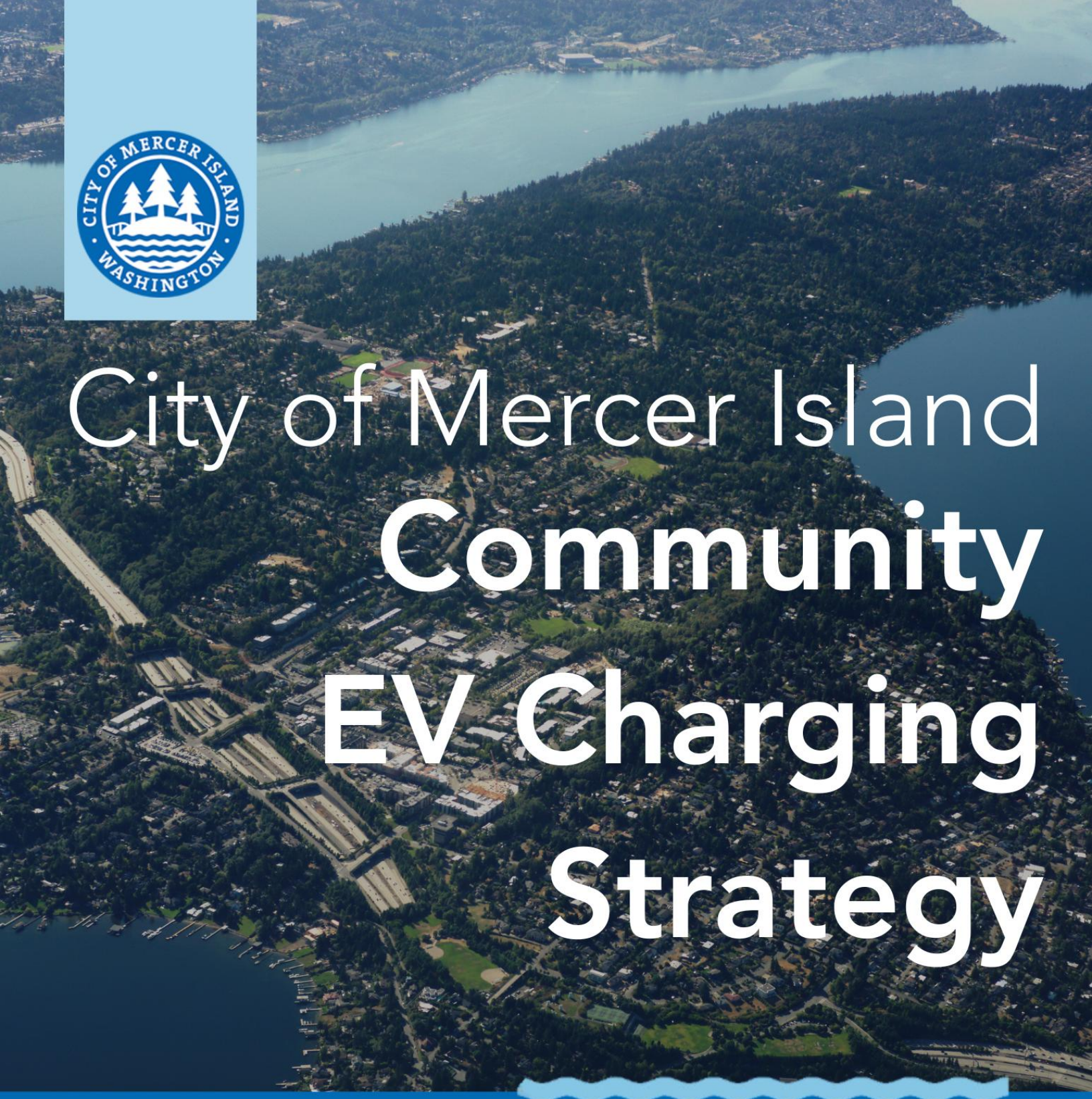


City of Mercer Island

Community EV Charging Strategy

June 2026

exp.

electrotempo

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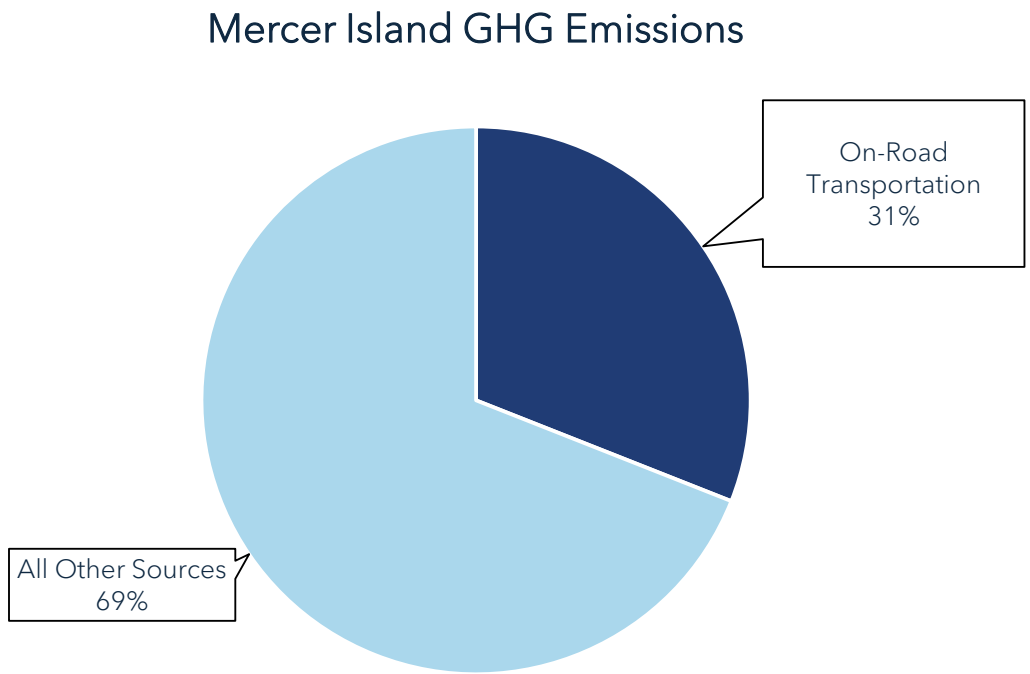
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Executive Summary

This Community Electric Vehicle (EV) Infrastructure Strategy outlines Mercer Island's path to full vehicle electrification by 2050. This Strategy is a companion plan to Mercer Island's Fleet Electrification Strategy. This work is guided by several State and local policies and goals.

City and State Goal	City Goal	State Goal
Net Zero by 2050	100% of registered vehicles EVs by 2050	100% of all new passenger vehicles sold must be zero-emission vehicles

As of 2024, the transportation sector makes up 42% of the city's total emissions profile. On-road transportation alone comprises 31% of the Mercer Island community's greenhouse gas (GHG) emissions, representing a key sector for reducing emissions to meet Net Zero Goals.



To create this Strategy, relevant Federal, State, and Local policies were assessed to identify regulations that could aid EV adoption as well as any barriers to meeting the City's 2050 goals. Overall, Washington State EV policies support and encourage communities to transition to EVs.

The ElectroTempo platform was used to predict what Mercer Island's EV charging needs might look like in the coming decades. This platform uses long-term data trends such as live, work, and travel patterns to assess costs and benefits, risks, and infrastructure needs for rapid EV Charging Infrastructure adoption at any scale. Current vehicle registration data, census block group data, and the locations of existing public chargers were fed into this software to develop an understanding of current and projected charging demand (how many users will need access to charging) and current and projected charger coverage (how accessible charging is by block group).

Three EV adoption scenarios were developed that anticipate slow adoption (Low scenario), average adoption (Moderate scenario), or rapid adoption (High scenario). These scenarios were mapped against the charging demand and charger coverage data to project these two variables out to 2050. This analysis provides a year-by-year snapshot of how EV charging demand is expected to change, and where charging deserts (locations with little to no easily accessible EV charging) will form or already exist.

Eight city-owned sites were selected as potential locations to install public EV chargers. A weighted analysis was applied to these eight sites that factored in projected demand, proximity to disadvantaged communities, and the feasibility of adding chargers (as assessed in collaboration with Puget Sound Energy (PSE)). This analysis provided a ranked list of sites to prioritize which sites receive funding for EV charging installations[1].

In addition to the City-owned sites assessed for this Strategy, 74 Multifamily Housing (MFH) sites were also assessed using a similar weighted ranking process. While the City does not have direct control over installing chargers at these sites, the prioritized list will be used to guide outreach to MFH site owners regarding expanding EV charging coverage at and near their sites.

[1] The ranking exercise is intended primarily to guide development where there are no other clear drivers. If funding or other factors drive charger installations at lower ranked sites first, the City should still pursue these installations.

Introduction

The City has committed to greenhouse gas (GHG) reduction targets of 50% by 2030, 75% by 2040, and 95% by 2050 (compared to 2007 levels). At the State level, cities and counties are required to reduce emissions by 95% by 2050 and offset the other 5% to achieve "net zero" emissions. The Mercer Island Climate Action Plan (CAP) also set a target to have 65% of new passenger vehicle sales and 20% of all registered passenger vehicles be electric vehicles (EVs) by 2030. By 2050, the goal is for 100% of registered passenger vehicles in Mercer Island to be EVs. These ambitious targets require significant investment in EV infrastructure. This strategy builds directly upon the findings and recommendations from the initial Mercer Island Electric Vehicle Fleet Transition (EVFT) strategy, focusing instead on increasing access to EV charging infrastructure for all who live, work, and play in Mercer Island. These goals will help foster the transition to a 100% EV future.

Goals

The development of this strategy is driven by two primary goals:

- To develop a comprehensive, equitable, and resilient EV Charging Infrastructure Plan for Mercer Island that transitions beyond municipal fleet electrification to support community-wide EV adoption, specifically addressing the significant barriers of EV charging access and aligning with Mercer Island's CAP goals.
- To expand EV charging options community-wide with a strategic focus on public charging and empowering EV charging in commercial properties and multifamily housing (MFH) where there are more barriers and opportunities for partnerships (for example with Puget Sound Energy's (PSE's) Up & Go Program).

Background

2023 Climate Action Plan (CAP)

Adopted in 2023, Mercer Island's CAP sets a citywide goal to reduce emissions by 50% by 2030 and 95% by 2050. The CAP outlines 59 strategic actions designed to reduce the City's GHG emissions in line with these 2030 and 2050 emissions reduction targets. The strategies are divided into six key focus areas: (1) Cross-Cutting & Municipal, (2) Buildings & Energy, (3) Transportation, (4) Consumption & Disposal, (5) Natural Systems, and (6) Community Resilience. As of 2024, Transportation accounts for 42% of the City's community-wide emissions. On-road Transportation alone accounts for 31%

of all community emissions, making this a particularly crucial sector for achieving emissions reduction targets.

The CAP's Transportation Focus Area goal is to "reduce GHG emissions from transportation by transitioning to electric vehicles (EVs), expanding multimodal transportation options, and improving cycling and pedestrian networks." One of the three strategies developed to meet this goal is to plan for EV infrastructure expansion and fleet electrification. This plan and the Mercer Island Fleet Transition Strategy have been developed in support of achieving this goal.

Mercer Island Fleet Transition Strategy

A 2025 Fleet Transition Strategy for Mercer Island specifically focused on requirements for EV charging capacity at the Mercer Island Community and Event Center (MICEC) and the City Hall/Public Works Maintenance Building campus to support a future City fleet that is fully electric.

This study included:

- **Policy reviews** to understand institutional readiness and identify potential roadblocks.
- **Site assessments** to evaluate the feasibility of the sites proposed by the City for expanded charging based on factors like existing electrical capacity, accessibility, and costs.
- **Grid capacity assessment** in partnership with PSE to review current and projected grid capacity and develop recommendations for sustainable power supply augmentation.
- **Stakeholder engagement** with City staff who use fleet vehicles and community members who live, work, and play near proposed sites to ensure their input and concerns are incorporated.
- **Funding analysis** to compare potential charging infrastructure systems, locations, and timelines, and identify specific funding sources, including PSE opportunities.

This strategy moves beyond transitioning the City's fleet, addressing EV charging infrastructure needs for the broader Mercer Island community.

Methodology

This section of the report outlines the technical process used to assess Mercer Island's EV charging landscape and projected EV needs, as well as the foundational, supporting research underlying the analysis.

Policy Review

EVs are still a relatively new and constantly evolving technology, and policy that guides investment in EVs and charging infrastructure is rapidly evolving as well. Policy at the Federal level is primarily restricted to making funding available for charging infrastructure, while State-level policy sets targets for infrastructure investment.

Federal Policy

The 2021 Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL) made $7.5 billion available for EV infrastructure investments. Of this, $5 billion was allocated to expanding public charging networks through the National EV Infrastructure (NEVI) formula program, while an additional $2.5 billion was allocated to community and corridor charging investments through the competitive Charging and Fueling Infrastructure (CFI) program. Together, these federal programs are meant to fund planning and capital investments and can be a major source of funding for corridor and public charging investments. NEVI funding was briefly paused in 2025 but reopened with some changes in the requirements to qualify for funding. Changes include removing the requirement to consider equity when developing EV charging infrastructure plans and no longer requiring qualifying projects to place EV chargers every 50 miles.

State Policy

The State of Washington has several policies in place that guide investment in EVs and EV infrastructure. The State has set GHG emissions reductions goals that will require significant investments in reducing on-road transportation emissions. Specifically, Washington is required by law to reduce emissions 45% by 2030, 70% by 2040, and 95% by 2050. This section outlines some of the key policies in place to facilitate a transition to EVs.

In 2020, Washington adopted the State of California's zero-emission vehicle (ZEV) standards, which require manufacturers to ramp up sales of ZEVs or purchase credits generated by manufacturers who exceed the targets (RCW 70A.30.010).

In 2024, updates to the Washington Administrative Code (WAC) went into effect that require developers to ensure new multifamily and commercial structures are EV-ready (WAC 51-50-0429). Where on-site parking is provided, the rules require at minimum the greater of one parking space or 10 percent of spaces to be pre-wired or otherwise provided for 208/240V 40-amp charging, with electrical room sizing targets for future load. This is a foundational statutory requirement for new construction readiness.

Washington State's NEVI Plan and its updates define corridor priorities and state coordination for federally funded charging. In 2025, The Washington State Department of Transportation (WSDOT) prepared a NEVI Plan Update outlining the 2026 funding strategies and corridor priorities. The plan frames where the state will prioritize public DC fast charging and how subrecipients may access NEVI dollars. In 2026, Washington awarded $12.6 million of its available NEVI funding to projects that will build EV charging stations along key corridors throughout the state, including I-90. While Mercer Island will not be receiving electric vehicle supply equipment (EVSE) through this round of NEVI funding, the city's location along a prioritized alternative fuels corridor highlights the importance of investing in charging capacity as the state continues to roll out its own charging strategy.



Figure 1: WSDOT's 2026 NEVI funding awards along key alternative fuel corridors, including I-90 which runs through Mercer Island. (Source: WSDOT).

Development of ElectroTempo Dashboard

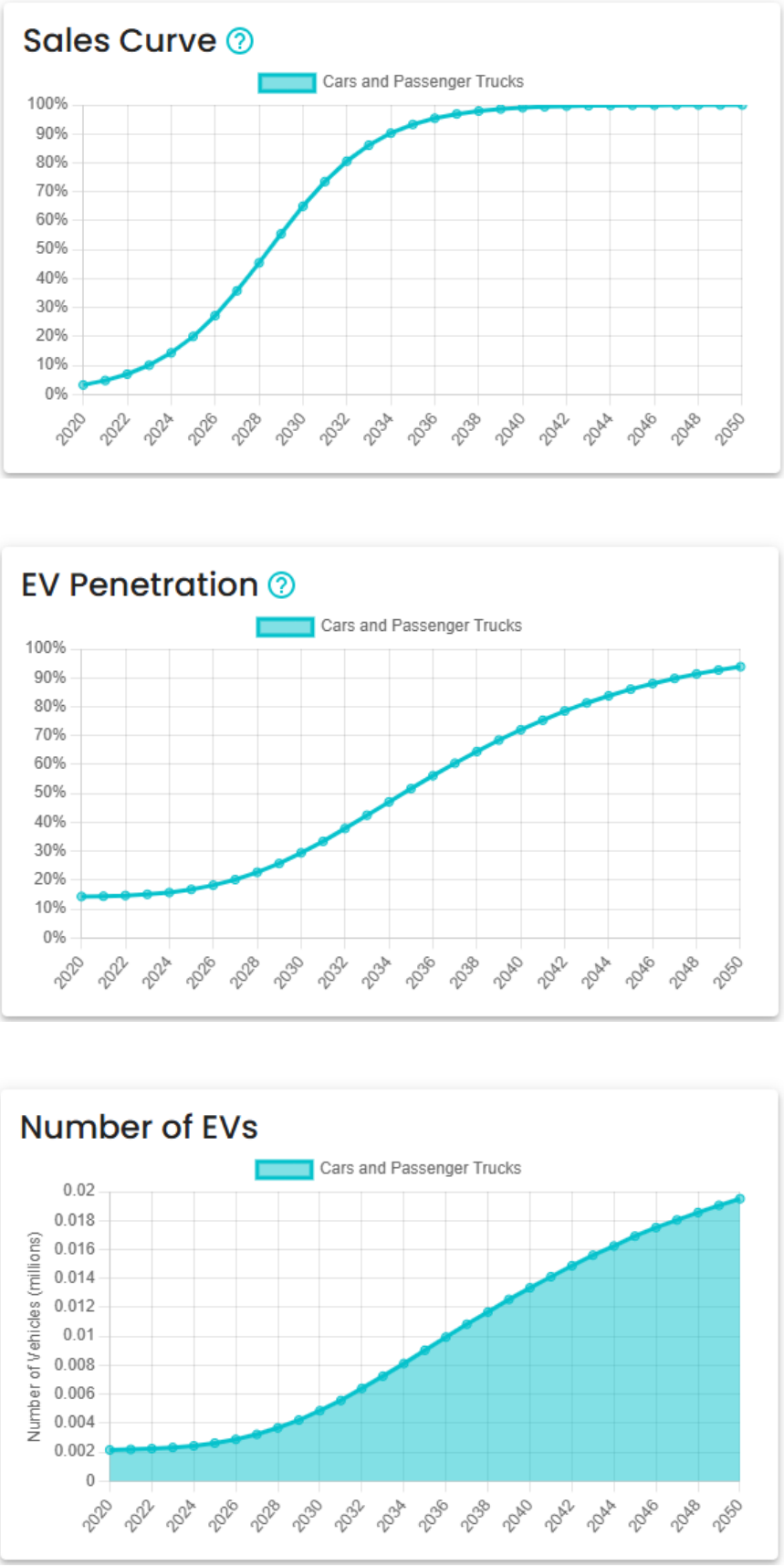
To establish a baseline for this analysis, existing charging infrastructure and grid capacity throughout Mercer Island were mapped, allowing current and future EV charging demand to be assessed. By overlaying existing infrastructure with current and future charging demand, gaps in charging access could be identified, which guided the development of recommendations for future charging locations.

The methodology for mapping analysis in this Strategy is rooted in an online data platform provided by ElectroTempo. ElectroTempo is a software firm that specializes in helping to de-risk EV infrastructure investments. The platform uses long-term data trends such as live, work, and travel patterns to accurately assess costs and benefits, risks, and infrastructure needs for rapid EVCI adoption at any scale. The high-level overview of the ElectroTempo platform provided here is intended only to familiarize readers with the platform's controls and outputs. More detailed analysis is provided in following sections.

Using travel demand data to develop comprehensive growth and demand projections, ElectroTempo's suite of predictive analytics allows the evaluation of current and future EVCI needs. The tool allows users to input adoption scenarios, view potential locations, and assign weight to various ranking criteria.

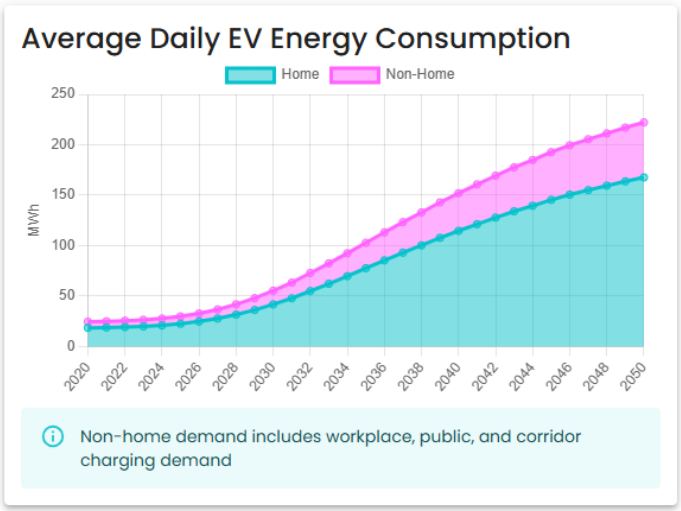
ElectroTempo's series of simulation and machine learning tools analyzed current and local data to determine:	• Future EV and electricity demand in Mercer Island
	• Location and timing of peak demand and its impact on utility service.
	• Ability of local grid infrastructure to accommodate new peak demand.

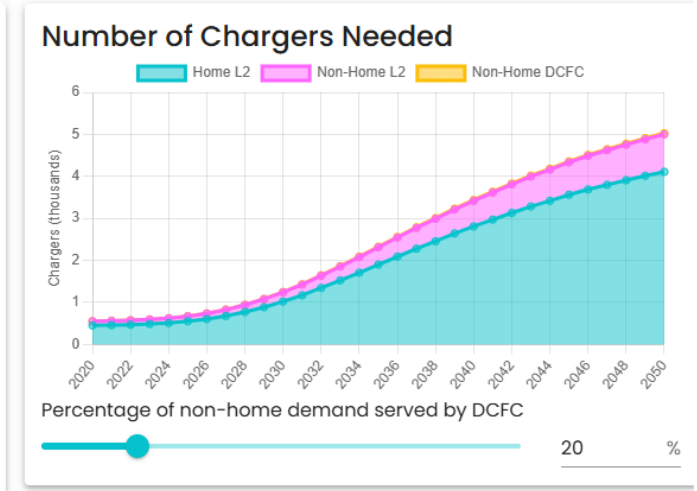
A variety of EV growth scenarios were modeled to show anticipated adoption timelines. The modeling tool allows for adjustments to be made that will affect adoption rates for each scenario.

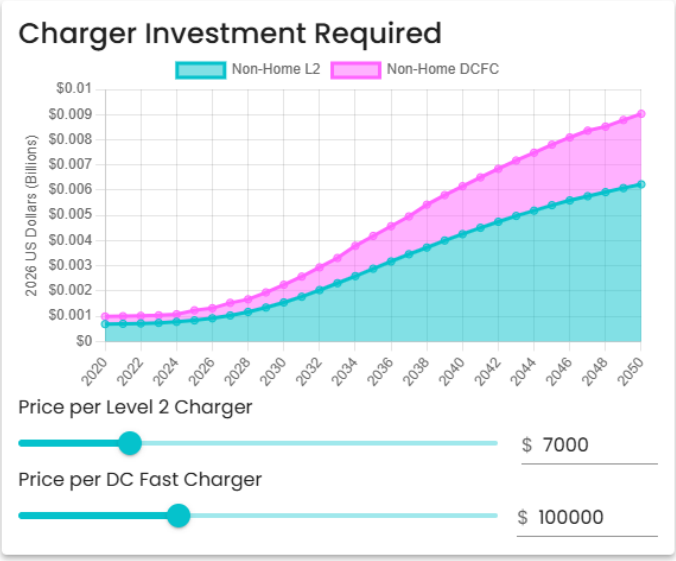


The **Timeline page** allows users to explore custom growth scenarios with an adjustable set of parameters. Users can select an existing growth scenario or configure their own to analyze future trends. Three scenarios were created for Mercer Island's analysis: a reference (or Moderate) scenario, and both Low and High adoption scenarios based on the reference. These are described in more detail in the next section.

Figure 2: Screenshots from ElectroTempo's "Timeline" page showing the projected Sales Curve (top), EV Penetration (middle), and total Number of EVs (bottom) under the selected scenario (the Moderate (or reference) adoption scenario was selected in this case).







The Timeline page also provides a high-level summary of the energy, equipment, and funds needed to meet the increase in demand projected by the model.

Figure 3: Screenshots from ElectroTempo's "Timeline" page showing the projected energy needs (top), charging needs (middle), and associated costs (bottom) under the Moderate adoption scenario.

The final tab on the Timeline page displays the projected impact on emissions tied to EV adoption. Emissions reduction calculations factor in the increase in electricity use, using Mercer Island's unique energy mix to ensure gains in emissions reductions are not overestimated.

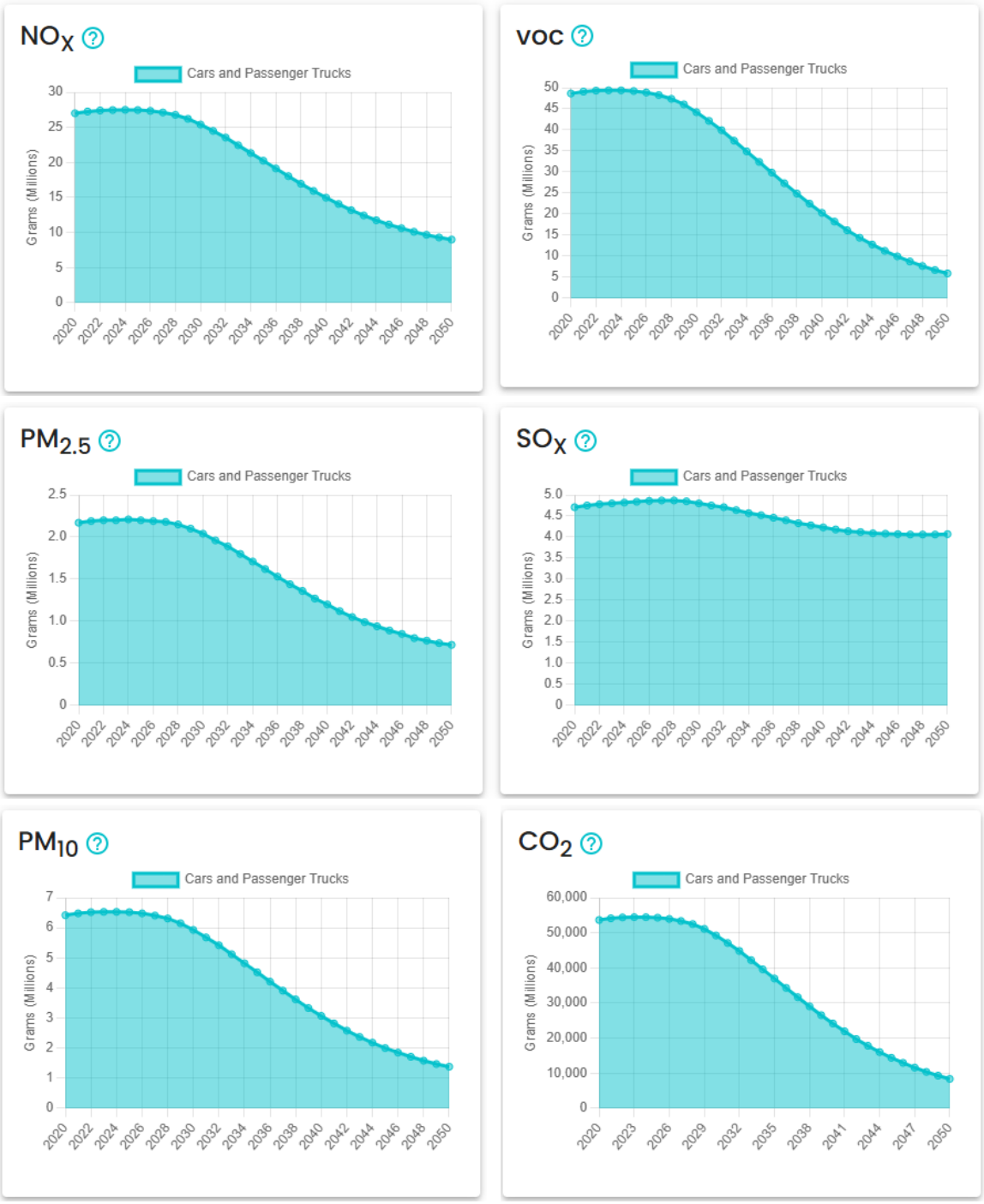


Figure 4: Screenshot from ElectroTempo's "Timeline" page showing the projected changes in 6 key emissions under the selected EV adoption scenario.

The **Charging Demand** page provides a geographical view of where charging demand is expected. Users can adjust vehicle population controls to project how the EV population will grow and see the corresponding demand for a given year. Additional demand controls allow further customization of charging demand factors.

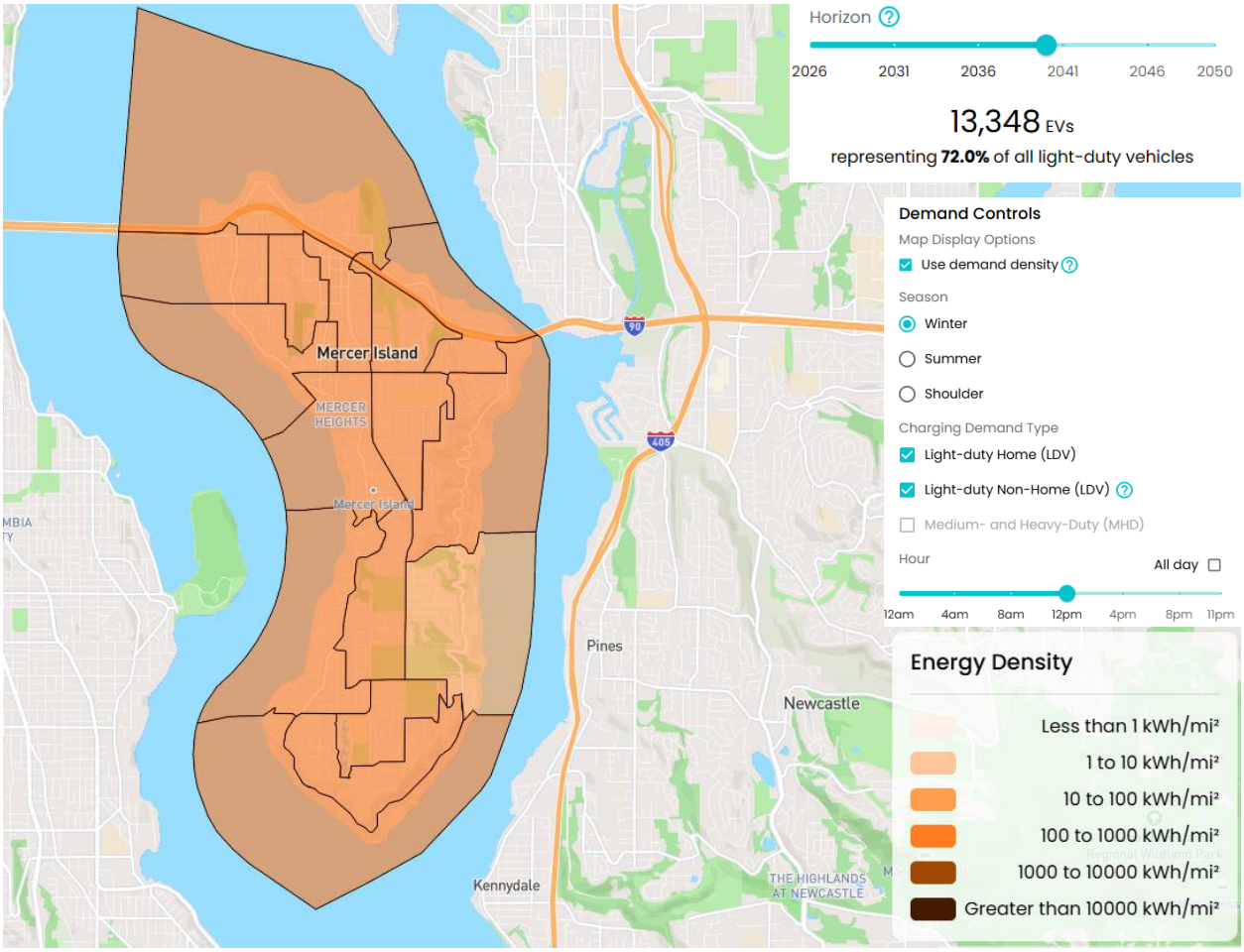


Figure 5: Screenshot of ElectroTempo's "Charging Demand" page. Users can select which year they want to have displayed, as well as which season, time of day, and charging demand type they want used to develop the final calculations. The map here shows the projected energy demand in 2040 under the moderate adoption scenario, which assumes 72% of light-duty vehicles are EVs. Midday winter demand, accounting for both home and non-home charging demand, is mapped here.

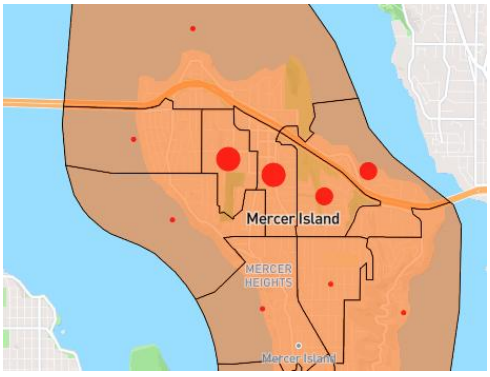


Figure 6: Users can also select additional layers to display alongside charging demand data, including existing power substations and charging stations, and the relative proportions of each block group with high or low levels of poverty, non-white residents, renters, or multifamily housing units. Here, multifamily housing is displayed, showing that this housing type is concentrated at the north end of the island.

The **Charger Coverage** page evaluates how well the existing charging infrastructure meets projected demand based on the selected growth scenario. Coverage is shown as the percentage of projected demand that current chargers can fulfill. Similar to the Charging Demand page, users can adjust vehicle population controls to model different growth scenarios and analyze future infrastructure needs. Mercer Island's current charger coverage is very low, with only 7 publicly accessible chargers on the entire island. As such, every block group falls into the lowest quintile (less than 25% coverage). This means the map display appears to indicate even charger coverage across the island when in reality the current public chargers are grouped at the northern end of the island (see Figure 18 for all public charger locations). While this affects the visualization of charger coverage here, the actual locations of existing charger coverage was factored into the final site prioritization.

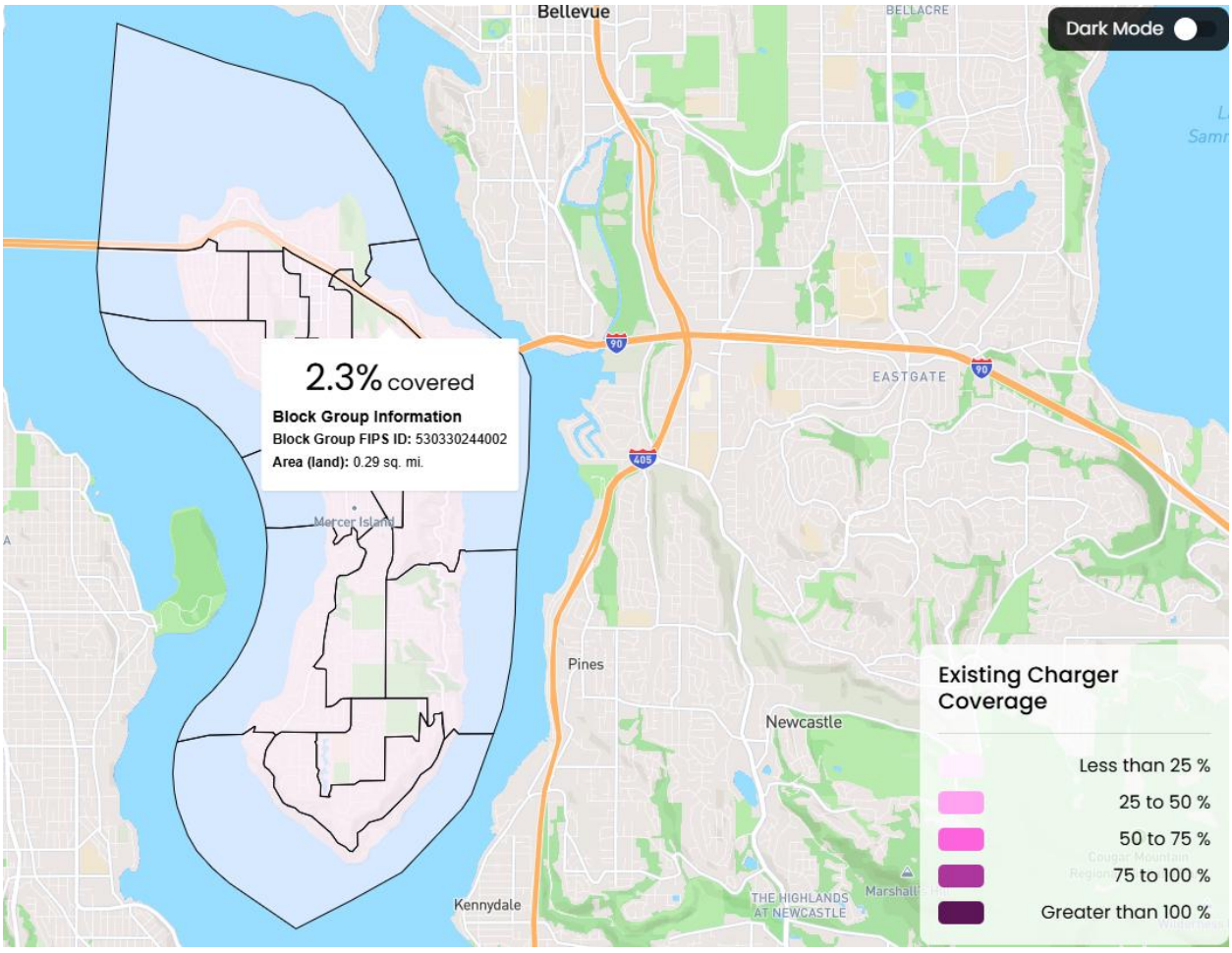


Figure 7: Screenshot from ElectroTempo's Charger Coverage page. Mercer Island has very limited existing charger coverage, placing every block group on the island below 25% of the needed coverage. Pictured above is the projected coverage using the existing charger network in 2040. The highlighted block group will have 2.3% of its 2040 charging needs met by the existing charging network.

EV Transition Scenarios

The EV transition scenarios form the basis for how future EV infrastructure needs are estimated, accounting for charging needs for Mercer Island's community members who live, work, and play in the City, while also considering the City's position along the I-90 charging corridor. The proposed scenarios account for different speeds of transition, potential changes in legislation and technology, and the cost of EV infrastructure expansion.

EV transition scenarios consider:

1. the current observed vehicle population;
2. growth rate;
3. current EV penetration rate; and
4. EV sales targets for current year and two future years.

This data is then used to forecast EV sales percentage, the EV penetration rates, the EV counts, and various secondary metrics like specific pollutant emissions, or charging energy demand and infrastructure requirements. All calculations and projections are conducted on a year-by-year basis through 2050.

Mercer Island has

15,500

vehicles

Of these, there are

2,430

EVs

Data on the current vehicle population (~15,500) and EV population (~2,430) for Mercer Island were obtained from the EPA MOVES[2] database, which tracks the vehicle population at the country level. This data was then cross-validated against vehicle registration data. The vehicle population growth rate (~1%) was also obtained from the EPA MOVES database. The sales targets for the current year, target year (or intermediate year for forecasting), and final year are aligned with Mercer Island's CAP to create the reference scenario (EVs comprise 65% of all new vehicle sales by 2030 and 100% of all new vehicle sales by 2050). The Low and High Scenario are based off these targets from the CAP, adjusting the current and target year share accordingly. The detailed list of parameters for reference (from here on referred to as the Moderate scenario), Low, and High scenarios is shown below in Table 1.

[2] EPA MOVES is the national standard for evaluating mobile emissions and must be used in every state other than California when developing or updating mobile emissions regulations. This state-of-the-science emission modelling system is the most comprehensive database of its kind at the national or county level.

Given these inputs, the ElectroTempo platform generates the outputs (year-by-year EV sales, EV penetration, EV counts, energy and infrastructure forecast, and emissions forecast). The forecasting method is based on research published in the research journal Transportation Research Part D: Transport and Environment.[3] In brief, the standard S-curve (or logistic-curve) that is used to visualize how new technology is adopted is used as the basis for understanding EV adoption. The S-curve assumes slow initial uptake followed by rapid adoption that levels out over time as the technology diffuses throughout the population. Sales targets are used to calibrate the current position on the curve as well as future years, providing forecasted data on sales, EV penetration, and EV population numbers. The forecasts generated by this model account for growth scrappage, vehicle lifespan, and other factors. Energy consumption data is then derived from FuelEconomy.gov and correlated with the average annual mileage derived from US Department of Energy (DOE) to calculate the total energy requirement across the region. ElectroTempo then applies an offset to energy consumption to account for non-ideal operating conditions and seasonal use.

Table 1: Parameters of the three EV Adoption Scenarios developed for Mercer Island.

Low	Moderate	High
Assumes below-target transition Current Market share: 17% 2030 Market share: 55% 2050 Market share: 100%	Assumes on-target transition Current Market share: 20% 2030 Market share: 65% 2050 Market share: 100%	Assumes above-target transition Current Market share: 25% 2030 Market share: 75% 2050 Market share: 100%

The emissions dashboard displays the change in emissions over time according to vehicle populations and fuel/energy consumption. This includes both tailpipe and grid emissions for the analysis region. The generation mix is from the 2024 GREET (Greenhouse gases, Regulated Emissions, and Energy use in Technologies) model developed by DOE, supplemented by PSE-provided data.

The emissions calculated and displayed are:

- **Nitrogen Oxides (NOx):** These include both NO and NO_2, both of which are harmful to human health and contribute to global warming. NOx is generated through combustion, primarily from gasoline and diesel engines.
- **Volatile Organic Compounds (VOC):** A large group of carbon-containing gases that are a precursor to the formation of ozone (O3). Catalytic converters have reduced the emissions of VOCs from vehicles significantly, but combustion engines will always generate some level of VOCs.

[3] Quantifying the impact of U.S. electric vehicle sales on light-duty vehicle fleet CO2 emissions using a novel agent-based simulation

- **Particulate Matter of sizes 10 micrometers or less (PM10) and 2.5 micrometers or less (PM2.5):** PM10 and PM2.5 can cause serious health problems when inhaled. These types of emissions don't significantly contribute to climate change but are harmful to human health.
- **Sulfur Oxides (SO_x):** This group of pollutants is detrimental to human health and can generate particulate pollution that creates hazy conditions.
- **Carbon Dioxide (CO_2):** One of the primary drivers of climate change. Internal combustion engine (ICE) vehicles produce on average 400 grams of CO_2 per mile, for an average of 4.6 metric tons of CO_2 per year from one vehicle.

All emissions factors are measured against baseline data from 2024. Of these emissions factors, CO_2 is the greatest contributor to climate change. Direct on-road passenger vehicle CO_2 emissions in 2024 were measured at 54,451.19 metric tons (MT). Each EV transition scenario anticipates Mercer Island will be able to reduce its emissions footprint significantly, with only slight differences in timing. For instance, as illustrated below, CO2 will be reduced by over 80% by 2050 under any scenario.

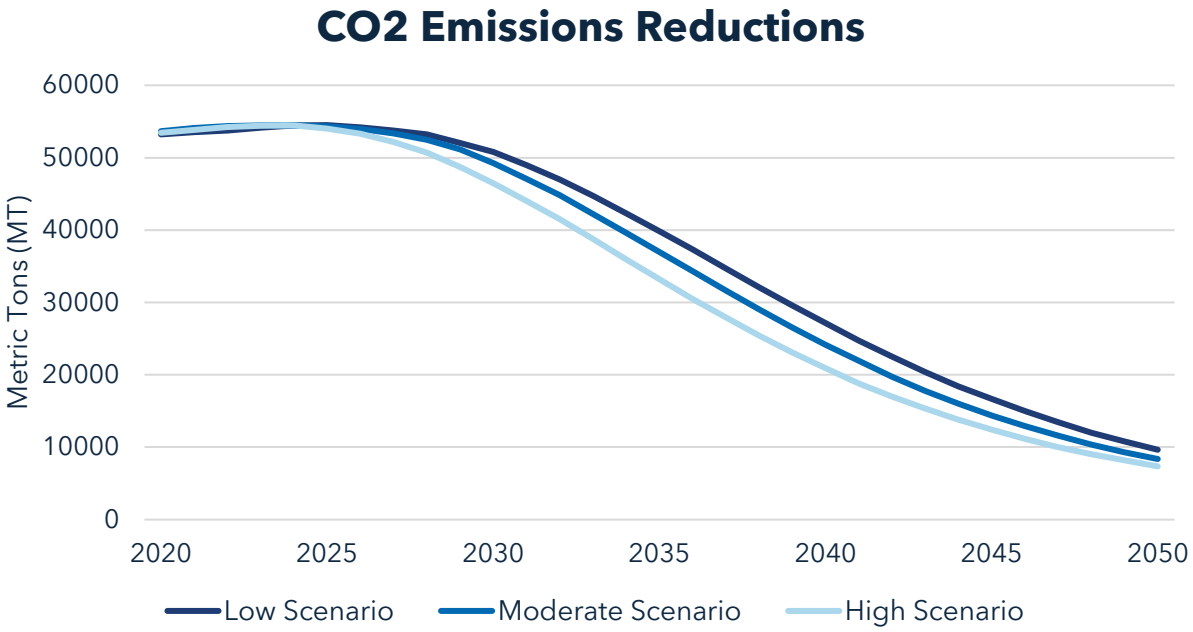


Figure 8: CO_2 reductions possible under each EV transition scenario. All scenarios will result in significant reductions over time: 82.3% by 2050 under the Low scenario, 84.7% under the Moderate scenario, and 86.7% under the High scenario. However, the High scenario will allow the most rapid reduction in CO_2 emissions.

The following pages illustrate the anticipated emissions reductions under the Low, Moderate, and High scenarios.

Low Scenario

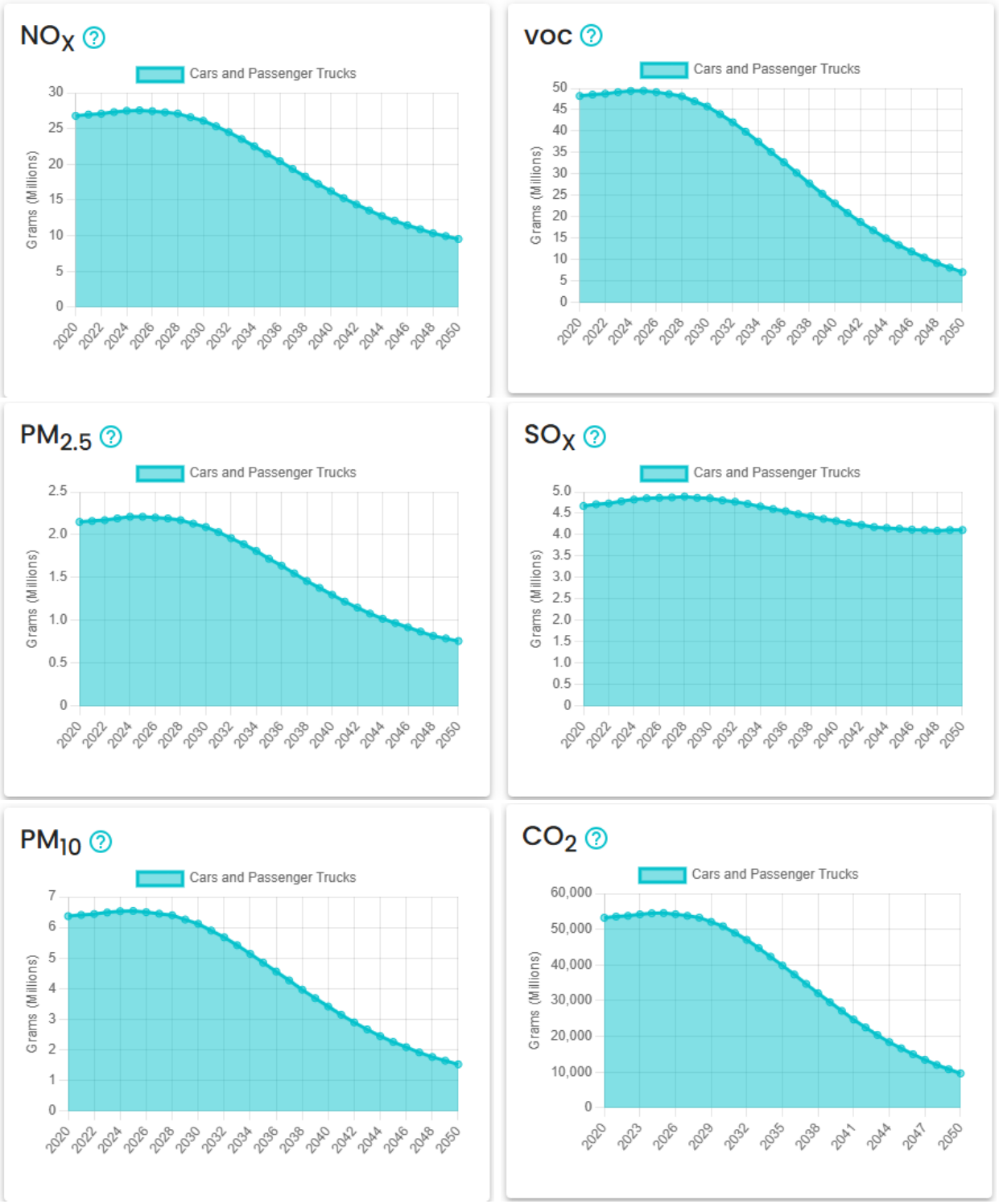


Figure 9: Expected Emissions Reductions under the Low Scenario. Under this scenario, in 2030 vehicles will generate approximately 50,812.64 metric tons (MT) of CO_2 (one of the most important measures of GHG emissions), dropping to 27,136.13 MT by 2040 and 9,629.46 MT by 2050. Assessed against the 2024 baseline of 54,451.19 MT, this results in a total CO_2 reduction of 44,821.73 MT or an 82.3% reduction.

Moderate Scenario

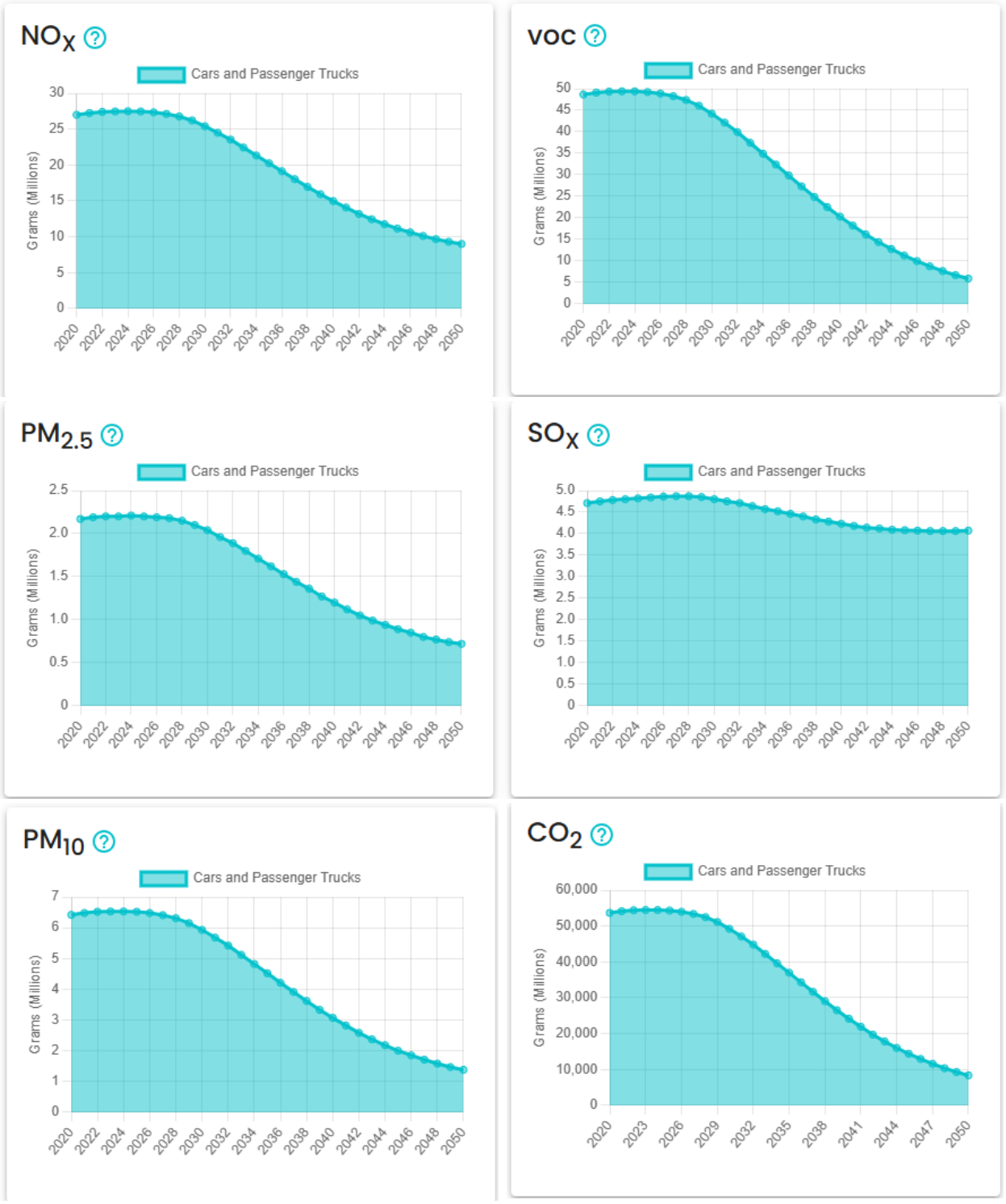


Figure 10: Expected Emissions Reductions under the Moderate Scenario. Under this scenario, in 2030 vehicles will generate approximately 49,227.99 metric tons (MT) of CO_2, dropping to 24,151.91 MT by 2040 and 8,350.12 MT by 2050, a total CO_2 reduction of 46,101.07 MT compared to the 2024 baseline, or an 84.7% decrease.

High Scenario

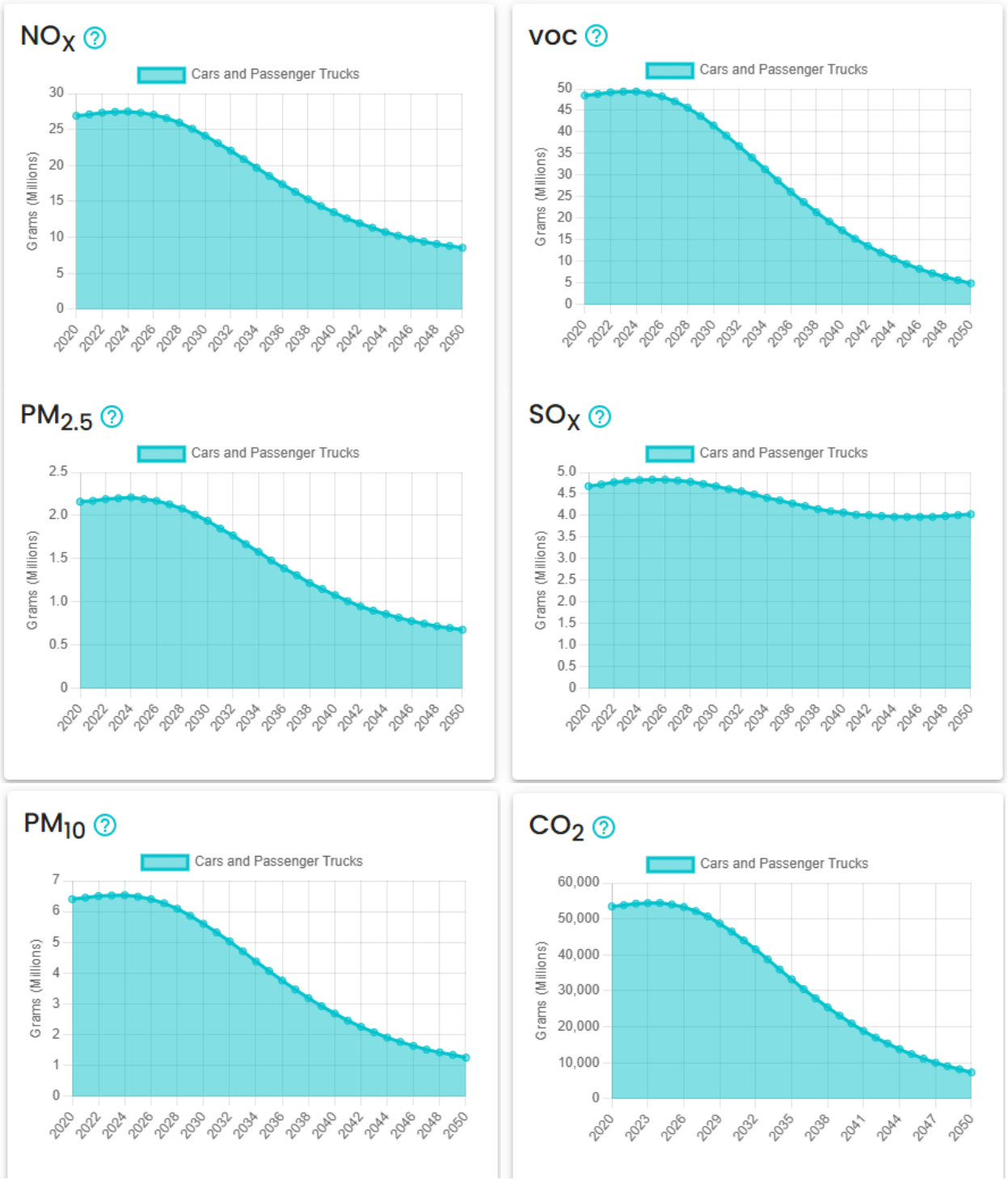


Figure 11: Expected Emissions Reductions under the High Scenario. Under this scenario, in 2030 vehicles will generate approximately 46,471.11 metric tons (MT) of CO_2, dropping to 20,930.9 MT by 2040 and 7,335.08 MT by 2050, a total CO_2 reduction of 47,116.11 MT compared to the 2024 baseline, or an 86.5% decrease.

Projecting Future Growth

Scenario planning for vehicle access and charging needs must incorporate anticipated growth in population and housing. Mercer Island's 2045 Comprehensive Plan indicates that as of early 2026, the city was on track to meet the housing target of 1,240 additional units by 2044 that was initially set. In mid-2026 the Department of Commerce (Commerce) found that this target was not in line with State targets for affordable housing and Mercer Island increased this target to approximately 3,164 new units citywide. These additional housing unit requirements are expected to be met primarily with MFH due to both space constraints for additional single-family housing units and the fact that the increased unit requirement is driven by a need for more affordable housing. As such, the additional units will primarily need to be sited in similar locations to those identified in this report and therefore can be expected to benefit from increased public charging availability at these sites.

The majority of new housing growth is comprised of multifamily buildings, with approximately three quarters of added units delivered in large multifamily development forms. The remainder has been predominantly redevelopment of detached single-family residences, along with notable recent increases in duplexes and small multiplexes. This pattern of growth directly affects vehicle ownership characteristics and type of charging access required. Multifamily concentration creates higher shared charging demand loads and shifts the balance toward workplace, public, and community charging rather than individual private garage charging only.

Land capacity constraints matter for EV planning because most existing housing on Mercer Island consists of detached homes constructed on large lots. This housing form reduces available land supply for significant additional single-family expansions and reinforces a long-term evolution toward denser formats within the 76-acre Town Center. As such, Town Center charging infrastructure will increasingly become a primary opportunity area for equitable access, charging availability, and efficient management of future peak load increases.

As single-family neighborhoods approach full redevelopment and infill build out, the net number of detached homes may not dramatically expand. Single-family home prices are also likely to continue to rise, further reinforcing a shift toward multifamily growth patterns. Given this expected trajectory, **EV infrastructure planning must assume a higher share of residents living in multifamily settings with shared parking environments.** Public charging will play a central role not only for renters, but also for homeowners whose lots or redevelopment forms do not support private charging installation. This growth pattern should guide location priorities, technology

mix, and long-term EV strategy to support the full spectrum of future residential households. The increased new housing unit targets set in 2026 highlight the urgency of expanding public charging accessibility to ensure that meeting both housing targets and EV adoption targets are complementary goals and not sources of conflict.

EV Scenario Analysis

All analyses conducted for this report account only for battery-electric vehicles (BEVs). With Mercer Island's relatively small population, the three scenarios (Low, Moderate, and High) all indicate that the city should be able to successfully transition to EVs by 2050. The Low adoption scenario anticipates slower uptake, with EVs comprising 100% of new vehicle sales by 2044. The Moderate adoption scenario projects 100% of new sales to be EVs by 2042, while this target is reached by 2040 under the High scenario[4].

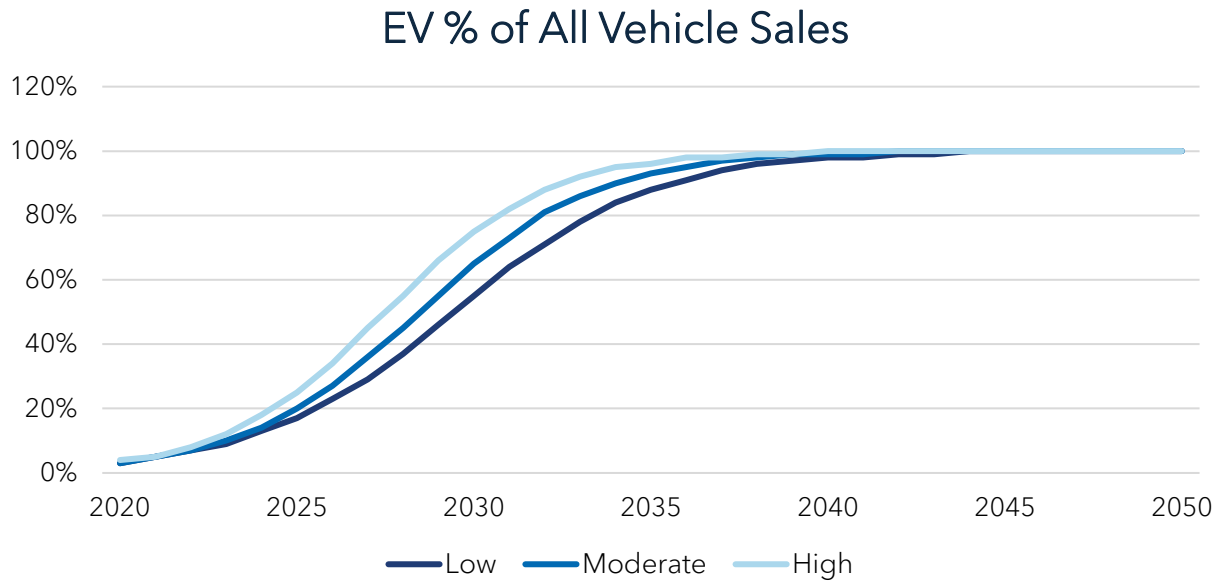


Figure 12: The % of all vehicle sales projected to be EVs (vs. ICE vehicles) under the three adoption scenarios.

While EVs are projected to comprise 100% of new vehicle sales by no later than 2044 under any adoption scenario, the model suggests that there will still be a small fraction of vehicles in Mercer Island that are not EVs. This is due to some people continuing to drive existing ICE vehicles. Nevertheless, the Low, Moderate, and High adoption scenarios anticipate 92%, 94%, and 95% EV saturation respectively by 2050.

[4] All projections are for light-duty vehicles only, as the state has a longer timeline for medium- and heavy-duty vehicles transitioning to EVs due to the more limited EV technology for those vehicle classes.

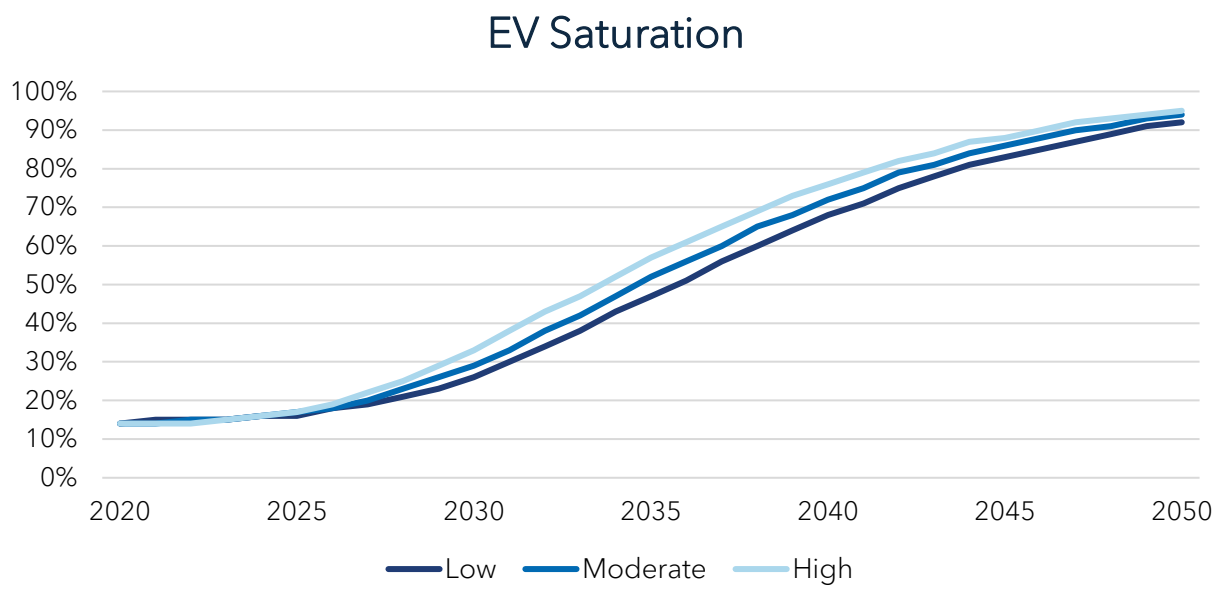


Figure 13: EV saturation (i.e. the % of registered vehicles expected to be EVs) under the three adoption scenarios.

All three scenarios project just under 20,000 EVs registered in Mercer Island by 2050.

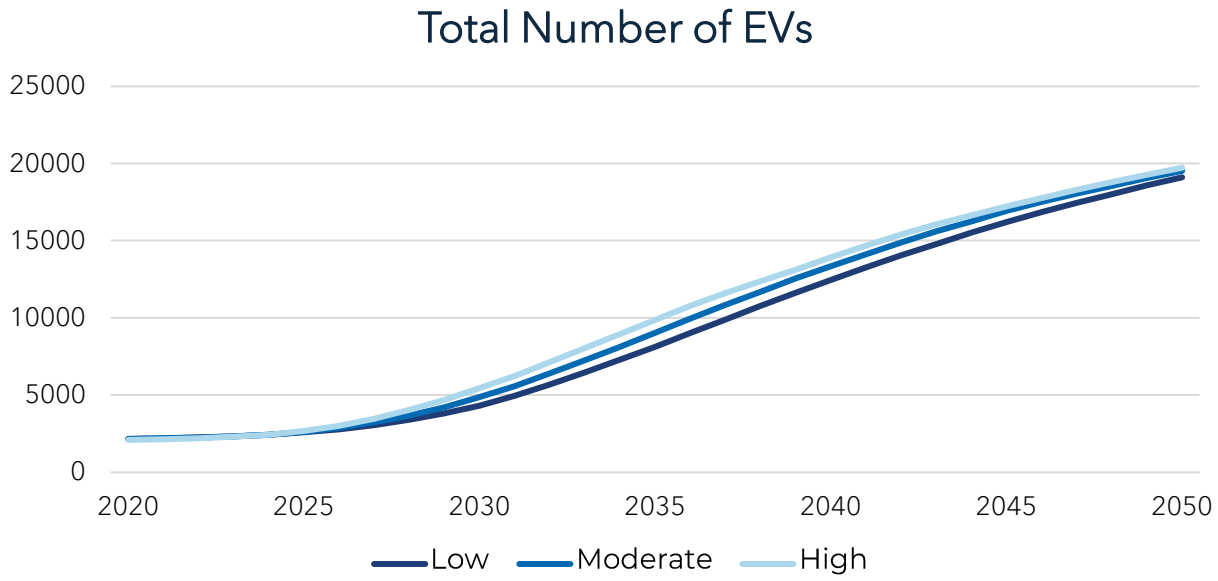


Figure 14: Total number of EVs under the three adoption scenarios. The total will grow from about 2,000 EVs to almost 20,000 under all scenarios.

Demand Mapping

Demand mapping identifies where EV charging demand currently exists in Mercer Island and how that demand is projected to evolve through 2050. The analysis models the Low, Moderate, and High EV transition scenarios, using predictive modeling and

integrating population growth, vehicle registration trends, and housing characteristics to estimate future charging activity across residential, commercial, and recreational areas.

Using the ElectroTempo platform, charging demand can be assessed considering a number of factors, including the season (winter, summer, or shoulder) and time of day. For the majority of the analysis completed for this report, winter demand was used as this represents the greatest demand. Using winter demand ensures that the city is preparing for the greatest extreme in demand.

Looking at winter EV charging demand, the 2025 total daily baseline is about 33 megawatt hours (MWh) for all of Mercer Island. Under the Moderate scenario, this is expected to increase to 55 MWh by 2030, 152 MWh by 2040, and 222 MWh by 2050.

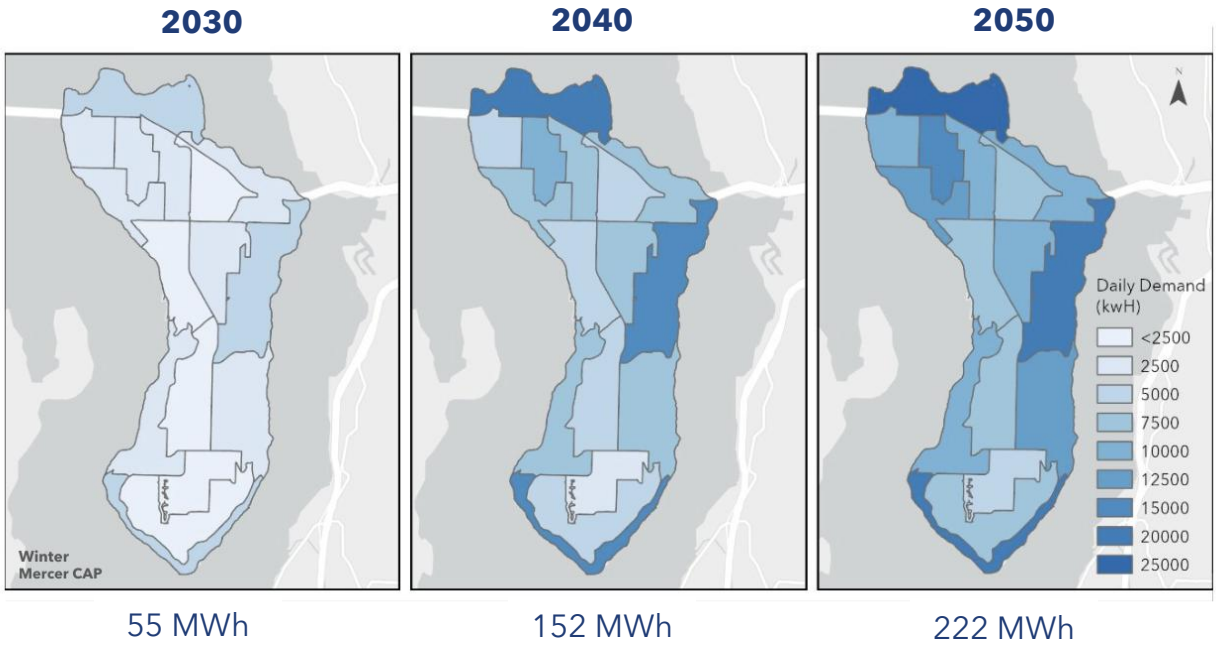


Figure 15: Projected daily charging demand in MWh for 2030, 2040, and 2050 using the Moderate scenario.

The majority of current and projected charging demand is home charging demand. By 2050, home charging demand is expected to use 167.6 MWh of energy, while non-home charging demand is projected to use 54.6 MWh. **This means that by 2050, public charging alone will require an equivalent amount of power as all EV charging will in 2030.**

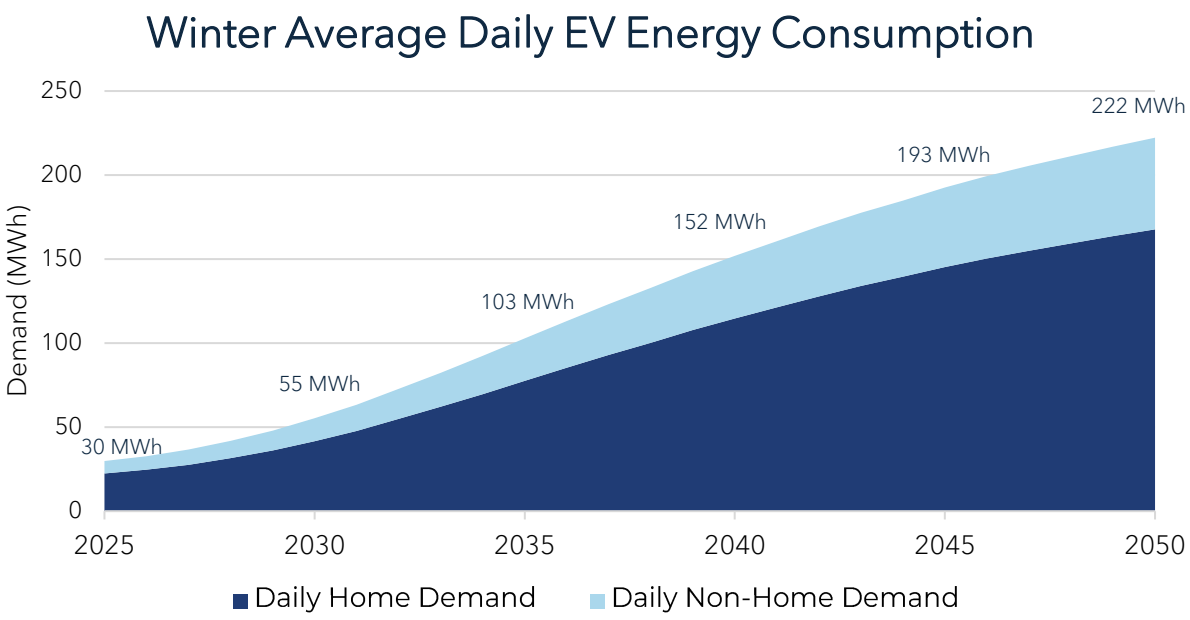


Figure 16: Average daily energy needs for home vs. non-home EV charging. The vast majority of charging needs will be home charging, but non-home charging demand will increase significantly by 2050.

Charging demand is not evenly distributed throughout the day, with peaks in both home and non-home charging demand. In general, home charging demand peaks overnight, while non-home charging peaks early in the morning and is generally higher throughout the day than overnight.

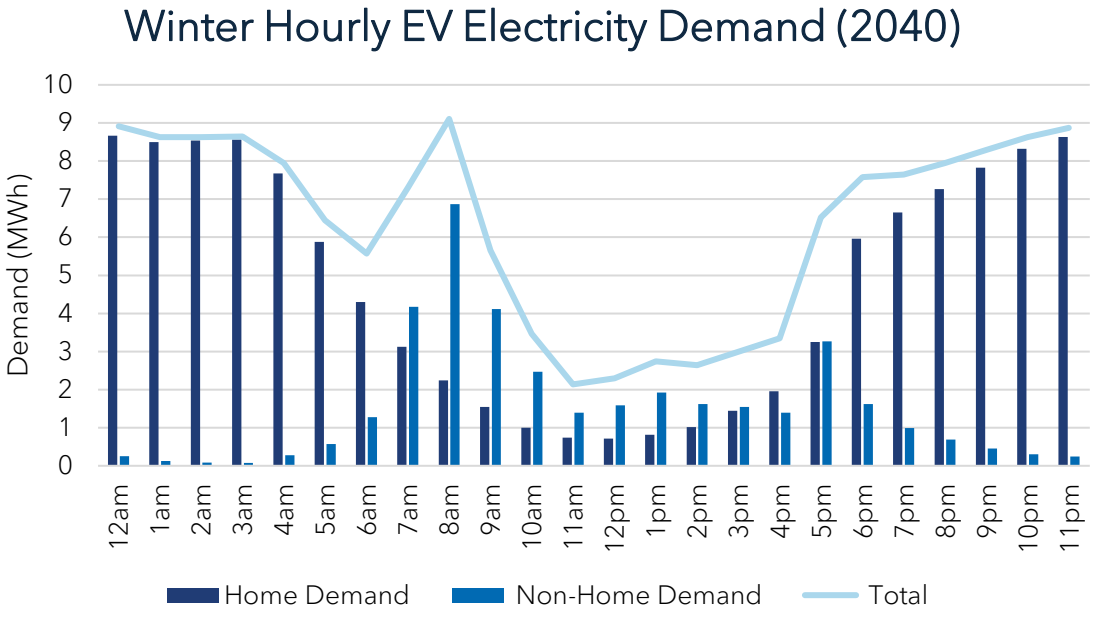


Figure 17: Charging demand by time of day for home vs. non-home charging.

The charging demand mapping projections for Mercer Island suggest that **public charging infrastructure on Mercer Island will need to be increased to meet future demand, and that infrastructure may be most utilized during morning commutes and errand runs. This suggests sites adjacent to these routes would be the most beneficial.**

Capacity Mapping

Capacity mapping assesses the electrical grid's current and future ability to support increased EV charging across Mercer Island. Mercer Island's power is supplied by PSE, a local utility that provides electric and natural gas services to several counties in Washington. The City's power is brought to the island via two submarine cables located at the North and South ends of the island (see Figure 17). At the time of writing this report, these two cables are capable of supplying 101 megawatts (MW) of electricity to Mercer Island.

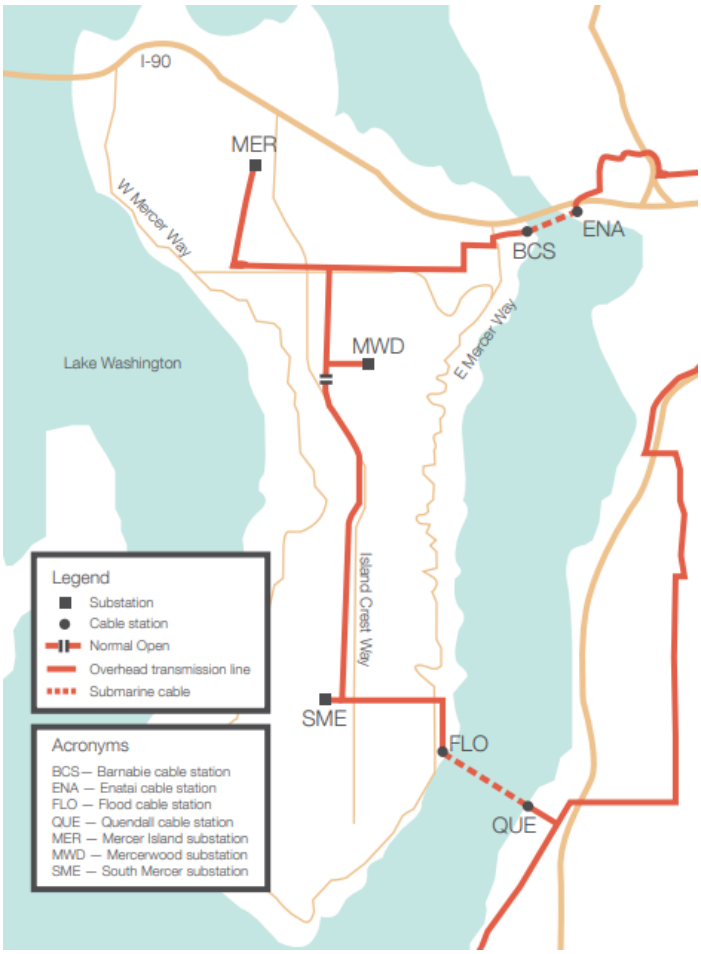


Figure 18: Map depicting the electricity distribution lines that bring power to Mercer Island.

A 2022 load study indicates that Mercer Island's peak load reaches 44 MW in the summer and 37 MW in the winter. Assuming a 3-kilowatt (kW) impact on peak load per EV that is being charged on the island, EVs currently contribute 9.8 MW towards the City's peak load.

PSE is working to upgrade the submarine cables that supply power to the City to improve the resilience of the grid system and increase the power supply from 101 MW capacity to approximately 170 MW capacity. This should provide ample power for projected increases in charging demand. Combining home and non-home charging projections for 2050, the peak demand occurs at 8AM and requires approximately 13.3 MWh of power. PSE estimates that non-EV sources of demand will require

approximately 93 MW during peak load demand, for a total of 106.3 MW. Assuming that the cable upgrades are completed, PSE should be able to transmit the necessary power to meet the demands of full community vehicle electrification. While the new submarine transmission cables will ensure that the required power can be transmitted to the island, fully meeting projected charging needs will depend on several additional factors; specifically, power generation, transmission upstream of Mercer Island, and installation of charging infrastructure.

Load supply at each of the specific locations where EVs will be charged must also be considered when assessing the viability of infrastructure upgrades. This will be discussed in greater detail in the Site Selection Criteria section.

Infrastructure Mapping

Infrastructure mapping provides an inventory of existing and planned EV charging infrastructure and related facilities on Mercer Island. This helps visualize what infrastructure is operational today and what is already planned for and/or funded. As of 2026, Mercer Island has 7 known public EV chargers, managed by three charger operators: EVConnect, XEAL Energy, and ChargePoint. ChargePoint operates 6 total chargers, 5 of which are public. This map does not account for private chargers.

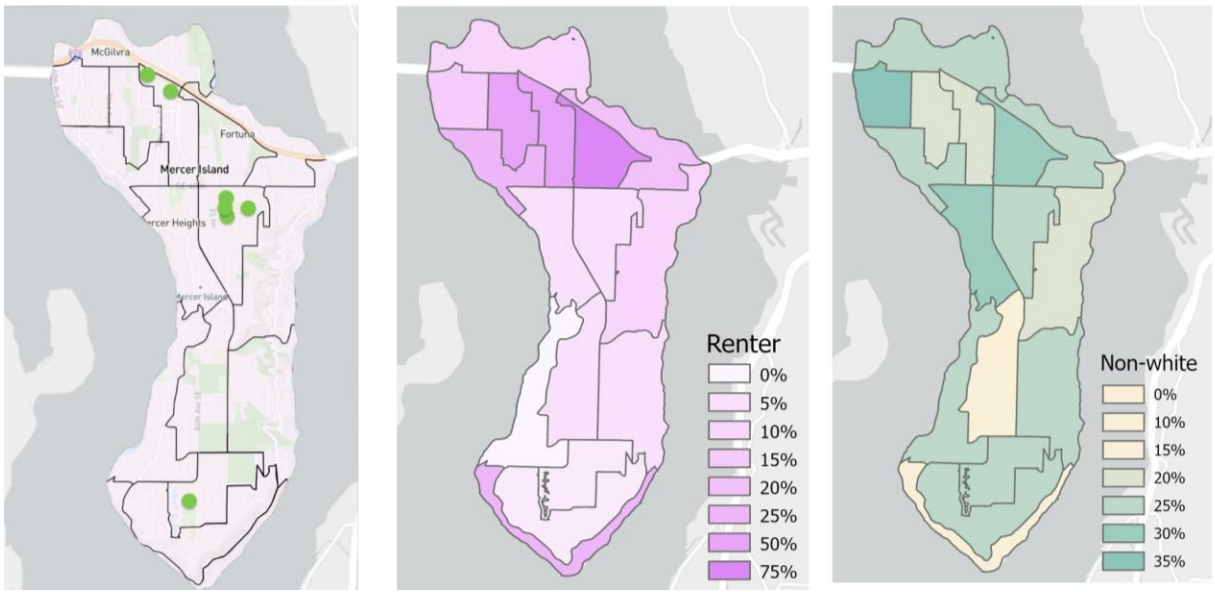


Figure 19: From left to right: existing public chargers; Mercer Island block groups by the % of residents who rent; and Mercer Island block groups by the % of residents who are non-white.

To assess an equity factor in current charger access, the existing charging network was evaluated against the % of the adjacent census block groups' population comprised of either renters or non-white residents. Overall, the majority of existing chargers are clustered near census tracts with a high percentage of renters and non-white residents.

Analysis & Results

Site Selection

Charging demand projections were used to generate a list of sites that would most benefit from additional charging infrastructure. Potential sites were selected based on a set of criteria designed to maximize the benefit of increased charging access, including but not limited to:

- Sites located in charging deserts[5];
- Sites near areas expected to experience increases in population[6]; and
- Sites near areas expected to see high numbers of visitors.

Once identified, the sites considered beneficial for EV infrastructure investment were ranked. ElectroTempo's demand forecast tool can be used to prioritize sites for charger installations based on weighted factors. Ranking considered a wide variety of such factors, including prioritizing expanding access to historically underrepresented groups and choosing sites that will provide the greatest benefit to the greatest number of community members. This process will ensure that stakeholders understand where the most impactful sites are.

97 total sites were identified for consideration.

Site Type	Number of Sites
City-owned property	8
County-owned property	1
School	2
Commercial property	8
Gas station	4
Multifamily Housing property	74

For the current analysis, only city-owned sites and MFH sites were assessed. City-owned sites and MFH sites were ranked using unique weighted ranking schemes. The city-owned sites will be prioritized for future infrastructure installations as allowed within the City's budget and control, while the MFH site ranking will be used to prioritize

[5] Locations with little to no charging infrastructure within easy reach.
[6] As noted earlier, while Mercer Island's housing targets have been increased since these areas were first identified, the additional new housing units that will be built to meet these new targets will be primarily sited in these same areas due to existing spatial and zoning constraints on the island.

outreach to site owners about investing in infrastructure installations. A different weighted analysis was applied to each group of sites as each group has different priorities and needs.

To prioritize **city-owned sites**, the following weighted analysis was applied:

Prioritization Factor	Weight
Charger Coverage	4
2025 Demand	9
2030 Projected Demand	10
2050 Projected Demand	7
PSE Feasibility Score	5
Proximity to Disadvantaged Community/ies	6

To prioritize **MFH sites**, the following weighted analysis was applied:

Prioritization Factor	Weight
Charger Coverage	5
2030 Projected Demand	9
2050 Projected Demand	8
PSE Feasibility Score	7
MFH Units Served	8

Charger Coverage

This variable describes the percentage of charging demand that can be met by existing charging infrastructure. This provides a quantitative assessment of how the gap between charging need and charger availability will change over time. Sites located in parcels with lower existing charger coverage will receive a higher score, as adding infrastructure in these locations will provide greater benefit.

2025 Demand

This variable reflects current charging demand, establishing a baseline. Sites located in parcels with higher demand will receive a higher score, as adding infrastructure in these locations will help to meet existing demand.

2030 Projected Demand

This variable is based on charge demand modelling and accounts for how EV charging demand is expected to change by 2030. Sites located in parcels with higher projected

demand will receive a higher score, as adding infrastructure in these locations will help to meet growing demand.

2050 Projected Demand

This variable is based on charge demand modeling and accounts for how EV charging demand is expected to change by 2050. Sites located in parcels with higher projected demand will receive a higher score, as adding infrastructure in these locations will help to meet growing demand.

PSE Feasibility Score

This variable accounts for the installation-readiness of each site. Each site was assigned a score of 1 (unknown), 2 (not ready) or 10 (ready) based on feedback from PSE on the site's existing grid capacity. Sites with a higher PSE score will receive a higher overall score, as these sites will have less expensive installations.

Disadvantaged Communities

This variable reflects whether or not a site lies within a region designated as Clean Transit Disadvantaged according to the Federal Council of Environmental Quality Justice40 Clean Transit Pathway. Sites considered more disadvantaged will receive a higher score, as these increasing charger access in these regions will provide benefits for Mercer Island's frontline communities who are less likely to be able to access private charging.

MFH Units Served

This variable represents how many housing units would benefit from the installation of an EV charger. MFH sites with more units will receive a higher score, as these sites serve more residents and will need more chargers overall to meet future demand.

Prioritized EV Infrastructure Sites

The following section provides a breakdown of the 8 city-owned sites and an overview of findings for MFH sites.

City-Owned Sites

Eight sites were analyzed for consideration for future city-led EV charging installations:

Town Center Commuter Parking Facility

This new parking site at the end of East Sunset Highway has 33 parking spaces and is designed to serve commuters leaving Mercer Island and any community members who need to be in the Town Center for a long period of time. With the opening of the new light rail station directly across from this site, usage is expected to increase. Given that this site is currently intended for users who leave their vehicles there for up to 8 hours, this is a highly viable site for installing Level 2 (L2) chargers so that commuters and shoppers can return to fully charged vehicles.



Figure 20: Site information for the Town Center Parking Facility site.



Figure 21 (left): Image of the newly completed Town Center Parking Facility site.

Figure 22 (below): Site information for the Homestead Park site, located in the northwest section of the island.

Homestead Park

This 11 acre-park includes multiple sports fields, a playground, and multi-use trails. Adding Electric Vehicle Supply Equipment (EVSE) to this park's parking lot would reduce charging anxiety for parents attending games and other general users of the park. There is no convenient public charging currently adjacent to this park.



South Mercer Playfields

The South Mercer Playfields consist of a set of athletic fields for a variety of sports. These facilities serve many facets of the community, including Mercer Island's Little League. This park is located in the southern portion of Mercer Island, currently a charging desert. Visitors would benefit from accessible charging while using these facilities.



Figure 23: South Mercer Playfields site.

Groveland Beach Park

This 3-acre park is the only beach park on Mercer Island's west side and sees high numbers of visitors in the summer. Parking here is limited, but adding EVSE would be beneficial for visitors to the island.



Figure 24: Groveland Beach Park site.

MICEC

The MICEC currently hosts some of the island's only publicly-available charging. Parking in this lot serves the community center and the adjacent Luther Burbank Park, one of the city's most popular parks for residents and visitors alike. Additional EVSE here would provide peace of mind for out-of-town visitors, while making it easier for residents to ensure they can return home even with only a brief charge.



Figure 25: MICEC site (lower left, blue box); Luther Burbank Park site (upper, red box)

Luther Burbank Park North Lot

This site is directly adjacent to the MICEC site (see Figure 24) and primarily serves visitors to Luther Burbank Park. Like the other park sites on this prioritized list, additional EVSE at this location would reduce charging anxiety for out-of-town visitors, while providing an added convenience for local community members.

Aubrey Davis Park (Field C) & Aubrey Davis Park (Courts)

This 90+ acre park is also a key part of the regional recreational and transportation corridor. Containing athletic facilities, picnic areas, play areas, and general open space, a wide variety of visitors use the park's facilities on a daily basis.



Figure 26: Aubrey Davis Field C (lower left, blue box) and Aubrey Davis Courts (center, red box) sites.

Implementation Strategy

The following sections outline steps the City of Mercer Island can take to pave the way for a smooth transition to EVs.

Implementation Costs

Implementation of this strategy will include initial installation costs as well as ongoing operations and maintenance expenditures. EV technology is a rapidly evolving sector, and costs outlined here represent best estimates and projections using 2026 data and trend analyses.

Installation Costs

Installation costs will vary greatly from site to site based on a variety of factors. A full site evaluation and construction and design documents will be required to accurately assess the specific installation costs for each site, but some estimated costs and some of the key factors that affect installation costs are described below. All estimates are based on best available data as of the publication of this report.

EVSE Type and Features

EVSE units are offered with a wide range of features and charging capabilities. The simplest and slowest are Level 1 (L1) chargers that are operated through a standard residential 120-volt (120V) AC outlet and are most suited for plug-in hybrid electric vehicles (PHEVs) which they can charge to 80% in 5-6 hours. Faster charging can be achieved using a Level 2 (L2) charger which uses a 240V or 280V outlet. These can charge a PHEV to 80% in 1-2 hours and a BEV to 80% in 4-10 hours. The fastest charging is available through direct current fast charging (DCFC), which can charge a BEV to 80% in 20-60 minutes. These are generally not compatible with PHEVs.



Figure 27: L2 charger (left) and DCFC charger (right). (Source: 123RF (left) & WSDOT (right))

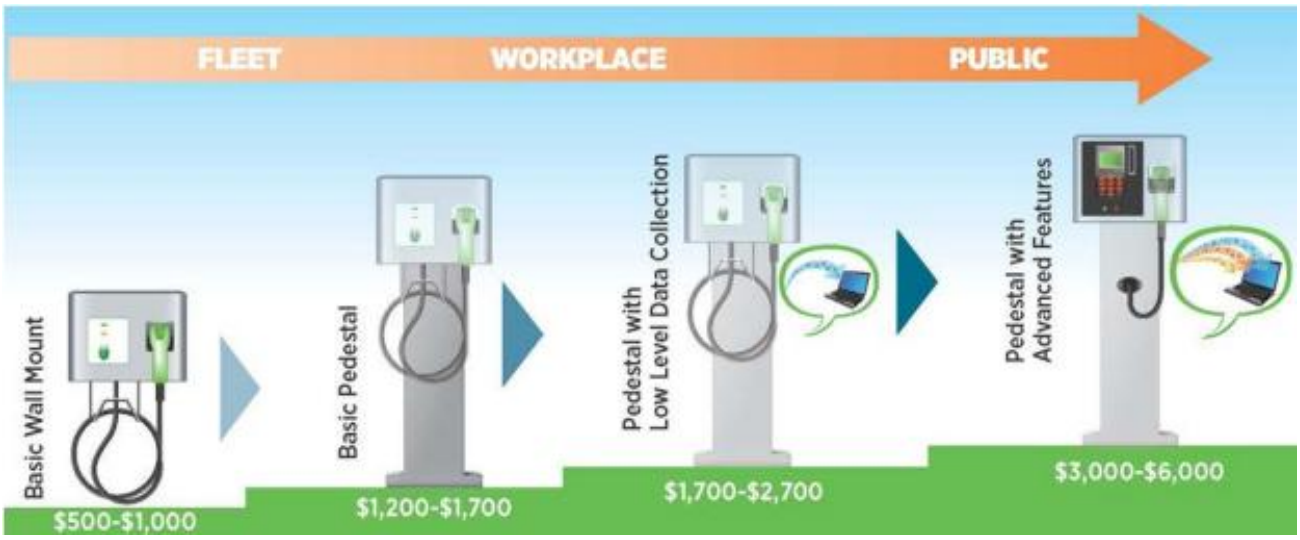


Figure 28: Public chargers tend to cost more than fleet or workplace chargers due to different requirements. For instance, public chargers must generally be networked and should be faster chargers, both of which add cost.

Typically, L2 or DCFC chargers will be required for public charging, while L1 chargers can be installed in homes and workplaces. Most likely, any public chargers installed by the City will be L2. DCFC chargers are exponentially more expensive to install and have unique maintenance needs. Instead, the City can focus on expanding the network of L2 chargers available to the public at the sites detailed in this report, and work with gas stations and other commercial operators to add DCFC charging capacity. Mercer Island will likely want to expand DCFC charging access as the city is located along a key travel corridor (I-90).

Table 2: Estimated per-charger installation costs for L1, L2, and DCFC chargers

Level	Power	Range per charging hour	Type	Chargers/ pedestal	Per-charger cost (2026 $)
L1	1.2-1.4 kW	3-4 miles	Non-networked	One	$1040.67
				Two	$762.90
L2	3.3-6.6 kW	10-20 miles	Non-networked	One	$1,513.01
				Two	$1,200.68
			Networked	One	$4,002.68
				Two	$3,575.15
DCFC	50 kW	150+ miles	Networked	One	$36,354.40
	150 kW	200-250 miles	Networked	One	$96,002.95
	300 kW	20-1,000 miles	Networked	One	$179,205.51

While not as costly as DCFC chargers, networked L2 chargers are more than twice as expensive as non-networked L2 chargers, and publicly accessible chargers generally

must be networked so that users can pay for their charge time and so that the chargers can be monitored. The table above shows the average per-charger cost for a range of charger types in 2026 dollars[7].

Number of Ports Installed

Installing more ports as part of the same project will reduce the average installation cost per port. For instance, the installation costs for a site with a single charger average $2,836 per charger, while a site with 6+ chargers averages $2,305 per charger.

Installation Readiness of Site

Simple installations, where no additional electrical capacity is needed and electrical supply conduit does not need to travel far will reduce the overall cost of installation. However, installations that require lengthy trenching for electrical supply conduit or upgrades to the electrical panel and/or service will on average be 25% more expensive than simple installations. Trenching, including replacing or relandscaping the disturbed surface material, can cost $10-150 per foot depending on the material.

A 2013 study found that 72% of installations required upgrades or modifications of the electrical panel, suggesting that it is likely that Mercer Island's selected sites will require at least some electrical work. The table below provides a range of estimates (in 2026 dollars) for different EVSE installations. For each type, a "simple" (i.e. minimal to no upgrades needed) installation estimate and a "complex" estimate are provided.

Table 3: Sample L2 EVSE Installation Costs

Type of Install	**Expense**	**Cost**
1 networked dual-port L2 charger (simple installation)	Charger and EVSE	$3,575.15
	Labor	$1976.38
	Materials	$1423.40
	Permits	$104.96
	Tax	$122.88
	TOTAL	***$7,202.78***
1 networked dual-port L2 charger (complex installation)	Charger and EVSE	$3,575.15
	Labor	$7,510.25
	Materials	$6690.00
	Permits	$104.96
	Tax	$122.88
	TOTAL	***$18,003.24***

[7] Per-charger costs were calculated by applying an inflation multiplier to the costs assessed in the US Department of Transportation's (DOT's) 2019 study of EVSE installation costs.

6 networked dual-port L2 chargers (simple installation)	Chargers and EVSE	$21,450.90
	Labor	$10,107.19
	Materials	$6,712.53
	Permits	$291.85
	Tax	$576.02
	TOTAL	***$39,138.48***
6 networked dual-port L2 chargers (complex installation)	Chargers and EVSE	$21,450.90
	Labor	$27,289.42
	Materials	$25,507.60
	Permits	$291.85
	Tax	$576.02
	TOTAL	***$75,115.78***

Maintenance and Operations Costs

Depending on the ownership model utilized, the City may or may not be responsible for all or a portion of the ongoing maintenance and operations costs for the EVSE network. Typical ongoing costs include:

Electricity Consumption Charges

Depending on the ownership model, the City may be responsible for paying for the electricity supplied to the charging network. PSE's current rate averages $0.16 per kilowatt hour (kWh). Assuming that each charger is in use on average 8 hours per day, and that a L2 charger capable of supplying 12 kW of power is used, each port would use approximately 96 kWh of power, or 192 kWh for a dual-port charger. This would equate to approximately $15.36 per port and $30.72 per charger. Meanwhile, a DCFC charger that supplies 80 kW of power could use up to 640 kWh in an 8-hour day, costing approximately $102.40.

Network Fees

The fees to keep networked chargers connected to the cellular/WiFi network and to cover on-call support will depend on the network operator, but typically range from $100-900 per year.

Preventative Maintenance and Repair

EVSE is still considered an emerging technology, making it difficult to make assumptions about the long-term maintenance costs and expected lifetime of the equipment currently on the market. Most L2 chargers are modular, allowing replacement of damaged parts without needing to replace the entire unit. Networked units will also need software maintenance and troubleshooting periodically. DCFC chargers require ongoing preventative maintenance to keep cooling systems, filters, and other specialty components operable. The US DOE estimates ongoing

maintenance fees at $400 per year per charger for L2 units and $800 per year per charger for DCFC units.

State Registration Fees

The state of Washington requires EV charger ports operated for commercial use[8] to be registered on an annual basis, charging a per-port annual registration fee.

- Level 2: $20/port
- DCFC: $40/port

Potential Revenue

Under a City as Owner-Operator model, electricity consumption costs can and should be recovered by charging a per kWh fee for use of the charger. Pricing must account for any rate increases charged by the utility (PSE). For example, as of 2026, PSE charges $0.28/kWh to use L2 chargers and $0.42/kWh for DC fast chargers at their public charging stations. Additionally, PSE public stations include a $0.40/minute idling charge for vehicles that remain parked once fully charged.

Assuming an average of 8 hours of use per day, a dual-port L2 charger that dispenses 192 kWh of power per day would generate $19,622.40 per year at a rate of $0.28/kWh. A DCFC charger used for 8 hours per day would generate $98,112 per year at a rate of $0.42/kWh.

Average Annual Estimated Operating Costs

The table below summarizes the average expected annual operational costs for a dual-port L2 charger and a DCFC charger, assuming each is used for approximately 8 hours per day. Additionally, the total expected revenue for each type of charger is calculated by subtracting all operating costs from the estimated revenue that could be generated by charging the recommended per kWh rate above. Revenue generated by publicly-provided charging stations could be used to fund ongoing sustainability projects for the city, including installation of additional stations. Revenue would only be generated if the chargers are operated under the City as Owner-Operator model. If the utility or a third-party operator manages the charging stations, all revenue would go to their overhead.

[8] RCW 19.94.175, https://apps.leg.wa.gov/rcw/default.aspx?cite=19.94.175

Table 4: Average Annual Estimated Operating Costs & Potential Revenue

Expense	L2 Charger (dual-port)	DCFC Charger
Electricity consumption	$0.16/kWh $30.72/day $11,212.80/year	$0.16/kWh $102.40/day $37,376/year
Network fees	$450	$450
Preventative maintenance	$400	$800
State registration fee	$40 ($20/port)	$40/port
TOTAL	**$12,102.80**	**$38,666**
Potential Revenue	$19,622.40	$98,112
Total revenue after costs	**$7,519.60**	**$59,446**

Charging Network Ownership Model

As the City rolls out a comprehensive public charging system, there are several options available for how the charging network is operated. The four primary options are:

- City as Owner-Operator
- Utility Ownership
- Third-Party Ownership
- Charging-as-a-Service (CaaS)

Each management structure offers a different level of control and resource needs for the City. For instance, the initial investment costs for a City-owned and operated charging network are significantly higher than in the other models. This model also presents the greatest risk to the City, as all equipment must be maintained by the City and low-charger utilization will mean the City does not earn the revenue needed for ongoing maintenance. However, this model also is the least expensive in terms of routine maintenance and operations as it does not require recurring subscription fees.

EVSE Ownership Model	Upfront City Project Costs	Ongoing City Operational Costs	Risk to City
City as Owner-Operator	$$$	$	!!!
Utility Ownership	$$	$$	!!
Third-Party Ownership	$$	$$	! - !!
Charging-as-a-Service (CaaS)	$	$$$	!!!

There are many service providers that the City could enter agreements with, either under the Third-Party Ownership model or the CaaS model. Popular providers with extensive networks include:

- Blink
- ChargePoint
- Electrify America
- EVgo
- Jolt
- Xeal
- EVConnect

Of these, ChargePoint is by far the largest network, with 68,000 chargers across the United States, with the second largest network, Blink, operating 3,275 chargers. ChargePoint, Xeal, and EVConnect all currently operate chargers in Mercer Island.

Recommendation

Public Charging

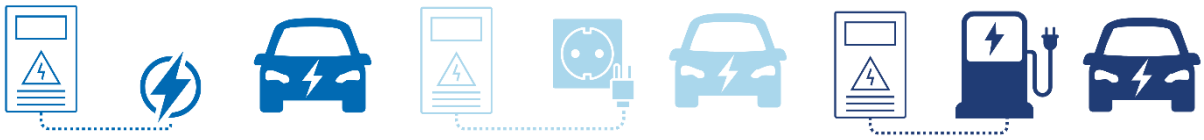
Partnering with a third-party EVSE network operator is likely the simplest and most cost-effective approach for the City to employ for public chargers installed as City projects. While the reduced long-term operational costs and potential revenue of a City as Owner-Operator model are appealing, the increased risk and the steep upfront cost of infrastructure investment are likely to deter decision-makers. However, if grant funding is available to mitigate the upfront costs, then the City as Owner-Operator model is the best choice as the potential revenue could fund future sustainability investments. Alternatively, the City could seek an agreement with a third-party operator that would include some degree of cost- and revenue-sharing.

MFH, Commercial, and Workplace Charging

The City cannot directly control EV charger installations at MFH, commercial, or workplace sites. Coordinated outreach and updated regulations and incentives can encourage installations, but it will be up to each site owner to determine the best ownership model for their situation if they choose to install chargers. For some MFH sites, charger installations on-site are not feasible or will not best serve their communities. Site owners for these locations may wish to pursue installing chargers on the right-of-way (ROW). Some cities have established public ROW Master Lease Agreements (MLAs) that govern how private EV companies install equipment in the ROW. To support MFH site-owners in adding the needed EVSE to support their residents, the City could consider adopting a similar policy and MLA process.

Policy-Based and Regulatory Actions

While the State of Washington provides a strong foundation for promoting increased investment in EV charging infrastructure, the City can take some additional steps. For instance, expanding the existing State requirements for making new development "EV-ready" would drive quicker investment in EV charging infrastructure and avoid the need for costly upgrades in the future. There are multiple levels of EV-readiness that can be mandated or incentivized within the city's building code.



EV-Capable	EVSE-Ready	EVSE-Installed
EV-capable sites have panel capacity and conduit installed to the parking stall that is capable of supporting 240V charging.	EVSE-ready sites go one step beyond EV-capable sites and include installation of a 240V outlet in addition to the panel capacity and conduit installation.	EVSE-installed sites are fully turnkey, and include L2 chargers installed at the parking stalls.

The table below breaks down a selection of cities across the US with development requirements beyond their State requirements.

Table 5: Sample cities with EV-readiness policies

City	Multifamily		Commercial		Single-Family	
	Installed	Ready	Installed	Ready	Installed	Ready
Decatur/Atlanta, GA	20%	20%	20%	20%	0	1
Palo Alto, CA	15%	85%	10%	N/A	0	1
San Mateo, CA	15%	85%	20%	N/A	0	1
Kirkland, WA	10%	25%	10%	10%	0	1
Denver, CO	5%	55%	10%	15%	0	1
Austin, TX	5%	35%	0%	30%	0	1
Portland, OR	0%	50-100%	0%	20%	0	0
Aspen, CO	0%	25%	0%	25%	0	1
Chicago, IL	0%	100%	0%	20%	0	0
Menlo Park, CA	0%	100%	15%	10%	0	1
Seattle, WA	0%	30%	0%	30%	0	1

Mercer Island's ability to meet all charging needs solely through public charging will be limited. Especially for current and planned MFH residents at the north end of the island, MFH sites will need to build EV-readiness into their sites so that residents are able to transition to EVs without infrastructure concerns. Drawing from the types of EV-readiness policies in the cities listed in Table 5, Mercer Island could implement the following policy framework:

A. Residential—Single-Family & Two-Family

i. Require ≥1 EV-Ready circuit per dwelling (208/240-V, ≥40-A), located near the primary parking space or garage.

B. Multifamily (≥5 units)

i. Require ≥40% of total parking spaces EV-Ready, with remaining ≥20% EV-Capable for future growth.

ii. Permit load management and intelligent load sharing to optimize electrical capacity.

C. Commercial

i. Require ≥20% EV-Ready and ≥20% EV-Capable spaces; ensure accessible EV spaces per IBC/NFPA 70/UL.

D. Implementation Tools

i. Allow phased compliance (e.g., 25% EV-Ready at C.O., increasing with occupancy).

ii. Provide incentives (fee reductions, expedited permitting) and coordinate with utilities on capacity and demand response.

Funding Strategies

Grant funding availability for EVSE is not consistently available and can be provided by State, Federal, and private sources. Below are some funding sources that have been available in the past.

Table 6: Examples of past funding opportunities for EVSE installations

Funding	Offered by:	Description
Washington Electric Vehicle Charging Program (WAEVCP)	Washington Department of Commerce	Competitive grants to install EV charging stations. The state's community-based EV charging funding program, funding multifamily residential, publicly accessible, fleet, and workplace charging to fill gaps from private investment. Could become available again in 2027 if funding is allocated.

Charge Where You Are: Level 2	Washington Department of Ecology	Funding to help increase level 2 charging access across Washington State where drivers are likely to spend at least one to four hours. Eligible for both private and public entities. Unclear if funding will be available again.
Up & Go Electric	Puget Sound Energy	An incentive program in which the customer partners with PSE to install L2 or DCFC charging ports. If they are PSE-owned, there is no maximum incentive, and PSE will cover 100% of installation costs. For customer-owned installations, PSE will cover up to 50% of installations, up to $2,000 per port for L2 chargers and up to $40,000 per port for DCFCs.
Transportation Emission Reduction Grants (TER)	Puget Sound Energy	Funds projects that promote transportation electrification within PSE's service area. No project cap allows for larger projects than PSE's Up & Go Electric program. Has been open for applications every year since it was first announced – closes in July 2026.
Up & Go Electric Pole-Charging	Puget Sound Energy	While not a funding source, PSE uses this program to install pole chargers on existing power poles to expand their network of public chargers without needing as much infrastructure as a full station. Partnering with this program can add public charging accessibility at zero cost to the city.

Implementation Actions and Timeline

The table on the following pages details the recommended strategies, specific actions, estimated costs, and proposed timelines for implementing projects. The key below will help you read the implementation table.

Cost


Less than $25k


$25k - $75k


More than $75k

Implementation Timeline

Short-term	Within next 5 years
Mid-term	Within next 15 years
Long-term	More than 15 years out

Strategy	Action	Cost	Timeline	Details
Increase public charging access through installations at city-owned sites	Install public chargers at the Town Center Commuter Parking Facility	$	Short-term	This is a key site for installing public charging access for commuters and visitors alike. Installing several chargers here under one project would serve as an example of how EV charging projects can succeed and promote EV charging island-wide from this highly visible site. Depending on complexity of install, cost will be in the $40-80k range and includes installing 6 dual-port chargers for a total of 12 parking spaces with charging access.
	Install public chargers at Homestead Park	$	Short-term	Another site identified as a strategically important site for expanding charger coverage to an area of the island currently underserved by existing public charging. Installing between 2-4 dual-port chargers here would add 4-8 parking spaces with charging access. Installation at this site will likely have slightly higher construction costs as power will have to be pulled to the parking lot. Costs could range from $18-60k depending on the actual complexity of the installation and the number of chargers installed for this project.
	Install public chargers at the South Mercer Playfields	$	Short-term	South Mercer Island has minimal access to public charging. Adding public charging here will serve park visitors and the surrounding communities. Construction costs here could be slightly lower as some power has already been installed among the parking spaces to provide light, but additional power would be needed for the chargers. Installing between 2-4 dual-port chargers here could cost from $16-54k depending on the actual complexity of the

				installation and the number of chargers installed for this project.
	Install public chargers at Groveland Beach Park		Short-term	Adding charging capacity to this park on the western side of the island will serve visitors to the park during the busy summer months and fill a gap in existing charger coverage. Installation here will be more expensive than at other sites as power will need to be pulled a significant distance to the lot. Installing 2 dual-port chargers would likely cost $36-45k.
	Install public chargers at the MICEC		Mid-term	MICEC is the only city-owned site on this project list with an existing public charger. This is also one of the largest and most-used city-owned parking lots and would benefit from additional EV chargers. Because there is one dual-port charger in place, it will likely be less expensive to draw additional power for 4-6 more dual-port chargers. Costs would likely be between $30k-65k for this project.
	Install public chargers at Luther Burbank Park North Lot		Mid-term	This parking lot serves one of the city's busiest parks and would benefit from EV chargers. Power lines run through this site, which could bring down installation costs and make it easier to install chargers. Installing between 3-4 dual-port chargers would likely cost between $20-30k.
	Install public chargers at Aubrey Davis Park (Field C)		Mid-term	This parking lot serves a busy recreational corridor, and installing chargers here would fill existing gaps in charger access. Installation here will be more expensive than at other sites as power will need to be pulled a significant distance to the lot. Installing 2 dual-port chargers would likely cost $36-45k.

	Install public chargers at Aubrey Davis Park (Courts)		Mid-term	This parking lot serves a busy recreational corridor, and installing chargers here would fill existing gaps in charger access. Installation here will be more expensive than at other sites as power will need to be pulled a significant distance to the lot. Installing 2 dual-port chargers would likely cost $36-45k.
Conduct outreach to encourage private landowners to increase charging access	MFH property owners		Short-term	Work with property owners for MFH properties, using the ranked sites in Appendix A to prioritize outreach efforts. Create and distribute easy to understand tailored informational packets on the benefits of adding charging capacity.
	Gas station owners		Short-term	Work with gas station operators to create a long-term strategy for increasing public charging access at gas stations, encouraging installation of DCFC chargers and providing information on existing State and other programs available to help mitigate upfront costs to site owners. Create and distribute easy to understand tailored informational packets on the benefits of adding charging capacity.
	Commercial property owners		Short-term	Work with commercial property owners to encourage installation of EV chargers in privately owned and operated parking lots. Create and distribute easy to understand tailored informational packets on the benefits of adding charging capacity.
Pursue funding opportunities	Develop proposal-ready project plans		Short-term	Obtain accurate cost estimates for highly-ranked sites and prepare detailed project plans for each, including the co-benefits charger installation could have and equity considerations to be ready to apply for funding opportunities as they arise.

Ensure new and existing MFH buildings are EV-ready	Update Mercer Island Municipal Code to increase the percentage of parking spaces that must be EV-ready in new MFH buildings		Mid-term	Update Municipal Code, using language in Appendix B as a guideline, requires new multi-unit housing construction to include a certain percentage of parking spaces that are EV-ready.
	Explore developing an incentive program to encourage property-owners of existing MFH buildings to increase EV-ready parking spaces		Long-term	Determine what barriers might be preventing site owners from increasing charging coverage for their properties and work with them to develop policies, incentives, and programs to help mitigate these barriers. Make site owners aware of existing incentives and programs available at the State level, through PSE, or through other sources.
	Provide technical assistance to building owners		Short-term	Work with PSE and/or charging network distributors to create a technical assistance program and/or technical assistance guide for building owners looking to add on-site charging capacity.
	Develop a Right-of-Way Charging Program		Short-term	Amend Title 10 of the Mercer Island City Code to create Electric Vehicle Charging Zones to allow public utilities and private EV charging companies that sign a Master Lease Agreement with the City to acquire permits to install EV chargers in the public right-of-way.

Outreach

The successful implementation of this strategy is contingent on buy-in from key stakeholders and the broader community. The sites identified for infrastructure investment include private properties that will require collaborations between the City and site owners. Additionally, the prioritized site list should be reviewed by the community to ensure that selected sites and projects accurately and effectively meet charging needs.

Key Stakeholders

Property Owners and Managers: These decision-makers ultimately have final say over whether EV infrastructure is installed on their properties, although that decision can be influenced through incentives and updated building codes. This category includes:

- Large multifamily housing owners and property managers
- Small multifamily and mixed-use property owners
- Commercial property owners, especially in Town Center
- Employers with on-site parking

Community Members and EV Drivers: These are the anticipated primary users of public charging infrastructure, and include:

- Renters and MFH residents
- Homeowners without private charging access
- Commuters, visitors, and customers
- Current and prospective EV buyers

Targeted Engagement Strategies

Outreach to all stakeholder groups represents an important piece of implementation. However, the types of outreach strategies and messaging used differ depending on the stakeholder group.

General Messaging for All Groups

Some key messages will benefit all groups. For instance, EV adoption is increasing rapidly along with charging demand. This will only continue to be driven by State-mandated EV targets.

Messaging for Property Owners and Managers

All property owners and managers with the potential space and capacity to expand EV charging infrastructure should be included in outreach efforts. However, special attention should be given to property owners of sites identified as high-priority sites in Appendix C of this report. Outreach to this group should include educational and listening sessions to facilitate two-way communication between property owners and the City, as well as fact sheets that provide an overview of:

- Expected growth in EV demand.
- Competitive advantages of providing charging.
- Available incentives and sources for technical assistance.
- Peer examples from comparable cities and properties.

Key messages to communicate:

- MFH and commercial property owners risk falling behind market expectations without early and continued investment in EV charging infrastructure.
- Charging infrastructure is an amenity that supports property value and tenant retention.
- Most near-term charging growth must come from private investment, supported by incentives.
- Acting early reduces costs and avoids future grid and retrofit constraints.

To support property owners in investing in charging infrastructure, there are a wide variety of incentives available. These are detailed more specifically in this report's Funding Strategy section, but broadly these include:

- Utility programs such as PSE Up and Go.
- State and federal tax credits and rebates.
- Managed charging and load management solutions to reduce upgrade costs.
- Technical assistance and feasibility support.

Messaging for Community Members and EV Drivers

Messaging for the broader community should focus on promoting awareness of this strategy, including easy-to-digest summaries and graphics. An implementation dashboard or regularly updated summary of progress towards strategy goals would also drive interest in and support for the strategy. As projects are completed and new infrastructure comes online, the City should promote its expanded charging capacity.

Appendix A: Acronyms

BEV	Battery-Electric Vehicle. This is a fully electric vehicle.
BIL	Bipartisan Infrastructure Law.
CAP	Climate Action Plan. Refers to Mercer Island's 2023 Climate Action Plan and associated goals.
CFI	Charging and Fueling Infrastructure
CO_2	Carbon Dioxide, one of the primary drivers of climate change.
Commerce	Washington Department of Commerce
DCFC	Direct Current Fast Charging. The fastest and most expensive way to charge an EV.
EV	Electric Vehicle.
EVSE	Electric Vehicle Supply Equipment. Includes all infrastructure associated with charging an EV, including hardware, connectors, and communication systems.
GHG	Greenhouse Gas. GHG emissions are the primary driver of human-caused climate change. Reducing GHG emissions will slow the impacts of climate change.
ICE	Internal Combustion Engine. A traditionally powered passenger vehicle.
IIJA	Infrastructure Investment and Jobs Act
kW	Kilowatt.
kWh	Kilowatt hour.
L1	Level 1. The slowest type of EV charger, not suitable for public charging.
L2	Level 2. The middle ground of EV charging speed, most appropriate for homes, workplaces, and public charging where users are expecting to leave their vehicle for several hours.
MFH	Multifamily housing. Includes any housing type with more than one housing unit on the lot.
MICEC	Mercer Island Community and Event Center. One of the sites identified for expanded public charging access.
MLA	Master Lease Agreement.

MT	Metric Ton. A standard measure of GHG emissions, which are often represented in MT of CO2 equivalent.
MW	Megawatt.
MWh	Megawatt hour.
NEVI	National Electric Vehicle Infrastructure. Refers to the NEVI formula program which provides funding to expand EV charging infrastructure along strategic corridors.
NO_X	Nitrogen Oxides. Emission compound generated through combustion. Harmful to human health and contributes to global warming.
PHEV	Plug-in Hybrid Electric Vehicle. Any vehicle that utilizes a mix of traditional fuel (gasoline) and electric charging.
PM10	Particulate matter less than 10 micrometers in size. A vehicle emission that is harmful to human health.
PM2.5	Particulate matter less than 2.5 micrometers in size. A vehicle emission that is harmful to human health.
PSE	Puget Sound Energy. Mercer Island's energy utility.
ROW	Right-of-way. Portions of land in the city owned and operated by the city for the public good to run and manage public infrastructure, including utility lines, sidewalks, and roads.
SO_X	Sulfur Oxides. An emissions compound that contributes to pollution.
US DOE	United States Department of Energy.
VOC	Volatile Organic Compounds. Generated by combustion engines and a precursor to ozone (O3)
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation.
ZEV	Zero Emissions Vehicle.

Appendix B: MFH Site Ranking

1	7810 SE 30TH ST	38	2972 76TH PL SE
2	3011 78TH AVE SE	39	3266 80TH AVE SE
3	3055 80TH AVE SE	40	2800 75TH AVE SE
4	2920 76TH AVE SE	41	3248 80TH AVE SE
5	2836 78TH AVE SE	41	3045 81ST PL SE
6	3059 ISLAND CREST WAY	43	3224 80TH AVE SE
7	2929 76TH AVE SE	44	2717 76TH AVE SE
8	2940 76TH AVE SE	45	3242 80TH AVE SE
9	3030 80TH AVE SE	46	3254 80TH AVE SE
10	2959 76TH AVE SE	47	3260 80TH AVE SE
11	2930 76TH AVE SE	48	3204 81ST PL SE
12	3239 80TH AVE SE	49	3200 81ST PL SE
13	3200 80TH AVE SE	50	2935 76TH AVE SE
14	3206 80TH AVE SE	51	3030 81ST PL SE
15	2933 76TH AVE SE	52	3278 80TH AVE SE
15	7600 SE 29TH ST	53	3208 81ST PL SE
17	3212 80TH AVE SE	54	3021 81ST PL SE
18	2760 76TH AVE SE	55	3212 81ST PL SE
19	2980 76TH AVE SE	56	8005 SE 33RD PL
20	7930 SE 34TH ST	57	3015 81ST PL SE
21	3230 80TH AVE SE	58	2430 76TH AVE SE
21	3218 80TH AVE SE	59	3220 81ST PL SE
23	7505 SE 28TH ST	60	2959 81ST PL SE
24	7549 SE 29TH ST	61	3033 81ST PL SE
25	2966 76TH PL SE	62	7800 SE 27TH ST
26	2811 75TH PL SE	63	8035 SE 33RD PL
27	2820 75TH PL SE	64	3209 Shorewood Dr
28	3043 ISLAND CREST WAY	65	8025 SE 33RD PL
29	3272 80TH AVE SE	66	2929 81ST PL SE
30	2939 76TH AVE SE	67	6106 SE 28TH ST
31	2937 76TH AVE SE	68	2949 81ST PL SE
31	3050 81ST PL SE	69	2751 61ST AVE SE
33	3236 80TH AVE SE	70	2939 81ST PL SE
34	2740 76TH AVE SE	71	9105 FORTUNA DR
35	2978 76TH PL SE	72	2500 81ST AVE SE
36	2958 76TH PL SE	73	2802 61ST AVE SE
37	2805 75TH PL SE	74	7660 N MERCER WAY

Appendix C: Sample EV-Readiness Code Amendment Language

Section X.XX.XXX – Electric Vehicle (EV) Charging Readiness in New Construction

(a) Purpose. To ensure new buildings and parking facilities are designed to support convenient, equitable EV charging consistent with the City's climate and resilience goals.

(b) Definitions. 'Electric Vehicle Supply Equipment (EVSE)'; 'EV-Capable Space'; 'EV-Ready Space'; 'EVSE-Installed Space' as specified in Section X.XX.XXX.010 (Definitions) and aligned with ICC/IECC terminology.

(c) Applicability.
(1) All new residential (including single-family, two-family, and multifamily), commercial, and mixed-use buildings with on-site parking.
(2) Major renovations adding ≥25% new parking or electrical service upgrades.

(d) Residential Requirements.
(1) Single-family/two-family: Minimum one (1) EV-Ready 208/240-V, ≥40-A branch circuit per dwelling; receptacle or junction box located within 3 ft of the primary parking space.
(2) Multifamily (≥5 dwelling units): Not less than 40% of total parking spaces shall be EV-Ready. An additional 20% shall be EV-Capable.

(e) Commercial & Mixed-Use Requirements.
(1) Not less than 20% of total parking spaces shall be EV-Ready.
(2) Not less than 20% of total parking spaces shall be EV-Capable.
(3) EVSE and installations shall comply with NFPA 70 and be UL-listed; provide accessible EV parking per IBC Section 1107 and local accessibility code.

(f) Electrical Capacity & Load Management.
(1) Service equipment and panels shall include reserved capacity and breaker spaces for each required EV-Ready/EV-Capable space.
(2) Load management systems and intelligent load sharing are permitted to meet aggregate capacity requirements.

(g) Construction Documents.
(1) Plans shall indicate EV charging locations, raceway/conduit routing, panel schedules, and labeling.
(2) Signage: 'EV-Ready' designation at each compliant space.

(h) Phased Compliance & Alternatives.
(1) The Building Official may approve equivalent compliance via EVSE-Installed spaces exceeding minimums.
(2) For demonstrated utility capacity constraints, the Official may allow reductions with documented utility correspondence; minimum EV-Capable infrastructure still required.

(i) Enforcement.
(1) Final inspection shall verify installed raceways, conductors, receptacles/junction boxes, labeling, and panel capacity reservations.
(2) Certificate of Occupancy contingent on compliance.

(j) Effective Date & Applicability to Permits. This section applies to permit applications submitted on or after [DATE].