



Seattle's Clean Transportation Electrification Blueprint

2023 Action Report

Transportation is the number one contributor to the greenhouse gas emissions that drive climate change in Seattle. Transportation powered by gasoline and diesel fuels pollutes everyone’s shared air and water and disproportionately harms Seattle’s Black, Indigenous and People of Color (BIPOC) communities.

To solve these problems, the City of Seattle’s [Transportation Electrification Blueprint \(TEB\)](#) was created in 2021 to plan how our City will move toward a cleaner and more equitable transportation system.

Co-led by the Office of Sustainability and Environment (OSE), Seattle City Light, Seattle Department of Transportation (SDOT) and the Office of Economic Development, the City has worked through the TEB since 2021 to reduce climate emissions and air pollution, increase electric options that leverage our region’s clean electricity and create a pipeline of green jobs and workforce diversity.

We are working as One Seattle to be completely carbon-neutral by 2050—an objective set by [Seattle’s Climate Action Plan](#) a decade ago. The Transportation Electrification Blueprint is a central part of how Seattle will arrive at that destination, through six North Star Goals to transform our transportation sector by 2030.



Right: A person walks on a platform next to Link light rail train. Photo: Seattle Department of Transportation.
Front cover: Parents and children cross the street in a residential neighborhood. Photo: Seattle Department of Transportation.



Neighbors explore an electric car at a public event in Greenwood. Photo: Seattle Department of Transportation.

Transportation Electrification Blueprint North Star Goals

Seattle has six ambitious and achievable goals to accelerate our local transportation sector's transformation towards a climate-friendly future, while also creating economic opportunity and ensuring everyone can equitably benefit from these changes.

100% of Shared Mobility is Zero Emissions

As shared mobility services like bikes, scooters, taxis, Uber, Lyft, carshare services and others continue to expand in Seattle, the City will ensure those options are electric and emissions free.

90% of All Personal Trips are Zero Emissions

To reach our climate goals by 2030, nine out of ten trips must be taken by walking, biking, electric transit or in an electric vehicle (or avoided all together).

30% of Goods Delivery is Zero Emissions

As more and more of the goods we buy and the food we eat are purchased online, we are seeing growing congestion and pollution from transportation. This goal is aimed to spur the transition of private fleets to electric vehicles (EVs), following the same goal for personal vehicles, over the next 10 years.

100% of City Fleet is Fossil-Fuel Free (Executive Order 2018-02)

Continuing to lead by example, Seattle will work towards the operation of a large municipal fleet with zero fossil fuels by 2030.

One or More 'Green & Healthy Streets' in Seattle

Seattle will ensure a major area of our city will have zero emissions from transportation including streets or blocks that are closed to cars and promote walking, biking, electrified transit and electric goods delivery and services.

Electrical Infrastructure Required to Stay Ahead of Transportation Electrification Adoption is Installed and Operational

Infrastructure investments will enable a rapid transition to an electrified transportation system. Seattle City Light will work strategically to make sure the grid is reliable and built out.



OSE and City Light staff attend a driver advisory committee meeting to support the Heavy Duty Vehicle Electrification Incentive Pilot. Photo: Office of Sustainability and Environment.

Key Project Phases

In pursuit of accomplishing the Blueprint's six Northstar goals, every project goes through several key phases to attain the set objectives. These phases are:



PLAN

1. Plan: This phase involves comprehensive stakeholder engagement, extensive surveying, or the collaboration of multiple departments. The aim is to analyze and understand the scope of the project, leading to the formulation of actionable recommendations for future steps.



PILOT

2. Pilot: Acting upon the recommendations from the Planning stage, the Pilot phase implements a trial run or a sample-sized effort of the project. This is a critical stage for testing the viability of the plan, assessing the effectiveness of strategies and gathering initial data and feedback.



FUND

3. Fund: Stemming from a successful pilot, the Funding phase involves securing budget allocation. It's the phase where financial resources are mobilized to support the implementation of the project on a larger scale, ensuring that the financial backbone of the project is solid and reliable.



SCALE

4. Scale: The Scaling phase is where the project is expanded beyond the pilot scope. It involves the application of successful strategies on a wider scale, optimization of resources for greater efficiency and amplification of the project's impact.



City Light and SDOT staff celebrate the launch of an ADA-accessible electric vanshare program hosted by Estelita's Library. Photo: Seattle City Light.

Progress in 2023

100% of Shared Mobility is Zero Emissions

Public, private and community-level partnerships help create the quilt of Seattle's shared mobility options. This sector includes both shared rides (such as ride-shares, car-shares and taxis, whose high mileage driving contributes to higher emissions) and individual micromobility trips (such as bikes and scooters). Seattle prioritizes offering affordable shared mobility options that reach communities of color and low-income residents. The major 2023 initiatives discussed below intentionally prioritize increased shared mobility resources and options for communities that experience the highest barriers to access.



Working together to electrify shared mobility options

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In December 2022, [Mayor Harrell signed Executive Order 2022-07](#), calling for a proposal that sets a path for the electrification of transportation network companies (TNCs), taxis and carshares in Seattle by 2030. OSE, in partnership with City Light, SDOT and the Department of Finance and Administrative Services (FAS), have formed an interdepartmental team (IDT) to create a Shared Mobility Electrification Report of recommendations, which will be complete in early 2024. The IDT engaged with important stakeholders—including TNC drivers, Uber, Lyft, Port of Seattle and the Drivers Union. Report recommendations were directly informed by these stakeholders.

Veo Micromobility staff talk with visitors at an electric shared mobility event. Photo: Seattle Department of Transportation.

“Transportation provides individuals with the freedom to move, pursue opportunities, connect with others and engage in various activities. It enhances personal autonomy, expands economic prospects, strengthens social connections and contributes to overall wellbeing.”

Estelita’s Library



Launching Washington’s first electric ADA van share program at Estelita’s Library

Juneteenth celebrations in 2023 included the launch of [Washington state’s first-ever electric van share](#) that is accessible in alignment with the Americans with Disabilities Act (ADA). Made possible by a partnership between the non-profit consumer cooperative ZEV co-op, justice-focused community bookstore Estelita’s Library, City Light and SDOT, this new EV program is an inspirational model for the community benefits that electric transportation can provide. The new van share program is supported by City Light’s installation of the first Level 2 EV charging station in the Central District, providing charging access for the new van share and other EVs in this historically-redlined neighborhood.



Keeping bike and scooter share options rolling forward

Since 2017, SDOT has granted permits for free-floating bike share and since 2020, for scooter share. [These electric-assisted devices](#) offer convenient options for short-distance travel around the city (on average, about 1 mile).

Zero emissions micromobility trip data is tracked by SDOT and these trips are growing in number. We are seeing a year-over-year growth rate of 29% compared to 2022.

2023 saw more than 4.8 million trips, exceeding our goal of 4 million trips. Taylor Swift’s July concert weekend was a high point, as we hit a daily ridership record of 31,785 trips and tracked thousands of visitors using bikes and scooters to travel to and from the stadium district. In the years ahead, SDOT plans to invest in additional parking locations to encourage proper and considerate parking, ensuring that riders do not obstruct sidewalk users and continue making micromobility options more affordable.

A person rides an electric bike. Photo: Seattle Department of Transportation.





A row of parked Lime shared electric scooters.
Photo: Seattle Department of Transportation.

90% of All Personal Trips are Zero Emissions

Seattle is aiming to reduce personal trips taken in a single occupancy vehicle by 65-75% from the current status quo. Using different modes of travel—such as walking, biking, rolling and taking public transit—can improve health, make streets safer, activate local neighborhood economies, save residents money and reduce climate pollution. The City is focused on making these options accessible, reliable and affordable with the launch of the [Climate Change Response Framework](#) in 2023 that will contribute to the in-development [Seattle Transportation Plan](#). When personal trips do require the use of a car or truck, using shared rides and electric vehicles are two ways that personal trips can become more climate friendly.

“The launch of a new state-of-the-art bus charging facility, and the coaches that will use it, recognizes Metro’s continuing transition to a green future. The experience and knowledge we gain from the systems developed here will be replicated throughout the region to support our growing battery-electric fleet.”

Terry White, King County Metro



SCALE

Expanding electric transit

Community outreach during the development of City Light’s [Transportation Electrification Strategic Investment Plan](#) (TESIP) found [electrifying public transit](#) was the top priority of Seattle’s BIPOC communities, immigrants, refugees and low-income residents. Electric buses, ferries, streetcars, trolley buses and trains are accessible, affordable options for all. Through partnerships with transit agencies like [King County Metro](#), Sound Transit and the [Washington State Department of Transportation](#), City Light is collaboratively planning for the charging infrastructure and power needed to support the transition to all-electric vehicles.



Amtrak's first regional electric coach bus.
Photo: Seattle City Light.



Launching a national first for regional transit

In 2023, a partnership between City Light, WSDOT, MTRWestern and Amtrak launched the [first-ever electric regional bus in the United States](#), connecting Seattle and Bellingham and eliminating 109 metric tons of CO2 emissions annually. City Light provided incentives and free advisory services through the Fleet Electrification Program; as Amtrak works towards its pledge to become net zero by 2045, plans are underway to expand electric bus operations further throughout the greater Puget Sound region.



Thousands of commuters are Flipping Their Trips

The [Flip Your Trip Center City campaign](#), a project partnership between SDOT and King County Metro, focuses on reducing congestion and greenhouse gas emissions while increasing transit ridership. Regional residents who frequently travel to downtown Seattle without employer commuting benefits (like ORCA subsidies) take a pledge and receive \$25 in credits for transit, scooter share and bike share. More than 2,000 participants have flipped 13,000 individual trips from driving to other modes of transportation. Aligned with downtown revitalization and pandemic recovery efforts, plans to continue the campaign are underway for 2024 and beyond.



A man wearing a bicycle helmet meets Sal the Salmon while attending a Flip Your Trip event. Photo: Seattle Department of Transportation.



Visitors inspect a vehicle participating in the Heavy Duty Vehicle Electrification Incentive Pilot. Photo: Office of Sustainability and Environment.

30% of Goods Delivery is Zero Emissions

Electrifying private fleets of vehicles is a major opportunity to reduce greenhouse gas emissions, in particular diesel-fueled trucks which contribute 9% of Seattle’s total climate pollution from transportation. Common goods delivery routes pass through Seattle’s low-income and BIPOC-majority neighborhoods where they heavily impact air and water quality. The ongoing electrification of delivery fleets is also an opportunity to bring economic opportunity to local businesses and workers; justice-centered incentives can ensure investments in change reach everyone equitably.



Pioneering the first city-based heavy duty vehicle incentive in the country

The Duwamish Valley hosts the region’s largest concentration of freight-related jobs, but it’s also burdened with gas and diesel vehicle pollution from industry, trucking and other transportation emissions. Neighborhoods like Beacon Hill, Georgetown and South Park suffer from elevated air pollution levels and higher asthma rates, making electrification a critical need. Community organizations have long advocated for electrifying drayage trucks, vehicles that are essential for Port of Seattle operations but among the region’s heaviest polluters.

In response, OSE has pioneered the [Heavy Duty Vehicle Electrification Incentive Pilot](#), launched in summer 2023 to provide point-of-sale rebates for new electric vehicles operating in the Duwamish Valley. Partnerships with City Light, Duwamish River Community Coalition and the African Chamber of Commerce Driver Advisory Committee helped reach independent owner-operator drivers and small fleet owners who purchase and operate these vehicles, many of whom are immigrants from African countries and face high up-front transition costs and limited access to credit. The program will incentivize up to 40% of start-up costs; to-date more than 145 interest forms have been received, alongside 11 applications.



Electrifying Seattle's business fleets

[City Light's Fleet Electrification Program](#) simplifies electric fleet adoption for nonprofit organizations, public agencies and commercial businesses. Open to City Light customers with at least one vehicle in their fleet, the program's financial rebates help reduce the cost of new charging infrastructure, while free expert advice on transition planning (including fleet assessments) provides tailored support. Since the program's launch in 2022, more than 1,400 fleet vehicles have been assessed, with a potential reduction of 60,000 metric tons of GHG emissions over the lifetime of their electric replacements. This year, the program added a new make-ready incentive that covers the costs of installing electrical infrastructure for organizations operating within environmental justice communities.

A fleet of electric passenger vans parked in a garage. Photo: Sound Generations.



Supporting business transitions to e-cargo bike deliveries

E-cargo bikes offer an excellent opportunity for local businesses to streamline and electrify their delivery fleets. SDOT is developing a new commercial e-cargo bike program that will launch in 2024, including guidelines and tools for e-cargo bike standards, a new permitting system and dynamic use of curb space for cargo bike parking and loading. This program is informed by [SDOT's Zero Emission Freight Study recommendations](#). SDOT plans to bring legislation to City Council in Summer 2024 to support future e-cargo bike operations in Seattle. Based on community input from ongoing business outreach, SDOT is also exploring options to offer an E-cargo Bike Lending Library to aid small and medium-sized businesses as they test e-cargo bikes on a trial basis before making a full fleet transition.

An electric cargo bike is parked with a load of delivery tubs on a trailer. Photo: Seattle Department of Transportation.





A goods delivery truck parked at a curb loading zone.
Photo: Seattle Department of Transportation.



Modernizing curb delivery through a digital commercial vehicle permit project

The growing demand for urban goods and freight delivery strains the limited load zones in our city. Through a new United States Department of Transportation SMART grant, SDOT will explore updated technology to manage Seattle's commercial loading zones, work that could ultimately lead to incentivizing zero-emission vehicles at the curb. Working with local businesses and commercial delivery users, SDOT will prototype a new digital permit, explore opportunities to automate payments and provide usage data. These efforts can help reduce congestion and cruising time, providing benefits to both the public and businesses and make our streets safer, more equitable and more climate friendly.



A City of Seattle fleet of electric cars, parked in a garage.
Photo: Seattle City Light.

100% of City Fleet is Fossil-Fuel Free (Executive Order 2018-02)

Our City's operational vehicle fleet transition is affected by a number of market-based factors, including available technologies and vehicle affordability in relation to public purchasing budgets. The Blueprint's fossil-fuel free goal prioritizes electric vehicles while acknowledging the continued use of biofuels like sustainable biodiesel and renewable diesel/gasoline may be necessary for any vehicles that don't yet have commercially available electric options (such as emergency response equipment).

As our transition continues, right sizing City fleets is an important focus inter-departmentally, to align public service with the cost of the transition and the pace and availability of electric vehicle charging.



An SDOT employee is interviewed by *The Seattle Times* about the eBroomer electric vehicle. Photo: Seattle Department of Transportation.



Progress on transitioning the City of Seattle’s vehicle fleets

In accordance with Executive Order 2018-02, intensive coordination efforts have begun between all City departments who operate fleets with 100+ vehicles, as we work as One Seattle towards a fully zero-emission and fossil-fuel free fleet by 2030. Three key pieces are part of this ambitious transition: developing charging infrastructure and making electrical upgrades, sourcing funding and creating department-specific implementation plans that include timelines and budgets. In 2023, OSE and FAS have facilitated planning for the citywide rollout and plan to report recommendations in 2024.

As part of this effort, SDOT in collaboration with FAS and union partners has 4-6 fleet transition pilots active in 2023 and 2024. This year, the first citywide Electric Vehicles & Equipment Showcase Expo promoted cross-department knowledge sharing. Demonstrations and pilots have included testing an EV sweeper for protected bike lanes, deploying all-electric forklifts and rollers, deploying rented or borrowed EVs in partnership with vendors to assess their real-world service delivery performance and testing drop-in renewable diesel in city vehicles as a more environmentally-friendly alternative to conventional fossil fuels.



Seattle Public Library vehicle featured at the first Citywide Electric Vehicle & Equipment Showcase Expo at Magnuson Park.



A child wearing a bicycle helmet cycles over a speed bump.
Photo: Seattle Department of Transportation.

One or More ‘Green & Healthy Streets’ in Seattle

Seattle is making progress on understanding climate pollution at the neighborhood level, with the implementation in 2023 of the [One Seattle Climate Portal](#) that tracks hyper-local building and transportation greenhouse gas emissions data. Together with partners like C40 Cities, we are making progress on identifying areas of Seattle that can become low-pollution zones, supporting highly impacted residents and aligning with urban planning initiatives such as the [Downtown Activation Plan](#).



PLAN

Planning for low-pollution neighborhoods is underway

In 2023, [the U.S. Department of Transportation invested \\$1.2 million](#) in Seattle’s research and planning to implement three new low-pollution neighborhoods by 2028. Led by SDOT and supported by OSE in coordination with other City departments, both data analysis and community-centered planning will be part of this five-year effort.

From now through 2025, we will learn what policy, programmatic, and infrastructure improvements and incentives are needed to encourage the shift to electric mobility, improve climate resilience and health outcomes and to make it safe, affordable and comfortable to walk, roll and bike for short trips. We will engage with residents in communities heavily impacted by pollution and vehicle crashes, as well as climate impacts such as flooding and extreme heat, and collaborate with ongoing community-led neighborhood-level solutions.

Kids and adults biking along a neighborhood greenway at the Seattle Bike Bus event.
Photo: Seattle Department of Transportation.

“Transforming our streets into places that are safe, accessible, and welcoming to people to walk, bike, roll and play helps us achieve not only our climate goals, but our equity, health and livability goals as a city.”

Clara Cantor, Community Organizer with Seattle Neighborhood Greenways





Recharging an electric car at a City Light public EV charging station. Photo: Seattle City Light.

Electrical Infrastructure Required to Stay Ahead of Transportation Electrification Adoption is Installed and Operational

One in four new vehicle sales in King County are electric compared to one in 10 nationwide. By 2035, all new vehicles sold in the state will be required to be zero-emission. Seattle's public EV charging infrastructure is expanding to keep pace with this rapid adoption.

As we power more transportation options with electricity, City Light is updating the electrical grid to prepare it for increased demand for clean electric power. [Independent electrification readiness assessments](#) confirm that our electric grid has significant capacity available for growing electricity use. Implementing smart grid technologies alongside energy conservation and other power management strategies can make electricity available for vehicles how, when and where Seattle needs it.



SDOT and City Light staff at a Curbside Level 2 EV charging station. Photo: Seattle City Light.



Increasing publicly accessible charging options to match resident demand

Many residents lack off-street parking, making it challenging to charge EVs at home. The availability and accessibility of public charging options that leverage City Light’s clean electricity is critical to support growing public adoption of EVs.

City Light is increasing charging infrastructure across the city and simultaneously evaluating the impact of charger use on the electrical system, through a number of programs. These include Level 2 and Fast EV chargers in public locations across Seattle, informed by equitable access needs and delivered in partnership with SDOT, as well as curbside Level 2 chargers in residential neighborhoods to provide near-home charging for single and multifamily households.

This year, both charging sessions and kilowatt hours (kWh) used at City Light-operated public charging stations reached an all-time high – more than 57,000 kWh and 2,400 sessions in December. In fact, public charging during the final 6 months of 2023 used on average approximately 30% more power when compared to the same period in 2022. With charging station cable theft and vandalism on the rise this year, addressing station reliability and security will be a major focus in 2024. Overwhelming public demand has also been a feature of the [curbside charging program rollout](#) this year, which included the launch of 31 new curbside EV charger locations selected after reviewing more than 1,800 resident requests.



A woman unloads trays from an electric van at Sound Generations. Photo: Sound Generations.



SCALE

Equitably investing in multifamily building charger access

Multifamily buildings, including affordable and market-rate apartments and condominiums, are some of the most difficult places to provide EV charger access. Simultaneously, they are an equitable investment opportunity to enable EV use for low-income and BIPOC residents who are more likely to be renters.

City Light's launch of a [multifamily EV charging program](#) aims to close the access gap by offering rebates to multifamily property owners and managers with more than five rental units, offsetting the cost of installing new EV chargers. The program includes free expert guidance to help multifamily properties plan for the transition and EV charging installation incentives. As of December 2023, City Light completed 19 projects, there are 154 properties in the program pipeline, and total assessments reached 122% of the original program goal.



Curbside EV chargers mounted on an electric pole. Photo: Seattle City Light.



Scaling up infrastructure planning and coordination as One Seattle

Our city's EV infrastructure readiness efforts, known as the Transportation Electrification Infrastructure Master Plan (TEIMP), is a coordinated effort between City departments to streamline the permitting process for new EV chargers. City Light, SDOT, Seattle Department of Construction & Inspections (SDCI) and OSE have collaborated to identify gaps and barriers in the siting and installation of chargers, releasing recommendations in 2023 to improve the charger permitting and application process and develop use cases for charging. Together we will continue process improvements, site planning and project pipeline and forecasting, alongside future customer outreach and education efforts.



Looking Forward

We are taking stock of the significant progress that has been made by City departments over the past two years of coordinated transportation electrification work. OSE is currently reconvening all Transportation Electrification Blueprint contributors for a new planning process facilitated by the Cedar River Group, to align and prioritize our next set of 2-year deliverables.

The Elliott Bay Trail in Myrtle Edwards Park, at sunset.
Photo: Seattle Department of Transportation.