11 CLIMATE

INTRODUCTION

Bothell is planning for climate change mitigation and adaptation to proactively reduce the drivers of climate change and protect its most vulnerable people and places. Planning for climate change includes:

- Assessing and enacting ways to reduce greenhouse gas emissions (GHG) through government and community wide activities such as providing multiple modes of transportation, housing and job opportunities in compact accessible areas, waste reduction, and energy conservation measures; and
- Preparing for and adapting to climate change exposures including addressing extreme heat through protecting and adding tree canopy and reducing impervious areas, reducing the potential for impacts associated with increased wildfires, and addressing extreme precipitation through floodplain and stormwater system improvements and ecosystem protection.

The Climate Change & Resiliency Element supports the **Framework Vision** by addressing strategies to create a resilient and thriving community that fosters the well-being of the community.

This element directly supports the following **Guiding Principles**:

- Regional cooperation.
- Built and natural environments work in harmony.
- Safe, efficient, smart, financially sustainable, and resilient transportation and utility networks.
- Climate sustainability and resiliency.

This element provides a vision, goals, and policies that respond to new legislation that requires a climate change element (HB 1181) as part of a comprehensive plan. The element must include: a **Mitigation Sub-element** that identifies goals and policies addressing greenhouse gas emissions reductions and a **Resilience Sub-element** that addresses adaptation to hazards exacerbated by climate change.

~~There is a circular relationship where human-caused greenhouse gas emissions cause climate change and require both mitigation to reduce greenhouse gases as well as to adapt to and improve resiliency towards expected climate change.~~ If mitigation by reduction of greenhouse gas emissions is too little or too late, then the climate conditions and their consequences to which Bothell residents will have to adapt will be much more serious and costly. Increased greenhouse gases contribute to more frequent and intense extreme weather events like heavy rainfall, floods, and heatwaves. By reducing emissions, the intensity and frequency of these events could be mitigated, protecting Bothell's infrastructure, homes, and public safety.

The **Mitigation Sub-element** is intended to reduce GHG emissions on the environment from sources such as transportation, energy, waste, and other sources.

Please see the **Transportation Element** and **Transportation Appendix (Appendix E)** for the full discussion regarding Transportation System Resiliency.

Resiliency is an ability to quickly recover from continuous or sudden changes or forces. A resilient object is strong, flexible, and can bounce back to its original condition. The climate resilience sub-element supports climate and intends to prepare Bothell to avoid, withstand, respond to, and recover from climate stressors that exacerbate hazards. Climate adaptation strategies will help the Bothell community reduce risks to people, resources, ecosystems, infrastructure, and the services they provide. The **Resilience Sub-element** addresses 11 sectors including: food systems, buildings and energy, cultural resources, economic development, emergency management, human health, ecosystems, transportation, waste management, water resources, and zoning and development.

TODAY & TOMORROW

Conditions Today

Greenhouse Gas Emissions

Greenhouse gases include carbon dioxide, methane, nitrous oxide, and fluorinated chemicals, that trap some of the Earth's outgoing energy, thus retaining heat in the atmosphere. Reducing greenhouse gas emissions can help reduce the rate and extent of climate change damage. (Washington State Department of Commerce, 2023)

Based on a 2022 evaluation of King County and cities, transportation and buildings are the greatest source of emissions in Bothell.

- Transportation: Promoting multiple modes of travel including pedestrian, bicycle, and transit can help reduce emissions from automobiles. The existing vehicle miles travelled is expected to increase by 2044 under the current Comprehensive Plan but decrease on a per capita basis. This is due in part to focused growth in centers like Downtown and Canyon Park in areas with existing and future high capacity transit. The transportation-related emissions of CO_2 would reduce due to improvements in federal and state policies on fuels and other actions.
- Buildings and Energy: Implementation of the State Energy Code, State Clean Buildings Act, Clean Energy Transformation Act, and Climate Commitment Act would help reduce future emissions substantially. Still there is a gap between the reductions due to the adopted laws and policies that could be influenced through local actions. See Appendix D for more information.

The City anticipates developing a Climate Action Plan before 2029 where it can explore its emission sources and strategies in greater detail.

Climate Impacts Exposure

In the Puget Sound region and in Bothell, people, ecosystems, and infrastructure could be exposed to:

- Extreme heat
- Wildfire smoke
- Extreme precipitation
- Flooding
- Stream low flow due to decreased mountain snowpack
- Drought and low soil moisture

Some places are more vulnerable to potential climate hazards such as paved areas magnifying heat or homes and businesses and infrastructure located in low-lying flood hazard areas. Very young and older people, those with health conditions, or overburdened communities with fewer resources can be at risk.

Bothell Demographics & Vulnerability to Climate Stressors

Communities that tend to be more vulnerable to climate stressors are those that are already at social and economic risk, including older people, children, low-income families, people with disabilities, and persons of color and immigrant communities.

Bothell's demographics are more similar to Snohomish County than King County. Nearly 14% are over 65 years old and about 6% are under 5 years old. Over 24% live alone. About 31.3% of the population in Bothell is a person of color. Almost 10% speak English less than very well (Asian, Spanish, and Indo-European languages are commonly spoken at home). See **Exhibit 11-1**.

Exhibit 11-1. Bothell Community Characteristics (2021)

Characteristic	Bothell & Counties
Children	Under 5 years old: ▪ 5.5% in Bothell ▪ 5.6% in King County ▪ 6.2% in Snohomish County
Adults > 64 years	65 years and over: ▪ 13.3% in Bothell ▪ 13.1% in King County ▪ 13.6% in Snohomish County
Communities of Color	Persons of color: ▪ 31.3% in Bothell ▪ 39.5% in King County ▪ 29.0% in Snohomish County
Low-Income Communities	Persons in poverty: ▪ 4.5% in Bothell ▪ 8.4% in King County ▪ 7.3% in Snohomish County
Living Alone	Householder living alone: ▪ 24.4% in Bothell ▪ 29.9% in King County ▪ 22.7% in Snohomish County

Characteristic	Bothell & Counties
Limited English	Speak English less than very well: ▪ 9.6% in Bothell ▪ 11.0% in King County ▪ 9.0% in Snohomish County
Disabled	Population with a disability : ▪ 8.9% in Bothell ▪ 9.7% in King County ▪ 11.4% in Snohomish County
Unemployment	Unemployed: ▪ 3.3% in Bothell ▪ 3.9% in King County ▪ 3.5% in Snohomish County
Outdoor Workers	In construction: ▪ 7.0% in Bothell ▪ 5.3% in King County ▪ 8.8% in Snohomish County
Education	No high school diploma: ▪ 5.3% in Bothell ▪ 6.3% in King County ▪ 7.1% in Snohomish County

Note: Percents for King and Snohomish counties are for the entire county.
Sources: 2017-2021, ACS 5-Year Estimates.

In addition to residential population, Bothell has a relatively high daytime employee population. Most workers in Bothell commute in from surrounding communities such as unincorporated areas (36%), Seattle (12%), and Everett (5%). More individuals commute into Bothell for work than leave to work in another location (28,778 compared with 19,813 individuals, respectively). Access to employment centers could be impacted by climate-exacerbated events such as extreme precipitation and flooding or regional wildfire smoke.

Extreme Precipitation

In Bothell, areas mapped with floodplains lie along North Creek and the Sammamish River. Populations with greater socioeconomic vulnerability are in some cases proximate to these areas, or would have challenges accessing employment centers that rely on frontline workers. See **Exhibit 11-2**.

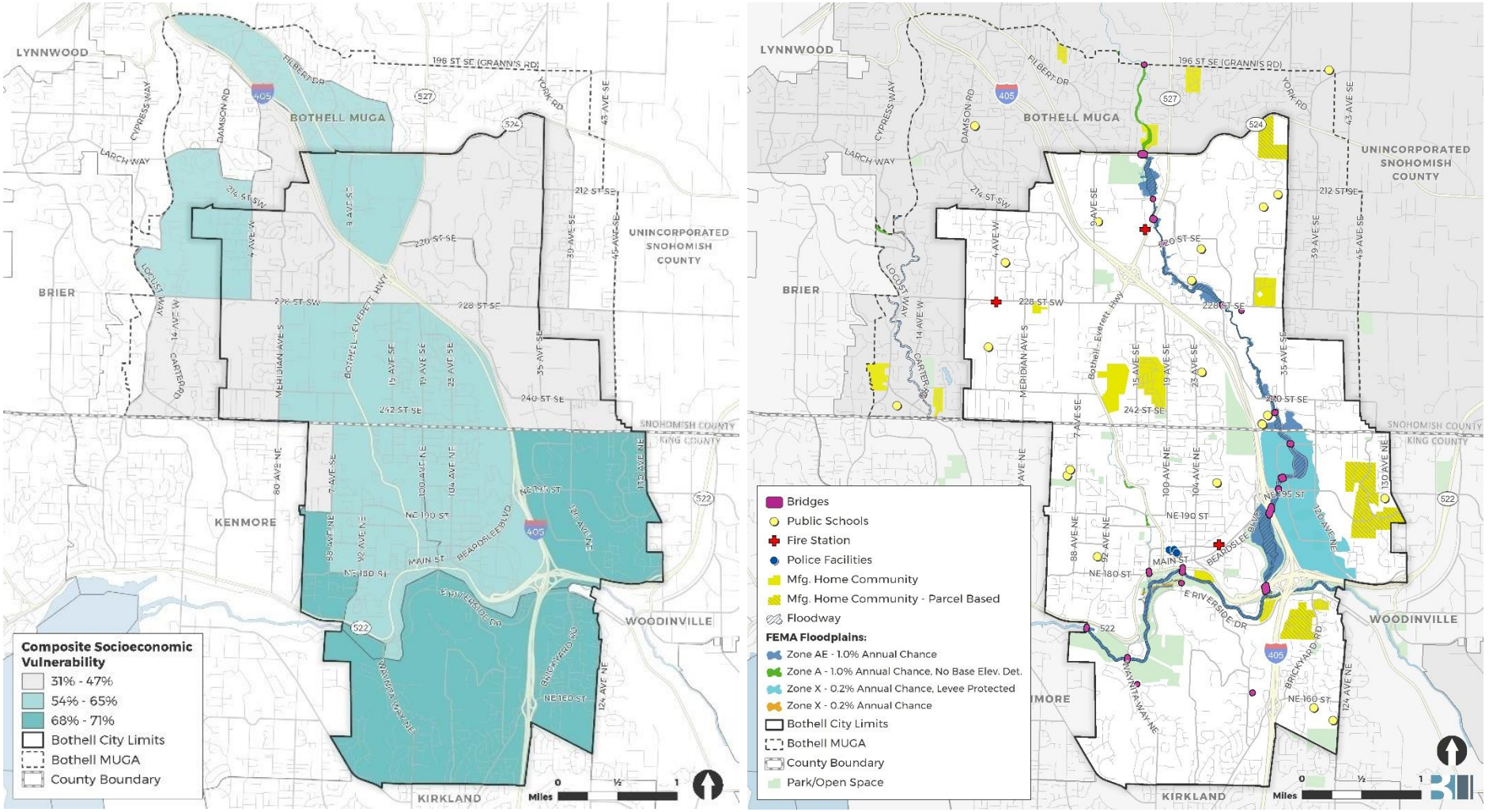
Due to climate change, more frequent and intense storms are expected. This could affect flooding, erosion, and runoff and impact stormwater systems, transportation, and emergency responses. Floodplain extents and depths could change. By 2050, on the day of the year with the highest streamflow, it is anticipated that the Sammamish River could see 11% more streamflow and North Creek and Swamp Creek 14% more streamflow. (Median change at RCP 8.5. see text box at right).

> Climate projections are typically based on historical trends (e.g. 1980-2009). The projections are mid-points of 30 year periods and the average of multiple global climate models. The higher greenhouse gas scenario (RCP 8.5) causes more warming by the end of the century compared to the moderate (A1B) and lower (RCP 4.5) scenario, but the scenarios do not differ significantly prior to 2050. For near-future applications, the choice of greenhouse gas scenario is less important than for late century applications. See: https://cig-wa-climate.nkn.uidaho.edu/.

Exhibit 11-2. Vulnerability and Extreme Precipitation

Socioeconomic Vulnerability

Floodplains, & Critical Facilities, & Manufactured Homes



Note: See also **Exhibit D-18** and **Exhibit D-73** in **Appendix D** for larger maps.

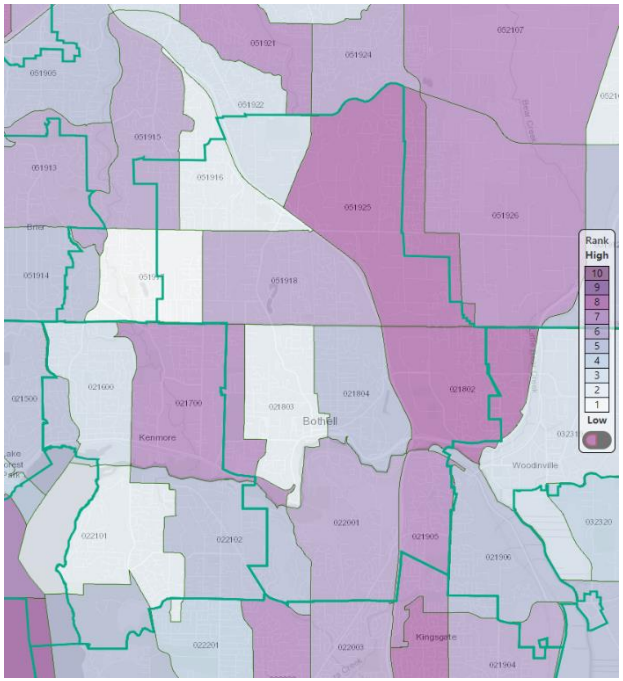
Sources: Public-Use Microdata Survey (PUMS), 2021; Bothell Middle Housing Market Analysis and Feasibility Assessment (ECONorthwest), 2023; FEMA, 2024; City of Bothell, 2024; BERK, 2024.

Extreme Heat

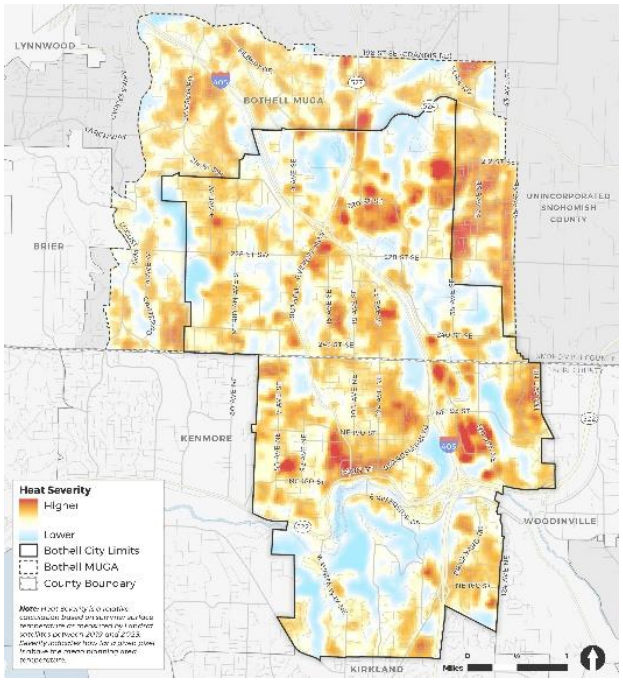
Where there is a predominance of pavement and less trees there are heat islands that can further exacerbate heat exposure from climate change. Heat islands are riskier for populations with adverse health conditions, and for outdoor workers. For example, populations along major roadways are exposed to air pollution and can be more at risk of health effects due to climate-exacerbated events such as heat waves. See **Exhibit 11-3**.

Exhibit 11-3. Vulnerability and Extreme Heat

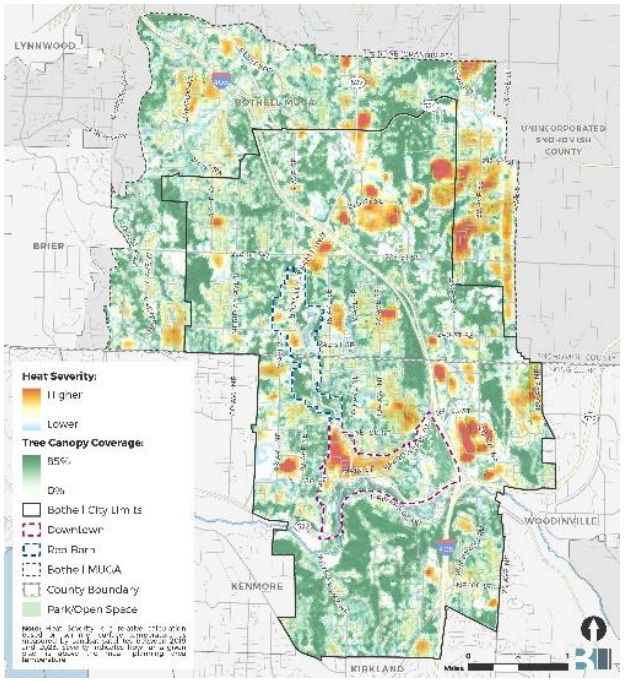
Environmental Health Disparities



Heat Islands



Heat Islands & Tree Canopy



Note: See also **Exhibit D-32**, **Exhibit D-26**, and **Exhibit D-27** n **Appendix D** for larger maps.

Sources: Department of Health, Washington, 2022; BERK, 2023.

Wildfires & Wildfire Smoke

While there is a risk of fire in Bothell, the primary wildfire risks are in the Cascades. However, wildfire smoke would affect Bothell residents and outdoor workers, and the sources could be from fires in the Puget Sound, state, and Pacific Northwest region.

More wildfire smoke from local or regional wildfires can result in particulates affecting those with health conditions (e.g. heart and lung disease, pregnancy, etc.). It can also affect persons conducting outdoor jobs, and interfere with recreation and cultural events.

An increase in fire-danger days due to climate change could affect homes and businesses where forests and wildland vegetation meet or intermingle. Bothell's current risk of wildfire, unrelated to climate change, is low compared to other communities in Washington or the US. There is a low risk of wildfire and a medium risk of exposure in northeast Bothell.[48] The City mapped areas with greater urban wildfire risk that could cause potential problems in the 2019 Hazard Mitigation Plan (see **Exhibit 11-4** for a similar map updated with 2017 tree canopy data). Areas at risk of wildfire are spread throughout the city and MUGA (consistent with the city's extensive tree canopy) with concentrations of tree canopy more than 450 feet from roads or parking lots generally coinciding with large parks or open space.

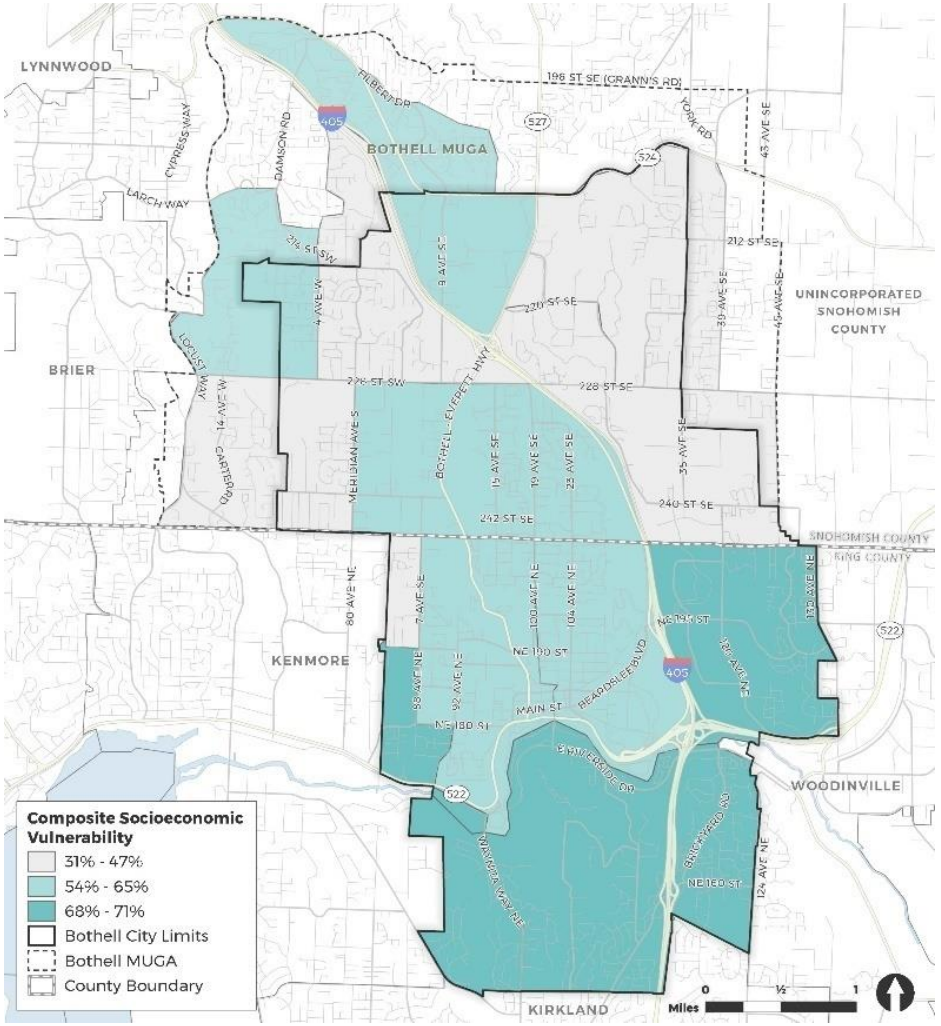
The Bothell Hazard Mitigation Plan likewise notes wildfires present a low risk, though in the wildland urban interface there is more risk due to a rise in the building of homes. Wildland Urban Interface mapping for Bothell shows pockets of Intermix where development, such as structures, is interspersed or scattered throughout wildland vegetation.[49] Some populations with lower socioeconomic resources are found in some areas of intermix such as areas south of the Sammamish River. Work is ongoing to confirm Wildland Urban Interface regulations in association with the State building code, and the City anticipates potentially adopting and implementing such codes in the future as part of the permitting process.

[48] USDA Forest Service: https://wildfirerisk.org/explore/overview/53/53033%7C53061/5300007380/.

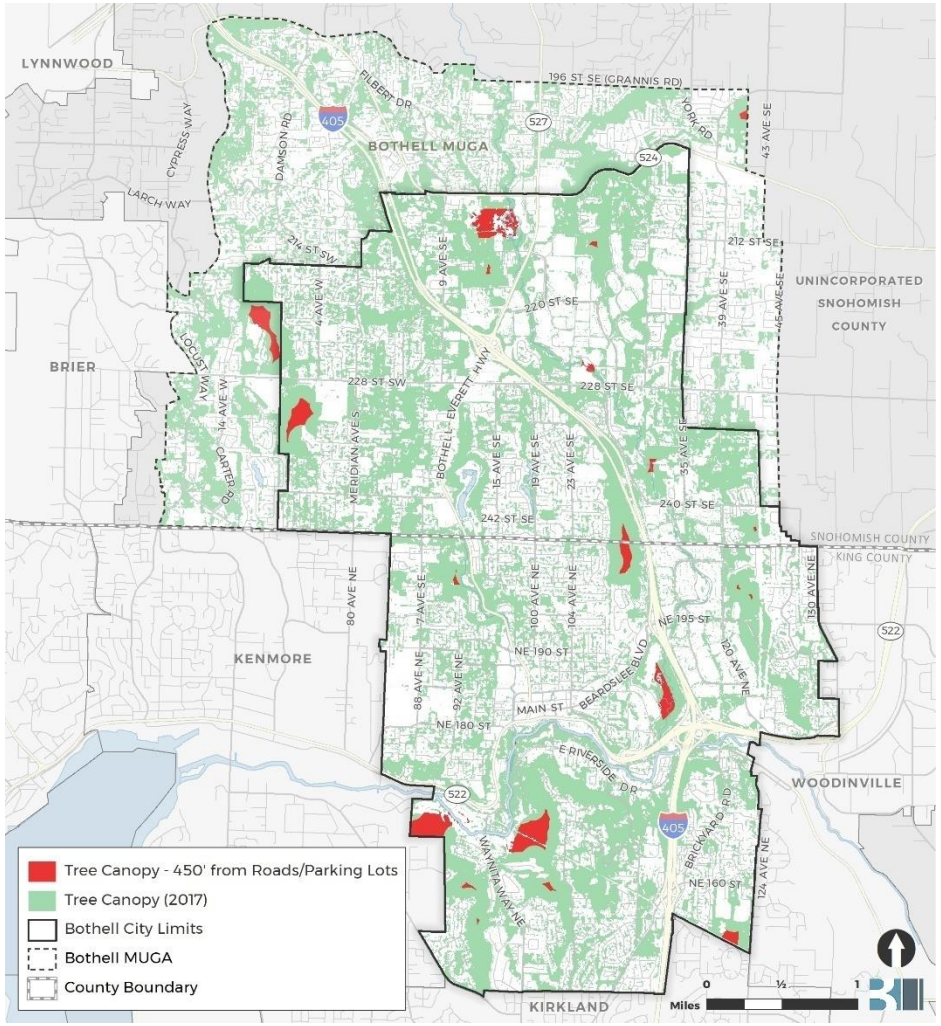
[49] DNR: https://storymaps.arcgis.com/stories/7016c437623a445997c072a05e26afbb.

Exhibit 11-4. Urban Wildfire Risk in Bothell

Socioeconomic Vulnerability



Urban Wildfire Risk



Note: See also **Exhibit D-18** and **Exhibit D-31** in **Appendix D** for larger maps.

Sources: Bothell Hazard Mitigation Plan, 2019; Public-Use Microdata Survey (PUMS), 2021; Bothell Middle Housing Market Analysis and Feasibility Assessment (ECONorthwest), 2023; City of Bothell, 2024; BERK, 2024.

Future Needs

In the Puget Sound region and Bothell, exposure of people, ecosystems, and infrastructure to climate change could include:

- **Extreme heat**: Additional warming is projected, with increases at least double that observed in the 20th Century. An increase in summer temperatures and heat waves can affect people, fish and wildlife habitats, and vegetation. Of particular concern is the effect of increased heat and elevated water temperature of runoff from developed surfaces into local creeks and wetlands.
- **Wildfire smoke**: Wildfire smoke would affect Bothell residents with health sensitivities, active transportation commuters, unhoused persons, and outdoor workers, and the sources could be from fires in the Puget Sound, state, and Pacific Northwest region including Canada.
- **Extreme precipitation and flooding**: Heavy rainfall is projected to be more frequent and intense and could exacerbate flooding and overwhelm stormwater systems. This can also exacerbate landslide and erosion risks along with impacts to groundwater and aquifer recharge.
- **Stream low flow due to decreased mountain snowpack**: Warming is anticipated to cause a greater proportion of winter precipitation to fall as rain rather than snow causing a decline in summer streamflow. This could affect stream temperatures and aquatic species in Bothell and elsewhere in the Puget Sound Region.
- **Drought and low soil moisture**: In late summer, with less precipitation and more heat, less soil moisture is present.[50] Low soil moisture could lead to too dry of conditions for vegetation, street trees, landscaping.

Challenges & Opportunities

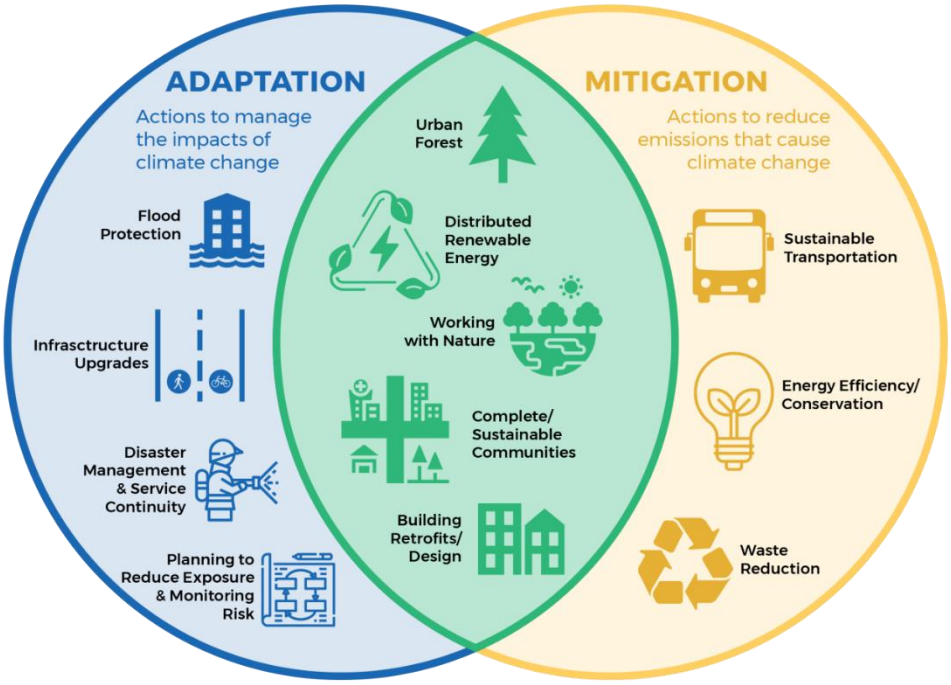
To address the anticipated future conditions, the City evaluated its long-range plans through the lens of climate change and equity, considering the natural and built environment and systems and services that could be impacted. Based on the policy review, the assessment identified resilience strategies to prevent, protect, or respond to potential climate stressors. Some strategies address both adaptation and mitigation (see text box below for definitions). See **Exhibit 11-5**.

> **DEFINITIONS—BASED ON US CLIMATE TOOLKIT AND STATE LAW**
>
> **Climate Resilience:** The capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a climate stressor. A climate stressor is a condition, event, or trend related to climate variability and change that can exacerbate hazards. (Toolkit)
>
> **Resilience:** Means the ability to prepare, mitigate and plan for, withstand, recover from, and more successfully adapt to adverse events and changing conditions, and reorganize in an equitable manner that results in a new and better condition. (RCW 70A.65.010(60))
>
> **Adaptation:** The process of adjusting to new (climate) conditions in order to reduce risks to valued assets. (Toolkit)
>
> **Mitigation:** Processes that can reduce the amount and speed of future climate change by reducing emissions of heat-trapping gases or removing them from the atmosphere. (Toolkit)

[50] NOAA National Integrated Drought Information System, 2021.

Measures that can help reduce greenhouse gas emissions that cause climate change are considered "mitigation" and are in the yellow part of the adaptation and mitigation strategies Venn diagram in **Exhibit 11-5**. These include measures such as forms of transportation that move more people with less emissions (e.g., transit), energy efficiency or conservation measures, and waste reduction. Other measures are considered "adaptation" and are actions that help respond to or manage the impacts of climate change. These are shown in the blue part of the diagram and include flood protection, upgrading infrastructure (e.g., adding non-motorized features to roads), emergency or disaster preparation, and planning to reduce climate exposure or monitoring risk. Green measures in the Venn diagram in **Exhibit 11-5** are high-performing measures that help with both adaptation and mitigation.

Exhibit 11-5. Adaptation and Mitigation Strategies Venn Diagram



Sources: Grey County, Canada, 2020; New Zealand Association of Impact Assessment, 2020; Zhao, 2018; BERK, 2022.

Higher performing strategies are included in **Exhibit 11-6** below. These are drawn from sources that identify the potential for effectiveness in adaptation or mitigation such as:

- Washington Department of Commerce, Climate Element Planning Guidance 2024, Menu of Measures: From a state perspective, these measures found to be effective by Commerce and partner agencies utilizing a multicriteria prioritization analysis.
- K4C Climate Action Toolkit, April 2021: This toolkit identifies strategies and their ability to reduce greenhouse gas (GHG) emissions, and the level of resources required and co-benefits.
- VISION 2050. Puget Sound Regional Council, October 2020: VISION 2050 contains multicounty planning policies and actions including those related to climate change and equity. By leveraging that plan, Bothell's policies can help the region be more successful in achieving climate goals.

From a local perspective, a consultant and staff team evaluated Bothell's Comprehensive Plan policies using the Commerce Climate Element Planning Guidance as part of a grant conducted in 2023. This resulted in the *City of Bothell Comprehensive Plan Update, Comprehensive Plan Review & Climate Equity* drafted in June 2023 and updated in November 2023. Strategies that appeared to be a fit for Bothell are considered in **Exhibit 11-6**. They are also reflected in the draft goals and policies in this element. See also **Appendix D**.

Some adaptation or mitigation categories have high-performing strategies in common. To avoid repetition, the adaptation or mitigation categories are aligned with their common high performing strategies.

Exhibit 11-6. Potential Adaptation and Mitigation Strategies

Adaptation or Mitigation Category	High Performing Strategies	Sectors Addressed
Urban Forest	▪ Expand local food security and the food-related economy. ▪ Conserve habitat, ecosystem functions, and critical corridors. ▪ Increase tree canopy cover to boost carbon sequestration, reduce heat islands, and improve air quality, prioritizing overburdened communities.	▪ Agriculture & Food Systems ▪ Ecosystems ▪ Water Resources
Distributed Renewable Energy **Building Retrofits/ Design** **Energy Efficiency / Conservation**	▪ Construct and adapt buildings to be more resilient to extreme heat and cooling demand. ▪ Support renewable energy sources. ▪ Provide indoor and outdoor spaces that are adapted to extreme heat (e.g., awnings, tree canopy) while providing energy conservation.	▪ Economic Development ▪ Buildings & Energy
Working in Harmony with Nature	▪ Enhance ecosystems to conserve culturally important resources that reflect indigenous spiritual, physical, and social practices (e.g., salmon, berries, etc.). ▪ Enhance connectivity to destinations with green infrastructure	▪ Cultural Resources & Practices ▪ Ecosystems ▪ Water Resources
Complete/ Sustainable Communities **Sustainable Multimodal Transportation[52] that mitigates GHG**	▪ Promote green jobs through zoning allowances and incentives. ▪ Provide small business resilience and sustainability strategies. ▪ Encourage active transportation and increase education about it. ▪ Prioritize TOD investments to create urban cores of mixed use near transit to reduce the need for vehicle trips. ▪ Support electrification of both personal and fleet vehicles. ▪ Investigate and implement intelligent transportation systems (ITS) and Transportation System Management and Operations (TSMO) Strategies.[51] ▪ Reduce parking. ▪ Increase transit to shopping areas.	▪ Economic Development ▪ Transportation ▪ Zoning & Development
Flood Protection Infrastructure Upgrades	▪ Reduce risk of flood damage in floodplains and urban flooding locations.	▪ Transportation ▪ Waste Management

[51] Per WSDOT, TSMO seeks to operate the existing transportation system as safely and efficiently as possible. Implementation of TSMO focuses on cost-effective, near-term solutions that are multimodal, cross-jurisdictional, and applicable on all roadway types. See: https://wsdot.wa.gov/engineering-standards/transportation-system-management-and-operations-tsmo.

[52] Sustainable transportation refers to transport modes that are low or non-polluting to the environment. Examples include walking, biking, transit, carpools, etc.

Adaptation or Mitigation Category	High Performing Strategies	Sectors Addressed
	▪ Protect all culturally significant archaeological resources prone to flooding. ▪ Coordinate road, stormwater, and sewer resilience improvements.	▪ Water Resources
Disaster Management & Service Continuity	▪ Identify / create resilience hubs as central points of resources. ▪ Support culturally competent evacuation plans. Create template evacuation plans and outreach materials to support residents' plan and practice actions.	▪ Emergency Management ▪ Human Health
Planning: Reduce Exposure & Monitor Risk	▪ Pursue upgrades to critical city facilities.	▪ Emergency Management ▪ Transportation ▪ Water Resources
Waste Reduction	▪ Manage debris during and after disasters. ▪ Promote zero waste of economic value by all sources.	▪ Waste Management

Source: BERK, 2024.

OUR CLIMATE PLAN

Engagement with the community and the vulnerability assessment (see **Appendix D**) identified several climate priorities for the community. Bothell's climate plan is based on these efforts and prioritizes integrated policies and strategies to:

- Reduce greenhouse gas emissions consistent with Joint County-City Climate Commitments[53],
- Prioritize natural and green infrastructure solutions,
- Provide road and utility infrastructure designed with nature (e.g., distributed stormwater management) that can withstand changing conditions,
- Build resilience to reduce climate impacts,
- Minimize risks to public health and safety,
- Maximize equity and protection of the most vulnerable,
- Protect and restore functioning ecosystems,
- Support a sustainable economy,
- Provide opportunities for affordable housing and universal design,[54]
- Ensure mobility across transportation modes and connectedness,[55]
- Continue effective and essential public services,
- Community members, non-profit orgs, other jurisdictions, businesses, and partners are involved in co-creating and implementing.

[53] As part of the K4C effort, Bothell has signed on with King County and other cities to "Achieve shared countywide GHG reduction targets that reduce direct countywide sources of greenhouse gas (GHG) emissions by at least 50% by 2030, and 80% by 2050, compared to a 2007 baseline." See: https://kingcounty.gov/en/legacy/services/environment/climate/actions-strategies/partnerships-collaborations/k4c.aspx.

[54] Universal design refers to providing products and environments (places, buildings, etc.) that are usable, accessible, and inclusive by all people without the need for adaptation or specialized design. See: https://www.washington.edu/doit/universal-design-process-principles-and-applications and https://design.ncsu.edu/research/center-for-universal-design/.

[55] Mobility refers to the ability and level of ease of moving people, goods, and services. Modes refers to "a particular form of travel. For example, walking, bicycling, driving alone, carpool or vanpool, bus, train, ferry, or airplane." (VISION 2050 Glossary) Connectedness is the ability to reach destinations on continuous route via multiple modes.

Bothell Landing

2023-2024 COMMUNITY ENGAGEMENT—FEEDBACK ON CLIMATE CHANGE & RESILIENCY

In 2023, as part engaging the community with the overall Comprehensive Plan including the Climate Element, Bothell sponsored small group discussions and interviews, as well as a work group with community members and service providers, which provided feedback on climate priorities. Themes of the conversations are included below.

Equity, Communication, & Education

- Apply an equitable lens to climate change.
- Many local community organizations are not prioritizing climate change.
- Utilize the strengths of community organizations and the community.
- Focus on elderly, children, and unhoused.
- Education outreach to the local community is key.
- Conduct engagement in multiple languages; also have an event for children to engage.
- Ensure the City models sustainable actions, e.g., waste reduction in community events.
- Work with UW-Bothell, Cascadia College, and other education institutions.

Compact, Affordable, Complete Community

- Encourage density to balance the sprawl in Bothell.
- Provide more affordable housing options.
- Improve the convenience of commuting using alternative modes of transportation.
- Promote a walkable environment.

Tree Canopy, Green Infrastructure, and Ecosystems

- Increase the tree canopy with a focus on cooling impervious areas and protecting, and restoring, stream habitat and other environmental critical areas.
- Think about trees as assets that need to be replaced and grown for the future. Treat like a capital improvement – plan and budget.
- There is a growing need for more parks, open space, and trail connections.
- Emphasize trees reduce pavement heat and provide shade on new housing/developments.
- Protect urban streams and fish, prioritize green infrastructure and flood reduction measures.

Energy Conservation, Clean Air, Cooling

- Support building codes that promote energy efficiency and sustainability efforts.
- Look at building codes to support people installing air conditioning units.
- Provide cooling stations and personal cooling units to vulnerable populations.
- Recognize there is an emotional toll to wildfire smoke, not being able to go outside.

GOALS & POLICIES

Mitigation Sub-element

[Part of NE-P42] Climate change is a phenomenon that atmospheric and climate experts agree is exacerbated by greenhouse gas emissions and already is leading to significant adverse impacts upon features of the natural environment such as air, water, plants, wildlife, and people.

Framework Goal. [Modified part of NE-P42] Participate in climate change and greenhouse gas emission reduction efforts to fulfill Bothell's climate plan and achieve shared countywide GHG goals.

NOTES ON GOALS & POLICIES

Where existing Comprehensive Plan policies are being incorporated or amended citations are made in parentheses. Strikethrough or underline is shown for amendments to existing policies.

Sources of strategies for new or amended text are also noted:

- Washington Department of Commerce, Model Climate Element, Menu of Measures
- K4C Climate Action Toolkit, April 2021
- VISION 2050. Puget Sound Regional Council, October 2020

As part of the K4C effort, Bothell has signed on with King County and other cities to "Achieve shared countywide GHG reduction targets that reduce direct countywide sources of greenhouse gas (GHG) emissions by at least 50% by 2030, and 80% by 2050, compared to a 2007 baseline."

Communitywide GHG emissions inventories have been developed for King and Snohomish Counties (2022) and identify transportation, building electricity, and building natural gas as main sources of greenhouse gas in King County and transportation, tree loss, and building natural gas in Snohomish Counties. Other sources evaluated include aviation, solid waste, and more. More information is being developed in 2024 for the two counties.

As part of the 2022 King County report, emissions were estimated for the City of Bothell in 2018 and 2044 and considered Bothell's growth targets for both counties. With many federal and state policies emissions are anticipated to be reduced substantially by 59% in 2040 and 67% in 2050. Transportation and buildings are the greatest source of emissions in Bothell. There is a gap between the reductions due to the adopted laws and policies that could be influenced through local actions.

Commerce's Climate Planning Guidance (December 2023) suggests jurisdictions should use 2022 as their emissions baseline year and set incremental targets that lead to achieving net zero emissions in 2050, consistent with Washington's statewide target. The Draft EIS prepared in conjunction with this Draft Climate Element shows CO_2 emissions would be reduced and vehicle miles travelled (VMT) per capita would decrease between 2023 and 2044 with changes in land use, transportation modes and management, fuel economy, and other factors. The City anticipates developing a Climate Action Plan before 2029 where it can explore its emission sources and strategies in greater detail. This can help Bothell with updated GHG goals.

Goals and policies below address Bothell's aims and practices to address GHG reduction.

Goal CC-1. [K4C, GMA] Transportation: Community-wide transportation greenhouse gas emissions are reduced and VMT per capita is reduced by promoting active transportation and mobility by all modes.

Development

Policy CC-1.1 [TR-G4] Encourage Active Transportation Plan goals by improving safety and comfort for active transportation users in order to reduce congestion and greenhouse gas emissions, improve mobility and overall public health, and improve mobility choices for people with special transportation needs.

Bothell has developed the Bothell Citywide Bike Plan (20232) that is intended to provide a bike network that will be used by the majority of ~~users~~the population—including those in the casual and less confident biking category—and is equitable. This means making biking available to people of all ages, races, ethnicities, physical abilities, and economic backgrounds. Implementing the plan would include strategies and resources to increase public education about biking, supporting equitable access to active transport infrastructure, and others.

Policy CC-1.2 [TR-G8] Prioritize TOD investments to support the development of the Canyon Park Regional Growth Center, the Downtown Candidate Countywide Growth Center, ~~Red Barn~~Midtown Candidate Countywide Growth Center, the North Creek Regional Activity Center, and also other Community and Local Neighborhood Activity Centers by increasing job and housing density.

Policy CC-1.3 [TR-P25] Implement and pursue the use of transportation demand management (TDM) strategies as a means of reducing traffic congestion and greenhouse gas emissions.

Transportation demand management (TDM) refers to maximizing travel choices for travelers. The **Transportation Element** provides TDM strategies that are meant to reduce congestion, ease traffic, and improve the range of transportation options by encouraging carpooling, biking, public transit, or telecommuting.

Transportation system management (TSM) addresses ways to make the existing transportation system operation more efficient and coordinated. Examples include access management, speed management, traffic incident management, signage, traffic calming and others.

Commuting

Policy CC-1.4 [TR-P26 and TR-A41 combined] Continue implementing the Commute Trip Reduction (CTR) Act and the City's CTR Ordinance and other regulations which require or encourage the use of TDM measures.

Policy CC-1.5 [TR-P28] Implement and pursue the use of transportation system management (TSM) strategies as an alternative or supplement to roadway capacity improvements.

Policy CC-1.6 [TR-A42] Continue working with affected transit agencies to implement employer outreach programs to promote the use of alternative transportation modes and other worksite-based strategies such as alternative work schedules and remote work.

Policy CC-1.7 [TR-A43] Encourage all employers, whether through their CTR programs or on a voluntary basis, to provide financial incentives to employees who commute by transit, carpools and vanpools to reduce the quantity of commute trips by single occupant vehicles.

Policy CC-1.8 [TR-A44] Encourage employers to promote strategies to their employees to increase knowledge and opportunities for vanpooling, carpooling, and shared parking to reduce single occupant vehicles.

Transit Infrastructure & Transit Oriented Development

Policy CC-1.9 [TR-A45] Support the development of High Capacity Transportation (HCT), Bus Rapid Transit (BRT), and High Occupancy Vehicle (HOV) lanes on roads that that serve the city consistent within the context of Bothell's regional and local comprehensive planning goals.

Policy CC-1.10 [TR-A46)] Work with Sound Transit, King County Metro, and Community Transit to provide a transit-oriented street and appropriate amenities serving downtown Bothell.

Policy CC-1.11 [TR-A47)] Work with WSDOT and other regional planning agencies to ensure regional TDM programs and measures are developed and that the policies developed are complimentary to and consistent with the Bothell Comprehensive Plan. Advocate for continued grant funding from state agencies to use for local programs.

Policy CC-1.12 [TR-A48] In the activity and regional employment centers, encourage compact and mixed use development, such as through appropriate zoning and development standards, to reduce trips on the roadway system.

Policy CC-1.13 [TR-A49] Consider network and technology updates to assist riders and improve travel times and ensure reliability along key transit routes.

Alternatives to SOV

Policy CC-1.14 [TR-A52)] Explore opportunities to provide or promote alternatives to vehicle ownership and use through shared ride and shared vehicle programs.

Policy CC-1.15 [TR-P32] Where designated in the Bothell Citywide Bike Plan, implement planned bicycle improvements in an equitable manner and in conjunction with roadway improvements.

Policy CC-1.16 [TR-P35] Preserve unimproved public rights-of-way to assure they are available in the future for bicycle, sidewalk, and other improvements.

Policy CC-1.17 [NEW] Support active transportation options between homes and schools. Promote bike buses, walking school buses, and other practices that support student safety.

Wired, Portland, Oregon bike bus, January 27, 2023.

Electric Vehicles

Policy CC-1.18 [NEW] Consider development of an EV-ready ordinance to increase the percentage of EV-ready stalls and to require installation of a minimum number of charging stations for all new multifamily residential and commercial construction and during major renovation of parking lots/structures.

Policy CC-1.19 [NEW] Expand the public EV charging network by assessing gaps in infrastructure, identifying opportunities to increase grid capacity for increased charging, and supporting installation of charging stations for public use on business, institutional, roads, city and utility property in key areas. Install charging stations for public use at all City facilities open to the public such as parks and recreation centers.

Policy CC-1.20 [NEW] Explore and expand practical options for transitioning the municipal fleet to electric vehicles to maximize climate benefits and cost savings.

Goal CC-2. [K4C] Energy: Community-wide energy use and infrastructure emissions are reduced while promoting green building practices and embracing renewable energy sources.

Policy CC-2.1 [Part of NE-P43] Encourage and incentivize energy efficiency, conservation methods, and sustainable energy sources in public and private developments.

Policy CC-2.2 [Part of NE-P44] Encourage or incentivize new developments to use low emission construction practices, low or zero net lifetime energy requirements and green building techniques.

Policy CC-2.3 [Part of NE-P44] Increase and encourage the use of low emission vehicles, such as efficient electric-powered vehicles and equipment, and use of low-carbon and renewable fuel alternatives.

Policy CC-2.4 [NE-P51] Promote or incentivize energy efficiency, conservation methods and sustainable energy sources in support of achieving a reduction of greenhouse gas emissions.

To implement CC-2.4, the City could consider several strategies consistent with K4C model policies:

- Support and expand building energy efficiency retrofit programs to reduce building energy use and improve energy resilience, including a focus on affordable housing.
- Explore and promote low interest loan options and incentive programs to finance energy efficiency upgrades for commercial and residential buildings, while seeking other finance mechanisms to fill in potential funding gaps. Investments and programs should be prioritized in historically underserved areas.
- Develop energy efficiency outreach programs for residents and businesses by partnering with PSE and other local jurisdictions with the goals to identify and select appropriate and cost-effective energy improvements. This could involve supporting local schools in integrating climate and sustainability education into curriculum.
- Building on proposed WA state policy, strengthen energy efficiency codes to reflect best practices and meet established energy targets (e.g., require energy use disclosure and benchmarking for buildings, starting with commercial and multifamily buildings over a size threshold).

Policy CC-2.5 [Menu of Measures] Encourage electric heat pumps and limit natural gas in new commercial and residential construction.

Policy CC-2.6 [K4C] Incentivize new buildings to be solar ready and EV charging ready.

Policy CC-2.7 [K4C] Remove barriers for installing residential and small business renewable energy systems, as well as community solar (streamline permitting, lower fees, etc.).

Policy CC-2.8 [Similar to HP-G7, Menu of Measures] Conserve valuable material and energy resources by prioritizing the adaptive reuse of buildings, recognizing the emission-reduction benefits of retaining existing buildings.

Policy CC-2.9 [NE-P48, K4C] Encourage the transition to a sustainable energy future by reducing demand through planning for efficiency and conservation and by meeting reduced needs from sustainable sources. As such, support the transition of utility energy fuel mixes to renewable sources, including through coordination with utility Integrated Resource Planning processes and state policy development/implementation. Work with utility provider and other stakeholders to establish a plan to have 100% renewable energy for the community.

Goal CC-3. [K4C] Waste Reduction: Bothell's community-wide consumption and waste emissions are reduced.

Policy CC-3.1 [K4C] By 2030 achieve Zero Waste of Resources that have economic value (across all generated sources including commercial, households, construction, etc.).

Bothell is part of the K4C that includes King County and partner cities who work together to effectively implement common goals and commitments. The K4C Climate Commitments includes partnering with the Metropolitan Solid Waste ~~Management~~ Advisory Committee on policies, projects, and programs that focus on: waste prevention and reuse; project stewardship, recycling, and composting; and beneficial use.

King County's Comprehensive Solid Waste Management Plan (2019) defines zero waste as a planning principle designed to eliminate the disposal of materials with economic value. Zero waste does not mean that no waste will be disposed; it proposes that maximum feasible and cost-effective efforts be made to prevent, reuse, and recycle waste.

Policy CC-3.2 [K4C] Work with local businesses and industries to create a waste exchange system for items that typically end up in the waste stream. Conduct a waste stream mapping exercise with large businesses to find reuse/repurpose opportunities.

Policy CC-3.3 [NEW] Ensure applicants for new construction or tenant improvements provide a waste recycling plan.

Policy CC-3.4 [NEW] Share tips and information to encourage food waste reduction by residents and businesses. Ensure the City serves as a model to encourage sustainable actions when planning events to promote waste reduction in materials, food, and other resources.

Policy CC-3.5 [NEW, see King County] Promote salvage, deconstruction, and recycling of construction and demolition debris.

Goal CC-4. [NEW] Community Development and Conservation: A sustainable, affordable, and prosperous community.

Policy CC-4.1 [K4C, VISION 2050] Increase density and height limits to provide greater housing and job choices within existing urban areas to support the VISION 2050 and Countywide Regional Growth Strategies.

Policy CC-4.2 [Part of NE-P43] Encourage employment and population growth within the City's activity centers and mixed use areas that support mass transit, and encourage active transportation modes of travel and reduce commute trip lengths.

Policy CC-4.3 [Menu of Measures] Allow middle housing types, such as duplexes, triplexes, and ADUs, to increase housing opportunities in proximity to services and decrease GHG emissions. Coordinate multimodal transportation investments where housing density is increased.

Policy CC-4.4 [K4C] Use natural systems to reduce carbon in the atmosphere by establishing regulations that retain existing urban forests and promote the creation of urban forests on lands not anticipated to develop.

See also Policy NE-1.6 in the **Natural Environment Element**.

Policy CC-4.5 [NEW] Explore regional and local strategies to price parking, including regional road usage fees, employee workplace parking or parking cash outs as part of CTR programs, TDM programs, residential parking, and public parking in mixed use and commercial centers.

Resilience Sub-element

Framework Goal. [NE-P52] Climate change adaptation strategies are formulated and implemented that address the impacts of climate change on public health and safety, the economy, public and private infrastructure, water resources, and habitat.

Goal CC-5. [NEW] Food Systems: The City's food systems are enhanced to:

- Increase community food security.
- Support local and traditional foods.
- Advance an equitable local economy.

Policy CC-5.1 [Menu of Measures] Expand local food security[56] and the food-related economy to address climate impacts and increase access to healthy, affordable, and climate-friendly foods.

Policy CC-5.2 [Menu of Measures, PROS Plan] Identify suitable locations for community gardens with a priority to locate in areas with overburdened communities.

> Food systems include agricultural producers of all kinds—farmers, ranchers, fishers—along with consumers and institutions engaged in producing, processing, distributing, and selling foods. ~USDA

Policy CC-5.3 [Menu of Measures] Encourage and support farmers' markets at activity centers and community parks.

Policy CC-5.4 [Menu of Measures] Support food banks and neighborhood food pantries to expand local food security especially to underserved communities with healthy, sustainably produced, culturally appropriate foods.

Policy CC-5.5 [NEW] Encourage food-related enterprises at business parks and neighborhoods that strengthen Bothell's food security and enhance the local economy.

Policy CC-5.6 [NEW] Continue to allow for urban livestock where appropriate.

Goal CC-6. [NEW] Buildings and Energy: Bothell improves energy resilience for buildings and the grid to improve reliability in response to climate hazards and to increase community comfort, safety, and health, and the risk of flood damage in floodplains and urban flooding locations is reduced.

Policy CC-6.1 [NEW] Increase energy resiliency and reliability through support for renewable energy sources. Allow for distributed electricity generation and storage systems.

[56] Food security means "access by all people at all times to enough food for an active, healthy life." (USDA, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/) Food security also includes access to culturally appropriate foods for different community groups.

Policy CC-6.2 [Menu of Measures; K4C] Develop or modify design standards to integrate exterior building features that reduce the impacts of climate change and increase resilience such as awnings, cool roofs, passive cooling designs, green infrastructure, and green roofs.

Policy CC-6.3 [K4C] Support increased awareness of federal, state, county, and local incentives for building electrification, insulation, and weatherization, to improve energy efficiency, resilience, and affordability. Prioritize low- and no-cost home retrofit packages for low-income and marginalized communities. Consider incentives for early action under the Clean Buildings Act.

Policy CC-6.4 [K4C] Encourage businesses, large energy users, and residents to enroll in Puget Sound Energy's (PSE) Green Power Program and Snohomish PUD energy conservation and resilience programs.

Policy CC-6.5 [NEW] Promote the use of sustainable building materials through building code and other development regulations, such as mass timber, salvage materials, and others.

Policy CC-6.6 [NEW] When developing standards and guidelines for sustainable building and energy design and operation, provide strategies and resources to support adaptation by residents and businesses with lower incomes.

Policy CC-6.7 [NEW] Consider o~~O~~ffering flexibility in building height, floor area, and other development standards for buildings that come into compliance with flood-resistant construction standards or that encourage retrofits that enhance resiliency.

Policy CC-6.8 [NEW] Address long-term floodplain extent and depth due to climate change projections.

Policy CC-6.9 [Menu of Measures] ~~Require~~Encourage the use of green infrastructure and low-impact development in new construction and promote existing building retrofits to address increased storm intensities and stormwater runoff.

Policy CC-6.10 [Menu of Measures] Ensure that all buildings are designed and built sustainably to reduce environmental impacts and remain resilient to extreme weather and other hazards worsened by climate change.

Policy CC-6.11 [Menu of Measures; K4C] Encourage the use of modular buildings that can be more easily moved, renovated, and deconstructed as community or tenant needs and climate impacts change.

Policy CC-6.12 [NEW] Promote siting and planning for essential public facilities away from the floodplain.

Goal CC-7. [NEW] Cultural Resources and Practices: Ecosystems are enhanced to conserve culturally important resources and historic sites.

Policy CC-7.1 [Menu of Measures] Protect, enhance, and restore ecosystems in order to meet tribal treaty rights and conserve culturally important consumptive and non-consumptive resources including foods (e.g., salmon, other), medicinal plants, and materials that could be adversely impacted by climate change.

Policy CC-7.2 [Menu of Measures; Address expanded floodplain regulations] Protect significant historic sites prone to floods or other hazards worsened by climate change.

Goal CC-8. [NEW] Economic Development: Bothell encourages a prosperous, adaptive, and resilient economy for the community, business owners, and visitors through:

- Increasing green technology businesses, and green building strategies for new or existing buildings.
- Adapting outdoor recreation sites to climate hazards to support cultural events important to tourism and businesses.
- Encouraging businesses and employees to be adaptive to climate changes.

Policy CC-8.1 [Menu of Measures] Promote green jobs or businesses that provide eco-friendly products or services. In partnership with the university, school districts, and business parks, facilitate green jobs for frontline communities.

Policy CC-8.2 [NEW] Increase access to business and service needs in proximity to neighborhoods. Encourage commercial building stock diversity and variety to enhance commercial space affordability.

Policy CC-8.3 [Menu of Measures] Provide indoor and outdoor spaces that are adapted to climate stressors such as extreme heat (e.g., awnings, tree canopy, green infrastructure) while providing energy conservation (e.g., passive cooling design, energy conservation retrofits, access to potable water, etc.).

Policy CC-8.4 [Menu of Measures] Support expanded access to parks and trails and adaptation of existing ones to be resilient to extreme heat and extreme precipitation to support health and wellbeing and allow for community cultural events.

Policy CC-8.5 [NEW] Support local businesses' efforts to generate and store renewable electricity on-site, which can provide back-up power during emergencies and help ensure continuity of operations.

Policy CC-8.6 [NEW] Promote resilience strategies for businesses and their employees including:

- Increasing alternative commute options to reduce GHG, e.g., shared rides, transit, etc. for those with standard commute hours and those with shift or atypical work hours.
- Adding onsite energy resources like combined heat and power (CHP) systems or rooftop solar installations, bioswales, etc.
- Creating disaster recovery plans.
- Communicating preparedness information to employees.
- Funding and resources information in culturally responsive practices for women and people of color owned businesses.

Policy CC-8.7 [NEW] Identify any occupations that may be vulnerable to climate impacts. Seek information about daytime employees' demographic and health characteristics to understand vulnerabilities.

Goal CC-9. [NEW] Emergency Management: The City's government capacity is increased to provide effective and equitable emergency management.

Policy CC-9.1 [Menu of Measures] Develop and maintain local government staff members' technical expertise and skills related to climate change and environmental justice so as to improve communitywide policy implementation, equity, and resilience.

Policy CC-9.2 [Menu of Measures] Incorporate templates and inclusive outreach materials in evacuation planning efforts, where possible, to support accessible and equitable evacuation resources.

Policy CC-9.3 [Menu of Measures] Pursue improvements to critical city facilities consistent with the CEMP and Natural Hazard Mitigation Plan.

Goal CC-10. [NEW] Human Health: Reduced community exposure to extreme heat, precipitation, smoke and other climate-exacerbated events and increased access to amenities and services.

Policy CC-10.1 [NEW] Identify one or more resilience hubs offering coordinated communication to community members, distribution of needed resources, and respite from climate exacerbated events (e.g., cooling and clean air). Ensure community accessibility (e.g., transit) and awareness.

Policy CC-10.2 [NEW] Increase access to outdoor spaces offering respite and adapted to climate change events such as areas protected from extreme heat, smoke, or other events. Examples include parks and trails with greater tree canopy, opportunities for water-based recreation, and others.

Policy CC-10.3 [NEW] Develop a program to incentivize or subsidize distribute cooling units and install heat pumps, prioritizing households as identified in the racial equity analysis/community profile that are most vulnerable to extreme temperature events.

Policy CC-10.4 [NEW] In partnership with non-profit and governmental entities, provide information and incentives for community members to set up a clean room at home:

- Using a portable air cleaner or high-efficiency HVAC Filter.
- Using a higher rate filter on a central HVAC filter.
- Closing the outdoor air damper on a window air conditioner.
- Avoiding cooking or smoking.

Policy CC-10.5 [NEW] Employ outdoor work protocols during extreme heat or smoke events to reduce potential adverse health effects applicable to Bothell's workforce. Ensure city facilities can provide cool, clean air space for staff.

Policy CC-10.6 [NEW] Use integrated pest management on shorelines, stormwater facilities, parks, and open spaces to reduce exposure to vectors (e.g., mosquitos and standing water, etc.).

Goal CC-11. [NEW] Ecosystems: Natural ecosystems and critical areas are protected, restored, and resilient and maximize ecosystem services that increase climate mitigation or resilience.

General

Policy CC-11.1 [NE-P3] Adopt and maintain critical areas regulations which include best available science and long-range climate change projections to protect natural topographic, geologic, vegetation, fish and wildlife habitat, and hydrologic features, with special consideration given to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

Policy CC-11.2 [Menu of Measures] Ensure no net loss of ecosystem composition, structure, and functions, especially in Priority Habitats and Critical Areas, and strive for net ecological gain to enhance climate resilience. Offer incentives in development regulations for net ecological gain. Seek funding for ecosystem restoration or enhancement projects that provide ecological lift.

Fish & Wildlife

Policy CC-11.3 [Menu of Measures, Supports Existing Goal NE-G3] Identify opportunities to expand habitat protection and improve habitat quality and connectivity to foster climate resilience using [zoning and planning measures including] conservation area designations, buffers, and open space corridors.

Policy CC-11.4 [NE-P5] Prohibit the introduction of invasive plant and animal species in natural areas which would tend to degrade the natural systems present and require use of Best Available Science-based restoration practices adapted to our ecoregion.

Policy CC-11.5 [NE-P12] Work with other cities, King and Snohomish Counties, state agencies, and regional groups, such as the Puget Sound Regional Council, to deal effectively with regional natural environment issues such as climate change, surface and ground water quality and quantity, the maintenance and enhancement of the Sammamish River, North Creek, and Swamp Creek as fish habitat, and the identification of fish and wildlife conservation areas that cross jurisdictional boundaries.

Policy CC-11.6 [Menu of Measures] Coordinate all programs that can affect fish and wildlife habitat to optimize the ability of local policies, rules, and management activities to protect habitats, and look for gaps or inefficient practices that could impede climate resilience.

Policy CC-11.7 [NEW] Adopt plans to address impacts to fish, wildlife, habitats, and ecosystems during climate extremes including severe storms, floods, droughts, and heat waves. Include climate change considerations specific to ecosystems, species and habitats when updating plans associated with the Growth Management Act, Shoreline Management Act, Watershed Management Act, State Environmental Policy Act, National Pollutant Discharge and Elimination System (NPDES) and other applicable regulations.

Wetlands

Policy CC-11.8 [NE-P28] To support the economic, environmental and climate resiliency benefits that wetlands afford, ensure development avoids and minimizes impacts to wetlands and their buffers, and provides compensatory mitigation to retain equal or greater wetland functions and values within the same drainage basin or watershed, and results in no net loss of wetland area except in limited circumstances. Promote wetland restoration and enhancement throughout the city.

See also Policy NE-2.12 and Policy NE-2.13 the **Natural Environment Element**.

Policy CC-11.9 [NE-P29] Consider off-site wetland mitigation within the same drainage basin or watershed through approved third parties, such as mitigation banks programs when a site-specific study documents a lack of on-site mitigation opportunities and a greater net benefit with off-site mitigation.

Native Vegetation

Policy CC-11.10 [NE-P37] Encourage restoration of degraded riparian buffers and deforested areas, promote native tree planting and removal of impervious surfaces to support the City's tree canopy cover goals and mitigate the urban heat island effect.

Policy CC-11.11 [Menu of Measures] Increase tree canopy cover throughout the City to boost carbon sequestration, reduce heat islands, and improve air quality, prioritizing overburdened communities. Ensure that tree species selection and planting guidance are updated to be resilient to climate change.

Soils, Slopes & Geologically Hazardous Areas

Policy CC-11.12 [NE-P37] Promote soils stability by the use of natural drainage systems and retention of existing native vegetation when determined feasible by a qualified geotechnical engineer in a site-specific assessment to the satisfaction of the City's responsible official.

Floodplains

Policy CC-11.13 [NEW] Use regulatory programs to protect and restore the connections between rivers and floodplains, reduce pollution of freshwater, and maintain waterway volumes to help build resiliency to climate change.

Policy CC-11.14 [NEW] Reduce the number of recreational structures, lights, and derelict vessels in regulatory floodways.

Goal CC-12. [NEW] Transportation System Resiliency: A transportation system that is resilient to climate hazards that allows the safe and efficient movement of people, emergency vehicles, and resources in an equitable manner.

See also Goal TR-6 in the **Transportation Element**.

Transportation System Resiliency is defined as the ability of the transportation system to prepare for, prevent, withstand, and recover from disruptions caused by natural or human caused hazards. Transportation System Resiliency supports livability due to the hazards that disrupt the transportation network. It is intended to protect life, property, and resources from harm. It reduces disruptions to the roadway network and allows the community to continue to function even in the event of a major catastrophe.

Policy CC 12.1 [NEW] Ensure coordination between all City emergency plans and policies such as Bothell's Comprehensive Emergency Management Plan, Hazard Mitigation Plan Annex, Bothell's Intelligent Transportation Systems (ITS) Strategic Plan, Storm and Surface Water Master Plan, Transportation Element, and this Climate Element.

Policy CC 12.2 [Menu of Measures] Improve street connectivity and walkability, including sidewalks and street crossings, to serve as potential evacuation routes.

Policy CC 12.3 [Menu of Measures] Incorporate hydrologic climate impacts into the design of water-crossing structures, for example, climate-smart culverts and bridges) for fish passage and habitat quality.

Policy CC 12.4 [Menu of Measures] Design and site new and expanded roads to have the least possible adverse effect on shorelines of the state, critical areas, public access and recreation sites, and habitat restoration and enhancement projects.

Policy CC 12.5 [NEW] Reduce the adverse impacts of disasters on vulnerable communities by ensuring that Bothell's lifeline routes are accessible and equitable to all.

Goal CC-13. [NEW] Waste Management: Manage waste, water quality, infrastructure, and community health through proactive climate resilience planning.

Policy CC-13.1 [NEW] Develop and implement a strategy to expedite debris management work (e.g., downed tree limbs and building materials blocking roads and streams) during and after a disaster incident to reduce the risks of subsequent fire, flood, injury, and disease vectors.

Policy CC-13.2 [NEW] Identify opportunities for joint planning of road, stormwater, potable water, and sewer infrastructure extension to increase efficiency and reduce costs with a focus in areas subject to extreme precipitation and local flooding to protect water quality and infrastructure.

Goal CC-14. [NEW] Water Resources: Manage water resources to achieve:

- An Integrated Water Resources Management Approach.
- Improved water quality and quantity.
- Water supply conservation, reuse, and retention.

Policy CC-14.1 [NEW] Plan for changes in hydrologic systems understanding that past data and trends may not be suitable for modeling future water resource management decisions. This approach should also consider extreme weather events and the potential damage and disruption that may be caused by extreme weather events.

Policy CC-14.2 [NEW] Adopt land use policies and best management practices that increase the ability of natural systems, such as floodplains, to respond to droughts, changes in streamflow, and flooding.

Policy CC-14.3 [NEW] Implement design standards and practices that utilize the most current water conservation technologies and strategies such as onsite water collection systems, water-smart landscapes, rainwater harvesting, green infrastructure, and other low impact development strategies.

Policy CC-14.4 [NEW] Encourage enhancement and restoration of urban streams including native plantings and tree canopy to promote water quality. Improve fish passage and design of overwater structures in coordination with WSDOT and neighboring jurisdictions.

Policy CC-14.5 [NEW] Update aging water systems and infrastructure ~~by utilizing programs that are already in place through conservation districts, the Natural Resources Conservation Service, the Department of Ecology, the U.S. Bureau of Reclamation, and Bonneville Power Administration~~to conserve, reuse, and retain water supply..

Policy CC-14.6 [NEW] ~~Establish a network of scientific and water management entities to c~~Collaborate and obtain the best available science~~, tools, and models~~ and information to assist in water resource policies and decisions related to climate change and water forecast predictions.

Goal CC-15. [NEW] Zoning and Development: Institute zoning and development regulations resulting in:

- Connectivity to destinations with green infrastructure.
- Increased multimodal options for daily activities.
- Protected and improved ecosystem benefits of natural areas and nature based solutions to improve human health and safety.

Policy CC-15.1 [Menu of Measures] Add parks, open spaces, and non-motorized trails to connect housing, schools, shopping centers, and businesses across Bothell.

Policy CC-15.2 [Menu of Measures] Limit parking spaces near transit-oriented development to encourage use of transit and decrease single-occupancy vehicle travel.

Policy CC-15.3 [Menu of Measures] Ensure public transit stops and stations are located at or near (e.g., within 600 ft.) shopping centers and other destinations, such as medical, education, government, or other services.

Policy CC-15.4 [NEW] Strengthen development regulations that promote compatible uses and protection of health and safety in critical areas more prone to risks of extreme precipitation, flooding, and heat.

Policy CC-15.5 [Menu of Measures] Consider a flood adaptation hierarchy with strategies and interventions to protect, accommodate, or retreat from flood hazard areas that would be exacerbated with climate change. Where interventions are necessary for protection prefer nature-based designs.

Policy CC-15.6 [K4C] Protect and enhance local natural resources (water bodies, flood plains, healthy soils, natural areas, vegetated areas and corridors) that provide multiple benefits (carbon capture; reduce flood, landslide, stormwater and heat island impacts; cool and purify water and air; and improve public health and biodiversity).

Policy CC-15.7 [NEW] Share information about geologic hazards with the community such as through the Bothell Hazard Mitigation Annex to the County Natural Hazards Plan, State Department of Natural Resources, and other federal, state, or local entities.

Policy CC-15.8 [K4C Model Policies, Menu of Measures] Develop and implement an urban heat resilience strategy that includes land use, urban design, urban greening, and waste heat reduction actions.

Engagement Sub-element

Goal CC-16. [Menu of Measures] Engagement: Advance environmental justice by providing all residents an equitable opportunity to learn about climate impacts, influence policy decisions, and take actions to enhance community resilience.

Policy CC-16.1 [New] Empower local community members and leaders to participate, plan, and implement the changes in both individual and collective behavior and actions that are needed to address the climate crisis.

Policy CC-16.2 [Menu of Measures] Create and implement culturally contextualized outreach and education initiatives and materials that will inform the community about near-term and longer-term climate change threats and build resilience.

Policy CC-16.3 [Menu of Measures] Establish and maintain government-to-government relations with Native American Tribes for the preservation of archaeological sites and traditional cultural properties that are vulnerable to climate impacts.

Policy CC-16.4 [Menu of Measures] Provide emissions-reduction educational workshops, activities, and engagement opportunities, especially those that prioritize equity and underrepresented communities.