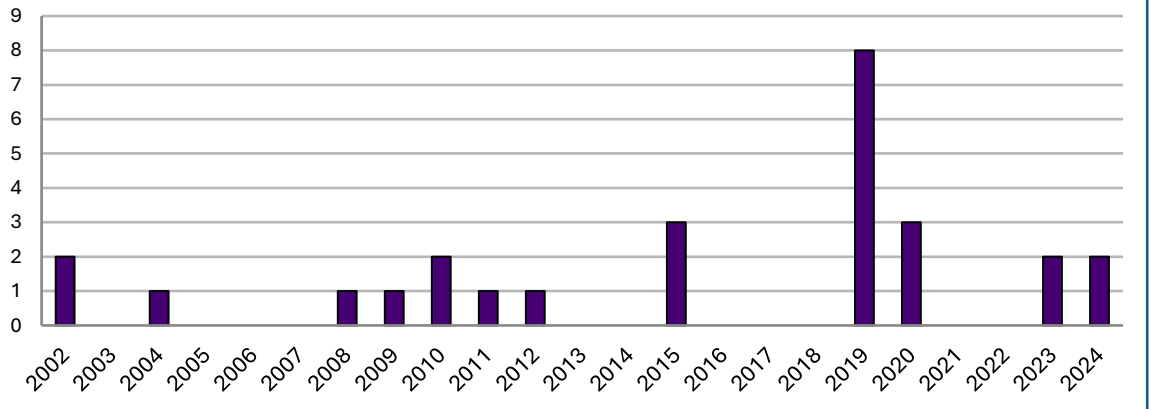
QUESTIONS & DISCUSSION

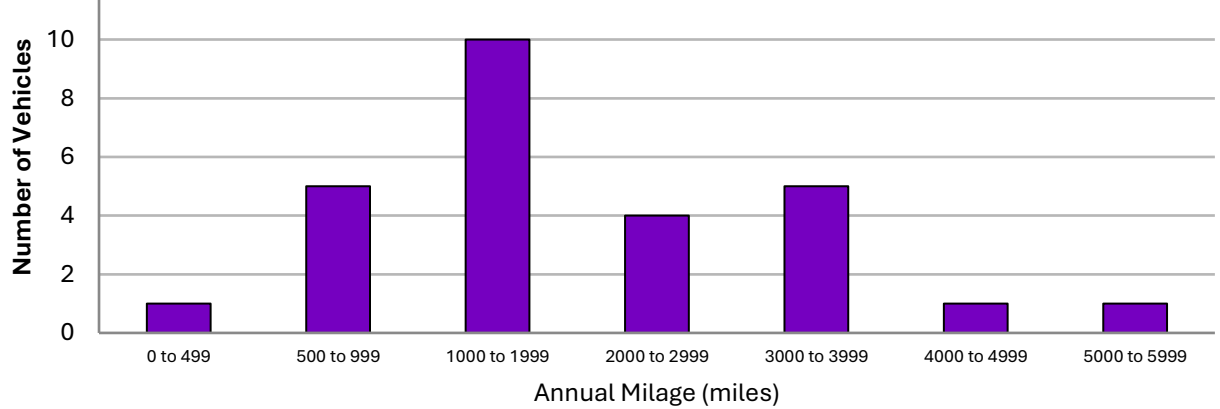
CITY OF KENMORE

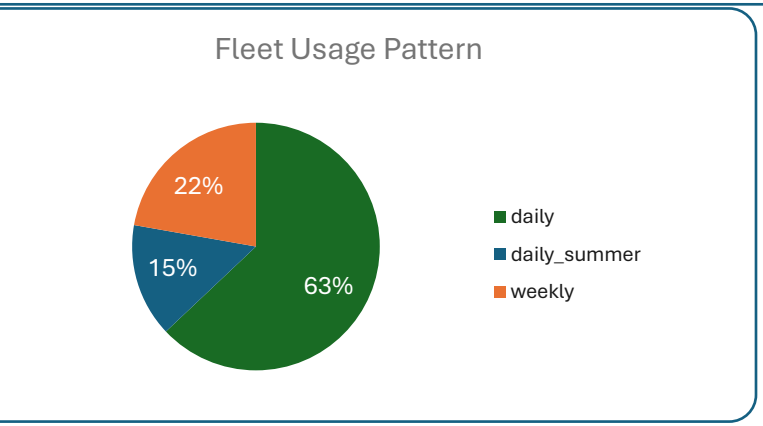
ENVIRONMENTAL SERVICES

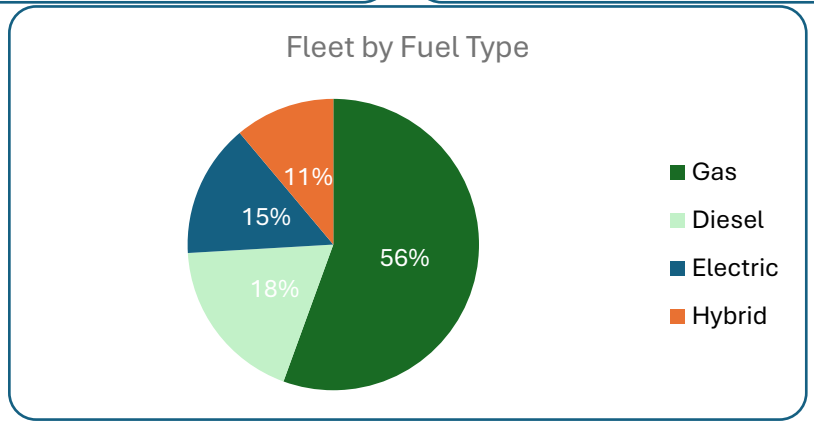
Existing Fleet Snapshot | FY24-25

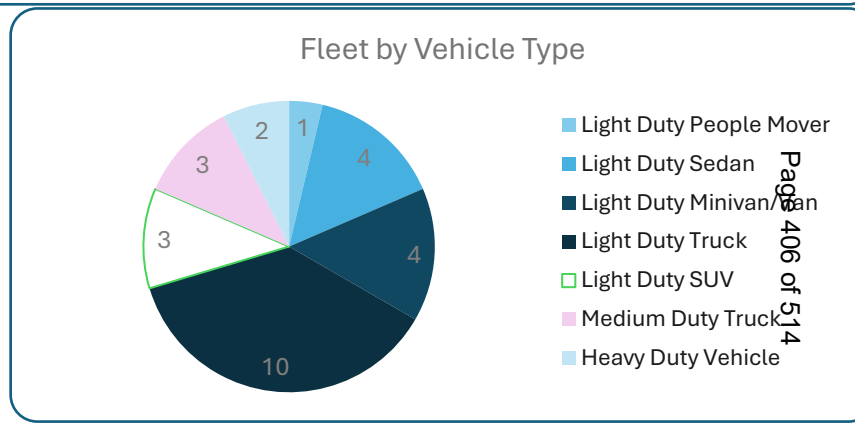
KENMORE ENVIRONMENTAL ACTION NOW











Count: 27 Vehicles (aged 2002-2024)
Breakdown: Light, Medium & Heavy Duty | Diesel, Gasoline, Hybrid and EV Powertrains
Department Use: Multi-department Use, Development Services, Engineering, Water, Public Works, General Use
Usage: Daily, Weekly, Summer Usage Patterns
Mileage: 211- 5,706 Miles/Yr

Community Engagement

To ensure robust and inclusive community participation in the EVIP process, the Project Team organized multiple opportunities for engagement, both in-person and virtual, to accommodate various preferences and needs.

In-Person Farmers' Market Table: July 31st & August 28th, 2024
- **Goal:** To introduce the EVIP project, receive initial input on charger locations and promote future opportunities to learn more and provide feedback.
- **Approach:** Use an existing event to connect with community members in an accessible format, encourage questions, and gather initial thoughts on the project.
- Location: Kenmore Town Square, 6728 NE 181st St, Kenmore, WA 98028

In-Person Community Engagement Meeting: October 22nd, 2024
- **Goal:** To foster meaningful, face-to-face dialogue with community members and stakeholders.
- **Approach:** This meeting provided an open, accessible space for community members to share their input, ask questions, and learn about the EVIP firsthand. Active participation from diverse groups was encouraged, ensuring that voices from all backgrounds were heard.
- **Location:** Kenmore City Hall, 18120 68th Ave NE, Kenmore, WA 98028

Key Highlights:
- Presentation of the EVIP process
- Interactive discussions on EV charger placement
- Opportunities for direct feedback

Virtual Community Meetings: October 28th & November 1st
- **Goal:** To provide flexible options for participation, making it easier for those who could not attend in person to contribute. The meetings were tentatively scheduled for 6 pm and 12 pm.
- **Approach:** These virtual sessions were designed to be inclusive and accessible, ensuring community members with varying schedules or mobility limitations could participate. Breakout rooms were used for small group discussions (if needed), and digital tools were employed for real-time feedback collection.
- **Platform:** Microsoft Teams meeting

Key Highlights:
- Detailed overview of the EVIP process
- Interactive polls and Q&A sessions
- Focused discussions on DEIA considerations for infrastructure planning

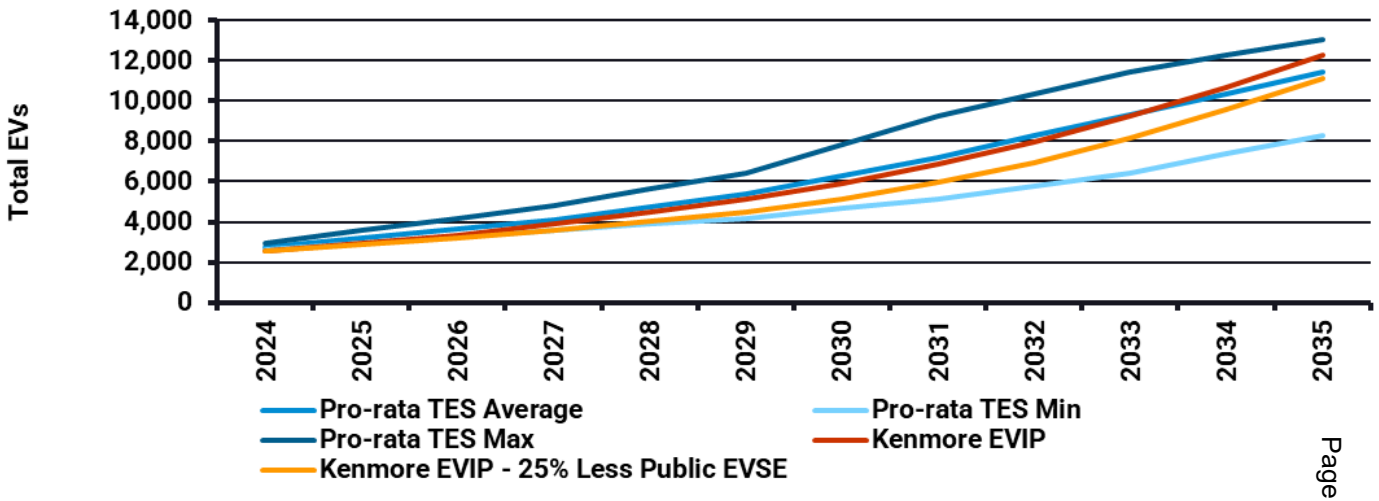
Through these efforts, the team aimed to gather diverse perspectives, ensure broad community representation, and ensure that the EVIP reflected the needs and values of all Kenmore residents.

IMPACT OF PUBLIC CHARGING

KENMORE ENVIRONMENTAL ACTION NOW

- The Project Team conducted an in-depth analysis of various EV adoption scenarios, including the development of a bespoke forecast, using the Washington State Department of Commerce's Transport Electrification Strategy (TES) as a benchmark. Key elements from the analysis include:
- **Scaled EV Adoption Scenarios**: The team scaled the TES EV adoption scenarios to Kenmore's population and current EV stock in 2024, providing a benchmark forecast for the city's adoption trajectory.
- **Kenmore's Adoption Forecast**: The bespoke adoption forecast for Kenmore shows an **EV adoption rate 5% higher** than the TES average adoption scenario by 2035, indicating a stronger shift to electric vehicles than anticipated for the state based on income and current market and sales share trends.
- **Impact of Public Charging Infrastructure**: The team also modeled an adoption scenario with 25% fewer public charging stations to demonstrate the critical role of infrastructure in supporting EV adoption. This scenario **showed an 11% reduction in adoption, highlighting the importance of expanding public charging** infrastructure to reduce the barrier to adoption.
- These findings underscore the significant potential for EV adoption in Kenmore and emphasize the need for continued investment in public charging infrastructure to support this transition.

WA State TES Scenarios vs. Kenmore EVIP Forecast



Source: WA Dept. of Commerce (2024), Energeia Analysis (2024)

Return to TOC

INFRASTRUCTURE

KENMORE ENVIRONMENTAL ACTION NOW

This EVIP is designed to accelerate the adoption of EVs while ensuring equitable access to chargers and infrastructure across the city. The current condition of Kenmore's EV infrastructure reveals strengths and challenges in the City's efforts to implement a robust and inclusive plan. Key findings from the assessment include:

Existing Infrastructure:

- Kenmore currently has a limited number of publicly available EV chargers. Kenmore is the home of **seven (7) public EV Level 2 (L2) chargers**, two of which are City-owned chargers designated for the Kenmore fleet and located in the City Hall Garage (18120 68th Ave NE, Kenmore, WA). **Five (5) charging locations are public**, with two (2) Shell Recharge (formerly Volta) chargers located at Safeway, two (2) located at Bastyr University (which require a parking pass from the University to access), and the last charger, a public Blink charger located in the town square. St. Edward Park is a potential long-term site for public charging, and the Lodge provides a guest-only charger; however, this is not public (Plugshare, 2025)
- Kenmore is building a Public Works Operation Center (PWOC) and, at the time of this report, has **planned six (6) L2 dual-port chargers for the PWOC**. These chargers, coupled with the existing chargers at City Hall, will allow adequate charging capacity for Kenmore's internal fleet as of the fleet composition of the time of this report.

Infrastructure Gaps:

- The city's EV charging infrastructure is currently underdeveloped, especially in low-income and multi-family residential areas, where access to at-home charging is limited. Kenmore recognizes the clear need for more strategically placed chargers, particularly in areas of high demand and where accessibility issues exist. This gap in infrastructure poses a barrier to EV adoption, especially for residents who cannot charge at home due to living conditions or limited public charging options.
- With King County having over **110,000 registered EVs in 2024**, there is a need for targeted expansion to support EV adoption across the city to support local and regional growth, namely in high-traffic corridors, parks, commercial shopping and entertainment hubs, and multifamily units (WSDOT, 2025).

Return to TOC

FUNDING

KENMORE ENVIRONMENTAL ACTION NOW

State and Local Funding Opportunities: Kenmore has access to several key state funding programs to support expanding its EV infrastructure and vehicle electrification efforts. Notable programs include:

PSE Up & Go Electric Programs: A series of incentives that support fleet electrification, workplace charging, and multi-family housing infrastructure. These programs are designed to help Kenmore electrify its fleet and improve access to charging stations. PSE's Up & Go Electric for Workplace program covers up to 100 percent of the cost for qualifying customers to install and maintain Level 2 charging for their employees.

Supporting PSE EV Home Charger Rebate: Depending on household income and size, the enhanced Empower Mobility incentives offer up to $600 in rebates for qualifying EV home chargers and up to $2,000 towards installation costs. Encourage Kenmore residents to evaluate this program when considering the purchase of an EV.

Washington State EV Charging Program: This program provides financial incentives for installing charging infrastructure, particularly for multi-family housing and public charging stations. In 2023, $64 million was allocated, with 40% directed towards overburdened communities, making it an opportunity for Kenmore to expand charging access in underserved areas.

Charging and Fueling Infrastructure (CFI) Discretionary Grant Program: This program offers grants for developing public charging stations and associated infrastructure, presenting an opportunity for Kenmore to further invest in its charging network.

Recommendations for Improvement:

PSE Up & Go: Kenmore should continue to work with PSE and aggressively apply for PSE's Up & Go Electric Programs to take advantage of local funding while it is still available.

- **Up & Go Electric for Fleet**: Up & Go Electric Fleet
- **Up & Go for Public**: Up & Go Public
- **Up & Go Electric for Workplace**: Up & Go Workplace
- **Up & Go Electric for Multifamily**: Up & Go Multifamily

- **Engage Local Businesses**: To enhance local business participation, Kenmore could highlight how funding for EV infrastructure can benefit businesses, such as through tax incentives or by increasing customer traffic to charging locations.
- **Targeted Funding for Low-Income Areas**: Kenmore can seek additional funding specifically for low-income households and neighborhoods that currently lack sufficient charging infrastructure. Targeted incentives can reduce barriers to EV adoption and help bridge equity gaps.

Sources: PSE

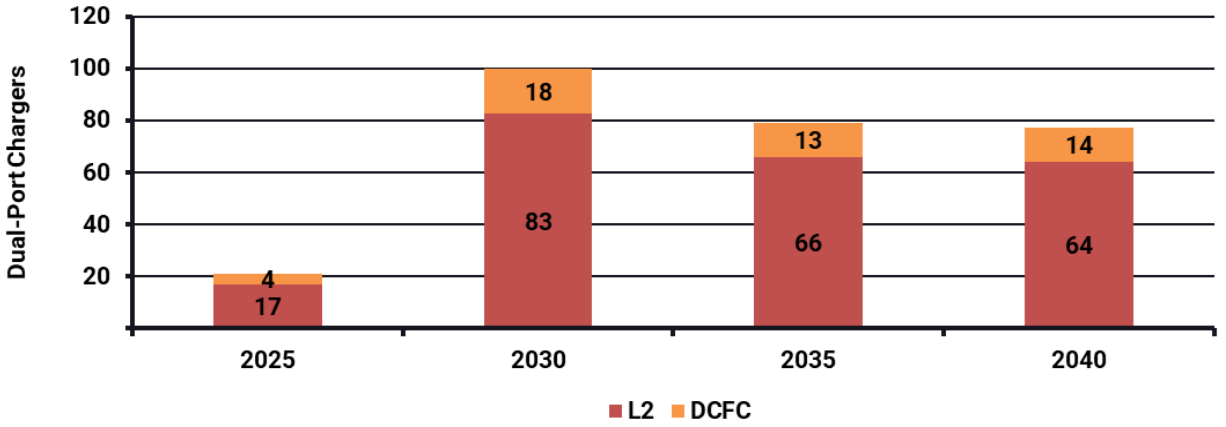
Return to TOC

MODELED CHARGING INFRASTRUCTURE NEEDS

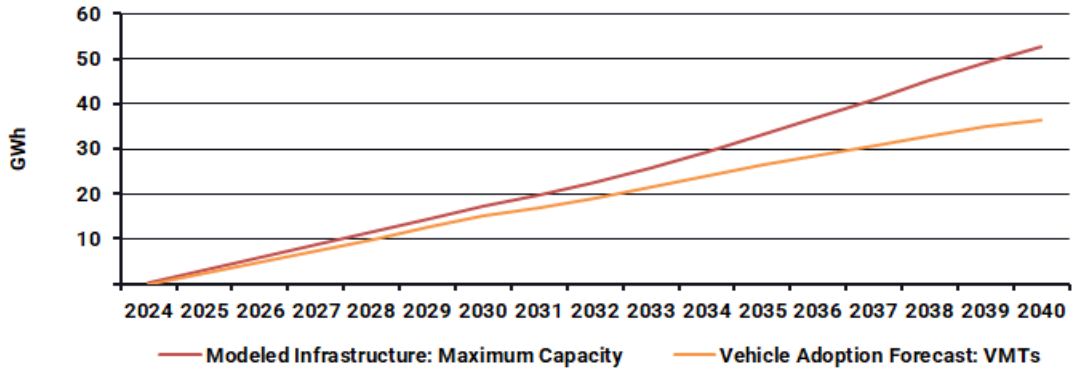
KENMORE ENVIRONMENTAL ACTION NOW

- The Project Team developed a **5-year phased deployment plan** based on modeled infrastructure demand in the City and the Cost-Optimized charging infrastructure solution.
- The deployment plan indicates the largest infrastructure development from **2025 to 2030**, driven by high demand for public charging as **forecast EV adoption rates increase**.
- Additionally, the team estimated **maximum energy capacity** based on modeled infrastructure versus estimated charging demand from vehicle miles traveled. Post-2030, the **charging infrastructure capacity grows faster** than **energy demand**, driven by **improved vehicle efficiency** and **higher nameplate charging power**.
- This surplus capacity could **help absorb additional demand** from regional traffic congestion, leading to **higher infrastructure utilization rates**.

5-Year Phased Charger Deployment Summary



Maximum Infrastructure Capacity vs. Demand



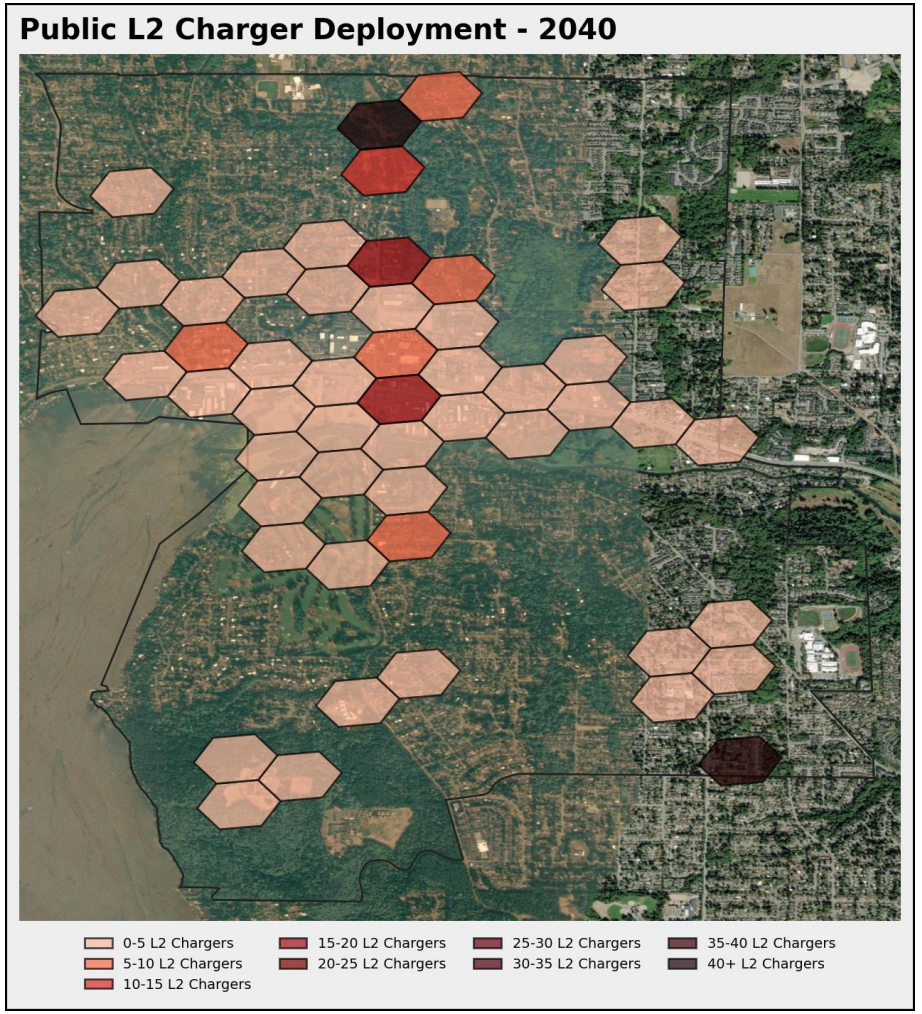
Source: Energeia Analysis (2025)

2040 L2 Charger Allocation

KENMORE ENVIRONMENTAL ACTION NOW

L2 Spatial Allocation: 2040

- Hexagonal charge zone cells used to estimate spatial charging demand across the City on a standardized basis and allocate infrastructure accordingly.
- Shown at right is cumulative spatial allocation of L2 chargers based on:
  - Site availability by charging solution type
  - Non-dedicated driver density, which refers to the number of potential EV users without dedicated home charging—i.e., multifamily residents or workers
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- Majority of chargers allocated near central corridor, with some L2s spread out across key residential areas and parks, based on high trip density, land use mix, and public access.



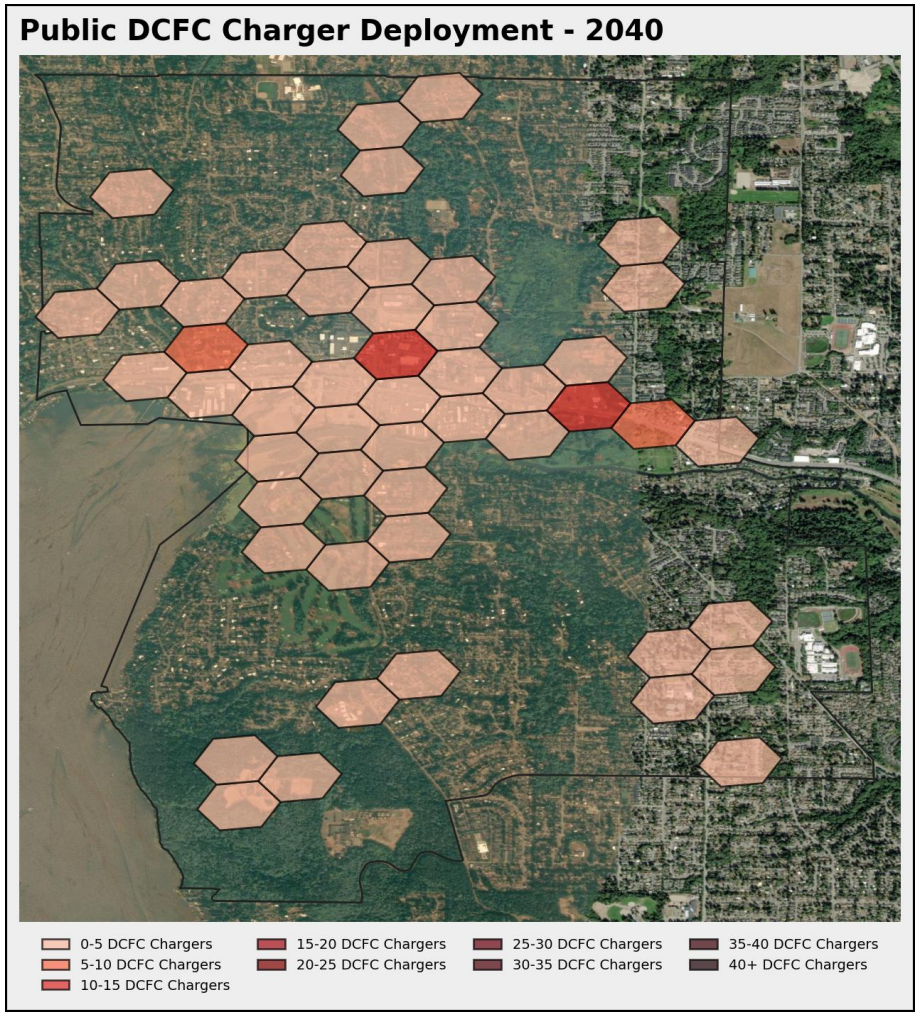
Source: Energeia Analysis (2025)

2040 DCFC Charger Allocation

KENMORE ENVIRONMENTAL ACTION NOW

DCFC Spatial Allocation: 2040

- Similarly, shown at right is cumulative spatial allocation of DCFC chargers based on:
  - Site availability by solution type
  - Non-dedicated driver density
  - Environmental health disparity score
  - Distribution system headroom/grid capacity
- The main commercial corridor in the City is a key area of density, which is an expected outcome based on spatial charging demand modeling, land use and traffic congestion.
- Additional DCFC chargers allocated at NE Bothell Park and Ride, multi-family residential sites, elementary schools and churches.
- Key near-term (2025-2030) potential partner sites for public charging identified based on L2 and DCFC spatial infrastructure allocation.



Source: Energeia Analysis (2025)

2025-2026 VEHICLE REPLACEMENTS

KENMORE ENVIRONMENTAL ACTION NOW

Replace the following vehicles with like replacements:

Vehicle Make	Vehicle Model	Model Year	Annual Fuel Cost	Vehicle Location	Usage	Department	Fuel Type	Replacement Make	Replacement Model	Replacement Incentives	Annual Energy Cost
Ford	Escape	2009	$564	Kenmore City Hall	Permit Inspections	Devel Svcs	Hybrid	Chevrolet	Equinox	$10,000	$301
Ford	Escape	2008	$225	Kenmore City Hall	Construction Inspection	Engineering	Gas	Chevrolet	Equinox	$10,000	$120
Inter-national	Maxx-force	2012	$1,565	PWOC	Street Sweeper	Surface Water	Diesel	Global Environmental Products	M4EV	$300,000	$477

2027-2030 FLEET VEHICLE REPLACEMENTS

KENMORE ENVIRONMENTAL ACTION NOW

Make	Model	Year	Type	Fuel Cost	Projected Replacement Year	Vehicle Location	Department	Replacement Make	Replacement Model	Replacement MSRP	Replacement Incentives	Annual Energy Cost
Ford	F-550	2010	Flat Bed	$596	2027	PWOC	Public Works	Chevy	Silverado EV	$55,000	$10,000	$167
Chevy	Colorado	2010	Mid Size Truck	$902	2027	PWOC	Public Works	Canoo	Pickup	$35,000	$10,000	$542
Ford	F-150	2011	Ford F-150	$1,581	2027	PWOC	Surface Water	Ford	F150 Lightning	$47,000	$10,000	$423
Ford	C-Max	2015	Hybrid Sedan	$422	2029	PWOC	Engineering	Ford	E-Transit	$51,000	$16,000	$494
Ford	C-Max	2015	Hybrid Sedan	$203	2029	PWOC	General Use	GEM	elxd	$20,000	$10,000	$40
Ford	F-150	2015	Large Truck	$940	2029	PWOC	Parks/Facilities	Ford	F150 Lightning	$47,000	$10,000	$534