New Westminster

New Westminster Climate Change Adaptation and Resilience Plan

2026



Land Acknowledgement

We recognize and respect that New Westminster is on the unceded and unsurrendered land of the Halkomelem speaking peoples. We acknowledge that colonialism has made invisible their histories and connections to the land. As a City, we are learning and building relationships with the people whose lands we are on. For readers who wish to learn more about the City's commitment to Truth and Reconciliation, please visit the Year of Truth webpage at yearoftruth.ca for additional resources.



Acknowledgements

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Executive Summary

Climate change is already affecting New Westminster. The city is experiencing increasing risks from extreme heat, heavy rainfall, flooding, wildfire smoke, drought, storms, and other climate-related hazards.

The **Climate Change Adaptation and Resilience Plan** ("**CCARP**" or "**the Plan**") is the City of New Westminster's first adaptation-focused plan. It provides a roadmap for reducing climate-related risks, strengthening resilience, and preparing the community for current and future climate impacts. The Plan builds on extensive work already underway across City departments and aligns with existing municipal, regional, and provincial priorities.

The Plan is guided by the following vision:

New Westminster strives to be a climate-resilient community that plans proactively, acts decisively, and recovers meaningfully – guided by evidence-based and traditional knowledge systems – to ensure the well-being of people, nature, and our shared future.

950+

Community members shared their experiences, concerns and ideas

Development of the Plan drew on climate projections, a climate-informed hazard, risk and vulnerability assessment (HRVA), mapping, technical analysis, and extensive engagement. More than 950 community members contributed their experiences, concerns, and ideas through surveys, workshops, focus groups, community events, and advisory groups. The Kwikwetlem (kʷikʷəƛ̓əm) First Nation, Musqueam (xʷməθkʷəy̓əm) Indian Band, and Tsleil-Waututh (səlilwətaɬ) First Nation contributed valuable insights to the Plan, and the City is committed to continuing to collaborate with its First Nations partners on climate change adaptation and resilience.

The assessment identified a range of climate risks affecting public infrastructure and services, health and safety, homes and buildings, natural systems, cultural assets, and the local economy. It is important to note that the assessment acknowledges but does not accurately capture the importance and intrinsic value of ecosystems. Natural systems are foundational and can help to regulate climate risk, but there were limitations to the scope of the assessment. Other limitations of the assessment include not considering cumulative impacts, such as repeated years of extreme heat and drought, or climate feedback loops, for example higher temperatures causing tree stress and reduced canopy cover, which further increases urban heat. Natural system degradation can be both a result of and a driver of climate-related hazard events.

It also highlighted that climate change does not affect everyone equally. Within New Westminster, older adults, renters, people with diverse abilities, newcomers, Indigenous Peoples, low-income households, and people experiencing housing insecurity may face greater challenges preparing for, responding to, and recovering from climate-related events. Understanding and addressing these disproportionate impacts is essential to building community resilience.

To address these risks, the Plan is organized around six interconnected themes:

1. **Supporting People and Community Preparedness**
2. **Strengthening City Infrastructure and Community Services**
3. **Resilient Homes, Buildings, and Neighbourhoods**
4. **Thriving Natural Areas and Systems**
5. **Working Together to Adapt**
6. **Leading Climate Resilience**

Together, these themes advance actions that improve emergency preparedness, proactively embed climate projections in asset management, support climate-resilient homes and neighbourhoods, protect and enhance natural systems, foster collaboration and partnerships, and integrate climate resilience into the community, and into City decision-making and operations.

The Plan is guided by four cross-cutting lenses: **low-carbon resilience, truth and reconciliation, equity and accessibility, and co-benefits**. These lenses help ensure that climate adaptation actions not only reduce risk but also support broader community goals.

Building resilience to climate change requires collective action. While the City plays an important leadership role, success depends on collaboration with First Nations, residents, community organizations, businesses, neighbouring municipalities, regional agencies, and senior levels of government. Through implementation of this Plan, New Westminster will continue building a safer, healthier, and more resilient community that is better prepared for the challenges and opportunities of a changing climate.

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Glossary of Key Terms

Blue Infrastructure: Natural and built water-based features that help manage water, reduce flooding, improve water quality, and support healthy ecosystems. Examples include streams, wetlands, and rain gardens.

Climate Change Adaptation: Preparing for and adjusting to climate change and its effects, thereby reducing the impacts of climate change and taking advantage of new opportunities.

Climate Change Mitigation: Actions that reduce greenhouse gas emissions to help limit the severity of future climate change.

Climate-related Impact: An effect of climate change or a climate-related hazard event on people, communities, natural systems, etc.

Co-Benefit: An additional positive outcome that results from an action taken for another purpose. For example, planting trees provides a range of services, from shade provision to stormwater attenuation and mental health benefits.

Consequence: The outcome, severity, or magnitude of harm that occurs when a person, asset, or environment interacts with a climate-related hazard.

Core Housing Need: A household living in housing that does not meet adequacy, suitability, or affordability standards, and the household would have to spend 30% or more of its total before-tax income to pay the median rent to access acceptable housing in their community. Housing is considered adequate when it isn't in need of major repairs, suitable when there are enough bedrooms for the size and make-up of the household, and affordable when it costs less than 30% of the household's before-tax income.

Cultural Asset: Any tangible or intangible resource that holds artistic, historic, social, or economic value for a community.

Environmental Asset: Natural (both living and non-living) components that provide goods, materials, or ecosystem services to a community.

Equity: Just and fair inclusion where all individuals can thrive. Working towards equity acknowledges that people are not all the same, and some folks experience barriers caused by injustice.

Exposure: The presence of people, ecosystems, infrastructure, or other assets in locations that could be adversely affected by the hazard. Some hazards, like landslides, are very place specific, whereas extreme heat events cover large areas with variations in exposure related to physical environment and home and work conditions.

Green Infrastructure: Natural and built elements that use plants and natural systems to provide benefits for people and the environment. Examples include street trees, permeable surfaces, rain gardens, and green roofs.

Hazard: An event that has the potential to cause harm such as wildfires and floods. A climate-related hazard is a natural hazard where the frequency, intensity, duration, or location is influenced by climate change.

Low-Carbon Resilience: An approach focused on integrating climate change adaptation and mitigation – strengthening resilience to climate impacts while also reducing greenhouse gas emissions.

Natural Asset Management: The practice of managing natural assets, such as forests, wetlands, streams, and shorelines, through restoration, regeneration, naturalization, and maintenance to support the valuable benefits and services they provide to the community.

Precariously Housed: Living in housing that is unstable, unsafe, temporary, or at risk of being lost.

Resilience: The ability of people, communities, infrastructure, and natural systems to withstand, recover from, and adapt to climate-related disruptions and stresses.

Risk: The combination of the likelihood of a hazard event occurring and the severity of the consequences resulting.

Risk Mitigation/Risk Reduction: Taking actions to reduce the severity of the consequences experienced by people, animals, assets, services, or the environment when hazards occur.

Slow Onset Climate Risk: A gradual change as compared to a hazard event which is acute. Slow onset climate risks include sea level rise, invasive species spread, and ocean acidification. Climate change is also a risk multiplier, making existing patterns worse, such as accelerating biodiversity loss.

Truth and Reconciliation: The formal process of investigating the systemic abuses of the Indian Residential School system, acknowledging the historical harm done to First Nations, Inuit, and Métis peoples, and working to repair relationships between Indigenous and non-Indigenous Canadians. It is an ongoing commitment to justice.

Unhoused: Lacking a permanent home, a safe place to live, or a physical dwelling.

Vulnerability: The degree to which people, infrastructure, and systems are susceptible to harm from hazards. Vulnerability is complex and includes direct links to systemic inequities and broad determinants of health.





1.0 Introduction

1.0 Introduction

New Westminster is already experiencing the impacts of climate change, especially as a highly urbanized community located on the Fraser River.

Climate change projections for British Columbia indicate warmer, wetter winters and hotter, drier summers resulting in more frequent extreme events such as heatwaves, floods, heavy rainfall, and more. Climate-related disasters such as the 2021 heat dome and atmospheric river, demonstrated how these events can affect many of the things we value from human health to natural systems, infrastructure, and the supply chains that support our economy. Days with poor air quality and extreme heat warnings are becoming more frequent. Cities are on the frontlines of responding to climate change given their role in building and managing infrastructure, providing services, undertaking land use planning, and coordinating emergency response.

To prepare for these growing risks and reduce their impacts to the community, the City is taking a proactive approach. The Climate Change Adaptation and Resilience Plan ("CCARP", or "the Plan") is the City's first adaptation-focused plan. It envisions a climate-resilient community that plans proactively, acts decisively, and recovers meaningfully to ensure the well-being of people, nature, and a shared future. The Plan identifies priority climate risks, outlines actions to reduce those risks, and provides a roadmap for strengthening resilience across City operations and the broader community.

Climate-related hazards — natural hazards influenced by climate change (such as wildfires and floods) — are increasing in frequency, intensity, and duration, and occurring in places where they have not historically been experienced. Climate change also brings gradual shifts in temperature and precipitation patterns, and environmental conditions. Together, these acute hazards and long-term changes can pose significant risks to infrastructure, environment, and community. Understanding these risks allows the City to take informed action to reduce impacts and build resilience.

Climate change is not experienced equally across communities. Some individuals and groups are disproportionately affected by climate-related hazards due to factors such as age, health, housing, mobility, or access to resources and support networks. Understanding who may be most vulnerable helps identify actions that reduce risk, strengthen preparedness, and ensure those most affected are well supported before, during, and after hazard events. As well, understanding how climate change impacts natural systems can support the adaptation and resilience of those natural systems. In doing so, we strengthen the resilience of the entire New Westminster community.

New Westminster has already taken important steps to address climate change through emergency preparedness, infrastructure planning, asset management, environmental stewardship, and park and natural area planning, and through the Community Energy and Emission Plan (CEEP) and Seven Bold Steps for Climate Action. This Plan builds on that strong foundation by identifying opportunities to strengthen existing work and by prioritizing new actions to address key gaps.

The Province of British Columbia's recent Emergency and Disaster Management Act (EDMA) further reinforces the need to plan proactively, prepare for climate impacts, and consider how climate change will impact diverse community members.

Associated Benefits of Climate Adaptation

Taking proactive steps to adapt to climate change and reduce risks created by climate change can create immediate and long-term benefits for the New Westminster community. The actions in this Plan are designed to support a safer, more prepared community while simultaneously advancing broader priorities including equity and accessibility, truth and reconciliation, and low-carbon resilience. Climate adaptation actions generate a range of co-benefits for the community, including improved health and well-being, stronger social and community connections, enhanced habitat, water quality and ecosystem health, and economic benefits.

Research consistently shows that investing in adaptation today can reduce future damages and disruptions, with many studies demonstrating that every dollar invested can yield multiple dollars in avoided losses and benefits over time[1]. By identifying the priority actions to reduce risk, the City can also better position itself to secure time-limited and available funding to advance bold and transformative action.

Climate Change Mitigation and Low-Carbon Resilience

While adaptation helps communities prepare for and respond to climate change, reducing greenhouse gas emissions remains essential to limiting the severity of future climate change-related impacts. This is known as climate mitigation.

The City of New Westminster is working to mitigate climate change through several plans, policies, and programs, including the Community Energy and Emission Plan (CEEP) and Seven Bold Steps for Climate Action. Other City programs and policies that indirectly support emissions reductions include the eMobility Strategy (which encourages electric transportation alternatives) and the Corporate Energy and Emissions Strategy (CEERS), to help the City identify actionable strategies that would need to be implemented in order to achieve its goal of becoming carbon neutral by 2050.

The Climate Change Adaptation and Resilience Plan is guided by a low-carbon resilience lens and recognizes that climate mitigation and adaptation are complementary and mutually reinforcing objectives. In practice, this means prioritizing adaptation actions which both strengthen the community's ability to cope with and recover from hazard events while also avoiding or reducing greenhouse gas emissions. The Urban Forest Management Strategy supports climate change mitigation by supporting healthy trees that absorb and store carbon dioxide from the atmosphere. It also supports climate change adaptation by providing shade, reducing stormwater runoff, and cooling neighbourhoods.

1 Federation of Canadian Municipalities and Insurance Bureau of Canada. (2020). **Investing in Canada's Future: The Cost of Climate Adaptation at the Local Level**.



Collective Action for Collective Resilience

The Climate Change Adaptation and Resilience Plan builds from a strong foundation of existing City plans, policies, and projects which already consider climate resilience. The Plan coordinates the many existing adaptation-related measures across departments while also prioritizing new actions to address emerging challenges and opportunities.

Building climate resilience is not something the City can do alone. While leadership in planning, preparedness, and infrastructure upgrades is essential, true resilience relies on collective action across the entire community. Collaboration and partnerships with First Nations, community organizations, regional transit and health authorities, and all levels of government are necessary to achieve the shared vision of a safer, healthier New Westminster. By working together across all scales—community, local, regional, and beyond—New Westminster will be more connected, prepared, resilient, and thriving.



2.0 Developing the Plan

2.0 Developing the Plan

The **Climate Change Adaptation and Resilience Plan** was developed over five phases between May 2025 and Fall 2026 and included two rounds of community engagement (Figure 1).

An **Internal Working Group** (IWG) and **External Advisory Group** (EAG) met five times each, with one meeting in Phases 1, 3, and 4, and two meetings in Phase 2 to support the climate-informed hazard, risk, and vulnerability assessment (see **Appendix E** for more details on the IWG and EAG). At the end of each phase, the City of New Westminster senior management reviewed project progress and Council received an update and presentation for information and endorsement.

Figure 1. Climate Change Adaptation and Resilience Plan Development Timeline



2.1 Analysis Methods

To prepare this Plan, a multi-faceted approach was used to understand and prioritize climate risks to the community and identify actions that fill gaps and address opportunities.

Integral steps in the development of the Plan included a climate-informed risk assessment to explore the top risks for New Westminster and mapping hazard exposure and areas of elevated social vulnerability.

2.1.1 Hazard Context

The climate-related hazards of focus for the project were selected based on past hazard events that have affected New Westminster, hazard mapping, a public survey, and discussions with both the Internal Working and External Advisory Groups.

The climate-informed hazard, risk, and vulnerability assessment (HRVA) assessed the following hazards:

- **Heavy Rainfall** (Pluvial Rainfall)
- **River (Riverine) Flooding**
- **Extreme Heat** (including heat dome and compound heat/power outage scenarios)
- **Wildfire Smoke**
- **Drought**
- **Slope Failure**
- **Storm Events**
- **Extreme Cold**
- **Slow Onset Climate Change**

Climate projections were presented for key climate variables associated with the hazards assessed in this study to better understand how climate conditions may change hazard behaviour over time. Projections were considered under multiple climate change scenarios, including a middle-of-the-road scenario and a high-emissions scenario. Additional information on projected climate change in the region is provided in Section 3 of this report and in Appendix A.

2.1.2 Climate-Informed Hazard, Risk, and Vulnerability Assessment (HRVA)

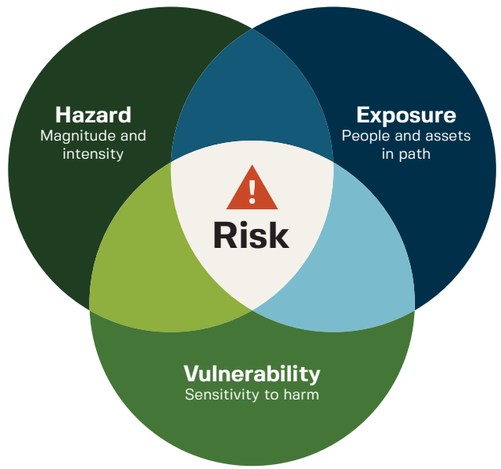
HRVAs are a foundational component of climate adaptation and resilience planning. They help communities understand and prioritize climate-related risks so that actions can be focused where they are needed most.

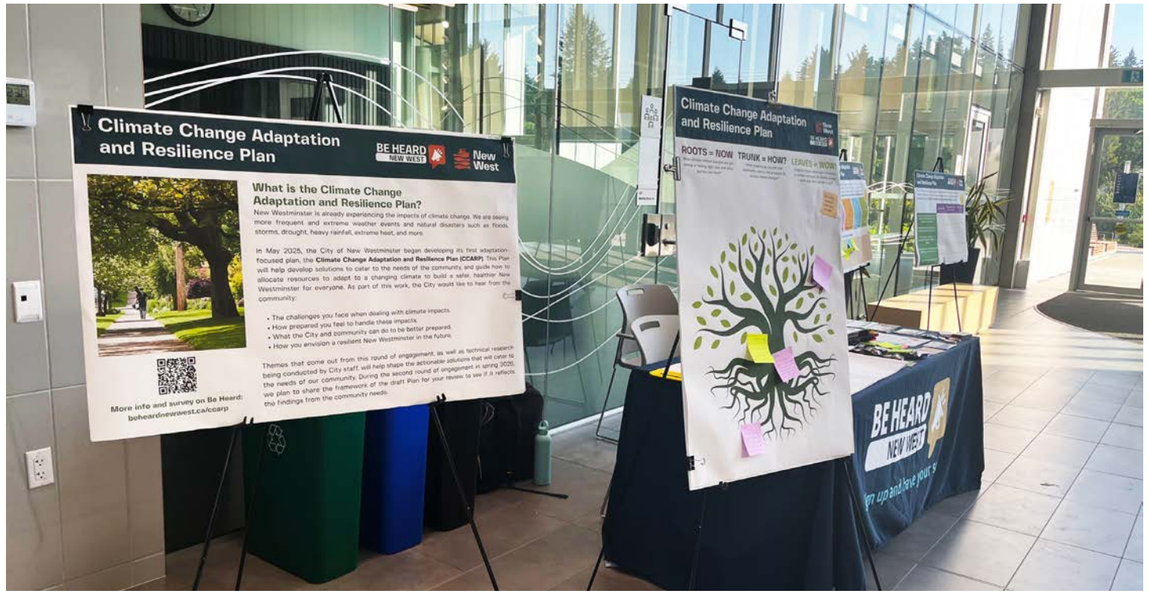
In a climate-informed HRVA, risk is assessed based on the likelihood of a hazard occurring and the severity of its consequences, both today and under future climate conditions. By incorporating climate change projections, the assessment provides insight into how risks may evolve over time.

Risk is influenced by the characteristics of a hazard (for example, the intensity and duration of a heatwave), the exposure of people, assets, and systems to the hazard, and the vulnerability of those exposed elements and people (for example, how sensitive they are and their ability to cope with or recover from impacts). Together, these factors help determine the severity of potential consequences associated with climate-related events.

The risk assessment included identifying the potential impacts associated with climate-related hazards and gradual climate change, assessing exposure through available mapping and spatial data, and evaluating who and what may be most vulnerable to those impacts. This work was informed through engagement with City staff, the External Advisory Group, community members, and partners. An inventory of existing adaptation and risk reduction actions was also compiled to aid in identifying opportunities to strengthen resilience through further action. Additional information on the methodology and results of the climate informed HRVA is provided in Appendix B.

Figure 2. Risk is a Function of Hazard, Exposure, and Vulnerability





2.1.3 Mapping

Geographic Information System (GIS) mapping was used to better understand the areas in New Westminster exposed to two climate-related hazards and where the hazard is most intense (i.e., deepest floodwater, highest temperature) (see **Appendix C** for hazard exposure maps). The mapping also explored how social vulnerability and hazard exposure intersect. The two climate-related hazards that were mapped include:

- River (riverine) Flooding; and
- Extreme Heat

Statistics Canada data from 2021 was used to measure several common indicators of social vulnerability at the neighbourhood (census dissemination area) scale. These social vulnerability indicators were combined and statistically analyzed to quantify neighbourhood vulnerability, supplementing qualitative community engagement methods of understanding risks to disproportionately impacted individuals and groups in the community. The social vulnerability is solely derived from census data and does not account for individual variables or lived experiences.

The hazard maps were overlaid with overall neighbourhood vulnerability to identify neighbourhoods where exposure to climate-related hazards intersects with elevated vulnerability. These 'bivariate maps' are helping the City understand which neighbourhoods have more pressing needs for adaptation actions (see **Appendix D** for bivariate maps). A bivariate map displays two independent variables simultaneously, using a two-colour scheme on a single map, to show shared patterns of overlap.

2.2 Shaping the Plan Together

Input from First Nations, Indigenous Peoples, youth, seniors, renters, equity-serving organizations, the Accessibility Advisory Committee, Community Advisory Assembly, and the broader New Westminster community is integrated throughout the Plan and informs the direction and solutions of the Plan.

2.2.1 Round 1 Community Engagement

In the first round of community engagement, from September to October 2025, the community was asked to share their concerns, stories, and lived experiences of climate change impacts in New Westminster, and what actions would help the community build resilience and adapt to climate change. The process engaged 679 community members and involved extensive outreach, including Soup and Bannock gatherings with Urban Indigenous Peoples; discussion-based focus groups and activity-based pop-in sessions with community members that are disproportionately impacted by climate change; public pop-up events; email interviews with subject matter experts; and a community survey that received 212 responses (Figure 3). A detailed summary of all feedback from this round is available in the **Round 1 Engagement What We Heard Report January 2026**[2].

Figure 3: Round 1 Engagement Activity Summary

212 Survey participants
Members of the public

8 Pop-ups
301 members of the public

8 Soup and bannock gatherings
Urban Indigenous Peoples who live or have ties to the lands and waters New Westminster is located on

5 Pop-ins
132 people who may be disproportionately impacted by climate change

6 Focus groups
27 people who may be disproportionately impacted by climate change, or who work with disproportionately impacted groups

2 Email interviews
Staff from regional and provincial organizations focused on the health and well-being of disproportionately impacted groups

2 City of New Westminster. (2026). **Climate Change Adaptation and Resilience Plan Round 1 Community Engagement: What We Heard Report January 2026**.

2.2.2 Round 2 Community Engagement

The second round of engagement aimed to understand whether the Plan's themes and strategies reflect the climate resilience needs and priorities of New Westminster community members and interest holders. The process included Soup and Bannock sessions with Urban Indigenous Peoples; discussion-based focus groups and activity-based pop-in sessions with community members that are disproportionately impacted by climate change; a public Open House event; public pop-up events; a draft action feedback tool inviting comments on individual draft actions; and a community survey, which received 126 responses (Figure 4). The results are summarized in the **Round 2 Engagement What We Heard Report July 2026**.[3]



Figure 4: Round 2 Engagement Activity Summary

126 Survey participants
Members of the public

19 Online submissions
From members of the public through the Draft Action Feedback Tool

1 Open house
63 members of the public

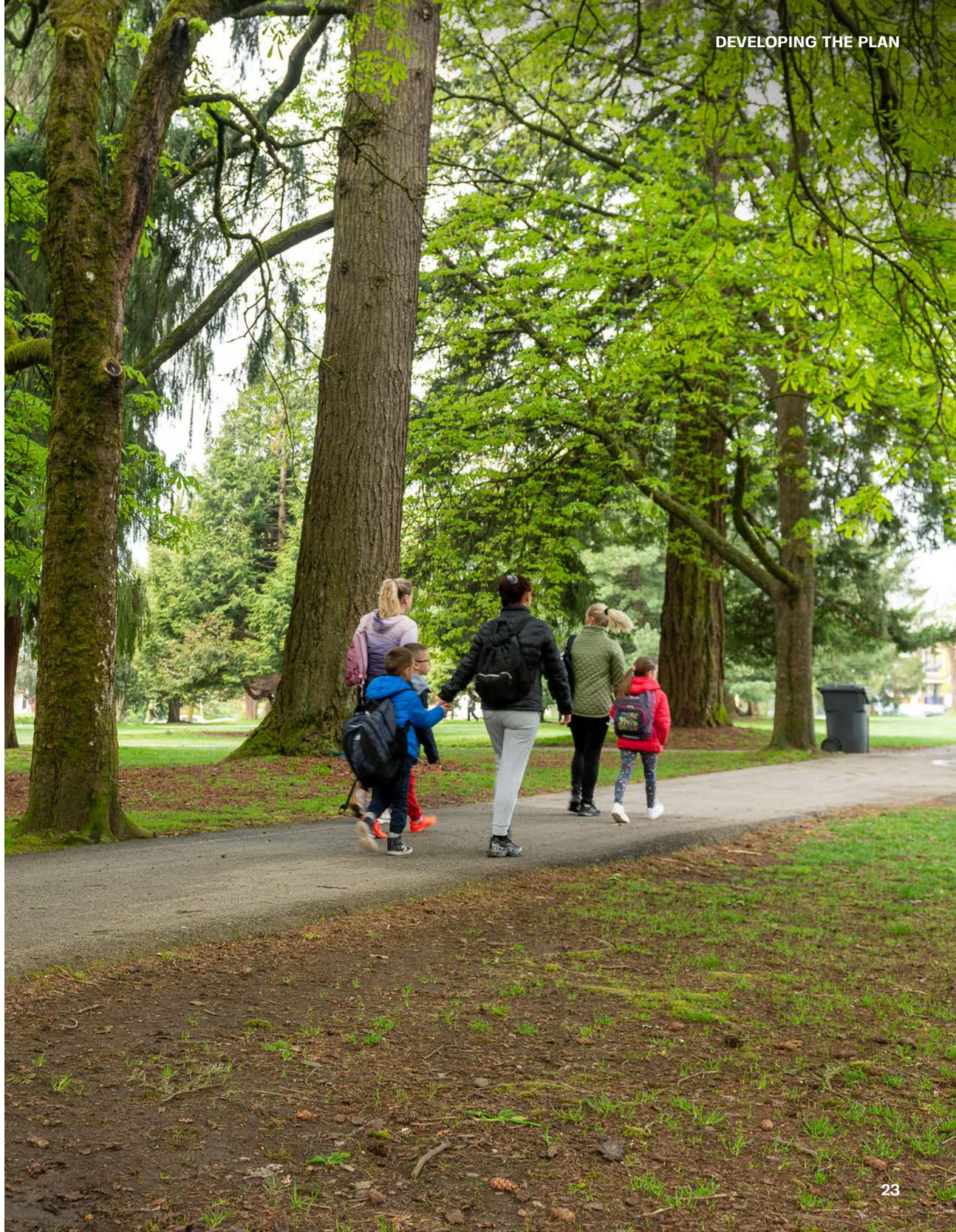
2 Soup and bannock gatherings
10 Urban Indigenous Peoples who live or have ties to the lands and waters New Westminster is located on

1 Pop-in
27 youth

2 Pop-ups
25 members of the public

4 Focus groups
22 people who may be disproportionately impacted by climate change, or who work with disproportionately impacted groups

3 City of New Westminster. (2026). **Climate Change Adaptation and Resilience Plan Round 2 Engagement: What We Heard Report July 2026**.





3.0 Climate Change in our Region

3.0 Climate Change in Our Region

Everyone in B.C. has experienced the effects of climate change, whether through the June 2021 heat dome, the November 2021 atmospheric river, changes in snowfall patterns, and summer drought conditions over time.

There have also been slow onset climate changes in local ecosystems, as the changing climate can influence which plant species grow well in community gardens, in parks, or in natural areas, which then influences animal habitats. For example, invasive species, such as Himalayan blackberry and English ivy, can overtake native species in local parks, such as in the Glenbrook Ravine. Climate change trends in B.C. mean warmer, wetter winters; hotter, drier summers; and warming oceans and sea level rise. Climate change also means an increased intensity and frequency of extreme events such as heatwaves, heavy rainfall, wildfires, and floods.

Climate change projections illustrate how key climate variables, such as maximum 1-day rainfall or maximum temperature, may change over time. Projections commonly represent the median across a 30-year period and in this Plan, projections are presented for the period 2041-2070 (the 2050s) and 2071-2100 (the 2080s), compared against past climate conditions (based on data from 1981-2010). Where percentage change is given, it represents the shift from the baseline 30-year period 1980-2010 (the 1990s).

Two possible future scenarios are shown:

- A **moderate emissions scenario**, representing a pathway in which greenhouse gas emissions stabilize or decline over the latter half of the century, resulting in approximately 2°C of warming globally by 2100; and
- A **high emissions scenario**, representing a pathway with continued high greenhouse gas emissions and substantially greater climate change, resulting in approximately 4°C of warming globally by 2100.

Note on projections: Where a range is given, it represents the range between the SSP2-4.5 (moderate emissions) and SSP5-8.5 (high emissions) climate change scenarios.[4] Where the wording “up to” is used, the upper limit is the SSP5-8.5 climate change scenario.

Table 1 presents climate projections for variables associated with the climate-related hazards of focus for the Plan.[5]

4 The Intergovernmental Panel on Climate Change has developed Shared Socioeconomic Pathway scenarios (SSPs) that are plausible future scenarios that climate scientists use to model and project potential climate outcomes. SSP2-4.5 is described as a middle of the road scenario while SSP5-8.5 is the worst-case scenario.

5 All projections are from the data application **climatedata.ca** unless noted by footnote.

Table 1. Examples of Climate Change Influence on Climate-Related Hazards

Hazard	Climate Projections	Climate Change Influence on Risk
Heavy Rainfall	▪ Increase in maximum 1-day total precipitation (mm) of up to 11% by the 2050s and 22% by the 2080s. ▪ Total rainfall (mm) on one of the wettest days of the year (5% occurrence annually) increases by up to 33% by the 2050s. ▪ Climate change is expected to increase the intensity of atmospheric rivers affecting B.C.[6]	Rainfall (pluvial) flood risk is increasing due to the increasing intensity and frequency of heavy rainfall events, including atmospheric rivers.
River Flooding	▪ Seasonal river flow patterns are shifting from snowmelt dominated inputs to hybrid rain and snow-fed regimes, especially at lower elevations.[7] ▪ Climate change may also intensify storm surges, which when combined with sea level rise can increase flood risk in New Westminster. Although New Westminster is not on the coast, it is affected by coastal flooding and change as the consequences may affect the Fraser River. ▪ Winter flood events that were historically rare will become far more frequent by mid-century.[8]	Riverine flood risk in New Westminster is increasing due to sea level rise, changing freshet patterns and the increasing frequency and intensity of extreme rain events such as atmospheric rivers.
Extreme Heat	▪ In the 1990s the hottest day annually in New Westminster was 30°C, by mid-century it is anticipated to be ~33°C and between 34°C and 36°C by the end of the century. ▪ Days above 30°C were rare in the 1990s but anticipated to increase to 8-12 days annually by mid-century and up to 35 days annually by the end of the century. ▪ There were no nights above 18°C in the 1990s. By the 2050s, 2-5 nights annually will be above 18°C, with up to 22 nights by the 2080s.	The risk of experiencing extreme heat events is increasing with more frequent heat waves that have higher temperatures when they occur. Sustained, warm nighttime temperatures were a key risk factor in the 2021 heat dome event.
Wildfire Smoke	▪ Poor air quality days due to wildfire smoke were rare prior to 2015. Between 2016 and 2022, New Westminster had 56 days with particulate matter concentrations associated with increased health risks.[9]	Hotter, drier summers increase wildfire risk. Long term health risks of wildfire smoke are not yet well understood.
Drought	▪ Total summer rainfall and snowpack depths in the North Shore watershed areas are projeced to decline. As compared to the 1990s, summer rainfall may decrease by around 15% by the end of the century. The late spring snowpacks may decline by up to 90% (compared to the 1980s).[10]	Several factors that contribute to summer drought are generally increasing. However, with more precipitation in the other three seasons, changes in complex climate events like drought are difficult to predict with certainty.
Slope Failure	▪ Climate change is expected to increase the risk of landslides and slope failures on steep slopes by bringing more intense rainfall and longer periods of wet weather, which can saturate soils and reduce slope stability.	Risk of slope failures and landslides is increasing.
Storms	▪ Wind is a complex climate variable that is difficult to project due to the interacting atmospheric processes that influence it. Although projections are uncertain, the general trend suggests increasing wind intensity over time.	Extreme weather events are generally increasing.
Slow Onset Climate Change	▪ Minimum winter temperature is increasing from 1.1°C in the 1990s to between 3.9°C and 5.4°C by the 2080s. ▪ As compared to the 1990s, the number of frost-free days is projected to increase from 78 to 100 days by the 2080s in concert with an expanding growing season. ▪ Winter, spring, and fall precipitation is projected to increase. ▪ Changes in temperature would change the range of native species, which can result in feedback loops resulting in further ecosystem loss and degradation.	Winters are getting warmer with fewer days when the temperature dips or stays below 0°C. Average annual temperature is increasing, as is precipitation across all seasons except the summer.

6 University of British Columbia. (2021). B.C.'s Atmospheric Rivers and Climate Change.

7 Shrestha, R. et al. (2015). Simulating the Effects of Climate Change on Fraser River Flood Scenarios -- Phase 2. 10.13140/RG.2.2.32552.93449

8 Government of British Columbia. (2025). **Disaster and Climate Risk and Resilience Assessment (DCRRA)**.

9 BC Centre for Disease Control. **Climate Change and Health Data Application**.

10 Snowpack information is from the PCIC authored 2016 Climate Projections for Metro Vancouver.

3.1 Climate Risk

Hazard, risk, and vulnerability assessments (HRVA) are a foundational step in developing climate change adaptation and resilience plans.

They help communities make risk-based choices to address existing vulnerabilities, and mitigate, prepare for, respond to, and recover from current-day and anticipated future climate-related hazard events. They identify priority, risk-based areas for action development to reduce risks and build resilience. Understanding local vulnerabilities strengthens the design of actions that address disproportionate impacts, ensuring solutions are tailored to where and to whom risks are greatest.

The assessment identified a range of climate risks affecting public infrastructure and services, health and safety, homes and buildings, natural systems, cultural assets, and more. It is important to note that the assessment acknowledges but does not accurately capture the importance and intrinsic value of ecosystems. Natural systems are foundational and can help to regulate climate risk, but there were limitations to the scope of the assessment.

Other limitations of the assessment include not considering cumulative impacts, such as repeated years of extreme heat and drought, or climate feedback loops, such as higher temperatures leading to tree stress and reduced canopy cover, which further increases urban heat. Natural systems can degrade due to extreme heat, drought, and other climate-related hazards, and this degradation can create feedback loops that amplify subsequent climate hazard events. For example, heavy rainfall after a period of extreme heat and drought may produce more severe impacts. These interactions can result in cascading or compounding hazards, the complexity of which was not fully captured within the scope of the assessment.

It is also important to understand that although cumulative effects influence climate change impacts, they were not assessed as part of the scope of this Plan. Cumulative effects are defined as “changes to environmental, social and economic values caused by the combined effect of past, present, and potential future human activities and natural processes”[11], and it is important to acknowledge combined effects to our communities.

The assessment exclusively looked at climate-related impacts. Other parallel impacts that are not strictly due to climate change (such as certain types of habitat loss) can impact climate risks and hazards, resulting in risk complexity that was not considered due to scope.

Risk was assessed across the following areas of impact:

- **Public infrastructure and services** is a dominant impact category across hazards, reflecting the exposure of roads, electrical systems, pump stations, and stormwater/sewer networks to multiple hazards. Extreme heat drives electrical system strain and potential failure, while floods threaten transportation networks and cause impacts to pump stations and sewer outfalls.
- **Health and safety** impacts are also prominent, particularly for extreme temperature and wildfire smoke events. Physical and mental health are most directly impacted by extreme temperature and wildfire smoke but risks also arise from experiencing traumatic climate events. Prolonged heat and smoke events tend to reduce community activity, increasing social isolation. Acute events such as rainstorms and windstorms have the potential to disconnect community members from essential services, programs, and resources.
- **Property damage and displacement** are heavily represented for flood hazards (both river flooding and heavy rainfall).
- **Environmental assets** are consistently at risk across hazards. Intertidal and foreshore habitats are at risk of damage and loss from flooding, and all climate-related hazards threaten the urban forest, which is critical for moderating temperatures and supporting well-being and biodiversity. The intrinsic value of environmental assets is not accurately captured, and the environmental losses could not be accurately captured in the scope of this assessment.
- **Cultural assets and practices** are linked to environmental degradation. Environmental degradation and cultural loss often occur in parallel, particularly for Indigenous communities with close relational connections to land and waters. Outdoor recreational and sports activity can get cancelled due to poor air quality or extreme weather, such as rainfall or heat, which can impact social connection, physical health, and mental health.
- **Economic impacts** include health and productivity impacts to workers and impacts to the broader regional and provincial supply chains.

Table 2 summarizes the key impact areas by hazard, identified through technical analysis and engagement with the Internal Working and External Advisory Groups. Examples of community member concerns and lived experiences of impacts shared in Round 1 of community engagement are included as well in the righthand column.

It’s important to note that HRVAs are a snapshot in time. An HRVA evaluates and identifies risks in a community for when the assessment was conducted. Because risk landscapes constantly shift, an HRVA must be updated regularly, approximately every 5 years or whenever there is a new major local change or significant disaster. As well, with climate change continuing to advance, it’s important to ensure climate projections are updated and reviewed in parallel.



11 Government of British Columbia. (2026). **Cumulative Effects Framework overview**.

Table 2. Key Impact Areas and Community Concerns Aligned with the Climate-Related Hazards

Hazard	Key Impact Areas	What We Heard from Engagement
Heavy Rainfall	■ Risk of property damage ■ Risk of damage and disruption to critical infrastructure (e.g., roads, pump stations) ■ Risk of road flooding hampering access ■ Risk to aquatic/riparian habitats from increased urban runoff pollution ■ Risk of erosion which can pose a risk to infrastructure, safety, and the environment	■ Concern about basement flooding and property damage
River Flooding	■ Risk of property damage and infrastructure damage and disruption ■ Risk of damage to natural shoreline environments	■ Concern about long-term displacement and impacts to those without insurance ■ Desire to understand where to get flood information
Extreme Heat (includes combined heat event with power outage)	■ Risk to physical and mental health ■ Reduced access and availability of traditional foods and medicines (such as native plant species and fish populations) ■ Risk of increased utilities cost, strain and damage to critical infrastructure such as electrical system ■ Risk to natural systems health, resulting in ecosystem degradation	■ Concern about staying cool at home, accessing cooling centres, and rising energy costs ■ Concern about loss of urban trees and stress to natural systems ■ Experience of health impacts, sleep disruption, and social isolation as people stay at home
Wildfire Smoke	■ Risk to physical and mental health	■ Experience of respiratory and health challenges ■ Experience of mental health stress ■ Experience of social isolation as people stay at home and events are cancelled
Drought	■ Risk to cultural sites and species and availability of and access to traditional foods and medicines ■ Risk to the natural environment including to community trees and vegetation ■ Risk of increased wildfires	■ Concern for impacts to the natural environment, loss of mature urban trees ■ Concern about food security
Slope Failure	■ Risk of damage to property and to infrastructure ■ Risk of damage to archaeological and/or cultural sites	■ Slope failure was not a discussion priority for engagement participants
Storms	■ Risk of power disruption affecting public safety ■ Risk of damage and disruption to critical infrastructure (electrical system, roads, pumps, facilities)	■ Experience of difficulty getting around ■ Concern about property damage ■ Experience of missed social and cultural events



3.2 Disproportionate Impacts

Climate change does not affect everyone equally.

Its impacts are influenced by a range of factors such as age, health status, income, geographic location, and systemic inequalities such as colonialism and racism. These factors influence a person or community's ability to prepare for, cope with, and recover from climate-related events. Climate change acts as a threat multiplier, worsening existing inequities and creating conditions for new ones to emerge.

The concept of vulnerability underscores the need for tailored support and resources to ensure no one is disproportionately burdened by these globally driven impacts.

Improving the City's understanding of local vulnerability is an important step toward creating equitable solutions and building community resilience. To build resilience that truly protects everyone, it is essential to recognize and address these inequities so that climate action is both fair and effective.

The BC Disaster and Climate Change Risk and Resilience Assessment (DCRRA) identifies the following groups as disproportionately impacted by climate change.[12] It is important to recognize that individuals within these groups experience varying degrees and elements of risk and resilience, which shape their experience of climate impacts and that different hazards pose different risks across groups.

Table 3. Groups that are Recognized as Disproportionately Impacted by Climate Change in B.C.

Older adults (65+)	Infants, children, and youth	Women	People living alone
People with pre-existing/chronic health conditions	People with diverse mental, physical, and sensory abilities	Urban Indigenous Peoples and First Nations	People who work outside
Newcomers, immigrants, and people with linguistic barriers	People earning low incomes	People who rent and/or live in stratas	People who are precariously housed or unhoused
People with substance use challenges	People experiencing mental health challenges	People of colour	People who are gender and/or sexually diverse

12 Government of British Columbia. (2025). **Disaster and Climate Risk and Resilience Assessment (DCRRA)**.

New Westminster has important resilience assets. Social cohesion, while moderate, provides a foundation for community support, and the City has prioritized accessibility through initiatives like the **Age-Friendly Community Strategy** and **Wheelability Assessment Project**. Employment rates are generally strong, and proactive planning for non-market housing and cooling spaces supports adaptation. Community diversity is a strength, offering opportunities for inclusive engagement and culturally appropriate emergency communication.

Focus areas of local vulnerability shaping engagement and actions for the Plan included:

- **Older adults**, especially those living alone and with low income. Over the next 16 years, the number of seniors is expected to increase from approximately 11,000 to 25,000, which will make up 25% of the city's population.[13] Currently 39% of seniors live alone.
- **Newcomers, immigrants, refugees**, and community members with language diversity. Immigrants arriving in New Westminster between 2016 and 2021 make up 17% of the immigrant population and 2.5% of residents do not speak English or French.[14]
- Housing vulnerability including **people who are unhoused or precariously housed** and **renters**. New Westminster has high rental rates of 45%[15] with limited tenant control over resilience measures.
- **Urban Indigenous** community members. In 2021, 3.1% of the New Westminster population identified as Indigenous.[16]



- **Youth** face concerns about their future, exposure to climate-related disasters over their lifetime, and uncertainty about long-term community conditions.
- People with **diverse mental, physical, and sensory abilities**, are particularly impacted during extreme heat events, power outages (for those relying on electrical lifts or devices), and any event requiring evacuation. In 2021, 12% of New Westminster households had at least one member with activity limitations in core housing need[17] and 55% of seniors identified as having a disability.

For more information on how areas of elevated social vulnerability intersect with high hazard exposure, please view the bivariate maps in **Appendix D**.

13 City of New Westminster. (2017). **Age-Friendly Community Strategy**. From Statistics Canada 2011 Census of Population.
14 Statistics Canada. (2016). 2016 Census of Population.
15 Statistics Canada. (2021). **Focus on Geography Series, 2021 Census of Population New Westminster, City**.
16 British Columbia Centre for Disease Control. (2023). **British Columbia (BC) Survey on Population Experiences, Action, and Knowledge (SPEAK) Results Round 3**.
17 City of New Westminster. (2024). **Housing Needs Assessment (Interim Report)**.



3.3 Collaboration and Collective Action

Local governments, like the City of New Westminster, stand at the frontlines of climate action.

They deliver the services that protect health, safety, and quality of life; enforce bylaws that shape how land is used; and steward the natural spaces and resources communities depend on. However, building climate resilience in New Westminster is not something the City can do alone. While municipal leadership in planning and infrastructure is essential, true resilience depends on the strengths, actions, and relationships across the whole community.

Collaboration between New Westminster and Kwikwetlem (kʷikʷəƛ̓əm) First Nation, Musqueam (xʷməθkʷəy̓əm) Indian Band, and Tsleil-Waututh (səlilwətaɬ) First Nation presents opportunities to develop climate solutions that are technically effective and culturally meaningful, relationally strong, and ecologically resilient. First Nations bring profound strengths to climate adaptation efforts, rooted in Ancestral/Indigenous Knowledge Systems and intergenerational relationships with the Land, Water, and Air. This Knowledge reflects millennia of careful observation and stewardship, offering insights into local ecosystems, seasonal patterns, and sustainable resource management.

By bringing together Indigenous and Western worldviews in ways that respect and uphold the value of each system on its own merit, New Westminster can work with local First Nations to design adaptation strategies that protect both people and the natural systems on which the community depends.

Organizations that serve older adults, children, people with disabilities, and low-income households help protect those most at risk. Local businesses can build adaptive capacity through climate-smart practices and support for workers. Fraser Health plays a critical role in preparing for and responding to climate-related health impacts. Metro Vancouver has a role to convene member jurisdictions for collaboration and governance supporting adaptation and risk reduction.

By working together across sectors—sharing knowledge, aligning efforts, and supporting one another—New Westminster can become a more connected, prepared, and resilient community.

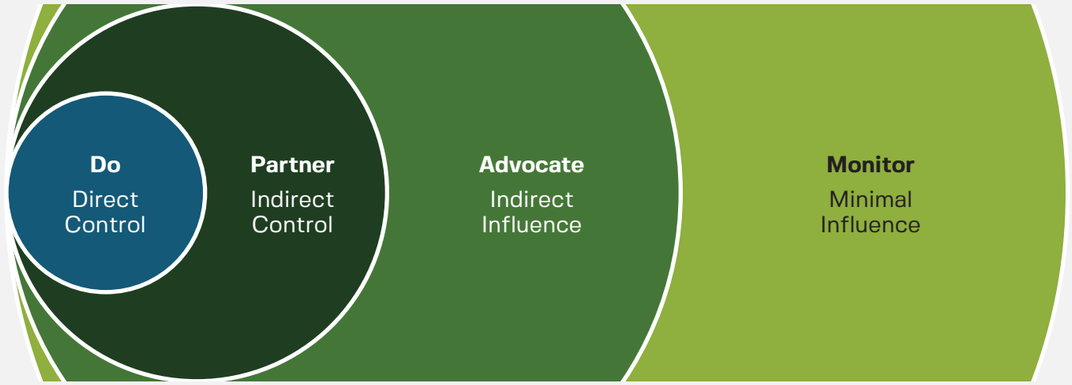
Table 4. Examples of the Roles Played by Various Levels of Government and Organizations in Climate Change Adaptation and Disaster Risk Reduction

Government or Organization	Example of Roles Related to Climate Change Adaptation and Disaster Risk Reduction
Government of Canada	■ Canada's **National Adaptation Strategy** and **Emergency Management Framework** ■ Establish hazard policies, guidance, codes, and standards to provide consistency in public safety ■ Implement the Federal **Disaster Financial Assistance Arrangement Program** (DFAA), which provides funding intended to help with recovery from uninsurable losses from natural disasters ■ Provide funding ■ Manage federal infrastructure and oversee national water resources, fisheries, and natural resource extraction
First Nations	■ Uphold their rights, relationships, and responsibilities to water, land, and air ■ Develop climate change plans and strategies (e.g., **BC First Nations Climate Strategy and Action Plan**, **Tsleil-Waututh Nation Climate Change Resilience Planning**) ■ Engage in consultation and collaboration under the **Emergency and Disaster Management Act** (EDMA)
Province of British Columbia	■ **BC Climate Preparedness and Adaptation Strategy** ■ **BC Building Code** ■ Establish provincial legislation, regulation, and standards related to emergency management, floodplain management, etc. ■ Establish technical guidance ■ Manage provincial infrastructure such as highways ■ Undertake studies and develop strategies (i.e., the **British Columbia Disaster and Climate Risk and Resilience Assessment**) ■ Provide funding and support resources (**ClimateReady BC**)

Government or Organization	Example of Roles Related to Climate Change Adaptation and Disaster Risk Reduction
Metro Vancouver Regional District	■ Develop and implement regional strategies and plans to reduce risk and build resilience, including: - **Metro 2050**, the Regional Growth Strategy - **Climate 2050** - The **Liquid Waste Management Plan** (LWMP), with strategies for system resilience and rainwater management ■ Coordinate regional emergency management through the **Integrated Partnership for Regional Emergency Management** (IPREM) ■ Manage regional infrastructure including regional drinking water and wastewater systems, solid waste infrastructure (transfer stations), regional parks, and air quality monitoring infrastructure
New Westminster and Local Governments	■ Substantial authority and responsibility for hazard management as they are lead agencies for establishing land use planning, modifying building controls, and for emergency management ■ Responsibility for hazard risk assessments and risk reduction actions ■ Role in community awareness-building and preparedness ■ Manage local-scale infrastructure and assets (sewer, water, roads, parks, facilities) ■ Manage rainwater in the urban watershed ■ Responsible for the natural systems throughout the community and for parks and urban forests
Health Authorities	■ Provide guidance and communication material on the health impacts of climate change and reducing risks
Critical Infrastructure Owners	■ Prepare for climate impacts and disruption to service ■ Design and manage critical infrastructure integrating climate change considerations
Community Organizations	■ Spearhead community-led projects ■ Act as third-party conveners to support collaboration across the region ■ Support community needs and advocate for local actions and concerns

Local governments like the City of New Westminster have substantial direct authority and responsibility for managing hazards and reducing risk. They manage local-scale infrastructure, assets, and natural systems like parks and the urban forest. They are responsible for updating the HRVA and make important emergency management, land use, and urban development decisions. They can also influence, either directly or indirectly, other levels of government and the community to support climate adaptation and build resilience. Figure 5 illustrates the areas within the City's concentric spheres of influence.

Figure 5: Areas Within the City of New Westminster's Control or Spheres of Influence



Do
Direct Control

- Land use planning, zoning, and development approvals
- Municipal infrastructure and facilities
- Bylaws and regulations (e.g., building, tree protection, floodplain)
- Parks, green spaces, natural assets, and the urban forest
- Emergency Management
- Hazard, Risk, and Vulnerability Assessment
- Municipal operations and service delivery

Partner
Direct Influence

- Community engagement and public education
- Support community awareness and preparedness
- Relationship-building and Partnerships with First Nations
- Collaboration with critical infrastructure providers
- Regional collaboration
- Partnerships with health and social service providers

Advocate
Indirect Influence

- BC Building Code and provincial regulations
- Provincial funding, legislation and policy
- Federal funding and programs

Monitor
Minimal Influence

- Canada's climate commitments and international climate policy
- Individual consumption patterns and lifestyle choices
- Global greenhouse gas emissions and climate trends



4.0 Planning and Policy Framework

4.0 Planning and Policy Framework

The Climate Change Adaptation and Resilience Plan builds on a strong foundation of existing City strategies, plans, policies, programs, and bylaws that support climate adaptation and resilience across New Westminster.

Figure 6 highlights the significant work already underway, the intersection between climate resilience and every City department, and the importance of collaboration and coordination across departments to ensure the Plan both strengthens and is supported by ongoing efforts of all City departments.

Figure 6: Existing City Plans, Policies, Programs and Initiatives Supporting the Six Themes of the Climate Change Adaptation and Resilience Plan

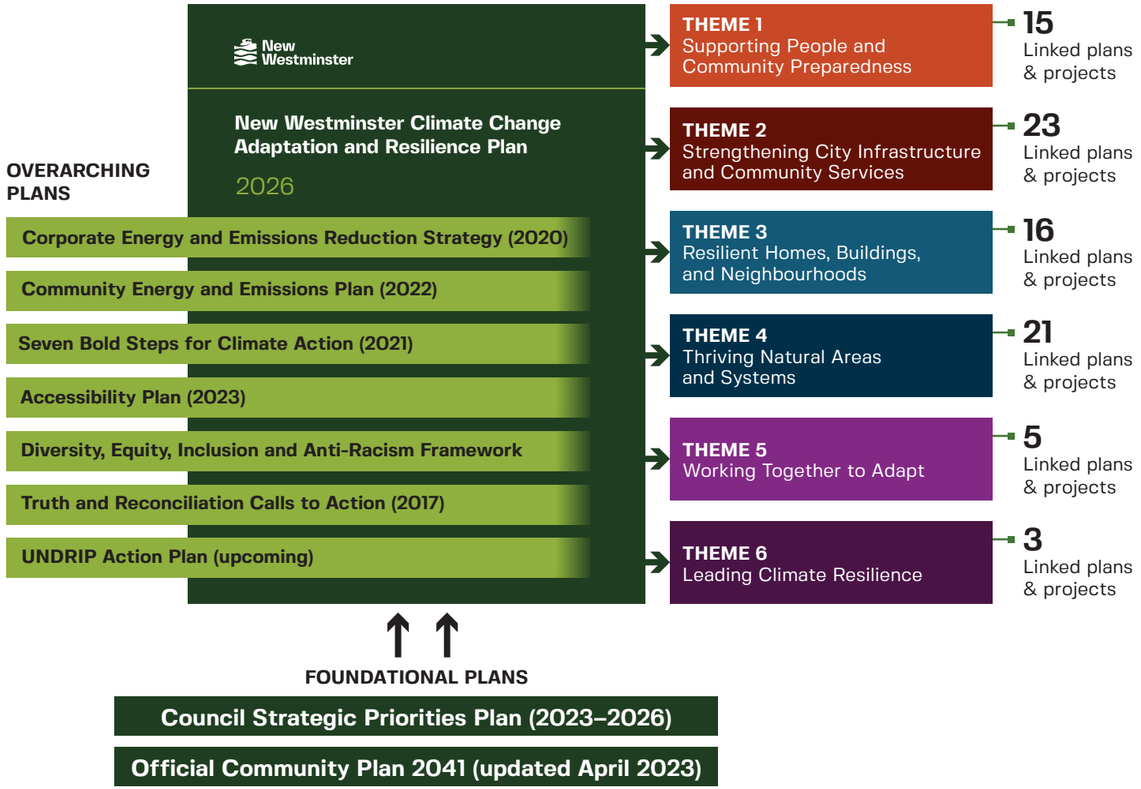


Table 5: Existing City Plans, Policies, Programs and Initiatives Supporting the Six Themes of the Climate Change Adaptation and Resilience Plan

#	Plan, Policy, or Program						
1	Council Strategic Priorities Plan (2023–2026)	**Foundational Plans**					
2	Official Community Plan 2041 (updated April 2023)						
3	Corporate Energy and Emissions Reduction Strategy (2020)	**Overarching Plans**					
4	Community Energy and Emissions Plan (2022)						
5	Seven Bold Steps for Climate Action (2021)						
6	Accessibility Plan (2023)						
7	Diversity, Equity, Inclusion and Anti-Racism (DEIAR) Framework (2022)						
8	Truth and Reconciliation Calls to Action (2017)						
9	UNDRIP Action Plan (upcoming)						
#	**Plan, Policy, or Program**	**THEME 1**	**THEME 2**	**THEME 3**	**THEME 4**	**THEME 5**	**THEME 6**
10	Age-Friendly Community Strategy (2026)	✓				✓	
11	Extreme Heat Response Workplan (2023)	✓		✓			
12	Accelerated Climate Action Team Workplan (2023)	✓		✓			
13	Rain Barrel Program	✓		✓	✓		
14	Extreme Heat Preparedness	✓					
15	Prevention, Support and Transition Services Plan (2025–2030)	✓				✓	
16	Supportive Housing and Wrap Around Services Plan (2025–2035)	✓				✓	
17	Extreme Cold, Heat and Adverse Air Quality Response Plan (upcoming)	✓					
18	Emergency Preparedness Program	✓					
19	Street and Traffic Bylaw No. 6027	✓					
20	Business Regulations and Licensing (Rental Units) Bylaw No. 6926	✓		✓			
21	Heat Vulnerable Rental Building Project	✓		✓			
22	Vulnerable Buildings Assessment Project	✓		✓			
23	People, Parks, and Play (2026)	✓			✓		
24	Food Security and Systems Plan (2025)	✓			✓	✓	
25	Flood Resilience Plan (2022)		✓			✓	
26	Integrated Stormwater Management Plan (2017)		✓		✓		
27	Queensborough Dike Shoreline Protection Rehabilitation (2025–2026)		✓	✓	✓		
28	Electric Utility Strategic Plan (2026)		✓	✓			
29	Utility Master Plan (2015)		✓				
30	Asset Management Strategy (2019)		✓				
31	Facilities Asset Management Plan (2024)		✓				
32	Sewer and Drainage Asset Management Plan (2023)		✓		✓		
33	Transportation Asset Management Plan (2019)		✓				
34	Water Asset Management Plan (2021)		✓		✓		
35	Sapperton Combined Sewer Separation Project		✓		✓		
36	West End Combined Sewer Separation and Green Infrastructure Program		✓		✓		
37	2026–2030 Financial Plan Bylaw		✓				
38	Green Building Policy (2021)		✓				✓
39	Energy Efficient Equipment Policy (2021)		✓				✓
40	Subdivision and Development Control Bylaw No. 7142		✓				
41	All Ages and Abilities Active Network Transportation Plan (2022)		✓				
42	Natural Assets Management Plan (upcoming)		✓		✓		
43	Queensborough Transportation Plan		✓				
44	Downtown Transportation Plan		✓				
45	Biodiversity and Natural Areas Strategy (2022)		✓		✓		
46	Urban Forest Management Strategy (2016; 2025 addendum)		✓		✓		
47	Riparian Protection Bylaw No. 7033		✓		✓		
48	Downtown Community Plan (Schedule C of OCP)			✓			
49	Queensborough Community Plan (Schedule D of OCP)			✓			
50	Queen's Park Heritage Conservation Area (2017)			✓			
51	Queensborough Flood Hazard Development Permit Area			✓			
52	Floodplain Bylaw No. 5095			✓			
53	Building Bylaw No. 8125			✓			
54	eMobility Strategy (2022)			✓			
55	Official Community Plan 2025 Housing Update (upcoming)			✓			
56	Tree Planting Master Plan (2020–2030)				✓		
57	Tree Sale Program (annual)				✓		
58	Environment Strategy and Action Plan (2018)				✓		
59	Tree Protection and Regulation Bylaw No. 7799				✓		
60	Ecological Inventory for City of New Westminster (2015)				✓		
61	Glenbrook Ravine Park Invasive Plant Management Plan (2019)				✓		
62	Water Shortage Response Bylaw No. 6948				✓		
63	Erosion and Sediment Control Bylaw No. 7754				✓		
64	Climate Action Decision-Making Framework						✓
	Total Plans per Theme	**15**	**23**	**16**	**21**	**5**	**3**

4.1 Plan Framework

Figure 7 illustrates the Climate Change Adaptation and Resilience Plan framework and outlines how the key components of the Plan are connected. A vision statement and guiding principles establish a shared foundation and shape the Plan's themes and goals, supporting strategies, and associated actions. The vision and guiding principles describe the future the City is working towards and the values that guide decision-making, priorities, and actions.

Goals are broad, long-term statements that describe the desired outcome of each theme, providing direction and aspirations for the future resilience of the community. Strategies are more specific approaches that help define what needs to be achieved and focus efforts to support each goal. Actions are the practical and measurable steps that can be taken to advance each strategy. Together, these show what the City is aiming to achieve and how progress will be made over time.

GUIDING PRINCIPLES

- **Hopeful and Practical:** Optimistic about a thriving, resilient future and outcomes, and proactive, realistic, and flexible actions to achieve that future.
- **Collaborative:** Share responsibility through cross-sector and community-wide collaboration and collective action.
- **Accessible, Equitable, and Inclusive:** Centre reconciliation, acknowledge diversity, and make solutions, supports, and services accessible and allow for dignity and independence to all.
- **Innovative:** Use creative, effective solutions guided both by science and traditional knowledge systems.
- **Wholistic and Integrated:** Consider the whole system, align actions with existing plans and across scales, and embed resilience across everyday decisions.

FOUNDATIONAL LENSES

The Plan is guided by a set of interconnected lenses intended to inform decision-making across all areas.

These lenses help ensure that the Plan not only addresses climate risks but also advances broader community priorities and values. The four cross-cutting lenses are:

- **Low-Carbon Resilience:** Considers how adaptation and resilience efforts affect carbon pollution with the goal of avoiding carbon-intensive solutions and instead promoting solutions that improve resilience without increasing carbon pollution.
- **Truth and Reconciliation:** In alignment with Truth and Reconciliation, the Plan can support respectful relationships, learning, and action. This includes acknowledging Indigenous Knowledge, history, rights, and perspectives in climate adaptation and resiliency efforts, and prioritizing opportunities to integrate reconciliation into all actions.
- **Accessibility and Equity:** Climate change may affect people differently, and accessibility and equity helps ensure that the Plan supports fair, inclusive, and accessible outcomes, especially for those who may be disproportionately affected by climate impacts.
- **Co-Benefits:** Considers how the Plan can provide additional benefits (e.g., social, economic, health, etc.) beyond reducing climate risk.

THEMES

Six themes emerged through technical analysis, staff expertise, and community engagement to form the foundational pillars of the Plan. The themes are detailed in Section 5.

Figure 7. Climate Change Adaptation and Resilience Plan Framework





Building relationships with and learning from First Nations

Meaningful climate resilience work depends on relationships grounded in respect, reciprocity, and ongoing learning.

Many First Nations and Indigenous Peoples have ties to the Lands and Waters on which the City of New Westminster is located, and bring deep, place-based knowledges, responsibilities, and intergenerational relationships with those Lands and Waters that long predate the City. Their perspectives, lived experiences, Indigenous Knowledge Systems, and relationships with the Land, Water, and Air strengthen climate adaptation efforts. Since time immemorial, their stewardship and careful observation have offered insights into seasonal shifts, sustainable management, and cumulative impacts to cultural, ecological, and community well-being. Meaningful collaboration with local First Nations and the Urban Indigenous Peoples who live, work, and visit New Westminster is central to developing climate resilience solutions that are effective, culturally appropriate, and grounded in the interconnectedness of all living beings (people, animals, plants, and whole ecosystems).

Building these relationships requires recognizing the ongoing systemic inequities caused by colonialism and the disproportionate impacts of climate change on local First Nations and Indigenous Peoples. Engagement must go beyond the plan development timeline and support long-term collaboration, partnerships for implementation, and shared learning. Collaborative governance and support for First Nations self-determined climate resilience, informed by their priorities and Knowledge Systems, can ensure adaptation efforts are equitable, locally informed, and aligned with a shared vision for resilience.



5.0 Themes

THEME 1

Supporting People and Community Preparedness

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THEME 2

Strengthening City Infrastructure and Community Services

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THEME 3

Resilient Homes, Buildings, and Neighbourhoods

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THEME 4

Thriving Natural Areas and Systems

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THEME 5

Working Together to Adapt

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THEME 6

Leading Climate Resilience

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THEME 1

Supporting People and Community Preparedness

GOAL

New Westminster community members are prepared for the impacts of climate change and equipped with the knowledge and resources to reduce related physical and mental health risks.



What This Means

Supporting people and communities to prepare for, respond to, and recover from climate-related hazards such as extreme heat, wildfire smoke, and flooding.

Why This Matters

Climate change can affect people's health, safety, daily routines, and overall well-being, and will affect some residents more than others.

Resilience is not only about buildings and infrastructure, but also depends on whether people understand the risk, know what to do, feel connected to others, and have access to the support they need during and after climate events.



What the City is Doing

- **Strengthening emergency preparedness**, response and recovery through planning, alerts, accessible online information, improved response times, free workshops, and public education.
- **Operating cooling centres** and clean air shelters and identifying and notifying community members of places to keep cool or with clean air (HEPA filters) to help residents stay safe during extreme heat and poor air quality events.
- **Supporting enhanced connections** among neighbours in multi-family residential buildings for support during extreme weather events.
- **Building community resilience** by coordinating response and consistent messaging with community organizations and tailoring support programs to people who are disproportionately impacted.
- **Enhancing urban greening** and tree planting and protection in low canopy cover neighbourhoods to reduce urban heat, improve air quality, and support well-being for all community members.

What Community Members Can Do

- **Develop a household emergency plan** to ensure everyone knows what to do, where to go, and how to stay connected during climate-related events.
- **Prepare an emergency kit and/or a grab-and-go bag** with essential supplies to support yourself and your household during climate-related events.
- **Participate in workshops** and community preparedness activities to build your understanding of climate-related hazards and preparedness. Visit the City's **Personal Preparedness** website.
- **Stay informed** and build awareness of local climate risks by visiting the **Emergency Management website**. Call the New Westminster extreme weather and emergency response line at 604-239-4936 during emergency events.
- Take steps to **protect your health** and well-being during extreme heat, wildfire smoke, and other climate-related events.
- **Build strong connections** by checking in on neighbours, participating in preparedness activities, and supporting those community members who may be more vulnerable.

Priority Climate Hazards

All hazards

River Flooding | Heavy Rainfall | Extreme Heat | Extreme Cold | Drought

Wildfire Smoke | Storm Events | Slope Failure | Slow Onset Climate Change

Low-Carbon Resilience

- Strengthening community resilience through a focus on low-carbon approaches such as passive cooling, urban greening, and low-energy solutions

Truth and Reconciliation

- Supporting relationship-building, collaboration, and shared learning with First Nations while working toward more inclusive and culturally appropriate approaches to climate resilience

Equity and Accessibility

- Reducing barriers to climate resilience resources and services by providing accessible opportunities that support independence for all community members, and prioritizing support for community members who face greater risks from climate-related hazards

Co-Benefits

- Improved health and well-being
- Increased community connection and inclusion
- Reduced greenhouse gas emissions
- Strengthened collaboration with First Nations

Alignment with Shared Priorities

- Metro Vancouver Climate 2050 Strategic Framework: **Human Health and Well-Being**
- **City of New Westminster Strategic Priorities Plan**: Community Belonging and Connecting; Safe Movement of People
- **City of New Westminster Official Community Plan**: Community and Individual Well-Being; Transportation and Accessibility; Energy, Emissions and Climate Change; Hazard Management
- **City of New Westminster Seven Bold Steps for Climate Action:**
  - Carbon Free Homes and Buildings



Strategies and Actions

STRATEGY 1.1

Strengthen City-led emergency preparedness, response, and recovery for climate-related hazards.

#	Action
Existing	
1.1.01	Continue to prioritize climate-related hazard preparedness, response, and recovery for vulnerable populations, as part of the implementation of the New Westminster Extreme Cold, Heat, and Adverse Air Quality Response Plan.
1.1.02	Review and update the City's Hazard, Risk, and Vulnerability Assessment (HRVA) with engagement from local First Nations.
Enhanced	
1.1.03	Continue to support the implementation of the Five-Year Prevention, Support and Transition Services Plan and the Ten-Year Supportive Housing and Wrap Around Services Plan by applying a climate resilience lens to support vulnerable populations during extreme weather events.
1.1.04	Continue to monitor and update cooling, warming, and clean-air venue locations and operating hours to meet community needs during extreme heat, cold, and wildfire smoke events.
1.1.05	Provide trauma-informed training to front-facing staff to improve community members' experience and accessibility at City facilities.
1.1.06	Continue developing digital and physical resources, including mapping, to improve public awareness and preparedness for extreme weather events.
1.1.07	Increase access to cooling options during heat events by expanding the locations of cooling stations and public water stations, and increasing the accessibility and inclusiveness of public pools.
1.1.08	Identify, review, and update critical local transportation route plans for evacuation, response, and recovery, and prioritize ongoing monitoring and maintenance.
1.1.09	Review and enhance ongoing work to identify free or low-cost transportation options to assist the community in getting to and from support venues during extreme weather events.

STRATEGY 1.2

Work with and support partners to continue to improve community awareness, connection, and preparedness ahead of and during climate-related hazard events.

#	Action
Existing	
1.2.01	Continue to expand the Emergency Preparedness Program to address climate-related hazards by working with the library, public facilities, rental buildings, strata, property managers, and community partners to deliver educational initiatives and workshops, sharing information in diverse languages and accessible formats.
1.2.02	Review and strengthen real-time emergency communications and explore alternative methods to reach community members experiencing barriers to accessing information.
1.2.03	Continue collaborating with community groups, health authorities, regional partners, and local First Nations and Indigenous-serving organizations to strengthen community-led climate resilience initiatives and improve access to locally relevant education, resources, and supports.
1.2.04	Explore establishing or expanding community grant programs to support climate resilience through community-led preparedness, social connection, awareness, and nature restoration.
Enhanced	
1.2.05	Work with First Nations that have expressed interest in the Lands and Waters that the City of New Westminster is located on to develop appropriate and accessible protocols to notify local First Nations of emergency events within New Westminster.
1.2.06	Continue to support the uptake of the Connect and Prepare program, including Building Resilient Neighbourhoods guides, and review and develop other climate-related hazard preparedness information through direct outreach to tenants, stratas, and property management.
New	
1.2.07	Work with the Government of BC and the real estate sector to build agent and homeowner awareness about climate-related hazards and advocate for disclosure to property buyers and tenancy rights organizations.

STRATEGY 1.3

Reduce the impacts of climate change on health and well-being through collaboration with partners.

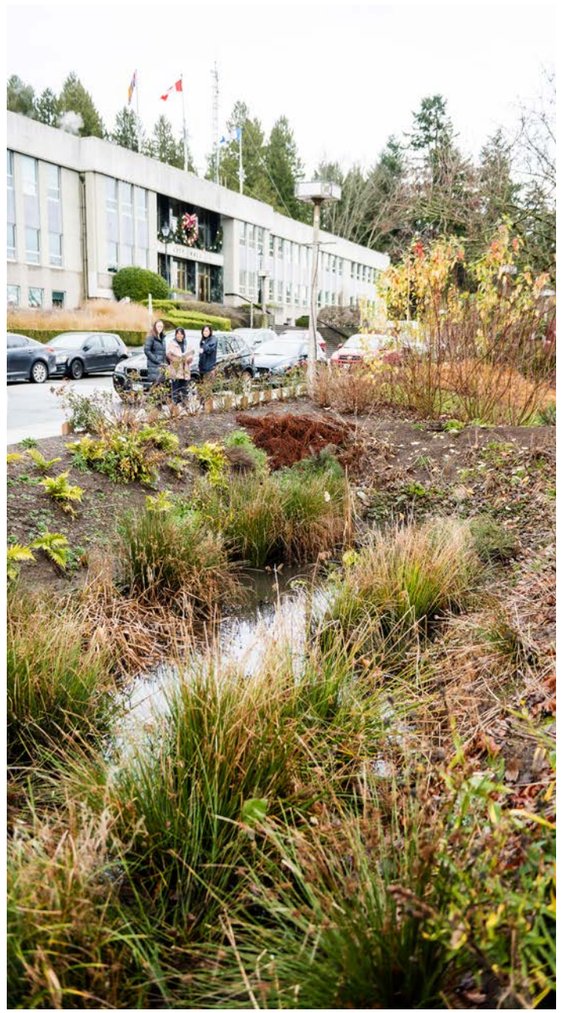
#	Action
Existing	
1.3.01	Continue to explore opportunities to collaborate with the Condominium Homeowners Association of BC (CHOA BC), New Westminster residents' associations, and other partners such as the Zero Emissions Innovation Centre (ZEIC) to reduce barriers to active cooling solutions, such as heat pumps, and passive cooling solutions, such as exterior shading, by providing strata councils with education, awareness, and access to practical resources.
1.3.02	Advocate to BC Hydro, Fraser Health Authority and other public organizations for publicly funded portable air conditioner distribution programs that are tailored towards vulnerable and low-income individuals and households, and explore opportunities for the City to support resident access and uptake.
1.3.03	Continue to explore partnerships and programs that distribute small-scale, personalized temperature regulation and filtration technologies, such as cooling vests and neck fans, to support community members including those who are unhoused and/or those with mobility considerations to manage extreme temperatures and adverse air quality more effectively.
1.3.04	Support the implementation of and provide a climate adaptation and resiliency lens to the Age-Friendly Strategy.
Enhanced	
1.3.05	Explore opportunities to partner with academic institutions, health authorities, and other organizations to develop, support, and showcase pilot projects, case studies, and research demonstrating the health, safety, and well-being benefits of climate change adaptation strategies.
1.3.06	Enhance opportunities to partner with community organizations, such as the Seniors Services Society of BC, and with Fraser Health Authority to coordinate tailored wellness checks during heat and air quality events.
1.3.07	Explore opportunities to collaborate with organizations to provide education, awareness, and practical resources to support active and passive cooling for tenants.
New	
1.3.08	Improve access to local temperature and air quality data by working in partnership with Metro Vancouver and Fraser Health Authority to explore a pilot program to install air quality and temperature sensors inside and outside City-owned buildings.

THEME 2

Strengthening Infrastructure and Community Services

GOAL

New Westminster infrastructure, assets (built and natural), systems, and operations are climate-resilient.



What This Means

Making sure City infrastructure, facilities, and essential services can continue to function during and after climate-related events.

Why This Matters

Climate change is placing growing pressure on public infrastructure like roads, drainage systems, utilities, buildings, parks, and other public assets.

Climate-related hazards can also disrupt the essential services residents and businesses rely on every day.

Decisions made today can help reduce future risks, save long-term costs, support emergency response, and improve long-term resilience.

What the City is Doing

- **Enhancing flood resilience** by updating flood construction levels, rehabilitating and stabilizing Queensborough dike infrastructure, and naturalizing shorelines where possible.
- **Incorporating climate change** into infrastructure planning, asset management, hazard response plans, hazard mapping, and localized community plans to prepare for future conditions.
- **Transitioning from grey to green** infrastructure to manage climate risks, improve water quality, decrease rainwater runoff, support biodiversity, and strengthen long-term resilience.
- **Considering low-carbon resilience** by implementing tailored projects like Advanced Metering Infrastructure to help residents manage energy use.
- **Prioritizing active transportation** routes that are safe and climate-resilient through greenways and light-coloured concrete for new curbs and sidewalks.



What Community Members Can Do

- **Conserve water** and use it efficiently, consider installing low-flow fixtures at home, and follow published water restrictions.
- **Help manage rainwater** on private property by maintaining drainage systems, installing rain barrels (using the City's **Rain Barrel Program**), and reducing hard surfaces. Clear catch basins near your property.
- **Prepare for service disruptions** by keeping emergency supplies, backup power options, and plans in place for outages affecting power, transportation, communications, or water services.
- **Report** flooding, infrastructure damage, and drainage issues to help keep community systems functioning effectively. Report a problem through the free app **SeeClickFix**.

HELPFUL RESOURCE

- **Water Conservation Tips and Information**

Priority Climate Hazards

Heavy Rainfall

River Flooding

Storms

Slow Onset Climate Change

Low-Carbon Resilience

- Strengthening essential infrastructure, facilities, and services through low-carbon solutions, water conservation, and natural asset approaches that support long-term resilience

Truth and Reconciliation

- Considering First Nation priorities related to water, fish health, healthy ecosystems and natural asset management (includes restoration, regeneration, and naturalization), while supporting collaboration on climate resilience planning

Equity and Accessibility

- Improving the reliability of public infrastructure, facilities, and services during climate-related events helping ensure all residents can access critical services and supports

Co-Benefits

- Improved health and well-being
- Strengthened reliability of community services
- Enhancing and restoring biodiversity and ecosystem health
- Reduced greenhouse gas emissions

Alignment with Shared Priorities

- Metro Vancouver Climate 2050 Strategic Framework: **Transportation**; **Water and Wastewater Infrastructure**; **Nature and Ecosystems**
- **City of New Westminster Strategic Priorities Plan**: Asset Management and Infrastructure
- **City of New Westminster Official Community Plan**: Utilities and Service Infrastructure; Environment and Natural Areas; Energy, Emissions and Climate Change; Hazard Management
- **City of New Westminster Seven Bold Steps for Climate Action:**
  - Carbon Free Corporation
  - Car Light Community
  - Carbon Free Homes and Buildings
  - Carbon Free Energy



Strategies and Actions

STRATEGY 2.1

Integrate climate resilience into the planning, design, retrofit, and management of public infrastructure and services.

#	Action
Existing	
2.1.01	Advance priority actions identified in the Flood Resilience Plan and continue to advocate to senior levels of government to provide funding for flood management efforts.
Enhanced	
2.1.02	Consider future climate conditions and resilience strategies in the design, construction, operation, and maintenance of City-owned infrastructure and assets.
2.1.03	Assess and incorporate fish-friendly design features in sewer and drainage projects to reduce impacts on aquatic ecosystems, improve habitat connectivity, and protect water quality.
2.1.04	Continue working with Metro Vancouver and collaborate with First Nations and water advocacy organizations to evaluate water metering and water use data in supporting potable water conservation, infrastructure system planning, leak detection, and climate resilience.
2.1.05	Continue working with Metro Vancouver and TransLink to apply climate-resilient design to sidewalks, bike paths, greenways, and ensure transit networks remain safe, comfortable, and connected during extreme heat, wildfire smoke, and heavy rainfall events.
2.1.06	Increase the resilience of pump stations by implementing reliable low-carbon backup power solutions to ensure uninterrupted operation during extreme weather events, power disruptions, and other emergencies.
2.1.07	Assess climate vulnerabilities in Queensborough's drainage, flood, and sanitary infrastructure systems and use the findings to update plans and guidelines for the area.
2.1.08	Improve data collection for the City's natural and built assets, giving natural assets parity with built assets, and continue to consider and integrate climate risks into Asset Management Plans and Comprehensive Plans.
New	
2.1.09	Develop shared definitions for infrastructure resilience across City departments and external partners to streamline collaboration.

STRATEGY 2.2

Strengthen the climate resilience of public facilities and their ability to support emergency management functions.

#	Action
Enhanced	
2.2.01	Identify low-carbon resilient retrofit options for public facilities, infrastructure, and assets, and create a phased retrofit roadmap for consideration in the capital planning process.
2.2.02	Incorporate climate resilience strategies into updates to policies applicable to public facilities, such as the Green Buildings Policy and Energy Efficient Equipment Policy, and develop new climate resilience policies to address any gaps.
New	
2.2.03	Identify priority public facilities to serve as climate resilience support centres and identify possible upgrades to inform maintenance and future capital planning.
2.2.04	Review and identify critical public facilities along with key service requirements during events (such as backup power) to help ensure service continuity during extreme weather events. Explore public low-carbon on-site power generation and storage with islanding capacity (intentional division of interconnected power grid into individual disconnected regions with their own power generation) to provide redundancy.



STRATEGY 2.3

Expand the use of green and blue infrastructure approaches that provide natural, nature-inspired, and water-based solutions that strengthen climate resilience and provide community benefits.

#	Action
Enhanced	
2.3.01	Continue to improve inter-departmental collaboration on green and blue infrastructure through shared resourcing, working groups, and standardized processes and procedures.
2.3.02	Develop green rainwater performance standards during the next update to the Integrated Stormwater Management Plan, considering local First Nation priorities such as water quality, fish health, and healthy aquatic ecosystems.
2.3.03	Establish a long-term funding and asset management framework for green infrastructure, including operations and maintenance requirements, to support implementation across the City, in alignment with Regional Plans (e.g., the Metro Vancouver Liquid Waste Management Plan).
2.3.04	Incorporate best practices for nature-based climate solutions into flood hazard management efforts, such as shoreline naturalization and protection, to improve water quality and biodiversity.

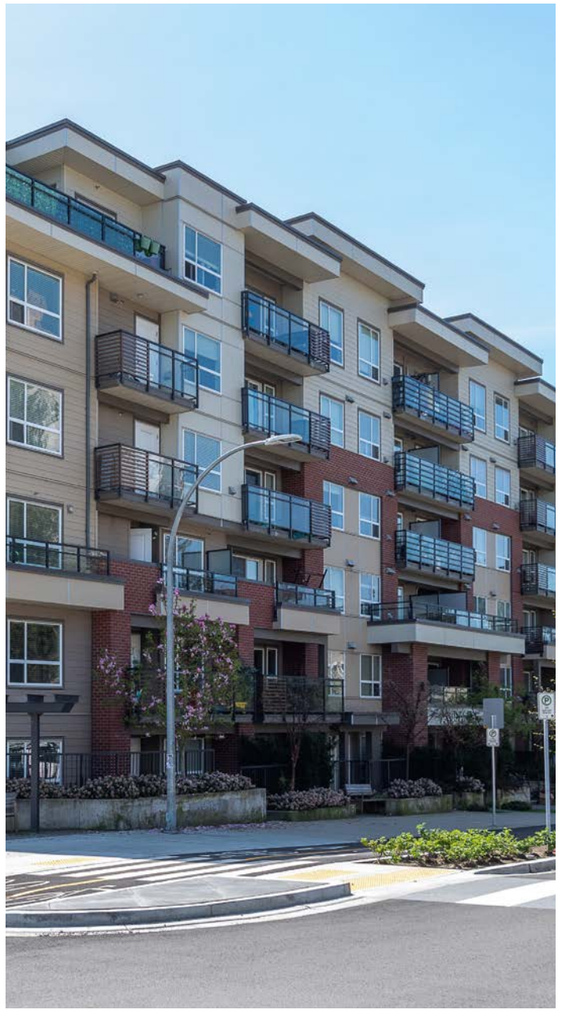


THEME 3

Resilient Homes, Buildings, and Neighbourhoods

GOAL

Homes, buildings, and neighbourhoods are climate-resilient, where climate-related hazard risk is reduced through a combination of policy development, program implementation, and advocacy work.



What This Means

Homes, buildings, and neighbourhoods are planned, designed, and improved so they are resilient to climate-related hazards and changing conditions over time.

Why This Matters

Where people live, work, and gather plays a major role in shaping both how vulnerable people are to climate-related events and how resilient they are in the long-term.

Thoughtful policy, urban planning, zoning, design guidelines, and other land use tools can help guide future growth in ways that reduce risk and better prepare neighbourhoods for a changing climate.

What the City is Doing

- **Identifying heat vulnerable** multi-family rental buildings and providing supports like air conditioning units for common areas and free building assessments to encourage climate-friendly retrofits.
- **Promoting and improving access** to affordable cooling options, clean air filters, DIY air cleaners, rain barrels, and other resilience measures to reduce the impacts to homes and indoor comfort during climate-related hazards.
- **Providing information** for homeowners, landlords, and stratas on building-level emergency preparedness and climate readiness on City website and via the Climate Friendly Homes Tour.
- **Supporting climate-resilient neighbourhoods** through land use planning and development decisions that reduce climate-related risks and improve long-term resilience



What Community Members Can Do

- **Learn how hazards can affect your home**, indoor safety and comfort, and know the signs of overheating, poor indoor air quality, and drainage issues.
- **Take practical steps** to keep indoor spaces safe and comfortable during extreme heat and wildfire smoke, such as using shading, air filtration, fans, or cooling where possible.
- **Maintain drainage systems** on your property, including gutters, drains, rain barrels, and permeable areas, to help reduce flooding and pressure on public infrastructure.
- **Know your rights and responsibilities** as a renter, homeowner, strata member, or landlord related to building maintenance, cooling, ventilation, drainage, and climate resilience upgrades.
- **Report bylaw concerns** to the City so issues can be addressed, including if all rooms in your unit become too hot. Bylaw Enforcement can be reached at 604-527-4657, or bylawenforcement@newwestcity.ca
- **Connect with neighbours**, strata councils, landlords, and building managers to discuss shared climate risks and identify opportunities for building-level preparedness and upgrades.

HELPFUL RESOURCE

- How to Keep Cool
- Climate Ready Guides, Intact
- Homebuilder and Homeowner Resources, Institute for Catastrophic Loss Reduction (ICLR)
- Climate Resilient Retrofits

Priority Climate Hazards

Extreme Heat | Wildfire Smoke | River Flooding | Heavy Rainfall | Drought

Low-Carbon Resilience

- Supporting energy efficient and climate-resilient homes, buildings, and neighbourhoods through retrofits, passive cooling, electrification and development practices that improve resilience while reducing greenhouse gas emissions

Truth and Reconciliation

- Ensuring consideration of archaeological and cultural heritage in climate adaptation planning and the respectful management of areas of cultural significance

Equity and Accessibility

- Improving access to cooling, healthy indoor environments, and climate-resilient housing, while prioritising support for renters and community members who may face greater barriers to adapting to climate-related hazards

Co-Benefits

- Improved health and well-being
- Reduced greenhouse gas emissions
- Improved tenant protections and support
- Increased indoor comfort and safety

Alignment with Shared Priorities

- Metro Vancouver Climate 2050 Strategic Framework: **Buildings**; **Land Use and Urban Form**; **Human Health and Well-being**
- **City of New Westminster Strategic Priorities Plan**: Homes and Housing Options; Safe Movement of People
- **City of New Westminster Official Community Plan**: Housing; Public Realm and Urban Design; Energy, Emissions and Climate Change; Hazard Management; Community and Individual Well-being; Culture
- **City of New Westminster Seven Bold Steps for Climate Action:**
  - Carbon Free Homes and Buildings
  - Carbon Free Energy



Strategies and Actions

STRATEGY 3.1

Support and increase the low-carbon resilience of homes, buildings, and neighbourhoods.

#	Action
Existing	
3.1.01	Continue to identify and support solutions for building-level electrical capacity constraints in multi-unit residential buildings, such as condos and apartments, to enable energy efficient electrification and the addition of cooling.
3.1.02	Continue to provide funded cooling assessments, to increase understanding of opportunities to prevent overheating in rental buildings and connect building owners with available incentives to install cooling assessment recommendations.
3.1.03	Ensure low-carbon resilient upgrades do not result in displaced tenants or rent increases and by advocating to the Government of BC for right-to-cool legislation and to update tenant protections.
3.1.04	Explore strategic financial incentive tools and updates to electrical utility rate structures and other utility policies to reduce energy poverty and energy demand.
Enhanced	
3.1.05	Explore piloting programs and incentives to support low-carbon, resilient upgrades in residential, commercial, and industrial buildings.
3.1.06	Continue to provide low-barrier, direct-to-tenant support to prevent overheating in rental units.
3.1.07	Develop a City-led retrofit program for rental buildings not currently eligible for existing retrofit programs to improve access to incentives and support measures that prevent overheating, reduce carbon emissions, and improve energy efficiency.
3.1.08	Explore opportunities to support the improvement of indoor air quality for existing residential buildings.
New	
3.1.09	Explore tools to ensure ongoing compliance with site measures for stormwater management implemented on private property and to incorporate climate resilience considerations and incentives.

STRATEGY 3.2

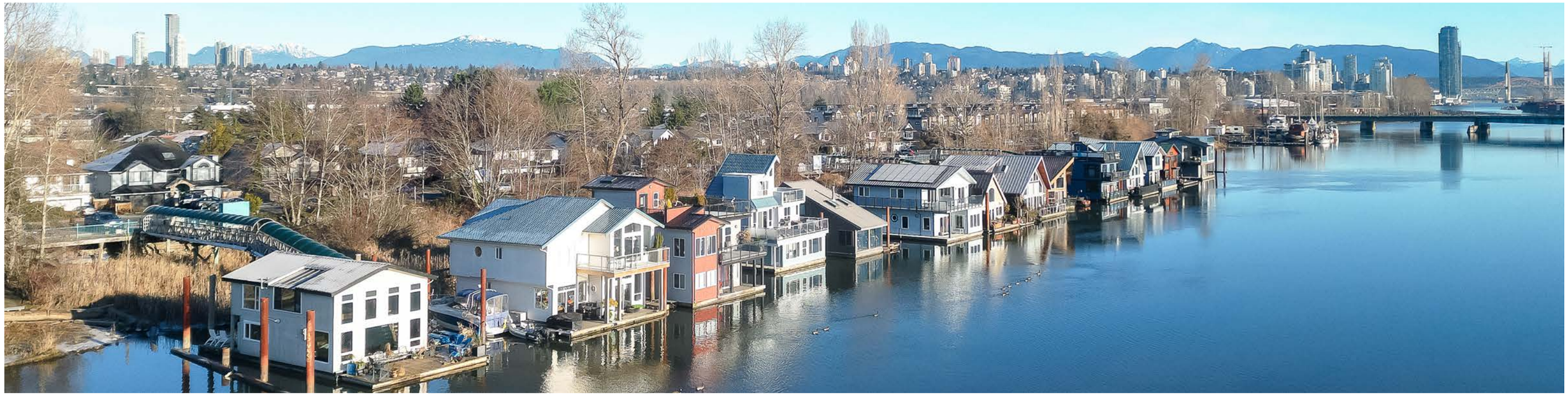
Integrate current and future climate conditions and hazard considerations into building design requirements.

#	Action
Existing	
3.2.01	Advocate to the Government of BC to establish increasingly stringent building code and step code requirements for ventilation and filtration systems in new construction that will improve indoor air quality, including wildfire smoke events.
3.2.02	Advocate to the Government of BC to support early implementation of the Highest Equipment Efficiency Standard (HEES) for both private and public sector buildings and explore opportunities for municipal early adoption.
3.2.03	Advocate for BC Building and Plumbing Code updates that strengthen water efficiency requirements and reflect advancements in technologies and industry best practices.
Enhanced	
3.2.04	Support and encourage the use of climate-resilient design in new residential buildings, including passive cooling measures.

STRATEGY 3.3

Integrate current and future climate conditions and hazard considerations into land use planning decisions and requirements.

#	Action
Existing	
3.3.01	Integrate archaeological and cultural heritage considerations into climate adaptation planning, and the identification and respectful management of areas with known or potential cultural and archaeological sensitivity.
Enhanced	
3.3.02	Explore updates to development permit area guidelines and Zoning Bylaw regulations to further encourage climate-resilient building design and renovations.
3.3.03	Ensure that a climate resilience lens is applied to updates of the Official Community Plan, Queensborough Community Plan, and Downtown Community Plan.
3.3.04	Develop a Flood Hazard Development Permit Area for the Official Community Plan and Downtown Community Plan, and review and update the Queensborough Flood Hazard Development Permit Area in consideration of the Flood Resilience Plan.

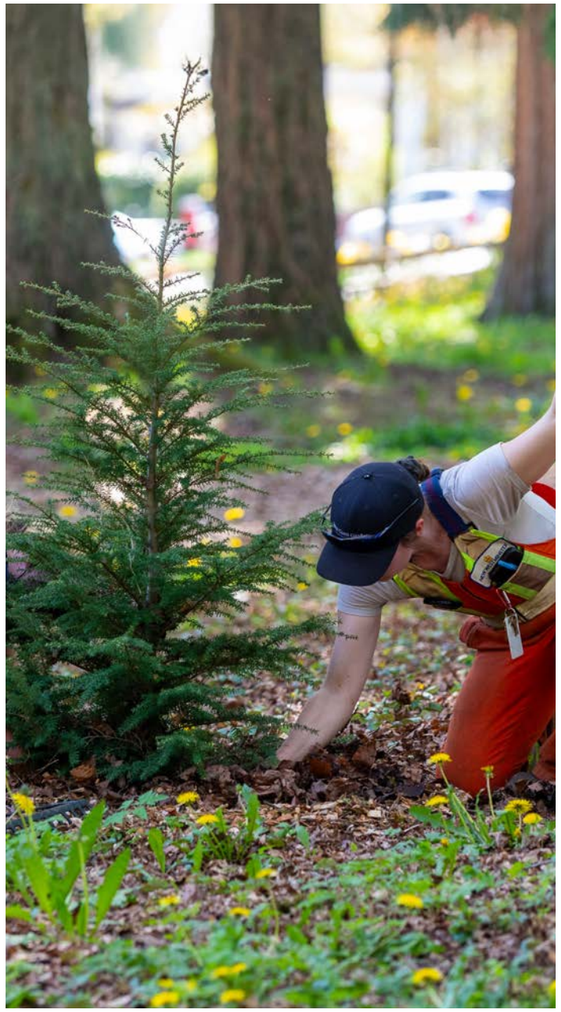


THEME 4

Thriving Natural Areas and Systems

GOAL

Natural areas and systems are thriving, healthy, connected, climate-resilient, and supported by strong stewardship on both public and private lands.



What This Means

Supporting healthy, connected, and climate-resilient natural areas and systems across different neighbourhoods across the City.

Why This Matters

Natural systems such as trees, parks, green spaces, habitat areas, and ecological corridors help communities adapt to climate change by cooling neighbourhoods, managing rainwater, supporting biodiversity, improving air quality, and enhancing community well-being. Climate change places increasing stress on these systems through drought, heat, increasing invasive species, extreme weather, and changing ecological conditions.

Actively protecting and managing—which includes restoration, regeneration, and naturalization—these areas is important to reduce risks from flooding, heat and environmental degradation.

What the City is Doing

- **Protecting and enhancing natural areas** to support healthy, connected, biodiverse and climate-resilient ecosystems and strengthen the services that they provide to the community.
- **Increasing the urban forest** by planting and protecting trees, guided by equity principles, to provide cooling, improve air quality, and manage climate-related risks in tree-deficient neighbourhoods.
- **Supporting tree planting** on private lands through the annual Tree Sale Community Initiative.
- **Advancing green infrastructure** and nature-based solutions to manage rainwater, reduce climate risks, improve water quality, and support ecosystem health
- **Encouraging and providing resources** to support community members in practicing sustainable landscaping on their property, such as by planting pollinator pastures or installing rain gardens.



What Community Members Can Do

- **Support and protect natural assets** by caring for trees, reducing pollution entering drainage systems, and participating in stewardship activities that help strengthen ecosystem health
- **Plant native** trees, shrubs, and gardens that support pollinators, improve biodiversity, prevent erosion, and help manage rainwater.
- **Participate in stewardship activities** such as tree planting, invasive species removal, habitat restoration, shoreline cleanups, and community gardening. Check out the City of New Westminster's **Environmental Initiatives**.
- **Naturalize yards and property** to create cooler, greener, and more connected "block-scale" habitat and green spaces across neighbourhoods.

HELPFUL RESOURCE

- Smart Gardening Resources
- Smart Gardening and Invasives

Priority Climate Hazards

Extreme Heat | Drought | Heavy Rainfall | Slope Failure | Slow Onset Climate Change

Low-Carbon Resilience

- Strengthening natural assets, urban forests, and nature-based solutions that reduce climate risks, support biodiversity, and enhance ecosystem services while helping to store carbon and reduce greenhouse gas emissions

Truth and Reconciliation

- Accounting for First Nation priorities related to water, fish health, healthy ecosystems, and natural asset management (includes restoration, regeneration, and naturalization), while supporting collaboration on climate resilience planning and stewardship initiatives

Equity and Accessibility

- Improving access to healthy natural areas, parks, and climate-resilient public spaces that support community well-being

Co-Benefits

- Improved air quality, water quality, stormwater attenuation, and cooler neighbourhoods
- Improved health and well-being
- Enhanced community connection and stewardship
- Reduced greenhouse gas emissions

Alignment with Shared Priorities

- Metro Vancouver Climate 2050 Strategic Framework: Nature and Ecosystems; Water and Wastewater Infrastructure; Land Use and Urban Form
- City of New Westminster Strategic Priorities Plan: Asset Management and Infrastructure
- City of New Westminster Official Community Plan: Environment and Natural Areas; Parks and Recreation; Energy, Emissions and Climate Change; Public Realm and Urban Design
- City of New Westminster Seven Bold Steps for Climate Action:
  - Robust Urban Forest
  - Quality People-Centred Public Realm



Strategies and Actions

STRATEGY 4.1

Continue to strengthen stewardship and support to enable a healthy urban forest and connected, healthy natural spaces on public and private property.

#	Action
Existing	
4.1.01	Continue to restore high-value natural habitat areas, such as Glenbrook Ravine Park, to enhance city-wide biodiversity and to protect key species that many other plants and animals depend on.
4.1.02	Continue to involve the community in stewardship of the entire urban forest on both public and private lands through expanded education, workshops, and collaborative outreach programs.
4.1.03	Continue the Tree Sale program and explore opportunities to further support the community in planting trees and implementing natural climate solutions on private property.
4.1.04	Establish species recommendations and design standards for successful tree planting on engineered structures to maximize canopy cover in high-density areas.
4.1.05	Support the implementation of and provide a climate adaptation and resiliency lens to the Food Security and Systems Plan, while exploring opportunities to incorporate Indigenous Knowledge Systems and nature-based solutions.
Enhanced	
4.1.06	Bridge public and private lands where appropriate by utilizing backyards, boulevards, and rights-of-way to maximize connectivity for biodiversity to create continuous green infrastructure, wildlife corridors, and green spaces, supported by a ‘Backyard Biodiversity’ certification program.
4.1.07	Maintain an ongoing survey and inventory of invasive species management areas, prioritizing the management of areas under the new parkland classification called ‘Green Space/Nature Park.’
4.1.08	Align Parks and Engineering operating budgets with the growing inventory of natural assets, green infrastructure, and the increased maintenance demands of climate change.
4.1.09	Improve requirements for green rainwater infrastructure to capture and treat runoff at the source, to prevent pollutants from entering waterways and drainage systems across the City.



#	Action
Enhanced, *continued*	
4.1.10	Develop wintertime salt management practices and education on alternatives for residents and businesses, insurance companies, and contractors, tying salt to aquatic systems' health.
4.1.11	Explore opportunities to support and increase education on naturalization of private lands and boulevards.
4.1.12	Identify areas in the city that are prone to erosion and contribute sediment to waterbodies and explore opportunities to mitigate the erosion.
New	
4.1.13	Transition from lot-by-lot planting to a 'block-scale' approach that considers the broader neighbourhood fabric to better accommodate continuous natural assets and systems.
4.1.14	Assess the technical feasibility of daylighting piped watercourses as a way of improving natural drainage and ecological health and explore partnerships and land acquisitions where applicable.

STRATEGY 4.2

Continue to incorporate low-carbon resilience into the planning, design, and management of parks and public spaces.

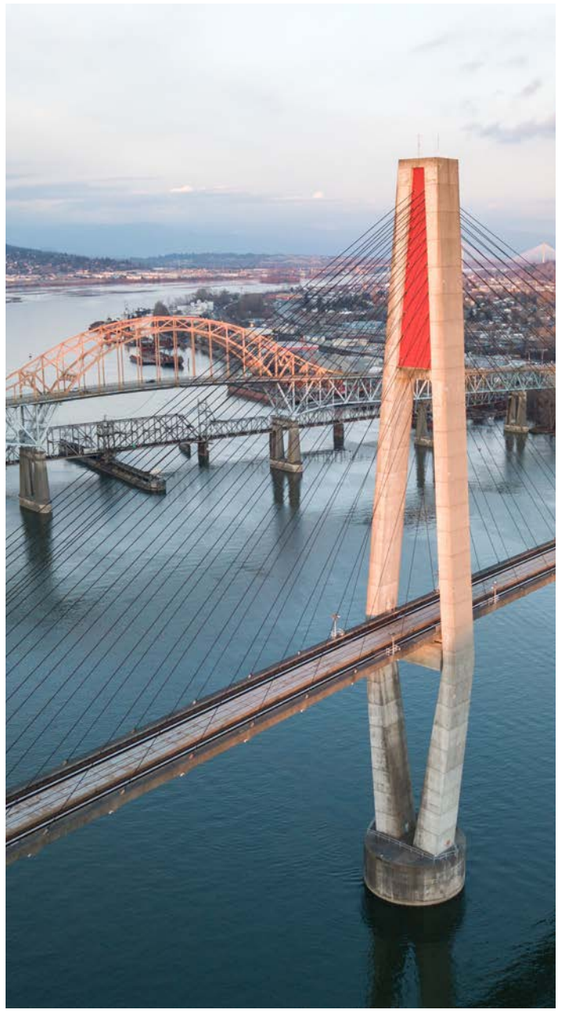
#	Action
Existing	
4.2.01	Consider climate resiliency in grass sports field design (i.e., improved drainage and irrigation design).
4.2.02	Update studies for the Glenbrook Ravine to include consideration of future climate conditions and evaluate other steep slopes prone to instabilities.
Enhanced	
4.2.03	Explore opportunities to use public spaces for climate adaptation, such as recycling water from spray parks to irrigate surrounding landscapes, and providing shade, water, and places for connection.
4.2.04	Expand the focus of Bold Step 7: "Quality People-Centred Public Realm" by identifying opportunities to reallocate public rights-of-way to adaptation and resilience infrastructure.
4.2.05	Create public realm streetscape design guidelines for neighbourhood levels of the city to provide direction on improving climate resilience in the public realm.

THEME 5

Working Together to Adapt

GOAL

The city benefits from strong collaboration, shared leadership, and effective governance that advances low-carbon resilience, disaster risk reduction, and community well-being.



What This Means

Building and sustaining the partnerships, relationships, and collaboration needed to advance resilience and address climate-related risks.

Why This Matters

Many climate-related risks go beyond the city's boundaries and affect systems such as ecosystems, infrastructure, and health shared with neighbouring cities and regions.

Strong collaboration can improve preparedness, reduce duplication, align efforts and investments, and support more effective and inclusive responses to these risks.

By bringing partners together and helping coordinate action, the City can help strengthen resilience across the region.



What the City is Doing

- **Strengthening collaboration and partnerships** with other levels of government, First Nations, community organizations, infrastructure providers, businesses, and residents to address cross-jurisdictional climate risks and enhance community well-being.
- **Supporting shared leadership** by participating in Regional tables, such as the Regional Engineers Advisory Committee – Climate Protection Subcommittee (REAC-CPS) and Regional Planning Advisory Committee – Environment Subcommittee (RPAC-ENV).
- **Improving coordination** and information-sharing among partners before, during, and after climate-related emergencies.
- **Engaging and supporting community members**, businesses, and organizations to participate in climate adaptation, preparedness, and resilience initiatives.

What Community Members Can Do

- **Share information** and resources on resilience and preparedness with family, neighbours, tenants, strata members, co-workers, and community networks.
- **Support community-led initiatives** such as neighbourhood preparedness groups, mutual aid networks, stewardship projects, and local education efforts.
- **Make climate-resilient choices** where possible in homes, transportation, landscaping, consumption, and emergency preparedness.
- **Look out for neighbours and community members** who may need extra support when hazard events are forecast or occur.

Priority Climate Hazards

All hazards

River Flooding
Heavy Rainfall
Extreme Heat
Extreme Cold
Drought
Wildfire Smoke
Storm Events
Slope Failure
Slow Onset Climate Change

Low-Carbon Resilience

- Advancing climate resilience while accelerating low-carbon solutions across communities, organizations, infrastructure systems, and sectors

Truth and Reconciliation

- Supporting relationship-building and collaboration and advancing climate resilience through inclusive partnerships and collective action

Equity and Accessibility

- Supporting partnerships and collective action that improve access to climate resilience resources, services, and support networks for community members who may face greater climate-related risks

Co-Benefits

- Strengthened relationships and partnerships
- Improved social connections
- Increased economic resilience

Alignment with Shared Priorities

- Metro Vancouver Climate 2050 Strategic Framework: **Human Health and Well-Being**, **Nature and Ecosystems**; **Water and Wastewater Infrastructure**; **Buildings**
- **City of New Westminster Strategic Priorities Plan**: Community Belonging and Connecting; Homes and Housing Options; People-Centered Economy; Safe Movement of People; Asset Management and Infrastructure
- **City of New Westminster Official Community Plan**: Community and Individual Well-Being; Economy and Employment; Energy, Emissions and Climate Change; Hazard Management
- **City of New Westminster Seven Bold Steps for Climate Action:** Supports all seven bold steps through collaboration, partnerships, and collective actions
  - Carbon Free Corporation
  - Car Light Community
  - Carbon Free Homes and Buildings
  - Pollution Free Vehicles
  - Carbon Free Energy
  - Robust Urban Forest
  - Quality People-Centred Public Realm



Strategies and Actions

STRATEGY 5.1

Build and strengthen relationships and partnerships to advance collective action on climate adaptation and resilience.

#	Action
Existing	
5.1.01	Support Metro Vancouver's public education and outreach on indoor and outdoor water conservation, with a focus on practical household actions, seasonal demand reduction, and climate-related water awareness.
5.1.02	Advocate to the Government of BC, Government of Canada, and other partners to develop strategic financing tools for home and building owners, and to support tenants to accelerate low-carbon resilient building upgrades (e.g., Property Assessed Clean Energy (PACE) financing).
5.1.03	Continue working with Metro Vancouver to align coordination between all member jurisdictions on climate adaptation and resilience.
5.1.04	Understand the policy and funding priorities of senior governments and seek to align project timelines with calls for proposals to leverage opportunities.
Enhanced	
5.1.05	Share data and new technologies and plan together with senior governments and key interest holders where relevant to improve decision-making for climate adaptation and resilience.
5.1.06	Continue to collaborate and build and strengthen relationships with community-serving organizations and support their ability to deliver services and assistance throughout all phases of climate-related emergencies, including preparedness, response, and recovery.
5.1.07	Continue to participate in opportunities for collaborative governance with neighbouring municipalities, external organizations, and other partners along the lower Fraser River and advocate for increased collaborative governance with local First Nations, with respect to climate-related hazards such as flooding and associated geohazards.
5.1.08	Collaborate with the Ministry of Transportation and Transit to support runoff control to help prevent flooding and improve water quality.
New	
5.1.09	Work with infrastructure partners (e.g., Government of BC, Vancouver Fraser Port Authority, Metro Vancouver, utilities, and TransLink) on interdependencies, service continuity, and identification of essential services within the City of New Westminster for climate adaptation planning.
5.1.10	Work with community partners to identify climate change impacts and solutions to support the local supply chain and network.

THEME 6

Leading Climate Resilience

GOAL

Climate risk and resilience are integrated into day-to-day decision-making and operations at the City.



What This Means

The City can be a leader by considering and incorporating low-carbon resilience into everyday decisions.

Why This Matters

By making climate resilience a regular part of how the City plans, operates, and makes decisions, the City can strengthen coordination, support effective plan implementation, manage risks, and ensure ongoing delivery of essential services and functions during climate-related events.

This will also build confidence that the City is accountable in advancing low-carbon resilience thoughtfully.



What the City is Doing

- **Integrating climate risk and resilience** into City decision-making, planning, and policies.
- **Identifying operational risk** protocols for outside City workers during extreme events.
- **Building organizational capacity** and accountability for climate adaptation and emergency preparedness through staff training, tools, communications, and continuous improvement.

What Community Members Can Do

- **Stay informed** about local climate action and resilience efforts by following City updates.
- **Participate** in, and share lived experiences, local knowledge, and ideas through City engagement opportunities to help improve climate resilience planning and decision-making.
- **Advocate** for climate-resilient policies, investments, and programs that support a safer, healthier, more equitable, and low-carbon community.

Priority Climate Hazards

All hazards

River Flooding
Heavy Rainfall
Extreme Heat
Extreme Cold
Drought
Wildfire Smoke
Storm Events
Slope Failure
Slow Onset Climate Change

Low-Carbon Resilience

- Integrating climate resilience and greenhouse gas reduction considerations into City decision-making, planning, operations, investments, and long-term asset management

Truth and Reconciliation

- Supporting consideration of Truth and Reconciliation in City decision-making, policies, plans, and climate resilience initiatives

Equity and Accessibility

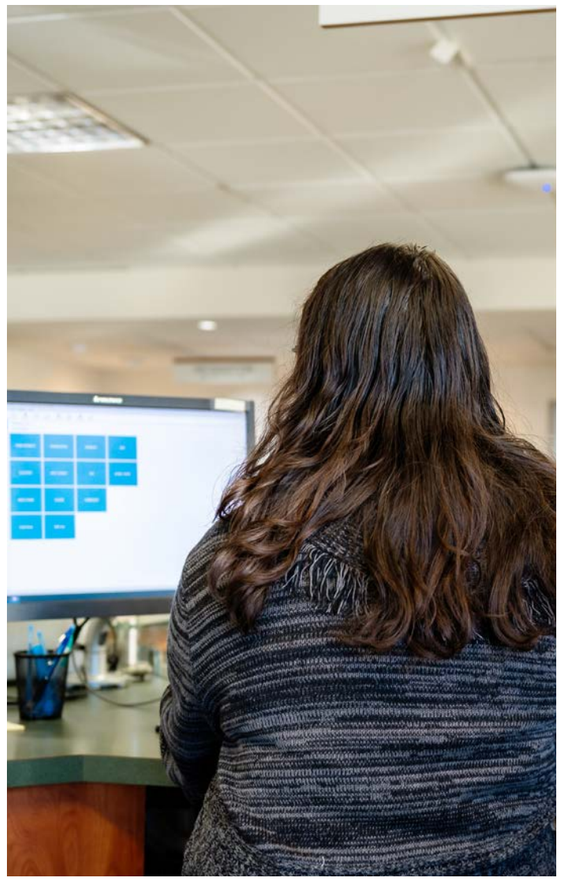
- Embedding equity and accessibility considerations into City decision-making, planning, and implementation to help ensure climate resilience actions benefit all community members

Co-Benefits

- Improved decision-making
- Strengthened reliability of community services
- Reduced greenhouse gas emissions

Alignment with Shared Priorities

- City of New Westminster Strategic Priorities Plan: Asset Management and Infrastructure
- City of New Westminster Official Community Plan: Energy, Emissions and Climate Change; Hazard Management; Utilities and Service Infrastructure
- City of New Westminster Seven Bold Steps for Climate Action:
  - Carbon Free Corporation



Strategies and Actions

STRATEGY 6.1

Strengthen City decision-making, operations, and staff capacity to prepare for and manage climate risks, maintain essential services, and protect health and safety during climate-related events.

#	Action
Existing	
6.1.01	Explore the viability of innovative financial and incentive mechanisms to advance and support delivery of local low-carbon resilient solutions for City facilities.
Enhanced	
6.1.02	Develop climate-informed guidelines for outdoor events and functions that establish minimum requirements to support the health, safety, and comfort of workers, volunteers, vendors, and attendees during extreme heat, adverse air quality, extreme rainfall, and other climate-related conditions.
6.1.03	Continue to review and update reserves to keep up with the frequency and intensity of extreme weather events.
6.1.04	Update and expand the Climate Action Decision-Making Framework to include adaptation and resilience to ensure the tool supports funding decisions for incremental resilience initiatives in capital projects.
6.1.05	Continue to improve cross-departmental communication during climate-related events to build awareness, improve access, and ensure staff know where to find internal notifications and updates before and during extreme weather emergencies.
6.1.06	Enhance data collection, monitoring, and tracking of climate impacts and resilience measures to support maintenance, capital planning, emergency response, and communication of progress over time.



6.0 Implementation

6.0 Implementation

The Climate Change Adaptation and Resilience Plan is the first iteration of a plan to guide reducing climate risk and building climate resilience in New Westminster.

It provides the strategic goals, strategies, and actions for the next 10 years needed to build on existing City plans, programs, and initiatives already underway across City departments.

Implementing the Plan is a true collaborative effort across departments, led by the Climate Action team. Lead departments, supporting departments, and key partners have been identified for each action. Each action is flexible to the implementation needs of the department and shifting community context, while aligning with the Plan's foundational lenses and guiding principles.



6.1 Implementation Framework

An implementation framework (**Appendix F**) was developed outlining the cost range, timing, and departments involved in implementation for each action. The guiding principles and four interconnected lenses will guide ongoing implementation alongside cost and timing details, supporting prioritization of the most impactful, transformative, yet achievable actions.

The actions are categorized by type:

- Policy, Planning + Design (PPD)
- Capital Projects (CP)
- Programs + Services (PS)
- Education + Advocacy (EA)
- Regulations + Requirements (RR)

The actions will be implemented on an ongoing basis or phased according to the following timelines, reaffirmed through annual budgets cycles and ongoing community engagement:

- **Ongoing:** Sustained action integrated into operations and service delivery
- **Short-Term:** To be initiated or advanced within a 0–5-year time frame
- **Medium-Term:** To be initiated or advanced within a 6–10-year time frame
- **Long-Term:** To be initiated or advanced in 10+ years

6.2 Cost of Inaction

The cost of inaction continues to grow as climate-related risks and impacts increase.

Increasing frequency of climate events and the subsequent recovery can quickly lead to the accumulation of replacement and recovery costs. Climate change presents challenges and opportunities, and investing in climate preparedness today will save resources down the road and help to reduce long-term risk to communities. A diversified funding approach, including municipal investment, grants, partnerships, and other funding sources, will help support implementation over time. **Appendix F** shares a cost range for each action, and detailed workplans will be developed.

The value of what could be harmed by climate change cannot be captured in a dollar amount. It is important to invest in and take action to protect life, livelihoods, homes, nature, places of rest and refuge, cultural assets, social gathering places, and more. It is important to consider the diversity of values at risk when taking action and accounting for loss.

6.3 Measuring Success

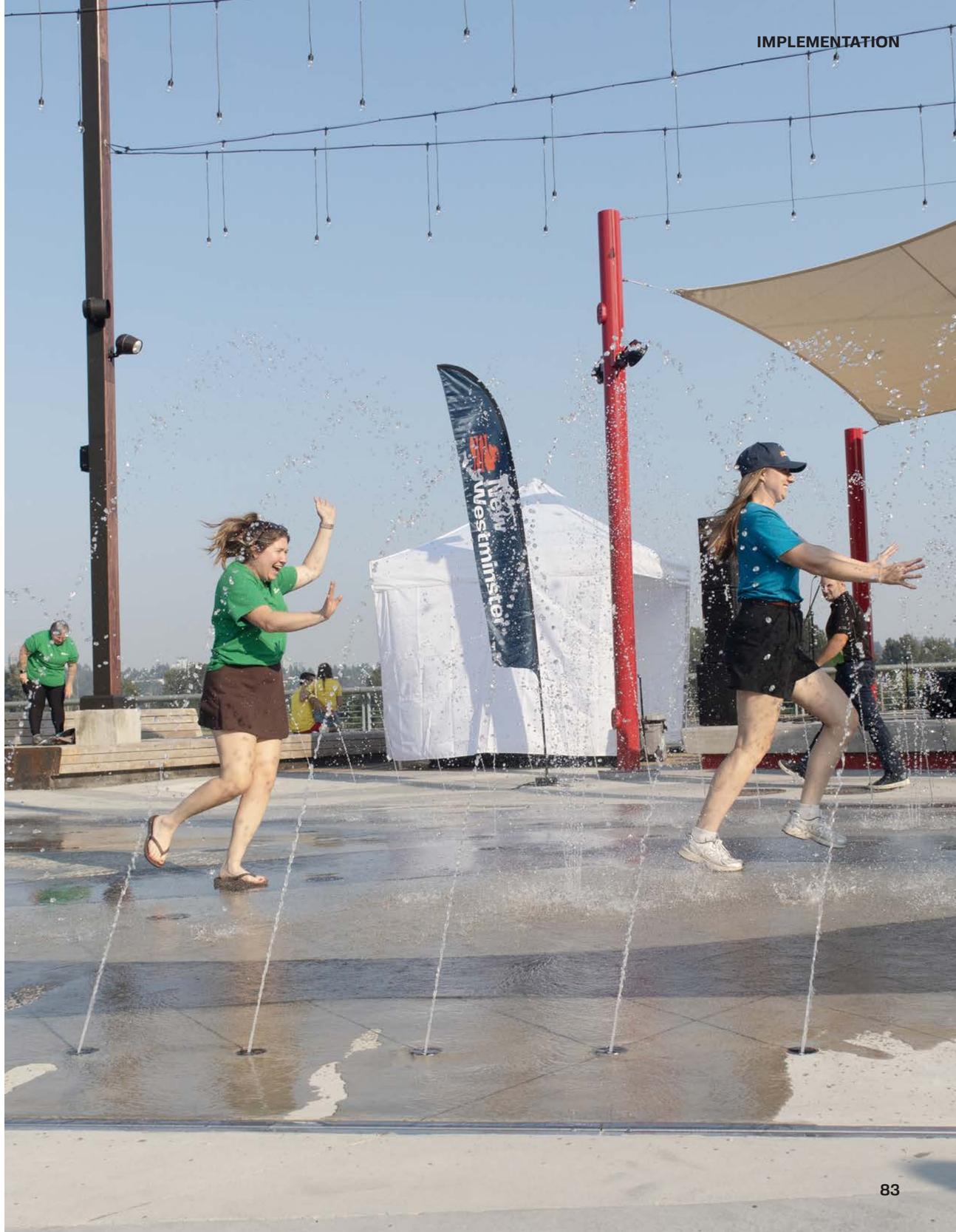
The City's understanding of climate change and the characteristics of climate-related hazards will continue to evolve through the study of events that occur and the work of the international scientific community.

The Plan will be reviewed annually with updates taking place on a five-year cycle, ideally aligned with the release of the latest International Panel on Climate Change (IPCC) reports and data. This will ensure that the Plan remains current and effective.

In addition to a plan review cycle, a system has been established for monitoring the progress of plan implementation and the success of the actions in reducing risk and building resilience. Plan progress will be monitored and reported by the Climate Action team regularly in terms of the number of actions underway or completed. As the Seven Bold Steps Dashboard is updated and refreshed, an adaptation lens may be incorporated to help track the progress of the Plan.

Measuring the success of resilience and adaptation actions is challenging because it attempts to measure risks and damages that were avoided. Adaptation requires continual and ongoing adjustments. Climate impacts unfold over long timeframes, many outside factors influence results, and successful adaptation often prevents problems that would otherwise be difficult to observe or quantify. Therefore, the potential progress indicators will support with measuring progress towards the vision of the Plan.

The City has developed a set of potential progress indicators that will be measured regularly. Please see the Monitoring & Reporting Framework in **Appendix G** for more details.



Appendix A: Summary of Preliminary Research to Inform the Climate Change Adaptation and Resilience Plan

New Westminster Climate Change Adaptation and Resilience Plan

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Introduction

This document summarizes the preliminary research and analysis conducted during phase one of the Climate Change Adaptation and Resilience Planning (CCARP) process, carried out from May to July 2025. The purpose of this phase was to establish foundational local climate change context and compile reference materials to inform the development of the CCARP.

As part of phase one, the Internal Working Group (IWG) and External Advisory Group (EAG) reviewed local climate projections, identified key climate-related hazards, and discussed how different parts of the community may be more vulnerable to these risks. The groups also explored current strengths and opportunities to build resilience and support the City's climate readiness efforts. A list of the departments for the IWG and organizations in the EAG can be found in Appendix A-1 of this report.

This summary highlights key climate-related hazards within the scope of the Plan, along with associated exposure, vulnerability, and resilience factors. This foundation will inform evidence-based decision-making as the CCARP development process advances.

Key Terminology

The following defines key terminology used throughout phase one of CCARP development:

- A **hazard** is an event that has the potential to cause harm such as wildfires and floods. A **climate-related hazard** is a natural hazard where the frequency, intensity, duration, or location is influenced by climate change.
- A **slow onset climate risk** is a gradual change as compared to a hazard event which is acute. Slow onset climate risks include sea level rise, invasive species spread, and ocean acidification. Climate change is also a risk multiplier, making existing patterns worse, such as accelerating biodiversity loss.
- **Exposure** refers to the presence of people, ecosystems, infrastructure, or other assets in locations that could be adversely affected by the hazard. Some hazards, like landslides, are very place specific, whereas extreme heat events cover large areas with variations in exposure related to physical environment and home and work conditions.
- **Vulnerability** acts to amplify the consequences or impacts of a hazard event. People, things, and systems that are more susceptible to negative impacts from the event are generally more vulnerable. Vulnerability is complex and includes links directly back to systemic inequities and broad determinants of health.
- **Equity** refers to just and fair inclusion where all individuals can thrive. Working towards equity acknowledges that people are not all the same, and some folks experience barriers caused by injustice.
- **Risk** refers to the combination of the likelihood of a hazard event occurring and the severity of the consequences resulting.

Climate Projections and Hazards

As part of phase one, climate projections were reviewed for New Westminster. These projections compare past climate conditions (based on data from 1981–2010) with two future time periods: the 2050s (2041–2070) and the 2080s (2071–2100). Two possible future scenarios are shown:

- A **moderate emissions scenario**, where emissions begin to stabilize mid-century, with approximately 2°C of warming globally by 2100; and
- A **high emissions scenario**, which reflects more extreme climate change, with approximately 4°C of warming globally by 2100.

It is important to note that generally the severity of climate hazards and impacts increases with increase in global temperatures. While planning for the worst-case scenario is considered best practice, using both scenarios helps provide a clearer picture of what the future may hold. Given the uncertainty of future global greenhouse gas emissions and evolving climate science, climate projections and adaptation plans should be reviewed every 5–10 years to ensure they remain effective and relevant.

Overall climate trends and a list of non-exhaustive impacts projected for British Columbia are displayed below in table 1.

Table 1. Overall climate trends and impacts projected for British Columbia

Climate Trend	Climate Impact
Hotter, drier summers	Increased risk of drought and wildfire
	Increased risk of heat-related illnesses and stress
	Increased aeroallergen level (substances in the air, like pollen, that can cause allergic reactions)
	Reduced ecosystem connectivity, decline in biodiversity
	Increased need to update homes without cooling infrastructure
	Increased need for cooling stations and shelters across the community
	Increased stress on water supply
	Decreased air quality, which can result in elevated risks of respiratory and cardiovascular illnesses
Warmer, wetter winters	Increased extreme rainfall events, such as atmospheric rivers, which can cause flooding
	Increased extent of pests due to warmer winter temperatures (e.g., mosquitoes, ticks), resulting in vector-borne diseases
	Increased invasive species and a decrease of native species
	Increased need to update storm water infrastructure and diking systems
Rising sea levels, ocean warming, and acidification	Changing regional biodiversity ranges for species
	Increased risk of saltwater intrusion
	Increased risk of coastal and Fraser River flooding

These trends include slow-onset climate risks and are expected to have wide-spread impacts on systems including, but not limited to, public health, infrastructure, ecosystems and local food.

Appendix A-2 contains tables that present climate variables for each emissions scenario.

Equity Considerations Overview

Vulnerability to climate change recognizes that some individuals or groups may face greater risks due to social, economic, health, and environmental factors, or a combination of multiple factors, many of which are beyond their control. To ensure the CCARP responds to the needs of the whole community, it is important to engage with those who may be more affected by climate-related impacts. Listening to their lived experiences will help shape more inclusive, equitable, and effective solutions. Below is a table of groups (not exhaustive) within the City of New Westminster that may face disproportionate impacts from climate change (presented in no particular order), with examples of exposures and vulnerabilities they may have.

Table 2. Identified groups that may face disproportionate impacts from climate change.

Identified Groups	Potential Vulnerabilities
Older Adults (65+)	More likely to have underlying health conditions that are aggravated by extreme events, like storms, extreme heat, and wildfire smoke (especially for socially isolated individuals).
	Individuals without vehicles or convenient public transportation options may have more difficulty reaching public refuge spaces (e.g., cooling centre).
Infants, Children, and Youth	Have immature thermoregulatory systems and may depend on others for hydration and cooling during extreme heat events.
Women	Important to ensure that they feel safe and welcome in cooling centres and other community shelters.
	For pregnant individuals, have risk for pregnancy-related complications from extreme heat and air quality.
People Living Alone	Have heightened vulnerability to extreme heat events because of limited access to help and resources during emergencies.
	May have issues with receiving emergency communications or information about preparing for an event.
People with Pre-Existing/Chronic Health Conditions	Certain conditions and medications can impact thermoregulation abilities.
People with Diverse Mental, Physical and Sensory Abilities	Power outages during extreme events can affect mobility for individuals that rely on electrical lifts and devices.
	Possibility of evacuation because of an extreme weather event can create anxiety.
	Individuals with mobility issues may experience extreme heat events more significantly as it may be harder to access cooling or hydration.
	May face mobility and other challenges accessing supports (e.g., cooling spaces).
Urban Indigenous Peoples	Extreme heat can impact cultural practices, food sovereignty, and community events.
People Who Work Outdoors or in Hot Environments	Individuals can experience unsafe work conditions (especially without air filtration) during extreme heat and wildfire smoke events.
New Immigrants / People with Linguistic Barriers	May have issues with understanding emergency communications or information about preparing for an event.
People of Colour	Important to ensure that they feel safe and welcome in cooling centres and other community shelters.

People Earning Low Incomes	May have barriers with energy affordability and/or lack of awareness of active and passive cooling measures to help prepare for events, such as extreme heat or wildfire smoke events.
People Who Rent and/or Live in Stratas	May live in older buildings, which are more likely to overheat due lack of cooling, their design, and need for maintenance or retrofits for new climate conditions.
	Tenants may lack control addressing issues like inadequate heating and cooling systems, flood protection, energy costs, and the impact of climate change on housing affordability.
People Experiencing Precarious Housing or Homelessness	Can have greater exposure to extreme climate events, such as extreme heat, wildfire smoke, and storms.
People with Substance Use Challenges	Some substances can impact thermoregulation and awareness, which can impair recognition of overheating during extreme heat events.
People Experiencing Mental Health Challenges	Extreme weather events can trigger or worsen conditions like anxiety, depression, and post-traumatic stress disorder.
	Some medications can affect heat perception; certain conditions may impair recognition of overheating during extreme heat events.
People Who are Gender and/or Sexually Diverse	Important to ensure that they feel safe and welcome in cooling centres and other community shelters.

Additional work will be completed in the following phases to better understand lived experiences of populations and how intersectionality will increase exposure to climate risks in the City of New Westminster.

Strengths Overview

New Westminster was identified as a leading municipality in the Lower Mainland in terms of initiatives and actions to mitigate, prepare for and respond to extreme heat events. The recent 2022 Flood Resilience Plan is also leading edge, incorporating climate change considerations and recommending appropriate next steps. New Westminster has climate resilience-related actions in hazard-specific studies and policies and embedded throughout community plans and programs. An important principle of this project is to build on existing work, address gaps, and take advantage of new action opportunities. Current identified strengths of the City include:

- **Evidence-based planning:** hazard-exposure studies that integrate current and future climate conditions.
- **Targeted preparedness:** Up-to-date, single-hazard plans, particularly for extreme heat and wildfire smoke and translates them into concrete risk-reduction actions.
- **Nature-based solutions oriented:** incorporates green infrastructure and ecosystem approaches wherever feasible.
- **Resilient-building framework:** policies and requirements that drive the construction and retrofitting of climate-resilient homes.
- **Clear public outreach:** consistent, accessible communication that keeps residents informed about emerging hazards and protective measures.
- **Proven emergency response:** effective response plans for key climate-related events, demonstrating capacity to act quickly when threats materialize.

Opportunities Overview

The CCARP will build on existing work, address climate resiliency gaps in the City, and take advantage of new opportunities. Through the IWG and EAG, multiple lenses and expertise will help determine where there are areas for collaboration and recognize where further work is needed to strengthen or implement climate adaptation efforts. Preliminary identified opportunities include:

- **Equity-centered approach:** Maintain a focus on supporting vulnerable populations across a range of climate-related hazards, including heat, air quality, and energy access.
- **Integrated hazard analysis:** Align hazard studies with evolving climate risks and consider compound climate events (e.g., smoke during heatwaves or power outages).
- **Infrastructure adaptation:** Improve road redundancy, resize culverts for climate resilience, and upgrade aging infrastructure such as pump stations through proactive asset management.
- **Energy resilience and indoor health:** Address energy poverty and retrofit older buildings to ensure sufficient electrical capacity for cooling and improved indoor air quality.
- **Nature-based and green infrastructure planning:** Apply a climate lens to trade-offs and promote guidelines for integrating green infrastructure and nature-based streetscapes.
- **Local food systems planning:** Advance a community food strategy and expand opportunities for local food growing.
- **Collaborative communications:** Enhance public communication efforts through coordination with the health authority and community partners.
- **Incorporate Indigenous Knowledge:** Advance reconciliation and build relationships with local first Nations through the development of the CCARP.

CCARP engagement will aim to collect broader perspectives, especially from community members most disproportionately impacted by climate change, on existing strengths and gaps relevant to the project.

Appendix A-1
Internal and External Project Group Members

Internal Working Group (IWG) Departments:

- Community Services
- Emergency Management Office
- Energy and Climate Action
- Engineering and Public Works
- Finance and IT Services
- Library Services
- Parks and Recreation
- Planning and Development

External Advisory Group (EAG) Organizations:

- Fraser Basin Council
- Condominium Home Owners Association (CHOA)
- Translink
- BC Non-Profit Housing Association
- Fortis BC
- Ministry of Energy and Climate Solutions
- LandlordBC
- Downtown New West BIA
- City of Surrey
- Fraser Health
- BC Hydro
- Metro Vancouver
- City of Coquitlam
- School District 40

Appendix A-2
Climate Data Tables

The following tables present climate change variables and projections related to slow-onset climate risks. All tables reference the historical baseline period 1981-2010 (1990s or past) and two future time periods that represent the average across a 30-year period (i.e., 2050s is the average of the time period 2041-2070 and 2080s is the average of the time period from 2071 to 2100).

Climate Variables	Past (1990s)	By 2050s		By 2080s	
		Moderate Emissions Scenario	High Emissions Scenario	Moderate Emissions Scenario	High Emissions Scenario
Frost Days (days when the minimum temperature is below 0°C sometime during the day)	42 days	16 days	13 days	10 days	5 days
Frost Free Period (days)	234 days	296 days	303 days	312 days	334 days
Minimum winter temperature (°C)	1.1°C	3.2°C	3.8°C	3.9°C	5.4°C
Freeze thaw cycles *	24 days	9 days	7 days	5 days	2 days
Coldest day annually (°C)	-10.1°C	-5.2°C	-5.4°C	-5.1°C	-1.9°C
Growing degree days ^	2172 dd	2774 dd	2961 dd	3000 dd	3718 dd
Average total winter precipitation (mm)	551mm	587mm	578mm	593mm	609mm (+10.5%)
Average total spring	304mm	315mm	320mm	322mm	337mm (+11%)

precipitation (mm)					
Average total fall precipitation (mm)	431mm	468mm	470mm	482mm	515mm (+16%)

*Count of days when the air temperature fluctuates between freezing and non-freezing on the same day
^ Growing degree days provide an index of the amount of heat available for the growth and maturation of plants and insects.

Table 4. Climate Projections for variables related to floods

Climate Variables	Past (1990s)	By 2050s		By 2080s	
		Moderate Emissions Scenario	High Emissions Scenario	Moderate Emissions Scenario	High Emissions Scenario
Maximum 1-day total precipitation (mm)	50mm	55mm	56 mm (+11%)	56mm	61mm (+22%)
Maximum 5-day rainfall (mm)	117mm	126mm	127mm (+8%)	131mm	135mm (+22%)
Total rainfall on 1:20 wettest days (mm)	82.5mm	87mm	110mm (+33%)	103mm	118mm (+26%)
Intensity and frequency of heavy rainfall (95th)*	276mm (median)	326mm	346mm (+25%)	337mm	477mm (+72%)
Intensity and frequency of heavy rainfall (99th)*	93mm	120mm	130mm (+40%)	126mm	199mm (+87%)

*Measure of how much total annual precipitation falls during the wettest days of the year, specifically on days when the precipitation exceeds a threshold set by the annual 95th and 99th percentile of wet days from the baseline period (1971-2000).

Table 5. Climate projections for variables related to extreme heat.

Climate Variables	Past (1990s)	By 2050s		By 2080s	
		Moderate Emissions Scenario	High Emissions Scenario	Moderate Emissions Scenario	High Emissions Scenario
Hottest Day Annually (30°C)	29.9°C	32.5°C	33.3°C	33.5°C	36.2°C
# of days with Max temp > 30°C annually	1 day	8 days	12 days	10 days	35 days
# of days with humidex above 30°C annually	19 days	41days	51days	52 days	86 days
# of days with nighttime max temp above 18°C annually	0 days	2 days	5 days	4 days	22 days
Cooling degree days (degree days) *	60 dd	203 dd	283 dd	272 dd	590 dd

* Cooling degree days (CDD) are equal to the number of degrees Celsius a given day's mean temperature is above 18 °C. For example, if the daily mean temperature is 21 °C, the CDD value for that day is equal to 3 °C.

Table 6. Climate projections for variables related to drought.

Climate Variables	Past (1990s)	By 2050s		By 2080s	
		Moderate Emissions Scenario	High Emissions Scenario	Moderate Emissions Scenario	High Emissions Scenario
Average snowpack in north shore watershed areas* (cm)	208cm		93cm (-55%)		49cm (-75%)
Consecutive dry days	23 days	24 days	25 days	26 days	28 days
Total summer rainfall (mm)	150mm	140mm	130mm (-13%)	130mm	127mm (-15%)

*source: Climate Projections for Metro Vancouver, developed with the high emissions scenario only.

Appendix B: Summary of the Climate-Informed Hazard, Risk, and Vulnerability Assessment Report

New Westminster Climate Change Adaptation and Resilience Plan

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Risk assessments are a foundational step in developing climate change adaptation and resilience plans. They are required under the BC Emergency and Disaster Management Act (EDMA)[1] which stipulates that local governments consider vulnerability and the influence of climate change within risk assessments. Associated regulations are anticipated in 2027.

This report summarizes the climate-informed Hazard, Risk, and Vulnerability Assessment (HRVA) completed for the City of New Westminster in December 2025 as part of developing a Climate Change Adaptation and Resilience Plan (CCARP). The climate-informed HRVA follows the same methodology applied in the development of the existing City all-hazard HRVA, completed in 2023. The stated purpose of an HRVA, as per BC government guidance, is "*to help a community make risk-based choices to address vulnerabilities, mitigate hazards, and prepare for, respond to, and recover from hazard events.*"[2] This climate-informed HRVA assessed the following hazards:

- river (riverine) flooding, pluvial (rainfall) flooding;
- extreme heat (including heat dome and compound heat/power outage scenarios);
- extreme cold;
- drought;
- wildfire smoke;
- storm events; and
- slope failure.

[1] Government of B.C. 2023. Emergency and Disaster Management Act.
[2] Government of B.C. 2020. Hazard, Risk and Vulnerability Analysis (HRVA) For Local Authorities and First Nations; Companion Guide for the HRVA Tool.

Slow-onset climate changes such as ecosystem degradation are addressed in broader project methods. Hazard-specific scenarios applied in this climate-informed HRVA are attached as Appendix B-1.

Risk is a function of the likelihood that a hazard scenario will occur and the severity of its consequences *(Risk = Consequence x Likelihood)*. The assessment included identifying potential hazard impacts, discussing associated vulnerabilities and scoring the likelihood and consequences using the BC HRVA tool. Climate change was incorporated by adjusting likelihood estimates for mid-century (2050s) and end-of-century (2080s) conditions under both a medium emissions climate change scenario (SSP2-4.5) and a high emissions climate change scenario (SSP5-8.5). More information about the climate projections can be found in the Summary of Preliminary Research to Inform the CCARP[3].

Consequences were rated across seven categories: health and safety, property and displacement, environment, public infrastructure and services, economy, cultural impacts, and reputation. Ratings were developed through participatory workshops with City staff in the Internal Working Group and partners with the project's External Advisory Group. HRVA methods have inherent limitations including the uncertainty associated with estimating future likelihood with climate change and the subjectivity of qualitative scoring of a limited set of perspectives. Availability bias, which is the tendency to overestimate the likelihood of events when they readily come to mind, leads participants to focus on recent or memorable events rather than the objective scenario presented.

In addition, we acknowledge that not accounting for the compounding and cumulative risks is a limitation to how risk is understood and prioritized. For example, environmental degradation is impacted by multiple hazards and their compounding and cumulative impacts. Environmental degradation both influence and is influenced by climate change, and the complexity is not accurately accounted for in this Report. HRVA scoring does not adequately capture the importance and the intrinsic value of ecosystems and environmental systems.

As well, because this Report is solely looking at climate change impacts. Other parallel influences that are not strictly because of climate change (such as certain types of habitat loss) can impact climate risks and hazards, resulting in complexity that is not considered in this Report.

However, HRVA methods still provide valuable insights. When these are integrated with public engagement findings and current risk reduction efforts, they help pinpoint priority areas for future action planning.

Representatives from the Tsleil-Waututh (səlilwətaɬ) and Kwikwetlem (kʷikʷəƛəm) First Nations participated in the External Advisory Group workshop that provided input to the risk assessment. Moving forward, it will be important to review any risk assessments completed by First Nations in the area to identify similarities and differences and opportunities for collaboration.

[3] New Westminster City Council, July 14, 2025, Climate Change Adaptation and Resilience Plan Project – Phase One: Attachment 1: https://pub-newwestcity.escribemeetings.com/filestream.ashx?DocumentId=22756

Extensive public engagement was completed during phase two of the project from September 8 to October 30, 2025, as laid out in the accompanying What We Heard Report. Themes from engagement have been integrated with the HRVA results to guide prioritization for action planning, which will be undertaken from February to May 2026.

Key Findings

Table 1 below shows current risk with low risk in light blue, moderate risk in yellow and high risk in red, using the BC HRVA framework. The vertical axis shows the likelihood of the events increasing from rare (A) to frequent (E) events and the horizontal access shows severity of consequences increasing from left to right.

Extreme heat was represented by three hazard scenarios in this climate-informed HRVA, a scenario similar to the 2021 heat dome event, a scenario representative of an extreme heat emergency as detailed in the BC Heat Alert and Response System (BC HARS), and a compound event which is an extreme heat emergency level temperature event with a concurrent power outage.

Table 1. Risk Matrix Table - Current Time Period Risk Matrix Table (BC HRVA framework)

Likelihood

E					
D		Extreme Heat			
C		Drought Extreme Cold Wildfire Smoke	Heavy Rainfall Storm Event		
B			River Flood		
A			Heat Dome Compound Event Slope Failure		

Consequence

Table 1 illustrates that most climate-related hazards currently pose a moderate risk, with heavy rainfall events, storms and river flood hazard being the greatest concerns. Heat Dome type events, the compound event (high temperature and power outage), and slope failure remain in the low-risk category at present due to their low likelihood or frequency. The average likelihood and consequence of the climate hazards within this matrix considers the work the City has done or is currently doing to help adapt to or mitigate these risks. However, this changes over time as climate change increases the frequency and intensity of these events, and as the City's work plan priorities may shift or adjust over time.

Table 1 also assumes that the City, as a whole, has similar exposure to storms, extreme temperatures, drought, and wildfire smoke; however, factors such as wind direction, microclimates, and shading can create localized variations in exposure.

Risk

Table 2 and Table 3 below show the current and future risk levels for climate-related hazards, incorporating the influence of climate change. The future risk profile for the 2080s is based on the high emissions climate scenario, representing conditions during the last 30 years of the century.

Table 2. Summary of risk findings by hazard

Hazard	Current Risk Profile	Risk Profile 2080s (high emissions climate scenario)
Heavy Rainfall and Storm events	Moderate risk. These hazards pose significant threats to public infrastructure and services, including roads, pump stations, and electrical systems. Consequences include flooding of transportation routes, mobility challenges, and power outages.	Move into high-risk category, with greater frequency and severity, stressing aging infrastructure and increasing the risk of service disruptions.
River Flooding	Moderate risk combining low likelihood but high consequences. A major Fraser River flood could cause widespread property damage, displacement, and cultural and environmental loss, particularly in Queensborough and Downtown.	Remains a moderate risk, amplified by sea level rise and higher freshet (higher water levels due to rainfall or snow melt) flows. Dike performance and floodplain management will be critical. Coordinating efforts on floodplain management with other jurisdictions will also be critical.
Extreme Heat and combined heat event with power outage	Heat emergencies (as defined by the BC Heat Alert and Response System)[4] occur frequently with moderate consequences (moderate risk), primarily health impacts and electrical system strain. More intense heat dome-type events and compound heat/power outages are rare (low risk), with risks of mortality, mental health stress, and infrastructure failure. Extreme heat also impacts and stresses native species to the area, such as Western redcedar.	Heat emergencies remain moderate risk, with heat dome-type events and compound heat/power outages shifting into the high-risk category. Health and safety impacts intensify, and infrastructure strain increases. Extreme heat strain will continue to stress native ecosystems.
Wildfire Smoke	Moderate risk today, with health and mental health impacts, social isolation, and disruption of outdoor activities.	Continues to be moderate risk with unknown long-term risks to health.
Drought	Moderate risk, affecting ecosystems, urban forests, and food security. Cultural impacts include threats to species such as western red cedar and salmon	Remain moderate risk with cascading impacts on health, ecosystems, and culturally significant species.
Slope Failure	Rare, low risk event but potentially damaging to utilities, transportation corridors, and cultural sites in localized areas.	Increases to moderate risk as these events could become more frequent due to rainfall intensifying and becoming more frequent.
Extreme Cold	Moderate risk, primarily affecting unhoused and poorly housed individuals, with risks of hypothermia and property damage from frozen pipes	As the climate warms, extreme cold events will become rare, moving these events to low risk.

[4] BC Provincial Heat Alert and Response System (BC HARS): 2025

Under a high-emissions scenario by the 2080s, heat dome events, heavy rainfall, slope failure and the compound event all shift into the high-risk category. River flooding continues to be a major concern, driven not only by freshet-related flows but also by ocean storms coinciding with high tides and the added element of sea level rise.

Table 3. Risk Matrix Table - Projected future risk 2080s (2071-2100) under high emissions scenario

Likelihood						
E		Extreme Heat Wildfire Smoke	Heat Dome Event			
D		Drought	Heavy Rainfall Storm Event Compound Event			
C			Slope Failure River Flood (1:100, 2025)			
B					River Flood (1:100, 2100)	
A		Extreme Cold				

Consequence

Because future changes to the City of New Westminster – such as land use and risk mitigation measures – are uncertain, the HRVA does not estimate future consequences. Instead, it adjusts likelihood to reflect climate change.

Subjective, high-level risk ratings, such as this assessment, are useful for comparing hazards and setting broad priorities, but they lack the precision needed for resource allocation or major investment decisions. While these ratings can inform adaptation and disaster risk reduction planning, more detailed risk assessments are typically required to support large-scale investments, such as flood or landslide mitigation infrastructure.

Vulnerability

Social vulnerability statistics and descriptions for New Westminster were detailed in Phase 1 project reporting and can be found in the July 14, 2025 Council Report[5]. Each hazard reviewed in the HRVA affects specific vulnerable people, places, animals, and assets, as detailed in the appendices of the detailed HRVA report. Across all hazards, common vulnerabilities that amplify impacts include aging infrastructure, housing type and tenure, social isolation, and inequities in access to cooling and clean air. Groups most at risk across hazards include seniors, renters, newcomers, unhoused individuals, and people with chronic health conditions.

Consequences

As part of the HRVA exercise, the Internal Working Group and External Advisory Group developed and reviewed impact statements. These are brief statements that identify the consequence of a hazard event and what/who is affected. For example: the risk of sewer backups in residential areas with combined sewers during heavy rainfall or high river levels. The following is a summary of impact themes across climate-related hazards:

- **Public infrastructure and services** is the dominant impact category across hazards, reflecting recurring exposure of roads, electrical systems, pump stations, and stormwater/sewer networks to multiple hazards.
    - Critical infrastructure stress and damage emerged as a recurring theme. Extreme heat drives electrical system strain and potential failure, while floods threaten transportation networks and cause impacts to pump stations and sewer outfalls.
    - Slope failure is more localized but can disrupt utilities and transportation corridors.
- **Health and safety** impacts are also prominent, particularly for extreme temperature and wildfire smoke events.
    - Physical and mental health are most directly impacted by extreme temperature and wildfire smoke, but risks also arise from traumatic climate events and post-flood mold exposure.
    - Prolonged heat and smoke events tend to drive mental health burdens and reduce community activity, increasing social isolation.
    - Acute events such as rainstorms, windstorms, and floods have the potential to disconnect community members from essential services, programs, and resources.
- **Property damage and displacement** are heavily represented for flood hazards (both riverine and heavy rainfall).
- **Environmental assets** are consistently at risk across hazards.
    - Environmental degradation and cultural loss often occur in parallel, particularly for Indigenous communities with close relational connections to nature. Low river flows and elevated stream temperatures threaten salmon, while western red cedar and other culturally significant species are affected by drought and a generally warming climate.
    - Examples of loss include that intertidal and foreshore habitats are at risk of damage and loss from flooding, and all climate hazards threaten the urban forest, which is critical for moderating temperatures and supporting well-being and biodiversity.
    - Intrinsic value of environmental assets is not accurately captured, and the environmental losses could not be accurately captured in the scope of this assessment.
- **Cultural assets** and practices are consistently at risk across hazards.
    - Environmental degradation and cultural loss often occur in parallel, particularly for Indigenous communities with close relational connections to nature.
    - Outdoor recreational and sports activity can get cancelled due to poor air quality or extreme weather, such as rainfall or heat, which can impact social connection, physical health, and mental health.
- **Economic** impacts were noted less frequently, which may reflect limited available data or the perception that localized disruptions do not significantly affect the regional economy. Impacts to outdoor workers from extreme weather events and impacts to the broader regional and provincial supply chains were discussed.
- **Reputational** risk emerges when residents perceive inadequate preparedness or response.

It is important to remember that while some of these hazard events have moderate or high consequences or likelihoods for one or several of the consequence categories, their placement on the matrix in Table 1 reflects the average consequences across the seven consequence categories. The average consequences also consider the work the City has done or is doing to help adapt to or mitigate these risks.

It is also important to note the HRVA scoring and consequence table does not fully capture the importance and the intrinsic value of ecosystems and environmental systems. These systems are foundational, regulating risk across all other categories, while also having intrinsic value in their own right. The scope of this Report compliments other City plans that have a greater focus on biodiversity, ecosystems, and environmental systems, such as the City's Biodiversity and Natural Areas Plan and the City's Urban Forest Management Strategy.

Public Engagement

The highest concerns from the first round of community engagement in fall 2025—extreme heat, flooding, and wildfire smoke—align closely with HRVA findings. Understanding public concerns and specific vulnerabilities discussed during round one community engagement helps ensure future actions address the drivers of vulnerability and are tailored towards disproportionately impacted members of the community. Embedding equity considerations and reaching individuals who do not traditionally participate in civic engagement are the priority for project engagement, providing a valuable complement to the risk assessment. High level messages related to hazards from the first round of public engagement are presented in Table 4.

[5]New Westminster City Council, July 14, 2025, Climate Change Adaptation and Resilience Plan Project – Phase One: https://pub-newwestcity.escribemeetings.com/filestream.ashx?DocumentId=22755

Table 4. High level messages related to hazards from round one project engagement

Hazard	Key Concerns	Key Impacts	Vulnerable Groups
Heat	• Apartments overheating • Lack of cooling options • Landlord restrictions • Rising energy costs • Stress to terrestrial and aquatic ecosystems • Loss of life	• Heat-related illness, hospitalizations, mental health stress • Unsafe coping strategies • Slowing down and missing work when hot	• Indigenous Peoples • Seniors • Renters • Unhoused or precariously housed individuals • Newcomers • People with chronic health conditions • Pets are vulnerable to extreme heat
Flooding	• Property damage from atmospheric rivers • Lack of preparedness • Communication gaps • Evacuation challenges • Fear of displacement	• Basement and parkade flooding • Long-term displacement • Disruption of building services (e.g., elevators) • Economic impacts for renters without insurance • Heat waves can dry out soil and vegetation, making them more vulnerable to flooding when it rains	• Indigenous Peoples • Renters • Seniors • Newcomers • People with disabilities • Pet owners, as pets must be evacuated
Wildfire Smoke	• Poor outdoor and indoor air quality • Health risks • Cancelled events • Lack of filtration options	• Respiratory health challenges • Cardiovascular impacts • Mental health stress during smoke + heat • Social isolation	• Indigenous Peoples • Seniors • Children • People with respiratory and chronic health conditions • Unhoused individuals • Pets are vulnerable to poor air quality

Next Steps

The climate-informed HRVA provides a high-level comparison of risks to help guide priority-setting. It will inform both an update to the City's all hazard HRVA (last updated in 2023) and the action development phase of the Climate Change Adaptation and Resilience Plan. Immediate next steps include reviewing top risks and public concerns against current risk reduction measures underway at the City of New Westminster. This analysis will identify key areas of focus for the action development phase scheduled in phase three of the project during February to May 2026.

Appendix B-1 – Hazard Scenarios

Hazard scenarios are used to describe how a specific hazard could realistically impact a community. They help local governments and First Nations visualize the potential consequences of a hazard and guide the assessment of likelihood and impact. Below are the scenarios used for each hazard in this climate-informed HRVA.

Wildfire Smoke (poor air quality)

Scenario: Wildfires burning south of the border and in the interior carpet the Lower Mainland with wildfire smoke for three consecutive weeks during the summer. The $PM_{2.5}$ concentrations are above 25µg/m^3 for much of the three weeks and the Air Quality Health Index is at high or very high in the City of New Westminster.

- The last time the AQHI (air quality health index) reached high or very high levels was during May, June and July of 2023 – the levels were due to ground level ozone and wildfire smoke. In total five air quality advisories were issued covering 10 days.
- $PM_{2.5}$ is fine particulate matter and typically consists of a mix of things such as soot and smoke in the air. It poses a risk to health because it can travel deeply into the lungs when inhaled.

Extreme Heat[6]

Heat Dome Scenario: The last day of June is beautiful with sunny weather and highs of 30°C in New Westminster. On Canada day, temperatures climb to 35°C during the day and the minimum temperature at night is 23°C. Temperatures on July 2nd are 37°C during the day and 20°C at night and on July 3rd they are 38.5°C during the day with a minimum nighttime temperature of 24°C. July 4th daytime temperatures lower to 32°C but nighttime temperatures stay at 24°C. Finally on the sixth day of above normal temperatures, daytime temperatures are at 25°C with a nighttime low of 18°C. Temperatures return to more seasonal levels after that.

Heat Emergency Scenario: It is the beginning of August in New Westminster, and the temperature is 30°C. The next few days are projected to be about the same temperature before cooler weather prevails. Nighttime temperatures are around 17°C.

Compound Event (Extreme Heat + Power Failure)

Scenario: It has been around 30°C in the Metro Vancouver Region for several days and a heat warning has been issued. The forecast may push the warning to an extreme heat emergency in the next few days. A transformer malfunction causes a power outage in New Westminster. The power has been out for 12 daytime hours and is forecast to be out overnight at minimum.

[6] Extreme Heat is divided into two different scenarios. As per BC Heat Alert and Response System, an Extreme Heat Emergency is when daytime maximum temperatures are expected to reach or exceed regional temperature thresholds for three or more consecutive days. A Heat Dome scenario is an extreme heat scenario caused by hot air trapped or slow-moving due to the atmosphere, so it is a prolonged heat emergency scenario.

Extreme Cold

Scenario: It is a Tuesday in early February, and the temperature has plummeted to -8°C in New Westminster over the last few days with further days below zero forecast through the rest of the week. Nighttime temperatures are reaching -12°C.

River Flood

Freshet Scenario: The winter had a higher-than-average snowpack around the province. The whole province is hit by several days of unseasonably warm weather in mid-May which triggers rapid snow melt over a large portion of the Fraser River watershed. The warming is followed by several days of heavy rainfall. Water levels in New Westminster along the Fraser River coincide with a 1:100-year flood (1% Annual Exceedance Probability (AEP)). The AEP is the chance, expressed as a percentage that a flood or extreme weather event of a specific size or greater will occur in any single year.

Heavy Rainfall Event

Scenario: It is November and a series of pacific low-pressure frontal systems sit over the Lower Mainland for several days. The soil in New Westminster is saturated ahead of receiving 119mm of rain over a 24-hour period.

- This is the volume of rain for a 24 hour 1:50 year return period storm historically.

Storm Event

Scenario: It is December and the temperatures are moderate at 4°C. High winds of 70km/hr are measured with strong gusts up to 80km/hr. Trees and power lines come down. The power is out for 12 hours affecting most of New Westminster.

Slope Failure

Scenario: Following days of heavy rainfall, a slope failure occurs in the Glenbrook Ravine. It impacts the culverts at the bottom of the ravine and the walking trail and creek, as debris falls from the top of the slope. Thankfully no one is harmed but there is settlement of structures built on the fills at the crest of the slope.

Drought

Scenario: It is late August and there has been very little precipitation in the City of New Westminster all summer. Average rainfall in June was 30mm; about half of normal. July had just 15mm of rain and it has rained less than 20mm in August so far. The Lower Mainland has been designated to be in drought level 5[7] since late June.

[7] Drought levels range from 0 to 5, where 0 is normal or wetter than normal weather, and 5 is a severe drought. Information can be found at: https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/drought-flooding-dikes-dams/drought-information

Appendix C: Climate-related Hazard Exposure Maps

New Westminster Climate Change Adaptation and Resilience Plan

New Westminster faces several climate-related hazards, including river (freshet) flooding and extreme heat. These hazards affect different areas of the city and pose different challenges and impacts to infrastructure and the community. The following exposure maps show where these hazards occur and what they affect, establishing the physical foundation for understanding risk.

River (freshet) Flooding

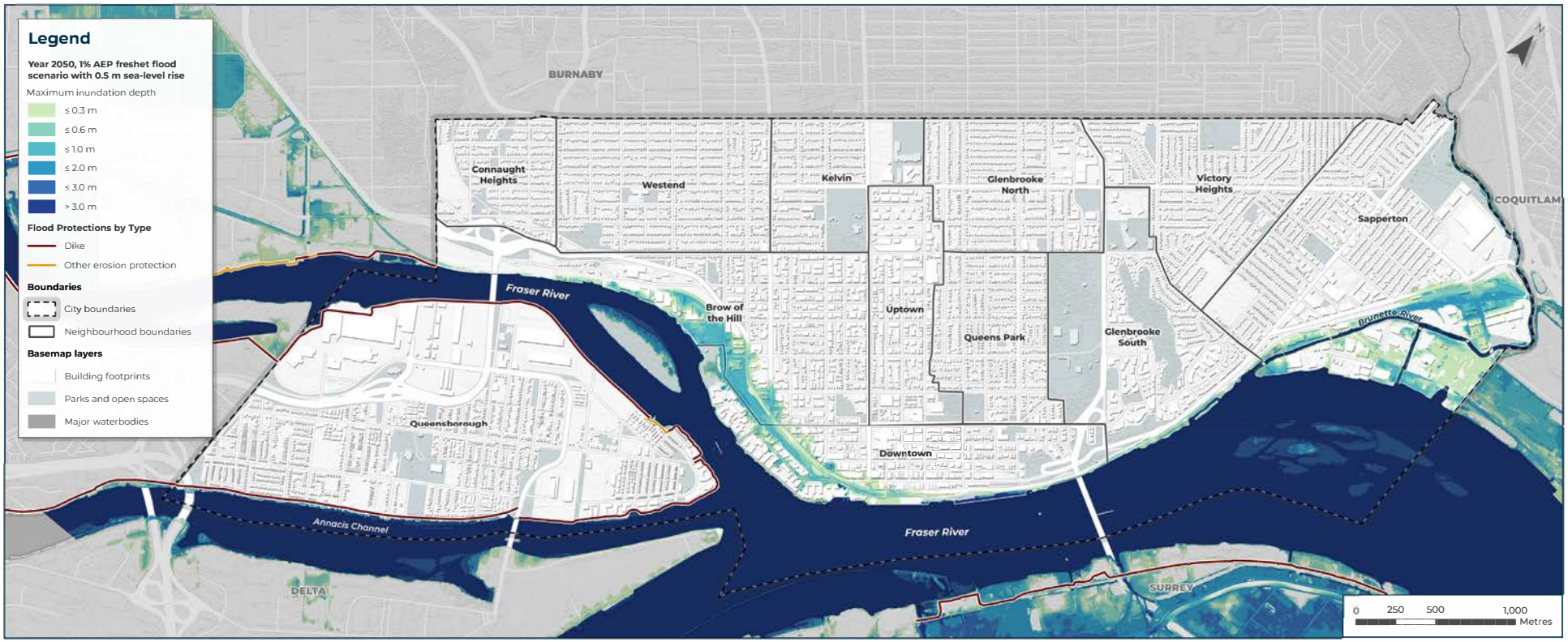
A freshet is the seasonal rise in river levels driven by snowmelt and rainfall in the watershed—the primary sources of flood risk along New Westminster's Fraser River shoreline. One river flooding scenario has been mapped for the Plan, representing a 1% annual exceedance probability (AEP), or 1-in-100-year flood event. The scenario projects mid-century conditions (c. 2050), accounting for climate change effects on ocean water levels and peak river flows based on the City's 2022 Flood Resilience Plan.

The map shows maximum flood-inundation depths across the city using a graduated colour scale, with dike infrastructure and erosion-protection measures identified.

Extreme Heat

Extreme heat in urban areas is significantly influenced by the urban heat island effect—the tendency of dense, built environments with high concentrations of paved surfaces to amplify and trap heat more effectively than natural or rural areas. Paved surfaces absorb heat throughout the day and re-radiate it back into the local environment slowly throughout the afternoon and evening, keeping temperatures high even after sundown. Where there are fewer trees, the natural cooling provided by tree canopy shade and evapotranspiration is largely absent.

Three complementary maps explore how extreme heat is distributed across New Westminster. The exposure map shows how surface temperatures vary across New Westminster between dense urban areas and neighbouring natural spaces and includes the locations of existing cooling facilities (cooling centres, outdoor pools, spray parks, and public misting stations). The tree canopy cover map reveals where natural cooling is present or absent at the neighbourhood scale. The impervious surface cover map identifies where heat is most likely being generated and retained.



Maximum Flood Depth: Year 2050, 1-in-100-Year Freshet Flood

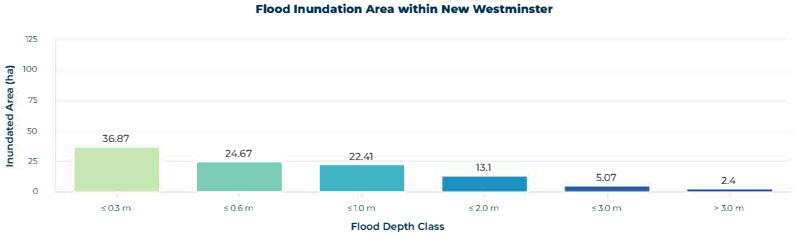
for the City of New Westminster

This map for the City of New Westminster provides a detailed view of projected flood inundation depths for a river freshet scenario with a 1% chance of occurring in any given year (i.e., a 1% annual exceedance probability (AEP), or 1-in-100-year flood). A freshet refers to the seasonal rise in river levels caused by spring snowmelt and rainfall, and represents the primary flood risk along the Fraser River.

Based on the City's 2022 Flood Resilience Plan (NHC, 2022), this scenario accounts for climate change effects on ocean water levels (0.5 m) and mid-century (c. 2050) peak river flows. Increasing inundation depths are shown in progressively darker shades of green and blue. The Queensborough dike is shown in solid red, and other erosion protection measures in solid orange. This map does not reflect projected flood-inundation depths for bridges in and between New Westminster and other Metro Vancouver municipalities.

In this scenario, maximum flood depths up to 2.0 m are anticipated along parts of the floodplain near the Brunette River in Sapperton. Low-lying areas south of Stewardson Way/Columbia Street in the Downtown and Brow of the Hill neighbourhoods are expected to experience flooding up to 2.0 m, with isolated sections potentially reaching 3.0 m.

The chart to the right provides the estimated area inundated at peak flood stage across New Westminster for each of the six flood depth classes, excluding normal waterways.



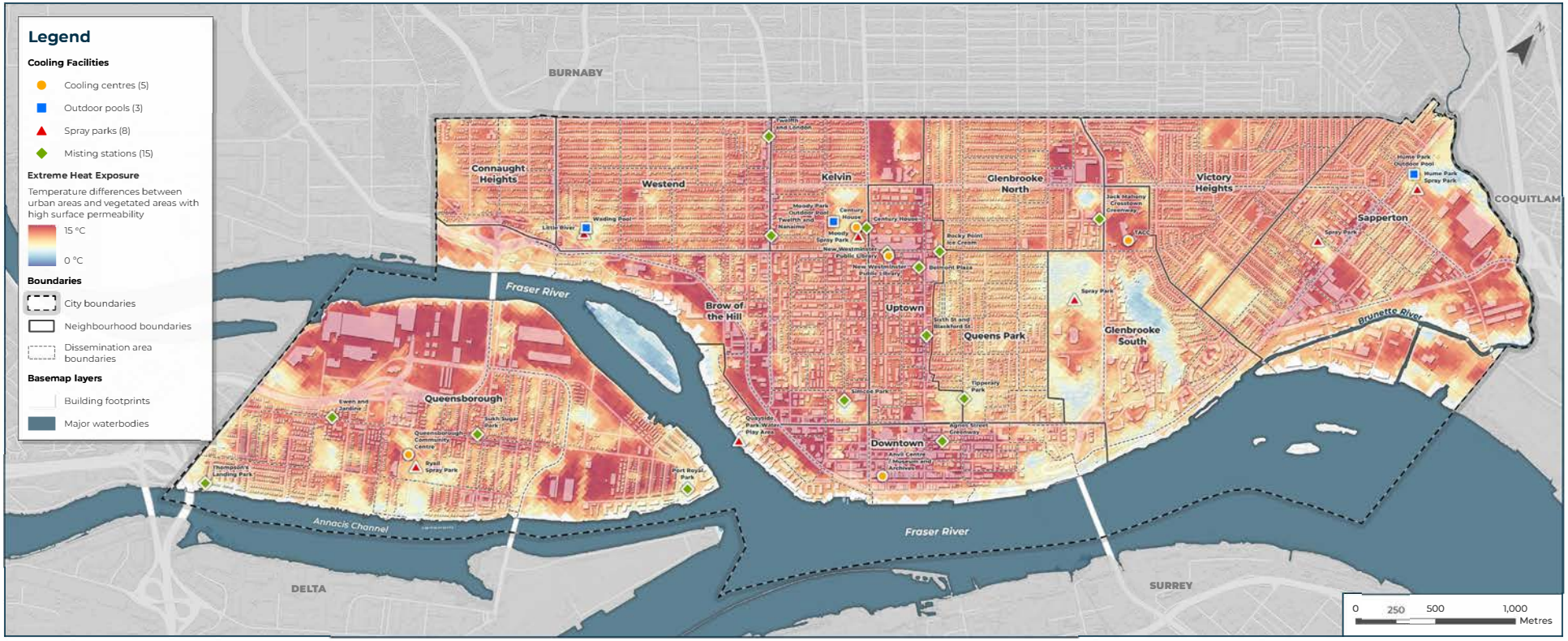
Map Series:
New Westminster Climate Change Adaptation and Resilience Plan

Source Data:
City of New Westminster flood plain management strategy update (NHC, 2022); Structural flood protections (BC Water Management, 2023); Waterbodies (Metro Vancouver, 2023); Lidar elevation data (GeoBC, 2017); Digital Road Atlas (GeoBC, 2025); all other data from the City of New Westminster.

Map Details:
Datum: NAD83
Projection: UTM Zone 10N
Scale: 1:24,000
Author: R.P. Reynolds
Date: 2026-05-04

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Extreme Heat Exposure with Cooling Facilities

for the City of New Westminster

This map uses data developed at Université Laval (2023) to explore how surface temperatures vary across New Westminster between dense urban areas and neighbouring natural spaces. Areas highlighted in darker shades of orange and red tend to be hotter, with higher concentrations of impervious surfaces and lower tree canopy cover, while those shown in lighter shades of yellow and blue indicate cooler areas.

These hotter areas can experience higher air temperatures during extreme heat events due to the urban heat island effect. As cities grow, forest cover and natural spaces tend to be lost to impervious surfaces like buildings, roads, and parking lots. Their darker surfaces and coarser materials absorb large amounts of solar heat during the day, increasing nearby surface and air temperatures as that heat is slowly released back into the environment. Tall buildings situated close to one another also limit air circulation, creating pockets of trapped heat that impede cooling. By contrast, areas near water, parks, and vegetated green spaces tend to experience lower temperatures and better air circulation, with tree canopy providing additional shade and promoting localized cooling breezes.

Certain buildings continue to accumulate or retain heat well into the night, resulting in elevated temperatures that compound daytime heat exposure. The degree of nighttime heat retention depends on building materials and orientation.

Air conditioning is not widely prevalent in residential buildings across New Westminster, leaving many residents with limited means to escape the heat during extended hot periods—a combination that can significantly increase heat-related discomfort, stress, and illness.

The City operates five official cooling centres, three outdoor pools, and multiple spray parks and misting stations where community members can seek temporary relief from extreme heat conditions. These locations are shown on the map as reference points for residents seeking heat relief. Other cool indoor spaces, such as libraries, museums, shopping centres, and similar public facilities, can also provide shelter during hot days.

Extreme heat can affect everyone; however, certain groups face an elevated risk of heat-related illness and death. Those whose work or lifestyle involves prolonged outdoor exposure, and those who are physiologically more vulnerable—including seniors, socially isolated individuals, young children, pregnant people, and individuals with certain pre-existing health conditions—are at greatest risk. The absence of air conditioning, limited mobility, and social isolation can each compound heat-related vulnerability for those most at risk within the community.

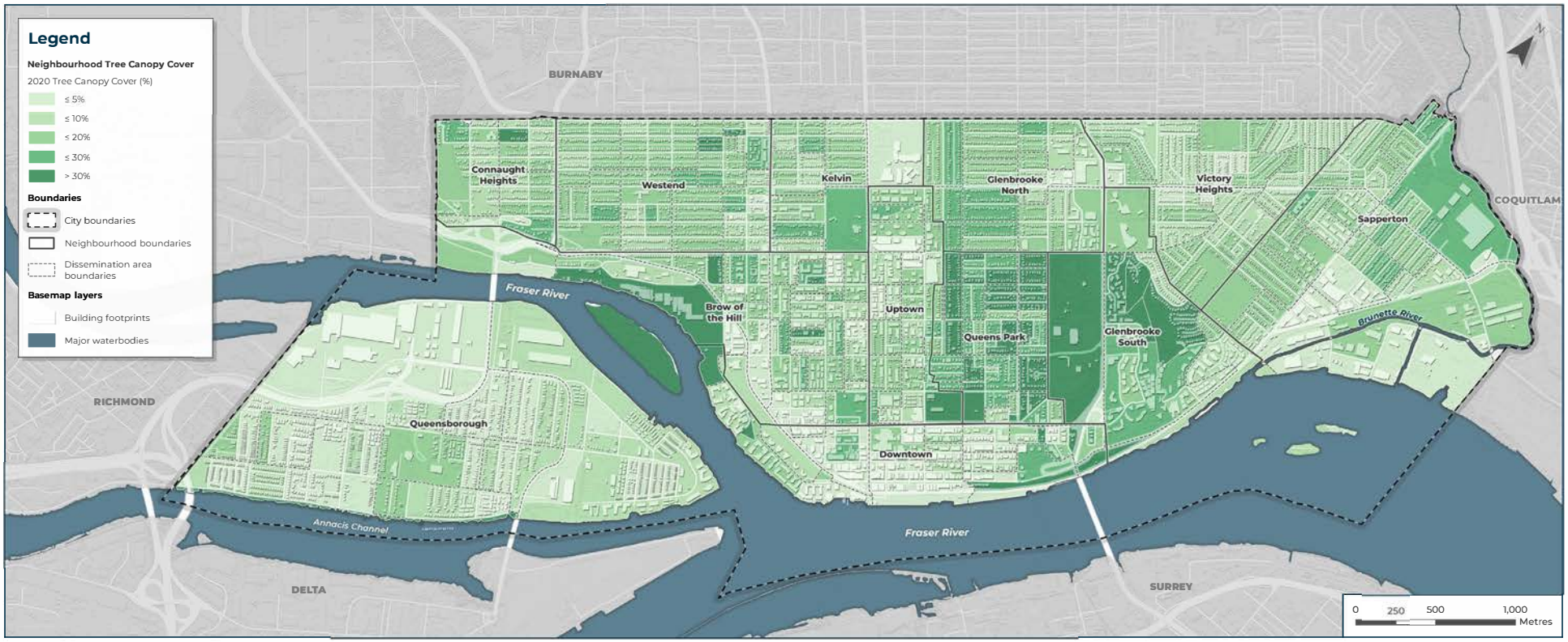
Map Series:
New Westminster Climate Change Adaptation and Resilience Plan

Source Data:
Vulnerability and exposure to extreme heat waves (Université Laval, 2023); Waterbodies (Metro Vancouver, 2023); Lidar elevation data (GeoBC, 2017); Digital Road Atlas (GeoBC, 2025); all other data from the City of New Westminster.

Map Details:
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Extreme Heat Exposure: Neighbourhood Tree Canopy Cover

for the City of New Westminster

This map uses data from the Regional Tree Canopy Cover and Impervious Surfaces study conducted by Metro Vancouver (2024) to assess neighbourhood tree canopy cover percentages for 2020 at the census dissemination block scale. Increasing canopy cover is depicted in darker shades of green, revealing the distribution of New Westminster's urban forest across different communities.

Trees provide a range of valuable ecosystem services, including cooling shade, carbon capture and storage, stormwater management, and support for residents' physical, mental, and social well-being. In the context of extreme heat, shading and evapotranspiration can significantly reduce local air and surface temperatures, helping mitigate the urban heat island effect and build community resilience to a hazard expected to become more frequent and intense under a changing climate. The distribution of canopy across a city also provides valuable insights into heat-related risks, vulnerabilities, and environmental equity, highlighting which areas may be most exposed and where greening efforts could yield the greatest benefit.

The greatest concentration of tree canopy cover in New Westminster is centred along Queen's Park and Glenbrook Ravine Park, spreading throughout the Queens Park and Glenbrooke South neighbourhoods, as well as portions of Brow of the Hill. These tree-rich areas have significantly larger urban forested areas than elsewhere in the city and lower concentrations of impervious surfaces, such as large roadways, parking lots, and large concrete structures. The combination of abundant shade, active evapotranspiration, and permeable ground surfaces results in measurably cooler temperatures and better air circulation.

The lowest canopy cover is found in the Queensborough and Downtown neighbourhoods. In Queensborough, the western portion of the neighbourhood is dominated by large commercial and industrial zones—warehouse-style buildings, extensive roadways, and numerous parking lots that leave little room for vegetation. Recent medium- and higher-density residential development in the Port Royal area, combined with younger trees that have not yet matured, further limits coverage in this neighbourhood.

In the Downtown neighbourhood, the dense concentration of commercial, mixed-use, and residential structures in the central core leaves minimal space for tree canopy or vegetated open space. Development and redevelopment may reduce the amount of space available for large tree planting, but also create opportunities to integrate more greenery into compact urban forms, especially in areas that have historically lacked canopy cover.

Finally, industrial facilities and rail corridors surrounding the Brunette River as it flows into the Fraser create challenging conditions with little viable space for tree planting or canopy growth. The high concentration of impervious surfaces and the demands of industrial operations have limited opportunities for greening, resulting in some of the lowest canopy coverage rates in the city.

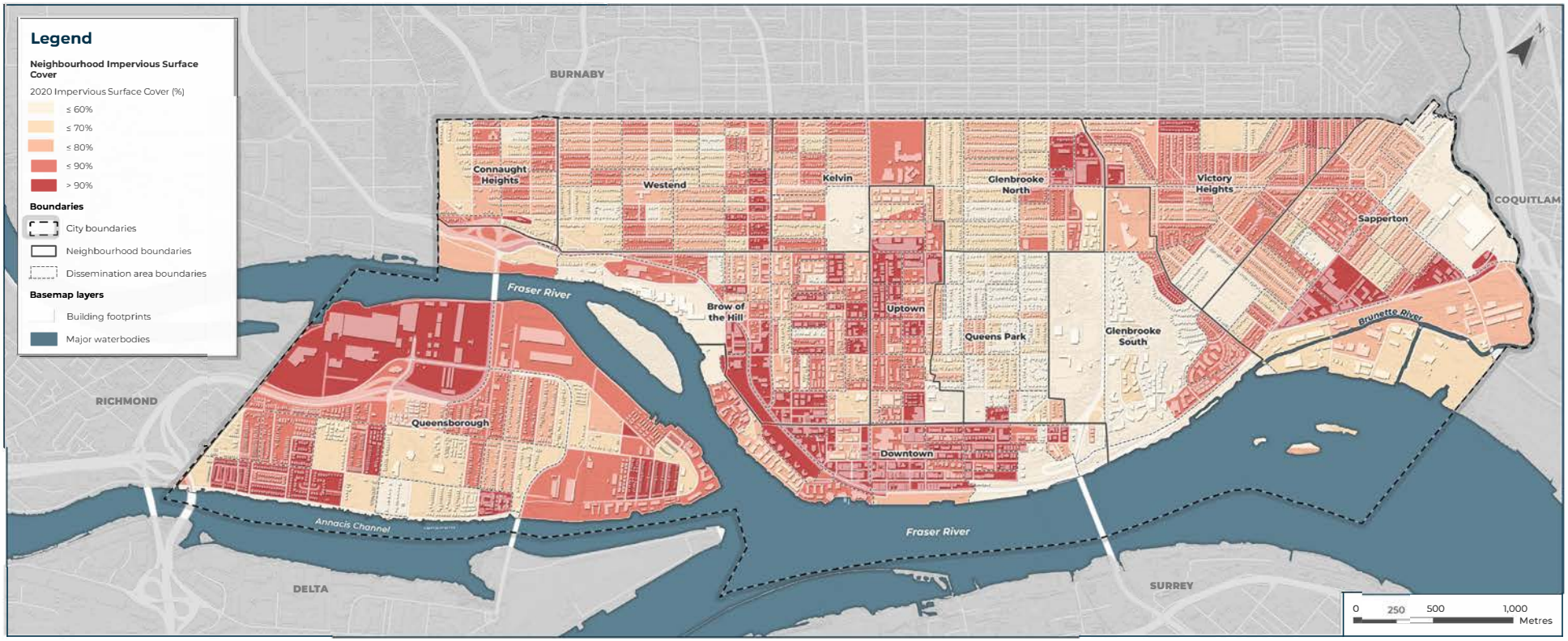
Map Series:
New Westminster Climate Change Adaptation and Resilience Plan

Source Data:
Regional Tree Canopy Cover and Impervious Surface Study (Metro Vancouver, 2024); Waterbodies (Metro Vancouver, 2023); Lidar elevation data (GeoBC, 2017); Digital Road Atlas (GeoBC, 2025); all other data from the City of New Westminster.

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Extreme Heat Exposure: Neighbourhood Impervious Surface Cover

for the City of New Westminster

This map uses data from the Regional Tree Canopy Cover and Impervious Surfaces study conducted by Metro Vancouver (2024) to assess neighbourhood impervious surface cover percentages for 2020 at the census dissemination block scale. Increasing impervious surface cover is depicted in darker shades of orange and red, revealing patterns of hard, non-porous surfaces across New Westminster's neighbourhoods.

Impervious surfaces, including large concrete, brick, and glass-fronted structures, as well as large roadways and paved parking lots, significantly increase local temperatures through the urban heat island effect. These hard surfaces absorb and retain heat from the sun during the day, releasing it slowly throughout the afternoon and overnight hours, sustaining elevated temperatures well into the evening. Beyond heat, impervious surfaces increase flood risk by preventing rainwater from naturally infiltrating the ground, disrupting local hydrological cycles and negatively affecting water quality and ecosystem health in nearby waterbodies through increased stormwater runoff and pollutant transport.

Measuring impervious surface cover helps us understand where exposure to extreme heat and other climate-related hazards may be higher. Exploring the distribution of these surfaces across a community provides valuable insights into heat-related risk, environmental vulnerability, and equity between neighbourhoods. While impervious surface cover is often inversely related to tree canopy cover, this relationship is not absolute, particularly in areas where greening efforts have successfully integrated vegetation into more built-up environments.

The greatest concentrations of impervious surface cover are found in five primary areas: the denser commercial and residential zones of Downtown, Uptown, and Brow of the Hill; the commercial, industrial, and higher-density residential areas of Queensborough, particularly in the western portion of the neighbourhood; eastern Sapperton, west of Brunette Avenue; the commercial corridor between Glenbrooke North and Victory Heights; and the commercial zone between the Westend and Kelvin neighbourhoods. These areas also tend to have correspondingly lower tree canopy cover and vegetated open space, increasing their exposure to both extreme heat and stormwater flooding.

The lowest impervious surface cover is found near Queen's Park and Glenbrook Ravine Park, throughout the Queens Park and Glenbrooke South neighbourhoods. Forested areas along the Brunette River also contribute to lower coverage at the north end of Sapperton, near Hume Park. The area of Brow of the Hill along the Fraser River appears to have relatively low impervious surface cover; however, this dissemination area includes the uninhabited Poplar Island, which accounts for much of the natural surface area in the zone; much of this area should be considered to have moderate to high impervious surface coverage in practice.

Map Series:
New Westminster Climate Change Adaptation and Resilience Plan

Source Data:
Regional Tree Canopy Cover and Impervious Surface Study (Metro Vancouver, 2024); Waterbodies (Metro Vancouver, 2023); Lidar elevation data (GeoBC, 2017); Digital Road Atlas (GeoBC, 2025); all other data from the City of New Westminster.

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Appendix D: Bivariate Maps

New Westminster Climate Change Adaptation and Resilience Plan

A bivariate map displays two independent variables simultaneously, using a two-colour scheme on a single map, revealing shared patterns of overlap. In the case of the Climate Change Adaptation and Resilience Plan, the two mapped variables are hazard exposure and overall neighbourhood social vulnerability. Two bivariate maps were created as part of the analysis for the Plan:

- Social Vulnerability vs. Freshet Flood Exposure, c. 2050 (1-in-100-year flood event with 0.5 m of sea-level rise)
- Social Vulnerability vs. Extreme Heat Exposure

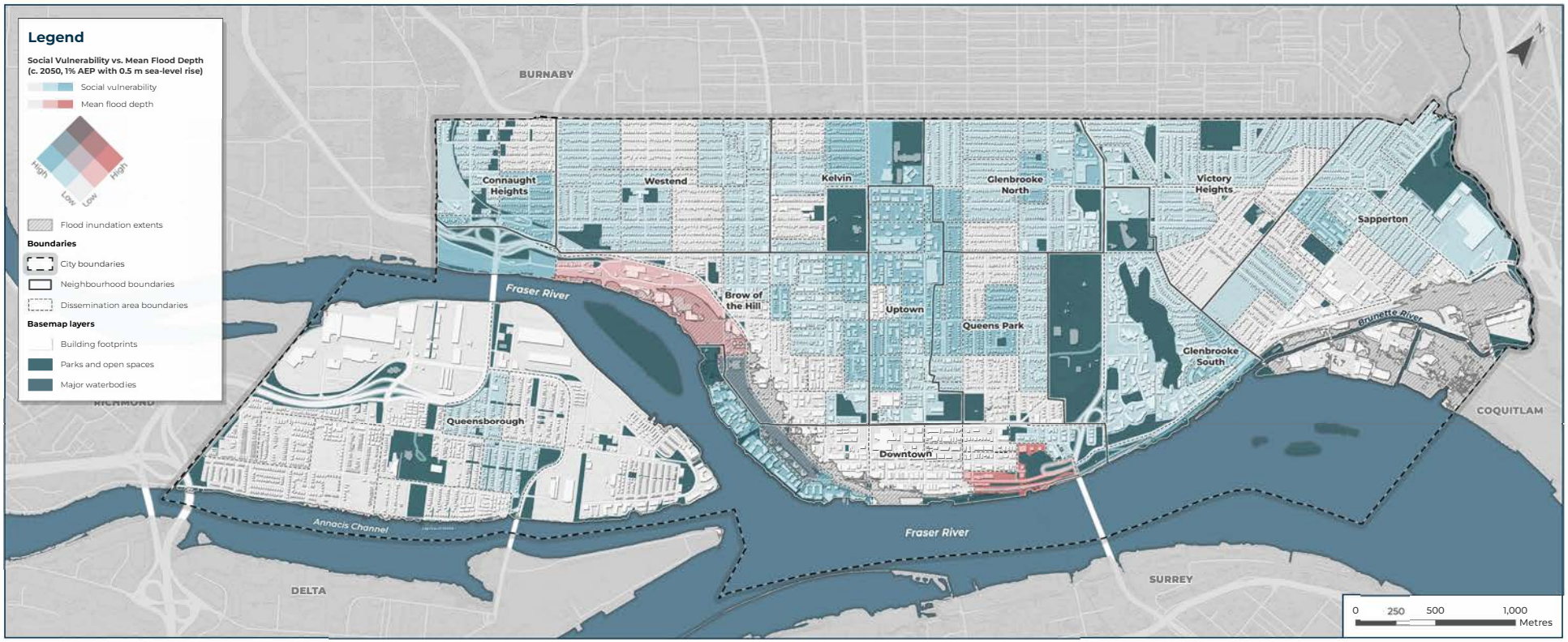
Social vulnerability refers to the social, economic, and demographic characteristics that affect a community's ability to prepare for, respond to, and recover from natural and climate-related hazard events. It is not simply a measure of poverty or age; instead, vulnerability reflects the full range of systemic conditions that shape whether community members have the resources, information, capacity, and social connections needed to stay safe and recover effectively when these events occur. Social vulnerability was measured at the census dissemination area (DA) scale, which acts as a proxy for neighbourhoods. Vulnerability scores indicate, in standard deviations (σ), how far a given neighbourhood is above or below the community average. Neighbourhoods that have 'Above average' ($0.5 \leq \sigma \leq 1.5$) or 'Very high' ($\sigma > 1.5$) overall vulnerability scores tend to have multiple overlapping vulnerabilities.

Limitations of Vulnerability Scores

There are inherent constraints with all census-based vulnerability assessments, including the overall vulnerability scores used in the bivariate maps. Unhoused populations are systematically undercounted in census data and, as a result, virtually invisible in such assessments. Detailed health and disability data are not available in public census profiles, and some groups known to face elevated vulnerability, including members of the 2SLGBTQ+ community, are also not identified. Existing social networks, community cohesion, and informal support systems are important factors of community resilience, yet they are not captured by census data alone. For these reasons, the neighbourhood vulnerability scores are not comprehensive and are not a true reflection of the vulnerability felt or experienced by each community member living in each neighbourhood.

In the context of climate risk assessment, bivariate maps move the analysis from exposure towards consequence. A neighbourhood with high hazard exposure but low

vulnerability (or strong adaptive capacity) faces a different challenge than one with the same physical exposure and high vulnerability (or fewer resources and capacity to respond). The bivariate maps show this distinction using darker shades of cyan to indicate higher social vulnerability, while darker shades of red indicate greater hazard exposure. Where the two colours blend into dark brown, both conditions are present together. The 3x3 matrix included with each map provides a guide to reading the colour combinations across the full range of both dimensions.



Neighbourhood Social Vulnerability vs. Freshet Flood Exposure (1-in-100-year, c.2050)

for the City of New Westminster

This map shows how neighbourhood social vulnerability and flood exposure overlap across New Westminster for a 1% annual exceedance probability (AEP)—or 1-in-100-year—freshet flood scenario that accounts for climate change effects on ocean water levels (0.5 m) and mid-century (c. 2050) peak river flows. A freshet refers to the seasonal rise in river levels caused by spring snowmelt and rainfall, and represents the primary flood risk along the Fraser River. Darker shades of cyan indicate higher social vulnerability scores, while darker shades of red show greater flood exposure. Where these colours blend into dark brown, both challenges are present in the same area.

Social vulnerability refers to the social, economic, and demographic characteristics that affect a community's ability to prepare for, respond to, and recover from hazards and stressors. Social vulnerability was assessed as a component of New Westminster's Climate Change Adaptation and Resilience Plan, with scores classified so that the central class falls within a half-standard deviation of the community average. Flood threat was assessed using mean maximum flood depths per census dissemination area from the City's 2022 Flood Plain Management Strategy Update (NHC, 2022), with depths classified as low threat (up to 0.3 m), moderate (up to 0.6 m), or high (above 0.6 m).

Neighbourhoods in darker cyan tend to have higher social vulnerability but are less likely to face significant flood inundation, and may benefit most from social support programming, including education about flood resilience and programs to strengthen local social networks. Areas in darker red tend to have greater flood exposure but generally have lower social vulnerability scores; flood extents are superimposed on the map to highlight those areas most likely to be inundated in this scenario. These are where flood mitigation efforts are most likely to increase local resilience.

Where both colours overlap into dark brown, neighbourhoods face elevated social vulnerability alongside significant flood exposure, and should be prioritized for both mitigation and enhanced social support. While no areas in New Westminster show a high-high overlap for this scenario, several areas of moderate overlap (medium brown) warrant attention. The tall residential towers along Downtown's Quayside Drive face moderate social vulnerability along with a moderate flood threat due to their low-lying waterfront location. The section of Brow of the Hill south of Stewardson Way will also experience moderate flooding, and portions of Downtown along Front Street adjacent to the Fraser River face moderate to high flood inundation.

It is important to note that this bivariate map is part of a larger analytical puzzle and should be considered in the context of the broader Climate Change Adaptation and Resilience Plan.

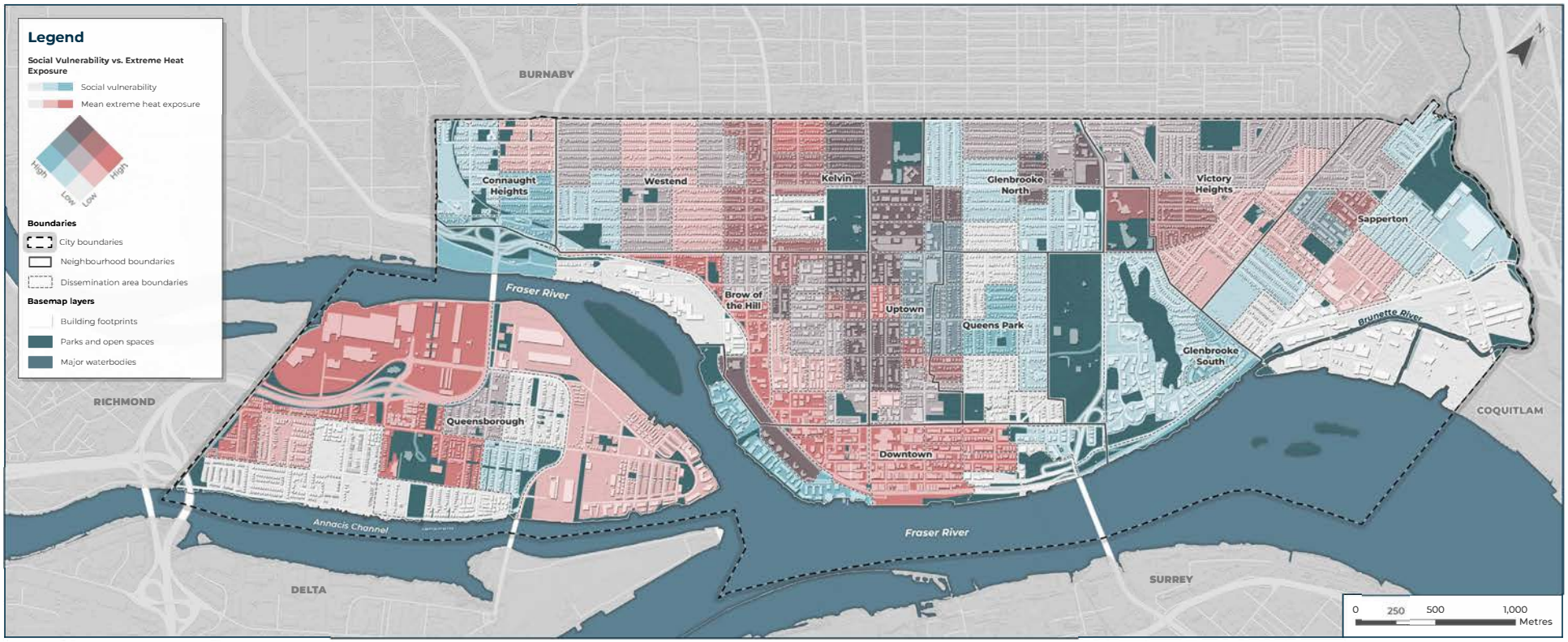
Map Series:
New Westminster Climate Change Adaptation and Resilience Plan

Source Data:
City of New Westminster flood plain management strategy update (NHC, 2022); Census dissemination area profiles (Statistics Canada, 2023); Census dissemination area boundary layers (Statistics Canada, 2022); Waterbodies (Metro Vancouver, 2023); Lidar elevation data (GeoBC, 2017); Digital Road Atlas (GeoBC, 2025); all other data from the City of New Westminster.

Map Details:
Datum: NAD83
Projection: UTM Zone 10N
Scale: 1:24,000
Author: R.P. Reynolds
Date: 2026-03-19

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New Westminster Pinna Sustainability RESILIENCE MAPPING CANADA LTD.



Neighbourhood Social Vulnerability vs. Extreme Heat Exposure

for the City of New Westminster

This map shows how neighbourhood social vulnerability and extreme heat exposure overlap across New Westminster using a two-colour scheme. Darker shades of cyan indicate higher social vulnerability scores, while darker shades of red show greater extreme heat exposure. Where these colours blend into dark brown, both challenges are present in the same area. Together, these patterns reveal which neighbourhoods are both more likely to be home to vulnerable residents and to experience the worst heat during extreme heat events.

Social vulnerability refers to the social, economic, and demographic characteristics that affect a community's ability to prepare for, respond to, and recover from hazards and stressors. Extreme heat was measured using neighbourhood mean temperature difference values from the extreme heat exposure dataset developed at Université Laval (2023). Social vulnerability was assessed as a component of New Westminster's Climate Change Adaptation and Resilience Plan. Both parameters were classified so that the central class falls within a half-standard deviation of the community average.

Neighbourhoods in darker cyan tend to have higher social vulnerability but are less likely to face peak extreme temperatures. These areas often benefit most from social support programming, including education about extreme heat resilience and programs to strengthen local social networks. Areas in darker red tend to have greater exposure to extreme heat but generally have lower social vulnerability scores. These are areas where enhancing community green spaces and other efforts to reduce local temperatures can help build resilience.

Neighbourhoods marked in dark brown face both high social vulnerability and extreme heat exposure, and should be prioritized for environmental cooling and enhanced social support interventions. Three areas warrant particular attention. The 8th Street corridor—running southeast from Burnaby through Kelvin, Uptown, and Brow of the Hill towards Queens Avenue—combines medium-to-higher-density residential and commercial structures, high pavement cover, and limited tree canopy, resulting in higher local temperatures that coincide with concentrations of single-resident and low-income households. Glenbrooke North, particularly along 8th Avenue, shows elevated vulnerability across three of the four social vulnerability themes, compounded by sparse tree canopy and high pavement cover. The tall residential towers along Quayside Drive in Downtown face unique challenges: despite roadside tree-planting efforts, these high-density structures sit near railway lines with significant concrete and pavement cover, and are set back from the cooling influence of the Fraser River.

It is important to note that this bivariate map is part of a larger analytical puzzle and should be considered in the context of the broader Climate Change Adaptation and Resilience Plan.

Map Series:
New Westminster Climate Change Adaptation and Resilience Plan

Source Data:
Vulnerability and exposure to extreme heat waves (Université Laval, 2023); Census dissemination area profiles (Statistics Canada, 2023); Census dissemination area boundary layers (Statistics Canada, 2022); Waterbodies (Metro Vancouver, 2023); Lidar elevation data (GeoBC, 2017); Digital Road Atlas (GeoBC, 2025); all other data from the City of New Westminster.

Map Details:
Datum: NAD83
Projection: UTM Zone 10N
Scale: 1:24,000
Author: R.P. Reynolds
Date: 2026-05-04

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Appendix E: Internal Working Group and External Advisory Group Details

New Westminster Climate Change Adaptation and Resilience Plan

The Climate Change Adaptation and Resilience Plan was informed by an Internal Working Group (IWG) and an External Advisory Group (EAG) (Table 1). Together, these groups contributed local knowledge, technical expertise, diverse perspectives, and strategic guidance throughout the development of the Plan. Their input helped shape the climate-informed hazard, risk and vulnerability assessment (HRVA), identify and refine adaptation actions, and strengthen alignment with municipal, community and regional priorities (Table 2).

Key Contributions of the IWG and EAG

- Established a foundation for the Plan by identifying strengths, gaps, priorities, vision and guiding principles.
- Shaped the climate-informed HRVA and validated priority risks.
- Helped develop, refine, and prioritize adaptation actions.
- Contributed implementation considerations, partnership opportunities, and measures for monitoring progress.
- Ensured the Plan reflected diverse perspectives, local and technical knowledge, and community input.
- Ensured the Plan is aligned with City and regional priorities.

Table 1: Overview of Advisory Groups

Advisory Group	Overview	Membership
Internal Working Group	The Internal Working Group was comprised of staff from key municipal departments who helped guide development of the Plan. Drawing on their operational knowledge and departmental expertise, members ensured that key milestones and deliverables aligned with municipal priorities, policies and operational considerations.	Representatives from key City departments including: ▪ Community Services ▪ Emergency Management Office ▪ Energy and Climate Action ▪ Engineering and Public Works ▪ Finance and IT Services ▪ Library Services ▪ Parks and Recreation ▪ Planning and Development Additional support was provided by the Indigenous Relations team, part of the Office of the CAO.
External Advisory Group	The External Advisory Group brought together representatives from First Nations, local, regional and provincial governments, utilities and transportation providers, health and public sector organizations, housing and property sector associations, business groups, and environmental organizations. Members contributed local knowledge, technical expertise, and external perspectives to help ensure the Plan reflects a broad range of interests, experiences, and climate resilience priorities.	▪ Kwikwetlem (kʷikʷəƛəm) First Nation ▪ Musqueam (xʷməθkʷəy̓əm) Indian Band ▪ BC Hydro ▪ BC Non-Profit Housing Association ▪ City of Coquitlam ▪ City of Surrey ▪ Condominium Home Owners Association (CHOA) ▪ Downtown New Westminster Business Improvement Association ▪ Fortis BC ▪ Fraser Basin Council ▪ Fraser Health Authority ▪ LandlordBC ▪ Metro Vancouver ▪ Ministry of Energy and Climate Solutions ▪ School District 40 ▪ TransLink ▪ Vancouver Fraser Port Authority

The City engaged with Kwikwetlem (kʷikʷəƛəm) First Nation, Musqueam (xʷməθkʷəy̓əm) Indian Band, and Tsleil-Waututh (səlilwətaɬ) First Nation throughout plan development in varying capacities. Kwikwetlem (kʷikʷəƛəm) and Musqueam (xʷməθkʷəy̓əm) participated as members of the External Advisory Group. Tsleil-Waututh (səlilwətaɬ) representatives attended a Phase 2 advisory meeting to support the climate-informed HRVA. Kwikwetlem (kʷikʷəƛəm) and Musqueam (xʷməθkʷəy̓əm) expressed interest in the project and engaged in discussions with the project team regarding involvement and review of key deliverables.

Table 2: IWG and EAG roles in the Climate Change Adaptation and Resilience Plan planning process, by phase

	Internal Working Group	External Advisory Group
Phase 1 – Foundation	Meeting #1, May 2025 ▪ Identified climate resilience strengths, actions underway and gaps	Meeting #1, May 2025 ▪ Identified climate resilience strengths, actions underway in the region, and gaps

	▪ Shaped vision and guiding principles	▪ Provided feedback on draft vision and guiding principles
Phase 2 – Analysis	Meeting #2, July 2025 ▪ Reviewed climate-related hazard scenarios ▪ Identified hazard-related impacts and vulnerabilities Meeting #3, October 2025 ▪ Reviewed the consequence rubric ▪ Assessed potential consequences of impacts and priority risks ▪ Shaped the climate-informed HRVA	Meeting #2, August 2025 ▪ Reviewed climate-related hazard scenarios ▪ Reviewed and expanded on hazard-related impacts and vulnerabilities identified by IWG Meeting #3, November 2025 ▪ Reviewed the consequence rubric ▪ Reviewed IWG consequence ratings and priority risks, and refined/validated them ▪ Shaped the climate-informed HRVA
Phase 3 – Solution Development	Meeting #4, February 2026 ▪ Identified potential actions to address the priority risks, address gaps, and build resilience	Meeting #4, February 2026 ▪ Reviewed and expanded on IWG potential actions to address priority risks, address gaps, and build resilience ▪ Identified opportunities for partnerships and regional alignment ▪ Provided insights on measuring progress
Phase 4 – Drafting	Meeting #5, June 2026 ▪ Reviewed draft actions ▪ Identified opportunities to address gaps and incorporate round 2 public engagement findings into actions	Meeting #5, June 2026 ▪ Reviewed draft actions ▪ Identified implementation considerations, alignment with regional initiatives, and partnerships to support delivery
	▪ Identified opportunities to strengthen, combine and enhance actions ▪ Shaped plan actions and implementation considerations	▪ Shaped plan actions and implementation considerations
Phase 5 – Implementation	No meeting held. Teams met with Project Team to provide input on implementation framework details.	No meeting held

Appendix F: Implementation Framework

New Westminster Climate Change Adaptation and Resilience Plan

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Status	**X** Existing	**E** Enhanced	**N** New Action		
Action Type	**PPD** Policy, Planning + Design	**CP** Capital Projects	**PS** Programs + Services	**EA** Education + Advocacy	**RR** Regulations + Requirements
Timeline	**O** Ongoing	**S** Short-term (0-5 years)	**M** Medium-term (5-10 years)	**L** Long-term (10+ years)	
Cost	**$** Low ($0 - $50k)	**$$** Medium ($50 - $500k)	**$$$** High ($500k - $1 mil)	**$$$$** Very High ($1 mil+)	

Theme 1: Supporting People and Community Preparedness

Goal: New Westminster community members are prepared for the impacts of climate change and equipped with the knowledge and resources to reduce related physical and mental health risks.

Strategy 1.1 - Strengthen City-led emergency preparedness, response, and recovery for climate-related hazards

ID	Action	Status	Type	Timeline	Cost	Departments Involved
1.1.01	Continue to prioritize climate-related hazard preparedness, response, and recovery for vulnerable populations, as part of the implementation of the New Westminster Extreme	X	PPD	O	$	▪ Planning + Development ▪ Emergency Management Office ▪ Fire

	Cold, Heat, and Adverse Air Quality Response Plan.					▪ Energy + Climate Action
1.1.02	Review and update the City's Hazard, Risk and Vulnerability Assessment (HRVA) with engagement from local First Nations.	X	RR	S	$$	▪ Emergency Management Office ▪ Energy + Climate Action
1.1.03	Continue to support the implementation of the Five-Year Prevention, Support and Transition Services Plan and the Ten-Year Supportive Housing and Wrap Around Services Plan by applying a climate resilience lens to support vulnerable populations during extreme weather events.	E	PPD	O	$$$$	▪ Emergency Management Office ▪ Fire ▪ Planning + Development
1.1.04	Continue to monitor and update cooling, warming, and clean-air venue locations and operating hours to meet community needs during extreme heat, cold, and wildfire smoke events.	E	PS	O	$	▪ Emergency Management Office ▪ Planning + Development ▪ Engineering + Public Works ▪ Community Services ▪ Library ▪ Parks + Recreation
1.1.05	Provide trauma-informed training to front facing staff to improve community members' experience and accessibility at City facilities.	E	EA	O	$	▪ Human Resources ▪ Planning + Development ▪ Community Services
1.1.06	Continue developing digital and physical resources, including mapping, to improve public awareness and preparedness for extreme weather events.	E	PS	O	$	▪ Finance + IT Services ▪ Community Services ▪ Energy + Climate Action ▪ Emergency Management Office ▪ Planning + Development

1.1.07	Increase access to cooling options during heat events by expanding the locations of cooling stations and public water stations, and increasing the accessibility and inclusiveness of public pools.	E	PS	O	$$	▪ Parks + Recreation ▪ Emergency Management Office ▪ Planning + Development ▪ Community Services
1.1.08	Identify, review, and update critical local transportation route plans for evacuation, response, and recovery, and prioritize ongoing monitoring and maintenance.	E	RR	S	$	▪ Engineering + Public Works ▪ Emergency Management Office ▪ Parks + Recreation ▪ Planning + Development
1.1.09	Review and enhance ongoing work to identify free or low-cost transportation options to assist the community in getting to and from support venues during extreme weather events.	E	PS	S	$	▪ Emergency Management Office ▪ Planning + Development
Strategy 1.2 - Work with and support partners to continue to improve community awareness, connection and preparedness ahead of and during climate-related hazard events						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
1.2.01	Continue to expand the Emergency Preparedness Program to address climate-related hazards by working with the library, public facilities, rental buildings, strata, property managers, and community partners to deliver educational initiatives and workshops, sharing information in diverse languages and accessible formats.	X	EA	O	$	▪ Emergency Management Office ▪ Energy + Climate Action ▪ Library ▪ Community Services ▪ Planning + Development
1.2.02	Review and strengthen real-time emergency communications and explore alternative methods to reach community members experiencing barriers to accessing information.	X	PS	O	$	▪ Emergency Management Office ▪ Planning + Development ▪ Community Services

						▪ Library
1.2.03	Continue collaborating with community groups, health authorities, regional partners and local First Nations and Indigenous-serving organizations to strengthen community-led climate resilience initiatives and improve access to locally relevant education, resources and supports.	X	EA	O	$	▪ Energy + Climate Action ▪ Planning + Development ▪ Emergency Management Office
1.2.04	Explore establishing or expanding community grant programs to support climate resilience through community-led preparedness, social connection, awareness, and nature restoration.	X	PS	S	$	▪ Community Services ▪ Energy + Climate Action ▪ Emergency Management Office ▪ Planning + Development
1.2.05	Work with First Nations that have expressed interest in the lands and waters that the City of New Westminster is located on to develop appropriate and accessible protocols to notify local First Nations of emergency events within New Westminster.	E	EA	O	$	▪ Energy + Climate Action ▪ Emergency Management Office ▪ Office of the CAO ▪ Planning + Development
1.2.06	Continue to support the uptake of the Connect and Prepare program, including Building Resilient Neighbourhoods guides, and review and develop other climate-related hazard preparedness information through direct outreach to tenants, stratas, and property management.	E	PS	S	$	▪ Emergency Management Office ▪ Planning + Development ▪ Fire
1.2.07	Work with the Government of BC and the real estate sector to build agent and homeowner awareness about climate-related hazards and advocate for disclosure to property buyers and tenancy rights organizations.	N	EA	S	$$	▪ Parks + Recreation ▪ Emergency Management Office ▪ Planning + Development ▪ Community Services

Strategy 1.3 - Reduce the impacts of climate change on health and well-being through collaboration with partners						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
1.3.01	Continue to explore opportunities to collaborate with the Condominium Homeowners Association of BC (CHOA BC), New Westminster residents' associations, and other partners such as the Zero Emissions Innovation Centre (ZEIC) to reduce barriers to active cooling solutions, such as heat pumps, and passive cooling solutions, such as exterior shading, by providing strata councils with education, awareness and access to practical resources.	X	EA	O	$	▪ Energy + Climate Action ▪ Community Services
1.3.02	Advocate to BC Hydro, Fraser Health Authority and other public organizations for publicly funded portable air conditioner distribution programs that are tailored towards vulnerable and low-income individuals and households, and explore opportunities for the City to support resident access and uptake.	X	EA	O	$	▪ Energy + Climate Action ▪ Planning + Development ▪ Community Services
1.3.03	Continue to explore partnerships and programs that distribute small-scale, personalized temperature regulation and filtration technologies, such as cooling vests and neck fans, through partnerships to support community members, including those who are unhoused and/or those with mobility considerations to manage extreme temperatures and adverse air quality more effectively.	X	PS	O	$$	▪ Energy + Climate Action ▪ Planning + Development ▪ Community Services
1.3.04	Support the implementation of and provide a climate adaptation and resiliency lens to the Age-Friendly Strategy.	X	PPD	S	$	▪ Energy + Climate Action ▪ Planning + Development
1.3.05	Explore opportunities to partner with academic institutions, health authorities and other	E	EA	O	$$	▪ Energy + Climate Action

	organizations to develop, support and showcase pilot projects, case studies and research demonstrating the health, safety and well-being benefits of climate change adaptation strategies.					▪ Planning + Development
1.3.06	Enhance opportunities to partner with community organizations, such as the Seniors Services Society of BC, and with Fraser Health Authority to coordinate tailored wellness checks during heat and air quality events.	E	EA	S	$	▪ Energy + Climate Action ▪ Planning + Development ▪ Emergency Management Office ▪ Parks + Recreation
1.3.07	Explore opportunities to collaborate with organizations to provide education, awareness, and practical resources to support active and passive cooling for tenants.	E	EA	S	$	▪ Energy + Climate Action ▪ Planning + Development
1.3.08	Improve access to local temperature and air quality data by working in partnership with Metro Vancouver and Fraser Health Authority to explore a pilot program to install air quality and temperature sensors inside and outside City-owned buildings.	N	PS	S	$$	▪ Energy + Climate Action

Theme 2: Strengthening Infrastructure and Community Services

Goal: New Westminster infrastructure, assets (built and natural), systems, and operations are climate-resilient.

Strategy 2.1 - Integrate climate resilience into planning, design, retrofit and management of public infrastructure and services						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
2.1.01	Advance priority actions identified in the Flood Resilience Plan and continue to advocate to senior levels of government to provide funding for flood management efforts.	X	PPD	L	$$$$	▪ Engineering + Public Works

2.1.02	Consider future climate conditions and resilience strategies in the design, construction, operation, and maintenance of City-owned infrastructure and assets.	E	PPD	O	$$	▪ Engineering + Public Works ▪ Energy + Climate Action
2.1.03	Assess and incorporate fish-friendly design features in sewer and drainage projects to reduce impacts on aquatic ecosystems, improve habitat connectivity and protect water quality.	E	PPD	O	$$$$	▪ Engineering + Public Works ▪ Parks + Recreation
2.1.04	Continue working with Metro Vancouver and collaborate with First Nations and water advocacy organizations to evaluate water metering and water use data in supporting potable water conservation, infrastructure system planning, leak detection, and climate resilience.	E	PPD	O	$	▪ Planning + Development ▪ Energy + Climate Action ▪ Engineering + Public Works
2.1.05	Continue working with Metro Vancouver and TransLink to apply climate-resilient design to sidewalks, bike paths, greenways, and ensure transit networks remain safe, comfortable, and connected during extreme heat, wildfire smoke, and heavy rainfall events.	E	CP	O	$$$$	▪ Planning + Development ▪ Energy + Climate Action ▪ Engineering + Public Works ▪ Parks + Recreation
2.1.06	Increase the resilience of pump stations by implementing reliable low-carbon backup power solutions to ensure uninterrupted operation during extreme weather events, power disruptions and other emergencies.	E	CP	O	$$$$	▪ Engineering + Public Works ▪ Energy + Climate Action
2.1.07	Assess climate vulnerabilities in Queensborough's drainage, flood and sanitary infrastructure systems and use the findings to update plans and guidelines for the area.	E	PPD	S	$$$	▪ Planning + Development ▪ Energy + Climate Action ▪ Engineering + Public Works
2.1.08	Improve data collection for the City's natural and built assets, giving natural assets parity with built assets, and continue to consider and	E	PPD	M	$$$$	▪ Engineering + Public Works

	integrate climate risks into Asset Management Plans and Comprehensive Plans.					▪ Emergency Management Office ▪ Energy + Climate Action ▪ Parks + Recreation
2.1.09	Develop shared definitions for infrastructure resilience across City departments and external partners to streamline collaboration.	N	PS	S	$	▪ Planning + Development ▪ Energy + Climate Action ▪ Engineering + Public Works ▪ Parks + Recreation
Strategy 2.2 - Strengthen the climate resilience of public facilities and their ability to support emergency management functions						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
2.2.01	Identify low-carbon resilient retrofit options for public facilities, infrastructure, and assets, and create a phased retrofit roadmap for consideration in the capital planning process.	E	CP	M	$$	▪ Energy + Climate Action ▪ Engineering + Public Works
2.2.02	Incorporate climate resilience strategies into updates to policies applicable to public facilities, such as the Green Buildings Policy and Energy Efficient Equipment Policy, and develop new climate resilience policies to address any gaps.	E	PPD	M	$$	▪ Energy + Climate Action ▪ Engineering + Public Works
2.2.03	Identify priority public facilities to serve as climate resilience reception centres and identify possible upgrades to inform maintenance and future capital planning.	N	PPD	M	$$	▪ Emergency Management Office ▪ Energy + Climate Action ▪ Engineering + Public Works
2.2.04	Review and identify critical public facilities along with key service requirements during	N	CP	L	$$$$	▪ Engineering + Public Works

	events (such as backup power) to help ensure service continuity during extreme weather events. Explore public low-carbon on-site power generation and storage with islanding capacity (intentional division of interconnected power grid into individual disconnected regions with their own power generation) to provide redundancy.					▪ Emergency Management Office ▪ Energy + Climate Action
Strategy 2.3 - Expand the use of green and blue infrastructure approaches that provide natural, nature-inspired, and water-based solutions that strengthen climate resilience and provide community benefits						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
2.3.01	Continue to improve inter-departmental collaboration on green and blue infrastructure through shared resourcing, working groups, and standardized processes and procedures.	E	EA	O	$	▪ Engineering + Public Works ▪ Parks + Recreation ▪ Planning + Development ▪ Energy + Climate Action
2.3.02	Develop green rainwater performance standards during the next update to the Integrated Stormwater Management Plan, considering local First Nation priorities such as water quality, fish health, and healthy aquatic ecosystems.	E	PPD	S	$$	▪ Engineering + Public Works ▪ Parks + Recreation
2.3.03	Establish a long-term funding and asset management framework for green infrastructure, including operations and maintenance requirements, to support implementation across the City, in alignment with Regional Plans (e.g. the Metro Vancouver Liquid Waste Management Plan).	E	PPD	M	$$	▪ Engineering + Public Works ▪ Energy + Climate Action ▪ Finance + IT Services
2.3.04	Incorporate best practices for nature-based climate solutions into flood hazard management efforts, such as shoreline naturalization and	E	PPD	L	$$$$	▪ Engineering + Public Works ▪ Planning + Development

	protection, to improve water quality and biodiversity.					▪ Parks + Recreation

Theme 3: Resilient Homes, Buildings, and Neighbourhoods

Goal: Homes, buildings, and neighbourhoods are climate-resilient, where climate-related hazard risk is reduced through a combination of policy development, program implementation, and advocacy work.

Strategy 3.1 -Support and increase the low-carbon resilience of homes, buildings, and neighbourhoods						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
3.1.01	Continue to identify and support solutions for building-level electrical capacity constraints in multi-unit residential buildings, such as condos and apartments, to enable energy efficient electrification and the addition of cooling.	X	PS	O	$$	▪ Planning + Development ▪ Energy + Climate Action
3.1.02	Continue to provide funded cooling assessments, to increase understanding of opportunities to prevent overheating in rental buildings and connect building owners with available incentives to install cooling assessment recommendations.	X	PS	O	$$	▪ Energy + Climate Action ▪ Community Services
3.1.03	Ensure low-carbon resilient upgrades do not result in displaced tenants or rent increases and by advocating to the Government of BC for right-to-cool legislation and to update tenant protections.	X	PPD	S	$	▪ Energy + Climate Action ▪ Planning + Development ▪ Community Services
3.1.04	Explore strategic financial incentive tools and updates to electrical utility rate structures and other utility policies to reduce energy poverty and energy demand.	X	PS	M	$	▪ Energy + Climate Action

3.1.05	Explore piloting programs and incentives to support low-carbon, resilient upgrades in residential, commercial, and industrial buildings.	E	PS	O	$$	▪ Planning + Development ▪ Energy + Climate Action
3.1.06	Continue to provide low-barrier, direct-to-tenant support to prevent overheating in rental units.	E	PS	O	$$	▪ Energy + Climate Action ▪ Community Services
3.1.07	Develop a City-led retrofit program for rental buildings not currently eligible for existing retrofit programs to improve access to incentives and support measures that prevent overheating, reduce carbon emissions, and improve energy efficiency.	E	PS	S	$$	▪ Energy + Climate Action ▪ Community Services
3.1.08	Explore opportunities to support the improvement of indoor air quality for existing residential buildings.	E	EA	S	$$	▪ Energy + Climate Action ▪ Planning + Development ▪ Community Services
3.1.09	Explore tools to ensure ongoing compliance with site measures for stormwater management implemented on private property and to incorporate climate resilience considerations and incentives.	N	PPD	S	$$	▪ Energy + Climate Action ▪ Community Services ▪ Engineering + Public Works ▪ Planning + Development

Strategy 3.2 - Integrate current and future climate conditions and hazard considerations into building design requirements

ID	Action	Status	Type	Timeline	Cost	Departments Involved
3.2.01	Advocate to the Government of BC to establish increasingly stringent building code and step code requirements for ventilation and filtration systems in new construction that will improve indoor air quality, including wildfire smoke events.	X	EA	O	$	▪ Energy + Climate Action ▪ Community Services

3.2.02	Advocate to the Government of BC to support early implementation of the Highest Equipment Efficiency Standard (HEES) for both private and public sector buildings and explore opportunities for municipal early adoption.	X	EA	O	$	▪ Energy + Climate Action
3.2.03	Advocate for BC Building and Plumbing Code updates that strengthen water efficiency requirements and reflect advancements in technologies and industry best practices.	X	EA	M	$$	▪ Planning + Development ▪ Energy + Climate Action ▪ Engineering + Public Works
3.2.04	Support and encourage the use of climate-resilient design in new residential buildings, including passive cooling measures.	E	PPD	S	$$	▪ Planning + Development ▪ Energy + Climate Action
Strategy 3.3 - Integrate current and future climate conditions and hazard considerations into land use planning decisions and requirements						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
3.3.01	Integrate archaeological and cultural heritage considerations into climate adaptation planning, and the identification and respectful management of areas with known or potential cultural and archaeological sensitivity.	X	PPD	O	$$$	▪ Engineering + Public Works ▪ Planning + Development
3.3.02	Explore updates to development permit area guidelines and Zoning Bylaw regulations to further encourage climate-resilient building design and renovations.	E	PPD	S	$$	▪ Planning + Development ▪ Energy + Climate Action
3.3.03	Ensure that a climate resilience lens is applied to updates of the Official Community Plan, Queensborough Community Plan, and Downtown Community Plan.	E	PPD	M	$	▪ Planning + Development ▪ Energy + Climate Action
3.3.04	Develop a Flood Hazard Development Permit Area for the Official Community Plan and Downtown Community Plan, and review and	E	PPD	M	$	▪ Energy + Climate Action ▪ Planning + Development

	update the Queensborough Flood Hazard Development Permit Area in consideration of the Flood Resilience Plan.					▪ Engineering + Public Works

Theme 4: Thriving Natural Areas and Systems

Goal: Natural areas and systems are thriving, healthy, connected, climate-resilient, and supported by strong stewardship on both public and private lands.

Strategy 4.1 - Continue to strengthen stewardship and support to enable a healthy urban forest and connected, healthy natural spaces on public and private property						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
4.1.01	Continue to restore high-value natural habitat areas such as Glenbrook Ravine Park to enhance city-wide biodiversity and to protect key species that many other plants and animals depend on.	X	PPD	O	$$	▪ Parks + Recreation ▪ Engineering + Public Works
4.1.02	Continue to involve the community in stewardship of the entire urban forest on both public and private lands through expanded education, workshops, and collaborative outreach programs.	X	EA	O	$	▪ Parks + Recreation ▪ Community Services ▪ Planning + Development
4.1.03	Continue the Tree Sale program and explore opportunities to further support the community in planting trees and implementing natural climate solutions on private property.	X	EA	O	$	▪ Parks + Recreation
4.1.04	Establish species recommendations and design standards for successful tree planting on engineered structures to maximize canopy cover in high-density areas.	X	PPD	S	$	▪ Parks + Recreation
4.1.05	Support the implementation of and provide a climate adaptation and resiliency lens to the Food Security and Systems Plan, while	X	PPD	S	$	▪ Planning + Development ▪ Energy + Climate Action

	exploring opportunities to incorporate Indigenous knowledge systems and nature-based solutions.					
4.1.06	Bridge public and private lands where appropriate by utilizing backyards, boulevards, and rights-of-way to maximize connectivity for biodiversity to create continuous green infrastructure, wildlife corridors, and green spaces, supported by a 'Backyard Biodiversity' certification program.	E	CP	O	$$	▪ Parks + Recreation ▪ Planning + Development ▪ Community Services ▪ Engineering + Public Works
4.1.07	Maintain an ongoing survey and inventory of invasive species management areas, prioritizing the management of areas under the new parkland classification called 'Green Space/Nature Park'.	E	PS	S	$	▪ Parks + Recreation ▪ Planning + Development
4.1.08	Align Parks and Engineering operating budgets with the growing inventory of natural assets, green infrastructure, and the increased maintenance demands of climate change.	E	CP	S	$$	▪ Parks + Recreation ▪ Engineering + Public Works
4.1.09	Improve requirements for green rainwater infrastructure, to capture and treat runoff at the source, to prevent pollutants from entering waterways and drainage systems across the City.	E	PPD	S	$$	▪ Engineering + Public Works ▪ Parks + Recreation
4.1.10	Develop wintertime salt management practices and education on alternatives for residents and businesses, insurance companies, and contractors, tying salt to aquatic systems' health.	E	EA	S	$	▪ Energy + Climate Action ▪ Parks + Recreation ▪ Community Services ▪ Engineering + Public Works
4.1.11	Explore opportunities to support and increase education on naturalization of private lands and boulevards.	E	EA	S	$	▪ Parks + Recreation ▪ Planning + Development ▪ Engineering + Public Works

						▪ Community Services
4.1.12	Identify areas in the City that are prone to erosion and contribute sediment to waterbodies and explore opportunities to mitigate the erosion.	E	PPD	M	$$$	▪ Engineering + Public Works ▪ Parks + Recreation ▪ Planning + Development
4.1.13	Transition from lot-by-lot planting to a 'block-scale' approach that considers the broader neighbourhood fabric to better accommodate continuous natural assets and systems.	N	PPD	M	$	▪ Parks + Recreation ▪ Planning + Development ▪ Engineering + Public Works
4.1.14	Assess the technical feasibility of daylighting piped watercourses as a way of improving natural drainage and ecological health and explore partnerships and land acquisitions where applicable.	N	PPD	L	$$$$	▪ Parks + Recreation ▪ Planning + Development ▪ Engineering + Public Works
Strategy 4.2 - Continue to incorporate low-carbon resilience into the planning, design, and management of parks and public spaces						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
4.2.01	Consider climate resiliency in grass sports field design (i.e. improved drainage and irrigation design).	X	PPD	O	$$$	▪ Parks + Recreation
4.2.02	Update studies for the Glenbrook Ravine to include consideration of future climate conditions and evaluate other steep slopes prone to instabilities.	X	PPD	M	$$	▪ Parks + Recreation ▪ Engineering + Public Works
4.2.03	Explore opportunities to use public spaces for climate adaptation, such as recycling water from spray parks to irrigate surrounding landscapes, and providing shade, water, and places for connection.	E	PPD	O	$	▪ Parks + Recreation ▪ Planning + Development

4.2.04	Expand the focus of Bold Step 7: "Quality People-Centred Public Realm" by identifying opportunities to reallocate public rights-of-way to adaptation and resilience infrastructure.	E	CP	S	$	▪ Parks + Recreation ▪ Planning + Development ▪ Engineering + Public Works ▪ Energy + Climate Action
4.2.05	Create public realm streetscape design guidelines for neighbourhood levels of the City to provide direction on improving climate resilience in the public realm.	E	CP	M	$$	▪ Parks + Recreation ▪ Planning + Development ▪ Engineering + Public Works ▪ Energy + Climate Action

Theme 5: Working Together to Adapt

Goal: The City benefits from strong collaboration, shared leadership, and effective governance that advances low-carbon resilience, disaster risk reduction, and community well-being.

Strategy 5.1 - Build and strengthen relationships and partnerships to advance collective action on climate adaptation and resilience						
ID	**Action**	**Status**	**Type**	**Timeline**	**Cost**	**Departments Involved**
5.1.01	Support Metro Vancouver's public education and outreach on indoor and outdoor water conservation, with a focus on practical household actions, seasonal demand reduction, and climate-related water awareness.	X	EA	O	$	▪ Energy + Climate Action ▪ Engineering + Public Works ▪ Community Services
5.1.02	Advocate to the Government of BC, Government of Canada, and other partners to develop strategic financing tools for home and building owners, and to support tenants, to accelerate low-carbon resilient building upgrades (e.g. Property Assessed Clean Energy (PACE) financing).	X	EA	O	$	▪ Energy + Climate Action ▪ Legislative Services

5.1.03	Continue working with Metro Vancouver to align coordination between all member jurisdictions on climate adaptation and resilience.	X	EA	O	$	▪ Energy + Climate Action
5.1.04	Understand the policy and funding priorities of senior governments and seek to align project timelines with calls for proposals to leverage opportunities.	X	EA	O	$	▪ Energy + Climate Action ▪ Legislative Services
5.1.05	Share data and new technologies and plan together with senior governments and key interest holders where relevant to improve decision-making for climate adaptation and resilience.	E	EA	O	$	▪ Energy + Climate Action ▪ Legislative Services
5.1.06	Continue to collaborate with and build and strengthen relationships with community-serving organizations and support their ability to deliver services and assistance throughout all phases of climate-related emergencies, including preparedness, response, and recovery.	E	EA	O	$	▪ Planning + Development ▪ Emergency Management Office
5.1.07	Continue to participate in opportunities for collaborative governance with neighbouring municipalities, external organizations, and other partners along the lower Fraser River and advocate for increased collaborative governance with local First Nations, with respect to climate-related hazards such as flooding and associated geohazards.	E	EA	M	$	▪ Emergency Management Office ▪ Legislative Services ▪ Energy + Climate Action
5.1.08	Collaborate with the Ministry of Transportation and Transit to support runoff control to help prevent flooding and improve water quality.	E	PPD	M	$	▪ Engineering + Public Works ▪ Parks + Recreation ▪ Energy + Climate Action
5.1.09	Work with infrastructure partners (e.g. Government of BC, Vancouver Fraser Port Authority, Metro Vancouver, utilities, and	N	EA	S	$$	▪ Emergency Management Office

	TransLink) on interdependencies, service continuity, and identification of essential services within the City of New Westminster for climate adaptation planning.					▪ Energy + Climate Action
5.1.10	Work with community partners to identify climate change impacts and solutions to support the local supply chain and network.	N	EA	S	$$	▪ Community Services ▪ Energy + Climate Action

Theme 6: Leading Climate Resilience

Goal: Climate risk and resilience are integrated into day-to-day decision-making and operations at the City.

Strategy 6.1 - Strengthen City decision-making, operations and staff capacity to prepare for and manage climate risks, maintain essential services, and protect health and safety during climate-related events

ID	Action	Status	Type	Timeline	Cost	Departments Involved
6.1.01	Explore the viability of innovative financial and incentive mechanisms to advance and support delivery of local low-carbon resilient solutions for City facilities.	X	PPD	S	$$	▪ Energy + Climate Action ▪ Finance + IT Services
6.1.02	Develop climate-informed guidelines for outdoor events and functions that establish minimum requirements to support the health, safety, and comfort of workers, volunteers, vendors, and attendees during extreme heat, adverse air quality, extreme rainfall, and other climate-related conditions.	E	PPD	O	$	▪ Community Services ▪ Energy + Climate Action
6.1.03	Continue to review and update reserves to keep up with the frequency and intensity of extreme weather events.	E	CP	O	$	▪ Emergency Management Office ▪ Human Resources ▪ Finance + IT Services
6.1.04	Update and expand the Climate Action Decision-Making Framework to include	E	PPD	S	$$	▪ Energy + Climate Action

	adaptation and resilience to ensure the tool supports funding decisions for incremental resilience initiatives in capital projects.					
6.1.05	Continue to improve cross-departmental communication during climate-related events to build awareness, improve access, and ensure staff know where to find internal notifications and updates before and during extreme weather emergencies.	E	EA	S	$	▪ Energy + Climate Action ▪ Emergency Management Office ▪ Human Resources
6.1.06	Enhance data collection, monitoring, and tracking of climate impacts and resilience measures to support maintenance, capital planning, emergency response, and communication of progress over time.	E	PPD	M	$	▪ Emergency Management Office ▪ Human Resources ▪ Community Services ▪ Energy + Climate Action

Appendix G: Monitoring and Reporting Framework

New Westminster Climate Change Adaptation and Resilience Plan

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The purpose of the monitoring and evaluation framework is to help track progress toward achieving the vision of the Climate Change Adaptation and Resilience Plan. The framework highlights initial progress indicators which we will use to monitor and track the progress of the Plan's implementation and effectiveness. The initial adaptation indicators are not linked to any one action; rather, they are intended to reflect the overall advancement of the Plan.

It is important to note that adaptation is not an objective in itself. Instead, it is an ongoing process that requires continuous adjustment and refinement in response to changing conditions and emerging risks. Measuring progress can be challenging, as it is difficult to determine how much worse the consequences of a climate-related hazard event would have been in the absence of adaptation and resilience actions. In many cases, the success of adaptation is reflected in the avoidance of significant harm during climate-related hazard events.

Therefore, the monitoring and evaluation framework presents the initial adaptation indicators as "potential" progress indicators, so we can adjust them as we proceed with implementation of the Plan. These initial indicators will help the City understand if it is moving in the right direction and provide a foundation for measuring progress toward increased climate resilience.

Potential Progress Indicator	Indicator Description	Hazard(s) Addressed
Number of program participants that feel more prepared for climate-related impacts (via survey)	Public opinion surveys can provide a valuable snapshot of community perspectives, including level of awareness, preparedness, and concern related to climate-related hazards. Post-program survey results can help the City better understand the perceived effectiveness of programs and	All climate-related hazards – specifically those addressed by respective programs

	initiatives. This information can be used to inform and refine education and programs from the City.	
Updated Hazard, Risk and Vulnerability Assessment (HRVA, every 5 years – based on new Provincial EDMA legislation)	Local authorities must prepare and maintain a hazard risk assessment such as the City's HRVA (Hazard, Risk, and Vulnerability Assessment). HRVAs need regular updating because community demographics, climate realities, and development footprints constantly change. Frequent updates ensure that emergency plans, resource allocation, and mitigation strategies accurately reflect current risks and prevent outdated responses.	All climate-related hazards
Number of staff that complete trauma-informed training	Trauma-informed training equips staff with the knowledge and skills to respond appropriately to the impacts of trauma with a focus on safety, trust, empowerment, and cultural sensitivity. During climate-related hazard events, front-line staff may interact with individuals experiencing a variety of stressors and trauma. Providing trauma-informed training helps ensure staff are prepared to support community members effectively and compassionately. The City is always in the process of mapping the learning and development needs across departments to build capacity.	All climate-related hazards
Species Richness, Diversity, and Community Composition	The composition and species that live within the City of New Westminster can help to understand ecosystem function. For example, bird populations are a measure of urban forest condition and climate resilience, as they reflect the condition of local habitats, vegetation and food sources.	All climate-related hazards
Progress on CCARP actions	This indicator will help us report on the progress of starting and completing the actions in the Plan.	All climate-related hazards
The total funding received from senior levels of government for climate resilience-related projects	This indicator will track the number of applications submitted and the funding amount received from senior levels of government and other external funding sources to support climate adaptation. This indicator will demonstrate the municipality's alignment with senior government priorities	All climate-related hazards

	in order to access funding. To note, this indicator may vary year to year depending on funding available.	
Number of supports to enable personal cooling	Different community members may have various needs to support them in staying cool during extreme heat events. For example, cooling kits contain essential items to help individuals manage extreme heat and wildfire smoke. Kits can support some populations at higher risk of extreme heat illness, such as renters without access to cooling spaces or those who are unhoused. There are other personalized cooling supports that can be proactive or reactive, but are important to support thermal life safety, and will be tracked.	Extreme Heat, Wildfire Smoke
Number of new buildings with permits for thermal safety	The purpose of this indicator is to measure the number of buildings where people could shelter at home, whether homeowners or renters. Staying cool at home is the priority risk reduction measure.	Extreme Heat
Increase in tree canopy cover percentage	Tree canopy cover is the layer of leaves, branches, and stems of trees that obscure the ground when viewed from above. Trees provide many benefits to communities by improving water quality, saving energy, lowering ambient temperatures, reducing erosion, reducing air pollution, providing wildlife habitat, facilitating social and educational opportunities, and providing aesthetic benefits. New Westminster's Urban Forestry Management Strategy aims to increase the 2016 baseline of 18% cover to the North American average of 27%.	Extreme Heat, Heavy Rainfall, Wildfire Smoke, Slope Failure, Drought, Storms
Increase in urban forestry health counts	The purpose of this indicator is to monitor the health of the overall urban forest. For example, storm-related and heat-related tree failure are anticipated to increase with climate change impacts, so it’s important to track tree failures when they occur. Another health measure would be to continue monitoring invasive plant species coverage and growth across the city, as with changing climate, they can outgrow native species.	Extreme Heat, Heavy Rainfall, Slope Failure, Drought, Storms

Number of City facilities operating during extreme weather events, and that offer extended hours during extreme weather	This indicator is in reference to City facilities that can offer cooling in the summer, clean air (filtration) during wildfire events, and heating during the winter. It also includes facilities that can extend hours into the night or early morning to continue to offer refuge.	Extreme Heat, Wildfire Smoke, Extreme Cold
Increase of off-street pathways, protected bicycle lanes, and local street bikeways with climate resilient design.	The total length of all greenways, bikeways, and separated bike-lanes in the city is a reflection of the City's efforts to develop a safe, accessible, and connected active transportation system. Expanding and improving this network with consideration of climate change, supports climate resilience by providing reliable alternatives for getting around the City.	Extreme Heat, Heavy Rainfall, Storms
Number of new green infrastructure stormwater interventions by the City	Green infrastructure stormwater interventions support water quality, reduce water volume and flooding, provide resilience to climate change, enhance biodiversity, and reduce overall infrastructure costs.	River Flooding, Heavy Rainfall, Storms

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VIEW THE PLAN ONLINE
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New Westminster