

Planning for Low-Emission Neighborhoods

Seattle's 2023 Proposal for Federal RAISE Grant Program: Planning Grant

Project Description

Vision

With federal funding support from USDOT's RAISE grant program, the City of Seattle seeks to create a funding and implementation plan for "Low-Emission Neighborhood" investments across Seattle. Using a data-informed and community-centered approach and engaging industry partners, zero- and low-emission transportation projects and programs would be defined for at least three (3) Low-Emission Neighborhoods as part of this grant-funded project.

The purpose of this project is to identify and conceptually design innovative solutions that can advance impactful climate action by employing a community-oriented and holistic approach to:

- Make walking, biking, and transit the preferred option for more trips
- Accelerate transportation electrification
- Advance community climate readiness and resiliency
- Achieve a measurable decrease in transportation-related air pollution and health disparities

In Seattle, Low-Emission Neighborhoods will be designated areas or streets (like low-emission zones, eco-districts, resilience districts, and super blocks) where the City will deploy a variety of policy, program, and built environment interventions to improve air quality, mobility, and community health, while helping the City achieve its ambitious climate goals. Seattle will use the Low-Emission Neighborhood concept to make the City a greener, healthier, more prosperous and equitable place to live.

Project Location

The geographic scope of this planning study would include the entire City of Seattle. By working hand-in-hand with community members, the City will seek to advance implementation of community-supported and context-sensitive solutions in those neighborhoods carrying the heaviest burdens today, per the City's Health Disadvantage Index and Areas of Persistent Poverty, as defined by USDOT.

What Challenges Do Low-Emission Neighborhoods Address?

Seattle's transportation sector is the largest local contributor to the climate crisis with tailpipe emissions making up about two-thirds of overall emissions in Seattle (Seattle 2022 Greenhouse Gas Inventory).¹ A majority of these emissions are a result of prioritizing personal vehicle travel over walking, biking, and taking public transit. While a significant shift in mode choice is necessary, we also need to electrify remaining vehicle trips.

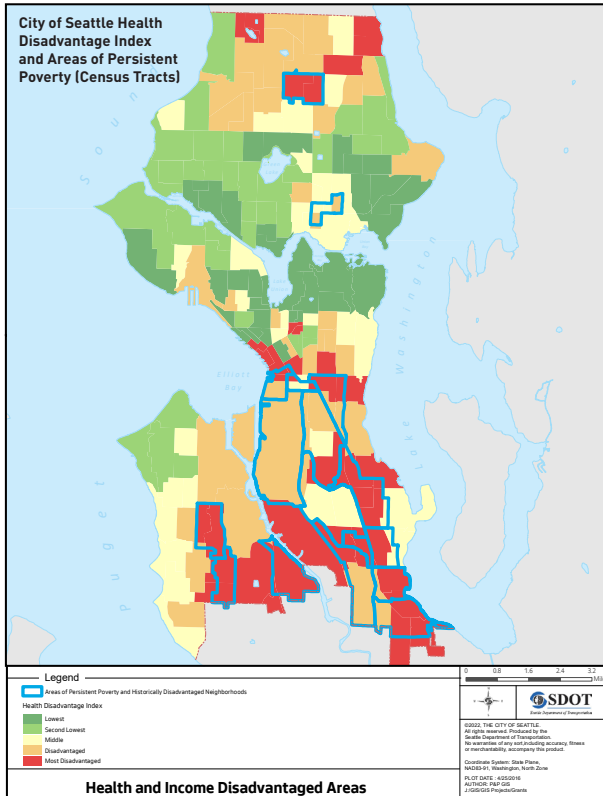
In recent years, Seattle's green and temperate environment has experienced dramatic impacts from a changing climate. Waterfront neighborhoods and cultural landmarks are threatened by rising sea levels, new tsunami models show unforeseen hazards, and record-setting heat waves and frequent forest fires have resulted in hazardous air quality and community health impacts for extended periods each summer. In October 2022, Seattle had the worst air quality in the entire world due to forest fires.² Following another summer of record-breaking heat, Seattle's dense old-growth forests couldn't adapt. Central Seattle also hosts its industrial district unusually close to



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¹www.seattle.gov/documents/Departments/OSE/ClimateDocs/GHG_Inventory/2020_GHG_Inventory_Oct_2022.pdf, page 10

²www.washingtonpost.com/climate-environment/2022/10/20/seattle-air-quality-worst-in-world/



its downtown core and its densest residential centers. The Duwamish Manufacturing/Industrial Center (MIC) – by far the largest and most active MIC in the northwestern states – lies directly south of downtown Seattle. Industrial pollution often blankets many of the commercial areas, inner-city neighborhoods, and cultural centers that make up Seattle’s core.

In June 2021, Seattle recorded three consecutive days with temperatures above 100 degrees. A recent report found that the blistering temperatures were at least 150 times more likely to occur because of climate change. The effects of the heat underscore the disproportionate ways in which climate change aggravates existing inequalities. While those who are well-off can buy an AC or fan, go to a movie, or at the very least stay indoors, many people do not have that luxury. Unhoused people do not have any of these privileges, making them more vulnerable than others. Urbanized areas in Seattle hold onto heat longer, putting residents in danger for greater periods of time, while higher

income neighborhoods with more greenery experience less risk from extreme heat.

Recognizing these unique and troubling challenges, the City of Seattle is resolute in its vision to both minimize and mitigate the growing climate crisis by planning for “Low-Emission Neighborhoods.”

What Are the Elements of Seattle Low-Emission Neighborhoods?

This project will advance Seattle Mayor Bruce Harrell’s commitment to implement at least three “Low-Emission Neighborhoods” by 2028.³ Work led by the Seattle Department of Transportation (SDOT), in close collaboration with the City’s Office of Sustainability & Environment (OSE) and other City departments, will enable the City to systematically plan, model, implement, and assess innovative solutions to the challenges and barriers facing our city and region in the quest to scale up to a low-emission and low-vehicle miles traveled (VMT) transportation system.

Seattle has several precedents where we have redesigned and reprioritized streets to support walking, biking, transit, and greening. We will build on these foundational efforts by working with community and industry to tailor plans for a holistic set of designs, incentives, and strategies that reduce transportation emissions and improve community health and resiliency in three neighborhoods.

Future implementation of Low-Emission Neighborhoods would be transformative for many of our historically underserved communities and populations. This will be achieved by centering equity and the voices of those most impacted by pollution and climate change. This planning approach holds the City accountable to ensuring a clear understanding of who is burdened, who benefits, and who is at the table. The implementation plan seeks to respond carefully to context-specific and place-based community needs. Through the planning efforts, we will collaborate to define programs,

³Executive Order 2022-07: One Seattle Climate Justice Actions to Reduce Emissions from the Transportation Sector, [2022-07-Transportation-Executive-Order-12.7.22-FINAL-signed.pdf](https://seattle.gov/transportation/2022-07-Transportation-Executive-Order-12.7.22-FINAL-signed.pdf) (seattle.gov)

Current Examples of Low-Emission Streets in Seattle



3rd Ave: *Transit and bicycle only street from 6 AM-7 PM with loading pull outs*



Gemenskap Park: *14th Ave NW street rebuilt as a park in an area with a "parks gap"*



Pike Place Market: *Car acts as a visitor with high pedestrian volumes on the street*



Terry Ave: *Green Street right-of-way reallocation*



Occidental Ave: *Permanent closure with AM/PM deliveries*



Healthy Streets: *Streets closed to vehicular thru traffic, local access only*

incentives, and street design interventions selected from a flexible and adaptable “low-emission toolkit” of strategies.

Among these strategies, infrastructure investments and urban design tactics are anticipated to become candidates for future RAISE capital funds following completion of this planning study.

To ensure context-sensitive and place-based designs with strong community support, the project will also establish an innovative project delivery process based on an iterative community-centered co-design model. This will ensure ongoing responsiveness to local communities’ needs. During the planning phase, we will co-create with community members to advance familiar tactics and generate new recommendations, which potentially include things like:

- Bold, people-first street design, networks, and operations
- Improvements to the built environment that slow traffic and make it safe, affordable, and comfortable to walk and bike for short trips; example interventions could include speed bumps, islands, street trees, bulb outs, etc.

- Incentives and industry partnerships to increase community access to shared mobility including micromobility, bikes/e-bikes, shared electric cars, transit, and micro-transit
- Innovative approaches to expand low-emission urban freight and goods delivery, such as use of real-time loading zone availability sensors, delivery hubs, and e-cargo bikes
- Expanded access to electrification infrastructure like fast chargers to support transportation network companies and residents, particularly those in multi-family housing
- Operational changes to limit the amount of through vehicle traffic and internal vehicle circulation in neighborhoods
- Community infrastructure to activate streets such as specific improvements that support cafe streets and street closures for fairs/events, etc.
- Piloting new ways to foster healthy, resilient street trees to increase the urban canopy and to address stormwater run-off through green infrastructure elements
- Other community-generated ideas

How Will Low-Emission Neighborhoods Benefit Seattle's Communities?

Low-emission investments have wide ranging human-centered and transportation system benefits. Human-centered benefits include the potential for improved community health outcomes, such as a decrease in chronic asthma because of lower air pollution. Low-emission tools such as street redesigns to include dedicated bicycle lanes, wider sidewalks, green infrastructure, and street trees result in more walkable and bikeable environments, reduce incentives to drive short distances, and improve physical and social health. These investments also result in more livable urban neighborhoods and have the potential for generating inter-generational wealth in historically underinvested neighborhoods.

With the global and national push to a lower carbon economy, local efforts to reduce miles driven and shift remaining vehicle trips towards electrification result in a growing number of green jobs in addition to environmental benefits. Innovative projects such as tech-enabled solutions to support more efficient local goods delivery result in less congestion and circling on city streets, directly improving air quality, safety, and livability. For example, a recent Seattle pilot explored neighborhood delivery hub concepts and demonstrated that CO2 declined by 30% per package.⁴

Seattle's streets are commonly a testing ground for innovative projects, being home to Amazon, the University of Washington Urban Freight Lab, and UPS. This project will offer opportunities to expand the application of innovative programs to inform efforts nationally.

The planning project will establish criteria to select sites and best-fit treatments for Low-Emission Neighborhoods, as well as metrics to evaluate low-emission interventions such as air quality monitoring, traffic levels on boundary and internal streets, and community

acceptance. The project will establish a comprehensive toolkit of zero- and low-emission programmatic and design best practices to help inform context-specific responses and the ability to scale them. The project would grow existing relationships with industry partners and identify opportunities to replicate and scale low-emission transportation trials underway in the region.

Lessons learned from the plan, and subsequent implementations and assessments, would be shared with peer cities to inform climate response efforts around the country. The proposed plan would also articulate the legal, financial, technological, and other challenges to implementing low-emission neighborhoods in Seattle. Ultimately, this work will feed directly into the implementation of at least three (3) low-emission zones, which can serve as models for other cities to learn from, alongside Seattle.

Detailed Statement of Work

The Seattle Department of Transportation (SDOT), in partnership with the Office of Sustainability and Environment (OSE), Office of Planning and Community Development (OPCD), Office of Economic Development (OED), Seattle City Light (SCL) and the Mayor's Office, will take the next step to implement Seattle's commitment to low-emission zones. This commitment was expressed in a recent Mayor's Executive Order on transportation emissions.

In 2023 (in advance of a RAISE grant award) work will include convening a community conversation around low-pollution neighborhoods. By 2025, SDOT in partnership with the above-listed departments, communities, and industry partners, will publish an implementation and funding plan to pilot several low-pollution neighborhoods in the city, with the goal of having at least three low-pollution neighborhoods in place by 2028. The focus of this grant request is to create the implementation and funding plan.

⁴www.seattleneighborhoodhub.com/_files/ugd/86f1fc_55a01fbac0a34d20b3946aa41eefc16d.pdf, page 5

Development of the implementation and funding plan is proposed to be accomplished through a RAISE-funded effort that subsequently would position the City to act on the most effective and powerful emissions-reduction strategies and tactics. Completion of Seattle's Low-Emission Neighborhood plan will also leave the City poised to pursue implementation funds from future RAISE cycles and to consider projects for inclusion in a future local transportation funding package intended to replace the City's voter-approved Move Seattle Levy (expires end of 2024).

Key project activities would produce the following outputs:

1. Establish the Vision and Develop the Toolkit

- a. A policy framework establishing a vision and project principles, goals, and performance metrics to support the vision
- b. A technical research report to create a knowledge bank of global best practices for planning and implementing Low-Emission Neighborhoods (with a special focus on approaches in environmental justice areas), performance metrics and outreach strategies, and innovative project delivery methods
- b. An engagement strategy, which would build on existing relationships between City agencies and communities
- c. A baseline report articulating local vehicle ownership rates, air pollution levels, public health data, vehicle dependency, urban goods delivery patterns, and levels of completed transit and active transport investments in various neighborhoods
- d. A Low-Emission Implementation Toolkit that includes an inventory of citywide low-emission pilots, programs, and design interventions – identifying gaps and recommending new tools to address those gaps

2. Identify Candidate Project Areas

- a. Assessment of ongoing neighborhood-scale plans to determine readiness for additional low-emission discussions and potential interventions
- b. An investment prioritization framework for site selection and recommendations for distributing capital and programmatic investments and resources to ensure equitable investments and livability outcomes
- d. Identification of legal, financial, and technological implementation gaps
- e. Methodology for and site selection of multiple locations suitable for detailed planning geared towards identifying place-based and programmatic low-emission projects

3. Define Projects and Programs

- a. Identification and prioritization of place-based projects and programs best suited to meet each Low-Emission Neighborhood's goals and local needs; example projects could include establishment of eco-districts or superblocks, urban design interventions to slow or reduce traffic and increase safety, green infrastructure, provision of shared mobility options and incentives for their use, electric charging infrastructure, policies or regulatory changes to support implementation, etc.
- b. Conceptual capital project and programmatic design for each of the selected neighborhoods in collaboration with community partners
- c. Planning-level cost estimates for capital projects and programmatic interventions
- d. Implementation and funding plan for at least three Low-Emission Neighborhoods

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Project Readiness

We've set an optimistic but achievable timeline to complete Planning work for the Low-Emission Neighborhoods project in 2025 and position ourselves for implementation by 2028, in accordance with our commitments to our local and national stakeholders. This schedule assumes grant award in August 2023, followed by approximately a half-year for grant administration requirements before reimbursable planning work is anticipated to begin. These requirements include City Council acceptance and appropriation of new funds on the grantee's side and required term sheets and agreements on the grantor's side. Our consultant selection and grant-billable

work would begin in early 2024. Following completion of our planning study and subsequent cost estimates, we would seek additional federal (e.g., RAISE capital grant) and local funding for implementation – with an expectation of full implementation by 2028.

Detailed Project Schedule

While a final project schedule will be dependent upon consultant selection and community capacity to engage with us, our aim is to complete development of the Low-Emission Neighborhoods implementation and funding plan in 1Q 2025. This timeline would best position us to subsequently deliver improvements in 3 neighborhoods by 2028, consistent with the Mayor's executive order on transportation emissions.



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Task	Major Milestones	Anticipated Completion
ESTABLISH THE VISION AND DEVELOP TOOLKIT		
1	Technical research, Vision and Policy Framework, Baseline Report, and Community Engagement Strategy	May 2024
2	Develop Citywide Low-Emission Implementation Toolkit <ul style="list-style-type: none"> • Inventory of existing City tools and programs • Gap analysis • Business case for new/recommended programs • Assessment of citywide efforts • Engage with communities to verify existing tools and programs; identify gaps; identify potential tools 	July 2024
IDENTIFY CANDIDATE PROJECT AREAS		
3	Create Investment Prioritization Framework <ul style="list-style-type: none"> • With communities, define equitable investment approach • Define recommendations for capital and programmatic investments and resources working with communities and industry partners 	September 2024
4	Neighborhood Selection <ul style="list-style-type: none"> • Apply investment prioritization framework to identify at least 3 neighborhoods • Validate analysis with communities 	October 2024
DEFINE PROJECTS AND PROGRAMS		
5	Project Identification <ul style="list-style-type: none"> • Identify and prioritize projects and programs that are best suited to meet Low-Emission Neighborhood goals and local needs • Validate analysis with communities 	January 2025
6	Project Concepts, Implementation, and Funding Strategy <ul style="list-style-type: none"> • Develop project and program design concepts in collaboration with communities • Develop planning-level cost estimates • Identify capital project delivery methods • Develop funding strategy and implementation plan to deliver prioritized projects and programs by 2028 	March 2025

Required Approvals & Technical Capacity

Seattle has extensive experience delivering federally funded projects, as well as planning projects that are similar in scale and nature. The City has a long history of demonstrated ability to comply with all applicable Federal requirements. As the Planning phase of a future capital project, this grant-funded work is ready to proceed promptly when funds are secured, with minimal hurdles in regard to NEPA, right-of-way, and other similar milestones. Overall, we expect both the planning and implementation phases of this project to be exceptionally prompt in obligating, utilizing, and billing federal funds.

Looking ahead, future capital work associated with the implementation of the plan (**not part of this current RAISE funding request**), including the Preliminary Engineering, Construction, and potential Right-of-Way phases, are also expected to be very timely and expeditious. Typically, permanent right-of-way acquisitions are not required for the types of capital work associated with Low-Emission Neighborhoods, which most commonly include charging infrastructure, lane reconfigurations, signage and traffic control interventions, low-impact drainage and landscaping, signal modifications, and minor roadway reconstructions within existing rights-of-way. Temporary construction easements, if necessary, would be acquired during the Preliminary Engineering phase, along with NEPA, Buy American certifications, and other required approvals.

Additionally, the City has benefitted from partnerships with advisory groups that are key to informing project like this, which will include a significant amount of community engagement. The City's Green New Deal Advisory Board, The Transportation Equity Work Group, and the Environmental Justice Committee will all be engaged as a part of this process. This community-based/place-based planning and engagement process is well-aligned with many of the resilience strategies that these advisory groups are advocating for, and the proposed low-emission neighborhoods will create fertile

ground for the pilots, programs, and policies that have been suggested by these advisory groups, including: community-based air quality monitoring, community resilience hub facilities, safety improvements for pedestrians and cyclists, equitably deployed incentives for electrification, and more.

The City of Seattle has established itself as a leader in climate action and is well-positioned to advance national and international initiatives for Low-Emission Neighborhoods through our networks with the National Association of City Transportation Officials (NACTO) and the international cohort of C40 Cities. This Planning work would be led by our Department of Transportation's Urban Design team, a proactive group of urban planners, transportation planners, and landscape architects that focus entirely on advancing our citywide vision of a livable, welcoming, and sustainable place to live. This team will be supported by our Office of Sustainability & Environment, which reports directly to Seattle's Mayor and specifically advances our mission of a more climate-friendly city. Additionally, we will work with Seattle City Light, an industry leader in clean energy and environmental stewardship, on electrification infrastructure and incentive programs. We also expect to engage the Office of Planning and Community Development and the Office of Economic Development to leverage Low-Emission Neighborhoods co-benefits in terms of community land use visions and economic vitality.

The project team will work with a diverse group of subject matter experts in the Department of Transportation, including the curbside management, traffic operations, shared mobility, transit, freight, public space, urban forestry, communications, and bike and pedestrian implementation teams to inform every stage of project. Together these teams expect to dedicate approximately 1,000 to 2,000 hours to the procurement and management of consultant resources, internal coordination throughout various City departments, and external outreach and engagement with our affected communities, as well as other agencies and industry partners.

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Merit Criteria

Safety

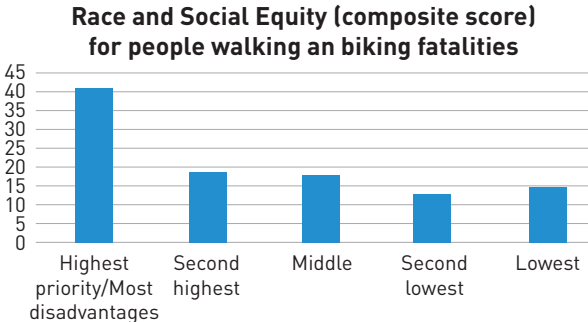
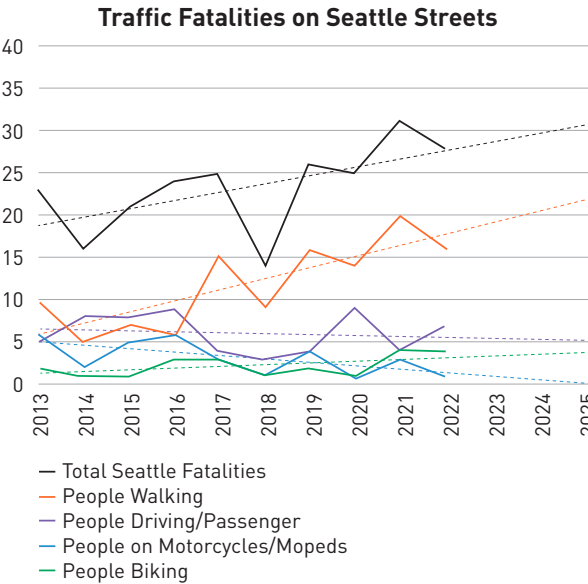
Fatal and serious injury crashes are rising across the country, including in Seattle. Unprotected travelers (people walking, rolling, and biking) are the most susceptible to harm. In 2022, pedestrian deaths across the nation reached their highest level in 40 years.¹ Within Seattle, like many urbanized areas, people walking account for the vast majority of this increase. This trend is evident in every community around the country. Not surprisingly, these tragedies are heavily focused in the most disadvantaged and disinvested communities – where people of color and lower income community members live. The same communities that bear the brunt of traffic violence bear the brunt of environmental injustices.

The central objectives of this project are to create an implementation and funding plan for Low-Emission Neighborhood projects aimed at:

- creating safe environments for non-motorized travelers within our centers and neighborhoods
- reducing vehicle-miles traveled (VMT)
- encouraging mode shift to low-emission transit for longer trips between neighborhoods and centers

Tactics and solutions that would be implemented as a result of the Low-Emission Neighborhoods plan would be anticipated to reduce crash rates, especially for the highly vulnerable travelers who make up a vastly disproportionate share of the fatalities and injuries on our nation’s streets. Seattle’s Vision Zero Action Plan, adopted in 2015, showed that unprotected users were involved in 5% of crashes but suffered approximately 50% of serious injuries and fatalities.² Our

preliminary local data for recent years shows still worse results, indicating that unprotected users are involved in approximately 7% of crashes but they suffer 61% of fatalities. Creating pedestrian-friendly and “people-first” environments – especially in dense urban areas with a complex mix of businesses, multifamily housing, and pass-through traffic – is a powerful tool in reducing risk for our most vulnerable travelers. In addition to an important focus on people on foot, and other unprotected users of our roadway system, national data confirms repeatedly that crash



¹www.pbs.org/newshour/show/pedestrian-deaths-in-u-s-reach-highest-level-in-40-years
²www.seattle.gov/documents/Departments/beSuperSafe/VisionZeroPlan.pdf, page 9



rates track very closely with VMT and the number of conflict points at intersections. Quite simply, more potential conflicts lead directly to more actual conflicts. Reducing VMT and speed, along with increased transit use and better street designs, saves lives. Low-Emission Neighborhoods advance each of these outcomes.

Street designs in Low-Emission Neighborhoods can reduce speeds and provide more protected spaces for non-motorized users traveling within the neighborhood. For longer trips that start or finish within the neighborhood, or pass through it, large numbers of people traveling with one professional driver (i.e., high-capacity transit) greatly reduces VMT. Transit trips are also much safer than driving on a per-mile basis. Recently the Victoria Transport Policy Institute published a synthesis of data that documents this relationship in detail. The conclusion is that drive-alone users, compared to transit riders, have approximately 4 times as much fatality risk (13.4 deaths per billion miles compared to 3.8 deaths per billion miles). Attracting commuters from single-occupant vehicles to transit is often the most effective tool we have for reducing injuries and fatalities on our roads.³

Our planning work would ensure that a prioritization framework places emphasis on locations with the highest concentrations of serious and fatal collisions and would address these challenges by promoting low-traffic neighborhoods and low-speed zones in areas of need. We will also develop project- and program-level recommendations for first- and last-mile low- and no-emission transit connections (walking, biking, and shared micromobility that directly access transit and make transit an attractive and convenient journey choice).

Finally, we will seek to address disparities in current rates of transportation-related injuries and fatalities by including our high-collision and high-injury networks in the neighborhood

and site selection criteria. The project will map areas where there are higher populations of vulnerable communities to inform neighborhood and site identification. The high-collision network consists mainly of major arterials and areas the City has designated for residential growth density, but also areas of greatest harmful air and noise pollution.

SDOT utilizes the nationally recognized Safe System approach to emphasize proactive safety measures. The project would establish a toolkit of physical interventions for creating low-volume, low-speed, and low-emission streets and public spaces, thereby reducing points of conflict and advancing a people-first safety culture on the street network. This project would focus on safer street design by creating low- or no-emission people-oriented streets and public spaces as an integral part of the transportation network. The project will emphasize and incorporate pedestrian safety in project selection and conceptual design.

Environmental Sustainability

While this project is expected to have a wide variety of synergistic benefits, it is at its heart a climate action initiative, and reducing environmental harms are likely its most powerful effects. Our work will boldly accelerate climate action in Seattle as we build on ongoing discussions with the City and its communities, focused on community resiliency, climate-change preparedness, and ways to implement urban redesign solutions that create welcoming environments for walking, biking, gathering, and riding transit.

This project will help prioritize programmatic and capital funds in communities that have experienced disproportionate damage due to harmful pollution, and in areas with high levels of transit dependence or low rates of car ownership. The project will also recommend the use of regulatory and infrastructure measures for reducing vehicle-miles traveled and increasing low- and zero-emission transportation trips in areas where the City has completed substantial transit investments.

³www.vtpi.org/ntsp.pdf, page 15

This planning project will inform future City efforts aimed at scaling and implementing coordinated investments to help achieve Seattle’s environmental sustainability goals and strategies, including:

- Reduce total core greenhouse gas emissions 58% by 2030 and become carbon neutral by 2050. Since 2008, Seattle’s total core emissions have declined 5%. Achieving our goals requires the City to reduce emissions 17 times the current rate in buildings and 30 times the current rate for transportation.
- Reduce overall greenhouse gas emissions, including efforts to significantly reduce VMT and over-reliance on personal vehicles through improving walkability, bikeability, and access to transit
- Partner with environmental justice priority communities to monitor local air quality; create materials to engage community members on the sources of air pollution and its impacts on human and environmental health to inform solutions that reduce health disparities and environmental impacts
- Prioritize work in communities that disproportionately suffer from compounding environmental impacts and are most impacted by environmental hazards exacerbated by climate change
- Conduct an analysis of disparities in health, environmental burden, and access to green space
- Increase resilience against environmental hazards created or aggravated by climate change, including flooding, drought, heat, and smoke
- Leverage investments in natural and “gray” infrastructure to increase climate resiliency and provide co-benefits, such as stormwater management and other ecosystem services

- Enhance tree canopy to reduce airborne pollutants, decrease stormwater runoff, and mitigate urban heat island effects, particularly in residential areas with low canopy coverage

[Seattle’s Transportation Electrification \(TE\) Blueprint 2030](#) establishes ambitious goals for zero-emission trips including:

- 100% of shared mobility is zero emissions
- 90% of personal trips are zero emissions
- 30% of goods deliveries are zero emissions

While we are very far from achieving these goals, the purpose of this proposal is to systematically plan, implement, and measure outcomes for a select set of tools and projects to inform citywide policies and programs. Establishing low-emission zones has been shown to provide immediate emissions reductions within the zone, as has been the case in London.⁴

Low-emission zones are also anecdotally believed to provide broader benefits as transit, walking, and biking become more established and comfortable modes. Travelers who choose eco-friendly modes for their trip inside a low-emission zone will not normally switch to a high-pollution mode when they reach the border of the zone. They will continue their low-emission mode to their destination, if this choice is feasible and safe (or they will choose a low-emission mode all the way from their origin if their destination is inside a low-emission zone).

Critics have contended that vehicle volumes will increase around the borders of low-emission zones, but early research does not support this claim. Studies from other cities, such as London, did not show an increase in vehicle volumes or air pollution on bordering streets. Research, however, shows these concerns tend to persist as barriers to low-emission neighborhood planning and implementation. This project will gather and analyze peer city data to

⁴www.theguardian.com/uk-news/2023/feb/10/ulez-cut-toxic-nox-pollution-across-london-by-23-report-finds

establish a local methodology for measuring traffic and air quality outcomes that considers environmental factors such as weather and COVID-related impacts.

As we prepare for a fossil-fuel-free future, and the decades-long transition that will be required, Low-Emission Neighborhoods present an exceptionally compelling and practical way to demonstrate and showcase this future. Amongst US cities, Seattle is uniquely positioned to take on this body of work and demonstrate its potential.

The project would build on Seattle’s track record of past success, which include the busiest transit corridor in North America⁵, implementing a very bold initiative to put ¾ of our population within easy range of high-frequency transit (up from ¼)⁶, and hosting one of the largest transit expansions in the country (Sound Transit)⁷. Seattle’s values and culture are deeply rooted in civic responsibility and progressive policy. For decades, the City has led, supported, or collaborated on a variety of climate-friendly policies, programs, and innovative pilots:

C40 Commitment

In 2022, Seattle was nominated for “Building a Climate Movement” by C40, an international advocacy organization dedicated to combatting the climate crisis. C40’s vision is a network of mayors and cities acting together with a sense of true vision and urgency. During his first year in office, Mayor Harrell joined C40’s Green & Thriving Neighbourhoods and 15-minute City Programme (based in Copenhagen) to work with, and learn from, other cities as we look to create three Low-Emission Neighborhoods in Seattle.

Climate Emergency Response Framework

At the request of the Mayor, SDOT is developing a Climate Emergency Response Framework (CERF) for public release later this year. The document will capture the ways in which the City can reduce emissions from the transportation sector, particularly through a lens of how we allocate our public spaces and streets to bring on a more multimodal and less car-dominant paradigm. The CERF will reference how Low-Emission Neighborhoods can bring together discrete strategies that SDOT and the City already excel at, including but not limited to Healthy Streets, Café Streets, and the installation of high-quality pedestrian and bicycle facilities. It will also go beyond, framing how SDOT can accelerate its work and co-create even more sustainable programs and solutions with community.

Mayor’s Executive Order

In December 2022, Seattle Mayor Bruce Harrell announced a new Executive Order directing City departments to work together to prioritize and expand actions that equitably reduce or eliminate greenhouse gas emissions (GHG) within the transportation sector. Actions are designed to invest in and build resilience among communities that are hardest hit by the climate crisis, expand workforce opportunities, and improve the health of Seattle residents and workers – by improving air quality and making streets safer.



⁵Third Ave improvements - Programs & Projects - King County Metro Transit - King County

⁶www.seattle.gov/documents/Departments/SDOT/TransitProgram/TMPSupplmtALL2-16FINAL.pdf, page 64

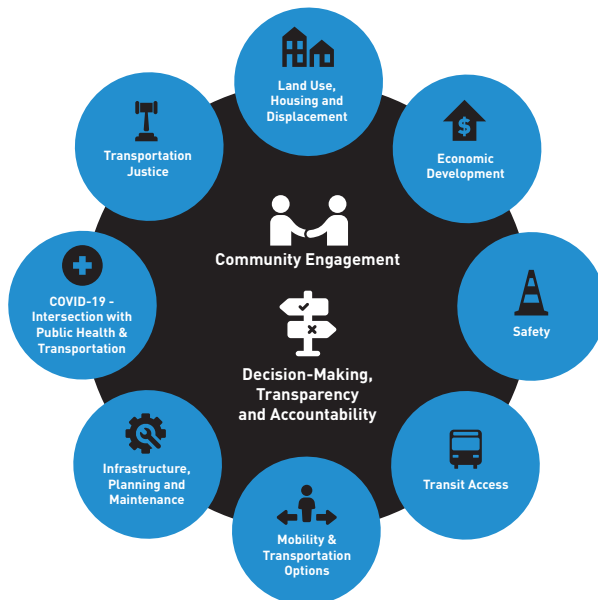
⁷www.soundtransit.org/get-to-know-us/news-events/news-releases/sound-transit-takes-its-game-to-next-level-with-kickoff

Transportation Equity Framework

SDOT recognizes the history of racist policies and disinvestment that has created inequities in our transportation system, including longer commutes for communities of color than their white counterparts due to displacement. While communities of color contribute less to pollution, they disproportionately experience the long-term burdens and impacts of this racism, including limited access to opportunities and wealth. Incorporating this new [Transportation Equity Framework \(TEF\)](#) into department policies and operations is a step toward addressing these issues.

The TEF is a roadmap for SDOT decision-makers, employees, stakeholders, partners, and the greater community to collaboratively create an equitable transportation system. Building from the City of Seattle's Race and Social Justice Initiative (RSJI), the TEF was co-created with community to address the disparities that exist in our transportation systems due to institutional racism.

TRANSPORTATION EQUITY STRATEGIES 2 Fundamental Equity Strategy Elements 8 Equity Strategy Drivers



Programs

Healthy Streets: Seattle introduced Healthy Streets during the pandemic in 2020 as a way for Seattleites to get outside safely and stay active in local neighborhoods throughout the city. Healthy Streets are open for people walking, rolling, biking, and playing, and closed to pass-through traffic. Seattle is in the process of making over 20 miles of Healthy Streets permanent in neighborhoods across the city.



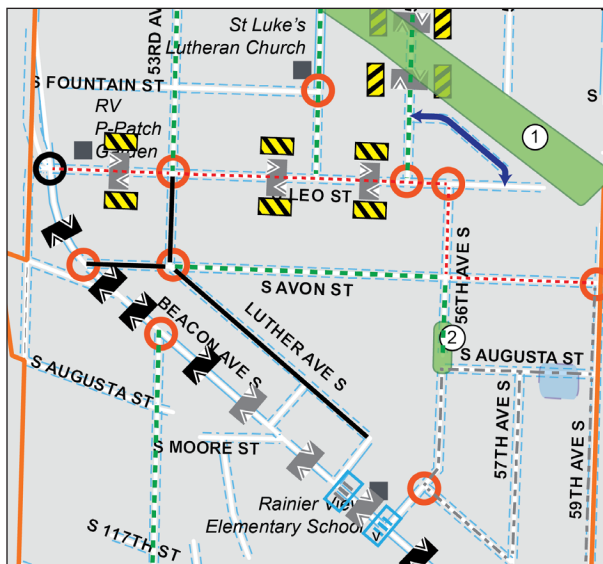
Café Streets: Through the pandemic, Seattle paved the way for restaurants and businesses to reclaim the roadway and transform it into spaces for people to get outside safely, walk and bike rather than drive, and support the local economy. Café Streets are open for people to sit, play, walk, roll, and bike, and allow critical business access needs to continue, but limit pass-through traffic. Seattle is in the process of making permanent café streets improvements in several Seattle neighborhoods.



School Streets: SDOT's School Streets program creates streets open for people walking, rolling, and biking to school, and closed to pass-through traffic, including parents. The goals are to encourage families to walk or bike to school and to provide a safer school environment by reducing traffic congestion. School Streets are provided when requested by schools.



Home Zones: SDOT's Home Zone program works collaboratively with residential neighborhoods to create a home zone plan. Through this innovative program, the entire neighborhood works together to prioritize traffic calming, pedestrian mobility, and neighborhood livability improvements. Home Zone Program Background explains more about home zones in general and how the program was started in Seattle.



Resilience Districts: Seattle has allocated \$2.4 million to identify and develop Resilience Hubs in Seattle to help ensure communities are supported in preparing for, responding to, and recovering from climate change related emergencies such as extreme heat events and wildfire smoke. The City is working to address community needs at the nexus of resilience, emergency management and response, climate change mitigation, and social equity.



E-Cargo Bike Pilot: The Seattle Department of Transportation, in partnership with the University of Washington and private businesses, collaborated to conduct and assess a cargo e-bike pilot in Downtown Seattle. SDOT is finishing a plan by spring 2023 to design strategies to encourage cargo bike delivery for urban freight, including between businesses and between small businesses and customers. This plan will also work to understand how SDOT can encourage and support the move to less polluting freight vehicles. C40, a global network of mayors and cities collaborating on climate initiatives, has funded and provided consultant services for this work.



Image courtesy: UPS (from SDOT blog)

Sensor-Based Commercial Loading/Delivery and Common Carrier Package Lockers:

Between 2019-2022, SDOT partnered with the Urban Freight Lab on a project in the Belltown business district (just north of the Seattle commercial core) and funded by the US Department of Energy. The project team installed magnetometer sensors in load zones to determine real-time zone availability. The results showed that providing real-time data to drivers reduced the cruising time to look for parking spaces by 28% and the cruising distance by 12%. SDOT continues to partner with the Urban Freight Lab on related research projects.



Better Photo of Sensor income - RecyclingTruck@LoadZone 1.jpg

Via to Transit/On-Demand Transit: Seattle partnered with King County Metro and Sound Transit to provide Via to Transit, a convenient shuttle service to and from light rail stations within the city's equity priority areas of southeast Seattle and Tukwila.



Image Courtesy: Seattle Times

Ride Now: The [Ride Now](#) program was a pilot active in spring 2022 designed by and for older adults and people with disabilities. Adults 65+, people with disabilities, and their caregivers or service providers could claim free ride vouchers for use on Yellow Cab, Uber, and Lyft. SDOT staff worked with community members in the planning and implementation of this pilot program. These community members included people with disabilities, seniors, caregivers, and service providers. The pilot distributed 6,700 vouchers to about 1,000 participants and funded more than 1,400 trips.



Seattle Transit Measure

In 2020, over 80% of Seattle voters approved the Seattle Transit Measure (STM). Funded through a 0.15% sales tax, the program supports additional bus service from King County Metro on key transit routes in the city of Seattle. In 2021, STM funded 3,2000 weekly bus trips on Metro routes. The program also helps build infrastructure to improve the transit user experience by funding design and construction of projects that improve bus stops and make bus travel times more reliable. In 2021, the program delivered projects that improved 14 different routes in Seattle. STM also provides funding to expand access to transit by providing free ORCA transit passes to youth, seniors, public housing residents, and essential workers throughout the city.



Shared Micromobility Program: Seattle’s shared micromobility program requires vendors to provide service in equity-focused areas of the city, as well as provide discounted fare programming for people who qualify as having low incomes. In 2022, over 270,000 trips were taken by over 1,400 unique discounted fare program riders. In addition, thousands of helmets were distributed throughout the community, and 100 bikes were donated in support of East African Community Services (EACS). The program also funds Outdoors for All—a local nonprofit—to provide free adaptive cycle rentals to people with disabilities 7 days a week between May and September, including off-site events in South and West Seattle.



Seattle City Light Electric Vehicle Charging Stations: Seattle is piloting and assessing outcomes from installation of electric vehicle (EV) charging stations at curbside locations in the public right-of-way. These efforts are part of Seattle’s Drive Clean Seattle Implementation Strategy that aims to leverage Seattle’s clean electricity to power the transportation sector and help Seattle reach carbon neutrality by 2050. In 2023, SDOT and Seattle City Light are installing approximately 30 Level 3 curbside chargers in residential areas of Seattle to support EV adoption, particularly in areas of the city where residents do not have driveway access.



Electric Car Share Charging Partnership:

SDOT is working with Estelita’s Library to establish electric vehicle charging in the right-of-way. There will be two parking spaces, one for electric car share and one for general, electric vehicle charging use. The car share vehicle will be managed by [ZEV Co-Op](#), a nonprofit car share company. Users must register and can then rent the vehicle by the hour.

Flip your trip: Seattle launched Flip Your Trip West Seattle to support people in getting around without driving alone and to reduce the effects of the recent West Seattle Bridge closure. The campaign supported West Seattle residents and workers traveling to, from, and around West Seattle by incentivizing and encouraging walking, biking, and riding the water taxi and the bus.

Building on Seattle’s successes and demonstrated commitment, our proposed RAISE-funded implementation plan will analyze and stitch together each of these various innovative efforts – and more – with their respective considerations and outcomes, to create a coherent library of low-emission options and strategies. This toolkit will be applied to selected areas to scale and replicate programs in a proactive, equitable, and systematic way to support the creation of at least three Low-Emission Neighborhoods by 2028.

This planning effort will seek to influence a rare moment of opportunity after the pandemic, where travel patterns have changed and people are slowly discovering and creating their “new normal:” a change that could either lean towards greater use of private cars and more spread to exurban areas, or firmly establish the pandemic transition to more active modes of transportation, community vitality, and vibrant walk/roll neighborhoods.



Quality of Life

The implementation and funding plan for Low-Emission Neighborhoods will create recommendations aimed at reducing vehicle-miles traveled and harmful air and noise pollution that have a direct impact to the quality of living in a neighborhood. The project will aim to achieve key goals for improving the quality of life in the identified Low-Emission Neighborhoods. In addition to the project's primary (and somewhat overlapping) benefits with respect to climate action and public health, we anticipate the following range of benefits:

Improve health and safety

- Reduce vehicle-miles travelled and increase low- and no-emission trips through improved access to mobility choices and street redesign; active transportation choices (e.g., walking and biking) can improve individuals' health
- Improve health outcomes in areas with poor air quality, noise pollution, and high concentration of adverse health impacts (e.g., asthma, heart attacks), and high concentration of serious or fatal collisions
- Improve livability for children and older adults through the reallocation of space from vehicles to people-oriented public spaces



- Promote activity and public engagement for older adults and children, who benefit from streets without vehicle traffic and places where people of all ages and all abilities can stop and rest. (In King County, estimates indicate that by 2050 adults age 85+ population will increase almost 300 percent. In Seattle alone, the population aged 60+ grew by 29 percent between 2013 and 2018.)
- Increase access to public spaces in the street where people can gather, connect, and play. (Through engagement for many projects and programs, we have heard from communities of color that we should provide more opportunities for folks to gather by creating more public spaces and more places for vending, strolling, and socializing.)
- Increase access to open space and increase social interaction to positively impact mental well-being, reduce isolation, and increase physical activity

Increase community connectedness

- Increase community access to mobility choices including shared mobility, active transportation, transit, and micro-transit
- Make it safe, affordable, and more comfortable for people of all ages and abilities to walk and bike for short trips in a neighborhood
- Increase investments in climate resilient streetscapes and neighborhoods; create places in our street rights-of-way where people can gather
- Increase community climate preparedness through the design of streets and public spaces around community resiliency hubs

Improved governance

- By using a community-centered approach in the planning and implementation of Low-Emission Neighborhoods, seek to build community capacity and resiliency that will equip communities to better respond to the impacts of climate change
- Establish an agile project delivery and monitoring methodology to increase SDOT's responsiveness to changing context in project areas, thereby building trust and sustaining relationships between the City and its communities

Mobility and Community Connectivity

This project will identify projects and programs to increase the shift from vehicular trips to low- and no-emission travel options by improving walking, biking, and transit options and environments in the project areas. Reducing general-purpose vehicular traffic, particularly for trips that can be made by walking and biking, has the potential to improve transit reliability and make goods movement more efficient.

Implementation plan strategies and tactics are expected to increase walking and biking in the project area, particularly for short trips that begin and end in the project area:

- Develop recommendations for investing in low-traffic streets and bicycle and pedestrian infrastructure to help increase bicycling mode share for trips within the proposed project areas
- Maximize mobility benefits in Low-Emission Neighborhoods by focusing planning and investments in areas with high levels of traffic congestion, areas with residential/commercial density (i.e., proxy for propensity to mode shift), areas with significant high-capacity transit infrastructure, and historically underinvested areas with inadequate infrastructure



In addition to its benefits for general purpose traffic, development of the implementation plan will seek to improve freight operations in Seattle and the region by making goods movement more efficient and reducing its environmental footprint in the project area through strategies that:

- Analyze programs and approaches to improve freight and urban goods movement including sensor-based commercial loading/delivery pilots (which can help support reductions in circling, double-parking, and congestion), common carrier lockers, common carrier micro-hubs, and e-cargo bikes
- Expand partnerships and concepts around transportation network companies (TNCs) pick-up/drop-off geofencing to reduce the number of vehicle trips in the Low-Emission Neighborhoods
- Collect data around food pick-up/drop-off in the study areas to identify opportunities to improve efficiencies and minimize emissions from those trips
- Expand concepts around integrated freight and transit lanes

Finally, Low-Emission Neighborhoods can increase low- and no-emission trips by providing infrastructure and incentives. Recognizing that not all trips can be made by walking, biking, and transit, a key goal of this project is to recommend approaches to support these community benefits:

- Expanded access to electric vehicle charging stations
- Bike and micromobility parking
- Incentives to use care share and bike/scooter share services
- Improved access to transit, using Regional Reduced Fare Permit (RRFP) and local transit-on-demand services

Economic Competitiveness and Opportunity

This project seeks to positively influence economic competitiveness and opportunity in four ways:

- Directly catalyze economic recovery through street redesign and activation in business districts struggling from post-pandemic commute changes. (With more people working remotely, there is an opportunity to reallocate space to non-vehicular uses, creating new destinations and reasons for visiting and support local resilience.)
- Support thriving local neighborhood business districts by implementing projects that increase public life and vibrancy and boost community and economic resiliency for future periods of change



- Support ongoing innovation and research in low- and no-emission transportation technologies and programs such as:
 - Research in the “final 50 feet” of freight and urban goods delivery
 - Dynamic curb management
 - Establishing opportunity areas for testing new low-emission tools and technologies
 - Creating partnerships with local businesses to expand tools and serve as a testing ground for new ideas (including corporations like Amazon and UPS, agencies like the University of Washington Freight Lab, and start-ups that thrive in Seattle’s innovative, tech-based economy)
- Support growth in local Green Jobs opportunities by investing in low-emissions projects and programs

State of Good Repair

Like most modern transportation agencies, the City of Seattle recognizes the crushing tax burden that accrues from many generations of overbuilt infrastructure. Our roads, bridges, and other transportation assets were largely built more than a century ago, and the intervening decades have led to far more road widenings and expansions than reductions or removals. Of course, the induced demand from each successive expansion ensures that capacity reductions are nearly impossible – until the climate crisis brought a fresh perspective and sense of urgency in the past few years. Today we have a real opportunity to rethink our \$20 billion plus in transportation assets, and the maintenance and repair costs that come with them.

Local governments still are not in a position to significantly reduce the footprint of their transportation assets; however, mature cities can strategically rethink the use of these assets to reduce the constant pressure to expand. When we “do more with less,” or follow the principles of smart use, we can concurrently support thriving economies and compact communities instead of picking one or the other. Planning for Low-Emission Neighborhoods can advance these goals by proactively promoting the use of compact, space-efficient modes (primarily walking and biking) for short trips, along with public transit for longer distances.

The impacts are substantial. Trips on foot produce a tiny fraction of the “wear and tear” that drive-alone trips bring to our streets. Cargo bikes are vastly less destructive than the box trucks that currently make most urban deliveries. Buses are an anomaly, creating substantially more pressure on our pavement than drive-alone trips. But in sum, the lighter weights and spatial efficiencies of the low-emission modes are expected to dramatically reduce long-term maintenance costs – in addition to their more obvious benefits for air quality and livability.

Partnership and Collaboration

This project would create the opportunity to establish and/or build on existing collaborative relationships with local groups engaged in climate initiatives such as:

City-sponsored groups

- Environmental Justice Community (EJC) Air-quality Monitoring Technical Advisory Committee
- Green New Deal Oversight Board
- Equitable Development Initiative committee
- Transportation Equity Workgroup
- Modal advisory boards (Pedestrian, Bicycle, Transit, and Freight)
- Other City departments

External organizations

- Community groups working on Resilience Hubs and Resilience Districts in Seattle
- Business districts and business improvement associations
- Seattle Neighborhood Greenways
- Climate Solutions
- Transportation Choices Coalition

Agency and industry partners

- Transit agencies (King County Metro, Sound Transit)
- Puget Sound Clean Air Agency
- University of Washington Urban Freight Lab
- Transportation network companies
- Shared mobility providers
- Peer city networks/organizations such as NACTO and C40 Cities

Innovation

Low-Emission Neighborhoods are a relatively new concept. On an international scale, these projects are innovative, and they challenge several generations of traditional transportation planning (the “build it and they will come” approach). But especially in the US, low-emission zones or districts have relatively few precedents. This project seeks to support ongoing innovation and create new tools, processes, and metrics through planning for implementation of Low-Emission Neighborhoods.



Project outcomes will be documented and made available to support peer cities interested in making the transition to low-emission, low vehicle-miles traveled urban systems. The City of Seattle seeks to build an exemplary, cutting-edge program that would create a template for high-quality implementations in diverse US locations. USDOT support for a robust planning study would deliver the following outcomes:

Establishing an equity-centered planning process to achieve Low-Emission Neighborhoods

For this community-driven program, our guiding equity value is for transportation to meet the needs of communities of color and those of all incomes, abilities, and ages as we consider the impacts and opportunities of Low-Emission Neighborhoods. This means centering the organizing and environmental justice work that Black communities, Indigenous communities, and all communities of color have done and will continue to do. We aim to do this by being in relationship with communities (vs. being transactional), learning what tools would be most useful for different communities, and providing resources to support lower-emission travel alternatives. This planning effort includes appropriately compensating community member participation, meeting people where they are, providing in-language materials and information, and making changes to the Low-Emission Neighborhood program to continually ensure we center the needs of BIPOC communities and provide space for self-determination.

Establish a community-driven program and engagement approach

City staff will develop a toolkit of strategies, which can grow as community appetites, technology, and legal opportunities change. Through a planning process that centers self-determination, communities could self-select to champion a low-pollution area and identify which strategies in the toolkit would best fit their neighborhood needs. As projects are implemented, City staff will check in with communities regularly to see how the tools

are working and adapt aspects of the Low-Emission Neighborhoods concept based on community feedback.

Identify metrics of success

Based on ongoing research, projects, and programs, this planning project will compile metrics of success that draw on quantitative, qualitative, and public realm/public health metrics. Some metrics will be direct, while others will be more qualitative and at the macro level such as:

- Environmental (air quality, noise pollution)
- Societal (equity, accessibility, mobility, health, and safety)
- Economic (supply chain freight logistics, cost of travel, new jobs, business case for city investments, impacts on congestion, and average trip or commute time)
- Ability to scale and replicate projects and programs
- Assessing time to implement (e.g., delivery method options)
- Political feasibility and acceptance

Document, measure, and share outcomes to support peer cities interested in investing in low-emission neighborhood strategies and approaches

- Partner with ongoing innovative efforts, such as eco-districts and resilience districts, to amplify community priorities and magnify outcomes
- Build on ongoing projects to expand the testing ground for new technologies and ideas
- Develop a process to support the transition of high pedestrian volume areas to low-emission/low-pollution areas

Planning for Low-Emission Neighborhoods

Seattle's 2023 Proposal for Federal RAISE Grant Program: Planning Grant



Project Budget

	Funding Amount	Percent
Federal Funds	\$1,200,000	80%
Local Funds	\$300,000	20%
Total	\$1,500,000	100%

We are requesting \$1,200,000 in federal aid to complete a full funding package for the Planning phase of the Low-Emission Neighborhoods project. These federal funds would be matched by \$300,000 in local funds from our Vehicle License Fee revenue: a stable and secure fund source.





To Whom It May Concern:

In my capacity as Finance Manager of the Seattle Department of Transportation, I have met with the team submitting the RAISE grant application. We have identified a stable funding source and will make any necessary adjustments in our budget to allocate \$300,000 as the local fund match for the grant as shown in the project budget section of the application.

We have provided an excerpt of our adopted 2023-2024 budget book that identifies the program area where this funding will be spent for the match, again up to \$300,000 to match \$1.2 million in grant funding.

Please feel free to reach out with any additional questions.

Kindly,

Chris Godwin
Finance Manager, Seattle Department of Transportation
Email: chris.godwin@seattle.gov

Local Match Source (Reference)

Urban Planning				
The Urban Planning Program is comprised of Adaptive Streets, Citywide & Community Planning, GIS, Urban Design, and the Center City Mobility Plan.				
Expenditures/FTE	2021 Actuals	2022 Adopted	2023 Adopted	2024 Endorsed
Urban Planning	2,870,600	6,765,828	4,444,109	4,325,583
Full Time Equivalents Total	10.50	10.50	11.50	11.50

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Full 2023 Adopted and 2024 Endorsed Budget available at:

https://www.seattle.gov/documents/Departments/FinanceDepartment/23Adopted24Endorsed/SDOT_2023Adopted_2024Endors ed.pdf