

**Getting the Job Done: Understanding Barriers and Enablers to
Municipal Climate Action in Greater Victoria**

By

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We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the
university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical
relationships with the land continue to this day.

Supervisory Committee

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Abstract

Municipalities in Greater Victoria are dedicated to climate action and municipal officials deal with both barriers and enablers in implementing climate solutions. Focus groups held with municipal staff members in the thematic areas of buildings and energy, sustainable transportation and solid waste reveal that these barriers and enablers fall into six categories: funding, staffing, legislation/regulation, governance, information, and politics. Focus group participants expressed that they remain firmly enmeshed in the hierarchy of Canadian federalism, with upper levels of government having control over much of the funding and legislative/regulatory powers important for climate action. Three types of instruments are used in climate action: regulations, economic measures and information. The province controls most of the regulations and economic measures, leaving the municipalities of Greater Victoria with inadequate or inappropriate access to both. Political will and information exchange enable existing climate action, but lack of autonomy over the most effective policy instruments was identified as a barrier for municipalities.

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Dedication

To my sisters, Alison, Hilary, Bronwen, and Rosemary Masemann, for propping me up and making me laugh every day.

And to Erik and our children for believing in me so completely and for the many cups of tea.

Chapter One: Introduction

Climate action is high on the agenda for local governments across Vancouver Island and yet there are significant barriers to meeting climate adaptation and mitigation goals, including a lack of financial resources, dedicated staff and out-of-date policies and regulations (Rhodes et al., 2021a). The literature on policy implementation points to the importance of the *working level* in understanding the scope for climate action and the types of barriers that professionals face in the conduct of their work (Lawrence et al., 2015a; Leck & Roberts, 2015; Salon et al., 2014). These may include regulatory, structural and cultural/behavioural barriers, including professional/disciplinary silos (Burch, 2010b; Dale et al., 2020a).

The *purpose of the thesis* is to understand the barriers and enablers to local government climate policy implementation *at the working level* among Greater Victoria municipalities. Both the Capital Regional District and the City of Victoria have set ambitious targets for greenhouse gas (GHG) emissions in three key areas (transportation, buildings and energy, and waste disposal), but emission levels have not been significantly reduced (City of Victoria, 2020; Capital Regional District, 2017). This relative lack of success is common of local governments (Fuhr et al., 2018). Municipalities are on the front line of climate change mitigation efforts and yet, they are in many ways ‘policy takers’, beholden to upper level governments for their regulatory powers and funding (Robinson & Gore, 2005). As such, their agency to adopt measures to lower emissions may be constrained. Municipal/local government climate action takes place within a given structure of regulations and institutions unique to each municipality (Lawrence et al., 2015b). The thirteen municipalities of Greater Victoria share much: geographic location, position within the British Columbian and Canadian context, membership in the regional level of government. This metropolitan area faces climate change related threats from wildfire, droughts, ocean acidification, and flooding (Rhodes et al., 2021b). Municipalities in Greater Victoria are experiencing climate change impacts firsthand, making them an important case to learn from.

This project convened focus groups with local government public servants in order to understand the contexts in which they work to address climate solutions and the challenges and opportunities that they face in doing so. The thesis identifies barriers and enablers to climate action at the working level, as well as the actors and policy instruments that municipal officials encounter during the course of their work. It analyses these findings within the context of the literature on barriers and enablers, multi-level governance, and the relative effectiveness of policy instruments.

Problem Statement/Significance of Contribution/Scope

The primary research question is:

What types of barriers or enablers do municipal public servants in Greater Victoria face in their day-to-day work on reducing GHG emissions in the areas of buildings and energy, transportation, and waste?

These three thematic areas have been chosen because they are the highest sectoral contributors to GHG emissions in Greater Victoria, at 39.8%, 39.2%, and 4.0% respectively. Although the thesis focuses on what helps and hinders municipal staff in implementing actions to

reduce GHG emissions, it does not engage in quantitative analysis of the effects of their policies. The link between working level barriers and enablers and actual GHG emissions on a municipal level is for another study to examine.

Greater Victoria faces unique challenges; it is comprised of a large number of municipalities with a regional government, its ecology and environment are at particular risk from the changing climate, and it has no integrated land use, transportation planning, or service provision governance structure. Greater Victoria operates under structures and constraints placed on it by the overlapping jurisdictions of the province of British Columbia and Canada, a highly decentralized federation. Examining the implementation of municipal climate policy to reduce GHG emissions within a multi-level governance framework reveals information about both vertical and horizontal relationships between individuals and structures. Examining the policy instruments to which municipal officials have access demonstrates which barriers and enablers they are able to address. The thesis shows that barriers and enablers faced by municipal officials differ depending on which area they work in. Those working in transportation face significant barriers in government capacity (funding, staffing, legislative/regulatory ability), while buildings and energy officials have good access to funding but find legislation and regulation to be a barrier. Waste officials face the fewest barriers, as legislation permits them to charge user fees and is aligned with their goals.

This project demonstrates that the federal and provincial governments are the principal actors in developing climate policy, and that municipalities are “policy takers”. Upper levels of government wield the most effective policy instruments, namely regulation/legislation and economic measures. All levels of government employ information instruments; these are most effective when part of a policy mix that includes the other two types of instrument. The Capital Regional District plays an important role in coordinating and disseminating information between municipalities.

This study complements and builds on the work of the Vancouver Island and Coastal Communities Climate Leadership Plan—an independent group of local government representatives working to build a climate leadership plan for Vancouver Island and Coastal Communities (Krawchenko, T. et al., 2020). As part of this group, Rhodes et al. examined climate policy priorities and effectiveness in Vancouver Island and coastal communities (Rhodes et al., 2021b). This study outlined barriers and enablers defined by lack of money, expertise, and jurisdictional cohesion, along with the positive effects of leadership and motivation among municipal officials. This and other literature on barriers and enablers (also called drivers) has inspired this project. Studies that focus particularly on these factors include the work of Burch, who analysed barriers and drivers in three municipalities in the Lower Mainland, Delta, Vancouver and the District of North Vancouver (Burch, 2010c, 2010a). Oulahen et al. looked at barriers and drivers to flood prevention, adaptation and mitigation in Surrey and Vancouver, where policies from all three levels of government are involved (Oulahen et al., 2018). Vancouver certainly provides much to study but it is unique in British Columbia in being governed by its own Charter, making it more autonomous (Schwartz, 2019). This very uniqueness makes findings from research on Vancouver less generalizable to other BC or Canadian municipalities. Victoria, as an agglomeration of municipalities within a regional district, provides a case study that may be helpful in illuminating barriers and enablers to climate action in BC municipalities more generally.

This research was conducted as part of a Research Assistantship (RA) for the project “Getting the Job Done: An Exploration of Working Level Barriers to Local Government Climate Action,” funded through an HSD 2021-2022 Internal Grant.

Chapter Two: Literature Review

Climate Action Government and Governance

Canada is one of the world’s most decentralized federations. Climate action is the purview of all three levels of government and a growing array of special purpose bodies and other institutional actors. The Canadian Constitution establishes two orders of government: federal and provincial, each with their own legislative powers. Municipalities form a *de facto* third level, but are established by provincial legislatures and not a constitutional order of government (Intergovernmental Affairs, 2017). They are ‘creatures of the provinces’, developed in the nineteenth century when Canada’s cities were small and few (Young & Horak, 2012). Jurisdiction over “the environment” is not listed in the Constitution as a particular area of one or more levels of government (Becklumb, 2019). Rather, it depends on the intersection between the physical environment of Canada and the subject matters listed in the Constitution. In general terms, the Constitution gives the provinces and the federal government jurisdiction over various aspects of air, water and land. The primary federal department providing leadership on climate change is Environment and Climate Change Canada, with the broad mandate of informing “Canadians about protecting and conserving our natural heritage, and ensuring a clean, safe and sustainable environment for present and future generations” (Canada, 2020). Part of that mandate includes policy and action on climate change.

While the federal government has set overarching goals for carbon reductions and established a national carbon tax alongside a host of regulations, taxes, subsidies and incentives for climate action, provinces are also critical climate actors. A feature of Canadian federalism its ability to accommodate distinct regional approaches and cultures – in this regard, British Columbia is a climate leader. It was the first jurisdiction in North America to establish a carbon tax and has long been on the forefront of provincial climate actions. The British Columbia Ministry of Environment and Climate Change Strategy’s mandate is “the effective protection, management and conservation of BC’s water, land, air and living resources. It leads work on climate preparedness and adaptation and leads plans to meet greenhouse gas reduction targets” (Ministry of Environment and Climate Change Strategy, n.d.-a). The Ministry has recently published the CleanBC Roadmap to 2030 which outlines the key sectoral actions that need to be taken in order to decarbonise the economy (CleanBC, 2021). Provincial purview includes municipal institutions, local works, and property rights, which cover most aspects of transportation, buildings and waste management.

In British Columbia, municipalities govern under powers granted them by the province in legislation such as Community Charter and the Local Government Act (Ministry of Community Sport and Cultural Development, n.d.-a). Under this legislation municipalities possess corporate, regulatory and taxation powers. It is the regulatory powers that are most relevant to the environment, and to transportation, buildings and energy, and waste disposal. The Community Charter (passed in May 2003) grants regulatory authority to the municipality over municipal services, public places, the protection of persons or property, and buildings and other structures (Community Charter, [RSBC 2003]). The province and the municipality have concurrent authority in four areas: public health, protection of the natural environment, wildlife, and

prohibitions concerning soil removal and deposit. Municipal bylaws in these areas must be approved by a provincial minister (Ministry of Municipal Affairs, 2022).

Under Division 4 of the Local Government Act, municipalities may implement an Official Community Plan, a “statement of objectives and policies to guide decisions on planning and land use management, within the area covered by the plan, respecting the purposes of local government” (Local Government Act [RSBC 2015]). Developing an Official Community Plan is not compulsory. However, if one has been developed, “all bylaws enacted or works undertaken must be consistent with the plan. The official community plan does not commit the local government to proceed with any works or projects that are mentioned in the plan” (Ministry of Municipal Affairs, n.d.-b) It may contain “Policies relating to the preservation, protection, restoration and enhancement of the natural environment, its ecosystems and biological diversity” but again these are not compulsory. Official Community Plans can contain measures to promote sustainability, defined as a balance of “economic, social, cultural and environmental interests in order to meet the needs of the present generation without compromising the ability of future generations to meet their needs” (Ministry of Municipal Affairs, n.d.-a). The webpage provides links to guidance documents such as the BC Climate Action Toolkit (“Tool Library,” n.d.) and Guide to Green Choices (Ministry of Municipal Affairs, 2021). These documents provide advice, but not regulation.

Similar arrangements are available at the regional level as well. Regional districts in BC can develop a regional growth strategy (RGS), in collaboration with member municipalities and provincial agencies. The requirements are:

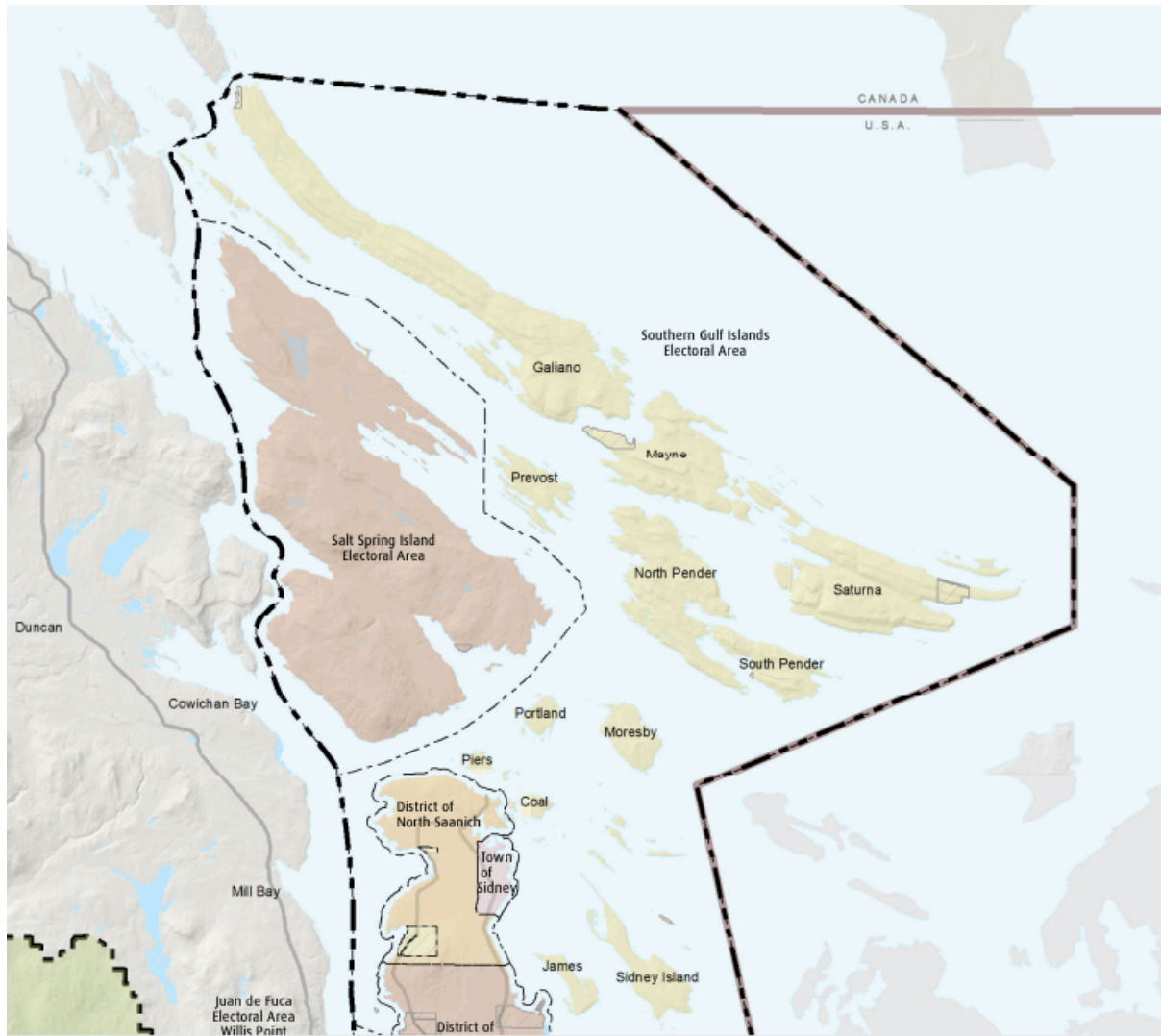
- Regional vision statements
- Population and employment projections
- A 20-year minimum time frame
- Regional actions for key areas such as housing, transportation, regional district services, parks and natural areas, and economic development
- Targets, policies and actions for the reduction of greenhouse gas emissions in the regional district (Ministry of Municipal Affairs, n.d.-c)

The emphasis is on consensus and no strategy can be passed by the CRD board without the support of all member municipalities, whose Official Community Plans contribute to it. The most recent RGS was implemented in 2018 and it is currently under review (*Regional Growth Strategy*, 2013).

Municipalities in British Columbia have not experienced the types of municipal mergers (amalgamations) experienced in other parts of Canada. Instead, municipal culture has been described as one of ‘gentle imposition’ in which the province is generally respectful of municipal autonomy. The Community Charter is seen as an example of this cordial relationship as it gives municipalities the scope to enact policies suited to the local population and circumstances, and to be more active members in multi-level governance (Sancton et al., 2009). This autonomy has however not been accompanied by greater financial resources, thus creating a potential mismatch between jurisdiction and capacity (Curry, 2018).

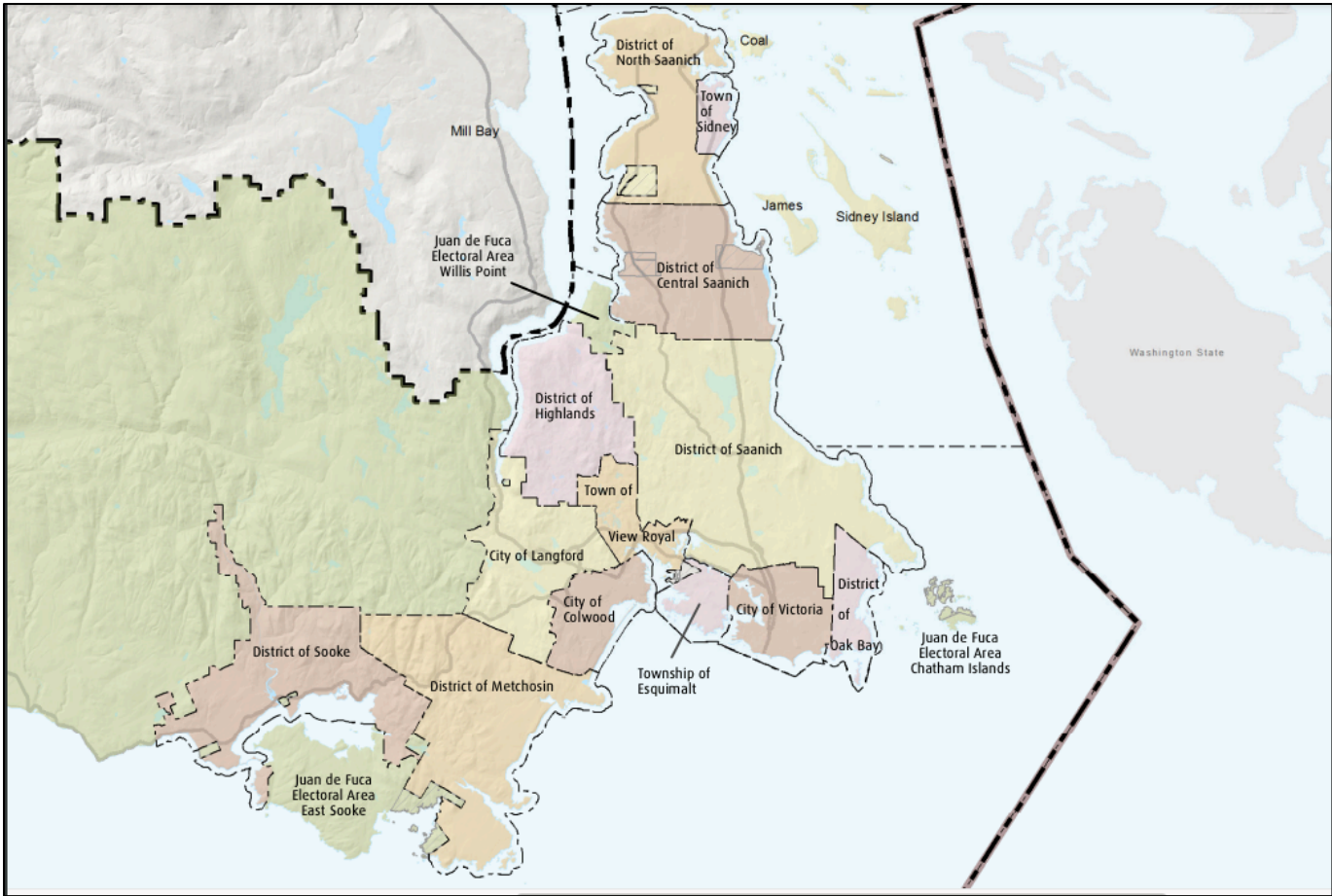
Greater Victoria—a metropolitan area with a population of about 400,000—consists of 13 municipalities, three electoral areas, and the Capital Regional District. It is situated on the southern end of Vancouver Island, as shown in Figures 1-3.

Figure 1
Administrative Boundaries of Greater Victoria: Northern Portion



Source: CRD Area Map, n.d.

Figure 2
Administrative Boundaries of Greater Victoria: Southern Portion



Source: CRD Area Map, n.d.

Figure 3
Southern Vancouver Island and Map Legend



Source: CRD Area Map, n.d.

Greater Victoria has a total population of 409,085, with Saanich and Victoria being the largest municipalities, with populations of 117,735 and 91,867, respectively. Population and governance are laid out in Table 1.

Table 1*Local Government Population and Governance in Greater Victoria*

Name	Type of Government	Leader	Number of councillors	Representation on CRD	Population
Central Saanich	district	mayor	6	1 or more directors	17,385
Colwood	city	mayor	6	1 or more directors	18,961
Esquimalt	township	mayor	6	1 or more directors	17,533
Highlands	district	mayor	6	1 or more directors	2,482
Langford	city	mayor	6	1 or more directors	45,584
Metchosin	district	mayor	4	1 or more directors	5,067
North Saanich	district	mayor	6	1 or more directors	12,235
Oak Bay	District	mayor	6	1 or more directors	17,990
Saanich	District	mayor	8	1 or more directors	117,735
Sidney	Town	mayor	6	1 or more directors	12,318
Sooke	district	mayor	6	1 or more directors	15,086
Victoria	City	mayor	8	1 or more directors	91,867
View Royal	Town	mayor	4	1 or more directors	11,575
Capital Regional District	Regional District	Chair and Vice-chair	24 Directors		409,085
Juan de Fuca	Electoral Area	CRD	none	1 director	5,531
Saltspring Island	Electoral Area	CRD	none	1 director	11,635
Southern Gulf Islands	Electoral Area	CRD	none	1 director	6,101

Source: Population figures from Table 98-10-0002-01:Canada, provinces and territories, and census subdivisions (municipalities), Statistics Canada, 2022).

In order to deliver services for which economies of scale and functional connectivity are important, Greater Victoria is served by the Capital Regional District—a regional service provider to its member municipalities with responsibility for:

- Regional parks
- Waste management
- Regional water supply

- Wastewater treatment
- Solid waste
- Recreation facilities
- 911 call answer

The CRD is not a regional level of government like Metro Vancouver. It is governed by a board comprised of 24 members drawn from the municipal councils of the thirteen member municipalities and three electoral districts it serves. The CRD acts as the local government for these electoral districts, making it simultaneously a local level of government and a regional service provider. It enters into three kinds of service contracts with municipalities and electoral districts:

- Regional, with all municipalities and electoral districts
- Sub-regional, with two or more districts
- Local, in areas where the CRD functions as local government.

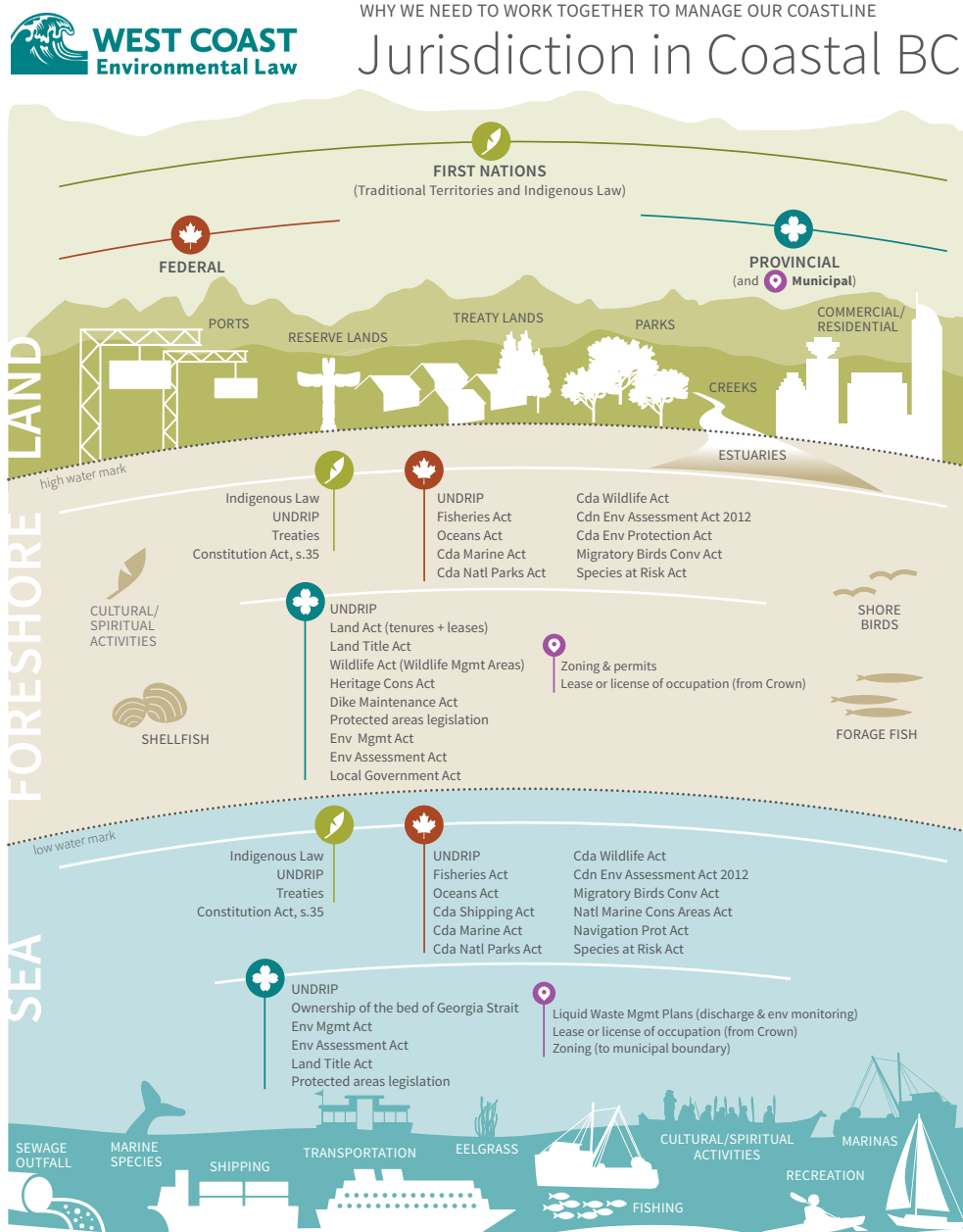
The Capital Region Housing Authority, owned and operated by the CRD, is a non-profit provider of affordable rental units in seven municipalities. The CRD also administers the Capital Region Hospital District, which provides capital funding for facilities and equipment (*What Is CRD*, 2013).

BC Transit is the regional transportation provider for the Greater Vancouver area. As such, metropolitan governance in Greater Victoria is fragmented and spans multiple municipalities, a provincial transit provider and a service district. There is no integrated transportation and land use planning for the Greater Victoria Region.

Greater Victoria exists on the traditional territories of the Lekwungen peoples and on the land of three First Nations: Songhees, Esquimalt and WSANEC. Settlers arrived in the nineteenth century at a socioecological landscape modified by the local First Nations for their own cultural and economic needs (Simpson & Bagelman, 2018, p. 559). Modifications made by the Hudson's Bay Company and subsequent colonial governments upended these modifications and the relationships of the First Nations to the land. Climate change is affecting those relationships as well, and there is considerable scope for centring First Nations' experience and understanding in climate change mitigation (Galway et al., 2022, p. 2). First Nations are sovereign and have inherent rights. They exist within the boundaries of Greater Victoria, but do not participate in the same governance structure. Instead, they are bound by the colonial Indian Act in a relationship with the federal government (Crown) and are pursuing various forms of greater autonomy. The Songhees Nation, for example, has self-government as a goal, and wishes to become a Modern Treaty nation (Songhees Nation, n.d.). In Greater Victoria efforts to support reconciliation across a number of areas including land management are underway. The focus groups convened for this thesis were made up of officials from local municipalities and did not include First Nations. Further work analysing barriers and enablers to climate action by First Nations is certainly warranted.

Climate governance is complex involving multiple actors and levels of government. There are evolving relationships and areas of jurisdiction. The infographic in Figure 4, prepared by West Coast Environmental Law, shows how these jurisdictions, as well as First Nations, have complex and overlapping powers over coastal BC.

Figure 4
Jurisdiction in Coastal BC



This descriptive material is provided by West Coast Environmental Law Association for information purposes only. It is not legal advice. Version 2, May 2018.

Source: West Coast Environmental Law, 2018.

Multiple non-profit entities, networks, institutions and advocacy coalitions contribute to climate governance and action in Greater Victoria. These include as well groups such as the Union of British Columbia Municipalities (UBCM) which provides “a common voice for local government” (Union of BC Municipalities, n.d.). These non-state actors and networks appear in passing in the focus group discussions, but are not the focus of this research.

The literature review will examine work on multi-level governance, policy instruments, and barriers and enablers.

Multi-level Governance

Multi-level governance refers to the ways in which power is diffused from the central state (Hooghe & Marks, 2003, p. 2). Also known as network governance and metagovernance, it is a fruitful way to understand the forces at play in various policy domains in Canada (Doberstein, 2013, p. 585). Examinations of governance in Canada have traditionally focused on vertical relationships between levels of government, reflecting the way the Constitution was originally conceived. The trope that municipalities are the creatures of the province reflects this constitutional reality, and also emphasises the vertical nature of these relationships.

Canada (like the EU, a supranational federation) can be characterized as a multi-level system in which actors and institutions operate between different levels of governance and government (Giest & Howlett, 2013, p. 343). Giest and Howlett regard the multi-level governance framework as a useful tool for exploring how members of the climate change policy community interact. The framework includes both vertical relations between levels of government, and the horizontal dimension as well. Because climate change is “glocal”, the local level is key in implementing climate policy (J. Gupta et al., 2007, p. 143.). While networks exist between non-state actors and various levels of government, the power to enact change through policy instruments is the monopoly of governments. Civil society actors have influence through these networks, but governments have power (Doberstein, 2013, p. 585).

Hooghe and Marks developed a highly influential typology of multilevel governance (MLG) systems, dividing them into two types and summarized in Table 2.

Table 2

Typology of Multilevel Governance

Type I	Type II
Nonintersecting memberships	Intersecting memberships
Systemwide architecture	Flexible design
General-purpose jurisdictions	Task-specific jurisdictions
Jurisdictions at a limited number of levels	No limit to the number of jurisdictional levels

Source: Hooghe & Marks, 2003, p. 240.

Type I governance describes the situation in federalist states, where powers are divided between an upper tier and non-intersection lower tiers. They are usually established along geographic lines and relatively few in number. Jurisdictions are in theory separated by level of government, and are difficult to alter. Canada’s constitutional division of powers are an excellent example. Type II governance involves a greater number of jurisdictions that are more flexible and task-specific, and often applies to local government arrangements. Hooghe and Marks adopt Frey and Eichenberger’s terminology to describe the jurisdictions as “functional, overlapping and competing” (Hooghe & Marks, 2003, p. 238), better suited to solving policy problems or to providing local services.

Municipal and regional levels of government and service provision in Greater Victoria may fit well under the Type II governance category, especially given that municipalities are not a formal level of government under the Constitution. Municipalities trying to grapple with climate

change are dealing with a policy issue not conceived of as a subject matter under the Constitution. However, they fall under the jurisdiction of that most Type I structure, the province of BC within the federation of Canada.

Marks and Hooghe describe Type II governance as flexible and overlapping and numerous, consisting of numerous task-oriented actors. The task in this case is climate action by reducing GHG emissions. Type II governance has been recast as polycentric governance, brought to prominence by Nobel Prize-winner Elinor Ostrom. Ostrom proposed ‘that the existence of a broad range of climate actions from a diverse set of actors at multiple levels—a phenomenon she labeled polycentric governance—could, in fact, be a more effective approach to governing climate change than merely relying on the deeds of nation-states.’ (Stehle, 2021, p. 157). Polycentricity is often applied to climate action as a way to describe how numerous governmental and non-governmental actors initiate and implement climate action (Fisher & Leifeld, 2019, p. 471). Carlisle and Gruby posit that polycentric governance exists where there are “(i) multiple, overlapping decision-making centers with some degree of autonomy; (ii) choosing to act in ways that take account of others through processes of cooperation, competition, conflict, and conflict resolution” (Carlisle & Gruby, 2019, p. 932). They particularly emphasise the importance of overlap, noting that it “may result from the layering of decision-making centers operating at multiple levels or jurisdictions when they share certain functional capacities or areas of responsibility” (Carlisle & Gruby, 2019, p. 933) A critical function of overlap is to facilitate the flow of information between the decision-making centres, allowing them to learn from each other’s experiences Greater Victoria possesses multiple decision-making centres, with jurisdiction which overlaps with another level of jurisdiction. The focus groups revealed considerable flow of information between the decision-making centres.

Caution is warranted when trying to fit municipalities or individual policy initiatives into an inflexible model of governance, since many factors affect governance at the local level (Breux & Couture, 2018, p. 12). An examination of policy implementation in Metro Vancouver and Skeena/Queen Charlotte using a bottom-up approach, from the implementers’ (e.g., local governments’) point of view, assesses the extent to which multi-level governance actually obtains in British Columbia (Curry, 2018, pp. 1–2). Curry concludes that changes in legislation including the Community Charter, and the increasing importance of the UBCM have contributed to increased multi-level governance in BC. Doberstein’s work shows the importance of examining and describing both vertical and horizontal governance relationships, while paying close attention to where the power lies (Doberstein, 2013, p. 585). The literature on policy instruments will aid in this examination.

Policy Instruments

Policy instruments are the tools used for policy implementation. Multiple typologies of policy instrument have been developed. Pal highlights four typologies, noting a “rich variety of classifications and lists” (Pal, L. A. et al., 2021, p. 113) Recent overviews of this literature attempt to classify these typologies (Acciai & Capano, 2021, p. 119) and to establish gaps in our knowledge (Capano & Howlett, 2020, p. 1). Acciai and Capano identify eight typologies, noting that “all of the most commonly used and prominent definitions of policy instruments agree that instruments refer to the capacity of governments to ‘get things done’” (Acciai & Capano, 2021, p. 119) They observe that many of the typologies in the literature use coercion as the main criterion for classification. (Acciai & Capano, 2021, p.122)

Vedung uses one such typology, dividing policy instruments into three types: regulation, economic means and information, from most to least coercive. He refers to these as the carrot,

the stick and the sermon (Vedung, E., 1998, pp. 29–30). This formulation has the virtues of simplicity and memorability. The relatively broad categories also possess flexibility, allowing interpretation of policy instruments along a continuum from least to most coercive.

The carrot, stick and sermon typology retains a great deal of explanatory force and is very much in use in recent literature (Pacheco-Vega, 2020; Xiao et al., 2022). Municipal officials in the focus groups conducted as part of this study referred to it specifically. Ten Brinke et al. in their study mainstreaming climate adaptation in urban development projects in the Netherlands on rephrase the stick, the carrot and the sermon as enforcement, incentives, and communication and cooperation (ten Brinke et al., 2022, p. 1159). Enforcement involves regulations, laws and policies; incentives include subsidies and financial support, and communication and cooperation consist of education, partnerships and information.

Associated with these typologies is a hierarchy of policy effectiveness. Which instrument is most effective at getting things done? Pacheco-Vega argues that a mix of policy instruments can be most effective, using regulation, incentives and information together, with information and incentive-based instrument choice being termed “New Environmental Policy Instruments” (NEPIs)(Pacheco-Vega, 2020, p. 625). A recent study of the air pollutant emissions of 14 OECD countries from 1990 to 2014 questions this conclusion, showing that regulations result in reductions in air pollutant emissions, while information-based, communication and cooperation dependent policies, or NEPIs, have no significant effect in reducing air pollutant emissions (Steinebach, 2022, p. 225).

These are but two examples of the substantial literature on the nature and effectiveness of policy instruments and mixes, summarized by the International Panel on Climate Change in Table 3.

Table 3
National Environmental Policy Instruments

Table 13.1: *National environmental policy instruments and evaluative criteria*^a

Instrument	Criteria			
	Environmental effectiveness	Cost-effectiveness	Meets distributional considerations	Institutional feasibility
Regulations and standards	Emissions level set directly, though subject to exceptions. Depends on deferrals and compliance.	Depends on design; uniform application often leads to higher overall compliance costs.	Depends on level playing field. Small/new actors may be disadvantaged.	Depends on technical capacity; popular with regulators in countries with weakly functioning markets.
Taxes and charges	Depends on ability to set tax at a level that induces behavioural change.	Better with broad application; higher administrative costs where institutions are weak.	Regressive; can be ameliorated with revenue recycling.	Often politically unpopular; may be difficult to enforce with underdeveloped institutions.
Tradable permits	Depends on emissions cap, participation and compliance.	Decreases with limited participation and fewer sectors.	Depends on initial permit allocation. May pose difficulties for small emitters.	Requires well functioning markets and complementary institutions.
Voluntary agreements	Depends on programme design, including clear targets, a baseline scenario, third party involvement in design and review and monitoring provisions.	Depends on flexibility and extent of government incentives, rewards and penalties.	Benefits accrue only to participants.	Often politically popular; requires significant number of administrative staff.
Subsidies and other incentives	Depends on programme design; less certain than regulations/standards.	Depends on level and programme design; can be market distorting.	Benefits selected participants, possibly some that do not need it.	Popular with recipients; potential resistance from vested interests. Can be difficult to phase out.
Research and development	Depends on consistent funding; when technologies are developed and policies for diffusion. May have high benefits in the long term.	Depends on programme design and the degree of risk.	Benefits initially selected participants; potentially easy for funds to be misallocated.	Requires many separate decisions. Depends on research capacity and long-term funding.
Information policies	Depends on how consumers use the information; most effective in combination with other policies.	Potentially low cost, but depends on programme design.	May be less effective for groups (e.g. low-income) that lack access to information.	Depends on cooperation from special interest groups.

Note:

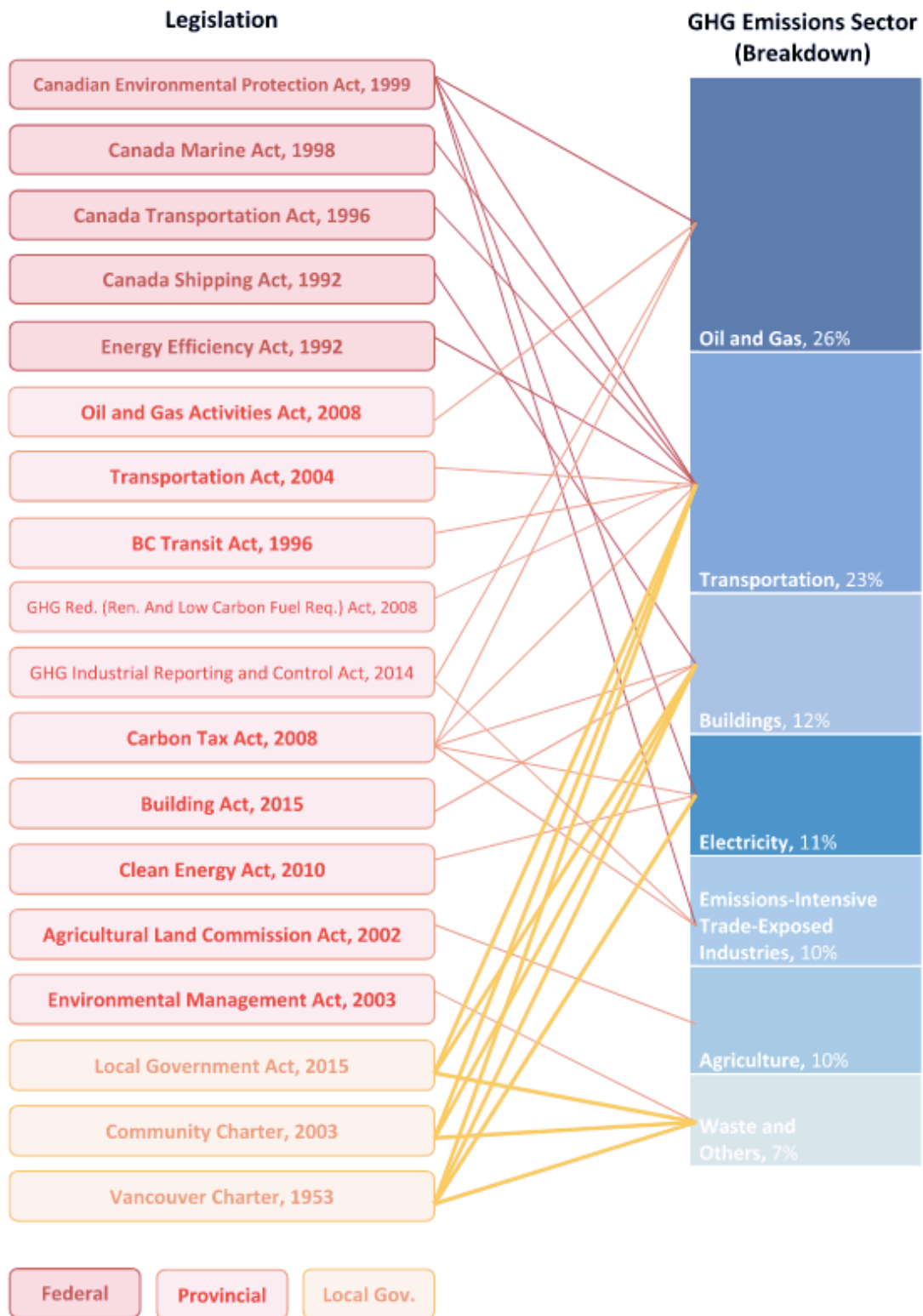
^a Evaluations are predicated on assumptions that instruments are representative of best practice rather than theoretically perfect. This assessment is based primarily on experiences and published reports from developed countries, as the number of peer reviewed articles on the effectiveness of instruments in other countries is limited. Applicability in specific countries, sectors and circumstances – particularly developing countries and economies in transition – may differ greatly. Environmental and cost effectiveness may be enhanced when instruments are strategically combined and adapted to local circumstances.

Source: S. Gupta et al., 2007, p. 767.

Capano and Howlett provide a more recent examination of this literature and emphasize the importance of examining the interaction of policies implemented concurrently (Capano & Howlett, 2020, p. 3). They remark that analysing instruments tool by tool can be problematic, and recommend a broadened approach that includes both governance and instrument choice. The current study takes the view that the continuum runs from regulation at most effective, to information at least effective, with a great deal depending on the policy mix within which the instruments are situated. It examines both the instruments used in Greater Victoria to reduce GHG emissions and the access that current governance provides to these instruments.

The structure of government in Canada means that the policy instruments listed in Table 3 are not available to all levels of government. Jaccard et al. in their study of GHG emissions reduction goals in Vancouver analysed the tools available to municipal governments in British Columbia. Municipalities can enact policies to increase density, promote transportation mode shift, and enable fuel switching in buildings and municipal fleets (Jaccard et al., 2019, pp. 2-3). Their summary, reproduced here as Figure 5, shows that most regulation is under the jurisdiction of the province and the federal government. The situation is similar in Greater Victoria.

Figure 5
Legislative Authority and GHG Emissions Sectors, Vancouver, BC



Source: Jaccard et al., 2019, p. 4.

With the exception of the Vancouver Charter, unique to Vancouver, the list of legislation holds for the municipalities of Greater Victoria. These municipalities have access to regulation that affects primarily transportation, energy and buildings, and waste. These are the subjects of the focus groups in the current study.

Barriers and Enablers to Climate Action

The conceptual framework of barriers and enablers is well-established in the literature. Barriers hinder effective action, while enablers help it along. Robinson and Gore (2005) provided the earliest analysis of barriers and enablers to municipal climate action in Canada, proposing an initial analysis that information and capacity were the most significant barriers. Subsequent literature identifies these barriers and adds others. Funding appears as a concern for most municipalities (Dale et al., 2020b; Oulahen et al., 2018; Robinson & Gore, 2005). Concerns about insufficient funding are linked to the characterization of staffing capacity, termed human resource constraints, as a barrier. Budgetary limitations mean that municipalities have insufficient staff to deal with the problem.

Questions of governance and regulation arise frequently in the literature on both multilevel governance and barriers and enablers. Asymmetry between responsibilities transferred to municipalities and their ability to pay for them is identified as a barrier in the context of flood management on the mainland of British Columbia (Oulahen et al., 2018, p. 415) and for urban climate action in British Columbia in general (Burch, 2010c, p. 293). Municipalities are reliant on legislation and funding decisions by senior levels of government that may or may not align with the climate goals of local government (Birchall et al., 2022, p. 5; Dale et al., 2018, p. 345). In Canada, one of the world's most decentralized federations, municipal powers are particularly constrained by the mismatch between the impacts of climate change and the power to mitigate them at the local level (Robinson and Gore, 2005).

Where government capacity, defined as “legal competence, human and technical resources, funding,” and thus combining adequate funding and jurisdiction, is lacking, governments are unable to implement effective climate policy (Ryan, 2015, pp. 519–520). Ryan posits that government capacity is a necessary but not sufficient condition. Capacity cannot in itself guarantee successful climate policy; other factors, such as information management and political leadership, can either support or block climate action. The interaction of capacity with them can help to mitigate lack of capacity or further enable successful action. Ryan characterizes the literature on barriers and enablers to municipal climate action as susceptible to the ‘everything matters’ trap in which the desire for detail overwhelms the ability to assess which barriers and enablers prevent or encourage successful policy implementation (Ryan, 2015, pp. 519–520).

Municipal/local government climate action takes place within a given framework of regulations and institutions unique to each jurisdiction. The challenges faced by thirteen municipalities within one regional district in British Columbia are distinct from those experienced by an amalgamated city in Ontario in a different governance and regulatory context (Zeemering, 2016, p. 210). Research on cities around the world bears this out. Pasquini et al. in their work on South Africa argue that capacity is closely allied to the regulatory and institutional framework faced by a municipality (Pasquini et al., 2013, pp. 228–229). Lawrence et al (2015b, p. 309) find that the division of roles and responsibilities in the New Zealand regulatory framework lead to a lack of agility in making plans. Decisions tend to be ad hoc and siloes within councils concerning separate processes for land use and building lead to a lack of coordination. They point to a lack of national standards and institutions as barriers as well. A

study of two Norwegian cities revealed that general willingness to break institutional constraints was an enabler in both Bergen and Trondheim in working across siloes (Oseland, 2019, p. 352).

Rules can be enabling in that they provide a given structure, but the content of the rules can provide a significant barrier to climate action. One example is the market-led approach to decision-making that existed in New Zealand for a time, in which the burden of proving environmental harm was placed on the government, rather than the developer having to prove its sustainability (Reisinger et al., 2011, 306). Porter et al. identify a lack of consistency in regulations when discussing local government in the UK. Although the UK lacks the additional layer of provincial government present in Canada, the policy of devolution means that the situation varies in each devolved nation, with rules being different in Northern Ireland, Scotland and Wales (Porter et al., 2015, p.420).

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The flow of information within municipalities, and between municipalities and higher levels of government is of great importance: an enabler when information is ample and accurate, and a barrier when it is not (Birchall et al., 2022). Quality of information is key; earlier studies found that staff were unconvinced that climate action was needed (Pasquini et al., 2013; Reisinger et al., 2011; Robinson & Gore, 2005) or were ill-informed (Porter et al., 2015). Robinson and Gore (2005) identified both public lack of knowledge and a lack of technical understanding among municipal staff as barriers in their seminal study on Canadian municipal response to climate change. Lawrence et al. report that climate expertise is lacking among local government professionals in New Zealand, and that stakeholders in local communities express skepticism about the scale of the threat of climate change (Lawrence et al., 2015b, p. 309). A longitudinal study on barriers and enablers in British local government showed marked improvement in the knowledge and expertise of local government officials from 2003 to 2013, providing a useful reminder that the situation is not static (Porter et al., 2015, p. 417). Oulahen et al. identify lack of public awareness, as well as public denial, as barriers to action in British Columbia (Oulahen et al., 2018, p. 414).

Chapter Three: Methodology and Methods

Methodology

Primary data were collected through convening focus groups of municipal officials from the Capital Regional District (CRD) and the thirteen municipalities of Greater Victoria. Municipal officials included those working in climate change mitigation, planning and engineering in the areas that emit the highest levels of greenhouse gases (GHGs): buildings and energy, transportation and waste. Participants were recruited using contact information available on local government websites and by snowballing (asking invitees to pass on the invitation to those who were deemed to be valuable or interested participants). The groups generated data points that consisted of the content of the responses to questions, and also encompassed the group dynamic and interpersonal interactions (Stewart & Shamdasani, 2014, p. 20). The focus groups were conducted in virtual online meetings in October and November of 2022, shortly after local government elections. Video and audio of the groups was recorded and transcribed.

Recruiting participants in the energy and buildings group (n=11, from the CRD and 6 municipalities) and the transportation group (n=9, from the CRD and 7 municipalities) was straightforward. Officials working in climate action relating to waste were much more difficult to recruit, with only one participant from the City of Victoria and one from the CRD being able to participate (n=2). This speaks to the relative maturity of each file; work on transportation and buildings has been going on for longer than that on waste. It also reflects the priorities of staff and councils.

The focus groups took approximately 90 minutes each. Participants were asked to introduce themselves and then answered questions designed to stimulate discussion. These questions included:

1. What do you perceive as barriers in your working life?
2. What do you perceive as enablers in your working life?
3. If you could wave a magic wand, what would you wish for?

Questions were open-ended and the moderator encouraged the discussion to choose its own direction. Participants responded to the comments of their colleagues and introduced their own points.

Focus Groups

Focus groups are a long-established qualitative research method. They were developed as a tool after the Second World War and have been much used in both applied (market research, program evaluation) and pure (academic research) form (Berg & Lune, 2017, p. 94). They are part of a range of qualitative research tools, and fit methodologically in between personal in-depth interviews and ethnographic field observation (Stewart & Shamdasani, 2014). Individual interviews are highly focused and good at eliciting factual information, while field observation tries to assess the behaviour of the actor in their putative natural habitat. Interviews rely on the interaction between interviewer and subject, while field observation attempts to remove the observer from the action that the subject is engaged in. Focus groups are an excellent way to gather information from people with experience of a specific, concrete situation (Rio-Roberts, 2009, p.198).

Focus groups involve the gathering together of six to twelve participants to discuss a specific subject. The discussion is held under the guidance of a moderator, who asks questions and makes sure the discussion remains on topic. The purpose of a focused interview is to

On to this is layered the social interaction between colleagues or those with a specific interest in a specific area that one can observe while doing ethnographic field work. Recent literature has stressed the importance of analysing not only what is said in focus groups, but also how it is said and how the interlocutors interact. As Berg and Lune say, “The essence of the data is the exchanges among participants.” (Berg & Lune, 2017, p. 94).

The role of the moderator is integral to the success of the focus group as a research tool (Stewart & Shamdasani, 2014, pp. 23-24). Dr. Tamara Krawchenko acted as moderator for the focus groups, guiding the discussion and bringing a list of prepared questions as a starting point. The moderator is also responsible for keeping the conversation on the topic at hand, and for keeping in check participants who may seek to dominate the discussion inappropriately. The role of the moderator points up one of the great advantages of the focus group: its flexibility. If the discussion veers in an unexpected yet interesting and informative direction, a good moderator can respond to this by adding or eliminating questions.

The moderator is best complemented by an observer and note-taker (Sagoe, 2012). This role was taken by the research assistant on the project. The presence of both a moderator and an observer underlines once again the hybrid nature of the focus group as an investigatory tool: the moderator takes on the role of interviewer, while the observer takes on the role of ethnographer. The observer records the focus group interaction for later analysis, and makes notes on particular topics that generate a lot of interest, or conflict, or indeed apathy. The observer notes how the participants answer questions and interact with one another. These notes can then be added to the transcription of the recording of what was said.

An important advantage of the focus group approach is that it is malleable while it is being conducted. The researcher is not committed irrevocably to the questions on a printed questionnaire or survey (Sagoe, 2012, p. 3). The multiplicity of human interactions in the group can also stimulate deeper and more wide-ranging discussion than originally conceptualized by the researcher. This proved to be true in all three groups.

Coding and Analysis

After the conclusion of the focus groups and following the method recommended by Sagoe (2012), a brief account summarizing the proceedings was written giving initial impressions and memorable moments. Transcription, coding and analysis followed.

The audio of the focus groups was transcribed using Word in Microsoft 365. This software provided a good quality transcription, although it had noticeably more trouble interpreting women’s voices than men’s. The transcription was checked against the audio for accuracy.

Transcriptions from the focus group were coded using NVivo software. Coding identified themes and issues as they arose, rather than applying the conceptual framework immediately to the material. Coding was very much an iterative process, using the “Diving In Toolkit,” (Maietta et al., 2021) . This approach draws quotations from the discussion, groups them together in diagrams, and composes memos about why these quotations are particularly compelling. The next two items in the toolkit involve composing a narrative about the focus group, called episode profiles and what they call topic monitoring, or identifying the individual topics identified by the participants. The second toolkit is called “Stepping Back,” and it involves more macro analysis.

The researcher mines the quotations for meaning, and makes connections between them. Related concepts are identified, and a coherent narrative can evolve.

Using this method, themes were identified using the same words chosen by the participants to describe their experience; remarks on funding, for example, were categorized as “funding”. Similarly, only actors and instruments referred to by name in the focus groups were listed, in order to keep the focus on the experiences of participants in their working lives.

Strengths and Limitations

The use of focus groups provided a detailed and up-close look at the views of municipal officials on climate action in Greater Victoria. One limitation of this approach is that the discussion only involved those municipalities with an interest in and capacity for climate action. One invitation was refused on the basis that the municipality had nothing significant to add to existing provincial climate policy. Exploring this point of view with other climate officials could have been instructive. Officials with two of the smallest municipalities refused the invitation to participate because capacity was so stretched that they had no time left to discuss their work. More information on why this was the case could have contributed to our knowledge of barriers and enablers.

Conducting focus groups with municipal officials involved in the very active file of climate action gives us a vivid picture of their thoughts and views at a particular moment in time. It is a snapshot. Much has changed while the research was being written up. The District of Saanich has implemented a quick-build bicycle lane plan, known informally as curb-plunking after the sound the truck makes laying down precast concrete lane barriers (Westphal, Austin, 2023). The province has tabled amendments to the Motor Vehicle Act, including implementing a safe passing distance regulation that was noted as lacking in the transportation group (Transportation and Infrastructure, 2023). BC has launched the Community Climate Funding Guide, noting “you spoke, we listened. We have heard loud and clear that finding the right funding can be a challenge” on the landing page of a website designed to be an information source for local governments and indigenous communities (*Home - Community Climate Funding*, 2023). The CRD is engaging with local governments, electoral areas and partner agencies to seek input on regional transportation governance, seeking to improve service with a less piecemeal approach (*CRD to Gather Input on Regional Transportation Governance*, 2023). Much has remained the same since the focus groups were held, but it is important to remember that much has changed and will continue to change.

Ethics

This research was conducted as part of the project “Getting the Job Done: An Exploration of Working Level Barriers to Local Government Climate Action,” funded through an HSD 2021-2022 Internal Grant. The project received ethics approval from the University of Victoria Human Research Ethics Board. A course on the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: CORE) was completed.

All research participants were experts and professionals who work for municipal governments or other governmental institutions. Because of the nature of a focus group, the researchers were not able to guarantee anonymity during data collection; however, the anonymity of responses was ensured. Interviewees were not identified, and municipal names were stripped from the identifying data.

Interviewees were informed of how confidentiality and anonymity was to be treated within the study and were able to drop out of the study at any time. They were asked to sign the letter of consent in advance of the focus group and the researchers confirmed this consent after completion.

Chapter Four: Findings

This chapter presents the findings of three focus groups conducted with municipal officials in October and November of 2022, on buildings and energy (n=11), sustainable transportation (n=9), and solid waste (n=2).

In British Columbia, municipalities govern under powers granted them by the province in legislation such as the Community Charter (*Community Charter*, SBC 2003, c. 26) and the Local Government Act (*Local Government Act*, RSBC 2015, c. 1). Under this legislation municipalities possess corporate, regulatory and taxation powers. The Community Charter (passed in May 2003) grants regulatory authority to the municipality over municipal services, public places, the protection of persons or property, and buildings and other structures. Municipal officials in Greater Victoria work under this legislative framework.

Buildings and Energy

Municipalities enforce the building code for structures raised within their boundaries. They are also building owners and control municipal assets such as recreation centres and local government council buildings.

Buildings account for 39.8 % of GHG emissions in the Capital Regional District, with most of these coming from space and water heating with fossil fuels (Pinna Consulting for CRD, 2021, p. 34). These emissions come from both new and existing buildings, meaning that reductions in GHG emissions can occur through retrofits and in new construction of buildings to higher energy standards. Municipalities have influence on these standards by participating in and promoting provincial retrofitting programs, and by implementing the BC Energy Step Code and the BC Zero Carbon Step Code for new construction.

Current Regulations for New Buildings

B.C. Building Code

Building standards in British Columbia are governed by the BC Building Code, a regulation under the BC Building Act (*Building Act*, BC Reg 131/2016). The code regulates new construction, building alterations, renovations and repairs, setting standards for safety, accessibility, and water and energy efficiency. It is based substantially on the National Building Code, issued by the National Research Council. The National Building Code is a model code that has no force under law until it is adopted into provincial or territorial legislation (Government of Canada, 2002). It is meant to provide consistency in building standards across the country, although provincial and territorial governments can amend or add to its regulations. Some differences do exist between the model code and the BC building code. For example, while the model code permits spiral staircases, the BC Building Code does not (*2018 British Columbia Building Code Public Review of Proposed Changes*, 2018). Recent legislation has changed and amplified this code to improve building energy efficiency and reduce emissions from buildings.

BC Energy Step Code

The BC Energy Step Code was introduced in 2017 and has a staggered, or stepped, implementation schedule. The steps refer to five levels of energy efficiency. This code tightens building standards over time, with Step 5 or the highest standard being implemented on a compulsory basis in 2032. Local governments can choose to accelerate the introduction of the steps (Energy Step Code Council and the Building and Safety Standards Branch, 2019, p. 4).

The Step Code applies to small buildings of three storeys or less, with a building area smaller than 600 square metres. These are usually single-family homes, duplexes and townhouses and are defined as Part 9. It also applies to Part 3 buildings, which have a building area greater than 600 square metres and more than three storeys, and include apartment buildings, condominiums, and commercial, industrial and institutional buildings (*BC Energy Step Code and Carbon Pollution Standard*, n.d.) The energy efficiency improvements listed here are compared to base 2018 BC Building Code Requirements:

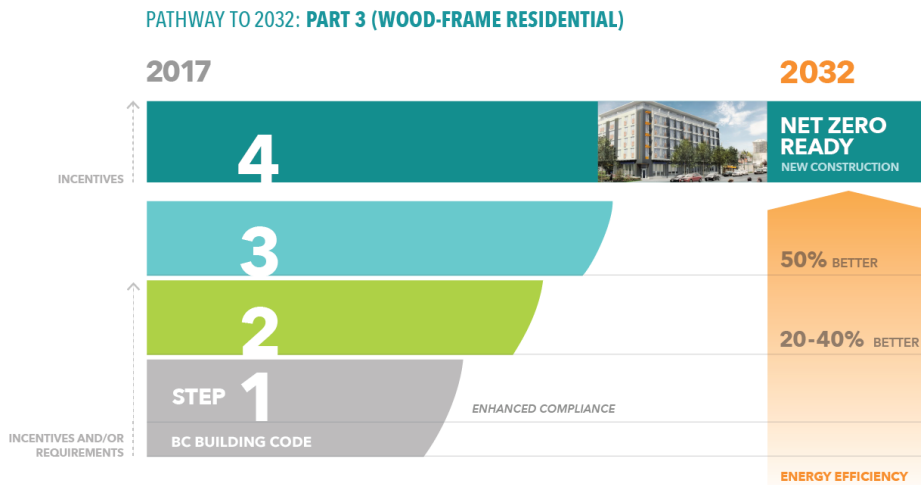
- 20 per cent better by 2022 (Step 3 for Part 9, Step 2 for Part 3)
- 40 per cent better by 2027 (Step 4 for Part 9, Step 3 for Part 3)
- 80 per cent better (i.e. net-zero energy ready) by 2032 (top Step for Part 3 and Part 9)

(Office of Construction and Housing Standards, 2022, p. 1)

The Step Code takes a performance-based approach, meaning that buildings are assessed based on overall energy efficiency rather than on specific construction methods and technologies. This is meant to encourage innovation and early adoption of new technologies.

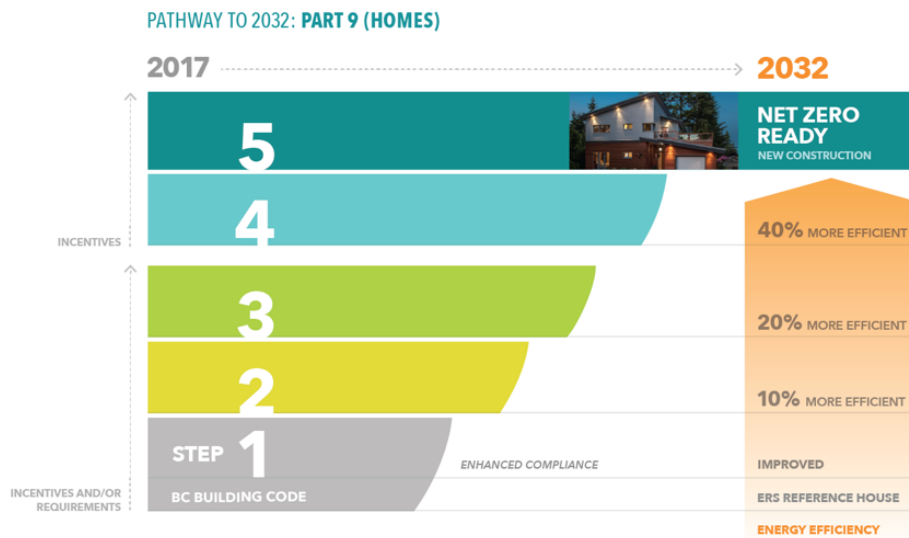
Figure 6 and Figure 7 illustrate the progression of building efficiency standards from 2017 to 2032 using the standard time frame.

Figure 6
Step Code for Part 3 buildings



Source: How the BC Energy Step Code Works | Energy Step Code, 2017)

Figure 7
Step Code for Part 9 buildings



Source: How the BC Energy Step Code Works | Energy Step Code, 2017)

The City of Victoria and the District of Saanich recently passed bylaws stating that all new buildings must be constructed to a zero-carbon standard from July 2025. This is about five years ahead of the provincial targets. Victoria passed this bylaw in order to be able to comply with its own climate leadership plan. Consultations were done in collaboration with the CRD, Saanich and Central Saanich, and the CRD. (*BC Energy Step Code and Carbon Pollution Standard*, n.d.) Central Saanich offers rebates on building permits to builders who build to a higher Step than that currently specified. (*BC Energy Step Code*, 2018).

BC Zero Carbon Step Code

The BC Zero Carbon Step Code (previously known as the Building Carbon Pollution Standard) was introduced in 2022 and implementation begins in May 2023 (BC Minister of Housing, 2023). The Step Code regulates the energy efficiency of new buildings, while the Zero Carbon Step Code regulates the greenhouse gas emissions of those buildings. Both required amendments to the BC Building Code. The introduction of the Zero Carbon Step Code was prompted by the requirements of CleanBC, the province’s road map to climate action, stipulating that by 2030 all new buildings must produce zero carbon emissions (Office of Construction and Housing Standards, 2022, p. 3).

Local governments may follow the provincial timeline for implementation, or may introduce requirements on an accelerated basis, like the Step Code. By 2030 zero carbon emissions from new buildings will be required across the province. The information bulletin put out by the province explains:

Local governments may apply different levels of GHG reduction, which establishes maximum modeled emissions levels for new construction for different building types. The levels are as follows:

- *Measure-only (requires measurement of a building's emissions without reductions, and is intended to build knowledge and capacity)*
- *Medium carbon (in most cases, will require decarbonization of either space heating or domestic hot water systems)*
- *Low carbon (in most cases, will require decarbonization of both space heating and domestic hot water systems)*
- *Zero-carbon ready*

(Office of Construction and Housing Standards, 2022, p. 2)

Lack of Regulations for Older Buildings

Municipal governments in British Columbia do not have power to regulate the heating or envelope of existing buildings. They can of course modify buildings that they own. The provincial government, through CleanBC and other programs, offers retrofits for older buildings. Homeowners can apply for rebates for heat pumps for space and water heating, insulation, window and door upgrades and other improvements. A bonus is added if two or more retrofits to save energy are made (*How BC Energy Rebates Work • CleanBC Better Homes*, n.d.). Until recently, the Capital Regional District, the City of Vancouver, the City of Victoria, the Township of Esquimalt, the District of Saanich and Central Saanich participate in Bring It Home For Climate, a program to support and inform homeowners interested in doing energy efficiency upgrades (*Bring It Home 4 Climate*, n.d.). Participants had access to a Better Homes Energy advisor to advise about retrofits and applying for the relevant rebates from CleanBC at the provincial level. (*Bring It Home 4 Climate*, n.d.)

This program has since been replaced by the Home Energy Navigator Program, operating in Vancouver and Greater Victoria. The program is funded by the CRD and offers an Energy Concierge to provide information and support. The program website lists eight primary rebate programs in British Columbia funded by the province and the federal government, including the CleanBC Better Homes and Home Renovation Rebate Program, and the Canada Greener Homes Grant (Home Energy Navigator, n.d.) The website for the former lists a five-step process: deciding on energy upgrades; exploring rebate programs; finding and reviewing specific rebates; working with the contractor; applying for the rebate (within 6 months of the invoice for work performed (*How BC Energy Rebates Work • CleanBC Better Homes*, n.d.). Each rebate has a similar but slightly different process, and some rebates can work in tandem. Rebates are only available to those who own single-family homes, duplexes or townhouses and pay their utility bills directly and not through a strata corporation (also known in other provinces as a condominium corporation).

Focus Group Discussion

The focus group on buildings and energy involved 11 officials from the following municipalities and the Capital Regional District, as shown in Table 4.

Table 4*Municipalities Represented in Focus Group: Buildings and Energy*

Name of Local Government	Number of Officials Present	Population (2021)	Climate Action Plan Y/N
Township of Esquimalt	2	17,533	Y
District of North Saanich	1	12,235	N
District of Oak Bay	1	17,990	N
District of Saanich	2	117,735	Y
Town of Sidney	1	12,318	Y
City of Victoria	2	91,867	Y
Capital Regional District	2	409,085	Y

Source: Population figures from Table 98-10-0002-01:Canada, provinces and territories, and census subdivisions (municipalities), Statistics Canada, 2022.

The larger urban municipalities, smaller more rural municipalities, and the Capital Regional District, which serves as the local government for Electoral Areas, were represented. The discussion brought up the following themes:

1. Funding
2. Staffing: resources and interaction
3. Legislation/regulation
4. Governance
5. Information and data management
6. Politics: public opinion and political leadership

The group discussed buildings and energy, including retrofits of existing homes, new builds, and municipal buildings and asset management. Municipal officials attending the buildings focus group work in two distinct areas: municipal asset development and maintenance and energy retrofits for existing buildings not owned by the municipality.

Funding

“A big barrier that's been removed for us is just the funding.”

Official P2, who made the preceding statement, was careful to indicate that funding was not limitless, but they did point to the importance of being able to have access to external money (i.e., not from the municipality) through grants. They remarked that this funding was:

Pivotal for us in terms of getting key pieces of work done to meet our climate action goals. We've still got a long ways to go, but without that funding, we would be much farther behind for sure (P2).

Municipal Asset Management

All municipalities have buildings they have to manage, whether to house offices for council and staff, or to provide amenities like community centres for the public. P2 remarked that good stewardship of those assets was important:

We have put a lot of time and effort, in particular with facilities [here] to really understand what it is that we have to deal with in terms of today, tomorrow, next year, and to be able to objectively prioritize the renewal of our assets and being able to dovetail climate adaptation and mitigation strategies into those renewal plans. So you really have to be forward thinking and be giving yourself enough time to integrate new climate policy and then strategies with the renewal itself. (P2)

Larger municipalities engage in building projects as well as operations and maintenance.

Smaller municipalities have fewer buildings and less equipment to manage. As P5 explains, “the extent of our facilities is pretty limited to fire halls and municipal hall.” Correspondingly the amount that GHG emissions from municipal buildings that can be realized is also small, even if, as the official noted, solar panels have been installed.

Retrofitting Existing Buildings

Both provincial and federal governments offer grants or rebates to homeowners to retrofit their homes with various green features, such as windows, insulation and heat pumps. Municipalities themselves also offer money to homeowners to switch to heat pumps. P11, from a smaller municipality notes, “Our Council was, you know, surprisingly excited about rebates and put \$50,000 towards it.” They went on to comment, however:

It's not being used to the same rate that we would hope. And how do we get people to do it when it's very hard to get contractors and to navigate the system with 50% of our population over 65 all in old houses. How do we get our grandmas to all switch over to heat pumps? (P11)

This question is also asked in the literature on adoption of energy saving technologies, with Lades suggesting that administrative burden today weighs more heavily than fuel cost savings tomorrow (Lades et al., 2021, pp. 5–6). Corbett et al. in their study of the relationship between policy awareness and heat pump adoption posit that a more targeted approach, perhaps emphasizing the younger homeowner, would be appropriate (Corbett et al., 2023, p. 15)

Currently, provincial rebates are not targeted to specific populations and are not restricted to retrofitting with heat pumps. The province offers rebates not only for customers of BC Hydro, the provincial electrical utility, but also for customers of FortisBC, a private company selling natural gas. Official P3 says this undermines their efforts to get homeowners off fossil fuels:

So our modeling shows that we need to switch at time of fossil fuel replacement. Every heating system needs to be replaced with a renewable energy efficient system otherwise we won't meet our targets, but FortisBC still has a very big ad budget. They're still allowed to promote new fossil fuel equipment and provide rebates through the clean BC website and platform, which is confusing and contrary and not aligned to our municipal targets. (P3)

While lack of funding for green building rebates was not identified as a barrier by any of the participants in the focus group, the simultaneous funding of rebates for work done to install fossil fuel infrastructure was seen as a barrier to improved energy efficiency. Here we see an example not only of the lack of policy alignment between the rebate-granting provincial government and the municipalities, but also of policy incongruity at the provincial level itself. These rebate policies are working at cross purposes.

Staffing: Resources and Interaction

Staff Within Municipalities

Staffing levels are *grosso modo* linked to funding levels. The smaller municipalities with smaller budgets and tax bases have fewer staff. P4, from a smaller municipality identified this as a barrier, saying, “We don't have a lot of in-house expertise or staff that can take a lot of time to support homeowners or to even develop our programs. We have limited resources to set up programs and to support implementation of senior government policies.” This can vary between municipalities, as another official at a small municipality described the time-consuming process coaching a homeowner on a telephone call through the process of getting a heat pump. Their description showed that at that smaller municipality at least there was no lack of expertise, even if time was tight.

Victoria and Saanich as the largest municipalities in the region have both staff hours and expertise to devote to the problem. A high degree of collaboration is evident between different departments in a larger municipality as described by an official who said how important it was for engineering to:

“be part of that development of the climate plan. [The office of] sustainability was very collaborative in that it was key that they weren't just operating in a silo to create a plan or a strategy. There is sufficient input from the other instrumental stakeholders to actually see it realized and achieve that.” (P2)

This was echoed by another official who said:

“I just wanted to share one kind of successful example. We have an equity, diversity and inclusion office and something that they do is cofacilitate with our group. There's this community of practice where we essentially meet every month and we share what each of us are doing, and then if any of us has a new project, we receive all this great interdisciplinary feedback. They brought stuff up that were definitely blind spots that I wouldn't have caught before... There are ways to collaborate internally and that's just one example of how that can be done.” (P6)

Very positive comments were made not only about the effectiveness of policy staff but also about the engineering departments carrying out the climate policies. P2 from a larger municipality said, “I can't speak for everyone in other departments, but I know within engineering and municipal facilities everyone has definitely bought in and in pursuit of reducing our carbon emissions... that culturally is a big one that I think is working well for us.” P1 from a smaller municipality uttered a similar sentiment, stating “I find with in our specific situation

here...our engineering department's very very on board with everything. It's a pleasure to work with them and they're excited about building green infrastructure.”

Effective working relationships are evident not only within municipalities but also between them. One official described it this way:

We realize we have a bigger team than most and we are still growing but the sheer amount of work that's required to meet our targets can be a bit daunting at times. But what has really made our day-to-day life easier, particularly from my perspective, is this: the sheer amount of collaboration that goes on in the region... the degree that we work together to try and align takes a lot of the burden off which is very helpful and the high degree of collaboration as well also allows us to kind of divide and conquer a little bit, to pilot programs in one municipality as and then potentially adopt it afterwards. (P7)

P11, with a smaller municipality, extols the advantages of smallness, “because we're all very close together physically in our building—it might be different if engineering was a block away.” They describe their job as involving a lot of collaboration with other departments “because it's just me in the planning department. So I call myself a bit of like a pollinator, and I go between all the different departments and I work with every single person in the local government to make sure everyone has buy in and everyone knows what's going on.”

Not all reports were so positive, however. One official described how a single staff member was able to derail an awareness campaign that had been months in the making:

There was one person who felt personally attacked by it and that kind of goes to show that you know it can only take one person internally, at a certain level to essentially slam on the brakes. It essentially delayed the launch of the campaign by about six months. So yeah, you can have a supportive council and a great team, but you know, sometimes there are just internal barriers that that are tough to overcome. (P6)

Another official, P11, brought up the issue of generational differences between staff, and stated that “low turnover of some folks who have been here for a long time, that might not be the most excited about a thing, can also be a little bit tricky when trying to build the buy in.”

The CRD as Coordinator

The discussion revealed that the role of the CRD is crucial in coordinating between municipalities and allowing cooperation, as well as providing information. An intermunicipal working group consisting of teams from Victoria and Saanich and individual planner, engineers or climate experts from the smaller municipalities meets regularly. As one official describes it, the goal is:

to identify priorities in this sector and then ... figure out who makes sense to lead. I've seen a lot of stuff move because of that... we were able to get grants to do studies and baseline stuff that's led us to where we are on the building side. (P9)

They go on to note that collaboration has also been important “on the retrofit side, which is a beast as we all know, to start tackling education and technology and industry and policy limitations We were able to come together, get a grant in 2018 and do a business case on a retrofit service.” Victoria Council presented a notice of motion to the board proposing a regional program to help people deal with the complex nature of retrofits. The result was the Home Energy Navigator, launched in late 2023. As P9 comments, it is meant to help “people navigate the provincial incentives, federal incentives, all that stuff, and that also gives some mandate to work with industry and understand what the limitations are there.”

Official P8 from a smaller municipality stated unequivocally that the work of the CRD is “invaluable for smaller communities and just providing the information that we don't have the time to gather and the capacity there. It's still a capacity issue to actually bring them into the smaller municipality like you know who does the work and where do we get the money.”

The Private Sector: Shortages and Resistance

The focus group revealed that the private sector can be less supportive of policies to support electrification and reduce fossil fuel use. The natural gas company FortisBC has already been mentioned as an opponent to these policies whose ability to grant rebates undermines municipal climate action. Installers can be hesitant as well. One official observes:

there seems to be, and I'm speaking anecdotally, but there seems to be a degree of resistance still from industry to be able to embrace energy efficiency strategies and technologies. You will find certain businesses that are cutting edge and forward thinking, ...but the majority is still kind of lagging behind and for different reasons. Whether it's the cost -- they could do things for cheaper and therefore increase their profits and yada yada...There's still a lot of resistance there I see. (P6)

P9 notes however, that “we have some pretty strong targets around this stuff in the industry and we talk to them. They're like, ‘yeah, we're primed here, we're in a good place in our region for sure. We're not the lower mainland [where] people have never heard of a heat pump and everything's natural gas.’”

P10 is less confident about the state of the industry, saying:

I don't think any amount of money is gonna help it ...what we need in our region right now is the ability to have more construction workers who have embraced the idea of retrofitting buildings to zero carbon standard. We don't have enough of them.

In addition, because of a lack of housing availability, there is a shortage of construction workers in general. P10 points to the problem of vermiculite mitigation in older buildings:

It's going to cost \$20,000 to mitigate or manipulate an attic, and they can't even find anybody to do that work. Literally this industry is talking about like how do we get temporary foreign workers in here to do this work, like that's the level of conversation that they're at. (P10)

P9 describes the industry as “maxed out,” saying that the view of industry is that:

“we don't even wanna hire more people because we're busy enough, we're good. And if anybody tries to call a contractor right now, you'll see that that's happening, and so that's a huge challenge. Obviously, there's different levels of government that has to play a role on that around training and capacity building and helping with supply issues and all that stuff.”

This is an important point: in many cases the region and the municipalities see barriers clearly, but do not have the capacity or jurisdiction to overcome them.

Legislation/Regulation

Stepping Up

Some municipalities have responded to the challenge issued by the provincial government in issuing the Building Step Code. One official recounts,

I've heard how a lot of the municipalities talked about how it would be nice to collaborate, and Saanich collaborated with Victoria and CRD and Central Saanich on the industry engagement for step code ... maybe there's more opportunities there, and I mean now that the [Zero Carbon Step] Code is finally letting us do something about greenhouse gas emissions. (P3)

The result of this collaboration is that these municipalities have accelerated the adoption of the Step Code. Victoria, for example, is aiming for buildings to be zero carbon ready by July 2025, with discussion of implementing these higher standards even earlier (City of Victoria, n.d., Romphf, Jake, 2023)

P11, from a smaller municipality, stated that the Step Code enabled their work, saying *having those standards from like upper levels of government is really important, especially at a small local government. ...with the provincial timeline, and having that mandatory building code in the end of this year is very helpful here because I don't have to get anyone else's approval until I move that forward. (P11)*

This view is seconded by P4 from another smaller municipality:

How the Step Code was rolled out ...is really helpful or easy for smaller communities to action because now we have these pathways: you can choose to go faster but the set of requirements is clear. It's in the bylaw. You don't necessarily need your local expertise because there's other ways to make sure for the building permit review that it's signed off. (P4)

Official P1, from a different small municipality, is frustrated that accelerating the Step Code is optional, describing the situation thus: “we don't have a requirement for step code beyond current building code right now and so anything above basic building code is negotiated and then the developer has to agree on that, Council has to agree on that, we have to put it into a covenant and we have these competing interests.” They did concede, however, that it is helpful “that there's clarity in provincial policy around its electrification mandate, and that we can kind of define what renewables mean in the BC context to align with where we need to go with climate targets.”

Another official agreed that, on a local level, barriers existed to implementing requirements, but stated:

I would say that Step Code is actually going really well. From my perspective that's one thing that's there's a lot of momentum around, not just in our region but across the province. When people have adopted it and started to move forward -- having to change building structure or change building process -- it's a change for everybody and so everybody hates that probably on some level for sure, because people just generally don't like when people are messing with their stuff like the government gets in. But overall, that's one that's worked quite, quite well, and in fact, in terms of where the province is at, nationally we're certainly leading. The industry is certainly quite ready in our region compared to a lot, relative to heating systems, and I think different building strategies. (P10)

Despite reservations expressed by others, this official sees the Step Code as positive for municipalities, for builders and for the province in the national context.

The discussion dwelt briefly on the fact that local government bylaws can be a barrier in adopting new standards and making change. P6, from a larger municipality, shared this perspective, saying, “legacy regulatory pieces ... are really slowing us down.” Another official gave a specific example of older rules acting as a barrier in their small municipality:

We have a local version of this, particularly around heat pumps, because we've got some stringent heat pump regulation or zoning bylaw, but it dates back I believe to the 90s, probably when that maybe was a bit different or maybe more noisy. And we're noticing that we see very little of those [heat pumps] coming in, in part because it's hard to find a spot for it. And that's definitely something that's on our list to look at because that that seems no longer kind of appropriate to the types of heat pumps that are around. (P4)

In addition to local bylaws tripping local governments up, provincial legislation that governs the activities of municipalities can also act as a barrier. As P9 put it, “we get hung up on a lot of jurisdictional concerns around what is and isn't within our jurisdiction, and I mean, obviously it's nice to have clear lines, but sometimes we find ourselves tripping over parts of the [Community] Charter that are maybe legacy pieces that don't necessarily apply very well today in every context anyways.” This lack of clarity over jurisdiction has discouraged some smaller municipalities from acting as aggressively as the larger ones:

You know Saanich led this oil to heat pump financing thing. Central Saanich was able to mirror it, so they got these pilots going. All great, but we still know when you're looking at the legislation lots of municipalities don't feel that that it's clear enough on the authority to do this. (P9)

No Power to Regulate Existing Buildings

In the area of building retrofits, the lack of jurisdiction possessed by municipalities is all too clear. An official from a larger municipality stated:

We have a strategy in our climate plan to get our community off of oil heating, but we have no way to directly regulate that because it's a provincial matter and

they're not really coming up with measures yet, but we're hoping to see something useful in the retrofit codes. (P4)

The provincial government provides rebates to those who wish to switch away from oil heating but does not require such a switch. The carrot is there, but not the stick. The same official went on to say:

“If we could just regulate emissions from existing buildings that would help a lot. With a year's work and not a small amount of effort, we are now able to regulate emissions from new buildings, but we can't touch existing ones and we're just going to be trying to come up with creative tools for the rest of our lives until we can just regulate how much they can emit.” (P4)

This inability to regulate emissions from existing buildings means that residents are free to replace an oil furnace with one that burns natural gas. As one official put it:

our modeling shows that we need to switch at time of fossil fuel replacement. Every heating system needs to be replaced with a renewable energy efficient system otherwise we won't meet our targets, but FortisBC still has a very big ad budget. They're still allowed to promote new fossil fuel equipment and provide rebates through the clean BC website and platform, which is confusing and contrary and not aligned to our municipal targets. So we don't feel like we're pulling in the same direction as the province all the time. (P3)

Official P10 notes that industry can perpetuate this problem: “they're like, yeah, we're still selling furnaces. They're going to give them zero percent down. I think they're trying to get rid of them.”

The system to encourage retrofitting has further limitations. It is well-suited to the single-family house occupied by the owner. P3, from a larger municipality, noted that “the lack of really effective rebate programs for in-suite upgrades in multifamily units, multifamily buildings,” limits energy efficiency upgrades in existing buildings to those single-family homes.

Response to the new regulations on greenhouse gas emissions from new buildings contained in the Zero Energy Step Code was positive. One official noted with some surprise,

It's far less complex than the [Building] Step Code. It's far easier to implement than I ever expected.... We found that most buildings are very close to meeting these standards. In other words, they're already putting in heat pumps. What they're not putting in is electric hot water, and there's nothing easier to electrify in a small building than all the hot water. Doesn't matter what the weather is outside, the demand doesn't really change. (P6)

P3 also welcomed the Zero Carbon Step Code, saying, that it “is finally letting us do something about greenhouse gas emissions, because before it was fuel neutral and that was hindering our ability to manage greenhouse gas emissions and new construction.” Both these officials are from larger municipalities with plans to implement the code on an accelerated schedule.

Governance

“The dance between local governments and the province.”

Three key issues related to governance arose in the discussion: the relationship between the municipalities themselves, the role of the CRD and the role of the province. As one official put it memorably, this relationship is a kind of dance.

P1, from a smaller municipality, was emphatic that a solution to many of the problems they encountered

would be more amalgamation of municipalities, more regional planning. I'm looking at this from a development planning point of view, just a reduction in the redundancy of local governments. I mean, we've got so many people, so many councillors, so many mayors, all trying to do the same thing. And our regional planning is suffering. Our public transportation is suffering. Our minimum standards are lower than they should be. (P1)

Other officials were less sure about amalgamation, citing the role of the CRD in providing coordination and information to the municipalities and running the Climate Action Intermunicipal Working Group, described as

a pretty unique service that really is a mandate to support collaboration on climate actions, both mitigation and adaptation with all the 13 municipalities, 3 electoral areas in the region, so ...it's helping identify data, do data projects, inform provincial policies, do programs that make sense to do on a regional scale -- policy support, guidance. (P9)

An official from one of the larger municipalities has a similar view:

But what has really made you know our day-to-day life easier, particularly from my perspective, is the sheer amount of collaboration that goes on in the region, particularly between the CRD and Saanich, the degree that we work together to try and align... You know the fact that we're collaborating so heavily it's helped move stuff faster internally as well, so I'm not sure if this is this is unique just to the region, but my perception is there's a lot going right over here. (P7)

While the Climate Action Intermunicipal Working Group, identified as kind of a secretariat, performs some of the roles an amalgamated council might assign, P9 is quick to note however that it does not have power or authority, but it does have the “ability to support and move people along through policy and plans and all that jazz.”

P9 goes on to outline some of the benefits of this approach:

We have a something called a Community Energy Managers network through BC Hydro. We have a bunch of peer networks, one on retrofits, one on step code, one on transportation, and so that's great that we're amassing a lot of capacity building and support for advocacy on this side. There's a campaign called Let Cities Lead which was started by municipalities through the BC and BC Hydro Energy managed network and now it's gone off to the nonprofit sector.

Essentially, we need a regional retrofit program we can pitch, improve and then hopefully the province takes over. Or the feds can pay the province to do it. (P9)

This is a description of some of the benefits. However, P9 bemoans the lack of coordination apparent in the development of programs promoting replacing oil furnaces with heat pumps. Municipalities and the CRD had started work on this file,

and there was a mandate letter to [the Minister of] Energy and Mines to get moving on this kind of thing so we thought... stop work everybody and let's wait and see what the province is doing before we launch programs, for example. And then it's silence for a while, like a year, and then we check in and then they're like, oh, yeah, yeah, I don't know. (P9)

Lack of clarity over governance acts as a barrier to municipal climate action.

Information and Data Management

Lack of information and data management tools are evident on the part of the public, developers and municipal staff. Members of the public are concerned about climate change and want their municipalities to act. This urgency is not always accompanied by accurate information. P3 remarked, "Then there's of course the real lack of climate literacy. There's a huge interest in effective, urgent climate, action and very little agreement in the community about what that actually means." Another official from a smaller municipality saw the situation somewhat differently in the context of municipal buildings:

If you're looking at your buildings and your building renewals, you definitely have that opportunity to do more, and I think our society and our communities are going to expect more because when you hear people talk about what they expect governments to do for climate action, it is clear that if as soon as a big facility comes up, even for small community like ours, there's going to be expectations that that building meets and exceeds kind of the minimums and serves as an example. We haven't got to that just yet. But there's so much that we need to catch up on in terms of our older buildings. But yeah, it's definitely for the future an opportunity and something that, thanks to the high profile that climate change does have, increasingly, I think we're going to have good support for that from our communities. (P4)

Developers view increased energy efficiency and cost of construction as competing interests, observed P1, from a smaller municipality. Better data would enable the municipality to challenge this perception, in their view:

a developer will come to council and Council will ask them well why are you not giving us a higher step code and the reason is if it costs say 10% more per increment and right now I don't feel like we have a really good tool to say, 'Actually, no, no it doesn't.' (P1)

An improvement in information would allow the municipality to argue for increased energy efficiency in new developments. P11 in particular expressed a wish for more granular data. They stated that it would be useful to measure the number of buildings switching to heat pumps against levels of rebates and advertising to assess their effectiveness. They noted that their data

came from the CRD, “and they do their tracking every two years. There's not really a lot of ways for us to be tracking the actual success of any particular initiative.” Much of the available data is

aggregated and then dispersed and allotted based on population, so it doesn't really say specifically what [we are] reducing in certain waysthe approach I'm trying to take with the climate action plan implementation is just are we doing the actions -- we've got a list of 51 actions in the plan -- Are we doing those in the timeline that we said we're going to do them in the next 5 to 10 years? (P11)

Access to information and information management are crucial to people trying to advance climate action. P9 summed it up this way:

As people that sit with the climate portfolio we're change agents, like we're working in this massive societal slash corporate slash you know whatever system we're working in to try to shift it and so we have to be knowledge holders and advocates and try to be really strategic. ... There's a lot of priorities. And yes, climate is generally -- put the climate lens on everything, we hear that.

Lack of clear information for the public is seen as a problem. One official from a smaller municipality noted that they did not have the time to devote to shepherding residents through the process of getting a heat pump, as already seen in the discussion on staff capacity. Official P3, from a larger municipality, commented, “there's really high complexity for homeowners and for doing these upgrades.” They later expressed a wish that

people could just pick up a phone and then there was a fully funded service that would just say, 'OK, we're going to do the full insulation, windows, air sealing and electrification of your space and water heating package for you.' And all you had to do was do one phone call and then we have enough people, and we have enough equipment and all that kind of stuff. We just make it happen, a huge industrial roll out of retrofits at the scale of what we need in an easy way that has either a really easy pay back, the loan system, or if it was for lower income folks like mostly paid for and it just has to be really easy, like one phone call and that's all that homeowner has to do. (P3)

Politics: Public Opinion and Political Leadership

The public plays an important role in motivating municipal climate action, as we have seen. This general impetus for change, whether well-informed or not, can be accompanied by concrete action by community members. In one of the smaller municipalities, as P8 reports

We have very active community members, and we have a group who have actually, you know, found a councillor as a champion that's the impetus for going forward. ... to adopt the low carbon standards, which is you know, brand new through the province. Staff wouldn't have been able to move that forward without community members and the councillor championing that. (P8)

The collaboration between the group of community members and the council was crucial in advancing that file. The situation is similar in one of the larger municipalities, where P3 noted, “we have a lot of buy in from all of our different departments, from Council, from the community, to be leaders and to innovate about climate action and to try to do bold things. So we get to try new stuff.” Another official observes they have had the benefit of a “very supportive

council: champions at a senior level who really helped the climate file in particular and that's been really invaluable.”

They note that the climate plan was completed in 2018,

and then shortly thereafter after the IPCC report came out. Council declared a climate emergency and essentially asked us for an accelerated climate plan where we would focus on high impact actions to help move the needle a little bit faster so we do have those as well and within the climate plan, there are more specific sub targets for, buildings, transportation, waste, municipal operations and we're at the point now where we're actually revisiting the modeling to, you know, update some of the overall assumptions. (P7)

There is some concern about how the climate plan fits in with other Council priorities. One official from another municipality remarked,

You know, we bring forth a climate plan midyear, and then there's a new plan or strategy a few months later, and they're not able to connect the dots. I feel like there needs to be a way of really bringing it all forward as: 'Here is everything, all the levels, all the services that we provide. And if you're asking for something new, well, something's gotta give or you know, there's a cause and effect there.' And I don't think Council has really been able to appreciate that or is really aware of, the next shiny thing means what? And ultimately that comes down to the funding and our resources to be able to execute, right? (P2)

This official expresses concern that competing interests are able to distract Council from the climate plan.

The CRD became involved in climate concerns several years ago. In 2009, the CRD founded a service under the umbrella of Climate Action Programs. P9 remarked that the CRD board was “pretty advanced in their decision back in 2009 to develop the service, recognizing the makeup of our region and how there's value in in collaborating.” These efforts have been advanced in recent years:

Once we saw clean BC come in and Canada's climate plans, it really kickstarted some movements and there's more allowance for discussions. Obviously there's still limitations but I think you know we had a lot of dry years there for the Harper years and through BC Liberals here too in the climate field. And so it's really opened up more room. (P9)

Political leadership operating simultaneously at all levels of government has helped advance climate policy. Earlier work on climate action in BC discussed the lack of climate leadership on the federal level prior to 2015, noting “frustration with the inconsistencies between municipal, regional, provincial, and federal approaches (or lack thereof) to climate change.”(Burch, 2010c, p. 296) During this period, the province pursued climate action much more vigorously, with municipalities being increasingly active as well (Burch et al., 2014, p. 468)

Additional Topics

Power Generation

The basis of the Step Code and the Carbon Standard is its reliance on BC's clean electrical power generation. British Columbia generates about 87% of its electricity through

hydroelectric dams, and over 95% from renewable resources (Canada Energy Regulator, 2023). BC introduced a clean energy standard as a result of greenhouse gas reduction policies implemented in 2007-2008, requiring that a certain percentage of BC's power be derived from "clean" sources, defined as biomass, biogas, geothermal heat, hydro, solar, ocean, wind or any other prescribed resources (Rhodes & Jaccard, 2013, p. S39). Facilities on Vancouver Island generate about 4% of the total for BC (BC Hydro, n.d.) The remainder is supplied through a cable to the mainland that was damaged in severe weather in 2021, causing a shortage (Ford, Tim, 2021). P11 notes that this reliance is causing some degree of disquiet on the part of residents in the form of "simmering worry about the amount of energy that we have on the island and our reliance on the mainland for energy generation." The official reports hearing from people saying, "Well, I don't want to fully electrify cause the wires that go under the ocean to get to the island, they're really tenuous and then we're all going to have no power." Another aspect is fear of the effect on the electrical supply of increased storms associated with climate change. This official wishes that "there could be more electricity generation on the islands so that people have more confidence in our energy sovereignty."

This point of view prompts P2 to bring up the example of a resident on the Saanich peninsula operating off grid with a 30-kilowatt photovoltaic system with the ability to generate electricity to put back into the system. This is a non-traditional use of land within the Agricultural Land Reserve (ALR):

And the way it's framed is that you use the land to produce a product. And that's all great, but what if your product is a utility? ... Maybe it's ALR that's on rocky bluffs and it's not really appropriate for growing crops, but you could still use it to create a product in the form of a utility. And there seems to be a real conflict there with the way the legislation looks at ALR. And you know farmers are generally pretty innovative and really like to find new ways to be efficient and self-sufficient and so I think there's a real opportunity there that could have a strong impact in the area. (P2)

Possibilities exist for generating electricity locally and thus assuaging fears about reliability, but the current legislative framework erects a barrier to pursuing them.

Conclusion

Buildings and energy efficiency in British Columbia exist in a complex interplay of provincial and municipal initiatives and funding structures. Changes to the BC Building Code took place as a result of stipulations in the CleanBC climate action plan and resulted in the Zero Carbon Step Code being added to the BC Building Step Code. The province has chosen regulatory instruments to increase building efficiency and to reduce GHG emissions from buildings. Both the Step Code and the Zero Carbon Step Code establish minimum standards and allow local governments to accelerate these standards if they wish, as Victoria, Saanich and Central Saanich are doing.

Rebates are the instrument of choice in lowering energy emissions and creating greater energy efficiencies in existing privately-owned dwellings. These rebates require significant initiative on the part of the homeowner, as well as sufficient money to pay for improvements up front and wait for repayment from the province or the federal government. The CRD's Home Energy Navigator Program is meant to make finding one's way through the process easier.

Rebates aimed at homeowners exclude the large number of existing rental buildings in British Columbia. Renters, who may be paying high bills for heating with fossil fuels, have no control over retrofits to the space they are renting. Municipalities have no mechanisms to compel landlords, or indeed homeowners, to retrofit for energy efficiency. They can wave carrots and make sermons, but do not have sticks to brandish. Further discussion of these policy instruments will appear in the discussion chapter of the thesis.

Transportation

The State of Play

Road transportation accounts for 46.1 % of GHG emissions in the Capital Regional District (Pinna Consulting for CRD, 2021, p. 20). Many municipalities and the CRD are increasing their efforts to encourage the use of low-carbon transportation that includes public transit, walking and rolling, and cycling.

Public Transit

Greater Victoria is served by BCTransit buses run by the Victoria Regional Transit Commission. Both the Transit Commission and the British Columbia Transit Authority, a Crown corporation, were established by the BC Transit Act. Membership of the Victoria Regional Transit Commission includes the mayors and one councillor each of Victoria and Saanich, the mayor of Esquimalt and Oak Bay, and two mayors drawn from the remaining municipalities (*British Columbia Transit Act*, RSBC 1996, Chapter 38, s. 25 (7)). Funding for bus transit in Victoria comes from municipal property taxes, provincial grants, passenger fares, advertising revenues and fuel tax (*BC Transit - Victoria Regional Transit System | Fast Facts | BC Transit*, n.d.). The cost to run the system in 2021-2022 was \$155.6 million.

Active Transportation

Funding for active transportation infrastructure comes from all three levels of government. The Government of Canada, for example, runs the Active Transportation Fund which provides \$400 million over five years. Municipal, local and regional governments, as well as Indigenous organizations can apply for funding for planning and capital projects. Over \$10 million to support active transportation projects on Vancouver Island was announced in the spring of 2023 (Infrastructure Canada, 2023).

Ongoing funding to support active transportation comes from the federal Community-Building Fund, previously known as the gas tax. One funding stream is known as the Community Works Fund (CWF), which “allocates funding to all local governments in BC based on a per capita formula that includes a funding floor” (*Community Works Fund*, 2019). The CWF agreement lays out the eligibility of projects towards which local governments may direct the funding. The governments must then report on these projects. The CWF is administered by the Union of BC Municipalities. The CRD is eligible to apply for projects within the three electoral districts for which it is the local government. In 2022, \$3,056,050 was awarded to the electoral districts for a range of projects (*Community Works Fund*, 2019, p. Appendix B). The City of Victoria funded its bike valet parking project with funding from this source (*New Bike Valet Program Opens in Downtown Victoria - Vancouver Island Free Daily*, 2022)

Another source of funding is the Green Infrastructure - CleanBC Communities Fund (CCF). The third and final round of applications took place in 2022. The BC Ministry of

Environment and Climate Change Strategy and the Ministry of Municipal Affairs share costs with the federal government, through its Investing in Canada Infrastructure Program (ICIP), to support infrastructure for low-carbon transportation (Ministry of Transportation and Infrastructure, n.d.-c). This funding supports the aims of CleanBC. The instructions to apply for this grant, shown in Figure 8, provide an example of the detailed information required by grant applications. Highly involved grant applications were considered to be a barrier by both the buildings and energy and transportation groups.

Figure 8
Guide to Applying for Active Transportation Grant

Instructions

1. Register for [webinar\(s\) in February and March 2022](#) to guide your application development
2. Read all program materials before preparing an application:
 - [Intake 3 Program Guide \(PDF, 660 kB\)](#)
 - [Intake 3 Active Transportation Supplement \(DOCX, 110 kB\)](#)
 - [Application Questions to prepare your answers \(PDF, 668 kB\)](#)
 - [Instructions for Accessing the Online Application in LGIS \(PDF, 292 kB\)](#)
 - [How to Create a KML file \(PDF, 1.4 MB\)](#)
 - [Detailed Cost Estimate template \(XLSX, 57 kB\)](#)
 - [Confirmation of Funds worksheet \(XLSX, 44 kB\)](#)
 - [GHG Preliminary Assessment Guidance \(PDF\)](#)
 - [GHG Preliminary Assessment Example \(DOCX\)](#)
3. **Contact program staff to confirm eligibility and program fit**
4. Secure a business BCeID and request LGIS access by May 4, 2022 (see “Instructions for Accessing the Online Application in LGIS” above for details)
5. [Complete the online application](#) in LGIS
6. Upload completed mandatory documents with your application, including:
 - Project location KML file
 - Council/Board/Band Council Resolution
 - Detailed Cost Estimate (use template)
 - Site Plan
 - Feasibility Study
 - List and status of required licences, permits, and approvals
 - Confirmation of Funds worksheet (use template)
 - Evidence of secured funds
 - GHG Preliminary Assessment and supporting files
 - Partnership agreement with a local government or Indigenous government (applications from Not-for-Profits and For-profits)
7. Optionally, subscribe in the bottom right for email notifications of updates to this page

Source: Ministry of Transportation and Infrastructure, n.d.-c.

The province funds transportation infrastructure projects by accepting applications to the B.C. Active Transportation Infrastructure Grants Program (Ministry of Transportation and Infrastructure, n.d.-a). Local governments can apply for funds for the Active Transportation Infrastructure Grant, to build part of a network, for funding of up to a maximum of \$500,000. Smaller communities are eligible to apply for the Active Transportation Network Planning Grant, if their community Active Transportation Network Plan is non-existent or over 5 years old, and if the population is less than 25,000. This grant provided monies of up to \$50,000 or half the project budget, whichever is lower. Active transportation infrastructure thus relies on the ability of municipalities to apply for a series of grants from higher levels of government.

Highways

Highway refer to any street, road, bridge, lane, viaduct, sidewalk or way used by the public, and excludes private rights of way on private property, as defined by the Community Charter (Ministry of Community Sport and Cultural Development, n.d.-b). The provincial government owns and controls provincial highways that are located in municipalities. It can also resume control over the highways that municipalities themselves own and control within their boundaries. Roads in rural areas are owned and under the jurisdiction of the province, including those in the three electoral areas in the CRD.

Municipalities have jurisdiction over how their highways and the land on which they are located are managed. Encroachments, highway closings, and temporary prohibition of use, as well as the opening of new highways, are all possible. These wide-ranging powers are restricted in some important ways: municipalities may only regulate traffic or parking in ways consistent with the Motor Vehicle Act, and must seek approval for changes made to highways under provincial jurisdiction within their boundaries.

A motion put before the Union of BC Municipalities in 2020 reveals dissatisfaction with the disposition of active transportation funding and policy, stating:

“Whereas local government involvement in planning and operating active transportation infrastructure within highway right of way is inefficient and ineffective given that the Ministry of Transportation and Infrastructure sets the guidelines and gives final approval; Therefore be it resolved that UBCM urge the Province to assume responsibility for the development and operation of active transportation infrastructure within highway rights of way”
(Active Transportation | Union of BC Municipalities, n.d.).

The province did not assume this responsibility in response to the motion. The discussions of transportation focus group on the implications of this “inefficient and ineffective” arrangement appear below.

Focus Group Discussion

The focus group on transportation brought together nine officials from the following municipalities in Greater Victoria and the Capital Regional District (CRD):

Table 5*Municipalities represented in Focus Group: Transportation*

Name of Local Government	Number of Officials Present	Population (2021)	Completed Climate Action Plan Y/N
City of Colwood	1	18,961	N
Township of Esquimalt	1	17,533	Y
District of North Saanich	1	12,235	N
District of Oak Bay	1	17,990	N
District of Saanich	1	117,735	Y
Town of Sidney	1	12,318	Y
City of Victoria	1	91,867	Y
Capital Regional District	2	409,085	Y

Source: Population figures from Table 98-10-0002-01:Canada, provinces and territories, and census subdivisions (municipalities), Statistics Canada, 2022.

The larger urban municipalities, smaller more rural municipalities, and the Capital Regional District, which serves as the local government for Electoral Areas, were represented. The discussion brought up the following dominant themes:

1. Funding
2. Staffing: resources and interaction
3. Legislation/regulation
4. Governance
5. Information and data management
6. Politics: public opinion and political leadership

The focus group participants discussed both active and sustainable transportation. Active transportation consists of cycling, walking or rolling; sustainable transportation includes these, as well as public transit and Zero Emission Vehicles (ZEVs).

Funding

An Enormous Shortfall

Lack of funding was identified as a significant barrier to developing infrastructure and public transit. Municipalities are largely in charge of roads in Greater Victoria, but do not have funding capacity for large-scale overhauls. Other funding sources are the provincial and federal governments, and both came under criticism for not providing sufficient resources. One official from a larger municipality remarked that the provincial government had, in its own document on reducing GHG emissions, CleanBC, specified a much higher funding level for sustainable transportation than currently exists: “It’s kind of ironic the CleanBC plan talks about that they should fund between \$38 and \$44 per capita for active transportation, and they fund less than a dollar at the moment.” They go on to say:

So there's a huge gap there from what the province's CleanBC plan outlines, and then the federal government as well. They're just coming online with some transport, some transit and active transportation funding. It's a very small drop in

the bucket for the region, it's about \$700,000, which is kind of less than half a kilometre of infrastructure. (P18)

This official is pointing out the mismatch between the goals of federal and provincial governments in terms of emissions reduction, and the amount of funding that is made available for the purpose by those levels of government.

Another official remarks that it's "billions of dollars that are required in to get the sort of network that they can really get those mode shifts that we're looking at...It's a money issue, but that's sort of seven-figure, eight-figure, nine-figure money issue rather than a sort of small triple A [All Ages and Abilities] bike lane type." The scale of the funding shortfall is echoed by another participant: "If you want to get this the sheer number of people that report you are required to shift based on those targets which the province has been setting, and we're all independently setting, it needs a very substantial shift over time in terms of where that infrastructure is being spent" (P11). The discussion then turned to the amount of money by contrast being spent on motor vehicle infrastructure, with particular reference to a proposed new overpass (Keating flyover) whose projected cost is \$76.8 million (Ministry of Transportation and Infrastructure, n.d.-b). The Province of British Columbia is contributing \$57.6 million, while the District of Central Saanich will be paying \$ 2.5 million. Provincial government spending on active transportation specified in the February 2022 budget was \$30 million (British Columbia Ministry of Finance, 2022, p. 26). The total budget of the District of Central Saanich in 2022 was \$34.4 million (District of Central Saanich, 2022, p. 5).

A further issue with funding is that

it comes in two forms. It's both the capital and the operational side of things. I think the capital is something you know the municipalities and partners and the Electoral Areas all work very hard towards, but then the operational expenses of every bit of new capital they put in place adds an exponential increase. And they're trying to get the politicians to understand with capital infrastructure also comes operational and they need to go hand in hand. (P15)

One official (P11) noted that installing EV chargers was a piece of capital infrastructure meant to help the shift to zero emission vehicles in their municipality, but that only the installation was funded. The chargers were prone to breakage, however, and funding had not been allocated for repair and maintenance. The CRD had had to step in to provide that funding.

Public transit funding was of particular concern to officials from smaller, less urban municipalities. This official identified that mode shift to public transit required "mass investment in BCTransit, across the island. It needs to be super frequent and regular and predictable, so people can just like walk out the door and catch a bus like you'd be able to in Vancouver, whereas here it's like once an hour" (P11). Another official from a smaller municipality linked the lack of frequent transit to the need for bike infrastructure. In contrast to European transit where "It's down to the second or minute. Here it's buses that come every half an hour in some places, and I just don't think we have the infrastructure to support that kind of change which I think is why active transportation is usually building within curb to curb. If you do it right, it can be done quickly and hopefully at an economical manner and kind of drive those questions about a mode shift" (P12). They consider that public transit is inadequate to motivate mode shift to the bus, making the construction of bike infrastructure that much more important.

Agreement was general that funding levels for active transportation and public transit need to match ambitious goals of emission reduction through mode shift. As one official

remarked, “Active transportation is now mainstream transportation, therefore it needs to be given a decent share of the actual transportation budget. I think that's the only way in at least the short to mid-term that we can actually succeed anywhere towards getting through these goals that we've been set” (P15). The message was very clear that lack of funding is a significant barrier to reaching GHG emissions reduction goals.

Staff

Capacity and Interaction

Participants frequently cited lack of staff capacity as a barrier to municipal climate action. By the same token, municipalities that have sufficient staff with policy expertise and availability use them to achieve their goals. Interaction between staff from the various municipalities was seen as an enabler, and a way of counteracting barriers. Lack of staff capacity had already presented itself in this study during the recruitment process. Officials working at two smaller municipalities declined the invitation to participate in the focus groups, citing lack of time and resources. In another municipality, only one official was responsible for the entire climate change file and took part in two focus groups as a result. This lack of staff capacity intersects with funding issues. As one official put it:

the other element of the funding as well is the timing of the funding and when it comes out and how it aligns with staff capacity and approvals and all that kind of thing especially, in this local government where there's not a dedicated staff person writing those approvals and keeping track of all those things. (P11)

Lack of expertise is a significant barrier. An official identified a shortage of policy capacity among local staff as a hindrance when trying to get the Official Community Plan amended and approved by council. “Yes, we have the active transportation plan, but maybe if we had a broader policy department or more things that kind of bolstered and strengthened that foundation from previous work... maybe we would have been able to rely on that a little bit better” (P14). Generational differences can be a factor, with one participant saying that older staff were reluctant to support innovative transportation policy. Staff are also acutely aware of their own possible shortcomings; one official participated but declined to give permission for the contributions to be used because of a perceived lack of expertise on their part.

More staff are needed in operations and construction. One official noted that there was hesitancy on the part of council to fund EV charging infrastructure because “we don't have the money to maintain it or the staff resources to maintain it” (P11). In this case that barrier was overcome after a conversation with staff at the CRD, who offered their resources and helped to secure a grant. In another small municipality, lack of construction staff is a worry: “we're all trying to invest in 8-80 [another name for All Ages and Abilities bike infrastructure] at the same time...so actually finding contractors when we don't have built out public works groups like Saanich or Victoria is quite difficult here” (P12). This concern is shared by an official from a larger municipality, when they consider shortages of staff for “the planning and the projects and the execution and the consultation and communications and the design consultants that we work with... that's the thing that keeps me up at night is how are we going to do it all?” (P18).

The same official observes however that larger municipalities find their staff capacity enables robust policymaking:

Council realized that we needed some clear direction on sustainable transportation and active transportation and asked staff to develop an active

transportation plan which took us about two years to do through almost 40 different public events and many, many, many hours of public consultation looking at. Kind of the whole gamut of anything to do with active transportation from the routes and the corridors and the infrastructure to the policies and programs and supporting pieces to go along with that...[The plan] lays out in quite a lot of detail the infrastructure that would be built within the first five years as well as a lot of detail about the policy and we have found that very helpful to have that very significant process gone through to come up with the document and have a document to follow as the plan of what we're doing. (P18)

Having staff prepare strong policy documents and plans enables work on active transportation to go ahead according to the plan approved by council.

The current housing shortage in Greater Victoria compounds staffing difficulties. This lack also undermines policies on active transportation, as employees of some municipalities commute long distances by car to rural municipalities. One official notes: “I commute from Victoria...every day in a car, and I'm certainly not alone. There's a lot of staff members here that do have rather long commutes, and I don't imagine that is unique ... so again, just trying to reduce those commute times and making sure that there's like a diversity of housing options so people that work at those places could potentially live in their centre” (P14).

Interactions with staff from other municipalities were crucial in overcoming the barriers caused by lack of capacity and expertise. One official spoke about borrowing a spreadsheet from another municipality for a grant application, while another talked about trying to tie in with neighbouring municipalities. A participant spoke particularly of the value of attending meetings of specialists as a generalist: “we don't actually have a transportation person...and coming here [to meetings] sometimes just lets us take two steps forward when sometimes we'd be just crawling. So I show up to these things, just to see if I can just steal some of the knowledge” (P13).

The smaller municipalities especially perceive lack of staff expertise and available staff hours as significant barriers. Informal assistance from colleagues in other municipalities, as well as formal assistance from the CRD, can help to break these barriers down. Officials from larger municipalities cited staff issues as well, being concerned about how to match staffing levels to ambitious goals set by council and the provincial government. There was general agreement that the larger municipalities were enabled by well-staffed transportation and climate action departments to develop and implement climate action.

Legislation/Regulation

Provincial

A significant disconnect exists between the perceived needs of the municipalities and the legislative and regulatory framework within which they operate. The inadequacy of provincial legislation was raised less than ten minutes into the focus group. One municipal official said:

The Motor Vehicle Act in BC is atrocious when it comes to sustainable transportation. It severely needs to be completely overhauled and updated to reflect improving sustainable transportation -- for safe passing laws, no right turns on red, all the things to do with electric mobility like mobility scooters and

electric bikes -- all of those things are currently not addressed in the Act and they need to be. (P18)

Another official agreed with this assessment, saying that the Motor Vehicle Act “causes barriers to us getting consistency and also trying different approaches” (P15). They further added that the “Motor Vehicle Act is not very reflective of the changes in time and the bigger uptake of anything outside of the general purpose car basically. So it definitely needs to be changed.”

Officials assess the provincial legislation as outdated, inflexible and not suited for municipalities trying to improve sustainable transportation in order to reach their climate goals. The provincial Active Transportation Strategy states that the province will “review legislative, regulatory and policy frameworks—including the Motor Vehicle Act—to acknowledge all road users and emerging active transportation modes. This reflects government’s commitment to a more comprehensive approach to transportation policy and will be an opportunity to update provincial laws to be more inclusive of new technologies like e-bikes.” (Ministry of Environment and Climate Change Strategy, 2021b, p. 24). The strategy was published in 2021. Some changes to the MVA have been made since the focus group on transportation was held in the autumn of 2022 (Transportation and Infrastructure, 2023).

The provincial Ministry of Transportation in particular was singled out for criticism. One official raised a laugh when they said, “I love to throw the Ministry of Transportation under the bus, and they're not here, so I'm going to going to do it again” (P18). More detailed discussion revealed that the Electoral Areas, where the CRD acts as the municipality, were the sites of disagreement over road design. This also applied to the “urban pieces of road leftover from changes of the highway network.” In these areas where the Ministry is completely responsible for the road network, “we can't even get even consideration of a crossing or any changes to the lane or any changes at all. Railroads, parking pieces, all have to go through the ministry, and of course they're very reluctant” (P15). Greater flexibility from the Ministry would be appreciated so that changes could be implemented to improve safety for active transportation:

It's being open to being a little more innovative away from their very strict engineering standards. One example is you know for us to get a minimum standard, a reduction in lane width. After a lot of discussions, they're willing to go down to like 3.6 metres, you know? So it's still a huge missed opportunity to move forward, so it's anything out of the general, very specific traditional engineering, design and policy. So I think kind of like opening it up a little -- they do have the flexibility to do that. There's a process involved, but I think it's something that really needs to be looked at. Otherwise, we're losing 20-30 years because once you put this infrastructure in, it's not being replaced for some time. (P15)

The inflexibility of the Ministry necessitates time-consuming negotiations for each change, and locks in infrastructure not designed for the safety of active transportation for a long time.

The interaction between the province and the municipalities is problematic in another sense. One official used the Galloping Goose Regional Trail as an example, noting a problematic lack of consistency, “where every right of way control changes at every crossing, and that's because that choice has been given to the municipality instead of the province making the choice for us and it being level across the board” (P12). The Galloping Goose is a regional trail used for active transportation and recreation, such as running, cycling, walking or rolling. People also ride horses on it, and on one memorable occasion a llama was seen being taken for a walk. In

Saanich, traffic on the Goose has the right of way, and motor vehicles must stop for a stop sign. In Esquimalt, motor vehicle traffic has the default right of way, and traffic on the Goose must wait until it is safe to cross the roadway.

The discussion revealed that provincial legislation and the provincial Ministry of Transportation represented barriers to successful implementation of sustainable transportation policies. It also showed that changes to legislation and regulation had the potential to improve safety and consistency for users. There was no sense that individual municipalities wanted to take over the legislative powers of the province in governing vehicle movement, but rather that the legislation needed modification.

Governance

The most striking structural characteristic of Greater Victoria is its relative fragmentation. It consists of 13 municipalities, three electoral districts and the Central Regional District, which acts as a municipal government for the electoral districts and as a joint service provider and coordinator for the municipalities. When one adds in the nine First Nations and the federal and provincial governments, a total of 25 different governments participate in governing Greater Victoria. This multifarious nature prompted the posing of this question in the transportation focus group:

Some would just say for basic, sustainable transportation you're sort of set up to fail because you have all of these distinct municipalities... Do you have a fundamental governance challenge in delivering on some of your sustainable transportation objectives? Or is this something that you can work around and it's not problematic?

One official responded that the lack of a united front was sometimes challenging when dealing with the province, and that “the stronger singular regional voice at larger party tables” would be useful. However, they also noted that

when you reflect on the mode shares in the region compared to mode shares in other region in BC, we're actually doing better than a lot of those. So are we set up to fail or is it just a different model that's still working here with its own challenges? ... when you talk to Vancouver or Kelowna or places like that, they have their own challenges as well, with the setups that they have. (P18)

The CRD can play an important role in overcoming barriers caused by the high number of separate municipalities. An official noted that it was the job of the CRD to enable collaboration with municipal colleagues, as well as the Ministry of Transportation, other departments and BC Transit – “a lot of it is actually that inter-government sort of work” (P9). The CRD itself can be an enabler in dealing with barriers caused by governance structures. Discussion of the regional growth strategy revealed the limitations of the CRD’s ability to do so, however. Official P9 noted that on the positive side “we’re ahead of lots of regions in that we have an urban containment boundary to try to keep growth into certain areas.” They go on to describe how the regional growth strategy is hampered by the competing visions of the separate municipalities as each council must approve and endorse the same regional growth strategy. They go on to say that “last time there was lots and lots of tension around that growth concept and what are the some of the policies sitting in there,” and that there were many different philosophies on growth across the municipalities. The result of this is a regional growth strategy with “really no teeth on it.” The fact that growth is de facto “under local authority and autonomy

... that creates limits for how we can do transit planning.” Coherent regional transit planning does suffer under the current governance structure.

When asked whether that current governance structure led to a feeling of competition between municipalities for a finite amount of funds disbursed by higher levels of government, the answer was mixed. There was a general atmosphere of surprise at the question. An official from a smaller municipality said, “yes, we are competing for the same pots of provincial and federal funding” (P12). The discussion, however, while acknowledging this degree of competition, went on to express a strong feeling of collaboration between the municipalities. One official remarked that changes in one municipality can stimulate changes in another, not least because residents of Greater Victoria travel so frequently between municipalities. The protected bike lanes being developed on the adjacent sections of Tillicum Road in Saanich and Esquimalt were raised as an example.

Residents use and observe sustainable transportation throughout the region. An official from a larger municipality put it this way: “It is a good point that people travel through the region so they're seeing what other municipalities are doing and when Oak Bay puts up fancy speed-reader signs, we get a lot of requests from our residents to do it, and vice versa” (P18). An official from a smaller municipality agreed: You know a lot of our residents are going in between -- it's very intermunicipal travel. So when another municipality has success in implementing infrastructure, it's success for any resident across the municipalities that use it” (P11). Anxiety on the part of one smaller municipality was apparent during this discussion, particularly about regional trails: “Lochside Trail and Galloping Goose don't go [here] and that that makes me a little bit wary from our perspective... we're tucked in the corner of the region. And if we try and coordinate on things, is that going to mean that we just kind of get left in the dark?” (P16) This anxiety was not widespread. Another official questioned this perspective, saying:

I think a good example is the pedestrian bridge [to be built in Colwood] for the Galloping Goose. Anybody I've talked to is not saying, 'oh I can't believe Colwood would get all that money to do the Goose overpass there at Sooke Road.' Everybody is saying, 'wow can't wait till that happens because it's to the benefit of all of us.' Just because it's in Colwood doesn't mean it's only for Colwood residents. (P13)

The same official went so far as to say, “I don't really care if I get my funding.” They qualified this immediately, saying, “I mean, I think it's great for [my municipality] and I want the funding, but if it's a better approach, I go, ‘wow, look at that project.’” They summed it up thus: “truly we are in all this together and as much as we want to say there's borders, it is about the entire CRD community.” Another corroborated this view: “any infrastructure that goes in place it just makes the job easier across the board” (P12). One official raised the possibility of amalgamation as a way to counter any possible element of competition for resources, but pointed to potential difficulties, using the example of the adjacent municipalities of North Saanich and Sidney with “quite different cultures.” They posit that there would be “trouble getting support for active transportation between both. I think it's a lot easier somewhat in Sidney than it might be in North Saanich, just because it's much more urban than North Saanich” (P11). They conclude that amalgamation might “be better in some situations, but then you also have new competing voices.”

The discussion showed a high level of awareness among municipal officials about the barriers facing Greater Victoria as a region because of the diffuse governance structure in place. Lack of philosophical alignment on approaches to growth affect the region's ability to carry out

effective transit planning. This lack could be managed better by a regional growth strategy that had an effective enforcement mechanism, but this too is lacking. The numerous local municipalities are obliged to apply for grants or to lobby for increased funding to support active transportation, a fact which in theory places them in opposition to each other. Formally Greater Victoria has a highly fragmented governance structure, but the focus group revealed that informal bonds seemed in many cases to be able to transcend this structure. A high degree of collaboration and coordination exists at the working level between staff from different municipalities and the CRD.

Information and Data Management

Higher levels of government have ambitious goals but need to provide the tools to meet them. The participants of the focus group describe a situation in which the provincial and federal governments lay out climate goals that involve reductions in GHG emissions, but then do not provide the necessary tools for municipalities to fulfil these goals. Inadequate funding was discussed above. Inadequate information is also a concern. One official remarked:

There's much bigger pressure for all of us to basically have reporting back up through the federal department and provincial departments. They're sitting on some very lofty, ambitious goals, but there's very limited methodology which goes with these goals. It's us all working backwards, saying, 'Oh how are we going to report on this?' (P15)

Another official confirmed this view, saying that the demand for modelling in applying for grants for active transportation could be very challenging: “And the feds want you to model it, what the GHG savings are on that... There's no methodology, and it's just so how do we align all this?” (P9) Imparting data to higher levels of government with consistency and accuracy is difficult because of the lack of consistent modelling advice. The larger municipalities can use their greater resources to develop their own models, but as an official remarks, “Obviously the smaller municipalities, the smaller jurisdictions don't have that capability, so it makes you wonder you know how we ever going to measure this? Is there a point to measuring this if it can't be measured consistently across the board?” (P15) An official from a smaller municipality would like to see better information coming down from those governments so that it could be shared with council to inform their decision-making: “just to have that piece that we can actually prove and that would then help inform the financials as well, like \$2.00 spent upfront gives you this much return and it would just make it a lot simpler to make really strong arguments, to put in a report, to put it to Council ” (P14). This lack of consistency leads to municipalities doing overlapping and redundant work, and can involve significant amounts of staff time.

Data collected with the help of the CRD significantly informs municipal policy and helps in demonstrating the success of that policy. These data show, for example, that protected bike infrastructure does increase mode share for active transportation. The municipality can “actually say that it can work here. We have the volumes to prove it, the data with the support of the CRD to collect that” (P12). This is particularly helpful when municipalities are doing engagement with the public about expanding active transportation infrastructure: “We can show this is working, you know, great, we've got great feedback on this” (P15). Particular reference was made to the data provided by the origin destination survey carried out by the CRD, with one official noting, “We're lucky in our region, we know how commuters get around and where are the big modes of travel across the region” (P9).

Emissions data can distort policy. At one point the discussion focused on how data can inform policy decisions in reducing GHG emissions that don't consider other effects of mode choice. A great deal of investment is made in electric vehicle infrastructure, because "EVs are one of the biggest kind of bangs for your bucks to get your GHG targets on that climate side" (P9). Another official said, "there's this big push, huge amounts of spending going towards EVs, but that has no impact on congestion and quality of life in the urban areas in particular" (P15). They go on to say that the emphasis on EVs has had an effect: "unfortunately, in some ways the public perception, in some areas is that driving electric vehicles going to be all anyone has to do to make that change." Similarly, the same official notes, developers "say, 'well, we'll have EV chargers,' and that's their contribution to the transportation side of things." Both the data and spending on EVs have made them the focus of transportation policy in a way that ignores the other effects of motor vehicles, such as congestion, and injury and death resulting from vehicle crashes.

Politics: Public Opinion and Political Leadership

Municipal officials operate in a space affected by decisions made by higher levels of government, municipal councils and the public that elects those governments. The actions and opinions of politicians and the public act as both barriers and enablers in implementing climate action. Certain members of the focus group raised public opposition as a barrier to enacting policy that would reduce GHG emissions. This barrier was identified by officials from mainly rural or suburban municipalities. One official put it this way:

Council goes and does an OCP [Official Community Plan] that says we want to do a mode shift and we want to do this and we want to do that. And at that big level of conversation with the public, everybody wants to do it. But when it comes down to OK, now, here comes the developer, he's walking through the door and he puts a set of plans in front of them, inevitably, one of their first questions is what about the parking? And they just don't seem to want to make that push because the public when it finally comes down to it, wants to keep and hold onto their car. And somebody's got to step up and say enough is enough. (P13)

The official goes on to say, "I think somehow politicians just have to step up and say, 'we're gonna lead. And if that means I don't get re-elected that's OK.'" And I just don't see that happening." The barrier to climate action is public reluctance to give up parking, and the solution proposed by the official is political leadership.

Public and political support for policies that involve loss of vehicle parking spaces on the street was similarly assessed as negative in another municipality:

You know we're working on the active transportation plan right now, and just like there's already this sense internally of just like a bit of doom and gloom... We're gonna have to take out a lot of parking and there's no way that's gonna fly.... And so it's just like kind of the sense of, well, you know, how do we go about this in a way to actually get people on board and get any sense of political approval to move any of these big projects and like exciting, necessary pieces of infrastructure implemented? (P11)

This official is expressing doubt that the political will and the public support exist to get active transportation infrastructure put in. Similarly, another official from a smaller municipality encountered resistance to sidewalks in the course of land use consultation during the review of

the OCP: “Even the look of a sidewalk, in some places people don’t like that, they like their community to be rural...They almost find that threatening, having that type of infrastructure in some parts of the community” (P14). Other members of the focus group tried to temper this assessment. One responded to the issue of reluctance to give up parking, saying,

we also have to look around the region and see that some of our partners across the region are actually moving in that direction fairly quickly. Victoria and Saanich are actually having those open discussions and allowing for significantly less parking requirements. And I think some of the smaller municipalities, if you look at Sidney for example, they have one of the highest walking shares in the region mode shares in the region purely because of the way that they they've developed, in the way that they have access to services. (P15)

“Things are improving over time,” says one official. The focus group discussed public reaction to active transportation infrastructure being built in Victoria, where the AAA bike network was initiated in 2018. Initially, staff were threatened and “quite vocally yelled at,” but public engagement now is “hand over fist so much easier” (P12). As one official put it:

Victoria, I don't think it's arguable, has been on the pointy end of the AAA bike infrastructure for quite a few years now, and certainly there's a lot of political discussion and a lot of noise and around the work that the city's been doing” (P17).

Another official, concurring, said, “Victoria definitely took the brunt of it in not only news, but litigation as well” (P12). They remark as well that Saanich has enacted similar policies to Victoria, and has received far less criticism: “[Victoria] would get all the complaints and concerns, while the same thing was happening probably in Saanich and usually in twice the size, and somehow it would just sneak in there.” As someone else remarked, “You know people are very unlikely to ring and say I'm so happy with this, but the negative ones will be very, very loud” (P15). Another member shared this view:

So while we heard there's been a very vocal group that's not supportive of bike lanes, I'm not sure that that there's actually a substantive majority that are against the work that's been done...politically actually we may perceive barriers, but they may not actually be there (P17).

This leads to the question of whether policy or political decisions are being made based on a false perception. The assessment of risk on the part of people running for Victoria Council appears to have been correct, according to one official: “Certainly the new Council that's been elected is seems to be pretty pro bike lanes, at least if the platforms are to be understood” (P17).

Conclusion

The transportation focus group revealed staff awareness of both barriers and enablers to climate action at the working level. Barriers included levels of funding universally considered to be inadequate to reach the ambitious goals of federal, provincial, regional and municipal governments. Closely related to this lack of funding was a shortage of staff capacity, both in-house and on contract, particularly for the smaller municipalities. An outdated Motor Vehicle Act and inflexible interpretation of legislation on the part of the Ministry of Transportation were seen as significant barriers to expanding active transportation. The fragmented governance structure of Greater Victoria was seen as a barrier in implementing an effective regional growth strategy and transit planning. Inadequate data and modelling requirements were also a barrier to

fulfilling funding requirements when applying for grants, with smaller municipalities being disproportionately affected because of their relatively smaller staffing levels. Lack of political leadership and public support for policies that reduced parking were also cited as barriers.

Enablers to effective municipal climate policy were in many cases the converse of the barriers. More funding would enable better active transportation infrastructure more in line with ambitious goals. These goals are themselves enablers as they provide a concrete measurement of progress towards success. Greater staff capacity both in terms of numbers and expertise enables more effective development and implementation of active transportation policy, as is shown by Victoria and Saanich. Action by the provincial government on legislative reform and interpretation of existing guidelines would be an enabler for municipalities subject to them. Better data provision and the relaxation of emissions modelling requirements would enable municipalities to make better use of the funding tied to them.

This notion that enablers are the converse of the barriers identified by officials does not apply so neatly in the case of governance structure. While the current fragmented structure can lead to lack of coherent regional transit policy, officials were cautious about the idea of amalgamation. The same lack of philosophical alignment that led to problems in developing a regional growth strategy would result in problems in implementing effective active transportation strategy in municipalities opposed to it after a possible amalgamation.

Political leadership is an important enabler to effective policy planning and implementation. While public opinion opposing policies that would mean a reduction of car dominance was cited as a barrier, the possibility was raised that this barrier was more perceived than real.

Waste Resource Management

Recycling and waste collection in Greater Victoria is a checkerboard of different approaches. The waste streams most often collected curbside from single-family homes are garbage, organics, container and paper recycling, and garden waste. The quantity of garbage, organic and garden waste collected is restricted either by bin size or by more infrequent collection. Oak Bay, for example, picks up garden branches once a year in early spring. Recycling is put out in bins or totes, and glass must be put out in a separate container. Limits on the volume of recycled items are less stringent.

Municipal sites exist for residents to drop off excess waste. Objects that are accepted for recycling, such as electronic waste or soft plastics, but not picked up municipally can be brought to depots run mainly by stewardship organizations operating under agreements with the province. Encorp, for example, is a not-for-profit corporation that operates the deposit system for beverage containers and has a drop-off location at the Hartland Landfill and at other locations throughout Greater Victoria (*Who Is Encorp? | Encorp Pacific (Canada)*, n.d.). These locations also operate the provincial container deposit scheme; many containers have a purchase deposit of ten cents which can be redeemed by the purchaser.

The method of collection varies throughout Greater Victoria. Colwood and Langford, for example, require residents to enter into a contract for waste collection with a private hauler. Victoria does garbage and organics collection with municipal employees, as does Saanich in some more urban areas of the district.

The CRD carries out recycling collection, through a contract with a private company, in several municipalities in the CRD, including Victoria and Saanich. The District of Oak Bay does its own recycling collection. Community organizations in the Electoral Areas are contracted by the CRD to run recycling depots.

The state of play

Waste is the third-largest contributor of GHG emissions in the Capital Regional District, with 4 % from solid waste and 1% from wastewater treatment (Pinna Consulting for CRD, 2021, p. 34). Emissions from wastewater treatment are not within the scope of this thesis. The City of Victoria claims 31% of the emissions from the Hartland Landfill, with the remaining emissions allocated to the rest of the municipalities in the CRD on a per capita basis (Stantec Consulting for CRD, 2021, p. 12). Victoria calculates this proportion of emissions because it provides 40% of the employment within CRD and thus the industrial, commercial and institutional (ICI) waste contributions are correspondingly higher. The per capita figure that is otherwise applied may provide a distorted picture of the share of GHG emissions from landfill contributed by member municipalities of the CRD.

Environmental Management Act and Community Charter

The Community Charter (passed in May 2003) grants regulatory authority to the municipality over municipal services, public places, the protection of persons or property, and buildings and other structures (*Community Charter*, SBC 2003 c. 26). The Community Charter recognizes four areas of concurrent authority between municipalities and the provincial government: public health; protection of the natural environment; wildlife; and prohibition of soil removal or prohibition of deposit of contaminated soil. Regional districts have shared authority over the first and last of these areas (Ministry of Municipal Affairs, 2022). Municipalities proposing a new bylaw or amending an existing bylaw must involve the provincial government in one of three ways: comply with a regulation of the responsible minister; comply with an agreement between the responsible minister and the municipality or regional district; or be approved by the responsible minister. Bylaws concerning waste management, as part of protection of the natural environment, are under the responsibility of the Minister responsible for the *Environmental Management Act* (Environmental Management Act, SBC 2003 c. 53).

Municipal waste management is covered by Part 3 of the Act (Environmental Management Act, SBC 2003, c. 53, part 3). Regional districts must submit a waste management plan to the minister that cover the entire area of the regional district, deal with biomedical waste, and comply with the regulations. The Act gives regional districts the power to charge fees to waste haulers, which may be either municipalities or private commercial haulers, for solid waste disposal. Bylaws made by the regional district under the authority granted to it by the Act must be approved by the minister. The provincial regulatory landscape changes frequently as the province has made waste reduction a policy priority. A five-year Extended Producer Responsibility (EPR) Plan is in place, making producers responsible for the life of their products from production to disposal (Ministry of Environment and Climate Change Strategy, 2021a). The Recycling Regulation, part of the Environmental Management Act, has been amended, adding more items eligible for deposit, such as gable-top milk containers, and soft plastics can be dropped off at designated recycling depots . Further amendments to the Recycling Regulation are

anticipated as more product categories are added (Ministry of Environment and Climate Change Strategy, n.d.-b).

The three regulations governing waste under the Environmental Management Act are the Recycling Regulation, the Organic Matter Recycling Regulation (OMRR) and the Landfill Gas Management Regulation. The OMRR regulates the operation of composting facilities and the use of biosolids in agriculture (Ministry of Environment and Climate Change Strategy, 2022, p. 2). The Landfill Gas Management Regulation requires landfills emitting more than 1000 tonnes of methane per year to flare (burn off) that methane, or to use it for another purpose (Landfill Gas Management Regulation, 2022, sections 7 and 9). The province also provides guidance and policy such as Landfill Criteria and the Landfill Review. It issues targets for food waste prevention, municipal solid waste disposal per capita and the percentage of the population covered by organics landfill restrictions (Sundberg, Sonya, 2019, p. 5).

The Landfill Criteria consist of a series of guidelines for landfill operators. Once criteria have been incorporated into municipal Solid Waste Management Plants, they become legally enforceable (British Columbia Ministry of Environment, 2016, p. 6). Criteria in banning organic and food waste were used in developing the CRD bylaw that came into effect on January 1, 2015 (*Food Scraps*, 2022). A similar ban was introduced in Vancouver at the same time.

Municipal Bylaws

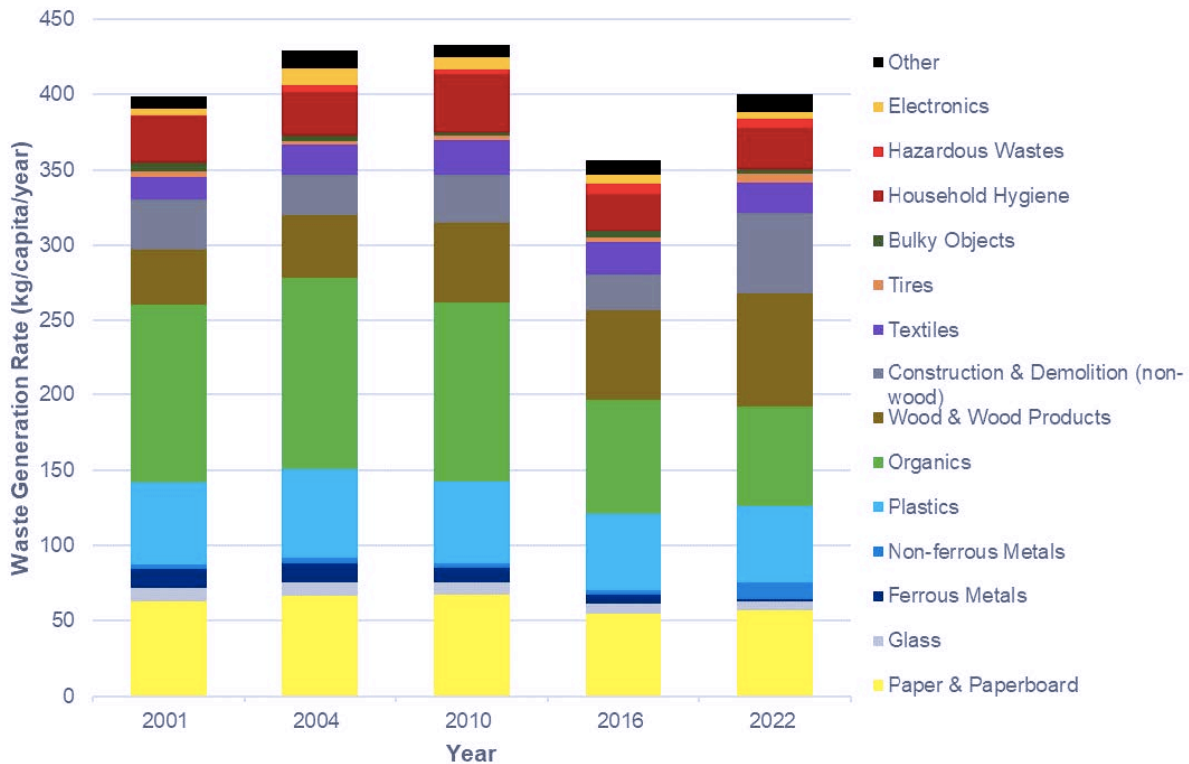
Municipalities within a regional municipality may make their own bylaws concerning solid waste management. In 2021, the Environmental Management Act was amended to include provisions for plastic waste production in the Spheres of Concurrent Jurisdiction (Minister of Environment and Climate Change Strategy, 2021). This allowed municipalities to prohibit single-use plastic items, such as checkout bags, polystyrene takeout containers, plastic straws and utensils. This amendment occurred in response to the City of Victoria's bylaw banning these items and allowed all municipalities in BC to do the same.

CRD Solid Waste Management Plan

The current Solid Waste Management Plan (SWMP) was approved by the CRD Board in May 2021 and was submitted for provincial approval in August 2021 (*Who Is Encorp? | Encorp Pacific (Canada)*, n.d.). The first SWMP was made in 1987, with revisions in 1991, 1995 and 2021. The CRD has carried out Solid Waste Stream Composition Studies approximately every five years since 1990 (Tetra Tech Canada, 2022, p. iii). Table 6 shows a decrease in organic waste landfilled between 2016 and 2022, and an increase in plastics, and wood and wood products. Solid waste management is carried out by the Environmental Resource Management (ERM) division, which has responsibility for recycling, waste reduction and operating Hartland Landfill. Cost of operation and programs are funded by tipping fees charged to waste haulers and stewardship organizations. The sale of electricity produced by methane recovery has also supported the running of solid waste management operations.

Table 6

Comparison of historic landfill waste generation waste per capita, Capital Regional District



Source: Tetra Tech Canada, 2022, p. iii.

Canadian Environmental Protection Act (1999)

Environment and Climate Change Canada has been engaging in a plan of increased regulation under the Canadian Environmental Protection Act (CEPA) (Canadian Environmental Protection Act, S.C. 1999, c. 33) in the areas of landfill methane and plastic pollution. Plastic manufactured items have been added to the list of toxic substances under Section 1 of CEPA, and some single-use plastic manufactured products have been banned (Single-Use Plastics Prohibition Regulations, 2022). The list of banned products is expected to grow. Regulations for minimum levels of recycled content in plastic manufactured products, and new standards for recyclability and compostability labelling have been proposed (*Recycled Content and Labelling Rules for Plastics*, 2023). These measures are intended to support provincial EPR initiatives and to reduce the amount of plastic that is landfilled.

The government of Canada proposes to regulate landfill methane more stringently. Under the proposed regulations every landfill emitting more than 664 tonnes of methane annually must implement a methane management system (*Reducing Canada's Landfill Methane Emissions*, 2023). The Hartland Landfill already fulfils the requirements of the proposed regulations.

Focus Group Discussion

Recruitment for the waste focus group was challenging. The invitation email asked people to identify which of the three groups they wanted to participate in, and responses from those who wished to take part in the transportation and buildings groups were quick and

plentiful. This was not the case for waste, however. Some of the smaller municipalities contract out their waste collection; residents for the city of Colwood, for example, must sign up with a private company for waste removal. An official from another smaller municipality responded to the invitation, saying that because the waste collection was not done by the municipality, waste policy was also not a concern of theirs.

The resulting waste discussion conducted as part of this research was therefore less of a focus group and more of a focus duo, with one participant from the City of Victoria and one from the CRD. The degree of effort it took to assemble this discussion, as well as the identities of the participating local governments, illustrates the nature of waste as a policy area for Greater Victoria. Most municipalities are not devoting resources to it as a source of GHG emissions. Although it is the third-highest contributor to emissions in Greater Victoria, in absolute levels the emissions are much smaller than for transportation and buildings. Emissions for waste are calculated according to those emitted by the Hartland landfill, and do not include any assessment of the emissions from transporting waste, or of the embedded carbon in particularly carbon-intensive forms of waste, such as plastic. It became evident during the discussion that GHG emissions are a concern, but that much of the work being done by the City of Victoria is motivated by concerns over plastic pollution.

The waste conversation revealed barriers and enablers in the following areas.

1. Funding
2. Staffing: resources and interaction
3. Legislation/regulation
4. Governance
5. Information and data management
6. Politics: public opinion and political leadership

Funding

Funding was not considered a barrier by either participant in the focus group. Official P10, from the CRD, did not raise it at all. Official P19 described how funding from the City of Victoria has progressed:

Well, we developed a plan and said, 'You know this does require resources, so Council, if you are serious, here's the budget requirements of this.' And so we didn't have a solid waste engineering team until five years ago, and now we've got a team of five. (P19)

They went on to compare the size and budget of the solid waste engineering team, acting as “a complement to our waste operations” to those in other departments:

You know it's not a huge team, but it's certainly a decent sized team. Transportation engineering is probably 20, 25. Same with underground utilities engineering, but those are 20, 30, 40, 50 million dollars a year services. Our waste service is about 4 million. When you scale it it's kind of aligned. (P19)

The official attributed funding levels in their department to several factors including the tax base in Victoria and the fact that solid waste engineering follows the structure of municipal utilities:

We do have a bigger tax base based largely on businesses which can help fund this. We are like utility models everywhere where possible, which again helps with financing or budgeting or paying for some of these things as well. So I think it's just we're set up to be able to do this well. (P19)

City residents are charged for solid waste collection, and those charges fund not only collection but also the development of waste policy. Decisions made by Council itself are important in the disposition of these monies:

The community has elected in for many terms now, a Council who represents those values and I think it translates on a staff level. We have resourced it effectively to be able to actually do the work realistically in terms of what they're asking for. (P19)

The entire CRD budget for waste management operations and policy is covered by user fees as well.

Staffing: Resources and Interaction

Consistent and sufficient funding has resulted in Victoria having “a bigger staff complement” to undertake the work. Official P19 compares the situation in Victoria to that across Greater Victoria:

And we have the capacity that's huge too, right? I mean, these other municipalities don't have the staff to be able to do this, and so they wait for Victoria and then they sort of put it in place afterwards, often based on what Victoria is doing here in the region anyway. So it is a huge capacity issue and it's not just waste, it's not just environmental things, it's engineering. (P19)

When asked whether the challenges in recruiting participants for the focus group meant that Victoria was the only local municipality that had meaningful waste policy, P19 disagreed. They said:

Saanich did, after Victoria put one forward, come up with their own checkout bag regulation. They have been trying to put in place a coordinator position to do waste reduction as well, and they are always asking us about our deconstruction by law because they would like to do something similar too. They are waiting a little bit just 'cause ours is so new and they are going to learn from it. So I would say it's a similar approach. (P19)

Victoria does municipal leaf pickup in the fall. Residents leave raked piles of leaves by the roadway and the city picks them up. Although it is carried out by a different department it provides advantages for solid waste management as well:

Actually, so that's an underground utilities issue with our storm [sewers], because when they block and floods the ground, so it's one of those things where parks does it. But they do it for engineering stormwater and then from a waste management organic side, we're like, “Great. Somebody else is doing it, but we'll pretend like it's a solid waste management initiative.” (P19)

Labour Issues

The general labour shortage in Greater Victoria, linked to housing shortages, entered this discussion. When asked whether the same shortages applied that the building and transportation groups had raised, the official from Victoria replied,

Yeah, it's the same for waste. You'll hear there aren't the people there to do the deconstruction. There aren't the people there to drive the trucks. I feel like we'll continue to see labor challenges going forward, but I think it's a noisy topic right now and I think we will get there. (P19)

The official from the CRD went on to say that there have been issues with the recycling pickup as a result of labour shortages: "That's been one we've been, for better or worse, just basically throwing money at." (P10) The official from Victoria pushed back, however, against the idea that housing shortages inevitably resulted in labour shortages, saying:

It's in the news cycle right now: labour challenges everywhere for sure. It's a challenge, I think, though it's like you just can't sit on your hands and say, "it's a labor challenge. I can't do anything about it." If you're a private company, then maybe you should look at how much wages you're paying, right? And what's your profit? How much can you cut off somewhere else? (P19)

The Private Sector

Waste and recycling collection in Greater Victoria is performed by municipal employees and many private companies, under contract to the CRD, to individual municipalities, and to residents directly.

The City of Victoria's curbside collection for mainly single family homes is done by municipal employees, but waste removal for multi-resident buildings is covered by private contractors. The official from Victoria expressed frustration in this area, saying, "we have all these stakeholders who come together and help but not everybody does ... we're looking at really addressing challenges in the multifamily sector." They expressed a wish "that the haulers would come forward with such eagerness to talk about solutions because they definitely are not solutions-focused. They are status quo at all costs and that makes it really challenging." (P19)

The CRD contracts out its recycling collection to a private company, and service interruptions attributed to labour shortages have already been noted. The official from Victoria had this perspective on the difficulties with recycling collection in the CRD:

You've got a private hauler doing it through a contract model and versus the city's curbside collection. You know, we haven't had a single day disruption, probably in like 4 years or something, due to snow or anything. We have a well-designed municipal service and it is performing. (P19)

Legislation/Regulation

Provincial

Both officials regard the role of provincial legislation and regulation as key in shaping innovation in waste management. The current arrangement is that municipalities are responsible for waste collection, and regional districts run the landfills. Waste in Greater Victoria is taken to the Hartland Landfill. Official P19 describes the situation:

The province requires solid waste management plans from regional districts, so that's really the biggest tool ... any regional district needs have a plan to manage the waste, and here's some best practices and guidance, not to mention...there's requirements that there's no organic, so I believe that's a legislative requirement now as well, and then the landfill gas capture was another distinct piece of legislation. (P19)

The two officials discussed how effective the landfill regulations were, with P19 saying that “regional districts are maybe a little bit further ahead with the authorities that they have to do that and that's often just pretty crude bans at the landfill or fines at the landfill.” The official from the CRD pointed out “we have we have a good sense of what's going into Hartland, but we have no idea what's going out of region, and we know that there are haulers when it's cheaper they'll put it on a barge and ship it to Washington.”

The official from Victoria gave an account of changes in both Victoria and Saanich because of provincial guidance and the resulting CRD bylaw:

We were really both of us were forced to do organics collection as a result of the landfill ban on organics [introduced in 2015]. But we just both did it. And I think we looked at each other when that was happening. That was sort of a big move in changing the operation of a curbside service to be able to accommodate those requirements of the landfills checkup. (P19)

The CRD has the responsibility of managing the Hartland landfill, and of running a landfill gas capture program. The official from the CRD notes “largely thanks to ERM's good work over more than a decade, probably more like 15 years now, to actually capture that methane and do something useful with it.” They go on to say that “certainly our effort is to continue to capture landfill waste.”

The story I like to recall to people is that they did a core sample of at Hartland. They do this big core to see what's down there, and they could actually read the dates on the newspapers from the 70s. So it's like degrading, but it's degrading slowly, because it's all packed in there... This is just to further the idea that the emissions are there. We have landfill waste bans which are effective to prevent further material going in, but by and large this methane is just going to keep coming up for a long time. (P10)

The methane from landfill waste is currently used for electricity production that is fed into the provincial grid. The CRD has plans in place to convert the landfill methane into Renewable Natural Gas. It has awarded a contract for an “upgrading facility, which has required some cleaning of the gas as my understanding, scrubbing some of the crud out of it so that it's more proper pure methane so that people can burn that in whatever ways they see fit.” They describe this as “a good thing, and I think right now it's still sitting with BC in terms of approval, but we don't anticipate any barriers with that.”

The official from the CRD remarks that both uses of the methane do not actually reduce fossil fuel use, as “the intent now is to use that and produce RNG like proper RNG, stuff that's like going to piped into the grid, used in the community writ large, although they sell it as offset so it's a bit of a funny thing.” They continue:

RNG is another thing which is really great, but it almost kind of buttresses that in a way you know what I mean. It makes it seem OK what you're doing, burning fossil fuels still...maybe I'm being too cynical here, but certainly I see these policy pushes as really strong, really great policies to put in place. But then again, we really haven't actually reduced our emissions provincially. (P10)

They sum up the problem thus:

The problem here in our province is still we're kind of an aspiring petro state in a lot of ways. For better or worse, we just have a lot of natural gas, and we want to get it to market. What are you going to do? (P10)

Federal

Recent changes to federal regulation of plastics have had a considerable impact on Victoria. Official P19 notes that Victoria was

one of the first to do single use item regulations with checkout bags and now addressing other ones, I think really in the absence again of another level of government taking it on. [We were] first just because cities can move faster, right? And I think it was recognized obviously as a challenge within plastic pollution is a societal challenge and I think you know Victoria was first to the plate just given the nature of the local government, being able to act fast, induce the provinces and the federal government team. (P19)

The federal regulations banning single-use plastics were welcomed by city staff:

I think it's one of the most impactful federal initiatives I've seen in the environment for a long time on some of the waste and plastic stuff. Often we [said], "What's the federal government doing?" For a decade it's like they never show up to anything. (P19)

The official from Victoria went to say that it is "beneficial, because now we can point to the federal government. It's there banning products. They've got the economy of scale to ban products across the nation. That's great." (P19) Previously the discourse on bans had been more difficult:

We were taking on bans like we banned plastic bags, right? And we've always said even stuff like we shouldn't be banning like we're just a small city. We're banning a product that exists everywhere else around this tiny little city... It's hugely tangible what the federal government is doing with bans, because now we can not use our resources towards that or capacity towards that and focus on locally relevant issues. So when it comes to plastics, yeah, it's fantastic. More to be done, but it is tangible. (P19)

The action of the federal government enables Victoria to focus more on local initiatives, as the official outlines:

What should we actually be doing at local levels of aligns with what municipalities' real core strengths are, and that's working with businesses... we're focused almost exclusively on reuse and addressing what individual businesses can or cannot do. Most other levels of government don't hit on a business directly. It's indirectly through manufacturing standards or

requirements, but we can actually talk to [them] ‘like hey, if you operate a business, this is how you shall operate in the city...if people are dining on the premises of your business, you can’t provide them something disposable, you have to use reusable.’ And it’s just ridiculous that [a restaurant] just gives you a mountain of garbage with a little bit of food. (P19)

Recent federal regulations have meant that Victoria has support in banning single-use plastics, and that city staff can work on other waste reduction priorities.

City of Victoria Bylaw

The City of Victoria, as part of its efforts to reduce material taken to landfill, has implemented a demolition waste and deconstruction bylaw (Demolition and Deconstruction Bylaw, 2022). After September 12, 2022 a waste management fee is payable to the city; all transitional provisions end on May 12, 2025. The bylaw was welcomed by the official from the CRD: “It’s so great from the perspective of the landfill, there’s so much wood going into the landfill that can be reused.”

The official from Victoria described how it works:

It applies to 1960 homes to begin with. Anything built before 1960, and that’s being replaced with a new family home or a duplex...construction of those new buildings is hitting a very high price point, where your cost concern isn’t as much, but also the incentives are actually there when it comes to tax rebates. Because often those are, not always, but often, they are the homeowners who are owning the property, commissioning and getting the work done to rebuild a brand new house on the property they already own. As a result, they get the tax benefit of having that material. If they donate it, they can offset their income tax, and they’re very high tax bracket often and so they’re getting that 40% on donated material back against their income tax so they are also the ones that are best aligned to get the income tax incentives. (P19)

The bylaw was developed in order to reduce the amount of construction waste going into landfill. It is influenced by similar bylaws in Vancouver and the US: “This is actually much more common in US jurisdictions to have salvage requirements. So we learned from Portland, we went down, visited, see how Portland did it. Everybody’s got their unique context. We did talk to Vancouver staff a lot as well.” They went on to describe the process:

when we are drafting something at a local level, we have to understand local context and I think what we did was we looked at those other bylaws or ordinances in the state as precedents, and where do they work for their community? What is our community need, what’s unique about ours? ... What are we actually trying to do that’s not happening? It’s the salvage of reusable materials. And so we went right to the core of the problem, which is reasonable materials going to landfill. We looked at the cost and impacts, we looked at the type of housing that’s responsible for this and how we could write the regulation, and so that’s where we landed. (P19)

In response to the demolition waste and deconstruction bylaw, a local business has sprung up. Unbuilders takes apart buildings slated for demolition and sorts the materials. The official from Victoria assesses their impact:

And then obviously Unbuilders has been a game changer as a private sector player in this, given that, again, they're very good with their promotional work and getting the message out into the community of the potential impact of this. (P19)

Only Victoria has a demolition waste bylaw, so much of Unbuilders' work takes place there. Local volunteer organizations are also trying to keep construction waste out of Hartland landfill; a group known as ReWood keeps track of demolition projects and approaches the building contractors to ask if they can haul away some of the salvage (Smeltzer, Gerald, personal communication, December 15, 2022). Construction waste from a property in Oak Bay and a CRD Community Housing Building has been used in a community garden project in Central Saanich ("Guest Blog," 2022).

Governance

Waste management is regulated by the province and to a large extent carried out by municipalities and regional districts. Historically, the role of the municipality has been on the operations side, with an emphasis on curbside collection. The official from Victoria describes increasing change in the focus in this way:

It's very much been on the end of life for materials and its disposal and its collection. You know municipalities doing collection, regional districts having responsibility for the disposal of that material, and the evolution is: both understanding just like any service, whether that's transportation, demand management, water conservation, there is a demand reduction consideration here. (P19)

While formal governance remains largely unchanged, they noted that "from a waste side of things, you are seeing municipalities take a greater and greater role and understanding of maybe what their role is." The official from the CRD concurred, saying they are "seeing municipalities really understand and exercise those tools that they have at their disposal to make changes in their community."

Two issues arose when discussing governance. The first was municipalities and the province having concurrent authorities over protection of the natural environment, and the second was the numerous municipalities in Greater Victoria.

The official from Victoria characterized it thus:

This is a protection of the natural environment. That's a shared authority between the province and local governments. I think it's pretty unique to BC, so there is often this dance that happens like are we allowed to do this full on or do we ask the province permission so when it comes to things like single use item bans obviously which has been in the media, but more recently that's one where there wasn't clear authority again, shared authority. (P19)

They remarked that the situation is evolving:

The question of what we can do on our own without seeking minister's approval every time we try to take on a regulation is, I think, an interesting one and that's changing...it definitely does touch on how materials are managed within our municipalities and in the province. (P19)

They further stated:

I think municipalities probably have much more tools at their disposal. They just have to think creatively. And be the first out the gate and do it, to be able to address that demand side of things and waste reduction. So I think that's the biggest shift is an increasing awareness of municipalities role and increasing use of municipal authorities to address waste reduction, especially in the last five years. (P19)

The official from the CRD talked about the sometimes fragmentary nature of action within Greater Victoria, with uneven participation in waste reduction by municipalities. They said, "primarily we're working with Victoria and Saanich on leading initiatives. That's writ large. How it works? Bigger municipalities lead, typically." (P10) They went on to say,

I feel like from a regional perspective I would like to see more, I'm always interested in, more harmonization...let's have everybody work together towards the same goal as opposed to having sometimes 13 different goals. Or the same goal. but they just want to be different so they just necessarily need to approach it slightly differently. So it's just a little bit harder for everyone to understand what the hell is going on. That would be cool if it was like, "Woo, right now we're all together again." (P10)

It became evident during this discussion that Victoria is simultaneously a large and a small city. It is large in that it is the municipality with the second highest population in Greater Victoria. It is characterized as one of the larger municipalities that leads policy in the CRD. However, it is also described as small. First within the context of the plastic bag ban: "We're banning a product that exists everywhere else around this tiny little city." Secondly, its small physical size is seen as an advantage in developing waste policy:

We do this with businesses all the time. I mean it's so easy to walk around downtown and hit 50% of like retail or food service businesses you know In a couple of days and as a result we do really good meaningful engagement with those sectors and figuring out, whether it's co-creation or whether it's really thoughtful consultation, to come up with a solution that's going to work for them. They often know they don't want the change, but they know that change is inevitable. (P19)

At another point in the discussion they remarked, "the nice thing about working at a small municipality like Victoria versus Vancouver for example we have most of the stakeholders together in a room pretty easily."

Information and Data Management

Very little of the conversation touched on the flow of information or the quality of data. The official from Victoria remarked that it was important to pay attention to the wider goals of the municipality in developing policy:

every single problem is just such a complex problem when you're dealing with a municipality If you take a siloed approach, you'll never get to the solution you want. You have to look at like what are you trying to do for active transportation

or trying to get people out of cars. So why do we have a Saturday drop off in the middle of an industrial area that requires the use of a car? (P19)

The issue of data came up more specifically when speaking of landfill waste gas. The official from the CRD stated that

The modeling associated with that has been a specific kind of rub point for the CRD as we're not currently meeting according to the model [that says] 'this is how much stuff in there and this is how much emission should be coming out. And then you're only capturing this amount so you're only at this effective percentage of capturing methane, just not good enough. So you gotta do better.' And then you know we do our numbers and actually do tests. And we're saying we're actually doing much better than your model suggests, so that's a rub point. (P10)

Politics: Public Opinion and Political Leadership

Political leadership is seen as key in making policy changes by both officials. Both link that leadership specifically to the community they serve. The official from Victoria describes it this way when asked why the city was so proactive on waste policy:

I think community values and political will, social license. I mean, that's what our Council is elected on, those promises of sustainability and real action, I think. It's aligned with the community. The community has elected in for many terms now, a Council who represents those values and then I think it translates on a staff level. (P19)

The official from Victoria also remarked that the public thinks about waste differently than it thinks about other city services: "Often transportation is very political and waste, like a lot of our like core utilities, the old sanitary sewer, is a little bit not as political a theme for a lot of users and councils."

Reasons for lack of action on the part of other smaller municipalities were discussed as well. Official P10 observed:

It's ideological in a lot of ways. They see the market to be driving things so this pours over into waste as well, I think. And so they have waste haulers that are private companies, that take the waste away and carry it to Hartland. They don't collectivize that ... because they want to keep taxes low, and so that's a bit of an ideology. (P10)

Official P19 agreed with this view, saying, "I think that's the difference you've seen ... is just an ideological perspective from the Council up till now. That that's too much government intervention: 'We don't intervene, and if we don't intervene, the market will do it better.'"

Both officials regard both public opinion and political will as being very important. The official from the CRD pointed out that public opinion could be a barrier, even if the regulatory framework is propitious:

All these things are. They're still powerful, regardless of whether you have regulatory authority or not. Influence in politics is always at play. Whether you have regulatory authority or not, like you can't use it if people are going to come up in arms and say no. Like it's just not feasible, so you're still operating on the same principles. That is, you need to have substantive or at least some support.

And political will goes a long way when you do have the authority, but you're still playing that game. (P10)

The combination of political will and public support can certainly be a powerful enabler, as official P19 remarks:

the community genuinely ... are showing what their values are through the way they vote and the Council represents that. We just feel like that social license is there all the time and it's a really cushy soft foundation that you just keep falling back onto. And you're like, "oh, wow, they're really supportive of this. Let's keep going." (P19)

They also note that the role of local businesses is key in developing and implementing solid waste policy and that "They are often supportive of what we're doing. They often know they don't want the change, but they know that change is inevitable." When discussing plastics, they stated:

I'm constantly excited about how much business support there is for what we're doing when it comes to like single use items. In the food service sector locally. In the community, you know the national or global chains don't necessarily see it that way, but almost every single local business understands it and says, "Keep going, the community will make these changes." (P19)

Conclusion

The focus group on waste resource management revealed a diverse set of approaches to waste management in Greater Victoria. At one end of the spectrum is the City of Victoria with a very active dedicated staff working on policy that has been ground-breaking, like their work on the single-use plastic ban. At the other end of the spectrum are the municipalities that do not operate or administer municipal waste collection services, but instead require their residents to contract with a private hauler. Victoria has stepped beyond the traditional operations model of garbage collection into the policy arena, while other municipalities do not engage in operations.

Garbage generated by residents in Greater Victoria goes to the Hartland Landfill, no matter the mechanism by which it gets there. The Solid Waste Management Plan developed by the CRD governs what can be deposited there by any user, whether municipality, private hauler or individual resident. The CRD does recycling pickup in twelve of the thirteen municipalities, with Oak Bay doing its own collection. This seeming consistency of regulation governing solid waste management throughout the CRD stands in notable contrast to the wide spectrum of approaches identified above.

Chapter Five: Discussion

This study reveals that municipal officials across the three sectors responsible for the highest percentage of GHG emissions in Greater Victoria face similar barriers and enablers in their work. This chapter will discuss these barriers and enablers and classify them against Vedung’s typology of policy instruments. It will also identify the decision-making centres that wield those instruments in order to assess whether climate action in Greater Victoria exists within a polycentric governance framework.

Barriers and Enablers

The results of this study show that a wide range of barriers and enablers exist for municipalities in Greater Victoria when implementing climate action. Each focus group identified similar themes when discussing barriers and enablers to municipal climate action in Greater Victoria. Table 7 lists the principal themes discussed in the focus groups and categorizes them as barrier or enabler.

Table 7
Barriers and Enablers to Climate Action in Greater Victoria

Category	Buildings and Energy	Transportation	Waste	Type of Instrument
Funding	Enabler	Barrier	Enabler	Economic
Staffing resources	Barrier and enabler	Barrier	Enabler	Economic
Staffing interaction	Enabler	Enabler	Enabler	Information
Legislation/regulation	Barrier and enabler	Barrier	Enabler	Regulation
Governance	Barrier and enabler	Barrier and enabler	Enabler	Regulation
Information and data management	Enabler (horizontal) Barrier (vertical)	Enabler (horizontal) Barrier (vertical)	Enabler	Information
Politics: public opinion and political leadership	Enabler	Enabler	Enabler	Information

Note: This table is based on the focus group discussions, and identifies whether categories were viewed predominantly, not exclusively, as barriers or enablers. The chapter on findings presents a more nuanced view.

Funding

Funding levels attracted varying levels of concern between the three focus groups. Officials working in sustainable transportation expressed the highest level of frustration about funding, viewing lack of funding as a barrier. They noted that the shortfall was very large, and more funding to the tune of “7, 8, 9 figures” was needed. They pointed out that active transportation was now mainstream transportation and needed to be funded accordingly. Comment was made on the scale of expenditure on road construction for motorized vehicles, orders of magnitude larger than that spent on active transportation projects. The need for significant investment in public transit throughout Greater Victoria to provide more frequent and

reliable service that could replace car travel was also brought up. Officials contrasted the ambitious targets of higher levels of government in terms of mode shift and GHG emissions reduction with the current levels of funding to support projects that would shift mode choice and reduce emissions.

The building and energy focus group had fewer concerns about funding, noting that government grants for municipalities and rebates for homeowners enabled more energy-efficient buildings. Federal, provincial and municipal governments all put funding into this area. Reducing energy use in buildings has been a huge area of emphasis for the governments of Canada and BC and funding is at correspondingly high levels.

Funding was not seen as a barrier by the waste group. This can be attributed to the funding model used for waste management. In the city of Victoria and some other municipalities it is treated as a utility and individual property owners pay monthly charges on their utility bill. Langford and Colwood use a different model, requiring property owners to sign up for service with a private company. Both municipal and private haulers pay fees to dump waste at the Hartland Landfill. Fees charged by the landfill fund the CRD's waste management operations and policy. With this user pay model, municipalities are not dependent on funding decisions from higher levels of government. This provides them with reliable funding and freedom from the necessity to lobby for increased monies or to apply for grants.

Staffing: Resources and Interaction

Staffing resources were viewed as both barrier and enabler by the buildings and energy and transportation group. Larger municipalities, like Saanich and Victoria, have in-house teams to manage assets and to engage in building infrastructure for active transportation. They have more resources to put into policy work as well. Smaller municipalities have little to no policy capacity and much operations and maintenance work is contracted out. The lack of policy capacity hampers the ability of smaller municipalities to argue the case for actions to reduce GHG emissions, particularly while developing their Official Community Plans. Interaction between staff, within and across municipalities, is highly developed and collaborative. In all groups it was seen as an enabler.

All the focus groups differentiated between staff directly employed by the municipality, contractors to the municipality, and private sector actors. While the larger municipalities enjoy higher staffing levels, officials from Victoria and Saanich expressed concern about the size of the task before them. The ability of contractors to attract employees in the current labour and housing market in BC was raised in all three groups and was seen as a barrier. A third group of staff consists of those who work for private actors whose work impinges on areas of activity for the municipalities. Officials from the buildings and energy and waste groups saw an unwillingness to innovate and to be flexible within the private sector as a barrier. Examples were haulage and HVAC installation companies.

Legislation/Regulation

A great deal of discussion about the legislative and regulatory framework governing each area occurred in all three focus groups. The most vociferous commentary came from the sustainable transportation group, which saw provincial legislation and standards as a barrier. The Motor Vehicle Act came under strong criticism for its lack of safe passing laws, prohibition against right turns on red lights, and generally for its out of date treatment of vulnerable road

users. While most of the roadways in Greater Victoria are under municipal control, some are the responsibility of the Ministry of Transportation and Infrastructure (MOTI). Roads in the Electoral Areas, for whom the CRD acts as the municipal government, also fall under MOTI control. Lack of flexibility in interpreting design guidelines can result in vehicle-centric infrastructure that endangers those using active transportation for a generation or more.

Legislation and regulation was similarly seen as both barrier and enabler by the buildings and energy group. While officials welcomed the changes to provincial codes requiring more stringent standards, they also regarded their lack of ability to apply those codes to existing buildings as a barrier.

Changes to provincial legislation and guidance in recent years have transformed how waste is managed in Greater Victoria and are considered enabling. The federal government is a significant player in the area of waste, in contrast to its role in energy and buildings and in sustainable transportation. Federal initiatives on reducing plastic waste were welcomed by waste officials, particularly the new Single Use Plastic (SUP) regulations (Single-Use Plastics Prohibition Regulations, 2022). Another enabler for Victoria when developing its own bans on single use plastic was the provision of concurrent jurisdiction over protection of the natural environment with the province.

Governance

Governance was perceived as both a barrier and an enabler by all groups. Greater Victoria's numerous municipalities were seen as a barrier to consistent and efficient climate policy. One official noted that having a more united front would be useful when dealing with the province. The regional growth strategy reflects this disunity and was described as "having no teeth." Waste policy was also seen to be held back, resulting in disparate goals all reached in different ways. This fragmentation means that coherent regional transit planning does not occur. One official suggested amalgamation of municipalities as a solution but this view was by no means universal.

Other officials were more positive about the governance structure, seeing it either as neutral or an enabler. It is neutral in that it is the existing model, and all models have their own challenges. Within this model, Greater Victoria can achieve good figures for active transportation mode share. The CRD is seen to have a coordinating role, particularly in running the Climate Action Intermunicipal Working Group and developing the Home Navigator Program. Municipalities also coordinate with each other, and use each other's experiences with policy and program implementation as informal pilot projects. The public notices infrastructure or programs developed by other municipalities and requests them in their home municipality. Collaboration was stressed repeatedly as a positive for climate officials in Greater Victoria.

Shared authority over protection of the natural environment by both municipalities and the province was seen as an enabler particularly by the waste group. The ambiguity of this shared authority can embolden a municipality, like Victoria, to push on further regulation. The view is that there is space to act but that municipalities need to act boldly to occupy that space.

Information and Data Management

This theme was viewed as both a barrier and enabler for climate action. Inconsistent and unclear modelling requirements when reporting emissions data and applying for grants is a barrier for local governments in their vertical relationship with both federal and provincial governments. Small municipalities do not have the capacity to engage in such detailed data

analysis. Municipalities overcome this barrier by sharing information and modelling approaches between each other and appealing to the CRD for assistance. Horizontal information sharing thus becomes an enabler of climate action. Data on the mode shift that occurred after protected bike infrastructure was built enabled construction of further infrastructure.

Lack of knowledge about climate action among the public was raised as a barrier. In other studies, lack of climate literacy among officials was frequently a barrier. The official in these focus groups did not raise it; this may be because the best-informed officials were motivated to participate with less knowledgeable colleagues from other municipalities not even in the conversation.

Information sharing is linked closely to the governance question; collaboration and learning from each other's projects enables municipalities to transcend some of the difficulties caused by so many municipalities in a relatively small area. The waste group stressed the importance of seeking information from sources outside of Vancouver Island, such as Portland and Vancouver, in developing policy and programs.

Politics: Public Opinion and Political Leadership

Public opinion was seen as both a barrier and enabler. Officials discussed the difference between perceived and actual opposition to policies, noting that the loudest voices opposing active transportation infrastructure were not representative of the population as a whole, noting that those in favour do not usually provide feedback. Victoria's experience with opposition to the AAA bike network came up repeatedly. Several officials pointed to the recent elections in which climate-friendly councils had been voted in as a counterpoint to this loud opposition. Concern was expressed about the negative political consequences of restricting parking; one official noted that these concerns were not stopping Saanich and Victoria from taking action. Active transportation was noted as a more contentious file than both buildings and energy and waste policy.

Officials from all groups remarked that they took their cues from elected politicians and that leadership from councils was an enabler. Council directs officials to develop plans and cost out budgets on priority areas, which include active transportation and waste strategies. Caution on the part of councils could act as a barrier, with some officials worried that their councils were not implementing an accelerated schedule for the Step Code. It is unknown whether municipalities that did not send officials to participate in the focus groups experience a lack of political leadership.

Policy Instruments

This section discusses the policy instruments and actors referred to directly in focus groups by municipal officials. The policy instruments have been classified according to Vedung's system of regulations, economic measures, and information in the following three tables (Vedung, E., 1998) . The instruments are colour-coded according to the entity that wields them, using the legend provided.

Regulations

This is the smallest category of instruments and most of them are wielded by the province. Provincial regulation or legislation came up in all the focus groups. For the buildings and energy group, the BC Energy Step Code and Zero Carbon Step Code were mainly viewed as enablers. Through them, municipalities can accelerate their adoption of higher efficiency in

building standards by enacting their own bylaws to reflect higher steps. One official thought that the higher steps should be mandatory and not up to individual municipalities. Most agreed that the ability to regulate the energy efficiency of existing buildings, and not just new builds, was missing from the provincial regulations.

Table 8
Regulatory Instruments in Greater Victoria Climate Action and Who Wields Them

Buildings and Energy	Sustainable transportation	Waste
BC Energy Step Code	Motor Vehicle Act	Community Charter
BC Zero Carbon Step Code	MOTI construction specifications	Environmental Management Act
BC Building Code	BC Transit Act	Recycling Regulation
Municipal bylaw	Community Charter (jurisdiction over highways)	Organic Matter Recycling Regulation (OMRR)
	Municipal bylaw	Landfill Gas Management Regulation
	parking regulations (on-street, minimums for developments)	Federal Single Use Plastic regulations
		Canadian Environmental Protection Act
		CRD landfill regulations
		Municipal Bylaw (plastic, construction waste)

Legend
Provincial
Municipal
Federal
Regional
Provincial and Federal
Provincial and Municipal
Political
Business

Provincial regulations were viewed as barriers to climate action in active transportation. Officials described the Motor Vehicle Act as out of date and insufficient. The BC Transit Act and lack of a unified transportation policy takes public transit decisions largely out of the hands

of municipal officials, who spoke of the need for more frequent service throughout Greater Victoria. The Community Charter gives municipalities jurisdiction over most highways in the region, except for those in the electoral areas. Ministry of Transportation and Infrastructure construction regulations were criticized as inflexible and outdated, not suited to the needs of active transportation. Municipal bylaws allow municipalities to set parking regulations and minimums for new construction, thus enabling them to place less of an emphasis on motor vehicle parking. This was regarded by some municipal officials as politically risky for councils, but Saanich and Victoria were noted to be getting over that barrier.

The waste sector in BC is highly regulated, with municipal officials generally finding these regulations enabling in trying to reduce landfill waste emissions and plastic waste. CRD regulations keep certain types of waste out of the landfill. The province is so active in these areas that one invitee refused to participate, saying that the province was in sole charge. The Environmental Management Act does in fact provide four areas of concurrent jurisdiction, one of which is protection of the natural environment. Victoria and other municipalities wishing to ban plastic grocery bags stepped into this concurrent jurisdiction and the Minister of the Environment approved such a ban for all municipalities in the province. The federal role in plastics regulation was welcomed as another enabler, leaving the City of Victoria free to develop other regulations while the federal government implements Single Use Plastic Regulations covering six categories of plastic manufactured items. Plastic manufactured items are now listed in Schedule 1 of the Canadian Environmental Protection Act, allowing the federal government to regulate them as a toxic substance. The City of Victoria has used this space to introduce a construction waste bylaw to compel the diversion of wood from demolition into secondary reuse markets.

Regulations are an important instrument for climate action in Greater Victoria. Most of them are wielded by the province.

Economic Measures

Economic measures, as laid out in Table 9, used to implement climate action in Greater Victoria include rebates from all levels of government, grants from the federal and provincial governments, the provision of infrastructure and services, direct government funding for transit, and user fees.

Table 9

Economic Instruments in Greater Victoria Climate Action and Who Wields Them

Buildings and energy	Active transportation	Waste	
Federal Rebates	Active transportation grants	User fee for collection bins and bags	
Provincial Rebates	BC Transit government funding	Provision of waste pickup	
Grants to improve municipal assets	BC Transit user fees	Provision of waste pickup	
Municipal Rebates	Saanich e-bike rebate	Provision of waste pickup	
Advertising by FortisBC	Construction of infrastructure	Fines	
Advertising by BCHydro	fines for bylaw infringement	Tipping fees at landfill	
	user fees for parking	Construction of landfill methane infrastructure	

Legend
Provincial
Municipal
Federal
Regional
Provincial and Federal
Provincial and Municipal
Political
Business

Municipal officials remarked on the plentiful funding available for home energy retrofits and for renewing municipal assets. They regarded this funding as an enabler. Home energy retrofits are funded through federal, provincial and some municipal rebates and are dependent on the homeowner getting a home energy evaluation through Natural Resources Canada both before and after renovations (Natural Resources Canada, 2021). The programs BetterHomesBC and BetterBuildingsBC have a budget of \$24 million (Ministry of Energy, n.d.). The effectiveness of rebate policies is open to some debate. The goal of the policy is to reduce greenhouse gas emissions from energy use in buildings. As the focus group on energy and buildings revealed, these rebates are only available to a subset of the population: homeowners. Policy effectiveness is immediately restricted by the terms of the rebate. Free ridership also arises as an issue in assessing policy effectiveness. Free riders are those who would have implemented the retrofit even without the subsidy provided by the rebate. Despite this, “rebates for heating system upgrades appear to be an effective means for governments or energy companies to reach energy and emission targets” (Olsthoorn et al., 2017, p. 42). While rebates were found to be effective, they are less so for low-income groups(Shen et al., 2022, pp. 767–768), a concern pointed out in the focus groups in this study.

Adoption of heat pumps in British Columbia remains relatively low, with a high potential demand, in a policy landscape that contains both information provision by municipalities and the province, and rebates. Increasing adoption for retrofit may require adding regulation to the current policy mix (Pardy et al., 2022, p. 14). Lack of sufficient regulation was noted as a barrier to more widespread adoption in the buildings and energy focus group.

Rebates are also used as a tool to increase e-bike use. When the focus groups were held, the only rebate available was in the District of Saanich. (In May 2023, the province announced a \$6 million e-bike program that was fully subscribed within a day. The provincial ZEV program has a budget of \$79 million.) Funding for the Saanich rebate was \$313,000. Both rebates had different rebate levels geared to income. The interim report on the Saanich rebate found that income qualified recipients were more diverse in gender, age, ethnicity and newcomer to Canada status, and more lived in housing not classified as single family (*Special Council Meeting and Committee of the Whole Meeting*, n.d. pp. 3-4). The targeted nature of the rebates helped to minimize free ridership. It also found that the rebate motivated e-bike purchases, and that the e-bikes were used to replace motor vehicle trips. The supply of the rebate was exhausted before demand was met.

The e-bike rebate is effective policy that would be made more effective by better funding. As the transportation focus group pointed out, there is a large difference in funding between motor vehicle transportation and active transportation. This shortfall inhibits the effectiveness of active transportation policy.

Further economic measures supporting sustainable transportation in Greater Victoria include contributions by municipalities to the budget of BC Transit (largely funded by the province), as well as user fees in the form of passenger fares. The regulatory framework of BC Transit means that municipalities have very little say over how this money is spent; these economic measures do not increase policy effectiveness in Greater Victoria. Active transportation policy is supported by the construction of infrastructure, funded by federal and municipal grants and property taxes. Municipalities collect fines for bylaw infringement and fees for paid parking in lots and on the street. Applying for grants is an administrative barrier, with some smaller municipalities unable to spare staff capacity to get this funding. As the transportation group noted, the amounts available through grants are insufficient by orders of magnitude. Since the focus groups were held, the province has announced an additional \$100 million for active transportation over three years, in addition to \$24 million from the BC Active Transportation Infrastructure Grants Program (*Government Allocates \$100 Million for Active Transportation*, 2023). The budget allocation of the Ministry of Transportation appears in Table 10.

Table 10*Financial Summary, BC Ministry of Transportation and Infrastructure, 2022-2026*

Financial Summary

Core Business	2022/23 Restated Estimates ¹	2023/24 Estimates ²	2024/25 Plan	2025/26 Plan
Operating Expenses (\$000)³				
Transportation and Infrastructure Improvements	29,258	30,433	28,057	28,057
Public Transportation ⁴	344,255	350,435	349,904	349,904
Highway Operations	556,555	612,876	614,917	614,917
Commercial Transportation Regulation	3,283	2,332	2,439	2,439
Executive and Support Services	22,629	24,843	25,370	25,370
Total	955,980	1,020,919	1,020,687	1,020,687
Ministry Capital Expenditures (Consolidated Revenue Fund) (\$000)				
Highway Operations	5,005	5,261	3,473	3,135
Total	5,005	5,261	3,473	3,135

¹ For comparative purposes, amounts shown for 2022/23 have been restated to be consistent with the presentation of the 2023/24 Estimates.

² Further information on program funding and vote recoveries is available in the [Estimates and Supplement to the Estimates](#).

³ Operating expenses are reported net of funding from external sources, primarily the BC Transportation Financing Authority.

⁴ Public Transportation operating expenses include government contributions towards public transit and coastal ferry services.

Source: (British Columbia Ministry of Finance, 2023)

The construction of separated bicycle lanes is associated with increase in bike modal share. A recent study of the bike network in Lisbon found that cyclist volumes increased 3.5-fold after the network was expanded (Félix, R. et al., 2020, p. 681). This finding was consistent with other literature on bike infrastructure ((AitBihiOuali & Klingen, 2022, pp. 3–4) and aligns with observations made in the transportation focus group. Infrastructure is an effective policy instrument, expensive for municipalities to fund, but cheaper than motor vehicle infrastructure.

Economic measures used to support waste policy in the CRD and the City of Victoria consist of provision of services (landfill site, waste pickup) and user fees. Residents and haulers pay fees to dump at Hartland landfill, and residents pay a fixed rate per bin size every four months. Both the CRD and the City of Victoria have control over the rates they charge. Participants in the waste group did not view funding levels as a barrier. An additional economic measure is the fines associated with municipal bylaws on single-use plastics and construction waste.

Information

This category contains numerous guidance documents, from roadmap to strategy to toolkit. It also includes reporting and tracking requirements, working groups, and formal and informal encounters between municipal officials. Communication between municipal staff, the

public and elected officials is another form of information instrument. These instruments were discussed by municipal staff in the context of the themes of information and data management; politics and staff interaction and capacity, and are presented in Table 11.

Table 11

Information Instruments in Greater Victoria Climate Action and Who Wields Them

Buildings and Energy	Active Transportation	Waste
Guidance from CleanBC	Guidance from CleanBC	Guidance from CleanBC
CleanBC Roadmap to 2030 (PDF, 9MB)	CleanBC Roadmap to 2030 (PDF, 9MB)	CleanBC Roadmap to 2030 (PDF, 9MB)
Climate Preparedness and Adaptation Strategy (PDF, 7MB)	Climate Preparedness and Adaptation Strategy (PDF, 7MB)	Climate Preparedness and Adaptation Strategy (PDF, 7MB)
reporting through Local Government Climate Action Program (LGCAP)	reporting through Local Government Climate Action Program (LGCAP)	reporting through Local Government Climate Action Program (LGCAP)
CRD intermunicipal working group	BC Community Road Safety Toolkit	CRD GHG emissions tracking and reporting
Home Energy Navigator Program	BC Active Transportation Design Guide	formal communication between municipal officials
CRD GHG emissions tracking and reporting	CRD intermunicipal working group	informal communication between municipal officials
formal communication between municipal officials	CRD GHG emissions tracking and reporting	municipal GHG emissions tracking and reporting
informal communication between municipal officials	formal communication between municipal officials	communication with public
communication with public	informal communication between municipal officials	communication with elected officials
communication with elected officials	communication with public	
Public awareness campaigns (indoor air quality)	communication with elected officials	
municipal GHG emissions tracking and reporting	municipal GHG emissions tracking	

Legend
Provincial
Municipal
Federal
Regional
Provincial and Federal
Provincial and Municipal
Political
Business

The buildings and energy and transportation focus groups identified information and data management as both barriers and enablers. Data management was considered to be a barrier when officials were preparing grant applications, as the information demanded was unknown or difficult to access. Officials considered they had inadequate access to data for modelling purposes, and indeed to appropriate modelling approaches. This was a particular barrier for smaller municipalities with little capacity for policy analysis. Officials pointed to the overabundance of information as an administrative barrier to homeowners applying for home energy retrofit rebates.

One official remarked that levels of climate awareness among the general public were insufficient. Unlike in studies from earlier years (Porter et al., 2015; Robinson & Gore, 2005), no one saw inadequate climate awareness or education among staff as a barrier. Public demand for climate action was seen as high by all groups. Commitment by politicians to climate leadership was seen as important, with the election of councils that ran on climate action platforms seen as a signal of support for robust policy.

The extent to which information flow and collaboration between officials was seen as an enabler was striking. Example after example was raised. The most formal were the CRD Climate Action Working Group, with regular meetings for climate officials, and the CRD Home Navigator Program, developed by member municipalities to address the administrative burden facing residents in home energy rebates. Officials from all groups spoke of an atmosphere of collaboration between officials from different municipalities, even though in some cases they were competing for funds from the same grants. Officials make an effort to attend meetings where they will encounter their opposite numbers, and applaud advances made by other municipalities in active transportation funding, for example. Those working for smaller municipalities get in touch with each other for advice on information submission. The waste group described meetings with officials from the US and Vancouver while developing Victoria's construction waste bylaw. Information passes freely and generally with goodwill through all types of contact.

Information instruments are generally popular with governments because they are relatively cheap. They are also not very effective, particularly on their own. Information becomes more effective as part of a policy mix, as for example when combined with energy rebates.

Multilevel governance

Climate action in Greater Victoria is undertaken by many individual governments, but is it truly multilevel or polycentric governance? As seen in the above tables, municipal officials identified instruments wielded by the federal, provincial, regional and municipal governments. Few and distinct governments arranged hierarchically are typical of Type I governance in a federal system. Type II or polycentric governance is task-oriented, with flexible membership and numerous decision-making centres with a certain degree of autonomy (Carlisle & Gruby, 2019, p. 932). Furthermore, the focus groups reveal that decision-making centres in Greater Victoria take "account of others through processes of cooperation, competition, conflict, and conflict resolution," a characteristic of polycentric governance (Carlisle & Gruby, 2019, p. 934). The focus group discussions revealed the exchange of informal conversations between colleagues from different municipalities, as well as the cross-pollination that occurs when employees from one municipality take their experience and go to work for another municipality within greater Victoria, as was the case with at least two of the officials participating in the focus groups. In addition, municipal officials made a point of attending meetings where experts from other

municipalities were going to be present in order to “listen to the big dogs howl”. Officials specifically referred to cooperation and collaboration between municipalities and the CRD in all three focus groups. The launch of the Home Navigator Program is emblematic of this approach.

On the face of it, climate action in Greater Victoria appears to have many of the characteristics of polycentric governance. Multiple decision-making centres pursue the task of reducing GHG emissions from buildings and energy, transportation and waste. These centres pass information back and forth, and learn from each other’s experiences. Collaboration is highly evident and prized. What is lacking in Greater Victoria is the presence of numerous non-governmental actors. Municipal officials when discussing their working lives refer to businesses in the private sector, and the actions of one group of citizens involved in building and energy deliberations in Esquimalt. However, most of the entities that came up in discussion were governmental. Much of the information exchange was between governments. Certainly other bodies exist and take part in climate action, but these were not top of mind for municipal officials.

Examination of the policy instruments to which these decision-making centres have access suggests that their autonomy is limited. The municipalities and the regional district have limited ability to generate or change regulations, and insufficient funding for highly effective economic measures. Municipal officials view regulations as an enabler only when provincial and municipal policies are congruent. While the CRD and the municipalities share and organize information with each other and the public, informational instruments are the least effective. This does not argue a high degree of autonomy for decision-making centres.

Chapter Six: Conclusion

This study finds that barriers and enablers to climate action in Greater Victoria as described by municipal officials fall into six categories: funding, staffing, legislation/regulation, governance, information and data management and politics. The first four categories are forms of government capacity. When municipal governments have sufficient access to funding for projects and staffing, funding can be an enabler. Insufficient access to legislative capacity means that funding is released to municipalities according to provincial decisions. When municipal and provincial policy align, for example in improving energy efficiency and buildings, regulation is less of a barrier and funding is available. When municipal ambitions are greater than those allowed for in provincial policy, as is the case with active transportation, funding for staff and projects is inadequate and legislation is considered to be misaligned with the needs of active transportation users. Waste officials have autonomy over their own funding by means of charging user fees, and financial capacity is thus not a barrier.

The findings of this study are consistent with many features of the literature on barriers and enablers to municipal climate action. Questions of government capacity, defined by Ryan as “legal competence, human and technical resources, funding,” arise frequently. (Ryan, 2015, pp. 519–520). Ryan posits that government capacity is a necessary but not sufficient condition for municipal climate action. Capacity cannot in itself guarantee successful climate policy; other factors, such as information management and political leadership, can either support or block climate action. Burch et al explicitly reject explanations of climate inaction based on lack of capacity (Burch, 2010c, p. 296). They remark that overcoming this barrier is “less a matter of more capacity (such as municipalities requiring additional funding from the provincial government— although this would certainly be welcomed) than facilitating the effective use of existing resources” (Burch, 2010, p. 296). This facilitation involves information sharing and political leadership which can help to mitigate lack of capacity or further enable successful action.

Previous literature has shown that cities in British Columbia find themselves with the responsibility for taking climate action without the corresponding financial resources (Curry, 2018, pp. 3-4). A similar phenomenon is seen among cities in Brazil (Stehle et al., 2020, p. 6). Di Gregorio et al, studying climate governance in Brazil and Indonesia, propose that “jurisdictional boundaries create barriers to cross-level interactions reinforcing mismatches between institutional responses and climate change realities” (Di Gregorio et al., 2019, p. 66). Officials in Greater Victoria also lack legal competence, or jurisdiction; transportation officials in particular in Greater Victoria can be unable to respond to the degree required for meaningful reduction in GHG emissions, since the provincial government pulls most of the regulatory levers. Burch et al define the regulatory/legislative domain as “the nature of the policy tools that the municipality has at its disposal and the interactions between multiple levels of government”. When officials in the Lower Mainland were asked how barriers of legal competence for municipalities could be overcome, they suggested a number of solutions that remain outside local jurisdiction to this day. Still lacking in Greater Victoria is “regional planning [that] should match density with transportation needs, rather than piecemeal local planning” (Burch, 2010c, p. 293.) Municipal officials dealing with buildings and energy are able to rely on the higher building standards introduced by the province since 2010.

A key component of government capacity is funding, a significant barrier in Greater Victoria for transportation, and less so for buildings and energy, and transportation. Funding is raised as a barrier to climate action in cities throughout the world, in Portland, Oregon (Thorne et al., 2018, p. 967); in the Western Cape Province of South Africa (Pasquini et al., 2013, p. 229); local governments in New Zealand (Reisinger et al., 2011, p. 314); and in the United Kingdom (Porter et al., 2015, pp. 417–418). The same concern is universal in other British Columbia cities (Dale et al., 2020b, p. 869). As the focus groups revealed, less money means less staff capacity. Larger municipalities have funding to hire specialized policy staff, although officials from Victoria and Saanich, the two largest municipalities, are concerned about the abilities of current staffing levels to meet the need to reduce GHG emissions in a limited time frame.

This study identified the actors named by municipal officials in their discussion of their working lives. Most of these actors were governmental: other municipal officials, and the province, the federal government and the CRD. Very little reference was made to non-governmental actors such as the UBCM, advocacy groups, or the Federation of Canadian Municipalities. Studies of climate action from 2000 to 2015, when national governments, particularly the United States, did not engage meaningfully in climate policy, focused on the possible importance of Type II multilevel governance (Hooghe & Marks, 2003, p. 237), or of polycentric governance (Carlisle & Gruby, 2019, p. 933). In these types of governance, non-governmental actors assume increasing importance in climate action. This was not the case in this study of Greater Victoria. When discussing their daily working lives, most municipal officials focused on intergovernmental relations. Multiple governments are active in Greater Victoria, but this does not mean Type II or polycentric governance characterizes climate governance here.

When examining the policy instruments wielded by the mainly governmental actors identified by municipal officials in Greater Victoria, it becomes clear that the most effective ones (regulation and economic measures) are the tools of the upper levels of government. When the policy goals of municipal governments align with effective regulation and adequate funding provided by senior governments, fewer barriers exist for municipal officials, as can be seen in the remarks of the buildings and energy, and waste, focus groups. Lack of policy alignment with senior levels of government conversely comprises a significant barrier for municipalities, as is evident from the experiences of municipal officials in transportation. Dale et al. remark that climate action “will not be effective without policy coherence (within governments) and policy congruence (between government levels); as our evidence shows in BC, there is often a dampening down effect by one or two of the higher levels” (Dale et al., 2020b, p. 877). Municipal officials in Greater Victoria would share this view. While they have *prima facie* similar goals, upper governments have not aligned their regulations nor their funding decisions with the needs of municipalities, as this study has shown. The municipalities rely on information, collaboration and the facilitation of the CRD to operate in a landscape where the instruments of power are primarily wielded by upper layers of government.

Where municipalities are excluded from the ability to regulate as the provincial government possesses the jurisdiction, as is the case with the Motor Vehicle Act and efficiency standards for existing buildings, governance is a barrier to climate action. This finding is consistent with the work of Jaccard et al. on Vancouver; lack of jurisdiction means a corresponding lack of access to instruments to support ambitious climate action (Jaccard et al., 2019, p. 3). Municipalities can have success in entering the space occupied by concurrent jurisdiction over the protection of the environment, as Victoria and other municipalities have

done in their single-use plastic policies. Here again municipalities must rely to some extent on policy congruence with the province. For the most part, capacity is not a barrier only when the province does not stand in the way.

Ryan's conception of barriers and enablers to climate action holds that government capacity is necessary but not sufficient. Two enablers can enhance capacity, but are unable to mitigate its lack. These are local framing (information and facilitation), as discussed above, and political leadership. Political leadership appears frequently as an enabler in the literature (Burch, 2010c, pp. 292–293; Oseland, 2019b, p. 352; Pasquini et al., 2013, p. 228; Porter et al., 2015, p. 420), with Pasquini et al. noting the importance of a public willing to support climate leadership. Dale et al. stress that climate leadership at multiple levels is a significant enabler in climate action in British Columbia (Dale et al., 2020b, p. 872). While earlier studies on municipal climate action revealed that lack of knowledge and buy-in among both staff and politicians was a barrier to action, this study shows that most officials find their colleagues well-informed and committed. Information sharing and the flow of data communication appeared as barriers in studies of other municipalities, with some studies finding that a siloed approach hampered climate action (Birchall et al., 2022, pp. 8–9; Oseland, 2019, pp. 346–347. As Burch found in 2010, officials in the Lower Mainland suggested that staff in policy and operations needed more information and greater buy-in (Burch, 2010c, p. 293).

By contrast, this study found municipal officials to be enthusiastic about sharing information and taking a highly collaborative approach. They reported that operations staff were fully on board with municipal climate policies. Information sharing and collaboration was manifested in informal conversations and a willingness to learn from the experience of other municipalities. It is also formalized by the role of the CRD as a climate broker of sorts, collating and disseminating information and providing fora for detailed interaction. Granberg et al. examined the role of the regional level of government in furthering climate action, in Victoria, Australia and Gothenburg, Sweden, and observed that “regional governance has the potential to increase the salience of climate change adaptation in local government by facilitating co-production, that more effectively mobilizes and involves local actors in climate change adaptation” (Granberg et al., 2019, p. 2). Their work has particular relevance to Greater Victoria and the CRD, finding that “regional-scale governance can constitute formal and informal arrangements and that without regional collaborations local actors, in particular municipalities, will be limited in their capacities and power to act.” (Granberg et al., 2019, p. 14). Regional players in the state of Victoria, Australia, like the CRD, had little regulatory authority but leveraged knowledge and intergovernmental interaction on a voluntary basis to mitigate this barrier (Granberg et al., 2019, p. 7). The CRD is engaging in the facilitation that Burch deemed so essential in her study on three municipalities in the Lower Mainland of BC, operating under the same regional district framework in force in Victoria, BC. While regional districts were originally constituted to coordinate utilities and services, they have taken on a coordinating role for issues of regional concern, like climate change (Burch, 2010c, p. 294). Communication and collaboration are however unable to compensate for barriers of government capacity.

Analysis of the types of instruments used in climate action in Greater Victoria revealed that upper levels of government had control over those most associated with power: regulation and economic measures. Informational measures not associated with regulation or funding were viewed as less effective; guidance from CleanBC asking municipalities to increase mode share to 30% by 2030 was derided because it did not come with adequate money. Municipalities and the CRD use a great number of informational instruments, such as the Intermunicipal Climate Action

Working Group and the Home Energy Navigator Program, as well as more informal interpersonal communication. These instruments make information into an enabler at the municipal and regional levels. This level of collaboration is necessitated by lack of access to the instruments of power.

Ideas for Further Study

The current study conducted focus groups with settler governments in Greater Victoria. Further research on how First Nations climate governance fits into these paradigms would be illuminating and could involve conducting similar focus groups with Modern Treaty Nations and local First Nations. A great deal of scope remains for study of waste policy, particularly if Saanich enacts bylaws similar to Victoria's. Work focused on waste management that examines the roles of the stewardship programs set up at the behest of the provincial government, such as the Major Appliance Recycling Roundtable, would enhance the picture of polycentric environmental governance.

Throughout this research it was striking how Victoria and Saanich are viewed as large and influential municipalities, yet their populations compared to other Canadian cities are low at just under and just over 100,000. Further examination of this "big fish in a small pond" syndrome could prove fruitful. Do cities of a similar size more isolated from one another have similar climate ambitions? Similarly, work focused on waste management that examines the roles of the stewardship programs set up at the behest of the provincial government, such as the Major Appliance Recycling Roundtable, would lead to a greater understanding of possibly polycentric environmental governance.

References

2018 British Columbia Building Code Public Review of Proposed Changes. (2018).

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/other/2018_bcbc_14_stairs_no_spiral_stairs.pdf

Acciai, C., & Capano, G. (2021). Policy instruments at work: A meta-analysis of their applications. *Public Administration*, 99(1), 118–136. <https://doi.org/10.1111/padm.12673>

Active Transportation | Union of BC Municipalities. (n.d.). Retrieved May 25, 2023, from <https://www.ubcm.ca/convention-resolutions/resolutions/resolutions-database/active-transportation>

BC Energy Step Code. (2018, November 20). Central Saanich.

<https://www.centralesaanich.ca/home-property-development/building-site-improvements/bc-energy-step-code>

BC Energy Step Code and Carbon Pollution Standard. (n.d.). <https://www.saanich.ca>.

Retrieved April 3, 2023, from <https://www.saanich.ca/EN/main/community/sustainable-saanich/bc-energy-step-code-and-carbon-pollution-standard.html>

BC Hydro. (n.d.). *Vancouver Island*. Retrieved June 19, 2023, from

<https://www.bchydro.com/energy-in-bc/operations/our-facilities/vancouver-island.html>

BC Minister of Housing. (2023). *Ministerial Order BA 2023 8*.

<https://www.bclaws.gov.bc.ca/civix/document/id/bcgaz1/bcgaz1/886022321>

BC Transit—Victoria Regional Transit System | Fast Facts | BC Transit. (n.d.). Retrieved May 25, 2023, from <https://www.bctransit.com/about/facts/victoria>

- Becklumb, P. (2019). *Federal and Provincial Jurisdiction to Regulate Environmental Issues* (Research Publications) [4]. Library of Parliament.
https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/201386E
- Berg, B. L., & Lune, H. (2017). *Qualitative research methods for the social sciences* (Ninth edition). Pearson.
- Birchall, S. J., MacDonald, S., & Baran, N. N. (2022). An assessment of systems, agents, and institutions in building community resilience to climate change: A case study of Charlottetown, Canada. *Urban Climate*, 41, 101062.
<https://doi.org/10.1016/j.uclim.2021.101062>
- Breux, S., & Couture, J. (2018). *Accountability and responsiveness at the municipal level: Views from Canada*. McGill-Queen's University Press.
- Bring It Home 4 Climate*. (n.d.). Bring It Home. Retrieved October 24, 2022, from <https://bringithome4climate.ca/crd/>
- British Columbia Ministry of Environment. (2016). *Landfill Criteria for Municipal Solid Waste, Second Edition*. https://www2.gov.bc.ca/assets/gov/environment/waste-management/garbage/landfill_criteria.pdf
- British Columbia Ministry of Finance. (2022). *Budget and Fiscal Plan 2022/23—2024/25*.
- British Columbia Ministry of Finance. (2023). *Budget and Fiscal Plan 2023/24—2025/26*.
- British Columbia Transit Act*. (n.d.). Retrieved May 24, 2023, from https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96038_01
- Building Act, BC Reg 131/2016. Retrieved July 17, 2022, from <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/15002#section5>

- Burch, S. (2010a). In pursuit of resilient, low carbon communities: An examination of barriers to action in three Canadian cities. *Energy Policy*, 38(12), 7575–7585.
<https://doi.org/10.1016/j.enpol.2009.06.070>
- Burch, S. (2010b). Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada. *Global Environmental Change*, 20(2), 287–297. <https://doi.org/10.1016/j.gloenvcha.2009.11.009>
- Burch, S. (2010c). Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada. *Global Environmental Change*, 20(2), 287–297. <https://doi.org/10.1016/j.gloenvcha.2009.11.009>
- Burch, S., Shaw, A., Dale, A., & Robinson, J. (2014). Triggering transformative change: A development path approach to climate change response in communities. *Climate Policy*, 14(4), 467–487. <https://doi.org/10.1080/14693062.2014.876342>
- Canada, E. and C. C. (2020, October 28). *Environment and Climate Change Canada* [Organizational descriptions]. <https://www.canada.ca/en/environment-climate-change.html>
- Canada Energy Regulator. (2023, March 3). *Provincial and Territorial Energy Profiles – British Columbia*. <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-british-columbia.html>
- Canadian Environmental Protection Act, S.C. 1999, c. 33.
- Capano, G., & Howlett, M. (2020). The Knowns and Unknowns of Policy Instrument Analysis: Policy Tools and the Current Research Agenda on Policy Mixes. *SAGE Open*, 10(1), 2158244019900568. <https://doi.org/10.1177/2158244019900568>

Carlisle, K., & Gruby, R. L. (2019). Polycentric Systems of Governance: A Theoretical Model for the Commons. *Policy Studies Journal*, 47(4), 927–952.

<https://doi.org/10.1111/psj.12212>

City of Victoria. (n.d.). *BC Energy Step Code*. <https://www.victoria.ca>. Retrieved April 10, 2023, from <https://www.victoria.ca/EN/main/residents/planning-development/development-services/green-buildings.html>

Demolition and Deconstruction Bylaw, 22-062 (2022).

<https://www.victoria.ca/assets/City~Hall/Bylaws/22-062%20Demolition%20and%20Deconstruction%20Bylaw.pdf>

CleanBC. (2021). *Roadmap 2030*. <https://cleanbc.gov.bc.ca/>

Community Charter, SBC 2003 c. 26. Retrieved June 8, 2022, from

https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03026_02#section8

Community Works Fund. (2019, May 10). <https://www.crd.bc.ca/about/electoral-areas/community-works-fund>

Corbett, M., Rhodes, E., Pardy, A., & Long, Z. (2023). Pumping up adoption: The role of policy awareness in explaining willingness to adopt heat pumps in Canada. *Energy Research & Social Science*, 96, 102926. <https://doi.org/10.1016/j.erss.2022.102926>

CRD. (2013, October 4). *Solid Waste Management Plan*.

<https://www.crd.bc.ca/project/management-plan>

CRD Area Map. (n.d.). Retrieved June 23, 2023, from <https://www.crd.bc.ca/docs/default-source/regional-planning-pdf/Population/crd-area-map---colour.pdf?sfvrsn=0>

CRD to gather input on regional transportation governance. (2023, June 14).

<https://www.crd.bc.ca/about/news/article/2023/06/14/crd-to-gather-input-on-regional-transportation-governance>

Curry, D. (2018). MULTI-LEVEL GOVERNANCE IN BRITISH COLUMBIA: Local Perspectives on Shifting Relations and Structures. *BC Studies*, 198, 103.

Dale, A., Burch, S., Robinson, J., & Strashok, C. (2018). Multilevel Governance of Sustainability Transitions in Canada: Policy Alignment, Innovation, and Evaluation. In S. Hughes, E. K. Chu, & S. G. Mason (Eds.), *Climate Change in Cities* (pp. 343–358). Springer International Publishing. https://doi.org/10.1007/978-3-319-65003-6_17

Dale, A., Robinson, J., King, L., Burch, S., Newell, R., Shaw, A., & Jost, F. (2020a). Meeting the climate change challenge: Local government climate action in British Columbia, Canada. *Climate Policy*, 20(7), 866–880. <https://doi.org/10.1080/14693062.2019.1651244>

Dale, A., Robinson, J., King, L., Burch, S., Newell, R., Shaw, A., & Jost, F. (2020b). Meeting the climate change challenge: Local government climate action in British Columbia, Canada. *Climate Policy*, 20(7), 866–880. <https://doi.org/10.1080/14693062.2019.1651244>

Di Gregorio, M., Fatorelli, L., Paavola, J., Locatelli, B., Pramova, E., Nurrochmat, D. R., May, P. H., Brockhaus, M., Sari, I. M., & Kusumadewi, S. D. (2019). Multi-level governance and power in climate change policy networks. *Global Environmental Change*, 54, 64–77. <https://doi.org/10.1016/j.gloenvcha.2018.10.003>

District of Central Saanich. (2022). *Central Saanich 2022 Financial Plan*.

- Doberstein, C. (2013). Metagovernance of urban governance networks in Canada: In pursuit of legitimacy and accountability. *Canadian Public Administration*, 56(4), 584–609.
<https://doi.org/10.1111/capa.12041>
- Energy Step Code Council and the Building and Safety Standards Branch. (2019). *BC Energy Step Code—A best practices guide for local governments*.
http://energystepcode.ca/app/uploads/sites/257/2019/08/BCEnergyStepCode_GuideDigital_v02July2019.pdf
- Environmental Management Act, SBC 2003 c. 53. Retrieved April 12, 2023, from
https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03053_00
- Félix, R., Cambra, P., & Moura, F. (2020). Build it and give ‘em bikes, and they will come: The effects of cycling infrastructure and bike-sharing system in Lisbon. *Case Studies on Transport Policy*, 8(2), 672–682.
- Fisher, D. R., & Leifeld, P. (2019). The polycentricity of climate policy blockage. *Climatic Change*, 155(4), 469–487. <https://doi.org/10.1007/s10584-019-02481-y>
- Food Scraps*. (2022, November 23). <https://www.crd.bc.ca/education/rethink-waste/recycle-and-organics/food-scraps>
- Ford, Tim. (2021, October 27). Powering Vancouver Island is getting harder with climate change. *Capital Daily*. <https://www.capitaldaily.ca/news/powering-vancouver-island-climate-change>
- Fuhr, H., Hickmann, T., & Kern, K. (2018). The role of cities in multi-level climate governance: Local climate policies and the 1.5°C target. *Current Opinion in Environmental Sustainability*, 30, 1–6. <https://doi.org/10.1016/j.cosust.2017.10.006>

- Galway, L. P., Esquega, E., & Jones-Casey, K. (2022). "Land is everything, land is us": Exploring the connections between climate change, land, and health in Fort William First Nation. *Social Science & Medicine*, 294, 114700.
<https://doi.org/10.1016/j.socscimed.2022.114700>
- Giest, S., & Howlett, M. (2013). Comparative Climate Change Governance: Lessons from European Transnational Municipal Network Management Efforts. *Environmental Policy and Governance*. <https://onlinelibrary-wiley-com.ezproxy.library.uvic.ca/doi/full/10.1002/eet.1628>
- Government allocates \$100 million for Active Transportation. (2023, March 1). BC Cycling Coalition. <https://bccycling.ca/blog/ynoq837in8tljek45xzx9wgfgd5bvk>
- Government of Canada, P. S. and P. C. (2002, July 1). *National Building Code of Canada 2020 / issued by the Canadian Commission on Building and Fire Codes, National Research Council of Canada.*: NR24-28/2020E-PDF - Government of Canada Publications - Canada.ca. <https://publications.gc.ca/site/eng/9.897526/publication.html>
- Granberg, M., Bosomworth, K., Moloney, S., Kristianssen, A.-C., & Fünfgeld, H. (2019). Can Regional-Scale Governance and Planning Support Transformative Adaptation? A Study of Two Places. *Sustainability*, 11(24), Article 24. <https://doi.org/10.3390/su11246978>
- Guest Blog: Welcome to ReWood. (2022, December 21). *FED Urban Agriculture*.
<https://www.get-fed.ca/single-post/rewood>
- Gupta, J., van der Leeuw, K., & de Moel, H. (2007). Climate change: A 'glocal' problem requiring 'glocal' action. *Environmental Sciences*, 4(3), 139–148.
<https://doi.org/10.1080/15693430701742677>

- Gupta, S., Tirpak, D. A., Burger, N., Gupta, J., Kanoan, G. M., Kolstad, C., Kruger, J. A., Michaelowa, A., Murase, S., Pershing, J., Saijo, T., & Sari, A. (n.d.). *Policies, Instruments and Co-operative Arrangements*.
- Home Energy Navigator. (n.d.). *About Us*. Home Energy Navigator. Retrieved April 4, 2023, from <https://homeenergynav.ca/about-us/>
- Home—Community Climate Funding*. (2023, May 25). <https://communityclimatefunding.gov.bc.ca/>
- Hooghe, L., & Marks, G. (2003). Unraveling the Central State, but How? Types of Multi-level Governance. *The American Political Science Review*, 97(2), 233–243. <https://doi-org.ezproxy.library.uvic.ca/10.1017/S0003055403000649>
- How BC Energy Rebates Work • CleanBC Better Homes*. (n.d.). CleanBC Better Homes. Retrieved April 4, 2023, from <https://www.betterhomesbc.ca/how-the-rebate-process-works/>
- How the BC Energy Step Code works | Energy Step Code*. (2017, March 7). <https://energystepcode.ca/how-it-works/>
- Infrastructure Canada. (2023, May 17). *Canada invests in active transportation improvements on Vancouver Island* [News releases]. <https://www.canada.ca/en/office-infrastructure/news/2023/05/canada-invests-in-active-transportation-improvements-on-vancouver-island.html>
- Intergovernmental Affairs. (2017, July 6). *The constitutional distribution of legislative powers* [Education and awareness]. <https://www.canada.ca/en/intergovernmental-affairs/services/federation/distribution-legislative-powers.html>

- Jaccard, M., Murphy, R., Zuehlke, B., & Braglewicz, M. (2019). Cities and greenhouse gas reduction: Policy makers or policy takers? *Energy Policy*, *134*, 110875.
<https://doi.org/10.1016/j.enpol.2019.07.011>
- Krawchenko, T., Rhodes, K., Harrison, K., Pearce, K., Shaw, K., Brousselle, A., Ney, T., & Mallows, C. (2020). *Territorial Analysis and Survey of Local Government Priorities for Climate Action: Vancouver Island and Coastal Communities, Vancouver Island and Coastal Communities Climate Leadership Plan*,.
- Lades, L. K., Peter Clinch, J., & Kelly, J. A. (2021). Maybe tomorrow: How burdens and biases impede energy-efficiency investments. *Energy Research & Social Science*, *78*, 102154.
<https://doi.org/10.1016/j.erss.2021.102154>
- Landfill Gas Management Regulation, (2022).
https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/391_2008
- Lawrence, J., Sullivan, F., Lash, A., Ide, G., Cameron, C., & McGlinchey, L. (2015a). Adapting to changing climate risk by local government in New Zealand: Institutional practice barriers and enablers. *Local Environment*, *20*(3), 298–320.
<https://doi.org/10.1080/13549839.2013.839643>
- Lawrence, J., Sullivan, F., Lash, A., Ide, G., Cameron, C., & McGlinchey, L. (2015b). Adapting to changing climate risk by local government in New Zealand: Institutional practice barriers and enablers. *Local Environment*, *20*(3), 298–320.
<https://doi.org/10.1080/13549839.2013.839643>
- Leck, H., & Roberts, D. (2015). What lies beneath: Understanding the invisible aspects of municipal climate change governance. In *Current Opinion in Environmental Sustainability* (Vol. 13, pp. 61–67). Elsevier. <https://doi.org/10.1016/j.cosust.2015.02.004>

Local Government Act, RSBC 2015 c. 1. Retrieved April 3, 2023, from

https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/r15001_00_multi

Local Government Act [RSBC 2015], (2015).

https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/r15001_00

Maietta, R., Mihas, P., Swartout, K., Petruzzelli, J., & Hamilton, A. (2021). Sort and Sift, Think and Shift: Let the Data Be Your Guide An Applied Approach to Working With, Learning From, and Privileging Qualitative Data. *The Qualitative Report*, 26(6), 2045–2060.

<https://doi.org/10.46743/2160-3715/2021.5013>

Mildenberger, M., & Tingley, D. (2019). Beliefs about Climate Beliefs: The Importance of Second-Order Opinions for Climate Politics. *British Journal of Political Science*, 49(4), 1279–1307. <https://doi.org/10.1017/S0007123417000321>

Minister of Environment and Climate Change Strategy. (2021). *Ministerial Order 309/2021*.

Ministry of Community Sport and Cultural Development. (n.d.-a). *Local Government Governance & Powers—Province of British Columbia*. Province of British Columbia. Retrieved June 8, 2022, from <https://www2.gov.bc.ca/gov/content/governments/local-governments/governance-powers>

Ministry of Community Sport and Cultural Development. (n.d.-b). *Municipal Highways—Province of British Columbia*. Province of British Columbia. Retrieved June 8, 2022, from <https://www2.gov.bc.ca/gov/content/governments/local-governments/planning-land-use/asset-acquisition-disposal/municipal-highways>

Ministry of Energy, M. and L. C. I. (n.d.). *Energy Efficiency Programs—Province of British Columbia*. Province of British Columbia. Retrieved August 30, 2023, from

<https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/energy-efficiency-conservation/programs>

Ministry of Environment and Climate Change Strategy. (n.d.-a). *Ministry of Environment and Climate Change Strategy—Province of British Columbia*. Province of British Columbia.

Retrieved June 8, 2022, from

<https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/environment-climate-change>

Ministry of Environment and Climate Change Strategy. (n.d.-b). *Recycling Regulation amendments and initiatives*. Province of British Columbia. Retrieved April 21, 2023,

from [https://www2.gov.bc.ca/gov/content/environment/waste-](https://www2.gov.bc.ca/gov/content/environment/waste-management/recycling/extended-producer-responsibility/recycling-regulation#epr-5-yr-strategy)

[management/recycling/extended-producer-responsibility/recycling-regulation#epr-5-yr-strategy](https://www2.gov.bc.ca/gov/content/environment/waste-management/recycling/extended-producer-responsibility/recycling-regulation#epr-5-yr-strategy)

Ministry of Environment and Climate Change Strategy. (2021a). *Extended Producer Responsibility Five-Year Action Plan 2021-2026*.

Ministry of Environment and Climate Change Strategy. (2021b). *Move Commute Connect—B.C.'s Active Transportation Strategy*. Province of British Columbia.

<https://www2.gov.bc.ca/gov/content/environment/climate-change/clean-transportation>

Ministry of Environment and Climate Change Strategy. (2022). *Organic Matter Recycling Regulation Project Update*. [https://www2.gov.bc.ca/assets/gov/environment/waste-](https://www2.gov.bc.ca/assets/gov/environment/waste-management/organic-waste/reports-and-papers/omrr-public-update-june-2022.pdf)

[management/organic-waste/reports-and-papers/omrr-public-update-june-2022.pdf](https://www2.gov.bc.ca/assets/gov/environment/waste-management/organic-waste/reports-and-papers/omrr-public-update-june-2022.pdf)

Ministry of Municipal Affairs. (n.d.-a). *Local government planning for sustainability and resilience—Province of British Columbia*. Province of British Columbia. Retrieved June

19, 2023, from <https://www2.gov.bc.ca/gov/content/governments/local->

governments/planning-land-use/local-government-planning/planning-for-sustainability-resilience

Ministry of Municipal Affairs. (n.d.-b). *Official community plans for local governments*.

Province of British Columbia. Retrieved June 19, 2023, from

<https://www2.gov.bc.ca/gov/content/governments/local-governments/planning-land-use/local-government-planning/official-community-plans>

Ministry of Municipal Affairs. (n.d.-c). *Regional growth strategies for local governments—*

Province of British Columbia. Province of British Columbia. Retrieved June 19, 2023,

from <https://www2.gov.bc.ca/gov/content/governments/local-governments/planning-land-use/local-government-planning/regional-growth-strategies>

Ministry of Municipal Affairs. (2021). *A Guide to Green Choices: Ideas & Practical Advice for*

Land Use Decisions in British Columbia Communities.

Ministry of Municipal Affairs. (2022). *Local government & provincial concurrent authority—*

Province of British Columbia. Province of British Columbia.

<https://www2.gov.bc.ca/gov/content/governments/local-governments/facts-framework/legislative-framework/authority>

Ministry of Transportation and Infrastructure. (n.d.-a). *B.C. Active Transportation Infrastructure*

Grants Program—Province of British Columbia. Province of British Columbia.

Retrieved May 24, 2023, from

<https://www2.gov.bc.ca/gov/content/transportation/funding-engagement-permits/funding-grants/active-transportation-infrastructure-grants>

Ministry of Transportation and Infrastructure. (n.d.-b). *Highway 17 Keating Cross Overpass*

Project—Province of British Columbia. Province of British Columbia. Retrieved March

6, 2023, from <https://www2.gov.bc.ca/gov/content/transportation-projects/other-transportation-projects/highway-17-keating-cross-overpass>

Ministry of Transportation and Infrastructure. (n.d.-c). *Investing in Canada Infrastructure Program—British Columbia—CleanBC Communities Fund—Province of British Columbia*. Province of British Columbia. Retrieved May 24, 2023, from <https://www2.gov.bc.ca/gov/content/transportation/funding-engagement-permits/funding-grants/investing-in-canada-infrastructure-program/green-infrastructure/cleanbc-communities-fund>

Natural Resources Canada. (2021, March 23). *Step 2A. Pre-retrofit EnerGuide evaluation*.

Natural Resources Canada. <https://natural-resources.canada.ca/energy-efficiency/homes/canada-greener-homes-initiative/canada-greener-homes-grant/canada-greener-homes-grant/register-and-book-your-pre-retrofit-energuide-evaluation/register-and-book-your-pre>

New bike valet program opens in downtown Victoria—Vancouver Island Free Daily. (2022, June 23). <https://www.vancouverislandfreedaily.com/community/new-bike-valet-program-opens-in-downtown-victoria/>

New Buildings in Victoria to be Zero Carbon by 2025. (n.d.). <https://www.victoria.ca>. Retrieved October 24, 2022, from <https://www.victoria.ca/EN/main/news-events/news/news-archives/2022-archive/new-buildings-in-victoria-to-be-zero-carbon-by-2025.html>

Office of Construction and Housing Standards. (2022). *Provincial policy bulletin for cleaner, more energy efficient new construction*. <https://www2.gov.bc.ca/assets/gov/farming->

natural-resources-and-industry/construction-industry/building-codes-and-standards/bulletins/ghg_best_practices_bulletin.pdf

Olsthoorn, M., Schleich, J., Gassmann, X., & Faure, C. (2017). Free riding and rebates for residential energy efficiency upgrades: A multi-country contingent valuation experiment. *Energy Economics*, 68, 33–44. <https://doi.org/10.1016/j.eneco.2018.01.007>

Oseland, S. E. (2019a). Breaking silos: Can cities break down institutional barriers in climate planning? *Journal of Environmental Policy & Planning*, 21(4), 345–357. <https://doi.org/10.1080/1523908X.2019.1623657>

Oseland, S. E. (2019b). Breaking silos: Can cities break down institutional barriers in climate planning? *Journal of Environmental Policy & Planning*, 21(4), 345–357. <https://doi.org/10.1080/1523908X.2019.1623657>

Oulahen, G., Klein, Y., Mortsch, L., O’Connell, E., & Harford, D. (2018). Barriers and Drivers of Planning for Climate Change Adaptation across Three Levels of Government in Canada. *Planning Theory & Practice*, 19(3), 405–421. <https://doi.org/10.1080/14649357.2018.1481993>

Pacheco-Vega, R. (2020). Environmental regulation, governance, and policy instruments, 20 years after the stick, carrot, and sermon typology. *Journal of Environmental Policy & Planning*, 22(5), 620–635. <https://doi.org/10.1080/1523908X.2020.1792862>

Pal, L. A., Auld, G., & Mallett, A. (2021). *Beyond policy analysis: Public issue management in turbulent times* (6th ed.). Nelson.

Pardy, A., Rhodes, E., & Jaccard, M. (2022). Characterizing air source heat pump market segments: A Canadian case study. *Frontiers in Sustainability (Lausanne)*, 3. <https://doi.org/10.3389/frsus.2022.983454>

- Pasquini, L., Cowling, R. M., & Ziervogel, G. (2013). Facing the heat: Barriers to mainstreaming climate change adaptation in local government in the Western Cape Province, South Africa. *Habitat International*, 40, 225–232.
<https://doi.org/10.1016/j.habitatint.2013.05.003>
- Pinna Consulting for CRD. (2021). *CRD Climate Action Strategy—Taking Action on the Climate Emergency*. Capital Regional District.
- Porter, J. J., Demeritt, D., & Dessai, S. (2015). The right stuff? Informing adaptation to climate change in British Local Government. *Global Environmental Change*, 35, 411–422.
<https://doi.org/10.1016/j.gloenvcha.2015.10.004>
- Recycle BC. (2023, January 9). *Flexible Plastics*. Recycle BC.
<https://recyclebc.ca/flexibleplastics/>
- Recycled content and labelling rules for plastics*. (2023, April 18).
<https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/recycled-content-labelling-rules-plastics.html>
- Reducing Canada’s landfill methane emissions: Proposed regulatory framework*. (2023, April 18). [Consultations]. <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/reducing-landfill-methane-emissions.html>
- Regional Growth Strategy*. (2013, September 4). <https://www.crd.bc.ca/project/regional-growth-strategy>
- Reisinger, A., Wratt, D., Allan, S., & Larsen, H. (2011). The Role of Local Government in Adapting to Climate Change: Lessons from New Zealand. In J. D. Ford & L. Berrang-

- Ford (Eds.), *Climate Change Adaptation in Developed Nations: From Theory to Practice* (pp. 303–319). Springer Netherlands. https://doi.org/10.1007/978-94-007-0567-8_22
- Rhodes, E., & Jaccard, M. (2013). A Tale of Two Climate Policies: Political Economy of British Columbia's Carbon Tax and Clean Electricity Standard. *Canadian Public Policy*, 39, S37–S51.
- Rhodes, E., Krawchenko, T., Pearce, K., & Shaw, K. (2021a). Scaling up local climate action: A survey of climate policy priorities in the Vancouver Island and Coastal Communities region. *Canadian Planning and Policy / Aménagement et Politique Au Canada*, 2021, 36–69. <https://doi.org/10.24908/cpp-apc.v2021i01.14469>
- Rhodes, E., Krawchenko, T., Pearce, K., & Shaw, K. (2021b). *Scaling up local climate action: A survey of climate policy priorities in the Vancouver Island and Coastal Communities region*. <https://doi.org/10.24908/cpp-apc.v2021i01.14469>
- Rio-Roberts, M. (2009). How I Learned to Conduct Focus Groups. *The Qualitative Report*, 14(3), 198–201. <https://doi.org/10.46743/2160-3715/2009.2849>
- Robinson, P. J., & Gore, C. D. (2005). Barriers to Canadian municipal response to climate change. *Canadian Journal of Urban Research*, 102–120.
- Romphf, Jake. (2023, March 31). 'Long overdue': B.C. introducing new powers to limit emissions of new buildings. *Victoria News*. <https://www.vicnews.com/news/long-overdue-victoria-councillor-applauds-new-powers-to-limit-emissions-in-new-buildings/>
- Ryan, D. (2015). From commitment to action: A literature review on climate policy implementation at city level. *Climatic Change*, 131(4), 519–529. <https://doi.org/10.1007/s10584-015-1402-6>

- Sagoe, D. (2012). Precincts and Prospects in the Use of Focus Groups in Social and Behavioural Science Research. *The Qualitative Report*, 17(29), 1–16.
- Salon, D., Murphy, S., & Sciara, G.-C. (2014). Local climate action: Motives, enabling factors and barriers. *Carbon Management*, 5(1), 67–79. <https://doi.org/10.4155/cmt.13.81>
- Sancton, A., 1948, Young, R. A., & Institute of Public Administration of Canada. (2009). *Foundations of governance: Municipal government in Canada's provinces*. University of Toronto Press. <https://go.exlibris.link/wZBB7j9p>
- Schwartz E. (2019). Autonomous Local Climate Change Policy: An Analysis of the Effect of Intergovernmental Relations Among Subnational Governments. *Review of Policy Research*, 36(1), 50–74. <https://doi.org/10.1111/ropr.12320>
- Shen, X., Qiu, Y. L., Liu, P., & Patwardhan, A. (2022). The Effect of Rebate and Loan Incentives on Residential Heat Pump Adoption: Evidence from North Carolina. *Environmental and Resource Economics*, 82(3), 741–789. <https://doi.org/10.1007/s10640-022-00691-0>
- Simpson, M., & Bagelman, J. (2018). Decolonizing Urban Political Ecologies: The Production of Nature in Settler Colonial Cities. *Annals of the American Association of Geographers*, 108(2), 558–568. <https://doi.org/10.1080/24694452.2017.1392285>
- Single-use Plastics Prohibition Regulations, SOR 2022, 138 2022 (2022). <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2022-138/index.html>
- Smeltzer, Gerald. (2022, December 15). [Personal communication].
- Songhees Nation. (n.d.). *Strategic Plan Songhees Nation*. Retrieved June 20, 2022, from <https://www.songheesnation.ca/governance/strategic-plan>

Special Council Meeting and Committee of the Whole Meeting. (2023).

[https://saanich.ca.granicus.com/GeneratedAgendaViewer.php?view_id=1&event_id=969
&_ga=2.243406917.1737790792.1687909093-896579715.1679948513](https://saanich.ca.granicus.com/GeneratedAgendaViewer.php?view_id=1&event_id=969&_ga=2.243406917.1737790792.1687909093-896579715.1679948513)

Stantec Consulting for CRD. (2021). *Capital Regional District 2020 GPC BASIC+ Community Greenhouse Gas (GHG) Emissions Inventory Report*. Capital Regional District.

Statistics Canada. (2022, February 9). *Population and dwelling counts: Canada, provinces and territories, and census subdivisions (municipalities)*.

<https://www150.statcan.gc.ca/t1/tb11/en/tv.action?pid=9810000202>

Stehle, F. (2021). Governing Climate Change: Polycentricity in Action? ed. by Andrew Jordan et al. (review). *Global Environmental Politics*, 21(1), 157–159.

Stehle, F., Hickmann, T., Lederer, M., & Höhne, C. (2020). Urban Climate Politics in Emerging Economies: A Multi-Level Governance Perspective. *Urbanisation*, 2455747120913185.

<https://doi.org/10.1177/2455747120913185>

Steinebach, Y. (2022). Instrument choice, implementation structures, and the effectiveness of environmental policies: A cross-national analysis. *Regulation & Governance*, 16(1), 225–242. <https://doi.org/10.1111/rego.12297>

Stewart, D. W., & Shamdasani, P. N. (2014). *Focus Groups: Theory and Practice*. SAGE Publications.

Sundberg, Sonya. (2019). *Provincial Update: Municipal Solid Waste Policy*. Union of BC Municipalities. <https://www.ubcm.ca/sites/default/files/2021-05/4-Sundberg-UBCM%20workshop%20-%20Lets%20not%20WASTE%20time%204%20-%20Sonya%20Sundberg%20-%20MoECCS%20-%20Clean%20Communities.pdf>

- ten Brinke, N., Kruijf, J. V., Volker, L., & Prins, N. (2022). Mainstreaming climate adaptation into urban development projects in the Netherlands: Private sector drivers and municipal policy instruments. *Climate Policy*, 22(9–10), 1155–1168.
<https://doi.org/10.1080/14693062.2022.2111293>
- Tetra Tech Canada. (2022). *Capital Regional District 2022 Solid Waste Stream Composition Study*. Capital Regional District.
- Thorne, C. r., Lawson, E. c., Ozawa, C., Hamlin, S. l., & Smith, L. a. (2018). Overcoming uncertainty and barriers to adoption of Blue-Green Infrastructure for urban flood risk management. *Journal of Flood Risk Management*, 11(S2), S960–S972.
<https://doi.org/10.1111/jfr3.12218>
- Tool Library. (n.d.). *BC Climate Action Toolkit*. Retrieved June 19, 2023, from <https://toolkit.bc.ca/tools/find-a-tool/>
- Transportation and Infrastructure. (2023, April 5). *Motor Vehicle Act changes will improve road safety* | BC Gov News. <https://news.gov.bc.ca/releases/2023MOTI0046-000449>
- Union of BC Municipalities. (n.d.). *Who We Are*. Retrieved June 9, 2022, from <https://www.ubcm.ca/about-ubcm/who-we-are>
- Vedung, E. (1998). Policy instruments: Typologies and theories. In *Carrots, sticks and sermons: Policy instruments and their evaluation* (pp. 21–58). Transaction.
- West Coast Environmental Law. (2018). *Infographic: Jurisdiction in Coastal BC*.
<https://www.wcel.org/publication/infographic-jurisdiction-coastal-bc>
- Westphal, Austin. (2023, March 30). Curb plunking is all the rage in Saanich, but what exactly is it? *Victoria News*. <https://www.vicnews.com/news/curb-plunking-is-all-the-rage-in-saanich-but-what-exactly-is-it/>

What is CRD. (2013, September 4). <https://www.crd.bc.ca/about/what-is-crd>

Who is Encorp? | Encorp Pacific (Canada). (n.d.). Retrieved April 21, 2023, from

<https://www.return-it.ca/about/>

Xiao, C., Sluijs, E. van, Ogilvie, D., Patterson, R., & Panter, J. (2022). *Shifting towards healthier transport: Carrots or sticks? Systematic review and meta-analysis of population-level interventions.* <https://doi.org/10.17863/CAM.88476>

Young, R., & Horak, M. (Eds.). (2012). *Sites of governance: Multilevel governance and policy making in Canada's big cities.* McGill-Queen's University Press.

Zeemering, E. S. (2016). What are the challenges of multilevel governance for urban sustainability? Evidence from Ottawa and Canada's national capital region. *Canadian Public Administration*, 59(2), 204–223. <https://doi.org/10.1111/capa.12167>