

GREENSPACE FOR ALL Policy Review Report

Addressing equitable access to greenspace and climate adaptation on the east coast of Vancouver Island

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#### SUMMARY

Greenspaces, defined as any vegetated areas of land or wetland within or adjoining an urban area (adapted from [1]), are essential for environmental resilience and the physical and mental well-being of the community. However, access to them is often distributed inequitably, becoming disproportionately less accessible to equity deserving groups. Various factors, including income barriers, ethnicity, gender, distance to greenspace, lack of transportation, and limited understanding about the benefits of time spent outdoors and in the vicinity of nature can inhibit community members from enjoying nature's benefits. This can stem from systemic discrimination, historical injustices, and policy decisions, including those related to greenspace access, and exacerbate socio-economic disparities. Based on available documentation from three community areas on the East Coast of Vancouver Island, this review reveals gaps in strategic plans, policy and actions, and a lack of outreach and education for equitable greenspace access and climate adaptation strategies. This report emphasizes the importance of integrating equity principles and targeted actions into greenspace and climate adaptation plans, highlighting nature-based solutions. This report synthesizes local initiatives, offering a pathway toward a more equitable and climate-resilient future for the East Coast of Vancouver Island and recommends strategies to enhance equitable access to greenspace and climate adaptation.

#### **KEY MESSAGES**

- The unequal distribution of greenspace disproportionately impacts equity deserving groups.
- Current policies on the East Coast of Vancouver Island address equity in the design of greenspace and climate adaptation strategies to varying degrees. However, they often lack measurable and specific actions that encompass all aspects of diversity.
- A comprehensive strategy is necessary to achieve equitable access to greenspace. This should address a variety of equity considerations, including those related to disability, income, ethnicity, and other factors associated with underserved populations.
- The implementation of climate adaptation interventions should be tailored to meet the diverse needs of all community members, and specific actions from an equity-lens should be incorporated in the strategic plans.
- The implementation of multifaceted interventions can significantly improve greenspace and climate adaptation equity while enhancing the provision of ecosystem services.
- Greenspace and climate mitigation policies have the potential to improve health and economic equality when equity considerations are integrated into their development and implementation.

#### INTRODUCTION

Greenspaces are essential, providing numerous environmental and societal benefits simultaneously [2]. Whether it be urban forests, city parks and greenways, or conservation lands, greenspaces serve as crucial components in enhancing environmental resilience and promoting healthier communities [3]. Acting as natural filters, they act as carbon sinks that improve air and water quality while significantly mitigating the urban heat island effect [4]. They are pivotal for supporting biodiversity and protecting water sources. Furthermore, in regions facing climateinduced temperature shifts, their ability to regulate local climates becomes indispensable. In a world increasingly defined by environmental challenges, the value of greenspace transcends their ecological significance, becoming sanctuaries for people and catalysts for healthier, more connected communities, providing spaces for physical activity, and fostering community connections [5]. Moreover, they have an important impact on mental wellbeing [6], offering spaces for relaxation and stress reduction.

Despite the known benefits, greenspace is not equitably distributed [7]. Equity deserving groups, including immigrants,

**Greenspace** is defined as any vegetated area of land or wetland within or adjoining an urban area [1]. Examples include forests, conservation areas, wetlands, parks, greenways, and trails.

**Equity** is defined as fairness, impartiality, even-handedness. A distinct process of recognizing differences within groups of individuals and using this understanding to achieve substantive equality in all aspects of a person's life [40].

Equity deserving groups are communities that experience significant collective barriers in participating in society [44]. This could include attitudinal, historic, social, and environmental barriers based on age, ethnicity, disability, economic status, gender, nationality, race, sexual orientation, and transgender status.

low-income individuals, racialized people, people with disabilities and Indigenous peoples, both presently and historically, often have significantly less access to greenspace and its associated benefits [7–9]. Equity deserving groups often reside in low-income neighborhoods with fewer trees, smaller parks, and the need to travel longer distances to access forested parks [10,11] and a lack of outreach and education for equitable greenspace access and climate adaptation strategies Furthermore, inequitable greenspace access has been shown to have negative effects on the well-being and health of members of equity deserving groups. This disparity can be traced back to urban planning and city development, which systematically excluded certain ethnic and socioeconomic groups from neighborhoods with more greenspace and resources. In parallel, equity deserving groups have limited

resources and capacity to adapt to climate-related changes. Equity deserving groups are anticipated to be disproportionately affected by the impacts of climate change [12,13], with climate change likely amplifying vulnerability. For example, Indigenous reserve lands are disproportionately exposed to flooding [14]. Consequently, it is critical to develop strategies that aim to mitigate climate-related changes while providing equitable access to greenspace [15].

Recent studies underscore the critical need of addressing inequities in greenspace access in climate planning, so that all members of a community can benefit from nature in an inclusive and just way. There is a growing concern that climate policies might inadvertently exacerbate socio-economic disparities [13,16]. For example, policies promoting renewable energy adoption or clean technologies can lead to higher costs for people, disproportionately affecting low-income households [17]. Similarly, transportation changes, such as the promotion of electric vehicles, may leave low-income individuals with limited access to reliable transportation options, exacerbating their economic challenges. Therefore, it is important to consider the potential socio-economic consequences of climate-related decisions to inform policy, planning, and implementation of adaptation actions, ensuring that these measures do not inadvertently exacerbate existing disparities.

The interest in developing policies and initiatives centered on equitable urban planning, environmental and climate justice have recently gained traction. Climate change mitigation policies, when thoughtfully designed, can be a force for addressing both environmental change and social inequalities simultaneously. For instance, climate change mitigation policies have the potential to improve health and economic equality when equity considerations are integrated into their development and implementation [13]. These initiatives could encompass a wide range of strategies, including targeted support for vulnerable communities, community involvement programs, development of green infrastructure and nature-based solutions such as increasing residential tree density, and ecosystem restoration. However, significant gaps remain in understanding effective interventions to guarantee equitable access to greenspace and climate adaptation solutions. As a result, urban practitioners often do not explicitly address equitable access to greenspace or present actionable policies on this critical issue in their strategic plans.

The Kunming-Montreal Global Biodiversity Framework, signed by Canada and 195 other nations in 2022, aims to halt biodiversity loss by 2030 through ambitious conservation targets, ecosystem

restoration, resource mobilization, partnerships, and monitoring efforts [18]. This international agreement includes a target to "enhance green spaces and urban planning for human well-being and biodiversity". Simultaneously, municipalities across Canada are weaving biodiversity considerations into local and regional policies, alongside efforts to expand and improve urban green spaces. Further, Canadian municipalities have been actively updating their climate action plans including new policies and programs focused on climate adaptation and the enhancement of green spaces. Local initiatives reflect this commitment. For example, on Vancouver Island, districts such as Nanaimo, Comox, and the Capital Regional District have developed strategic plans and programs to align with the national climate emergency response and to equip themselves for the impacts of a changing climate.

This report presents a review and synthesis of local government policies, programs, and actions regarding climate adaptation and greenspace in three areas on the East Coast of Vancouver Island, with a focus on integrating equity initiatives. It provides a summary of key findings at the district level and highlights selected initiatives.

#### **METHODS**

The research for this report encompasses a comprehensive review of publicly accessible documents from the Comox Valley Regional District (CVRD), Capital Regional District (CRD), and Regional District of Nanaimo (RDN) along the East Coast of Vancouver Island (Figure 1). This review included an examination of documents related to action and strategic plans, board priority reports, climate adaptation, and greenspace such as parks, trails, and greenways strategic plans. Additionally, it covered equity strategic plans (Table 1). During the review process, these documents were meticulously scanned for mentions of "equity" and associated terms like "equitable," "inclusion," or any statements pertinent to the theme of equity. The focus was on identifying how these terms and concepts are integrated into policies and actions within the equity framework.

#### **EVALUATION FRAMEWORK**

The evaluation framework for policy review adopts a three-level assessment. First, it assesses the extent to which equity considerations are integrated into the policy documentation (e.g., mention of the words equity, equitable or using an equity-lens approach). Second, it determines the presence of specific, actionable measures aimed at promoting equity within the policy (e.g., are there specific actions addressing equity included). Third, the framework evaluates the distribution and representation of these equity actions across all the stated goals/priority strategies of the documents.

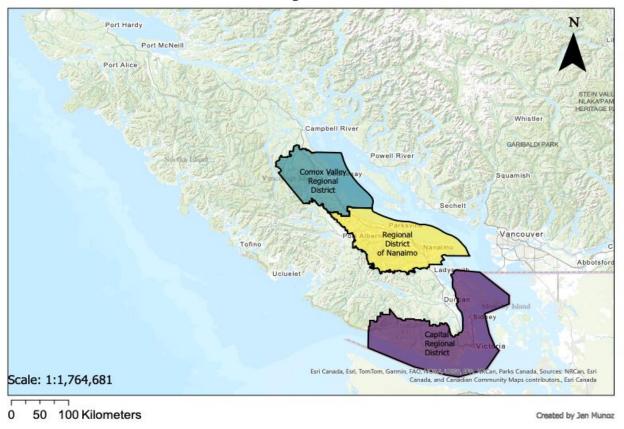
#### **RESEARCH THEMES**

This research aimed to identify any local government actions, policies, plans, or initiatives that promote equitable access to greenspace and climate adaptation. Findings have been summarized into three main themes: 1) Greenspace planning, 2) Climate adaptation and 3) Equity and inclusion for the three districts of interest.

#### LIMITATIONS

This policy review is limited in its scope and methodology. Primarily, the review is confined to publicly available documents (Table 1), which inherently limits its comprehensiveness as there may be relevant documents that were not accessible or were overlooked. The variability in public availability of documents among different districts further compounds this issue; some districts have a richer repository of public documents compared to others, potentially skewing the representativeness of the review. Efforts were made to contact districts for specific documents when they were not available or outdated, but this does not guarantee the acquisition of all necessary documents. Moreover, in instances where districts had strategic plans spanning several years, only the most recent document was considered, which might omit the historical context of policy development. The review exclusively includes regional district documents, and while documents specific to cities were considered, they posed challenges in drawing direct comparisons with district-level documents. This focus may overlook nuanced city-specific policies, impacting the review's depth and breadth in understanding the regional policy landscape.

# **SCOPE OF POLICY REVIEW**



#### Vancouver Island and Regional Districts of interest

Figure 1. Geographic scope of the policy review

REGIONAL DISTRICT	POLICY DOCUMENT OR PROGRAM	CLASS
Capital	1 CRD Regional-parks-and-trails-strategic-plan-2022-2032 [19]	Strategic plan
Regional District	2 CRD Interim-Regional-Parks-Trails-Strategic-Plan-Progress-Report 2022 [20]	Progress report
	3 CRD everyone's-parks-and-trails-a-universal-access-plan-for-crd-parks [21]	Strategic plan
	4 CRD Capital region district climate-action-strategy 2021[22]	Strategic plan
	5 CRD Climate-Adaptation Priorities Resource[23]	Priorities
	6 CRD Capital Regional district Board-Priorities-2023-2026[24]	Board priorities
	7 CRD Climate-Action-Progress-Report 2022[25]	Progress report
	8 CRD Corporate climate action strategy 2016 [26]	Corporate plan

	9 CRD ev-infrastructure-roadmap [27]2024-05-13 10:24:00 AM	Program
	10 CRD residential-energy-retrofit-program-business-case-report [28]	Program
Comox	1 CVRD rural cv parks and greenways strategic plan 2011 2030 [29]	Strategic plan
Valley Regional	2 CVRD Comox Valley Regional district climate action plan 2015 [30]	Strategic plan
District	3 CVRD Comox Valley regional district sustainability strategy 2010 [31]	Strategic plan
	4 CVRD Comox Valley Regional District Strategic Planning 2023 [32]	Strategic plan
	5 CVRD Comox Valley Regional District corporate energy and emissions plan 2023 [33]	Corporate plan
	6 CVRD Local Government Climate Action Program Report 2021 [34]	Report
Nanaimo	1 RDN Nanaimo Regional District Parks & Trails Strategy 2020 [35]	Strategic plan
Regional District	2 RDN Nanaimo Regional district Climate action technical advisory committee[36]	Technical report
	3 RDN Nanaimo Regional district Strategic Plan 2019-2022[37]	Strategic plan
	4 RDN Corporate Carbon Neutral 2032 Plan [38]	Strategic plan
	5 RDN Climate Action Technical Advisory Committee Status Report 2022- 2023 [39]	Progress report

# FINDINGS

The strategic plans across the three regions underscores a unanimous recognition by the districts of the necessity and interest to incorporate an equity lens into their greenspace access and climate adaptation strategies (Figure 2).

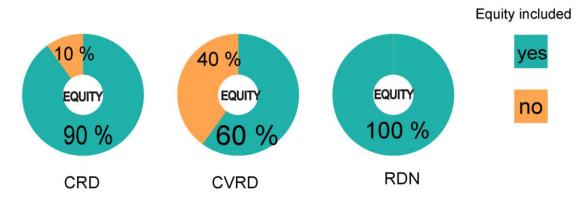


Figure 2. Percentage of reviewed documents that include an equity lens.

#### GREENSPACE

The local governments on the East Coast of Vancouver Island, including those of the Capital Regional District (CRD), Comox Valley Regional District (CVRD), and Nanaimo Regional District (RDN), have developed comprehensive plans, initiatives, policies, and actions for greenspace. Recognized as a priority, greenspace—comprising of conservation lands, ecological reserves, trails, and parks (community and regional) are central to the strategic plans of these districts, aimed at conserving natural and cultural areas and offering varied landscapes for recreation and nature connection [19,29,35]. These strategic plans, informed by community input, prioritize values such as conservation, outdoor recreation, partnerships, collaboration, and equity.

In their strategic plans the districts emphasize the importance that their parks and trails have in supporting the health and well-being of all residents. For instance, the CRD aims to have "an expanded and connected system of regional parks and regional trails that are rich in

biodiversity, respect Indigenous cultural heritage and use, inspire stewardship, are resilient to change, and provide enjoyable outdoor recreation experiences"[19]. Similarly, the CVRD emphasizes that "The Comox Valley Regional District's system of parks and greenways protects the diverse range of landscapes and native plant and animal communities found in the valley. These natural areas provide a sanctuary for native plants and animals to thrive and a place for people to explore and connect with nature" [29]. Finally, the RDN in its vision, underscores that "Regional and community parks and trails in the RDN support the health and well-being of all residents in the region and protect and steward areas of ecological significance" [35].

Several areas of alignment in the greenspace plans across the districts are identified (Table 2). One of the most notable commonalities is the emphasis on the protection of natural areas and biodiversity through parkland acquisition and partnerships. Parkland acquisition stands out as a pivotal tool employed by the districts to protect wildlife habitats, parks, and corridors within the region. This tool proves instrumental in expanding greenspace and is frequently facilitated through partnerships.

#### **GREENSPACE AND EQUITY**

"Regional parks and regional trails are inclusive, culturally safe, and accessible to visitors of all ages, abilities, and income levels."

#### - Capital Regional District

"Ensure accessibility of parks and greenways for park visitors."

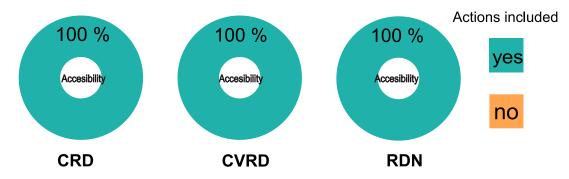
#### - Comox Valley Regional District

"Regional and community parks and trails in the RDN provide welcoming and diverse opportunities for people of all ages and abilities to recreate and connect with nature and each other."

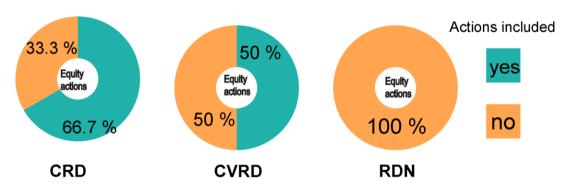
- Nanaimo Regional District

Partnership contributes to the park acquisition process but also plays a crucial role in the ongoing monitoring and management of parks. Partnership with First Nations is another important aspect of alignment in greenspace planning among the districts. The districts acknowledge and prioritize actions aimed at incorporating First Nation worldviews and knowledge into the continuous management and operation of regional parks and trails (Table 2d). As an example, the Capital Regional District seeks input on the plan from First Nations and has established as one of its strategic priorities to build "strong collaborative and mutually beneficial relationships with First Nations through working in partnership".

Equity is a key point of alignment included by the three districts, in their greenspace strategic plans (Table 2a). The districts emphasize the critical importance of ensuring access to greenspace and recreational areas for all residents, recognizing the pivotal role of greenspace for enhancing community health and well-being. They propose strategic priorities and actions to advance greenspace equity, with a particular focus on the accessibility dimension (e.g., easily usable by people with a wide range of abilities, including those with disabilities). They emphasize the importance of improving accessibility within the parks. For example, the RDN proposes to improve accessibility features for those with mobility challenges, considers the geographic distribution of parks, and accounts for access based on driving distance [35]. The RDN parks and trail strategy vision' emphasizes that "Regional and community parks and trails in the RDN provide welcoming and diverse opportunities for people of all ages and abilities to recreate and connect with nature and each other". Similarly, the CVRD integrates equity and accessibility into its strategic actions, ensuring park and greenway accessibility for visitors of all abilities and ages. For instance, it states as an action: "Ensure accessibility of parks and greenways for park visitors" [29]. Finally, the CRD places a strong focus on greenspace equity, taking into consideration accessibility, but also ethnic backgrounds and income levels, and includes equity as one of the guiding principles to foster safer and wider participation in regional parks and trails [19]. The CRD has developed several initiatives with the goal of ensuring equal opportunities for all visitors to experience the natural heritage of regional parks and trails, including a Universal Access Plan [21], complemented by an ongoing accessibility audit and a gender equity study to better understand and address barriers to greenspace use [20].



*Figure 3.* Percentage of Greenspace documents that incorporate accessibility related actions accessibility (i.e., physical barriers). See Table A1 for specific documents.



*Figure 4.* Percentage of Greenspace documents that address other aspects or equity (i.e., excludes accessibility). See Table A1 for specific documents.

#### **GREENSPACE PRIORITIES**

Table 2. Key priority actions in greenspace.

KEY GOALS/STRATEGIC PRIORITIES	CAPITAL REGIONAL	COMOX VALLEY	NANAIMO
Partnerships and stewardship/First Nation Reconciliation	٧	v	V
Parkland acquisition	٧	٧	٧
Concern for the environment/Conservation	٧	٧	٧
Existing Park amenities/Park Management	٧	٧	٧
Meeting the needs of various user groups / Accessibility and Equity	V	٧	٧
Trail connections			٧
A framework for evaluating and classifying new parks		٧	
Funding		٧	
Accountability to the Public	٧	٧	٧
Climate action and Resilience	٧		

GENERAL GOAL	CAPITAL REGIONAL DISTRICT PRIORITIES	COMOX VALLEY REGIONAL DISTRICT ACTIONS	NANAIMO REGIONAL DISTRICT ACTIONS
a) Equity / Accessibility	Enhance health and well-being by providing equitable access to regional parks and regional trails [19, p 55]	Ensure accessibility of parks and greenways for park visitors (e.g., safe access to the park or greenway along roadways, adequate parking, safe road and bridge crossings, wheelchair accessibility where feasible, etc.) [29, p 25]	Assess maintenance requirements and ensure funds are sufficient to deliver a well-maintained park system that meets public use levels [35, p 101]
	Develop and apply an Equity Lens to inform management and operation of regional parks and regional trails [19, p 55]	(indirect) Interpret the natural environment to park visitors through interpretive signs and programming. [29, p 25]	Complete parks and trails master plans for each electoral area [35, p 98].
	Replace the 2003 Universal Access Plan for Regional Parks with new Accessibility Guidelines that provide objective information about the visitor experience, such as descriptions of trail terrain, length, and slope to empower visitors to make appropriate individual choices [19, p 55].	(indirect). Provide a variety of outdoor experiences and activities for people of all ages and abilities (e.g., camping) [29, p 25]	Consider the Inclusion of accessible trails and park amenities wherever feasible [35, p 98].
	Conduct an Inclusion and Accessibility Assessment of regional parks and regional trails that assesses barriers and deterrents to access. [19, p 55)	(indirect). Provide greenways close to where people live to reduce the need to drive [29, p 25]	Identify, develop, and promote specific areas in the parks system where access for all ages and abilities is available [35, p 101)

**Table 3.** Greenspace related priority actions by district including those related to equitable access to greenspace (highlighted in yellow).

Develop a Park Use Permit Policy that considers providing equitable access to programs, ensuring events and commercial activities align with the values in this Plan, and that fees reflect impacts on park facilities and users [19, p 55].	Develop alternate wording for a new strategic driver focused on Diversity, Equity, and Inclusivity (DEI), or incorporate DEI into the community and social wellbeing driver [32, p 3]	Trails and amenities that are suitable for all ages and abilities will be clearly marked on park maps and signage [35, p 101]
Work with First Nations to improve Indigenous cultural safety in regional parks and on regional trails [19, p 55]		Conducting an accessibility audit of popular/high use regional and community parks will identify trails and amenities that are already accessible. In addition, trails and amenities that have the potential to be upgraded to meet this need can be identified for consideration in short- and long-range financial planning [35, p 101].
Develop environmental interpretation programs that include people with disabilities in interpretive experiences [21, p 18].		
Develop an accessibility checklist to be used in all project management and facilities planning processes [21, p 15].		
Update current park facilities to minimum access standards as identified in the access audit. [21, p 16]		
Present awareness training on disability, accessibility, and		

	universal design to CRD Parks policy makers and staff [21, p 16] Identify volunteer opportunities for people with disabilities and target recruitment to organizations that advocate for them. [21, p 16].		
	Provide information (through media such as web pages or brochures) relating to accessible opportunities for regional park and trail experiences [21, p 16].		
b) Parkland acquisition	Strategically acquire and manage natural areas to address climate mitigation, urban containment, and access to greenspace for a growing population.	Achieve acquisition priorities. Update the electoral areas official community plan to include the principles, policies and mapping in the parks and greenways strategic plan. Update existing parks and greenways policies and maps. Refer areas of interest identified outside of the electoral areas to the relevant municipality.	Develop a regional parks acquisition strategy to guide parkland acquisition for conservation and recreation purposes.

c)	Partnerships general [First Nation Governments, other Governments, Landowners and Non-Profit Agencies]	Foster stewardship through program delivery, knowledge sharing and collaboration.	Use land leases and statutory rights- of-way agreements to secure parks and greenways. Work with the farming community when proposing trails within or bordering farmland to mitigate against negative impacts on existing and future agricultural operations. Work with (Provincial) Ministry of Transportation and Infrastructure to ensure beach accesses remain open to the public. Explore land use agreements over access to popular mountain biking areas. Establish a multi-stakeholder Open Space and Ecosystem Task Force to develop strategies for ecosystem protection, overseeing and coordinating local and regional work on parks, trails, ecosystem protection and restoration.	Continue to establish and manage land use agreements with private and public agencies for recreational and conservation purposes. Identify and foster partnerships with First Nations and non-profit organizations to acquire and manage conservation lands.
d)	Partnership / Collaborations First Nations	Work collaboratively with First Nations governments in service delivery initiatives. Incorporate First Nation worldviews and knowledge in the ongoing management and operation of regional parks and regional trails.	Partner with First Nations to provide recreational opportunities.	Collaborate with First Nations on Park Planning and Design. In collaboration with First Nations, explore opportunities to protect important cultural and natural areas.

Nat Are	Park management and Conservation otect and Enhance tural Parkland eas through imagement]	<ul> <li>Take action to increase protection of biodiversity, ecological integrity, and natural assets in the region through improved knowledge, proactive stewardship and land acquisition.</li> <li>Respect and protect cultural heritage sites and traditional cultural use practices.</li> <li>Work with and support partners in taking care of the region's species, habitats, and natural areas.</li> <li>Offer compatible outdoor recreation opportunities that are enjoyable, healthy, safe, and immersed in nature.</li> <li>Ensure the long-term and consistent management of regional parks and protected natural areas.</li> </ul>	Protect and connect native ecosystems over time. Update Park management plan development guidelines. Explore other planning tools such as density bonussing and density transfer to encourage the protection of greenspace. Develop policies to ensure public safety. Develop a policy for fencing along park boundaries. Develop a 'Leave a Legacy' parks gift program. Explore creating a park zone. Explore natural areas tax exemption to encourage protection of greenspace on private property.	Update Park management plans and prioritize key action items related to sensitive ecosystem preservation. Develop and implement an invasive species management plan to rehabilitate, maintain and enhance natural ecosystems and biodiversity in parks. Develop a wildfire and risk assessment strategy to mitigate fire risk in regional and community parks. Support the RDN's development of an asset management system to inform short and long-term budget planning for park asset maintenance and renewal
f)	Trail connections			Evaluate and update the proposed Regional Trail Network to reaffirm regional trail priorities. Review the implementation of regional active transportation planning initiatives and determine approach.

g)	Classification system		Create 'conservation area' as a new park classification.	Reassess the Regional Park Classification System.
h)	Community / volunteering programs	Foster stewardship through program delivery, knowledge sharing and collaboration ( Develop a Volunteer Plan that includes a diversity of opportunities for individuals and organizations to participate in and contribute to regional parks.		Develop and implement a park and trail volunteer program to coordinate and support volunteer- led stewardship projects. Enhance the ability to offer programming and educational opportunities by identifying and developing additional infrastructure at key parks.
i)	Climate action and resilience	Advance regional active transportation opportunities that contribute to greenhouse gas reduction. Support the development of complete and connected communities by improving access to regional parks by transit, electric vehicles, micro mobility, walking or cycling. Align service delivery and infrastructure improvements in regional parks and regional trails with climate action. Ensure the long-term and consistent management of regional parks and protected natural areas		
j)	Funding		Implement a tax levy for parkland acquisition.	

	Implement a development cost	
	charges bylaw for parks.	
	Pursue opportunities to jointly acquire land to meet park needs in municipal and electoral areas during the first five years of this plan.	
	Actively encourage bequests, gifts of land and financial contributions in cooperation with land trusts and/or conservancies.	
	Review eco-gift authority of the regional district.	
k) Accountability to the public	Report regularly on progress toward achievement of the goals and actions of the rural Comox Valley parks and greenways strategic plan.	
	Review progress and consult with the public on outstanding priorities mid- way into plan implementation.	

#### **GAPS IN EQUITY AND GREENSPACE POLICIES**

While current greenspace plans broadly integrate equity considerations, there are policy gaps with regard to comprehensive goals that include various dimensions of equity and specific strategic actions. The plans from all three regional districts: CRD, CVRD, RDN—acknowledge physical accessibility as a major barrier and develop actions to improve that aspect. However, they mostly exhibit a significant shortfall in comprehensively addressing other equity dimensions and their specific actions, particularly with respect to ethnicity, income, and gender (Figure 3, Figure 4).

For instance, the Comox Valley Regional District and the Regional District of Nanaimo have yet to integrate several dimensions of equity considerations such as ethnicity, income, and gender into their greenspace strategic plans. The Capital Regional District Parks Strategic Plan [19] acknowledges incomerelated disparities and ongoing initiatives such as an accessibility audit and a gender equity study [25], directed at understanding and reducing barriers to greenspace access. However, the three districts would benefit by incorporating specific, detailed, and measurable actions (Table 4).

The strategic plans often recommend strategies that are too broad and fail to provide the granularity necessary for practical application and measurable outcomes. For example, the recommendation to 'Develop and apply an Equity Lens'—this remains too vague, offering no concrete steps, actions, or evaluation metrics for tracking progress. The absence of explicit, detailed actions and metrics for monitoring progress could significantly impede effective implementation. To enhance the incorporation of equity in these greenspace strategies, it is imperative that specific, detailed actions are delineated, including clear guidelines on how to apply an equity lens in practice. Moreover, the plans should also articulate how progress towards these equity goals will be measured, both in the short-term and long-term.

### EQUITY AND GREENSPACE CONSIDERATIONS BY DISTRICT

*Table 4.* Overview of greenspace strategic plans and opportunities for strengthening equitable access by district.

REGIONAL DISTRICT	GENERAL OVERVIEW	GREEN SPACE AND EQUITY LENSE	OPPORTUNITIES FOR STRENGTHING EQUITABLE ACCESS TO GREEN SPACE	GENERAL RECOMMENDATIONS
Capital Regional (CRD)	The Capital Regional District has crafted strategic plans with a core emphasis on greenspace, incorporating elements such as conservation lands, ecological reserves, trails, and parks. These plans prioritize the protection and enhancement of biodiversity and cultural heritage, with a vision to offer engaging outdoor recreation experiences, and enhancing health and wellbeing.	The CRD district aims to have regional parks and trails systems that are inclusive, culturally safe, and accessible to visitors of all ages, abilities, and income levels, reflecting a commitment on green space equity. They also aim to integrate Indigenous perspectives in the collaborative management of regional parks and trails. The CRD proposes strategic priorities and actions related to equity and accessibility to encourage broader participation in regional parks and trails (Table 3a). The actions have a focus on the accessibility dimension but, at a general level, also consider other aspects such as ethnic backgrounds and income levels.	The documents reviewed showed that the CRD district has taken significant strides towards addressing greenspace access equity. However, the focus has predominantly centered on enhancing accessibility, overlooking other dimensions of equity. Dimensions of equity other than accessibility are briefly included, but often merely as general statements. An example of a general statement: • "Regional parks and regional trails are inclusive, culturally safe, and accessible to visitors of all ages, abilities, and income levels". [19, p7]. Furthermore, while the Capital Regional District acknowledges income-related and ethnicity related disparities, actions are often not presented in the	Clearly define equity within the context of CRD strategic plans. Continue incorporating specific actions related to different aspects of equity, including gender, age, and a range of ethnic origins. Expand initiatives beyond First Nations to include other ethnic groups. To enhance the incorporation of equity in these greenspace strategies, it is imperative that specific, detailed actions are delineated, including clear guidelines on how to apply an equity lens in practice. The strategic plans will benefit by articulating how progress towards these equity goals will be measured, both in the short- term and long-term.

The district has incorporated guiding principles on accessibility and universal design, including for example: "Acknowledge accessibility and universal design as a primary consideration in any new development or retrofitting project in regional parks and trails."

The district has also taken steps directed at understanding and reducing barriers to greenspace access. Including the following initiatives:

a) Universal Access Plan [21],
b) Accessibility audit and a gender equity study [20],
c) Established an Accessibility Advisory Committee in 2023
d) Generated a guide for user friendly trails strategic plan [19] or are too broad and might fail to provide the granularity necessary for practical application and measurable outcomes.

An example or the recognition of different aspects of equity: "Factors such as lack of access to transportation and distance to parks can be barriers preventing members of society from enjoying the benefits of parks and trails. Increased benefits of accessing nature and public spaces can be realized when they adapt to the needs of diverse populations, such as people of all ages, ethnic backgrounds, mobility levels and income brackets."

Some examples of actions that might be too broad:

- "Develop and apply an Equity Lens to inform management and operation of regional parks and regional trails" [19, p55].
- "Work with First Nations to improve Indigenous cultural safety in regional parks and on regional trails."

However, the progress report [20] suggest that progress has

			<ul> <li>been made on other aspects of equity.</li> <li><i>"In 2022, an accessibility audit was launched at select regional parks to learn more about barriers and deterrents to access and potential improvements that can be made."</i> [20, p22]</li> </ul>	
Comox Valley Regional District (CVRD)	The Comox Valley Regional District's prioritize the protection of a diverse range of landscapes and native plant and animal communities. Recognizing that these natural areas serve as sanctuaries for native plants and animals to thrive, while also offering people opportunities to explore and forge connections with nature.	The CVRD integrates equity and accessibility into its strategic plans, proposing park and greenway accessibility for visitors of all abilities and ages. For instance, "Comox Valley Regional District is committed to ensuring all community members have access to services and feel they belong to our regional community." [32, p 1]. The district has also highlighted the importance of equity and inclusivity and suggested incorporating this component as a new driver. "Staff are recommending that the Board approve a fifth strategic driver related to accessibility, diversity, inclusivity, and equity" [32, p2] Additionally, CVRD includes regional equity as a key criterion to determine parkland	The CVRD district has taken steps directed at reducing barriers to greenspace access, with a strong focus on the accessibility dimension of equity. For instance, they propose strategic priorities and actions to advance greenspace accessibility. An example of this is: "Ensure accessibility of parks and greenways for park visitors" [29, p 25]. However, specific, and measurable actions for other aspects of equity, such as income, gender, and ethnicity, are mostly absent or too general. Some examples of that: • "Provide a variety of outdoor experiences and activities for people of all ages and abilities" [29, p 25]. • "Parks and trails offer access to recreation that is affordable	Clearly define equity within the context of CVRD strategic plans. Incorporate different aspects of equity in strategic plans, for example income, gender, age, and ethnicity. Incorporate initiatives for collaboration with different ethnic groups. Include specific and measurable actions for different aspects of equity, including clear guidelines on how to apply an equity lens in practice. There is an opportunity to prioritize greenspace equity as the district is <u>currently</u> developing a Regional Parks and Trails Strategic Plan. This plan will guide the management and development of regional parks and trails over the next 20 years.

		acquisition priorities: "Regional equity was also key to determining priorities. Since all three electoral areas pay into the joint community parks function, new parks and greenways need to be established in all three areas, especially those that are currently underserved by regional district parks". [29, p36]	<ul> <li>to young families with children." [29, p 19].</li> <li>"Equitable access to water" [32, p 6].</li> <li>"Access equity" to transportation [32, p 15].</li> <li>The absence detailed actions and metrics for monitoring progress could significantly impede effective implementation.</li> </ul>	
Nanaimo Regional District (RDN)	The Nanaimo Regional District recognizes the importance of greenspace, including community parks and trails, in supporting the health and well-being of all residents in the region. They also emphasize the ecological importance of those areas and the need for their protection.	The RDN district emphasize in their plans the importance of green space equity for all citizens. It aims to have regional parks and community parks and trails that "provide welcoming and diverse opportunities for people of all ages and abilities to recreate and connect with nature and each other" Additionally, RDN incorporates equity as a guiding principle on their strategic plan: "Equity amongst all citizens and across generations is ensured" [35, p 29] The RDN propose actions that have a focus on the accessibility dimension but, at a general level, also consider other aspects such as age. (Table 3a].	The RDN acknowledges the essential role of greenspace in community life and places a strong emphasis on improving accessibility, considering factors such as geographic distribution and mobility challenges. For example, they emphasize that <i>"Regional and community</i> <i>parks and trails in the RDN</i> <i>provide welcoming and diverse</i> <i>opportunities for people of all</i> <i>ages and abilities to recreate</i> <i>and connect with nature and</i> <i>each other"</i> [35, p 88]. The focus has predominantly centered on enhancing accessibility, overlooking other dimensions of equity. Examples of this: <i>"Consider the</i> <i>Inclusion of accessible trails and</i>	Clearly define equity within the context of RDN strategic plans. Incorporate various aspects of equity such as income, gender, age, and ethnicity into the strategic plans. Include specific and measurable actions for addressing different aspects of equity, along with clear guidelines on how to apply an equity lens in practice.

An example of that: "Identify, develop, and promote specific areas in the parks system where access for all ages and abilities is available."

The district has also taken steps directed at understanding and reducing barriers to greenspace access. Including the following the initiative to conduct an accessibility audit of high use regional and community parks [35, p 101]. park amenities wherever feasible "[35, p 98]. The RDN proposes some actions to improve accessibility for individuals with mobility challenges.

An example of those actions include: "Trails and amenities that are suitable for all ages and abilities will be clearly marked on park maps and signage."

However other aspects of equity, such as income, gender, and ethnicity, are mostly absent or too general.

An example of that: *"All residents of the RDN need access to welcoming and well maintained parks and trails that offer a diverse range of recreational opportunities."* [35, p 99].

"Identify, develop, and promote specific areas in the parks system where access for all ages and abilities is available" [35, p 101].

#### **CLIMATE ADAPTATION**

The Capital Regional, Comox Valley Regional, and Nanaimo Regional Districts have recognized the critical need to address climate change at a local level. They have prioritized climate action within their board priorities [24, 32], and some have declared climate emergencies. In response, the districts have developed comprehensive climate strategic plans detailing measures to mitigate, adapt to, and enhance regional resilience against the consequences of climate change.

The climate strategic plans are designed to promote the development of communities and natural environments that are both healthy and resilient, capable of adjusting to and managing the effects of climate change [22, 23, 30, 36]. In these plans the regional districts underscore the necessity of both mitigation and adaptation in their climate strategy visions, preparing for and reducing the impacts of climate change. For instance, the Capital Regional District has set a vision to eliminate emissions and foster healthy and resilient communities and natural areas now and in the future. Similarly, the Comox Valley Regional District is dedicated to 'minimizing our environmental footprint while ensuring our capacity to adapt to and manage climate change impacts.'

The climate action strategies are aligned largely in their priorities including reducing greenhouse gas (GHG) emissions, updating infrastructure and transportation, securing water resources, land use, managing waste, and conserving biodiversity. One of the most significant alignments is the reduction of GHG emissions. The districts aim to transition from traditional vehicular reliance to zero-emission transport and promote low-carbon, resilient urban development. This includes the adoption of green infrastructure solutions such as green roofs, energy-efficient windows, solar installations, and electric vehicle integration.

Another area of alignment among the districts is the incorporation of equity principles in their climate action plans, and the acknowledgment that climate change may disproportionately affect vulnerable populations, such as low-income households, individuals with disabilities, and minority groups. There is a shared commitment to integrate considerations of equity into climate mitigation and adaptation strategies. However, the incorporation of equity varies in depth across the districts (as detailed in Table 6), and concrete actions specifically addressing equity are generally underdeveloped in their climate action plans.

The climate action plans across the districts incorporate the principle of equity to varying degrees. The CRD explicitly integrates equity as a guiding principle within its climate action strategic plan, emphasizing inclusive and accessible actions for all residents, with special attention to those most vulnerable to climate change effects: "Actions are inclusive and accessible to residents across the region, and particularly support those most vulnerable to the impacts of climate change". Furthermore, equity-focused actions are also delineated within the "planning and preparedness goal" in the CRD climate action strategic plan [22] and are emphasized in the Community Climate Change Adaptation Priorities [23], with targeted measures for vulnerable populations, such as strategies for air quality and extreme heat events (Table 6). However, within the CRD climate adaptation plan, explicit equity actions are confined to the "planning and preparedness goal", with other priority goals such as climate-

# CLIMATE ADAPTATION AND EQUITY

"Ensure all climate adaptation and mitigation work is equity centered."

- Nanaimo Regional District

"Committed to ensuring all community members have access to services and feel they belong to our regional community."

- Comox Valley Regional District

"Actions are inclusive and accessible to residents across the region, and particularly support those most vulnerable to the impacts of climate change." - Capital Regional District

focused decision-making, low-carbon mobility, and waste minimization lacking direct equity-related actions. However, in the climate action progress report [25], progress related to equity-lens in the low carbon mobility goal was presented.

Similarly, the CVRD has established Accessibility, Diversity, Equity, and Inclusion as a driver in their district strategic plan [32], committing to the accessibility of services and fostering a sense of belonging within the regional community. It states that "CVRD is committed to ensuring all community members have access to services and feel they belong to our regional community". Yet, the Climate Action Plan [30] does not incorporate specific equity-driven actions, which is reiterated in the Climate Action Program [34] where the district describes that "There are no specific measures in place at this time to ensure equitable access to, and distribution of, opportunities and benefits". Likewise, the RDN climate action plan [36] identifies equity as a strategic component, with the vision to "Ensure all climate adaptation and mitigation work is equity-centered." It proposes the adoption of an Equitable Clean Energy guidebook during program development and suggests that equity-centered design and delivery will be used in the top three climate action priorities of the district water supply, identification of barriers

to climate action and climate adaptive home retrofits [39]. Nonetheless, the actual climate action plan does not feature actions that directly address equity concerns.

## **CLIMATE STRATEGIC PRIORITIES**

Table 5. Key Priorities in Climate Action Plans.

KEY GOALS/STRATEGIC PRIORITIES	CAPITAL REGION	COMOX VALLEY	NANAIMO
Climate-focused decision making	v		V
Sustainable land use planning and preparedness	v	v	
Low-carbon mobility/ Transportation	v	v	٧
Low carbon and Resilient buildings and infrastructure	v	v	V
Resilient and abundant nature, ecosystems, and food systems	v	٧	v
Minimize waste		v	

# INITIATIVES AND PROGRAMS RELATED TO CLIMATE ADAPTATION

While climate action and strategic plans often lack integrated, equitable actions across all priorities, certain district programs integrate equity and measurable actions. These CRD's initiatives serve as examples that integrate equity related actions.

Residential Energy Retrofit Program [28]	Electric vehicle infrastructure road map [27]
The CRD wants to lead low-carbon affordable housing through a regionally coordinated program. This initiative seeks to remove barriers and provide homeowners the support they need to make the switch to low-carbon home energy solutions. These are some of the actions proposed in the program:	The CRD transportation landscape is in transition. Switching to electric vehicles and making significant investment in charging infrastructure. The program acknowledges equity as a critical factor and incorporates strategic actions to ensure its integration.

- "A retrofit program can help to reduce energy bills and thus energy poverty by recommending retrofit measures that have short payback periods and that can quickly reduce household energy costs. These cost saving measures can be prioritized and paired with incentives for lower-income residents to help reduce overall retrofit costs as well" [28, p 47].
- "Increased equity and affordability, by helping homeowners identify and implement measures to reduce their energy consumption, especially when coupled with other incentives that reduce retrofit cost" [28, p 5].

"Equity is a critical factor in public charging infrastructure. Deliberate efforts are required to ensure the infrastructure reduces, not reinforces, inequities for people. For example, public charging can support residents without at-home charging or residents for whom upfront infrastructure costs are a barrier to adoption. A strong public network can enable all residents to choose electric if choosing a vehicle" [47, p 10].

REGIONAL DISTRICT	DOCUMENT	GOAL / STRATEGIES / PRINCIPLE	INITIATIVES / ACTIONS
Capital Regional District	CRD Board- Priorities- 2023-2026	N/A	Strengthen Board decision-making frameworks to include First Nations reconciliation, equity, diversity and inclusion, and climate action lenses.
			Develop understanding of, and accountability for, equity, diversity, and inclusion across CRD decision-making bodies.
			Foster greater civic participation among diverse community members.
	CRD climate- action- strategy 2021	Sustainable land use planning and preparedness	Collect and share pertinent energy, emissions, climate projections and vulnerability data.
			Expand data collection and mapping efforts to identify vulnerabilities to the impacts of climate change.
			Research and share with local governments best practices for incorporating an equity lens into mitigation, adaptation plans and programs.

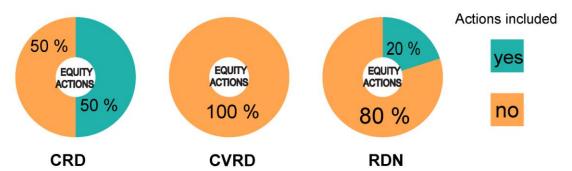
CRD climate- action- strategy 2021	Guiding principle: Actions are inclusive and accessible to residents across the region, and particularly support those most vulnerable to the impacts of climate change	
CRD 2022 Climate action progress report	Low-Carbon Mobility	Established a partnership with the Community Social Planning Council to look at gender equity and safety on CRD trails and received a grant to investigate the development of bike skills for equity-seeking groups that are underrepresented on CRD trails.
	Sustainable land use planning and preparedness	The CRD's Community Health Network established a research partnership with UVic's School of Public Administration to explore the impact different climate events have on the health outcomes of vulnerable groups within the capital region. An equity lens will be used to identify actions to better support vulnerable groups to prepare for, respond to and recover from extreme weather, beginning with extreme heat.
CRD Climate Adaptation Priorities Resource	Air Quality and Extreme Heat Events	Undertake research to create guidance on template/model air quality thresholds and policies for different audiences including outdoor workers, local government staff, vulnerable populations, and the public. Target efforts towards vulnerable populations (health equity) (e.g., increase water fountains in neighbourhoods/areas that need it most).
CRD residential- energy- retrofit- program- business-case- report	Policy priority	Strategic supports: Equity-focused consultation during Net Zero Building strategy development. Equity/social benefit now included in sustainable procurement policies. Equity considered during all policy reviews - varied approaches.

	9 CRD ev- infrastructure- roadmap final	Climate adapted home retrofits	Strategic supports: Equity requirements included as part of retrofit concierge procurement and program design. Equity requirements core component of Community Efficiency Financing feasibility assessment.
Nanaimo Regional District	RDN Climate action technical advisory committee	Ensure all climate adaptation and mitigation work is equity centered, and further, the Urban Sustainability Directors Network Guidelines for equity be used during program development and implementation to better ensure equity-centered climate action. And finally, costs to implement those guidelines be included in program budgets.	
	RDN Strategic Plan	Make the region a safe and vibrant place for all, with a focus on children and families in planning and programs	
	RDN Climate Action Technical Advisory Committee Status Report 2022-2023	Water priority	Strategic support: Equity will be priority within design of public outreach materials during 2023
Comox Valley Regional District	CVRD Local Government Climate Action Program 2021 Report		"There are no specific measures in place at this time to ensure equitable access to, and distribution of, opportunities and benefits"

#### GAPS IN EQUITY AND CLIMATE ADAPTATION POLICIES

The CRD, CVRD, and RDN districts consistently highlight the need to integrate an equity lens into their climate mitigation and adaptation plans. However, there are significant gaps in their approach to equity. In most instances, specific actions related to equity are absent for many priorities/goals (Figure 5, Table 7). While equity is often included as a guiding principle or strategic element, specific, measurable actions for several goals of the climate action plans are not detailed, particularly for the CVRD, and RDN districts. Notably, equity actions are absent for important and commonly developed priorities, including GHG emission reductions, low-carbon mobility, low-carbon infrastructure, and climate-focused decision-making. This was evidenced in documents like the CVRD Energy and Emission plan [33], Corporate Carbon Neutral 2032 Plan [38], and the corporate climate action strategy [26]. While some individual initiatives and programs reference specific actions, these are not consistently reflected in the overarching strategic plans [22, 23, 30, 36].

It remains unclear how an equity-oriented lens will be applied to these and other strategic priorities of the districts, how equity will be achieved, and how energy-efficient and low-carbon infrastructure and transportation will be developed affordably for the most vulnerable populations. Furthermore, generally, it is vague how different groups of vulnerable populations, such as low-income communities, people with disabilities, and minority groups, will be specifically prioritized and supported in the climate mitigation and adaptation efforts across the region.



*Figure 5.* Percentage of climate strategic plans and documents that include equity-related actions. See Table A1 for specific documents.

### EQUITY AND CLIMATE ADAPTATIONS CONSIDERATIONS BY DISTRICT

**Table 7.** Overview of Climate action plans and Opportunities for strengthening Equitable Access by District

REGIONAL DISTRICT	GENERAL OVERVIEW	CLIMATE ADAPTATION AND EQUITY LENSE	AREAS OF OPPORTUNITIES FOR STRENGTHENING EQUITABLE CLIMATE ADAPTATION (GAPS)	GENERAL RECOMMENDATIONS
Capital Regional (CRD)	The CRD has prioritized climate action within its board priorities. Their climate strategic plan and climate-related documents emphasizes the necessity of both mitigation and adaptation to address the impacts of climate change. They aim to foster healthy and resilient communities and natural areas now and in the future. Key priorities include reducing greenhouse gas emissions, updating infrastructure and transportation, securing water resources, managing waste, and conserving biodiversity.	<ul> <li>The CRD explicitly integrates equity as a guiding principle within its climate action strategy, emphasizing inclusive and accessible actions for all residents, with special attention to those most vulnerable to climate change effects. It states as a guiding principle in the climate action strategy: "Actions are inclusive and accessible to residents across the region, and particularly support those most vulnerable to the impacts of climate change".</li> <li>The district, as part of their climate action plan, incorporated some initiatives for equity deserving groups. For example:</li> <li>a) A partnership with the Community Social Planning Council to develop bike skills for equity seeking groups. This is part of the low-carbon mobility initiatives.</li> </ul>	The CRD district has delineated equity related actions within some of the goals in the climate strategic plan [22], Table 5), and in the Community Climate Change Adaptation Priorities [23]. Particularly specific actions are presented in the -planning and preparedness goal, and in adaptation priorities for air quality and extreme heat events. Examples of those considerations and actions: • "Hotter summers increasing the risk of heat stress, especially for vulnerable populations" [23, p10] • "Target efforts towards vulnerable populations (health equity) (e.g., increase water fountains in neighbourhoods/areas that need it most)" [23, p 30]	Consider including equity as primary goal in climate-related policies. Consider expanding explicit equity actions to all priority goals of the climate adaptation plan such as climate-focused decision-making, low-carbon mobility, and waste minimization. Ensure that progress related to equity-lens implementation is consistently monitored and reported across all climate action goals. Develop specific, measurable actions focusing on enhancing access to climate adaptation measures, targeting diverse equity deserving groups. This includes, for example, individuals from diverse ethnic backgrounds, varying income levels, and different age

REGIONAL DISTRICT	GENERAL OVERVIEW	CLIMATE ADAPTATION AND EQUITY LENSE	AREAS OF OPPORTUNITIES FOR STRENGTHENING EQUITABLE CLIMATE ADAPTATION (GAPS)	GENERAL RECOMMENDATIONS
		The CRD's Community Health Network established a research partnership with UVic's School of Public Administration to explore the impact different climate events have on the health outcomes of vulnerable groups within the capital region.	While equity principles are incorporated into the climate action plan, concrete actions specifically addressing equity are still underdeveloped. Particularly for goals such us climate-focused decision- making, and waste minimization.	groups, particularly focusing on marginalized communities.
Comox Valley Regional District (CVRD)	The CVRD has prioritized climate action and declared a commitment to minimizing the environmental footprint while enhancing capacity to adapt to climate change impacts. Their climate adaptation plan focuses on reducing greenhouse gas emissions, updating infrastructure, securing water resources, managing waste, and conserving biodiversity. The CVRD aims to transition to zero- emission transport and promote low-carbon urban development.	The CVRD has established Accessibility, Diversity, Equity, and Inclusion as a driver in their district strategic plan [32], committing to the accessibility of services and fostering a sense of belonging within the regional community. It states that <i>"CVRD is committed</i> <i>to ensuring all community</i> <i>members have access to services</i> <i>and feel they belong to our</i> <i>regional community"</i> .	The CVRD district identifies in their climate adaptation plan that "Low-income households, Indigenous peoples, Racialized communities, Newcomers to Canada (immigrants and refugees), People experiencing homelessness, Seniors, Women and girls" are most vulnerable to impacts of climate hazard [34, p6]. While equity principles are integrated into the climate action plan, specific actions targeting equity are relatively underdeveloped. The Climate Action Plan [30] does not include specific equity- driven actions for equitable climate adaptation. This is	Consider including equity as primary goal in climate-related policies. Incorporate specific equity- driven actions into the Climate Action Plan to align with the district's commitment to Accessibility, Diversity, Equity, and Inclusion as outlined in the strategic plan. Establish measures to ensure equitable access to opportunities and benefits within the Climate Action Program. Enhance collaboration with diverse community groups to identify and address equity gaps in climate adaptation

REGIONAL DISTRICT	GENERAL OVERVIEW	CLIMATE ADAPTATION AND EQUITY LENSE	AREAS OF OPPORTUNITIES FOR STRENGTHENING EQUITABLE CLIMATE ADAPTATION (GAPS)	GENERAL RECOMMENDATIONS
			reiterated in the Climate Action Program, where the district describes that "There are no specific measures in place at this time to ensure equitable access to, and distribution of, opportunities and benefits" [34, p6].	efforts, particularly focusing on providing accessible services and fostering a sense of belonging within the regional community. Develop specific, measurable actions focusing on enhancing access to climate adaptation measures, targeting diverse equity deserving groups. This includes, for example, individuals from diverse ethnic backgrounds, varying income levels, and different age groups, particularly focusing on marginalized communities.
Nanaimo Regional District (RDN)	The RDN prioritizes climate action and recognizes the critical need to address climate change impacts. Their climate adaptation plan emphasizes reducing greenhouse gas emissions, updating infrastructure to become zero-emission transport and low- carbon urban development, securing water and food	The RDN explicitly integrates equity as a key component within its climate action plan, it emphasizes the importance of equity-centered climate adaptation and mitigation programs. For instance, it suggests that equity is one of their criteria for prioritization of climate-related actions. It emphasized an equity- centered design will be used in the top three climate action priorities of the district: water supply,	The RDN recognizes the importance of applying a social equity lens in their climate action priorities, design and deliver. It states the importance by mentioning <i>"Ensure all climate adaptation and mitigation work is equity-</i> <i>centered"</i> [36, p17] Furthermore, the criteria for prioritizing climate adaptation and mitigation areas includes: <i>"Are equitable across the socio-</i>	Consider including equity as primary goal in climate-related policies. Consider expanding on the vision of ensuring all climate adaptation and mitigation work is equity-centered into concrete actions within the climate action plan. Develop specific, measurable actions focusing on enhancing access to climate adaptation measures, targeting diverse

REGIONAL DISTRICT	GENERAL OVERVIEW	CLIMATE ADAPTATION AND EQUITY LENSE	AREAS OF OPPORTUNITIES FOR STRENGTHENING EQUITABLE CLIMATE ADAPTATION (GAPS)	GENERAL RECOMMENDATIONS
	resources, and conserving biodiversity.	<ul> <li>identification of barriers to climate action and climate adaptive home retrofits [39]</li> <li>Additionally, RDN propose that equity is a strategic support for successful implementation of the climate action plan.</li> <li>The district also recognizes that members of equity deserving groups may be at higher risk from climate-related damage.</li> <li>An example of this: "Adaptation is particularly important for protecting vulnerable populations such as low-income communities, people with disabilities, children, minority groups, and the elderly. As members of these groups may be at higher risk from climate-related damage." [36, p4].</li> <li>The district has also taken steps directed at understanding and reducing barriers to climate adaptation. Including the following initiatives: <ul> <li>a) Resilient homes</li> <li>b) Supporting homes retrofits</li> </ul> </li> </ul>	<ul> <li>economic income spectrum" [36, p6].</li> <li>However, specific, measurable actions related to equity are absent for some of the climate adaptation and mitigation goals.</li> <li>Equity statements are often very broad.</li> <li>Some examples: <ul> <li>"Equity will be priority within design of public outreach materials during 2023" [39, p5].</li> <li>"Equity considered during all policy reviews" [39, p8].</li> </ul> </li> <li>"Equity-focused consultation during Net Zero Building strategy development" [39, p8].</li> </ul>	equity deserving groups. This includes, for example, individuals from diverse ethnic backgrounds, varying income levels, and different age groups, particularly focusing on marginalized communities. Develop mechanisms to consistently apply an equity- oriented lens across all strategic priorities. Ensure that progress related to equity-lens implementation is consistently monitored and reported across all climate action goals.

# RECOMMENDATIONS

In response to the need for equitable approaches to green space access and climate adaptation, the following recommendations aim to address disparities in access to green spaces, while also ensuring that climate adaptation measures prioritize equity deserving groups in the region. By integrating principles of equity into policy frameworks, we can enhance social resilience, mitigate environmental injustices, and promote greenspaces for all. These recommendations serve as guiding principles towards creating inclusive, resilient, and climate-ready communities.

### **RECOMMENDATIONS FOR EQUITABLE GREENSPACE AND CLIMATE ADAPTATION**

GREENSPACE				
General Principles	<ul> <li>Integrate equity and accessibility in strategic planning.</li> <li>Address equity in policies/actions related to green space planning and climate adaptation.</li> <li>Create specific, actionable items for each aspect of equity.</li> <li>Ensure information about green spaces is accessible and inclusive.</li> <li>Actively engage with communities, especially those who are underrepresented, to gather input on how greenspaces parks and trails can better serve their needs.</li> <li>Include members from diverse backgrounds in planning and decision-making processes</li> </ul>			
Access (Availability)	<ul> <li>Beyond general accessibility, address other aspects of access such as language barriers and affordability.</li> <li>Develop programs to engage underserved populations with greenspaces.</li> <li>Prioritize parkland acquisition for underserved communities (e.g., develop greenways close to equity-deserving neighborhoods)</li> <li>Embed equity in the Regional Park Acquisition and Rating Framework.</li> </ul>			
Physical Accessibility	<ul> <li>Upgrade facilities for better accessibility.</li> <li>Enhance overall park accessibility, both to and within parks.</li> </ul>			
Gender and Sexual Orientation	<ul> <li>Incorporate policies addressing gender identity and sexual orientation.</li> <li>Promote diversity in park staff and leadership.</li> </ul>			

	<ul> <li>Collaborate with LGBTQ+ groups for tailored programs</li> </ul>
Ethnicity and Cultural Context	<ul> <li>Provide multilingual information, signage, and maps.</li> <li>Ensure the safety and security of all individuals.</li> <li>Organize inclusive events and programs for diverse ethnic groups.</li> <li>Ensure diverse skin colours are represented in ads and posters</li> </ul>
Income	<ul> <li>Distribute green spaces equitably across various income neighborhoods.</li> <li>Provide free or reduced-rate facilities.</li> <li>Offer affordable public transit options to green spaces.</li> <li>Enhance access to parks with fare reductions for target groups.</li> </ul>
	CLIMATE ADAPTATION
General Principles	<ul> <li>Enhance community understanding of climate change issues.</li> <li>Integrate targeted equity actions into all strategic climate goals.</li> <li>Address equity in specific actions related to climate adaptation.</li> <li>Ensure equitable distribution of resources and benefits derived from climate adaptation strategies.</li> </ul>
Community Engagement	<ul> <li>Include the most significantly impacted populations in program development.</li> <li>Emphasize participatory involvement from underserved and vulnerable communities in developing adaptation strategies.</li> <li>Develop adaptation strategies in partnership with communities most affected by climate changes.</li> <li>Initiate educational programs to heighten climate change awareness with an emphasis on at-risk communities.</li> <li>Support initiatives led by the community to increase resilience and adaptive capacity.</li> </ul>
Equity Assessment for Climate Change	<ul> <li>Perform detailed vulnerability assessments by neighborhood and demographic, focusing on underserved communities.</li> <li>Evaluate the impacts of adaptation strategies on various social groups to prevent exacerbating existing disparities.</li> <li>Direct resources preferentially to communities facing the most considerable inequalities and climate change impacts.</li> </ul>
Ethnicity and Cultural Context	<ul> <li>Initiate multilingual educational programs to heighten climate change awareness.</li> </ul>

	<ul> <li>Organize inclusive climate adaptation relate events and programs for diverse ethnic groups.</li> </ul>
Affordability	<ul> <li>Ensure climate change mitigation and adaptation options are affordable and do not introduce or aggravate inequities.</li> <li>Target resource allocation and adaptation interventions in neighborhoods most susceptible to climate change.</li> <li>Advocate for the creation and implementation of affordable, accessible, and climate-resilient infrastructure suitable for diverse community needs.</li> </ul>

## **BEST PRACTICES FOR AN EQUITABLE GREEN SPACE AND CLIMATE ADAPTATION**

The following diagrams provide concrete strategies and examples of how to include equity

considerations in climate adaptation strategies.

<b>General Practices</b>	<ul> <li>Clearly define equity.</li> </ul>
	<ul> <li>Climate policies should include equity as primary long-term goal.</li> <li>Design and implement programs that specifically cater to diverse groups,</li> </ul>
	including people of different ethnicities, age groups, genders, abilities, and income levels, ensuring that these programs are well-publicized within those communities.
	<ul> <li>Include members from diverse backgrounds in planning and decision- making processes to ensure that different perspectives are considered when creating and revising strategic plans.</li> </ul>
Assess climate	<ul> <li>Develop an equitable vulnerability assessment.</li> </ul>
vulnerability and green space	<ul> <li>Include an equity-lens in the green space and climate adaptation policies.</li> <li>Involve communities in the processes of policy and actions development.</li> </ul>
needs	<ul> <li>Develop clear measurable actions on equitable climate adaptation.</li> </ul>
Facilitate diverse	To facilitate equitable and broader community engagement in climate
community awareness and	adaptation activities consider than factors such as language and literacy level,
engagement	socio economic status, time, and interest limitation.
	<ul> <li>Design materials and community events that accommodate different</li> </ul>
	literacy levels.

	<ul> <li>All public communication materials (e.g., flyers, videos, conferences) should be done in the major languages spoken in the community.</li> <li>Consider location, timing and accessibility by public transportation when organizing events.</li> <li>Promote diverse and underserve populations engagement in policy development.</li> <li>Foster participation at climate related events by hosting events in places that are familiar and comfortable for people without a large time commitment.</li> </ul>
Increase affordability	<ul> <li>To facilitate equitable access to climate adaptation solutions when planning for infrastructure investments, prioritize actions that benefit underserve communities.</li> <li>Direct a determined amount of funds to support projects and initiatives located in underserve communities.</li> <li>Allow affordable infrastructure on an income-base need.</li> <li>Identify and minimize climate adaptation solutions with unintended consequences (e.g., reinforce inequity).</li> <li>Establish subsidy or rebate system to assist underserved communities to purchase and install energy efficient or other facilities.</li> </ul>

# FRAMEWORK FOR EQUITABLE CLIMATE ADAPTATION AND GREEN SPACE

The following diagrams provide concrete strategies and examples of how to include equity considerations in climate adaptation strategies.

PREDICTED CLIMATE HAZARD	EQUITABLE CLIMATE ACTIONS EQUITABLE CLIMATE ACTION (NATURE BASED SOLUTIONS)	
Extreme heat	<ul> <li>Disseminate warnings to residents most at risk.</li> <li>Provide warnings in multiple languages.</li> <li>Locate cooling centers in neighborhoods where underserved communities and residents at most at risk reside.</li> </ul>	<ul> <li>Develop urban canopy to reduce heat island effect, especially in heavily urbanized, tree-poor areas.</li> <li>Prioritize neighborhoods with greatest need for planting trees and enhancing green spaces.</li> <li>Initiative spotlight: <u>Tree voucher</u> program City of Nanaimo, BC.</li> </ul>

Wildfire & air quality	<ul> <li>Provide warnings in multiple languages.</li> <li>Support weatherization/ energy efficiency programs in underserved populations.</li> <li>Establish subsidy or rebate system to assist lower-income residents to purchase and install air conditioning.</li> </ul>	<ul> <li>Planting native trees and restoring degraded landscapes to create natural firebreaks and improve air quality through carbon sequestration.</li> <li>Green Infrastructure Development: Implementing green roofs, urban forests to enhance air quality, and reduce the risk of wildfires spreading into urban environments.</li> </ul>
Flooding	<ul> <li>Prioritize underserved communities at greatest risk of flooding impacts for infrastructure improvement projects.</li> <li>Consultation and sufficient compensation to displaced populations.</li> </ul>	<ul> <li>Prioritize Restoration of Wetlands and Riparian areas in areas where underserve communities inhabit to improve water quality, regulate water flow, and provide habitat for biodiversity.</li> </ul>
GHG emissions	<ul> <li>Prioritize low-carbon transportation initiatives for equity deserving groups.</li> <li>Consultation at planning stage to ensure that the proposed changes address the transport needs of equity deserving groups without creating cost barriers.</li> <li>Initiative spotlight outside the geographic region <u>Our community</u> <u>bikes program</u> Vancouver, BC.</li> </ul>	<ul> <li>Improve green spaces, parks, greenways, and recreational areas where population from to underserve communities live.</li> <li>Prioritize neighborhoods with greatest need for planting trees and enhancing green spaces.</li> </ul>
Food insecurity	<ul> <li>Increase public awareness of food security challenges caused by climate change.</li> <li>Diversify food sources and agricultural production techniques to reduce risk.</li> <li>Invest in food storage systems than can withstand extreme weather events.</li> </ul>	<ul> <li>Investment in agricultural diversification.</li> <li>Implement sustainable farming practices such as agroforestry and cover crops.</li> <li>Invest in research and development for climate-resilient food crops.</li> </ul>

## CONCLUSION

The examination of strategic action plans and other publicly available documents across the three regional districts underscores a unanimous recognition by these regional districts of the necessity and interest to incorporate an equity lens into their access to greenspace and climate adaptation strategies. Current policies in the East Coast of Vancouver Island consider equity in the design of greenspace and climate adaptation strategies to varying degrees, however, it is apparent that there is a substantial gap in the incorporation of a broad dimensionality to equity. For instance, equity in access to greenspace is strongly focused on the accessibility aspect (i.e., physical accessibility for people with disabilities) and other aspect of equity are underrepresented. We suggest that a more comprehensive dimensionality of equity should include aspects such as ethnicity, nationality, race, disability, economic status, gender, and sexual orientation. This would widen the scope to various equity deserving groups facing significant barriers.

Current strategic plans propose various efforts aimed to integrate equity in the plans, however, the inclusion of specific actions is often found lacking, particularly, within the broader scope of strategic climate priorities. These strategic priorities tend to lack actions that are detailed and granular which are needed for tangible implementation and to provide measurable outcomes. Additionally, we observed instances where ongoing strategies, which do incorporate specific, actionable measures addressing equity principles, are not explicitly referenced within the strategic plans. Considering these findings, this report strongly suggests an opportunity for the districts to further elaborate on and clarify their implementation of equity within their greenspace and climate adaptation plans.

Thoughtful design and implementation of climate and green space policies hold the potential to yield significant benefits that can reduce gender, health, and economic inequalities. This involves integrating equity considerations throughout all stages of policy formulation, encompassing planning, development, and execution. Prioritizing equity in policy development can substantially contribute to reducing prevalent economic, health, gender, and other societal disparities. For instance, implementing climate change mitigation strategies, such as energy-efficient improvements in low-income communities, holds promise for enhancing health equality by ameliorating living conditions, household finances, and overall well-being. Similarly, reductions in air pollution from transportation and the expansion of greenspaces have the potential to mitigate existing health disparities, particularly in

densely populated urban areas plagued by elevated air pollution levels. Such disparities disproportionately affect lower-income households, often located in areas with poor air quality resulting from road transportation emissions. Integrating equity considerations into policy formulation will ensure that the benefits of green space and climate actions are equitably distributed and accessible to all.

#### **KEY DEFINITIONS AND CONTEXT**

**Accessibility** A general term for the degree of ease that something (e.g., device, service, physical environment, and information) can be accessed, used, and enjoyed by persons with disabilities. The term implies conscious planning, design and/or effort to make sure something is barrier- free to persons with disabilities. Accessibility also benefits the general population, by making things more usable and practical for everyone, including older people and families with small children [40].

**Climate adaptation** is the process of adjusting in natural or human systems to actual or expected climate and its effects. This includes working to reduce or avoid harm, exploiting beneficial opportunities or facilitating adjustments in natural systems. To be effective in reducing our vulnerability and adapting to a changing climate, we need to improve how we anticipate, respond to, and recover from both extreme weather events and more gradual changes occurring over time [41].

**Climate change** Climate change refers to any change in climate over time, whether due to natural variability or because of human activity [41]. Climate has changed due to natural forces over the course of history (e.g., volcanoes, ocean currents) but human activity (e.g., industry, transportation) is now considered the cause of rapid and severe climate change due to the introduction of higher levels of CO2 in the atmosphere from the burning of fossil fuels. These climate change impacts include sea level rise, more intense and more frequent extreme weather events (e.g., storms, hurricanes, storm surge) and in Canada, warmer, wetter summers and winters.

**Diversity** in broad terms diversity refers to all the ways in which people differ, and it encompasses all the different characteristics that make one individual or group different from another. It is all-inclusive and recognizes everyone and every group as part of the diversity that should be valued. A broad definition includes not only race, ethnicity, and gender — the groups that most often come to mind when the term

"diversity" is used, but also age, national origin, religion, disability, sexual orientation, socioeconomic status, education, marital status, language, and physical appearance [42].

**Disabled people / Persons with disabilities** A disabled person, or a person with a disability (ies), is a person who experiences barriers and/or functional restrictors or limitations to their full and self-determined participation in activities due to a difference in mobility, sensory, learning, or other physical or mental health experience [43].

**Equity** fairness, impartiality, even-handedness. A distinct process of recognizing differences within groups of individuals and using this understanding to achieve substantive equality in all aspects of a person's life [40]. In social policy, 'equity' entails designing and implementing policy in a way that actively seeks to improve the circumstances of the most vulnerable groups [15].

**Equity Deserving Groups** are communities that experience significant collective barriers in participating in society. This could include attitudinal, historic, social, and environmental barriers based on age, ethnicity, disability, economic status, gender, nationality, race, sexual orientation, and transgender status, etc. Equity-seeking groups are those that identify barriers to equal access, opportunities, and resources due to disadvantage and discrimination and actively seek social justice and reparation [44].

**Greenspace** A definition that is commonly used in the literature – and that will be used in this report – is any vegetated areas of land or wetland within or adjoining an urban area – for example: forests, conservation areas, wetlands, parks, greenways, trails. (Reviewed in [1])

**Greenhouse gas (GHG)** Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds. This property causes the greenhouse effect [43].

**Inclusion** is an active, intentional, and continuous process to address inequities in power and privilege, and to build a respectful and diverse community that ensures welcoming spaces and opportunities to flourish for all [43].

**Mitigation (of climate change)** is a human intervention to reduce the sources or enhance the sinks of greenhouse gases [41].

## **APPENDIX**

**Table A1.** Incorporation of equity lens and equity action on greenspace and climate adaptation documents

REGIONAL DISTRICT	POLICY DOCUMENT OR PROGRAM	CLASS	EQUITY-LENS	CLIMATE AND EQUITY SPECIFIC ACTIONS	GREENSPACE AND EQUITY ACCESSIBILITY ASPECT	GREENSPACE AND EQUITY (OTHER THAN PHYSICAL ACCESSIBILITY)
Capital Regional	1 CRD Regional-parks-and-trails- strategic-plan-2022-2032	Strategic plan		n/a		
(CRD)	2 CRD Interim-Regional-Parks-Trails- Strategic-Plan-Progress-Report 2022	Progress report		n/a		
	3 CRD everyone's-parks-and-trails-a- universal-access-plan-for-crd-parks	Strategic plan		n/a		
	4 CRD Capital region district climate- action-strategy 2021	Strategic plan			n/a	n/a
	5 CRD Climate-Adaptation Priorities Resource	Priorities			n/a	n/a
	6 CRD Capital Regional district Board- Priorities-2023-2026	Board priorities		n/a	n/a	
	7 CRD Climate-Action-Progress-Report 2022	Progress report			n/a	n/a
	8 CRD Corporate climate action strategy 2016	Corporate plan			n/a	n/a
	9 CRD ev-infrastructure-roadmap final	Program			n/a	n/a
	10 CRD residential-energy-retrofit- program-business-case-report	Program			n/a	n/a

Comox Valley (CVRD)	1 CVRD rural cv parks and greenways strategic plan 2011 2030	Strategic plan		n/a		
	2 CVRD Comox Valley Regional district climate action plan 2015	Strategic plan			n/a	
	3 CVRD Comox Valley regional district sustainability strategy 2010	Strategic plan			n/a	
	4 CVRD Comox Valley Regional District Strategic Planning 2023	Strategic plan				
	5 CVRD Comox valley Regional District corporate energy plan 2023	Corporate plan			n/a	
	6 CVRD Local Government Climate Action Program Report 2021	Report	n/a	n/a	n/a	n/a
Nanaimo (RDN)	1 RDN Nanaimo Regional District Parks & Trails Strategy 2020	Strategic plan		n/a		
	2 RDN Nanaimo Regional district Climate action technical advisory committee	Technical report			n/a	n/a
	3 RDN Nanaimo Regional district Strategic Plan	Strategic plan				
	4 RDN Corporate Carbon Neutral 2032 Plan	Strategic plan			n/a	n/a
	5 RDN Climate Action Technical Advisory Committee Status Report 2022-2023	Progress report			n/a	n/a

**Table A2**. Relevant Documents for Specific Cities Within Each District for Further Research on This Topic are listed. These documents were not reviewed thoroughly and are presented for reference and further interest.

REGIONAL DISTRICT	POLICY DOCUMENT OR PROGRAM	MUNICIPALITY / CITY / TOWN
Capital Regional District	Bowker-creek-blueprint 2011 full	Multiple
District	<u>City of Victoria Action plan 2021 - A journey from where we</u> are to where we need to be (Dream in Colour)	Victoria
	City of Victoria Engagement framework 2022	Victoria
	<u>City of Victoria- All our voices inclusion and equity program (</u> Summary)	Victoria
	City of Victoria Equity diversity and inclusion guide	Victoria
	City of Victoria Climate Action plan	Victoria
	Oak Bay Council priorities plan 2022 (12)	Oak Bay
	Saanich Diversity, Equity and Inclusion strategic report and action framework 2023	Saanich
	Saanich Climate change adaptation plan_2020	Saanich
	Saanich Climate Plan 2020	Saanich
	Climate Risk Assessment 2019	Saanich
	Climate Plan Report Card 2022	Saanich
	Residents climate action guide book	Saanich
	Climate leadership Training programs	Saanich
	Sooke Climate action plan (20)	Sooke
Comox Valley Regional District	Parks and greenways assessment	Comox
Regional District	Sustainability strategy Project	Comox
Nanaimo Regional District	Nanaimo_ City plan Nanaimo Reimagined 2022	Nanaimo
	Nanaimo_ Adaptation plan summary	Nanaimo
	Nanaimo_Climate change resilience strategy 2020	Nanaimo
	Nanaimo Tree voucher program 2023	Nanaimo
	Nanaimo_Urban forest management strategy 2010	Nanaimo

# **RECOMMENDATIONS FOR GREENSPACE PLANNING TEXT VERSION**

The following recommendations outline some actions that can be taken to incorporate equity in greenspace planning in the region:

#### **General principles**

- Include equity and accessibility as priorities in the greenspace planning and climate adaptation strategic plans for all districts.
- Provide information about greenspace in a way that is accessible and inclusive.
- Incorporate various aspects that are involved in equitable access to greenspace in future policies and actions regarding greenspace planning and climate adaptation, including accessibility, income, ethnicity, gender, age, and safety perceptions.
- Generate actionable items that are specific to each of the various aspects of equity.
- Target greenspace and park land acquisition in areas where equity deserving groups and vulnerable populations reside.

#### Access

- Develop programs, activities, and opportunities to encourage underserved populations to visit and actively engage with greenspace.
- Give priority to acquiring parkland and greenspace in areas where equity deserving groups reside.
- Include equity as a criterion in the Regional Park Acquisition and Rating Framework to provide a clear foundation for decisions on future parkland acquisitions.
- Focus attention on parkland acquisition for equity deserving groups.
- Facilitate access to parks through fare reductions for target groups.

#### Accessibility

- Ensure facilities are accessible.
- Improve the accessibility of parks, both in terms of getting to the parks and moving within them.

#### Ethnicity and cultural concerns

- Provide information, signage, and maps in a diversity of languages to increase equitable access to parks.
- Take measures to ensure the safety of all individuals, regardless of ethnicity, such as clear pathways and signage, to contribute to a secure environment that encourages everyone to enjoy the greenspace.
- Organize events and programs that cater to diverse interests and ethnicities, ensuring activities are inclusive of all ethnicities and foster a welcoming environment for everyone.
- Create target outdoor programs.

#### Gender and sexual orientation

- Include explicit language in greenspace policies that addresses gender identity and sexual orientation, ensuring non-discrimination policies are in place to protect the rights of individuals from all backgrounds.
- Promote diversity in park programming, staff, and leadership roles to contribute to a more inclusive atmosphere.
- Collaborate with LGBTQ+ organizations to co-create events, programs, and initiatives that specifically address the needs and interests of the community, ensuring that greenspace is welcoming to everyone.

#### Income

- Ensure that greenspace is distributed equitably across neighborhoods, including those with varying income levels.
- Establish that admission to greenspace facilities (e.g., camping) is free or offered at a reduced rate for target populations.
- Offer public transit options for accessing parks and provide discounts or free transportation options to greenspace.
- Prioritize acquiring parkland and greenspace in areas where equity deserving groups reside.

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