

Seattle's Clean Transportation Electrification Blueprint: 2022–2023 Actions

Transportation is the number one contributor to greenhouse gas emissions that is driving climate change in Seattle. Pollution from transportation degrades air and water quality, all of which disproportionately harm our Black, Indigenous, and People of Color communities.

In March of 2021, the City of Seattle released a first of its kind, comprehensive Transportation Electrification Blueprint that outlines how the City will move toward a clean and equitable transportation system in order to reduce climate emissions and air pollution, increase electric mobility options, and create a pipeline of green jobs and workforce diversity.

This effort was co-led by the Office of Sustainability and Environment, Seattle City Light, Seattle Department of Transportation, and the Office of Economic Development to incorporate a wide range of expertise in climate policy, innovation, infrastructure, transit, mobility, economic development, and workforce development to ensure an equitable transition.

The development of the Transportation Electrification Blueprint and its goals included consulting with the Environmental Justice Committee and community leaders, and is centered on community-identified priorities of expanding electric transit and mobility options, making electric vehicles and charging more reliable and accessible, and connecting workforce opportunities to communities who need them the most.

The Transportation Electrification Blueprint calls for the City to take immediate action to plan for the policy-changes, infrastructure investments, and partnerships that will be required to meet these ambitious 2030 'Northstar' goals for the City:

100 Percent 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 Percent 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 Percent 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 EVs, following the same goal for personal vehicles, over the next 10 years.

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

Continuing to lead by example, Seattle will operate 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 to enable rapid adoption for emerging electric transportation technologies and vehicles.

This report highlights the cross-departmental work that was accomplished in the past year to propel Seattle towards our 2030 Northstar goals. In sharing our progress, we hope to provide a transparent illustration of the projects that are helping the City achieve its goals.

1. 100% OF SHARED MOBILITY IS ZERO EMISSIONS

Over the course of 2022, people in Seattle took over 1 million e-bike share trips, and over 2.6 million e-scooter share trips, resulting in a total of ~3.73 million micromobility trips. For comparison, 2021 saw ~2.3 million micromobility trips, resulting in a 63% year-over-year growth rate. All shared micromobility devices are zero emissions.

Inclusivity and accessibility is prioritized within the shared micromobility program in a number of ways. About 10% of trips originate and conclude in equity areas, aimed at serving a diverse range



of riders. Additionally, there are discounted rates for low-income individuals through vendor programs. The program also collaborates with Outdoors for All in facilitating access to adaptable cycles for individuals facing mobility challenges.

2023 Actions: TNCs and Micromobility

In 2022 Seattle City Light (SCL), Office of Sustainability and Environment (OSE), Finance and Administrative Services (FAS), and Seattle Department of Transportation (SDOT), in partnership with transportation network companies (TNC) and taxi stakeholders, the Utilities and Transportation Commission, and community partners, plan to develop a comprehensive proposal that creates a path for TNC and car-share vehicles operating in Seattle to transition to zero-emission by 2030.

The SDOT team is aiming to achieve over 4 million micromobility trips in 2023.

2. **90% OF ALL PERSONAL TRIPS ARE ZERO EMISSIONS**

In 2023 Seattle Department of Transportation developed a Climate Calculator and Climate Change Response Framework (CCRF). The Climate Calculator looks at existing and potential strategies SDOT can take to reduce transportation emissions. These include strategies around shifting away from driving to sustainable and efficient travel options, while electrifying remaining driving trips. This work will result in a more user-friendly tool that allows SDOT to engage in scenario planning around different pathways to emissions reduction goals, informing the Climate Change Response Framework (CCRF).

The (CCRF) will guide SDOT's climate action strategy, with a focus on both mode shift and electrification. This will set the stage for continued work throughout the rest of the decade to make progress towards the City's transportation goals around emissions reduction. The CCRF will directly respond to one of Mayor Harrell's directives in EO 2022-07, and should be ready for public release later this summer.

A successful climate response means making it easier to walk, roll, bike or take transit for most trips, while electrifying as many remaining necessary car and freight trips as possible. Much of this work is simply doing more of what SDOT is already doing. Climate response is an opportunity to improve equity outcomes, make our streets safer, improve health outcomes: resulting in direct, and economic benefits for local communities.

2023 Actions: Curbside Level 2 Charging Pilot and Multifamily EV Charging Program

Seattle City Light's new curbside level 2 EV charging pilot program responds to a gap in neighborhood-accessible electric vehicle charging stations. In summer 2022, City Light received nearly 2,000 requests from community members for site selection recommendations for the



curbside installations. The local media underscored the growing demand for EV chargers. As City Light finalizes the 30 installation sites, City Light engineers are developing a first-of-its-kind local construction standard. SDOT worked with City Light to use existing permitting tools and develop new curbside signage for Level 2 charging prototypes. The first prototype launched in February 2023.

Seattle City Light launched a multifamily EV charging program in April 2023, to meet the needs of the many renters in the utility's service territory. This need was identified as a priority by community members in City Light's Transportation Electrification Strategic Investment Plan (TESIP).

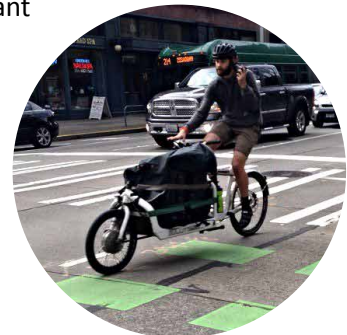
3. **30% OF GOODS DELIVERY IS ZERO EMISSIONS**

In 2022 OSE received \$1 million to help electrify heavy duty drayage trucks that move throughout the Duwamish Valley as they travel to and from the Port of Seattle. OSE has been working closely with the Duwamish River Community Coalition, African Chamber of Commerce, International Council on Clean Transportation, and others to create an equitable implementation plan to offer city funded incentives for the purchase of new electric drayage trucks, including off street secured parking and charging stations funded by Seattle City Light. OSE engaged heavy duty truck drivers through 2 webinars and 1 Ride-and-Drive event at the Green Transportation Summit & Expo in Tacoma. OSE structured the incentive program to target independent operators of heavy-duty trucks to help in the transition to electric vehicles. OSE and truck drivers reviewed these incentives in early 2023, and an additional \$1 million dollars was added to the grant program. OSE will continue to advocate for a state level incentive program to support the deployment of electric drayage trucks at a scale that would have meaningful impacts in the Duwamish Valley.

In 2022, Seattle City Light began a partnership with BNSF Railway to replace diesel-fueled yard trucks and tractors (which service trains) with all-electric yard trucks and tractors at its South Seattle Intermodal Yard, located in the Duwamish Valley in the heart of an environmental justice community impacted by polluted air. City Light engineers and project managers are supporting the installation of "smart chargers" to manage load and demand for the new vehicles. Over the lifetime of the project, the replacement with all-electric yard trucks and tractors is estimated to reduce 25.2 tons of NOx, 6.2 tons of PM2.5, and 2,498 tons of CO2. This is the equivalent of 538 gasoline-powered passenger vehicles driven for one year. A first to demonstrate the feasibility of electric yard trucks and tractors in our region, this project will promote the adoption of zero-emission technologies for essential freight operations.

SDOT was awarded a Zero Emission Freight Technical Assistance Grant from C40. The SDOT teams worked with a contractor on research and program design for Seattle's first e-cargo bike program. This work included outreach to the business community to learn more about existing freight delivery pathways to understand viable paths for switching to e-cargo bikes and exploring the typologies of e-cargo bike programs to find the best fit for Seattle.

2023 Actions: E-Cargo Bike Program



This project will also include drafting legislation to update the Seattle Municipal Code to allow e-cargo bikes to park and unload at the curb—a mechanism that is crucial to support long-term success of this program. Based on the final report from the grant work and other curbside projects, SDOT staff are working to put forth a program scope of work that encourages a transition to zero-emissions freight delivery. This project will also include drafting legislation to update city code to allow e-cargo bikes to park and unload at the curb—a mechanism that is crucial to support long-term success of this program.

4. 100% OF CITY FLEET IS FOSSIL-FUEL FREE (EXECUTIVE ORDER 2018-02)

Seattle City Light is making it faster, easier, and more affordable for companies, groups and individuals to transition to electric vehicles. Our Fleet Electrification Program launched in 2022 to offer expert advisory services on fleet electrification and charging infrastructure to commercial, local government and non-profit fleets. This program also offers the first direct incentives in Seattle for charging infrastructure that enables fleet electrification. We conduct proactive outreach to eligible fleets. We engaged with over 300 fleets in 2022 and identified 55 electrification opportunities across 24 fleets, 89% of which are located in or operating within environmental justice communities.

Recently launched: Citywide Fleet Electrification Interdepartmental Team

As detailed in the Transportation Electrification Blueprint and the Transportation and Climate Justice Executive Order, leading by example, the City will ensure we have the essential electrification infrastructure and implementation plans to transition all city-owned vehicles to be fossil fuel free.

SDOT is excited to play a leading role in piloting electrified versions of a variety of its fleet vehicles and to experiment with right-sizing certain tasks, to realize efficiency, safety, and cost savings benefits during the transition to a zero emissions fleet. This includes working with vendors for demonstrations of SDOT equipment like a 100% electric vacuum sweeper. SDOT, FAS, SCL and OSE are collaborating to implement pilots in 2023 and 2024 and to develop department specific plans for fleet transition. We also continue to reach out to our labor partners to ensure collaboration on future changes to our fleets.

In Q1 2023, all the City departments with large fleets kicked off the interdepartmental team meeting and have begun a coordinated assessment of electrification and capital budget needs in order to upgrade facilities. The end result will be a comprehensive proposal for both a timeline for transition and capital improvement budgets needed for upgrades to be delivered to the Mayor's Office by the end of Q4 2023.

5. ONE OR MORE GREEN & HEALTHY STREETS IN SEATTLE

In December 2022, Seattle Mayor Bruce Harrell issued an executive order directing City departments to accelerate actions to reduce emissions from the transportation sector. Among these included two actions related to goals within the Transportation Electrification Blueprint:

- These actions will for the first-time weave together decarbonizing buildings and transportation while investing in community resiliency, equity, and economic opportunity. Over Q3 and Q4 2023, the City will begin to convene community conversations around where and what low-pollution neighborhoods could look like in Seattle. Engagement will

build on the ongoing community outreach for City plans and initiatives and expand to include additional conversations with community-based organizations, City boards and commissions, and advocacy groups. In March 2023, the City applied for a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant to fund the planning necessary to implement three low-pollution neighborhoods by 2028. Grant announcements are anticipated in mid-June.

- Commit to making 20 miles of Healthy Streets Permanent: 2.7 miles of permanent Healthy Streets in Greenwood and Beacon Hill are in construction and will be completed by the end of 2023. Another 8 miles of permanent Healthy Streets are planned to be constructed in 2024. The School Streets program has grown from 8 schools in the 2020–2021 school year to 10 schools in 2021–2022 to 13 schools in 2022–2023 with applications for new schools being accepted in the coming school year.

6. ELECTRICAL INFRASTRUCTURE REQUIRED TO STAY AHEAD OF TRANSPORTATION ELECTRIFICATION ADOPTION IS INSTALLED AND OPERATIONAL

As of December 2022, Seattle City Light has opened seventeen EV fast chargers and three Level 2 chargers across the utility’s service area. These EV chargers are available to the public. City Light plans to install more EV fast chargers and Level 2 chargers in 2023, with sites in South Park, Shoreline, and Morgan Junction (West Seattle) coming online in the second half of 2023.

When Seattle City Light first developed our Transportation Electrification Strategic Investment Plan (TESIP), we learned that the accessible, emissions-heavy public transit sector was a top priority for environmental justice community members. Our multi-year partnership with King County Metro to electrify the regional public bus fleet reached a major milestone in 2022, with the establishment of Seattle’s first battery-electric bus charging base at King County’s south base, located in Tukwila, in a neighborhood disproportionately affected by gas and diesel exhaust. The facility supports efforts to provide accessible electrified public transit for south King County communities and reduce air and noise pollution throughout the region.

King County Metro has committed to transitioning its entire fleet to zero-emission vehicles by 2035. The South Base site can charge up to nine buses simultaneously. The chargers generate enough electricity to power up to 192 homes. These battery-electric buses will serve communities in south King County that rely on transit. The transportation sector is changing as buses, ferries, freight trucks, fleets, personal vehicles, and bikes continue to shift to electricity for fuel rather than gasoline and diesel. City Light is committed to supporting these efforts to meet the demands of our customers today and tomorrow.

