

Environment & Climate Change Technical Report

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Center Plan

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Environment and Climate Change Technical Report

DOWNTOWN REGIONAL CENTER PLAN | DRAFT
FEBRUARY 20, 2025

Historic Context and Trends

Downtown in Context



Figure 1 Downtown Districts and Landmarks

Land, Industry, and Culture Shaped by Water

The Downtown Regional Center study area (throughout this document referred to as Downtown, or Downtown Seattle) is located in central Seattle. It is bound by the Elliott Bay shoreline to the west while Interstate-5 comprises most of the eastern boundary but intersects the Chinatown-International District neighborhood. Denny Way is the northernmost border while The Duwamish Industrial Center lies to the south.

For millions of years, water has sculpted the lands, people, and environment of what is now Downtown Seattle. From the ancient glacial movements of the Vashon Glaciation to the

relentless coastal erosion by the Pacific Ocean and Puget Sound to indigenous peoples' stewardship of the Salish Seas, water has been the constant force shaping this region. The maritime endeavors of the 19th and 20th centuries further intertwined the city's relationship with water, leading to the ongoing transformation of the Downtown waterfront into a vibrant cultural destination. Downtown Seattle has always been, and continues to be, a product of its profound relationship with water.¹

¹ Burke Museum of Natural History and Culture, "Waterlines Project"
<https://www.burkemuseum.org/static/waterlines/maps.html> ² The Encyclopedia of Puget Sound, "The Puget Lowland Ecoregion"



Figure 2 Historic relationship to water

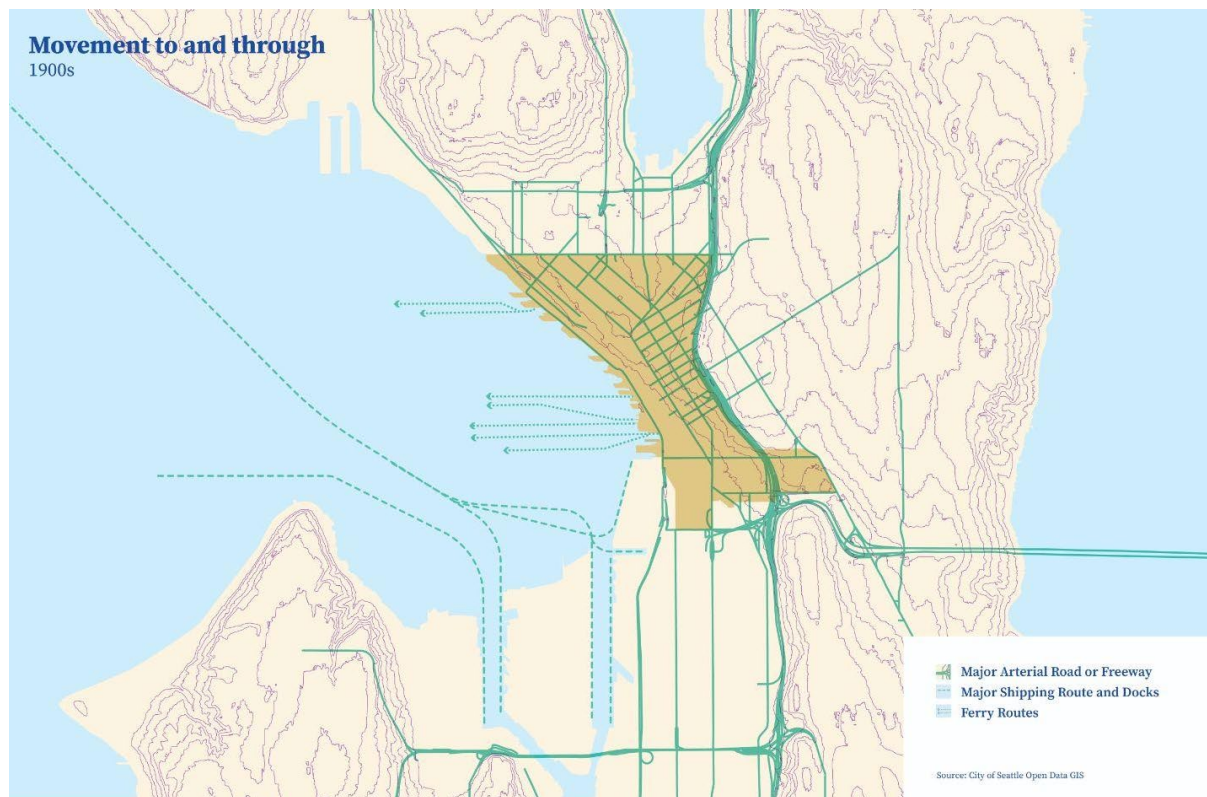


Figure 3 Map showing movement to and through Downtown Seattle

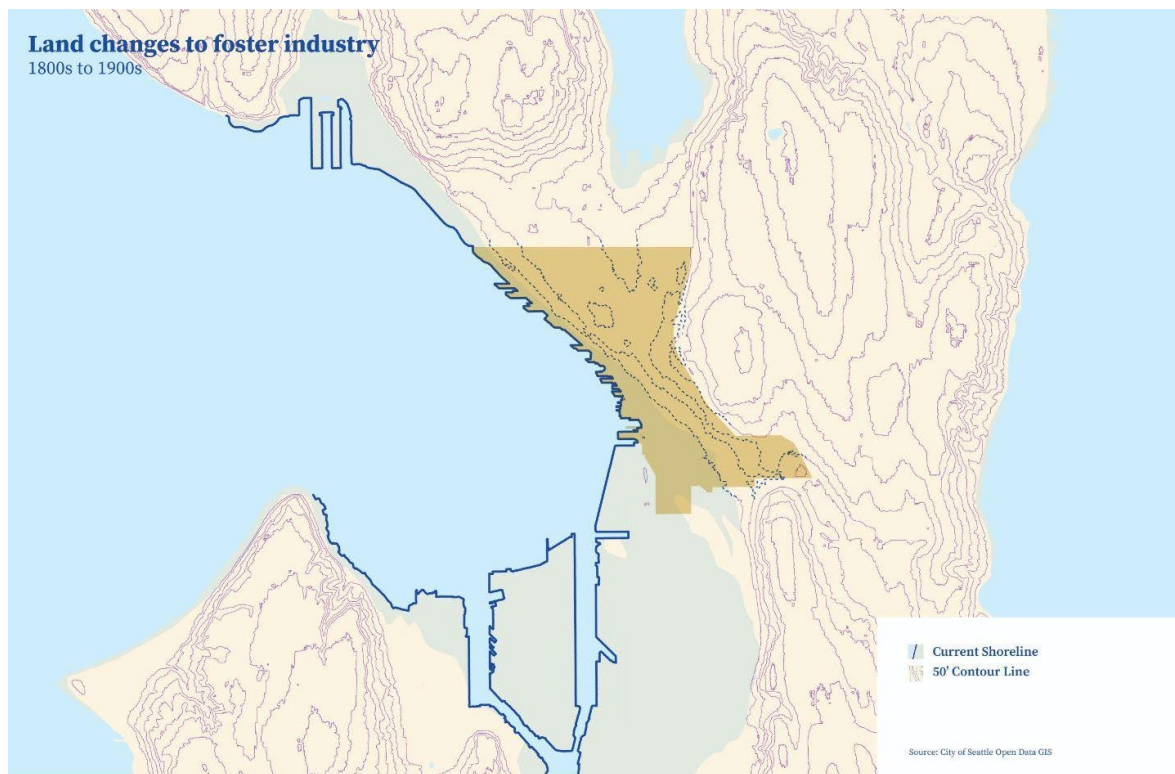


Figure 4 Land contours from 1800s to 1900s

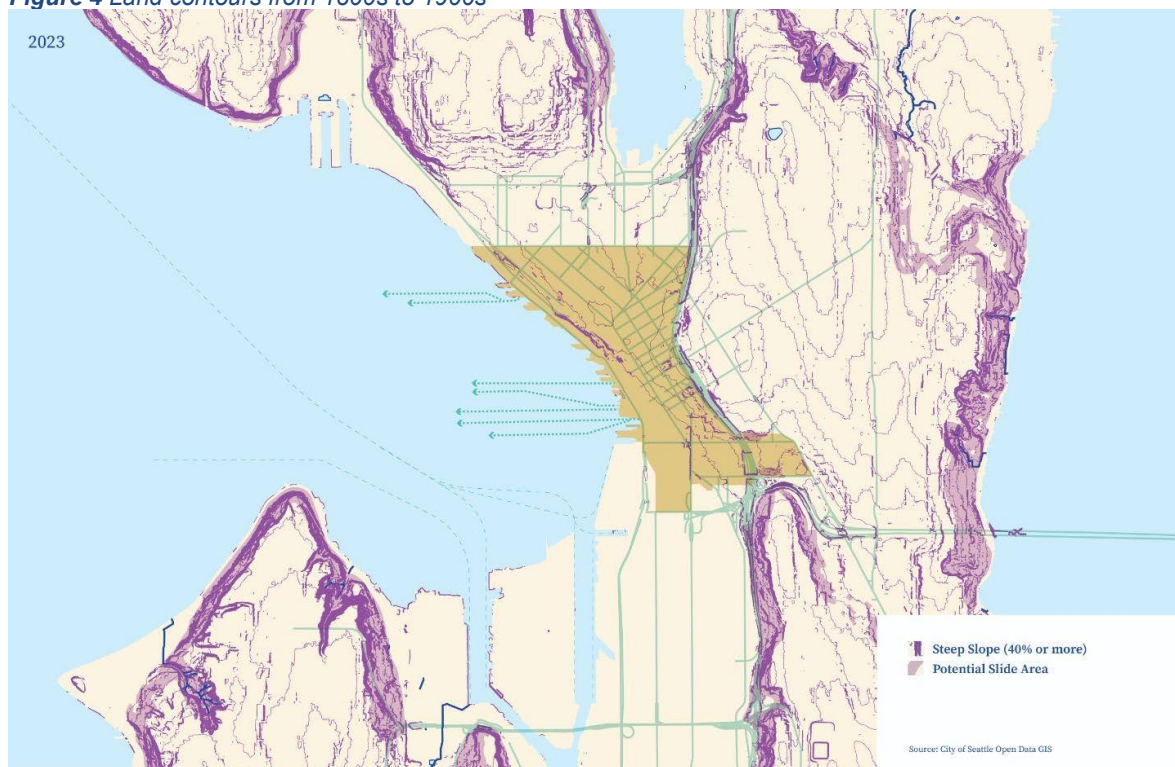


Figure 5 Land in 2023

Geological History

The lands that are now known as Seattle were created by over 2.4 million years of geological change caused by glaciers, volcanoes, earthquakes, landslides, coastal deposition, and erosion. Those changes created a narrow strip of geologically complex land that resides between the salt waters of Puget Sound and the fresh waters of Lake Washington, also known as an isthmus.

While these complex geological formations make ground conditions in Seattle complex and unpredictable, the rich topsoil deposited hundreds of thousands of years ago paired with a mild marine climate, created a healthy and ecological condition for a range of natural resources to thrive. Before European settlement, the area of what became known as Seattle was once continuous forests of Western hemlock, Western Red Cedar, and Douglas-fir.² Creeks and wetlands flowed through this landscape and together with the forests created a landscape that buffered the extremes of wet winters and dry summers.

Indigenous Stewards (pre-1800s and ongoing)

Downtown is built on Indigenous land, the traditional territory of Coast Salish peoples, specifically the Suquamish and Duwamish Tribes. The tribes lived in the region for thousands of years before the arrival of Europeans or white settlers. They stewarded a deep relationship with the land and water of present-day Puget Sound. The tribes also used Puget Sound for hunting and trade, and there were Coast Salish villages and water-related places along Downtown Seattle's original shorelines, of what is now Alaskan Way.

The Regrade: Land Changes to Foster Industry (1800s-1900s)

Engineers in the 19th and 20th century saw an opportunity in Seattle's rich, porous soils for its ease of removal and regrading. Eight significant human-engineered projects to redefine Seattle's landscape in support of economic development occurred between 1890 and 1930, and four of those projects, spanning over thirty years, were in Downtown Seattle.³

While these projects were envisioned to support an economic boon, they also had lasting effects on the natural function of the regraded lands and movement of waterways to the Sound, making future construction projects more difficult and significant wastewater infrastructure necessary to divert or channel water away from the developed landscape.

² The Encyclopedia of Puget Sound, "The Puget Lowland Ecoregion"

³ David B Williams, "Denny Regrade (Seattle)" History Link.org, <https://historylink.org/File/21204> ⁴ Eric Pryne, "Amazon to make giant move to South Lake Union," The Seattle Times, (Dec 2007) ⁵ Waterfront Seattle, "Program Overview", <https://waterfrontseattle.org/about/program-overview> ⁶ Seattle Public Utilities, "The Power of Water", <https://storymaps.arcgis.com/stories/2be3ad7299c44445b4bbb213a039bf8b> ⁷ Sound Transit, East Link Project Boring Locations, https://www.soundtransit.org/sites/default/files/documents/pdf/projects/eastlink/deis/appendix_f4.11_geologic_unit_summaries_and_hazard_areas.pdf



Figure 6 and Figure 7 Photos of Regrade in 1907 (Rare Historical Photos)

Building Booms

Several building booms took place after the 1930s, in the decades following Seattle's significant regrading projects. While not all of these investments directly occurred due to the economic development visions of the engineers who led the major regrade projects, they all followed the shape of the new landscape. An increase in automobile use after World War II brought thoroughfares, expressways, and other car infrastructure that greatly impacted Seattle's urban form. A more formulaic zoning ordinance adopted in the late 1950s brought modern high rise curtain wall buildings. By the late 1960s, much of Downtown was shaped by high rise commercial buildings and plazas. By the 1970s, preservation and restoration efforts began to target historic and architecturally significant properties, many of which are Downtown.

In the early 2000s, after the City loosened building height restrictions, many projects were constructed in the Downtown's commercial core. Also, in the 2010's, many successful technology start-ups, including Amazon, expanded operations Downtown. These companies made significant investments not only in individual buildings, but in campuses and public spaces close to their facilities.⁴ Another major structural change came after the Alaskan Way Viaduct suffered damage after the 2001 earthquake, when it was replaced with an underground highway that paved the way for a renewed connection between Downtown and the waterfront.

⁴ Eric Pryne, "Amazon to make giant move to South Lake Union," The Seattle Times, (Dec 2007)⁵ Waterfront Seattle, "Program Overview", <https://waterfrontseattle.org/about/program-overview> ⁶ Seattle Public Utilities, "The Power of Water", <https://storymaps.arcgis.com/stories/2be3ad7299c44445b4bbb213a039bf8b> ⁷ Sound Transit, East Link Project Boring Locations, https://www.soundtransit.org/sites/default/files/documents/pdf/projects/eastlink/deis/appendix_f4.11_geologic_unit_summaries_and_hazard_areas.pdf



Figure 8 Aerial view of the Alaskan Way Viaduct in Seattle in 2018 (Flickr Photo / WSDOT)

The Unique Role of Open Space in Downtown

Initiative 42

Publicly owned parks and recreational facilities throughout Seattle are protected by Initiative 42, which was passed by the City of Seattle in 1997. Initiative 42 preserves access to parks and recreation by preventing the transfer, sale, or change of parks and recreation land and facilities to other uses unless deemed absolutely necessary. In the case of transfer, sale, or change of use, this initiative also requires the city to replace any parks and recreation facilities with equivalent or better facilities that serve the same community and geographic area.

Spaces for Expression and Exchange

Downtown Seattle's major civic open spaces function as places of expression and exchange. Many of them frequently support activities from surrounding businesses and cultural and civic institutions. Major civic open spaces Downtown include Occidental Square, and City Hall Park. These spaces support events large and small and often serve as a regional draw, attracting visitors from across Downtown, the city, and beyond. Public spaces represent and are often host to democratic expression and dialogue, essentials of civic discourse. A full inventory of Downtown parks and open spaces can be found on page 38.

Reconnecting Downtown to its Waterfront

Once primarily an active shipping channel and gateway to surrounding Washington communities, the waterfront has significantly transformed since the early 2000s. Seattle's Downtown Waterfront has been redesigned into a vibrant, connected destination that balances its role as a jobs, tourism, and transportation center alongside improved public access.

Reflecting the longstanding importance of connections to water for Seattle, the City is also actively working to reinvest in water quality and ecological health, with the collaborative stewardship and advocacy of Indigenous tribes. Removal of the Alaskan Way Viaduct and investments in the Pioneer Square Habitat Beach, the Puget Sound, and stormwater infrastructure outflows into the harbor are recent examples of efforts to improve waterfront health and access for the benefit of all.⁵

Downtown's Back Yards

Downtown Seattle includes some of the highest density development in the City, which also often means that many residences do not have access to private yards. Walkable, public spaces that offer a variety of experiences - recreational, social, wellness-related - are essential for the many people who call Downtown home. Parks enable residents to physically engage with and connect to the natural environment. They also provide a range of health, economic development, and environmental benefits. Trees alone help to cool the Downtown on hot days, improve air quality, and increase property values.

Tourism Hub

Downtown Seattle continues to be a major destination for visitors culturally, offering unique destinations and experiences, and logistically, as a key transit gateway into Seattle for travelers to and through the city. Downtown open spaces provide everyday opportunities for tourists to rest and enjoy the city, and events-based destination opportunities. Places like Pike Place Market are major tourist attractions. Pike Place Market alone supports 600 businesses with sales of over \$100 million and millions of visitors worldwide.

Environmental Threats

This technical report examines the current state and future challenges of Downtown Seattle's open spaces, public realm, and waterfront. While these areas contribute to a healthy city for residents, workers, and visitors, they face significant environmental and climate change threats. These include vulnerabilities to flooding from natural disasters and sea level rise, reduced air quality, increased urban heat island effects from hot days, heat waves, droughts, and wildfires, as well as the impacts of earthquakes on the built environment and landfill. These modern-day threats, exacerbated by human engineering and consumption, necessitate comprehensive planning and mitigation strategies to ensure a sustainable and resilient future for Downtown Seattle.

⁵ Waterfront Seattle, "Program Overview", <https://waterfrontseattle.org/about/program-overview> ⁶ Seattle Public Utilities, "The Power of Water", <https://storymaps.arcgis.com/stories/2be3ad7299c44445b4bbb213a039bf8b> ⁷ Sound Transit, East Link Project Boring Locations, https://www.soundtransit.org/sites/default/files/documents/pdf/projects/eastlink/deis/appendix_f4.11_geologic_unit_summaries_and_hazard_areas.pdf

Environmentally Critical Areas

Seattle's Environmentally Critical Areas (ECA) Code governs areas of the City that provide critical environmental functions, like wetlands and habitat conservation areas, or areas with natural conditions that pose risks for development, like areas prone to floods, landslides, liquefaction, peat-settlement, or seismic hazards. Several ECAs exist within the Downtown Regional Center, including Liquefaction Prone Areas, Steep Slopes (40% average), Flood Prone Areas, Known Slide initiation points, and Peat Settlement Prone Areas. Along Downtown's shoreline is a Shoreline Habitat Buffer. The ECA Code outlines regulations like site plan requirements, standards for trees and vegetation management and restoration, and development standards for different ECAs.

Previous and Ongoing Planning Efforts and Projects

The Downtown Urban Center plan should build on recent studies and resources that provide a strong foundation for climate projections, open space needs, and environmental opportunities. The following is a summary of key reports:

City Wide Plans

Environmental Impact Statement- One Seattle Comprehensive Plan, OPCD

The Seattle Comprehensive Plan is the guide for how the city grows and makes investments. The Environmental Impact Statement (EIS) evaluates five alternatives for providing more housing and improving the jobs/housing balance in Seattle. Each alternative has been reviewed for likely environmental impacts. The purpose of evaluating alternatives is to understand the impacts of different approaches to accommodating housing and jobs. The final plan and implementing legislation would likely implement a combination of changes analyzed in different alternatives. Downtown Seattle is within analysis zone 4 in the Draft EIS.

Seattle Climate Vulnerability Assessment, OPCD (2023)

The City of Seattle's Climate Vulnerability Assessment (CVA) is a detailed assessment of how climate change is already affecting and will continue to affect the community wellbeing, economy, health, infrastructure, and natural systems of the city.

Seattle Climate Action Plan, City of Seattle (2013)

[Link](#)

The first climate action plan was adopted in 2006. The 2006 CAP laid out a strategy to meet the Kyoto target and identified short-term actions the City should take to achieve that goal. To date, fifteen of the eighteen areas of action identified in the 2006 CAP have been implemented or are in the process of implementation.

Green New Deal Executive Order, Climate Impact Actions, Office of Sustainability (2021)

[Link](#)

The Green New Deal Executive Order calls for OSE to convene a Green New Deal City Team, comprised of relevant City departments, such as Seattle Department of Transportation, Seattle City Light, Seattle Department of Construction and Inspections, the Office of Economic Development, and Office of Planning and Community Development, that would engage and collaborate with community-based organizations and residents to develop a brief report identifying the top 10 actions the City could take in order to achieve expeditious reductions in GHG emissions.

Community Greenhouse Gas Emissions Inventory, Office of Sustainability (2024)

[Link](#)

Tracking greenhouse gas (GHG) emissions across the buildings, transportation, industrial, and waste sectors helps the City develop effective programs and policies designed to reduce climate impacts. This GHG emissions inventory reports on the sources and magnitude of Seattle's core GHG emissions and provides short- and long-term trends so the City of Seattle and its residents are better able to take informed actions to combat the climate crisis.

Parks and Open Space Plan, Seattle Parks and Rec (SPR) (2024)

[Link](#)

The 2024 Parks and Open Space Plan is a 6-year plan that documents and describes SPR's facilities and lands, looks at Seattle's changing demographics, and lays out a vision for the future. The 2024 Parks and Open Space Plan is required by the Washington State Recreation and Conservation Office (RCO) to maintain the City of Seattle's eligibility for state grants and funding programs that will help realize outdoor recreation development and open space acquisition projects.

Outside Citywide, City of Seattle (2023)

[Link](#)

Outside Citywide is a collaborative initiative to create a flourishing, equitable, well-connected network of public green spaces across Seattle. Through partnerships and innovation, Outside Citywide identifies priority areas and key strategies to improve public space at the city scale, while also testing and improving these strategies by implementing projects at the neighborhood scale.

Indigenous Inclusivity Guide (2023)

The Indigenous Inclusivity Guide was created to help city planners ensure equitable representation of Indigenous groups throughout Seattle. As planners contribute to the City's development, this guide serves as a resource for prioritizing Indigenous representation and increasing awareness of the priorities of Indigenous peoples who live on and have connections to the land within the city's boundaries.

Downtown Specific Plans

Downtown Activation Plan (2023)

[Link](#)

Mayor Bruce Harrell unveiled the Downtown Activation Plan, the City of Seattle's proposal to revitalize Downtown Seattle. This plan outlines goals and actions aimed at stabilizing and transforming Downtown into an attractive destination for residents, workers, and visitors. It includes near-term recommendations and measurable outcomes.

Little Saigon Action Plan (2022)

[Link](#)

The Little Saigon 2030 Action Plan was developed by Little Saigon community members together with the Friends of Little Sài Gòn to establish a vision and actions to support neighborhood change and growth.

Seattle CID 2020 Health Community Action Plan (2020) and Chinatown International District Neighborhood Strategic Plan (2022)

[Link](#), [Link](#)

Home to small, independent businesses, and predominantly Asian-American and API immigrants, seniors, and children, the CID faces unique health, social, and economic opportunities and challenges. The Seattle Chinatown-International District 2020 Healthy Community Action Plan addresses these issues, highlighting poorer health outcomes and shorter lifespans for CID residents. The two plans outline strategies to enhance health, safety, and livability by investing in public spaces, stabilizing communities, and influencing policy, aiming to ensure the CID's prosperity alongside Seattle's growth, while also focusing on actionable recommendations to make these plans a reality.

Envisioning an Indigenous Downtown Seattle (2023)

The report, written by Tahoma Peak Solutions, a Native woman-owned firm, summarizes interviews with Indigenous leaders on the question, "What does an Indigenous Seattle look like for all?" The findings highlight key areas such as reclaiming space, reshaping narratives, forming partnerships, planning for the future, and addressing current challenges in Downtown Seattle.

Pike Place Market Master Plan (2024)

[Link](#)

This Master Plan serves as a guiding framework and vision for the next fifty years, preserving the objectives outlined in the City Charter. The Plan's three goals and four corresponding strategies aim to capitalize on opportunities and ensure that the Market remains a supportive, diverse community, as well as a thriving hub for Pacific Northwest food, commerce, and culture for generations to come.

Imagine Greater Downtown (2019)

[Link](#)

The Imagine Greater Downtown plan developed an inclusive vision for Downtown in 2035. With the removal of the Alaskan Way Viaduct and new access to the Waterfront, this plan identifies priorities and guidance for creating vibrant public life in the heart of the city.

Waterfront Seattle

[Concept Design](#)

[Framework Plan](#)

[Strategic Plan](#)

The Waterfront Seattle plans reimaged the previously inaccessible waterfront. Projects like the Elliott Bay seawall reconstruction and cultivation of the public realm at the Waterfront allow Seattleites and visitors to connect to the city's unique geography along the Elliott Bay. The Waterfront Park will bring beautiful vegetation, views of Elliott Bay, and free events. Both the park and seawall will integrate environmentally friendly features designed for biodiversity, stormwater resilience, and healthy salmon migration.

Elliott Bay Seawall Project

The newly reconstructed Elliott Bay Seawall replaced the former seawall that had been in place for more than 70 years. The new seawall meets seismic standards and supports the natural ecological functions of the Elliott Bay shoreline. Spaces for vegetation to grow and hiding spots for marine life support juvenile salmon migration.

Existing Policies

The following existing policies and incentives are pertinent to the environment and open spaces Downtown. They offer a range of tools to help achieve the City's goals for carbon reduction, improved air quality, and the creation of more resilient and healthy communities. These serve as a foundation for future recommendations.

Building Practices

- Building Emissions Performance Standard
 - The City's Building Emissions Performance Standard (BEPS) Policy, was adopted in December 2023. Building performance standards are energy or emissions targets that existing multifamily and commercial buildings over 20,000 square feet must meet over time to improve energy efficiency and reduce climate impacts. The standard should reduce building emissions by 27% by 2050. This policy complements the state policy for buildings greater than 50,000 square feet commencing in 2026.
- Clean Buildings Accelerator
 - Offers technical support for owners and managers of buildings 20,000 SF and larger to understand the State of WA Clean Buildings law, reduce emissions aligned with the Seattle Building Emissions Performance Standard (BEPS), and comply with City and State legislation.
- [Priority Green Expedited](#)
 - Offers faster building permit review and processing for projects that meet green building requirements with a focus on clean energy, resource conservation,

indoor air quality, and lead hazard reduction. Priority Green Expedited is available for all new construction projects.

- [Green Building Standard](#)
 - Grants projects additional development capacity in specific zones in exchange for meeting green building requirements.
- [Living Building Pilot Program](#)
 - Offers additional height, floor area ratio (FAR), and Design Review departure requests for projects that meet aggressive energy and water requirements and Living Building Petal Certification.
- [2030 Challenge](#)
 - Offers additional height, FAR, and Design Review departure requests for projects that meet the 2030 Challenge which targets energy, water, and transportation for new construction and major renovations.
- [Landmark Districts](#)
 - Sites in Landmark Districts are prioritized for preservation, including reuse, repair, and upgrade, to maintain existing built forms. Three of Seattle's eight Landmark Districts are in the Downtown: Pike Place Market, Pioneer Square, and the International Special Review District.
- [Environmentally Critical Areas](#)
 - The Environmentally Critical Areas (ECA) Code regulates areas in Seattle that serve vital environmental functions. These regulations are detailed in Chapter 25.09 of the Seattle Municipal Code. For the Downtown area, the most significant ECA sections pertain to seismic hazard areas, along steep slopes of over 40%, in liquefaction prone areas, peat settlement areas, and in historical landfills

Waste and Emissions

- [Commute Trip Reduction Program](#)
 - In 1991, the State of Washington adopted its Commute Trip Reduction (CTR) law. The law is focused on reducing traffic congestion and air pollution by shifting drive-alone commutes to other modes.
- [EV Charging Ordinance](#)
 - This Washington State Law sets forth requirements and minimums for EV charging stations, EV-ready parking spaces, and EV capable parking spaces according to building occupancy type.
- [Fossil Fuel Free Fleet](#)
 - Under Executive Order 2018-02, Seattle aims to have a fossil fuel free fleet by 2030.
- [Oil Conversions Fund](#) and Clean Heat Program
 - The newly passed 2023-2024 City of Seattle budget will fund oil conversions using Payroll Expense Tax revenues.
- [Plastic Bag Ban](#)
 - The Washington State Law prohibits single-use plastic carryout bags for food, retail, and grocery businesses, festivals, and markets and imposes a charge for all large paper bags and thick reusable plastic bags.

- Development on Historical Landfills
 - Seattle Municipal Code 25.09.220 (Environmentally Critical Areas Code) indicates that development on historical landfills is subject to Seattle-King County Health Department requirements. The code also specifies methane barriers or appropriate ventilation per Title 22, Subtitle I, Building Code, and the Seattle King County Health Department regulations.
 - Title 10 King County Board of Health Solid Waste Regulation governs construction standards and methane controls on historical landfills. Authority is established under RCW Chapter 70.05 and Washington State Administrative Code WAC 173-304, Minimal Functional Standards for Solid Waste Handling, and WAC 173-351, Criteria for Municipal Solid Waste Landfills.

Streets

- [Stay Healthy Streets](#)
 - An initiative created by SDOT in response to the COVID-19 pandemic. Closed residential streets to pass through auto traffic to open them up to people walking, rolling, and biking.
- [Street Vacation](#)
 - Street Vacations allow property owners to petition the Seattle City Council to acquire a public right-of-way next to their property from the City. Street vacations “vacate” the public’s right to use a street and return it to private property. Street vacations are only applicable when there is an adjacent development project planned.

Parks and Open Space

- [Privately Owned Public Space program](#)
 - Privately Owned Public Spaces (POPS) are open to the public, and include plazas, arcades, atriums, hill climbs, and green streets. These spaces are allowed or required by rules in the Seattle Land Use Code that have been in place for several decades, and are generally located in Seattle’s Center City.
- [P-Patch Community Garden Program](#)
 - The P-Patch Community Garden Program, established in 1973, consists of publicly owned gardens managed by community members and operated by the Seattle Department of Neighborhoods. In the larger Northgate area, there are three P-Patches located outside the Urban Center boundary.
- [Seattle Conservation Corps](#)
 - Established in 1986, the Seattle Conservation Corps is a unique Parks and Recreation program that provides employment for people experiencing homelessness. This program offers adults the chance to train and work in a structured environment, equipping them with job skills while completing projects that benefit the community and the environment. It operates year-round with an annual budget of approximately \$4 million.
- [Incentive Zoning Program](#)

- The Incentive Zoning (IZ) program is a voluntary program in which developers provide amenities, including neighborhood open space, green street improvements, contribution to forest preservation, in exchange for extra floor area or height beyond the base amount allowed for their building by the Land Use Code. Amenities should comply with the City of Seattle's '[Downtown Amenities Standards](#)' such as minimum dimensions, access, landscaping and coverage guidelines.
- [Downtown Seattle Association Public Operations Team](#)
 - The team ensures Downtown parks are clean, well-maintained and welcoming.
- [Seattle Municipal Code Park Code of Conduct](#)
 - The Seattle Municipal Code prohibits activities that disrupt others' use of parks or impacts the quality of public spaces, including smoking, camping, and littering.
- Seattle Center
 - The Seattle Center has partnered with Friends of Waterfront Seattle to manage operations of the Waterfront Park, including maintenance and public safety services.

Stormwater

- [Rainwise](#)
 - This rebate program, a partnership between the City of Seattle and King County, assists private property owners in managing stormwater by installing cisterns and rain gardens.
- [RainCity Partnership Program](#)
 - Through Seattle Public Utilities, this program partners with eligible multi-family, commercial, and industrial property owners to voluntarily build green infrastructure projects and restore riparian areas, aiming to improve water quality and habitats.
- Beyond Code Partnerships
 - This program supports developer projects, such as those in Downtown, that meet the minimum stormwater code requirements but could benefit from a more comprehensive approach to stormwater management. This approach aims to achieve greater impact and benefits beyond what the code mandates.

Public Safety

- [Community Assisted Response and Engagement \(CARE\) Department](#)
 - The CARE Department responds to non-emergency and 9-1-1 calls involving low-risk behavioral health issues. The CARE team provides behavioral health-informed crisis responses alongside traditional first responders. This department has served Downtown since 2023, and is set to expand its services through university partnerships

Upcoming policies

- [Low Pollution Neighborhoods](#)

- Low-pollution neighborhoods are designated areas or streets where the City can deploy a variety of pilot, policy, program, and physical improvements to address climate goals. The vision and toolkit for the policy is currently in development. The City aims to implement at least three low-pollution neighborhoods by 2028.

Existing Conditions

Environment - Built and Natural

Downtown Seattle's built and natural environment reflects a complex interaction between its historical development and modern efforts to improve sustainability, connectivity, and urban livability. Initially covered by dense forests, creeks, and wetlands, the landscape underwent significant changes due to logging, industrialization, and major engineering projects like the Denny Regrade and tidal flat fillings. These historical modifications established the foundation for today's urban landscape but also brought substantial environmental challenges.

Currently, various strategies are being employed to address these past impacts and enhance the urban ecosystem. Previously, Downtown was a more focused employment center that prioritized commerce over open space, making it less welcoming to residents. Key initiatives such as the Waterfront Seattle Program and the proposed I-5 lid project aim to balance the city's historical legacy with future urban resilience and sustainability. However, many environmental challenges persist in the Downtown area. Issues such as pollution, tree canopy loss, and water quality degradation continue to impact the urban environment.

Land

A Changed Landscape

In the mid-1800s, before Euro-American settlement, the area that became known as Seattle was characterized by dense forests, creeks, and wetlands. This landscape provided stability for both human communities and the ecosystems they relied upon.⁶

The arrival of European settlers brought substantial changes to the landscape. The logging industry quickly exploited the dense forests, and the natural waterways were altered to support urban development. After that a series of large regrading projects reshaped the physical landscape and laid the foundation for Seattle's modern street grid and infrastructure, facilitating Downtown's growth and development.

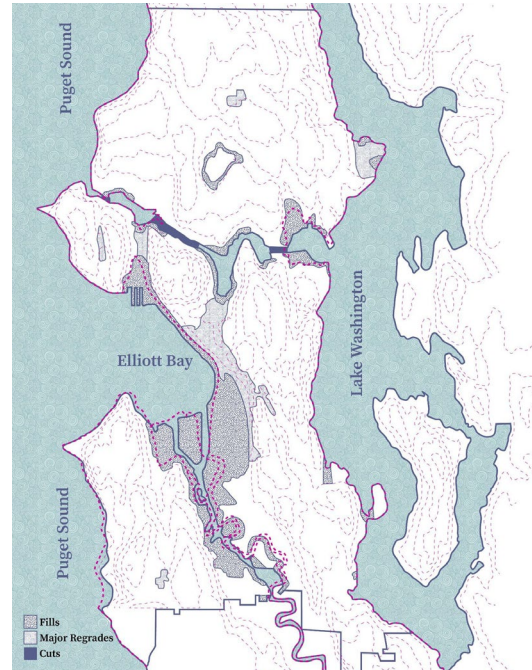


Figure 9 Changes to Seattle Land

Major Regrading Projects:

1898-1903: First Avenue Regrade (Pine to Denny) - The purpose of this first regrade was to increase accessibility between First and Capitol Hills to Downtown and increase economic vitality for Downtown.

1909: Dearborn Street Regrade - to support increased maritime industry, distribution, and water transportation needs, the City filled much of the low-lying coastal areas along the Puget Sound with landfill.

1910: Jackson Hill Regrade - the removal of much of Jackson Hill into what is now the CID is still visible along South Main Street along Kobe Terrace.

1911 and 1930: Denny Hill Regrade (occurred in two phases) - this was a major regrade of the Downtown between the waterfront and the Capitol Hill and First Hill neighborhoods to the east.

Beyond the regrade, other significant projects included the filling of tidal flats to create more land for development, such as the creation of Port of Seattle. These engineering projects

⁶ Seattle Public Utilities, "The Power of Water", <https://storymaps.arcgis.com/stories/2be3ad7299c44445b4bbb213a039bf8b> ⁷ Sound Transit, East Link Project Boring Locations, https://www.soundtransit.org/sites/default/files/documents/pdf/projects/eastlink/deis/appendix_f4.11_geologic_unit_summaries_and_hazard_areas.pdf

drastically altered the Downtown landscape, addressing the immediate needs of a growing population and economy, but also introducing substantial environmental challenges.

Geology and Ecology

The Downtown area is characterized by a diverse geological and ecological landscape, shaped significantly by its glacial history, coastal deposition and erosion, and human activities. This has left a complex mix of glacial deposits from multiple glaciation periods. The coastal area, known as artificial fill, is primarily covered by tidal flat deposits. The geological deposits in Downtown vary widely in composition, stability, and permeability. For instance, dense glacial till offers a stable foundation and typically has low infiltration rates, leading to surface runoff and potential flooding during heavy rainfall. Conversely, outwash deposits have high filtration rates but are susceptible to erosion.⁷ These natural and human-induced changes result in numerous geological layers. Consequently, construction projects become more complex, and the risk of damage from natural disasters increases.

Ecologically, the Downtown area was historically covered by dense temperate rainforests. These forests provided critical habitat for a wide range of wildlife, like numerous bird species. Today, much of this natural vegetation has been replaced by urban development, but pockets of green spaces, such as the Seattle Waterfront and numerous parks, continue to support local biodiversity. Thriving, highly vegetated open spaces like Danny Woo Garden and Growing Vine Street illustrate the success of community-led initiatives for promoting biodiversity. The regional environment of Downtown is mainly influenced by its proximity to the major water body, Elliott Bay. It plays a crucial role in moderating the local climate, contributing to the mild, maritime conditions that characterize the area.

Earthquake Risk and Impacts

Tree Health

Tree Canopy Loss

From 2016 to 2021, Downtown Seattle 's urban environment saw significant changes in its tree canopy due to both new plantings and removal. In 2021, the city enhanced its urban greenery by planting approximately 26 acres of new tree canopies.⁸ These efforts were concentrated in designated green spaces and along revitalized streetscapes, such as neighborhoods around Olympic Sculpture Park and Pike Place Market, and more.

⁷ Sound Transit, East Link Project Boring Locations, https://www.soundtransit.org/sites/default/files/documents/pdf/projects/eastlink/deis/appendix_f4.11_geologic_unit_summaries_and_hazard_areas.pdf

⁸ City of Seattle, "Trees for Seattle" <https://seattlecitygis.maps.arcgis.com/apps/MapSeries/index.html?appid=a7072ffa326c4ef39a0f031961ebace6>⁹
Seattle City Council Resolutions, Resolution 30297, <https://clerk.seattle.gov/search/resolutions/30297>

These efforts are part of projects like the Waterfront Seattle Program and the Green Streets initiative, aiming to make the city more livable and improve environmental health. Conversely, 32 acres of canopy losses occurred mostly in areas undergoing redevelopment and increased construction activities, such as Rainier Square, Wells Fargo Center, and major thoroughfares like 1st Avenue, 2nd Avenue, and 3rd Avenue. This dynamic resulted in a net reduction in overall tree canopy coverage from 10% in 2016 to 9.3% in 2021. The reduction in tree cover can be attributed to several factors, including urban development, infrastructure projects, and insufficient maintenance resources.

The city's limited resources allocated for tree maintenance, including pruning and pest control, have also played a role in tree canopy loss. Without regular maintenance, trees suffer from urban stress and become unhealthy, making it harder to maintain a robust tree canopy in the city.

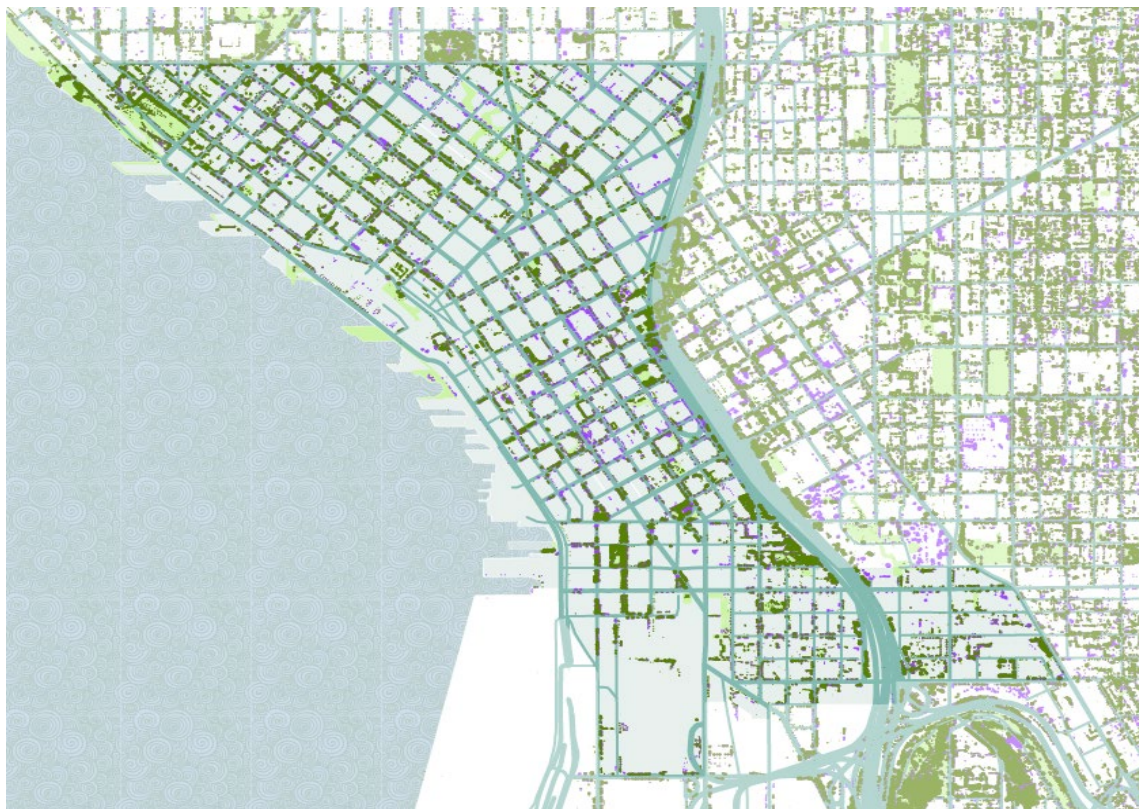


Figure 10 Tree Canopy Loss

Tree Ownership

A significant portion of Downtown street trees, 48%, are located on private property, while a smaller percentage are found situated in public spaces, such as sidewalks and rights-of-way (ROW). Trees maintained by the SDOT, primarily along streets and public ROWs, make up a notable portion of the public tree population.

Street vacations, where public streets are repurposed for private use, often by large corporations like Amazon, also affect tree distribution and management. These street vacations

can lead to the removal of public trees or transfer their maintenance responsibility to private entities, impacting control over the overall tree canopy and its health.

Street Trees Responsible Party	Percentage
Private	48.12%
Seattle Department of Transportation	45.47%
Seattle Parks and Recreation	6.22%
Seattle Fleets and Administrative Services	0.16%
Seattle Public Utilities	0.03%

Tree Species vulnerability analysis

Downtown's street trees bring both beauty and environmental benefits to the city. Common types include Sweetgum, Norway Maple, London Plane, Red Maple, and Red Oak trees. Each of these trees adds vibrant colors to the streets, especially in the fall, with hues ranging from deep reds to bright yellows. They are also known for their unique features, such as the star-shaped leaves of Sweetgums and the peeling bark of London Plane trees. However, these trees face challenges like pests and diseases, including the Asian longhorned beetle and oak wilt. Proper care and maintenance are essential to keep these trees healthy and ensure they continue to enhance the urban landscape.

Street Trees	Percentage	Main Characteristics
Sweetgum	7.67%	Sweetgums are known for their star-shaped leaves and spiky fruit. They display stunning fall colors, ranging from yellow to deep red. Sweetgums are susceptible to pests like the sweetgum webworm and diseases such as bacterial leaf scorch.
Norway Maple	6.51%	Norway Maples have a broad, rounded canopy and produce dense shade. They exhibit striking yellow fall foliage. These trees are prone to pests like the Asian longhorned beetle and diseases such as tar spot and verticillium wilt.
London Plane (Tree)	6.14%	London Plane trees are appreciated for their distinctive peeling bark and tolerance to urban conditions. They showcase attractive yellow and brown fall colors. London Plane trees can be affected by pests like the sycamore lace bug and diseases such as anthracnose.
Red Maple	4.62%	Red Maples are popular for their brilliant red, orange, and yellow fall foliage. They face pests such as the Asian longhorned beetle and diseases like verticillium wilt and tar spot.
Red Oak	4.41%	Red Oaks are known for their strong wood and beautiful red fall leaves. They are susceptible to pests like the gypsy moth and diseases such as oak wilt and leaf spot.

Recent Development and Initiatives

Downtown Seattle's urban environment is being enhanced through a range of strategies focusing on sustainability, connectivity, and urban livability.

Viaduct Removal

One major waterfront improvement effort was the removal of the Alaskan Way Viaduct, an elevated highway constructed in the mid-20th century to address growing traffic demands. While it provided critical transportation infrastructure, the viaduct also created physical and visual barriers between the Downtown area and the waterfront. Its removal, completed in 2019, aimed to improve seismic safety and reconnect the city with its waterfront. This project has opened new opportunities for urban redevelopment, green spaces, and public access to the waterfront, reshaping the historic relationship between Downtown and its water resources.



Figure 11 Removal of the Viaduct (*Puget Sound Business Journal / WSDOT*)

Sustainable Buildings

To promote environmental sustainability, Seattle has implemented a range of policies to encourage more efficient buildings, including expedited permit reviews, additional development capacity, and incentives for achieving advanced energy and water standards. These policies have led to the incorporation of green building practices in new developments throughout Downtown. The Sustainable Building Policy sets more stringent standards for City capital projects, with the intent of “leading by example”. A notable example is the Seattle Municipal Tower, which has been retrofitted for improved energy efficiency, water conservation, and waste reduction. The privately developed Second & Seneca Building, with its green roofs and energy-efficient systems, also exemplifies the city's commitment to sustainability in urban development.

I-5 Lid Project

In addition to its green building efforts, Seattle has been seeking innovative ways to improve the physical environment of Downtown. One such major project is the proposed I-5 lid, which aims to cover portions of the I-5 freeway with a lid park. This project aims to reconnect neighborhoods divided by the freeway and provide new green spaces and sidewalks. By enhancing urban connectivity, providing recreational areas, mitigating noise pollution, and improving air quality, the I-5 lid project integrates infrastructure with community needs and environmental sustainability.

Waterfront development

Another critical component of Downtown's urban environmental improvement is waterfront redevelopment. The redevelopment of Seattle's waterfront has opened up new opportunities for public access and engagement with the waterfront. Projects like Waterfront Seattle are transforming the central waterfront with parks, paths, and public spaces to enhance accessibility for residents and visitors. Currently, many buildings along Alaskan Way still have their "backs" to the waterfront, limiting their interaction with this valuable urban landscape. Future redevelopment could reimagine these spaces by redesigning the buildings to face the water, thereby creating a more attractive and integrated urban waterfront.

Regulations on Future Development

Restrictions on Planting in View Corridors

With the removal of the Viaduct new views of Elliott Bay are accessible and should be considered in our future policies. Seattle has established regulations to preserve iconic views of Elliott Bay, the Olympic Mountains, and other significant features by restricting certain developments within designated view corridors.⁹ These policies, originating from the 1995 Downtown Plan and reinforced in subsequent subarea plans, ensure that public view corridors remain unobstructed. Specifically, the vacation of streets that provide these views is heavily regulated to maintain light, air, open space, and visual access to the harbor.

Design Review in both Downtown and Belltown

Design review panels regulate new buildings in Downtown and Belltown by adhering to established guidelines, specifically assessing their contribution to public enjoyment and compatibility with existing structures based on scale, materials, and design.¹⁰ In Downtown, the guidelines focus on enhancing pedestrian experiences, preserving historic character, and encouraging mixed-use development. In Belltown, the guidelines emphasize preserving neighborhood character by respecting context and historical elements, promoting vibrant street-level activities, maintaining human scale, and encouraging innovative design with high-quality materials.

Water

Historic Relationship to Water

Swamps (natural floodplain)

Historically, Downtown was characterized by swamps and natural floodplains.

⁹ Seattle City Council Resolutions, Resolution 30297, <https://clerk.seattle.gov/search/resolutions/30297>

¹⁰ Seattle Department of Construction and Inspections, Design Review Guidelines, <https://www.seattle.gov/sdci/about-us/who-we-are/design-review/design-guidelines> ¹² Ethan Bancroft, "In celebration of Earth Month, learn how Waterfront Seattle is helping to keep residents, Elliott Bay, and its marine neighbors healthy" SDOT Blog, April 2024

Fishing access (boat access) Treaty of Point Elliott

The Puget Sound Coast Salish people, including the Duwamish and Suquamish tribes, have lived in the Downtown Seattle area for thousands of years. The waterfront was a fishing village, a center for trade, and a place through which many different tribal communities traveled. The signing of the Treaty of Point Elliott in 1855 was a significant event, as it guaranteed these tribes the continued rights to fish, hunt, and gather in their traditional territories. These rights remain recognized today, and ongoing efforts aim to protect and restore fishing habitats in honor of these historical agreements.¹¹

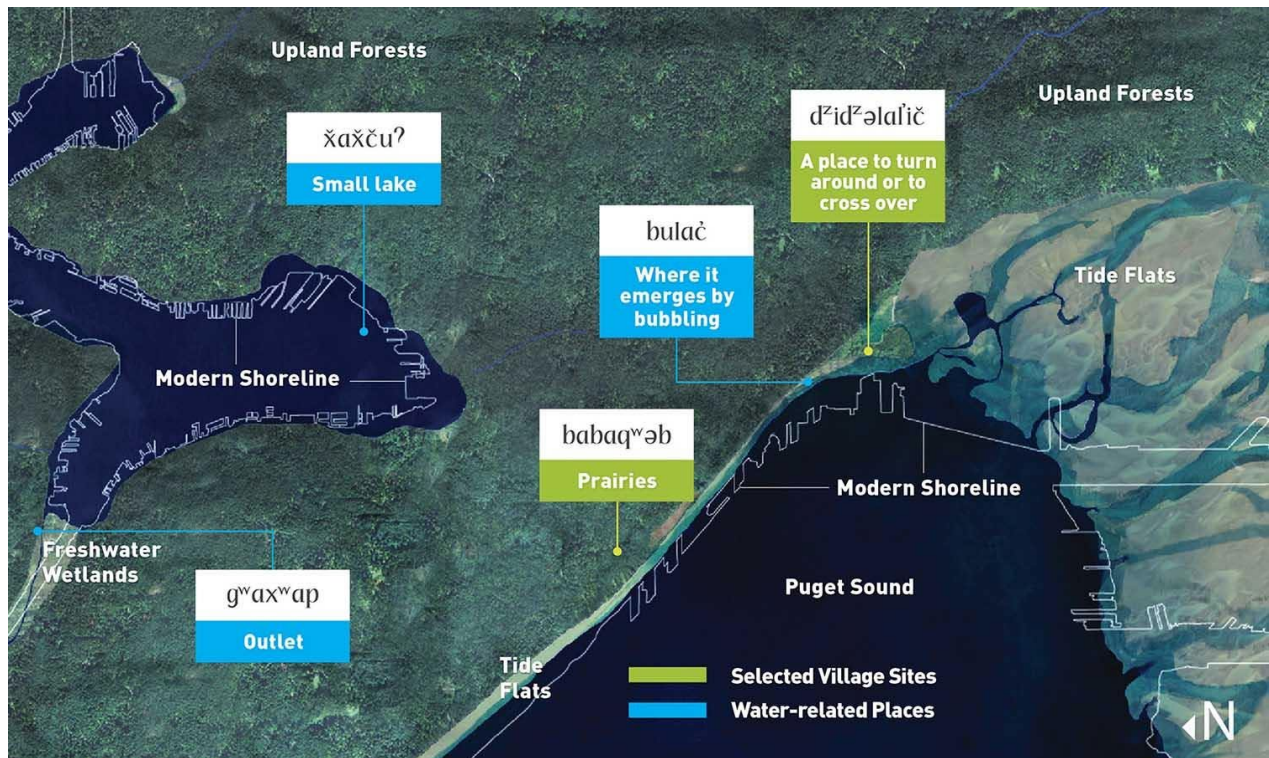


Figure 12 Historic Downtown Waterline (The Burke Museum, Waterlines Project)

Watersheds

Downtown is primarily part of the Puget Sound watershed, with influences from the Lake Washington watershed. Puget Sound helps moderate the local climate, providing cooling in summer and warmth in winter. It supports diverse marine and terrestrial species, enhancing ecological health and offering habitats for wildlife and recreation activities. The watershed also maintains water quality and volume by acting as a natural filter.

¹² Ethan Bancroft, "In celebration of Earth Month, learn how Waterfront Seattle is helping to keep residents, Elliott Bay, and its marine neighbors healthy" SDOT Blog, April 2024

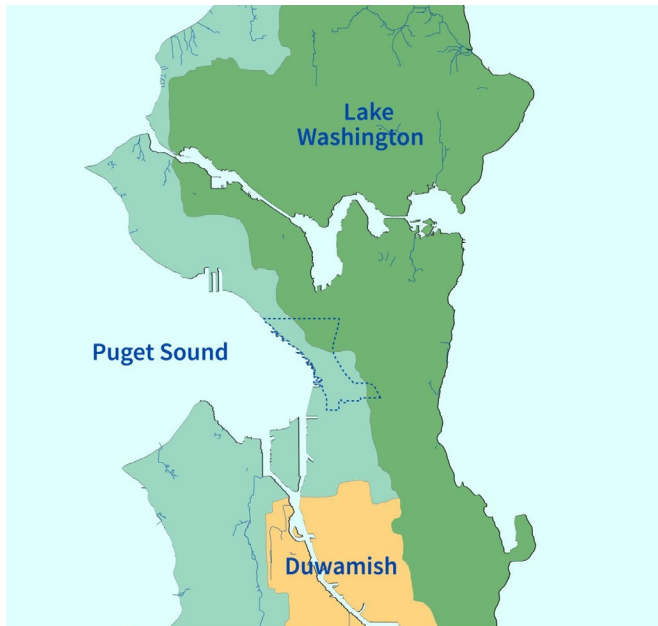


Figure 13 *Seattle Watersheds*

Water-based Habitats

Bay / Estuary Coastal Zone - Intertidal Habitat

The Downtown area features intertidal habitats in Seattle's bay and estuary coastal zones, which are vital ecological areas with moderately protected marine embankments that connect to the open sea. Historically, the shoreline in Downtown was similar to other natural shorelines around Puget Sound, with bluff-backed beach, intertidal marshes, and mudflats. Today, however, much of the waterfront is dominated by piers and over-water structures, which have significantly impacted the natural habitat.

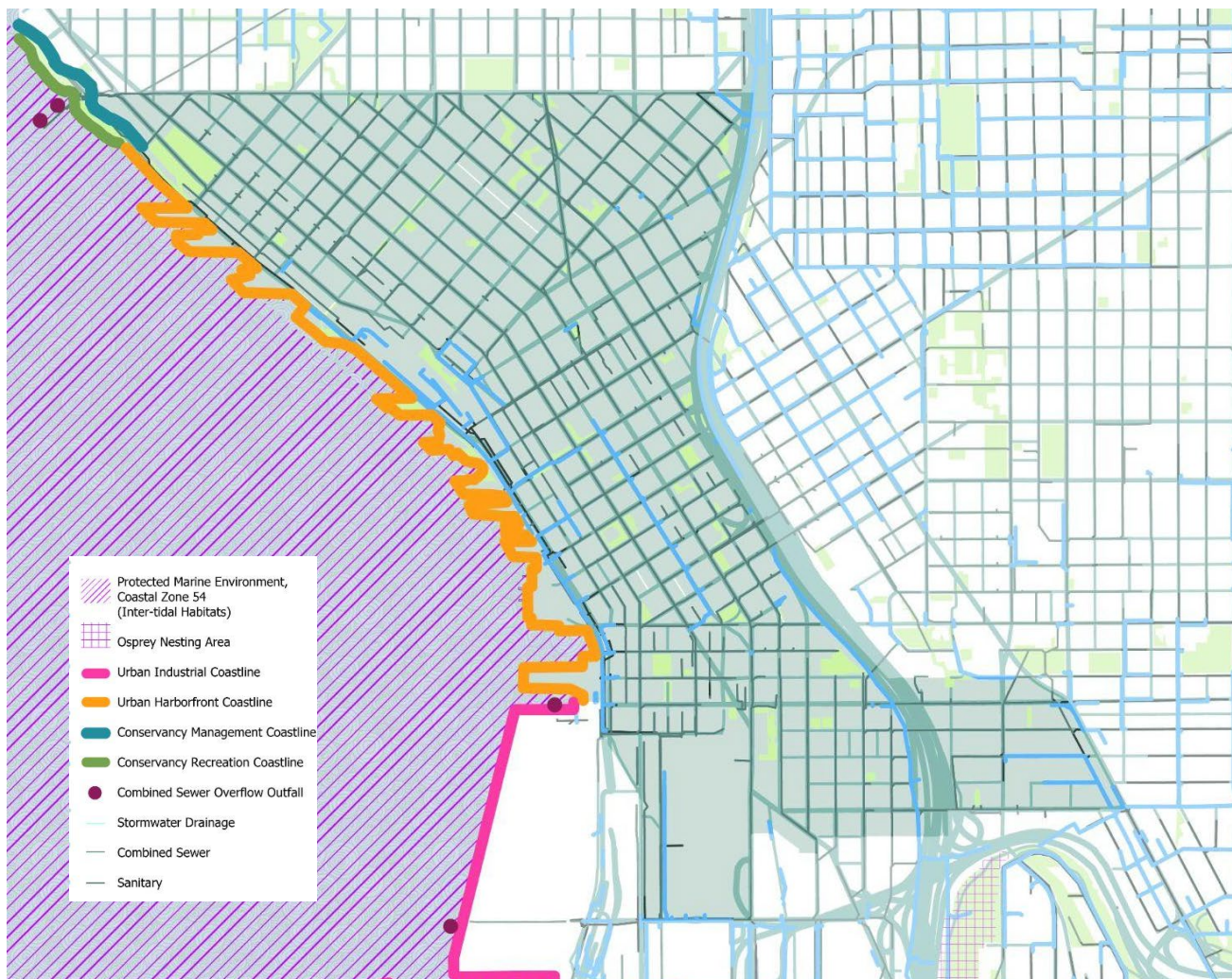


Figure 14 Marine Habitats

Marine Habitat Improvement efforts

The City of Seattle is actively working to improve the marine habitats along the waterfront. One of the key initiatives related to this effort is the Elliott Bay Seawall Project.¹² The project focuses on constructing a new earthquake-resistant system that supports the street and right-of-way, provides access to the waterfront piers, improves marine habitat, and supports upland uses.¹³ The original seawall, built between 1915 and 1934, provided shoreline protection but was vulnerable to earthquakes and significantly altered the natural habitat. In addition to ensuring sustainable shoreline protection, the Elliott Bay Seawall Project focuses on restoring a salmon migration corridor and improving ecosystem productivity, providing an opportunity for habitat restoration along Seattle's urbanized Downtown waterfront.

¹² Ethan Bancroft, "In celebration of Earth Month, learn how Waterfront Seattle is helping to keep residents, Elliott Bay, and its marine neighbors healthy" SDOT Blog, April 2024

¹³ Mortenson-Manson, "How do you revitalize Seattle's waterfront and protect the Puget Sound at the same time?"

Water Quality

Several challenges and factors affect the current water quality in Elliott Bay. The area, which has an active waterfront and slopes away from the water, faces pollution from several primary sources, including vessels in the water and runoff from the land. These pollutants are harmful to marine habitats.

Pollution Impact

The presence of pollutants from various sources, such as barges, poses significant environmental risks.¹⁴ These contaminants often result in oil encasing docks, which can persist on rocks and wash off during low tides, causing long-term damage. Such pollution incidents have severe consequences, notably affecting fish runs. Coho salmon, for instance, suffer high mortality rates due to polluted runoff entering streams during rainfall, which introduces toxins into their habitats and disrupts their life cycles.

Industrial and Developmental Impact

The development of Pier 91 and Elliott Bay Marina has led to considerable environmental degradation. The expansion of commercial fishing and recreational boating has exacerbated these issues. Moreover, compared to other areas in Seattle, Downtown faces unique challenges due to its higher density of impervious surfaces and increased urban activities, such as vehicle traffic and events along the waterfront, have further deteriorated water quality. These developments have also had a direct impact on the health and livelihoods of tribal fishers, who rely on these waters for their sustenance.

CSOs Impact

Another major challenge in maintaining water quality in Downtown is the risk of combined sewer overflows (CSOs) and the overall capacity of the wastewater system. Over 80% of Downtown's infrastructure uses combined sewers that collect both stormwater and wastewater.¹⁵ During heavy rainfall, these systems can become overwhelmed, discharging untreated sewage into Elliott Bay and other water bodies. Areas like Alaskan Way and Vine St have been identified as exceeding CSO performance standards of no more than one overflow per outfall per year over a twenty-year moving average. Additionally, the high wastewater system capacity risks are concentrated around south Downtown and the CID area, posing significant threats to water quality. Downtown has three CSO locations that discharge into Elliott Bay near Myrtle Edwards Park, the Clipper Seattle Ferry Terminal, and Pier 48.

¹⁴ Tahoma Peak, "Envisioning an Indigenous Downtown Seattle", pg.19

¹⁵Seattle Public Utilities, "The Power of Water"

<https://storymaps.arcgis.com/stories/2be3ad7299c44445b4bbb213a039bf8b>

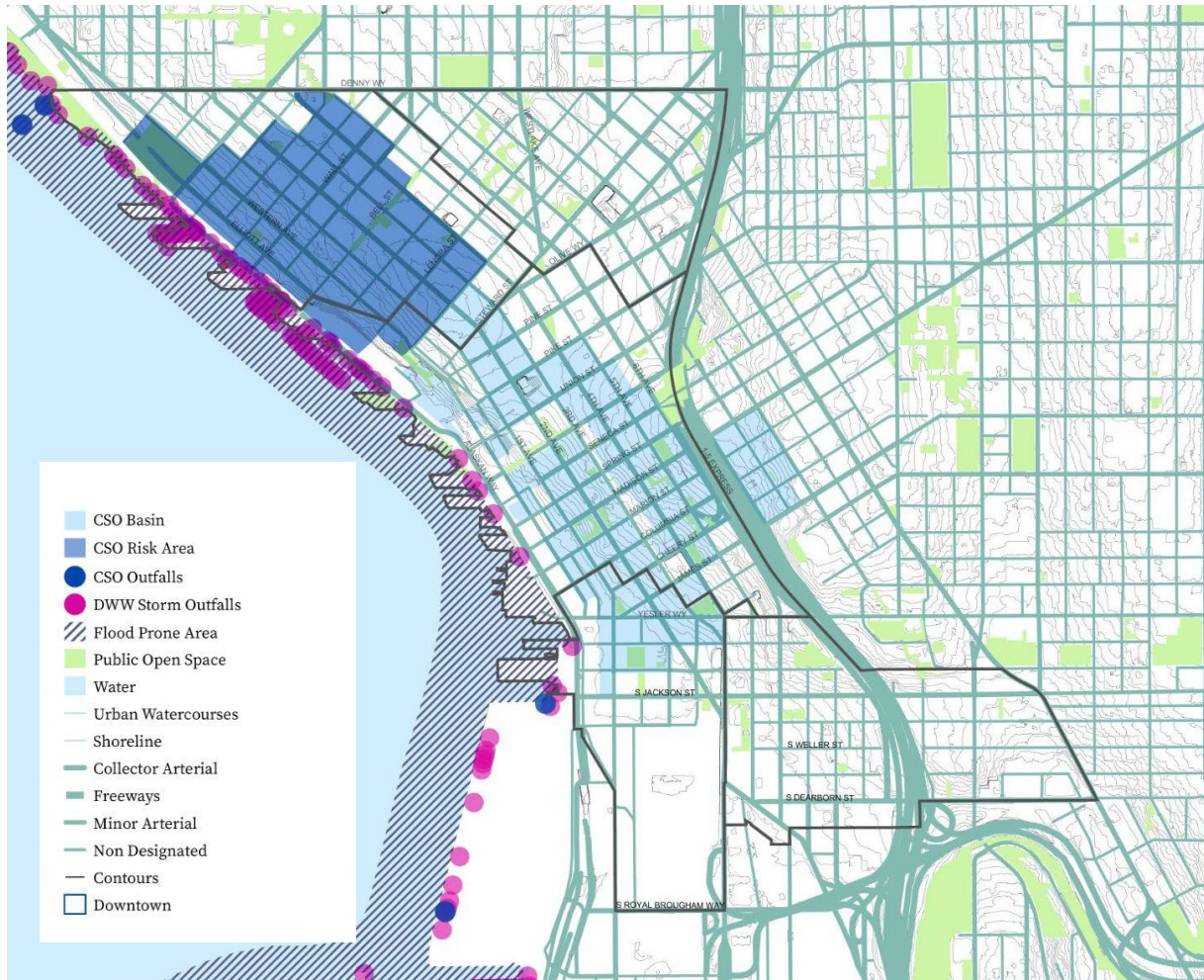


Figure 15 Flooding Risk and Combined Sewer Overflow Districts

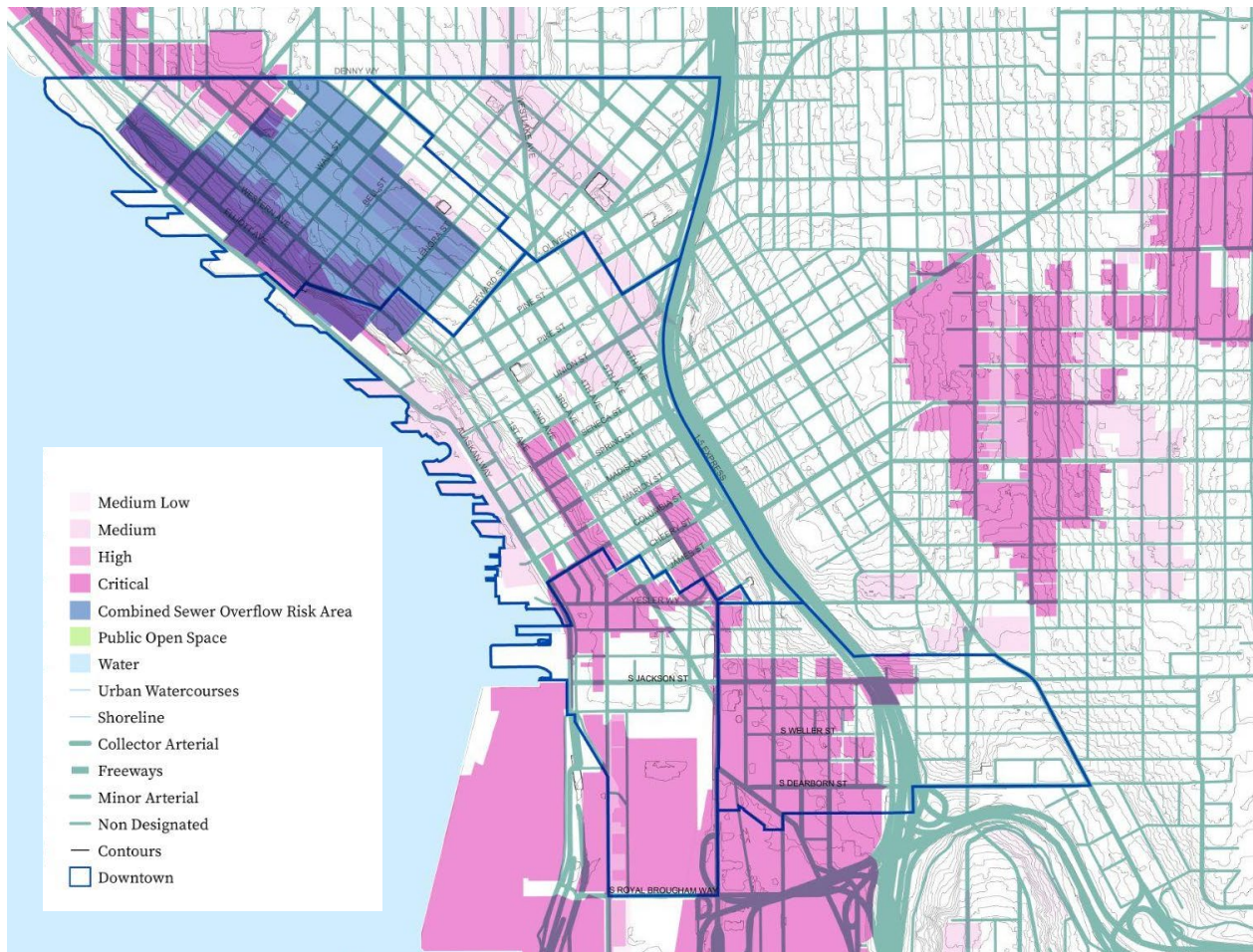


Figure 16 CSO Risk Areas and Wastewater System Capacity

Stormwater

Green Streets

The Green Streets program focuses on creating streets that prioritize pedestrian and open space functions while also managing stormwater. There are 21 adopted Green Streets in Downtown Seattle, integrating elements such as rain gardens, permeable pavements, and bioswales. These features help manage stormwater and create inviting, attractive, and safer streetscapes for pedestrians, bicyclists, and transit users. With the exceptions of Harbor Steps, a portion of Bay Street between Western Avenue and Elliot Avenue, and portions of Occidental Avenue South, all Green Streets allow motorized vehicular traffic. Green Streets serve as pedestrian gathering places and corridors connecting activity areas, often designed to slow vehicular speeds, making it reasonable for pedestrians and vehicles to share the space.

Example: Bell Street Park

The Bell Street Park is the City of Seattle's first shared street project, establishing a new typology for streets as parks and open spaces. The project aimed to reclaim street space for

flexible use, elevating the street to a level, continuous surface that supports both mobility and community life. By integrating recreational and ecological features, such as permeable pavements, vegetated swales, and rain gardens, Bell Street Park demonstrates how urban spaces can be transformed to support environmental sustainability while providing recreational and aesthetic benefits to the community. It is important to consider that the lack of adjacent active uses create management challenges for this space. The success of Bell Street Park highlights the potential for similar initiatives to create more sustainable and enjoyable urban environments in other parts of Downtown Seattle.

Air

Air Quality

The Puget Sound Clean Air Agency monitors air quality in the Seattle area, sets standards, and regulates development to achieve regional air quality goals. They provide data from several air quality monitors in the Downtown Urban Center, including one at 10th and Weller Street in the CID.¹⁶ Downtown Seattle has high asthma rates, especially in Pioneer Square and the CID, where nearly 10% of adults are diagnosed with asthma.¹⁷

Diesel Exhaust

I-5 runs along the eastern edge of Downtown and through the Chinatown International District (CID), negatively impacting air quality in this urban area due to diesel exhaust from vehicles.. This exhaust contains tiny, highly toxic particles, which account for 78% of the potential cancer risk from all air toxins in the Puget Sound region.¹⁸ Additionally, it is linked to respiratory and cardiovascular issues such as asthma, heart attacks, and strokes.

Wildfire Smoke

In addition to local air pollution, the Seattle region faces annual wildfire smoke days, which have become more frequent since 2015. Warmer and drier weather caused wildfire smoke to extend into October for the first time in 2022. The wildfire season typically lasts from August to October. Smoke from sources such as fireplaces, wood stoves, land-clearing burn piles, and wildfires contains fine particulate pollution. These tiny, microscopic particles can easily enter the bloodstream and cause breathing and heart problems. The health effects of even short-term exposure are serious, especially for children, the elderly, and people with compromised immune systems.

¹⁶ Puget Sound Clean Air Council, Sensor Map, <https://www.pscleanair.gov/160/Basics>

¹⁷ City of Seattle, Climate Vulnerability Tool

¹⁸ Puget Sound Clean Air Council, Air Pollution and Your Health, Diesel Exhaust

Changing Climate

Seattle and the Puget Sound region are already experiencing the effects of climate change, including warmer temperatures, more frequent extreme heat events, prolonged wildfire smoke episodes, extreme precipitation, and sea level rise. These impacts are expected to worsen under various future climate scenarios, depending on successes in reducing greenhouse gas emissions and improving adaptation strategies for city systems and communities.

The impacts of climate change will have wide-ranging effects on Seattle. These include disruptions to the local economy, worsening public health disparities, increased stress on infrastructure, and changes to community well-being and local ecosystems. The burden of these impacts will not be evenly distributed. Neighborhoods with fewer community services—such as grocery stores, parks, libraries, and transit options—are often the same areas that were historically redlined and have higher populations of residents of color, non-English speaking residents, and older adults. These neighborhoods will be more vulnerable to climate-related extreme events. In addition, aging infrastructure systems are more vulnerable to climate-related hazards, as they are less able to mitigate climate-related hazards or cope with extreme events. Many systems are inherently connected so impacts to one system will often create cascading impacts to other systems, services, and assets.

Climate Vulnerability Assessment

In 2023, the City of Seattle developed a Climate Vulnerability Assessment (CVA) to support the One Seattle Comprehensive Plan.¹⁹ This report and tool analyzed vulnerability across five focus areas aligned with City departments' operations and planning processes: Economy, Public Health, Community Amenities and Wellbeing, Infrastructure, and Natural Systems. The CVA considers both physical and socioeconomic vulnerabilities to climate change within each focus area.

The climate vulnerability assessment tool provides spatial analysis of relative vulnerability at the census-tract level. Although these boundaries do not perfectly align with Downtown, they offer a framework for understanding the vulnerability of the larger Downtown area. The data boundaries used for the climate vulnerability analysis tool are shown below. These five focus areas are grouped into two larger categories: social and economic vulnerability, and physical vulnerability. Additionally, the tool combines natural systems and infrastructure into one category, as these two focus areas are interrelated.

Economy

Economic vulnerability refers to the impact of climate change on the local economy, including businesses, workers, and other economic factors. Downtown faces economic vulnerability to climate change due to a high number of climate-exposed employees, such as outdoor laborers. Downtown also faces a high number of small businesses which suffer from increased risk of flooding due to proximity to the waterfront.

¹⁹ City of Seattle, Climate Vulnerability Assessment, (June 2023)

Community Amenities and Wellbeing

The vulnerability of community amenities and well-being is caused by climate change's impact on essential community assets and services, such as food access, parks, and critical facilities that contribute to residents' well-being. In comparison to other Seattle neighborhoods, Downtown faces high vulnerability of community amenities and well-being. While Downtown hosts a relatively low number of critical facilities, these facilities are at a high risk of flooding. Moreover, Downtown suffers from heat dome effects exacerbated by low impervious surface and low tree canopy coverage.

Public Health

Public health vulnerability refers to how climate change exacerbates existing health risks and introduces new health challenges for residents. Vulnerable populations including unhoused residents, residents of shelters, low-income housing, and senior housing, tend to concentrate in or near Downtown. Comparatively to other neighborhoods, Downtown faces higher health vulnerability to climate change due to low tree canopy coverage and high asthma rates.

Infrastructure and Natural Systems

Natural systems vulnerability refers to the impacts of climate change on local environments, including urban and regional watersheds, urban forests, open spaces, and aquatic habitats. Downtown, situated on the coast, faces threats from sea-level rise and an increased risk of flooding. Infrastructure vulnerability concerns the effects of climate change on Seattle's energy, transportation, and water systems. The terrain rises steeply from the waterfront to meet I-5, which runs along the eastern boundary.

Climate Change Impacts and Hazards

The following sections provide an overview of climate change impacts and climate-related hazards facing Downtown Seattle grouped into categories of land, water, and air.

Land

Earthquake

The Puget Sound area has experienced numerous earthquakes, which can be categorized as either shallow or deep quakes. Downtown Seattle is particularly vulnerable to earthquakes due to its proximity to the Seattle Fault and the significant infill and regrading work completed in the early 1900s. Much of the infilled area is now classified as an environmentally critical area, either a liquefaction zone or a peat settlement zone, meaning these areas are likely to move during an earthquake. These zones have additional building development standards for new constructions. However, they also encompass historic districts with many unreinforced masonry buildings that are highly susceptible to severe structural damage during earthquakes.

The most significant seismic threat to Downtown comes from the Seattle Fault, which runs east-west through the city. The last earthquake on this fault occurred 1,100 years ago. Its recurrence

interval is estimated to be between 200 and 15,000 years. The potential magnitude of an earthquake on the Seattle Fault is projected to be around 7.0, according to the Seattle Office of Emergency Management.²⁰

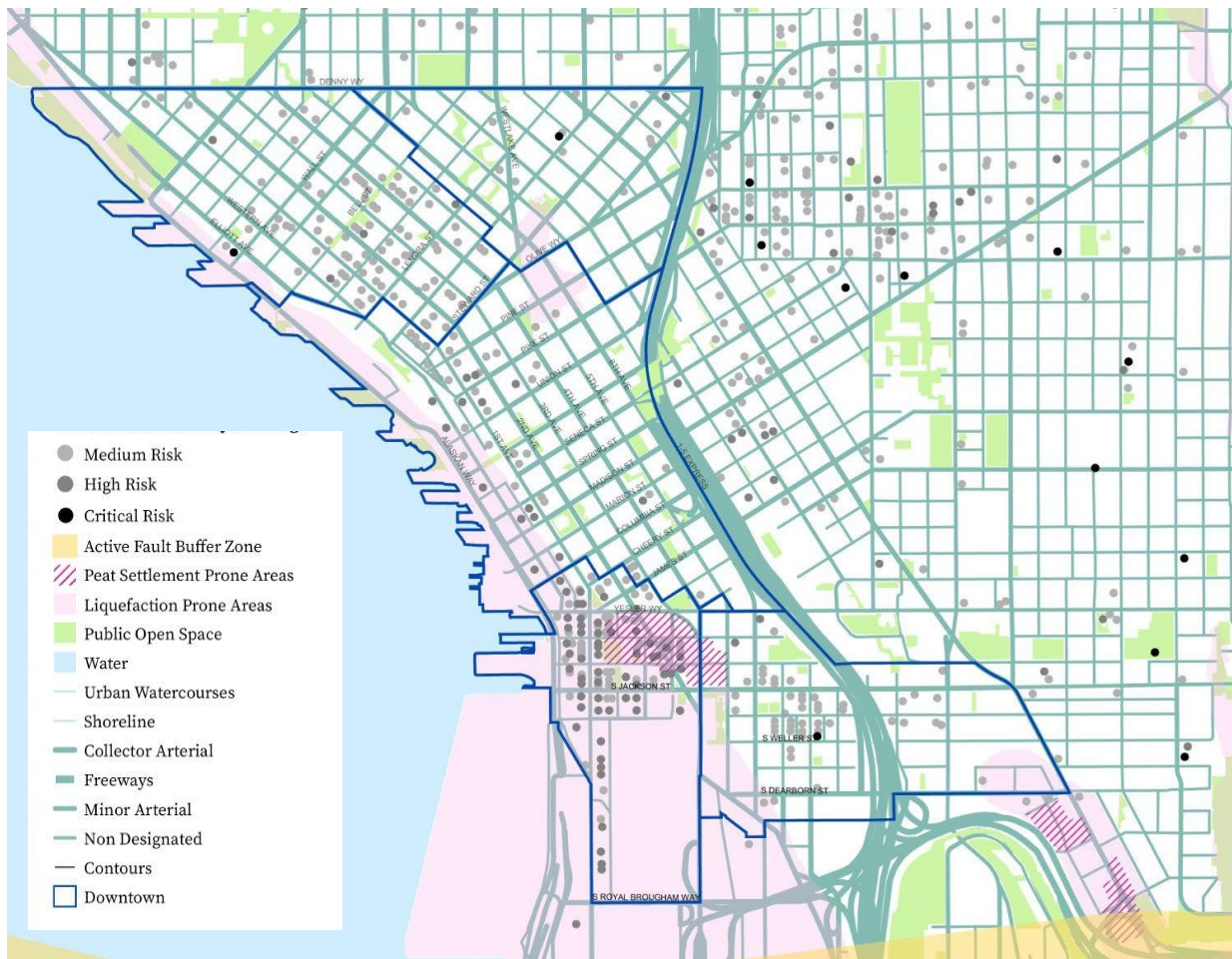


Figure 17 Earthquake Vulnerable Areas

²⁰ Office of Emergency Management, Earthquakes

Water

Sea Level Rise

One of Downtown Seattle's most significant climate threats is rising sea levels along its waterfront. By 2050, sea levels are projected to rise between 1.1 and 1.5 feet, and by 2100, they could increase by 3.1 to 5.1 feet. As sea levels rise, high tide flooding will threaten critical facilities within the 100-year floodplain. This risk is heightened by the proximity of essential infrastructure to the waterfront, including Alaskan Way, Colman Dock, and the Port of Seattle. The Port's infrastructure also faces job and economic vulnerabilities due to these rising sea levels. The reconstruction of the Elliott Bay Seawall completed in 2017 uses the highest predicted sea level rise from a University of Washington Climate Impacts Group study.

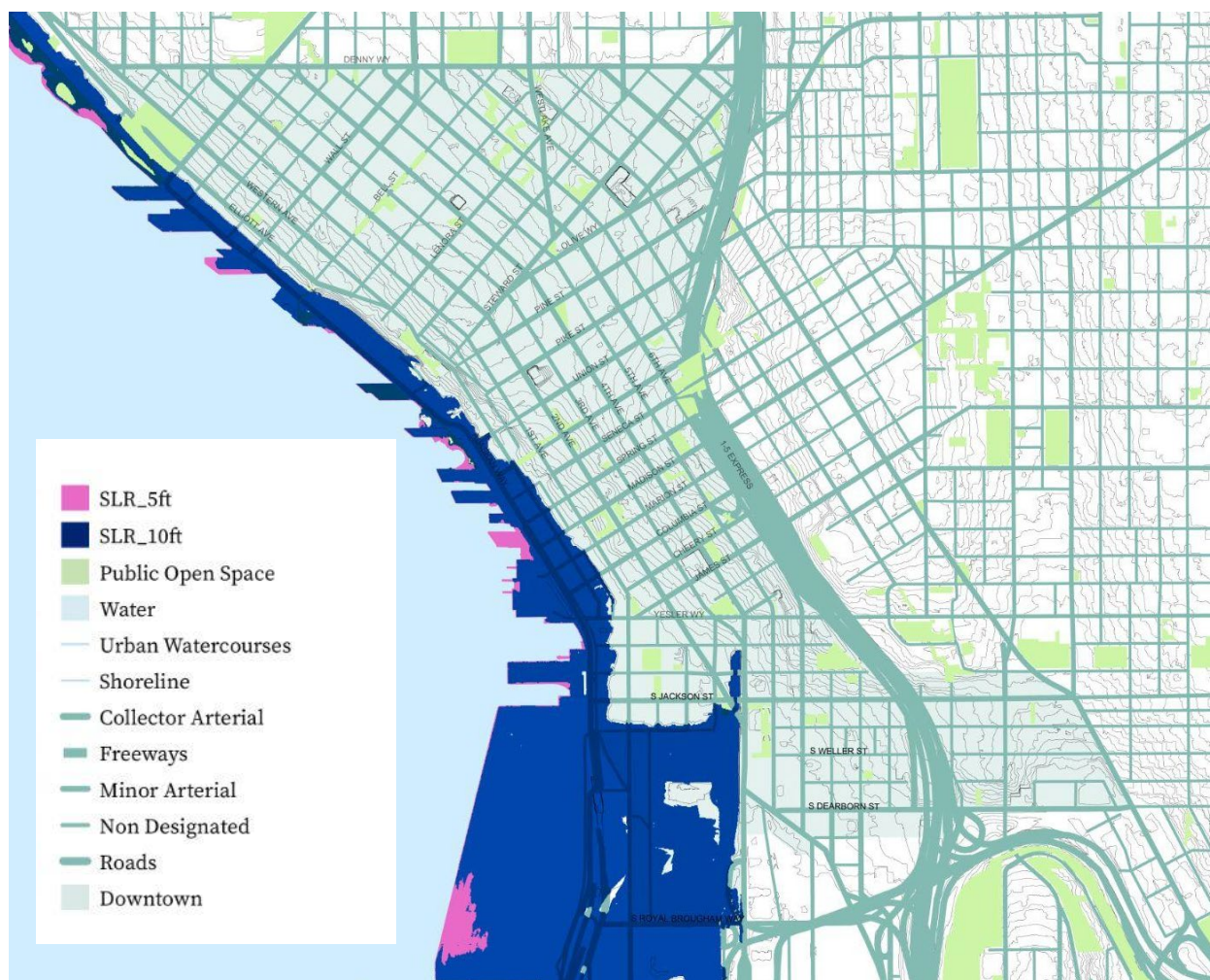


Figure 18 Sea Level Rise Impacts

Urban Flooding

Downtown Seattle's steep slopes and high percentage of impervious surfaces create a significant risk of urban flooding. Nationally, floods are the most costly and destructive disasters.²¹ This flooding often leads to localized pooling, especially at low points along Alaskan Way and in the Pioneer Square neighborhood, making pedestrian navigation difficult. Areas of I-5 that are low-lying near steep slopes have also seen urban flooding, which poses a threat to evacuation routes and connectivity.

Tsunami

Due to its waterfront location, Downtown Seattle is vulnerable to tsunami inundation. Tsunami damage results from the force of flowing water on structures, flooding from wave run-up, and debris carried by the water. Tsunamis can also create dangerous currents that disrupt maritime trade and are difficult for vessels to navigate. Additionally, existing coastal ecosystems in Elliot Bay could be damaged.

The most damaging tsunami would likely result from an earthquake on the Seattle Fault or other nearby faults. Evidence suggests that a Seattle Fault earthquake around 900 AD produced a 16-foot tsunami. The National Oceanic and Atmospheric Administration (NOAA) modeled this event, showing flooding up to one mile inland with depths reaching up to 5 meters. The tsunami would strike immediately after the shaking stopped, potentially destroying shoreline buildings and flooding low-lying areas. Modern structures would likely fare better than older ones.

²¹ Office of Emergency Management, Flood Hazards

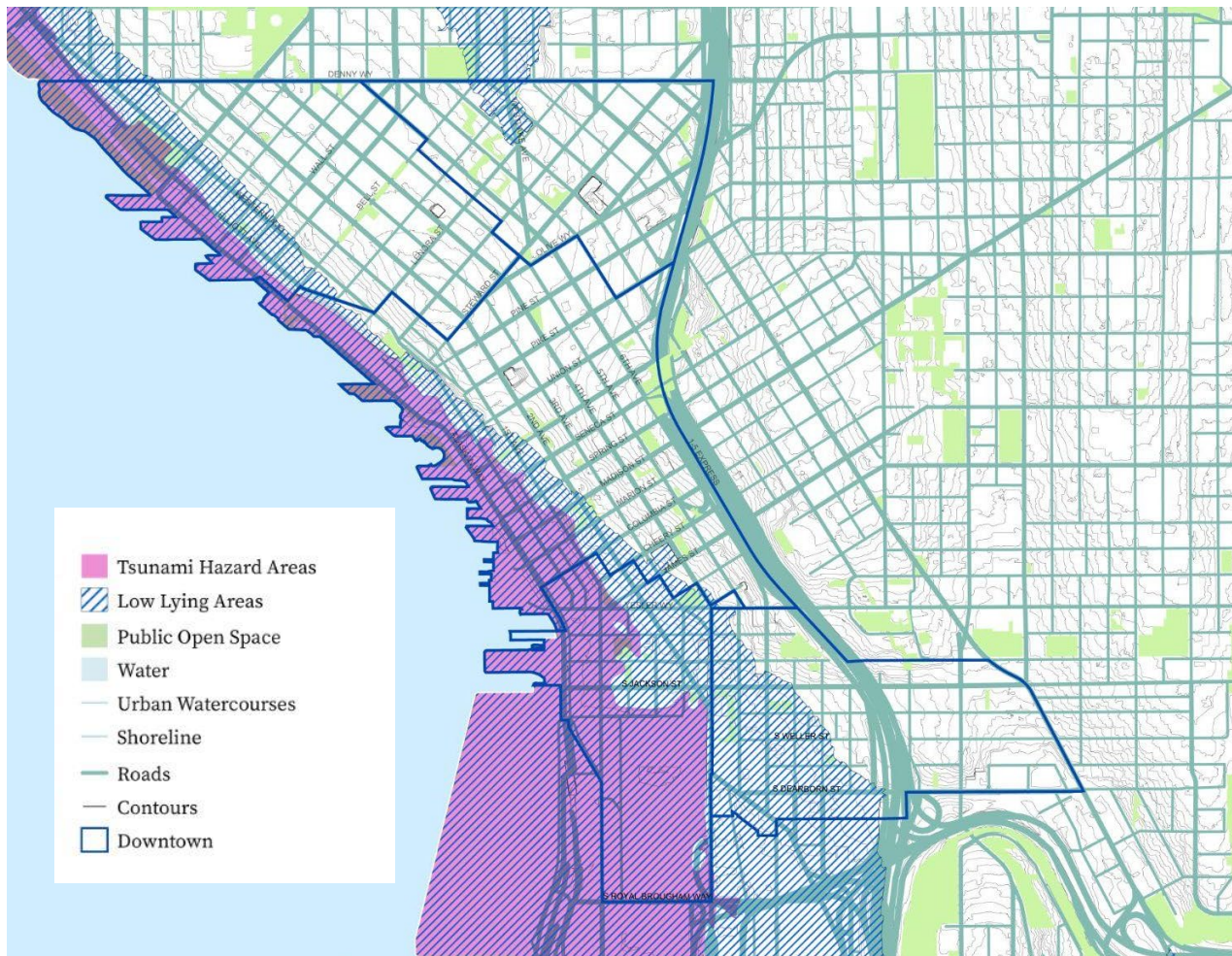


Figure 19 Tsunami Hazard Area

Air

Rising Temperatures

Over the past century, Washington State has experienced a 2.0°F increase in average temperatures (Frankson et al. 2022). In Seattle specifically, the average summer temperature (June - August) has risen by about 1.5°F from 1950 to 2020. This rise in temperature has resulted in more hot days, leading to an increase in heat-related illnesses and deaths. The waters of Puget Sound are becoming warmer and more acidic, affecting the entire marine food chain from phytoplankton to salmon to orcas. As temperatures continue to climb, certain areas in Downtown Seattle are expected to face worsening heat conditions. Furthermore, earlier snow melts due to rising temperatures increase water and flood risks, posing significant challenges for water management services.

Excessive Heat

Heat distribution in Seattle varies significantly across the city due to factors such as industrialization, impervious surface coverage, and tree canopy density, which amplify the urban

heat island effect in certain areas. The waterfront enjoys some cooling effects from the water, but other parts of Downtown, particularly the commercial core and Chinatown International District, experience some of the highest temperatures in Seattle. This is mainly due to extensive impervious surfaces and limited tree canopy coverage in these areas.

Downtown Seattle is heavily urbanized, with impervious surfaces (roads, buildings, and hardscape) covering over 93% of the urban center, totaling approximately 889 acres. These surfaces absorb and hold heat during the day, leading to higher local temperatures in their vicinity. Moreover, the impervious surfaces themselves can become very hot, posing a danger, especially to children and animals.

Areas with multiple surface-level parking lots lacking tree canopies, such as parts of the Chinatown International District and Denny Triangle, contribute to uncomfortable heat conditions for pedestrians due to the lack of shade and the heat-absorbing properties of asphalt.



Figure 20 Impervious Surfaces

Cooling mitigation

Several strategies can combat localized heat conditions, including increasing vegetation and tree canopy, adding water features like splash pads and fountains, and installing white roofs or green roofs on buildings. On hot days, cooling centers and air-conditioned public buildings are essential. Both Downtown public library branches—the Central Branch and the Chinatown International District Branch—have air conditioning and can serve as cool spaces. Additionally, there are fountains at Westlake Park and City Hall Plaza, as well as beach access at Pocket Beach in Myrtle Edwards Park.

Greenhouse Gases

Downtown's GHG Emissions Inventory

The City of Seattle tracks Greenhouse Gas (GHG) Emissions across the buildings, transportation, industrial, and waste sectors to help the City develop effective programs and policies designed to reduce climate impacts. The GHG inventory tracks “core emissions” which correspond to emission sources that the city can most directly and significantly impact. Most of the City’s climate policies and programs are aimed at reducing “core emissions”. However, the GHG Emissions inventory also tracks “expanded emissions” which include core emissions and emissions from specific sectors. Some of these sectors provide detailed enough information to be measured at the census block level. While this does not exactly match the boundary of the Downtown Urban Center, it can still be used to understand trends in the surrounding area.²²

Seattle monitors neighborhood-level emissions on the [One Seattle Climate Portal](#). Depending on the emissions sector, the data covers the years 2020-2023. Some data from the earlier years may reflect the unusual commuting and living patterns experienced during the COVID-19 pandemic. The COVID-19 pandemic shifted everyday lives due to stay-at-home orders and subsequent business closures in March 2020.

Building Emissions

The largest sector of building energy consumption in Downtown Seattle is commercial, rather than residential or industrial. Over the past decade, Downtown has seen significant new construction that meets higher energy codes and primarily uses electrical energy, resulting in higher commercial electrical energy consumption compared to other areas of Seattle. However, historic neighborhoods like Pioneer Square and the International District have older, less energy-efficient buildings that rely more on gas and fuel energy. The CenTrio District Energy powers over 150 Downtown buildings with natural gas that contributes to these emissions.

²² One Seattle Climate Portal, <https://experience.arcgis.com/experience/d109ec235c8a44b08675452e64b5e4fe/>

Transportation Emissions

Downtown Seattle is the region's major employment hub, attracting many commuters who drive, take ferries, use public transit, walk, or bike to work. The emissions from these various transportation methods differ significantly. The COVID-19 pandemic and the rise of remote work has altered regular commuting patterns. Telework has become more common for many Downtown jobs, reducing some transportation emissions in comparison to pre-2020 levels. Despite this, public transportation ridership, an energy efficient way to travel Downtown, has not returned to its pre-2020 levels.

Waste

Organics (food and yard waste and compostable food service ware) in the garbage are the biggest contributor to GHG emissions from landfills. In Seattle, organic waste is municipally collected for composting and is prohibited from disposal in the garbage. However, waste consumption studies show that these materials, especially food waste, are still being disposed of in the garbage/landfill stream. More than 30% of garbage is food waste that could be composted and avoid methane emissions that contribute to climate change.

Community Amenities and Wellbeing

In the Seattle Climate Vulnerability Assessment, "community amenities and wellbeing" refer to the social, economic, environmental, cultural, and political conditions identified by residents that "allow their communities and neighborhoods to flourish and fulfill their potential."²³ Proximity and access to amenities are linked to positive health outcomes, including improved physical and mental health and resilience to climate change threats and impacts. This section summarizes the amenities, programs, management structures, and accessibility of parks and open spaces in Downtown Seattle.

Downtown Open Space Typologies

In Downtown Seattle, public amenities come in various sizes from a small plaza to a large waterfront park. These spaces are managed through different ownership and stewardship models, such as the Parks and Recreation partnership with the Downtown Seattle Association. Many public spaces are privately owned but publicly accessible, such as the numerous entry plazas surrounding office buildings. The waterfront has undergone significant investment, adding new amenities and becoming more accessible with the removal of the viaduct. Additionally, there are several historic squares with important cultural value to the city, such as Pioneer Square and Occidental Square. As development continues in Downtown, there are opportunities to expand open spaces and add more recreational amenities for public use. This section provides an overview of the diverse spaces and amenities that make up the public realm in this urban center and their connections to the surrounding neighborhoods.

²³ City of Seattle, Climate Vulnerability Assessment, June 2023, pg 33

Using the 2024 Parks and Open Space Plan, this report organizes Downtown’s parks and open spaces into the following categories: Boulevards, Green Streets, and Greenways, Plazas (referred to as “Downtown Parks” in the 2024 Seattle Parks and Open Space Plan), Mini Parks and Pocket Parks, Neighborhood Parks, Special-Use Parks and Specialty Gardens, Community Gardens, and includes additional underused or private-public space categories: Private Plazas and Street Vacations described in more detail below:²⁴

Plazas / Downtown Parks

Downtown Parks in Seattle are usually smaller, well-developed areas situated in the heart of the city. Parks like Pioneer Square and Occidental Square hold historical importance. This park type offers a respite from city traffic and often features more paved and hardscape areas. Many of these parks are also stewarded with partner organizations such as the Downtown Seattle Association, which organizes activities and events in several parks. According to the 2024 Parks and Open Space Plan, these parks generally range from 0.1 to 5 acres in size.

Mini Parks and Pocket Parks

Mini Parks are small parks, usually less than 0.25 acres, that offer open space in densely populated areas. In Downtown areas, these pocket parks may have some vegetation and tree plantings and places to sit.

Neighborhood Parks

Neighborhood parks can occupy nearly an entire city block and serve nearby residents. These parks typically feature recreational amenities such as play areas, gathering spots, viewpoints, and picnic areas. In Downtown Seattle, this includes Freeway Park. These parks generally range in size from 0.25 to 9 acres.

Special-Use Parks and Specialty Gardens/ Waterfront Parks

Special use parks and specialty gardens are standalone parks designed for a specific use. These parks may serve larger cultural institutions, such as the Olympic Sculpture Park and Pier 62.

Boulevards, Green Streets, Greenways

Boulevards, Green Streets and Greenways are the expansion of a dedicated street which often continues to serve as a right-of-way as well as providing a recreation benefit. This type of park can be publicly or privately owned. The new Alaskan Way is an example of a green street Downtown.

Community Gardens

Many community gardens are managed through the Seattle P-Patch program or by community stewards, as in the case of Danny Woo Community Gardens. All community gardens Downtown are open to the public to enjoy and are utilized as communal spaces. There are 3 locations in

²⁴ Seattle Parks and Recreation, 2024 Parks and Open Space Plan

Downtown Seattle, of which 2 are a part of the P-Patch program: Belltown Cottage Park and Goat Hill Park.

Private Plaza

Private plazas can include public art, green areas, or seating elements. They're commonly linked to ground-floor retail or building lobbies. While managed independently by the associated building's ownership, these plazas have the capacity to host cultural events, markets, and pop-up food trucks.

Street Vacations

Privately managed streets, or streets where the public has “vacated” the right-of-way, are only established when it is determined to be in the public's best interest. These vacations typically occur in connection with a development proposal for the surrounding area. In Downtown, these street vacations can be seen in the Denny Triangle, near the Amazon headquarters.²⁵

Public Realm Amenities

Access to parks and open spaces can be evaluated in two ways: physical access and social access.

Physical access refers to how easily community members can reach and visit a park. In this respect, Downtown is well served, with most areas being within a 10-minute walk of a park or open space. However, the ease and quality of the 10-minute walk to these parks and open spaces can vary significantly due to factors such as topography, sidewalk conditions, and infrastructural barriers

Social access considers the quality of the experience, the suitability of amenities for the local community, the stewardship of the space, and public perception. These factors are discussed in detail in the public realm amenities section above. When evaluating the accessibility of open spaces, it's crucial to consider the accessibility and location of specific amenities, especially recreational ones.

Assessment of Open Space

²⁵ Seattle Department of Transportation, “Street Vacation FAQ”

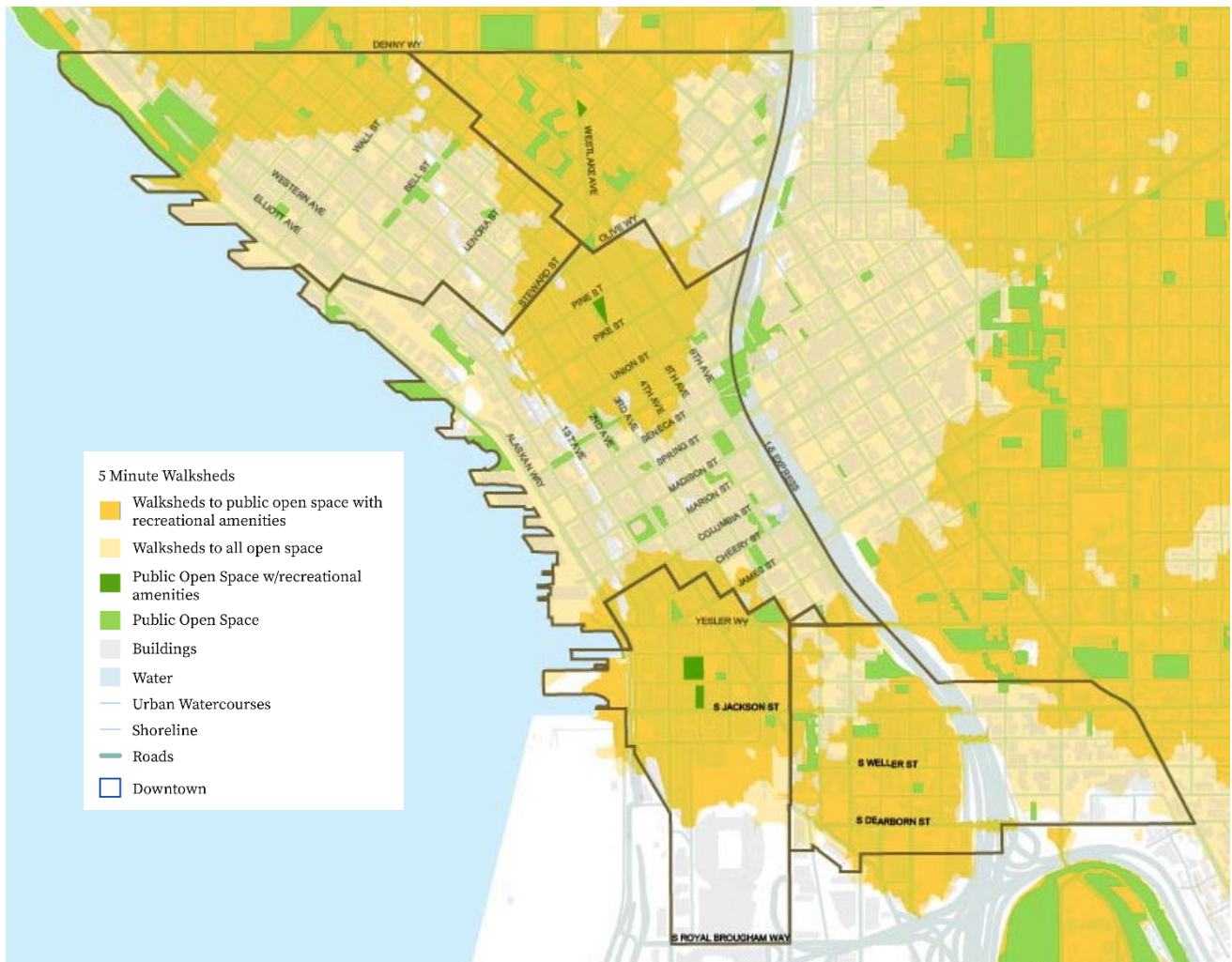


Figure 21 5 minute walksheds to Downtown open space and recreational amenities

Most of Downtown Seattle is within a 5-minute walk of a park or open space, except for parts of Chinatown and the Stadium District at the southern end of the Downtown urban center boundary. This is excellent for accessibility in a dense urban environment and meets the needs of workers and visitors. However, many of these parks and open spaces lack the amenities that residents, especially those with young children, need.

Residents may desire more recreational amenities near their homes, such as playgrounds, courts, and fields. Therefore, accessibility for residents might be better measured by a 5-minute walk to these recreational amenities. In this regard, there are significant gaps in almost all neighborhoods, particularly within the commercial core and Belltown.

Existing Park Amenities

Park features and amenities provided by parks owned and operated by the City of Seattle in Downtown Seattle include:

- 4 playgrounds
- 1 sports facility
- 4 community gardens
- 5 parks with water features
- 9 parks with water access
- 4 parks with trails
- 3 parks with public restrooms
- 3 dog parks

Public spaces in Downtown Seattle are primarily designed to support an office and retail environment. Notably, half of these open spaces are plazas, and ~40% are privately owned. While these plazas provide seating, shade, and a break from the urban hustle, they may not meet all the recreational needs of Downtown residents. They are often temporarily programmed with pop-up events, games, and food trucks but lack permanent play or recreational infrastructure.

Several open spaces are located near transit stations, serving as key entry points for tourists and visitors. Union Station, King Street Station, and Westlake Park are important gateways into Downtown Seattle. These parks offer tables, chairs, and seating areas, which are helpful for visitors as they orient themselves after arriving by transit.

There is a significant shortage of youth-oriented parks and open spaces with playgrounds and recreational facilities such as basketball and tennis courts. Downtown Seattle has no public fields and just one Pickleball court. In other neighborhoods, public school yards often provide these recreational amenities, but there are no public schools within the Downtown Urban Center boundary. However, just north of this boundary in First Hill, Yesler Terrace and Bailey Gatzert Elementary School both have multipurpose fields and courts. Downtown's only community center is located in the Chinatown-International District, but a planned South Lake Union Community Center may serve northern Downtown.

Downtown Seattle does have many water-oriented amenities along the recreational piers and waterfront. Additionally, several fountains are located at Westlake Park, City Hall Plaza, Union Station, and the Harbor Steps. However, some of these fountains are currently out of service due to maintenance and public health issues.

Ownership and Stewardship

Downtown public spaces are managed by a diverse array of owners and stewards who organize events, maintain the areas, and provide funding. This collaborative network is essential for keeping Downtown spaces well-maintained and fully utilized, ensuring they remain busy and vibrant. However, this arrangement also creates a complex system of agreements, regulations, and public understanding regarding how these spaces are operated.

Downtown has several types of ownership and stewardship models, including: publicly owned parks run by public entities, publicly owned parks with organized "Friends of" groups, publicly

owned parks managed by private or non-profit stewards. Privately owned publicly accessible spaces may be managed by private stewards. A combination of several combinations of these models. Within public ownership, entities like Seattle Parks and Recreation, Seattle Housing Authority, The Port of Seattle, King County Government, Seattle Department of Transportation, Washington State Department of Transportation, and the Federal Government all own open spaces in Downtown.

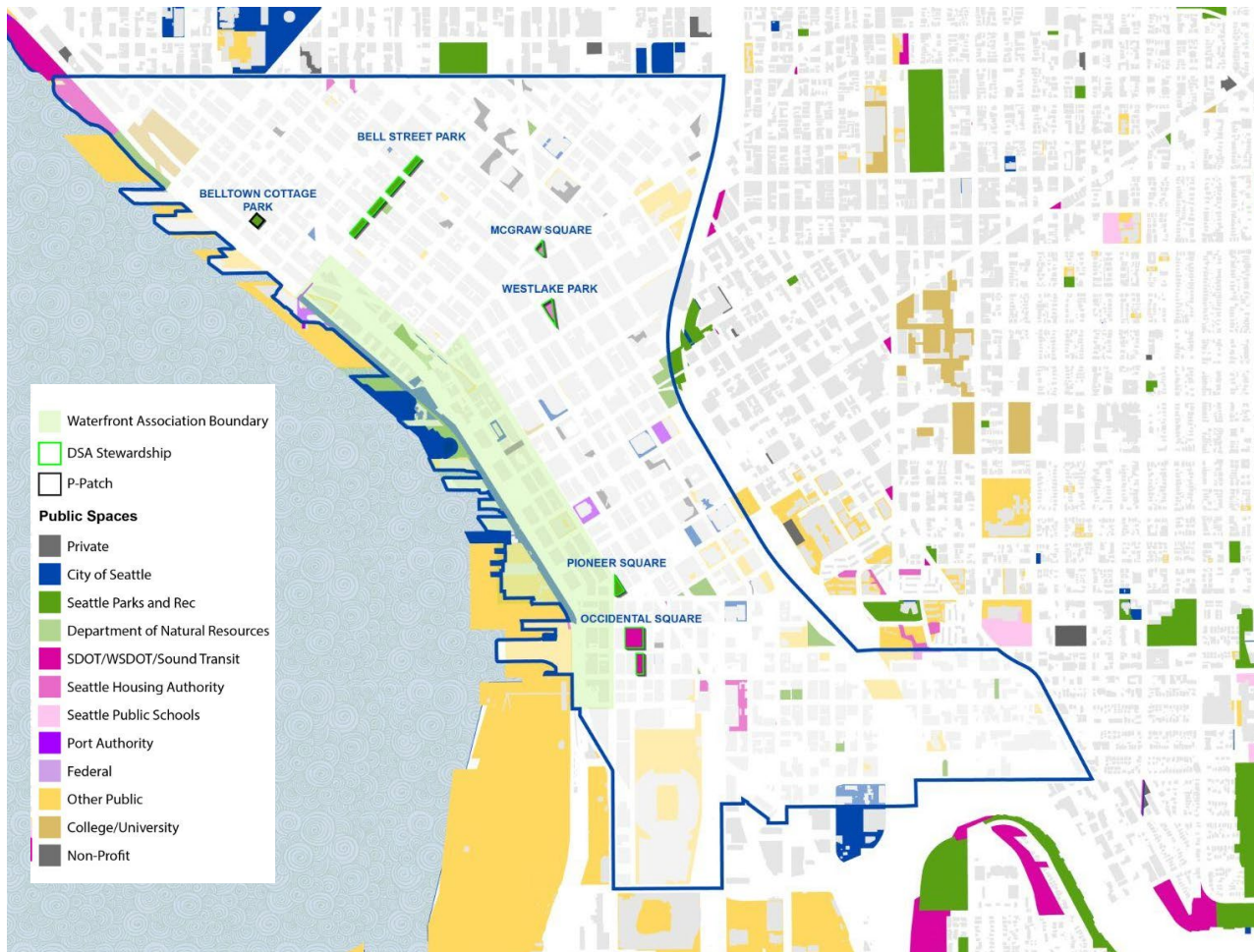


Figure 22 Ownership and stewardship of Downtown open spaces

Publicly Owned Spaces

. Many of the subarea's publicly owned spaces, classified as Downtown Parks or Squares, or Waterfront Parks, are larger than typical plazas (over 0.25 acres), situated at key intersections or changes in the city grid, and have the capacity for larger events and programming.

Several organizations help manage and program publicly owned spaces in Downtown, each with different agreements with the respective public owners. Two of the largest non-profit entities are the Downtown Seattle Association (DSA) and the Friends of Waterfront Park.

- **Downtown Seattle Association (DSA):** The DSA provides event programming, public art, maintenance, and Downtown safety ambassadors for Bell Street Park, Westlake Park, McGraw Square, Pioneer Square, and Occidental Square. As a Metropolitan Improvement District, DSA funds these programs through membership rates.
- **Friends of Waterfront Park:** This organization manages the Waterfront Park network, which includes Pier 62 and 63, as well as Alaskan Way, and is expanding its management alongside the construction of Pier 28, the Overlook Walk, and Habitat Beach. In partnership with Seattle Center, Friends of Waterfront Park handles fundraising and event programming, while Seattle Center provides maintenance and public safety along the waterfront promenade.
- **Freeway Park Association:** This community based non-profit organization works with the Seattle Parks Department to manage advocacy, funding, and programming initiatives for the Freeway Park along the eastern edge of Downtown. They focus on arts, educational, and wellness programming in the park and conduct engagement within the community.

Post-COVID, the role of non-profit management in publicly owned spaces has expanded. For example, the DSA increased its management from three parks to five in 2023 under an expanded agreement with the City of Seattle. This growth is partly due to the ability of these organizations to raise private funding and build internal capacity, addressing the significant needs of Downtown.

Privately Owned Spaces

There are many privately-owned publicly accessible spaces in Downtown Seattle, including plazas, specialty gardens, parks, and activated streets granted to private entities through street vacations. The most common type of privately-owned publicly accessible space Downtown is the plaza. These are typically ground floor, hardscaped areas adjacent to the lobbies of tall office or residential buildings, usually under 0.25 acres in size. They are often temporarily programmed with food trucks and pop-up events that cater to the building's clientele.

Privately-owned publicly accessible spaces are often created as public benefits in exchange for certain development advantages and of these privately-owned spaces are part of Seattle's Privately Owned Public Space (POPS) program, which is regulated by the Seattle Land Use Code. Spaces that participate in the POPS program will include Official Seattle POPS logo at the entry to the space. Access hours and permitted activities can vary for different POPS.

Downtown Seattle also has specialty gardens and attractions created by private owners for public use. For example, the Waterfall Garden, created in 1978 at the original UPS building in Pioneer Square, and Amazon's headquarters in the Denny Triangle, which features several blocks of interconnected green space. Amazon, which owns the largest number of privately owned public spaces in the city (13.9%), programs these spaces with pop-up retailers and events to attract visitors.

Street vacations and alleys allow property owners to petition the Seattle City Council to acquire adjacent public right-of-way, thus converting it to private property. This process is only applicable when there is an adjacent development project planned. Several private owners in the Denny Triangle, including Amazon, have taken advantage of street vacations, resulting in well-maintained streets and trees due to private funding.

Inventory of Open Spaces

Abbreviations:

- **GSP** = Green Seattle Partnership
- **FoW** = Friends of Waterfront Park
- **SHA** = Seattle Housing Authority
- **SCIDpda** = Seattle Chinatown International District Preservation and Development Authority

Park is stewarded by the public or private owner, unless otherwise listed. The 1224 South King Street park site in the CID, currently under development, is not included in this inventory, but is scheduled to be completed within the next two years.

Name of Park	Park Type	Size (Acres)	Owner	Steward	Amenities
YESLER TERRACE HILLCLIMB*	Mini Park	1.11	SHA	SHA	Greenspace, Agriculture
CHINATOWN/ID BUSINESS IMPROVEMENT AREA	Mini Park	0.01	SDOT	-	Greenspace
OLYMPIC SCULPTURE PARK	Specialty Garden	37.30	NPO	Seattle Art Museum	Waterfront, Greenspace, Trail
BELL STREET PIER AT PIER 66	Waterfront Park	0.90	PORT	-	Waterfront
FORTSON SQUARE*	Pocket Park	0.01	SDOT	-	-
WATERFALL PARK*	Mini Park	0.14	PRIVATE	Anne E. Casey Foundation	-
WASHINGTON STREET END	Waterfront Park	0.06	SDOT	-	Waterfront
URBAN TRIANGLE PARK*	Neighborhood Park	0.21	SPR	-	Greenspace, Playground
ALASKAN WAY BOULEVARD	Waterfront Park	37.30	SPR	FoW	Waterfront, Greenspace, Trail
BEACON PLACE*	Greenway	0.25	SPR	GSP	-
BELL STREET PARK BOULEVARD	Boulevard	1.41	SPR	DSA	-
BELLTOWN COTTAGE PARK/P-PATCH	Community Garden	0.33	SPR	Local residents	Greenspace, Agriculture
LITTLE SAIGON PARK (under construction)	Neighborhood Park	0.27	SPR	Friends of Little Saigon,	Greenspace, Playground

				SCIDpda	
CITY HALL PARK*	Neighborhood Park	0.95	SPR	-	Greenspace
DONNIE CHIN INTERNATIONAL CHILDREN'S PARK*	Neighborhood Park	0.23	SPR	Friends of International Children Park, SCIDpda	Greenspace, Playground
HING HAY PARK*	Neighborhood Park	0.64	SPR	Friends of Hing Hay Park, SCIDpda	Restroom, Greenspace
JIM ELLIS FREEWAY PARK	Neighborhood Park	5.17	SPR	Freeway Park Association	Greenspace, Trail
KOBE TERRACE*	Neighborhood Park	2.20	SPR	-	Greenspace, Agriculture
MYRTLE EDWARDS PARK	Waterfront Park	37.30	SPR/SDOT	GSP	Waterfront, Greenspace, Playground, Nature, Trail
OCCIDENTAL SQUARE*	Plaza	1.63	SPR/SDOT	DSA, Seattle Parks Foundation	Sport
PIERS 62 AND 63*	Waterfront Park	1.75	SPR	FoW/Seattle Center	Greenspace
PIONEER SQUARE*	Plaza	0.32	SPR	DSA	-
PREFONTAINE PLACE*	Plaza	0.04	SPR	-	-
REGRADE PARK	Mini Park	0.30	SPR	-	Dog park
TILIKUM PLACE	Plaza	0.20	SDOT	-	Fountain
UNION STATION SQUARE*	Plaza	0.04	SPR	-	-
VICTOR STEINBRUECK PARK	Waterfront Park	0.80	SPR	-	Waterfront, Greenspace
WATERFRONT PARK*	Waterfront Park	1.82	SPR	FoW/Seattle Center	Waterfront, Greenspace
WESTLAKE SQUARE	Plaza	0.01	SPR	DSA	-
200 CEDAR STREET	Plaza	0.19	PRIVATE	-	-
ENSO CONDOMINIUMS	Plaza	0.08	PRIVATE	-	-
WHOLE FOODS PLAZA*	Plaza	0.16	PRIVATE	-	-
COURTHOUSE PLAZA*	Plaza	0.83	PRIVATE	-	Greenspace
TAYLOR AT DENNY	Pickleball Court	0.19	SDOT	-	-
AMAZON NITRO	Plaza	0.81	PRIVATE	-	Greenspace, Dog park
AMAZON SUMMIT	Plaza	0.68	PRIVATE	-	-
AMAZON DAY 1 DOG PARK	Neighborhood Park	0.64	PRIVATE	-	Greenspace, Dog park
AMAZON DOPPLER	Plaza	0.42	PRIVATE	-	Greenspace

2101 4TH AVE	Plaza	0.24	PRIVATE	-	-
720 OLIVE WAY	Pocket Park	0.03	PRIVATE	-	-
MCGRAW SQUARE	Plaza	0.23	SPR/SDOT	DSA	-
WESTLAKE PARK*	Plaza	0.47	SPR/SDOT	DSA	-
ARNE GILLAM COURTYARD	Pocket Park	0.28	PRIVATE	-	-
US APPEALS COURT	Plaza	0.75	FED	-	Greenspace
901 5TH AVE*	Pocket Park	0.38	PRIVATE	-	Greenspace, Fountain
BANK OF AMERICA BUILDING*	Plaza	0.12	PRIVATE	-	-
SEATTLE MUNICIPAL TOWER*	Pocket Park	0.17	COS	-	-
COLUMBIA TOWER*	Pocket Park	0.36	PRIVATE	-	-
CITY HALL PLAZA*	Plaza	0.54	COS	-	Fountain, Restroom
915 2ND AVE*	Plaza	0.74	FED	-	-
WELLS FARGO CENTER*	Plaza	0.36	PRIVATE	-	-
1111 THIRD AVE*	Plaza	0.14	PRIVATE	-	-
1201 THIRD AVE*	Plaza	0.17	PRIVATE	-	-
BENAROYA HALL*	Plaza	0.44	COS	-	-
SEATTLE ART MUSEUM*	Plaza	0.22	NPO	-	-
SEATTLE PASSPORT AGENCY*	Plaza	0.06	PRIVATE	-	-
METROPOLITAN PARK*	Plaza	0.59	PRIVATE	-	Greenspace
DANNY WOO GARDEN*	Community Garden	2.20	MIXED	Interlm CDA, Local residents	Greenspace, Agriculture
UNION STATION PLAZA*	Plaza	1.49	MIXED	-	Fountain
KING STREET STATION PLAZA*	Plaza	0.27	SDOT	-	-
HARBOR STEPS*	Plaza	0.38	PRIVATE	-	Fountain
PIER 70	Waterfront Park	0.53	PRIVATE	-	Waterfront
VIEWPOINT ON PIER 67	Waterfront Park	0.06	DNR	-	Waterfront
MARKETFRONT PUBLIC SPACE	Plaza	0.51	DNR	Pike Place Market	Restroom

*Denotes park that falls under the “highest priority” for future public space improvements

Access to Open Space

Slope and Topography

Seattle's Downtown area has a steep incline from the shoreline up to First Hill and Capitol Hill, with some east-west streets having slopes exceeding 12%. This steepness can be extremely challenging for people with physical disabilities or anyone using wheels, such as those using wheelchairs or strollers. According to the Americans with Disabilities Act (ADA), slopes should be less than 5% to be considered accessible without needing a handrail. This significant incline makes pedestrian travel through Downtown difficult, effectively separating the northern neighborhoods (Belltown and Denny Triangle) from the Waterfront and southern neighborhoods (Pioneer Square and the Chinatown International District).

Although there are accessible pedestrian routes through buildings that use elevators and escalators, these pathways are often not clearly marked as public and may pass through private properties, which can pose a barrier to use.

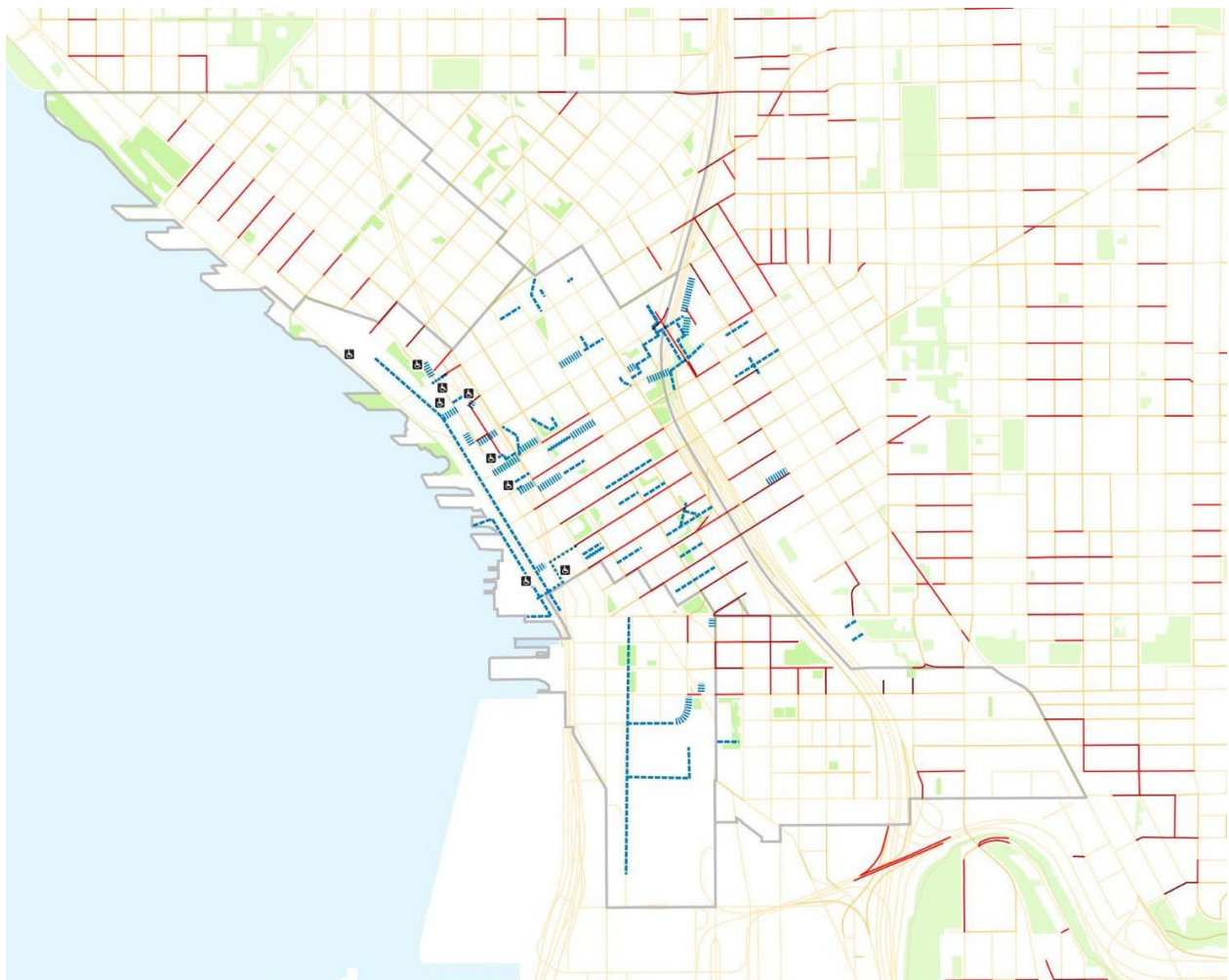


Figure 23 *Downtown Seattle Accessibility*

Access to the Waterfront

Before the viaduct was removed, the waterfront and its parks were difficult for pedestrians to access. With the viaduct's removal and the new Alaskan Way design, accessibility has improved greatly. However, a steep slope of nearly 120 feet remains between Alaskan Way and 1st Avenue. To address this challenge, pedestrian bridges are being constructed at Lenora Street, Pike Place Market, Marion Street, and Columbia Street, and a new elevator is being installed at Union St as a part of the Waterfront revitalization project. Other pedestrian accessibility improvements such as additional crosswalks with push buttons and raised intersections are also planned for the Alaskan Way redesign.

Access to the water is an important amenity within the Downtown open space network. For Native and Indigenous cultures, the ability to touch the water, launch boats, and fish holds high cultural and spiritual significance and is part of protected treaty rights. However, because much of the waterfront is built on piers, physical access to the water has been difficult. The ongoing waterfront revitalization efforts aim to improve this access. Tribes have moorage rights at Pier 62, and the newly constructed habitat beach will feature a natural shoreline, allowing people to walk down to the water—an access that has not been available for a long time.

Visual access to the waterfront is also important. As Downtown slopes down to the waterfront there are incredible view opportunities along the East West streets. These scenic views are protected in both the land use code and shoreline standards code, which protects view corridors in the shoreline area, including vegetation and landscaping review, which is assessed through the Seattle Design Review Board.

Access to Downtown from Other Neighborhoods

Access to Downtown from surrounding neighborhoods is crucial, as Downtown serves as an economic and job center and hosts many city services, social services, cultural and art hubs, entertainment venues, and open spaces. However, access varies and can be challenging from some neighborhoods due to significant infrastructure and topographical barriers.

I-5 poses a significant barrier to accessing Downtown open spaces from Capitol Hill, First Hill, and parts of the Chinatown International District. Pedestrians and cyclists must cross I-5 via overpasses to reach the Denny Triangle and northern parts of the Commercial Core neighborhoods. These overpasses often have narrow sidewalks and steep grades, creating a sense of danger for pedestrians. Additionally, several intersections with cars exiting the I-5 expressway see vehicles traveling at high speeds. To address some of these issues, the Pike and Pine Corridors are undergoing construction to widen sidewalks, street crossings, and clearly mark bike lanes. The proposed I-5 lid park will also help with pedestrian connectivity from Capitol Hill to Downtown if completed.

Freeway Park, which bridges I-5 and spans multiple blocks, provides a green respite and facilitates easy connectivity from the north section of First Hill. However, south of Freeway Park to the Yesler Way overpass, connectivity is challenging. Numerous on- and off-ramps and

underpasses make pedestrian navigation difficult, and much of the area beneath the freeway is allocated for parking and vehicular infrastructure.

In the Chinatown International District, the underpasses at King Street and Jackson Street run beneath 15 lanes of traffic. This section of I-5 is entirely used for surface-level parking, creating a significant divide that separates Little Saigon from other parts of Chinatown. While there have been efforts to improve wayfinding with public art and murals under the overpass, accessibility between the east and west sides remains difficult.

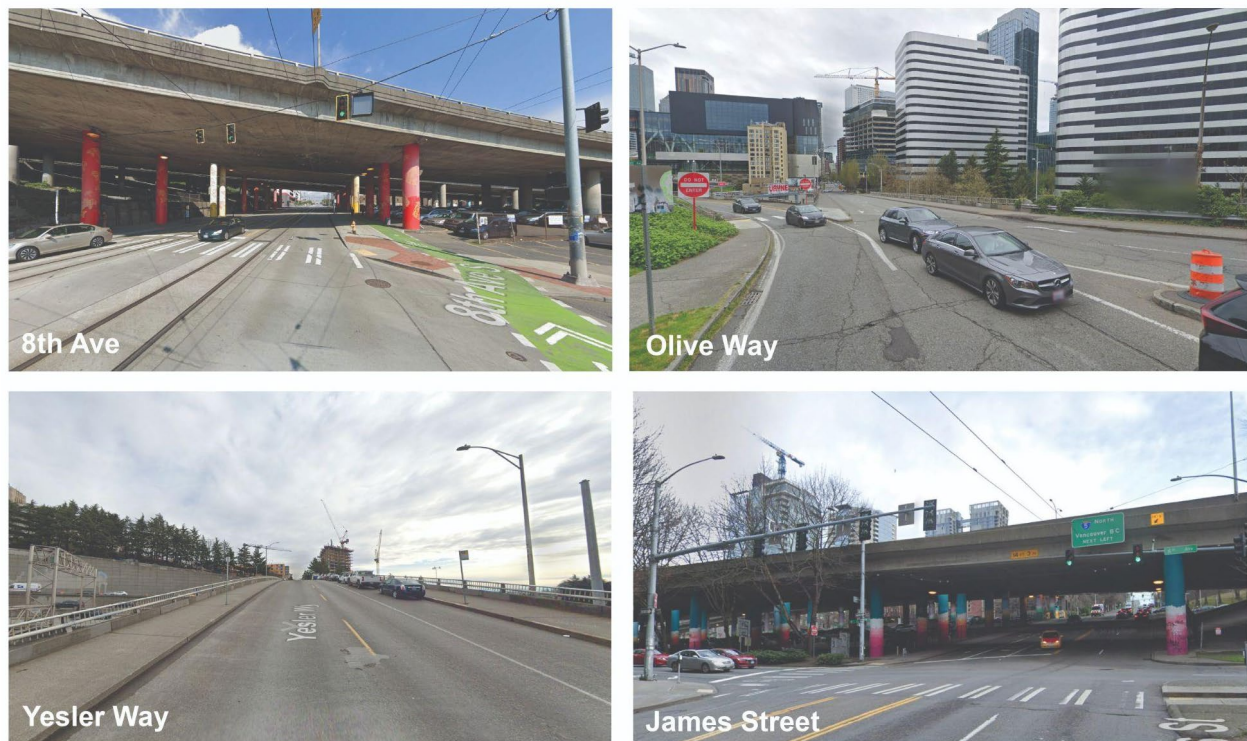


Figure 24 Conditions of I-5 Crossings

Priority Areas for Future Park Investment

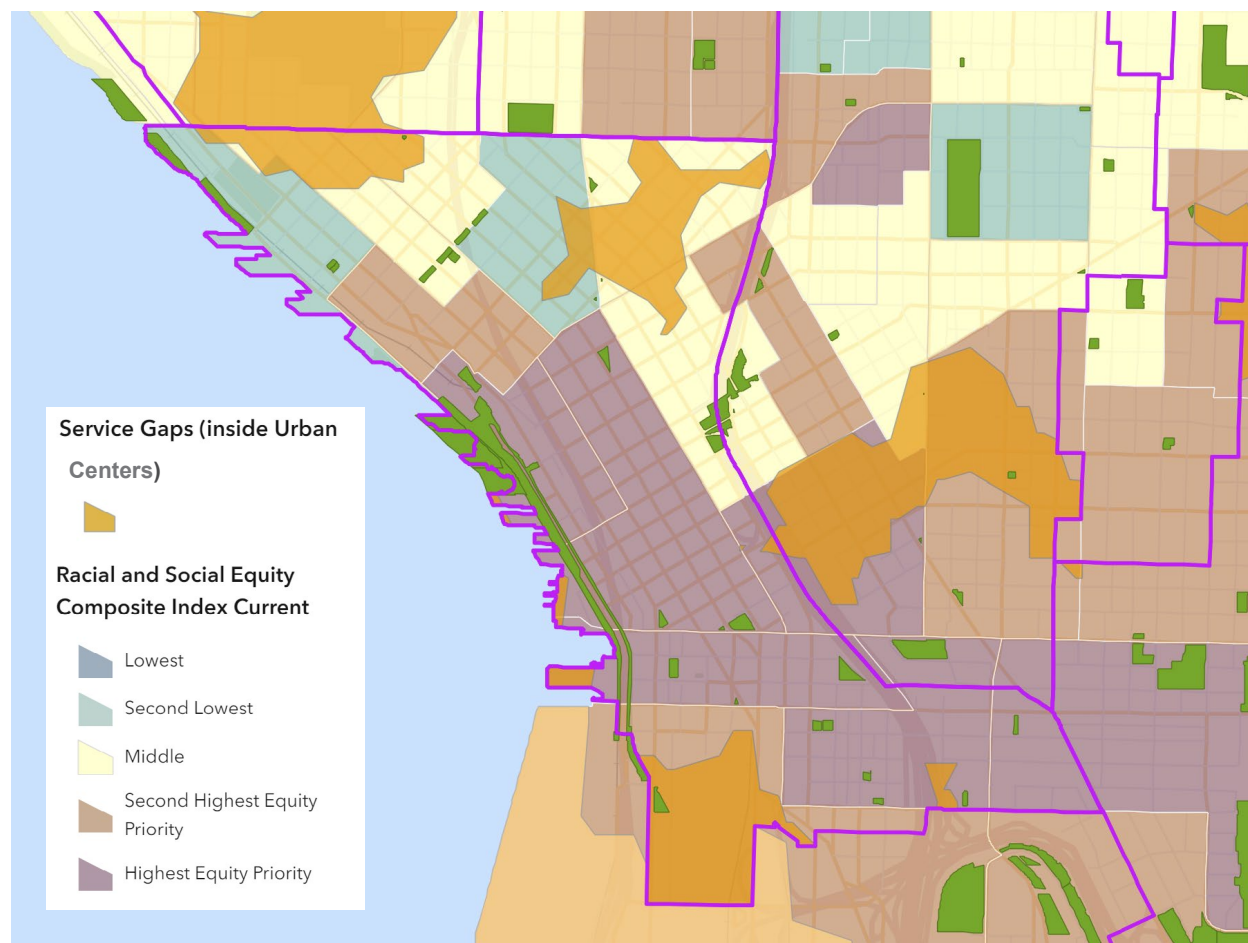


Figure 25 Service Gaps in Public Parks

Race and social equity

Many communities of color and low-income neighborhoods have historically received fewer investments in public amenities like parks, leading to a lack of equitable access to these resources. In Downtown, the CID neighborhood is identified as a priority community (identified in maroon in the map above) and has areas with limited walkable access to a park (identified in orange), according to the 2017 level of service model created by the Seattle Parks and Recreation Department.²⁶ Service gaps are areas without a public park within walking distance. The priority is to address the most critical gaps first that overlap with the high-need areas identified by the race and social equity index, such as in the CID.

²⁶ Seattle Parks and Recreation, 2024 Parks Gaps Analysis
<https://experience.arcgis.com/experience/2576566fd50747eb8a25432380b2f018/page/2024-Gap-Analysis-Map/?dlq=Legend-Window-5&views=Equity-%26-Health>

Park pressure

Park pressure evaluates the ratio between neighborhood population on the total acres of all public spaces serving that community. Today, Downtown's parks support many more households than other neighborhoods throughout the City. With 42.9 acres of total open space and 6100 households currently in the urban center, almost 143 households share an acre of park space.

City Acquisition Methodology

To respond to unprecedented demand and limited access, the City of Seattle uses a land acquisition framework to assess acquisition priorities for park investment to address identified gaps. When a suitable property is found based on size and site characteristics, the Department will evaluate it for acquisition. Beyond the walkable access gap located close to the stadiums adjacent to the CID, there are two additional service gaps within Downtown. One gap is in the northern edge of Belltown and the other is located within the Denny Triangle neighborhood. The City is actively working to close those gaps, including in the Little Saigon neighborhood of the CID, where 1224 South King Street is being developed into a mid-block park space and pedestrian connection between Jackson and King Streets.

Future Park Site Potential

There are several sites in Downtown that have potential for development and could support a future park, either as its sole use or in combination with other city goals and growth needs. Many of the sites also help to close existing service gaps identified by the City's Parks and Recreation Department. Those sites include Pier 48 on the waterfront, which was included as part of the design plan for the waterfront's redevelopment, the future of I-5 and planning for a lid park space over I-5, Denny Triangle, and the Viaduct Portal site.

Opportunities + Recommendations

Racial Equity Toolkit (RET) Alignment

The following recommendations highlight policies, projects, and programs in support of thoughtful and sustainable growth of the Downtown. The draft RET outcomes for Downtown are shared below:

Process

- There are clear and direct connections between the diverse lived experiences of Downtowners and the plan recommendations.
- The Downtown Plan policies and projects prioritize historically excluded communities.

Arts and Culture Representation

- A thriving, creative community lives in, works in, and shapes the Downtown experience.

Access to Housing

- Downtown offers diverse housing options that support where people are in their lives without creating a cost burden.

Access to Employment and Creating Businesses

- Downtown is a center for businesses - of all sizes - that create financial opportunity and stability for entrepreneurs, owners and employees.

Relevant RET outcomes are tagged in *italics* next to the recommendations.

Buildings

1. Make progress on the seismic retrofit of unreinforced masonry (URM) buildings by communicating the importance of the upcoming mandatory URM retrofit legislation with building owners and providing clear technical assistance to property owners. *Process; Access to Housing*
2. Leverage the City's available incentives towards the use of green building practices for all new construction projects.
3. Explore options for incorporating solar or green technologies on rooftops, with a focus on mitigating urban heat island effect.
4. Pilot a highly efficient mixed-use transit-oriented development (TOD) project at Westlake Center *Access to Housing*
5. Explore a local power generation model, or district energy model.
6. Expand the number of resilience hubs beyond public libraries to provide relief and access to all, focused in the International District and SODO, in alignment with the climate vulnerability assessment. *Process*
7. Explore ways to incentivize and increase participation in the existing composting program (both through large institutional and commercial partners or residential scale) to reduce the diversion of food waste and its impact on emissions. This aligns with the Food Action Plan's priority to "Partner with institutional food services, grocers, manufacturers, distributors, and consumer-facing food service businesses to prevent food waste."
8. Consider a technical assistance or pilot neighborhood-scale building decarbonization program or developer decarbonization incentive that utilizes the Seattle Building Emissions Performance Standard regulations and Clean Buildings Accelerator program to exceed City and State requirements for emissions and carbon waste and encourages

smaller building owners to participate. Currently the minimum required building size is 20,000 square feet.

9. Provide marketing and communications to Downtown business owners, building owners, and residents with language isolation about incentives and free or low cost access to heating conversion from oil to electric heat, and stoves from natural gas to electric.

Process

10. Provide a unified signage and communications system to direct people to ADA accessible routes through buildings, along streets, and on paths. *Process*
11. Create design standards for new development and redevelopment on the waterfront to take advantage of new waterfront investments and provide a welcoming face onto the waterfront.

Streets and Sidewalks

12. Focus accessibility, lighting and safety investments in areas without existing sidewalks, including the I-5 underpass in Chinatown International District. *Process*
13. Utilize small spaces along streets to increase habitat for pollinators and birds
14. Increase curbside electric vehicle (EV) charging stations close to retail destinations and consider waiving charging fees. *Access to Employment and Creating Businesses*
15. Implement a regular tree maintenance and adoption program to properly maintain existing street trees within view corridors.
16. Expand tree canopy to have the most direct benefit to communities Downtown with the greatest vulnerabilities as identified by the City's climate vulnerability assessment.

Process

17. Reconfigure the allocation of the Third Avenue ROW for the use of buses to widen the zone for comfortable and safe pedestrian use. *Access to Employment and Creating Businesses*
18. Complete capital investments in bike and pedestrian infrastructure along Pike Street and Pine Street over I-5. Consider additional improvements along Pike and Pine over I-5 to reduce the impacts of noise and the air quality impacts from vehicle traffic. *Access to Employment and Creating Businesses*
19. Activate streets that pass under I-5 in the CID with pedestrian scaled lighting and other pedestrian supporting amenities. *Process; Arts and Culture Representation*
20. Align with the Pike Place Market Master Plan by partnering with the PDA to manage Pike Place, the street, First Avenue, and Western Avenue, including clear guidance for outdoor dining, loading and unloading, and pedestrian and vehicle use. *Access to Employment and Creating Businesses*
21. Implement stormwater street designs to help divert stormwater away from CSOs and reduce runoff into the Puget Sound, with a focus on mapped priority areas.
22. Promote developer participation in the Above Code Program offered by SPU (Seattle Public Utilities) to exceed standard environmental standards.
23. Improve public water access and cooling areas by installing spray pads or water features in current parks and plazas, especially in areas close to families.
24. Activate Downtown alleyways that are underutilized for loading and unloading with public art, lighting, and other pedestrian supporting amenities. *Arts and Culture Representation*

Parks and Open Space

25. Partner with Indigenous Tribes to create an action plan for the future of Pier 48 that tells the full history of Ballast Island. *Process*
26. Consider changes to the Downtown Amenity Standards for future private development in parcel parks and POPS to better align with the RET outcomes. *Access to Housing*
27. Focus new park space creation where there are service gaps identified by Seattle Parks and Recreation in the CID, Belltown and Denny Triangle. *Process; Access to Housing*
28. Expand family-centered amenities and play spaces for youth in existing parks and in future publicly and privately owned open spaces. *Process*
29. Collaborate to support the industrial maritime strategy for Downtown flood resilience. *Access to Employment and Creating Businesses*
30. Consistent with Seattle's Food Action Plan priorities, seek opportunities to use Downtown's public or private parks to increase access to community growing space/community gardens. This aligns with the Food Action Plan's priority to "Increase land access and stewardship rights for community groups to grow food on public, City-owned land and support a continuum of culturally relevant, food and nutrition educational activities to reach diverse communities."
31. Leverage existing City of Seattle grant programs that seek to expand healthy food access to add growing spaces and gardens to existing capital improvement projects.
32. Consistent with Seattle's Food Action Plan and if in alignment with recommendations from Tahoma Peak, use public land and open to advance the Food Action Plan's priority to "Increase the number of low-maintenance or passive food production (food forests, fruit trees) and foraging opportunities within Seattle, stewarded and directed by Native and Indigenous communities and other community partners."
33. Address barriers to increase development of courtyards and rooftops that support Downtown residents' outdoor access.
34. Prioritize open, maintained, and accessible public restrooms
35. Expand the share of BIPOC artist commissions participating in the percent-for-art ordinance in Downtown. *Process; Arts and Culture Representation; Access to Employment and Creating Businesses*
36. Create a new typology that delineates "Downtown gateway parks", or parks that are located proximate to major transit stations and gateways from other neighborhoods to Downtown. Include specific standards for wayfinding, seating, accessibility, and activation to provide more welcoming spaces for visitors.
37. Improve public water access and cooling areas by installing spray pads or water features in existing parks and plazas close to residential areas.
38. Dedicate resources to invest in the Portal site to support park uses.
39. Invest in green connections between unique Downtown destinations, like City Hall Park, Pioneer Square, and Occidental Square.

DAP Recommendations related to Environment and Climate that Align with the Subarea Plan

- 1.10. Improve street and sidewalk lighting across Downtown

- 1.11. Offer graffiti removal services on private property with owner permission
- 2.4. Bring satellite farmers markets into Downtown neighborhoods
- 2.6. Activate neighborhood alleyways to create more pedestrian-friendly experiences
- 2.7. Support the strategic vision defined by King County Executive Dow Constantine to redesign the County's Downtown campus
- 5.1. Hire a director of Citywide Special Events to implement the integrated and proactive strategy
- 5.3. Provide capital funding for accessibility and other capital improvements to Benaroya Hall, a City-owned arts facility
- 5.5. Create more murals and other art installations throughout Downtown
- 5.6. Support community-driven activations and cultural celebrations Downtown
- 6.3. Open a Tribal Interpretive Center at Waterfront Park
- 6.4. Connect Downtown neighborhoods with Waterfront Park
- 7.1. Pilot a green and healthy street by closing Pike Street between First and Second Avenues for pedestrians only
- 7.2. Reopen City Hall Park
- 7.3. Finish improvements to Downtown parks
- 7.4. Complete the full construction of the Seattle Waterfront by 2025, including free, family-friendly programming
- 7.5. Explore the future use of Pier 48 as new open green space
- 7.6. Continue to explore the lidding of I-5 to create park spaces and pedestrian connections from Capitol Hill to Downtown
- 7.7. Pilot low-pollution neighborhoods Downtown by establishing low-emission delivery opportunities
- 7.8. Implement the Building Emissions Performance Standards Policy (BEPS) pop