Renewing questions about two-tier governance:

Understanding how metropolitan governance impacts biodiversity protection in Greater Montreal and Greater Toronto

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A thesis submitted in partial fulfillment of the degree of Master of Arts in Political Science

July 2023

Table of Contents

Abstract

Recognizing that biodiversity loss and climate change are twin crises, urban regions across the world are seeking to implement biodiversity strategies through specific forms of urban governance embedded in existing institutional legacies. To understanding the effects of metropolitan institutions on the governance of urban biodiversity, I examine the institutional and regional structures of Canada’s two most populous metropolitan regions, Greater Montreal and Greater Toronto. This thesis compares the distinct policy consequences of the institutional set-up of Greater Montreal and Greater Toronto. This includes understanding how a second tier of government in Montreal (the Communauté métropolitaine de Montréal), which sets biodiversity protection and conservation targets in the Montreal region, contrasts with the Toronto region, whose larger region is more directly governed by the Province of Ontario. Drawing on both the work of Elinor Ostrom on metropolitan governance and interviews with urban actors in both urban areas under consideration, I show how fragmented institutional arrangements are dominated by provincial management (as the case is for the Toronto region), and lead to worse outcomes for biodiversity.

Résumé

Reconnaissant que la perte de biodiversité et les changements climatiques sont des crises jumelles, les régions métropolitaines du monde entier cherchent à mettre en œuvre des stratégies de biodiversité par le biais de formes spécifiques de gouvernance métropolitaine ancrées dans les héritages institutionnels existants. Pour comprendre les effets des institutions métropolitaines sur la gouvernance de la biodiversité urbaine, j'examine les structures institutionnelles et régionales des deux régions métropolitaines les plus peuplées du Canada, dont le Grand Montréal et le Grand Toronto. Ce mémoire compare les conséquences politiques distinctes de la structure institutionnelle du Grand Montréal et du Grand Toronto. Il tente d’améliorer notre compréhension de la manière dont un deuxième palier de gouvernement à Montréal (la Communauté métropolitaine de Montréal), qui fixe les objectifs de protection et de conservation de la biodiversité dans la région métropolitaine de Montréal, contraste avec la région de Toronto, dont la plus grande région est plus directement gouvernée par la Province de l'Ontario. En m'appuyant à la fois sur les travaux d'Elinor Ostrom sur la gouvernance métropolitaine et sur des entretiens avec des acteurs urbains dans les deux régions métropolitaines étudiées, je démontre comment des arrangements institutionnels fragmentés sont dominés par la gestion provinciale (comme c'est le cas pour la région de Toronto), et conduisent à des résultats moins bons pour la biodiversité.

Acknowledgements

Biodiversity loss is a preventable yet persistent phenomenon. While it may seem largely confined to charismatic geographies like the Amazon or Banff National Park, in reality we who live in cities have a significant role to play in its conservation. Cities are in some of the most biodiverse areas on the planet: rivers, deltas, coastlines, plateaus, islands. Yet urban regions continue to destroy biodiversity for suburban, single-family housing, for roads and ever-widening highways, and for monocultural lawns on which nothing grows. In developing a research project on the urban politics of biodiversity, I hope to call attention to its importance.

Guided by the practiced wisdom of my supervisor, Dr. Daniel Béland, I have been able to experiment and explore a variety of approaches and concepts, many of which exist in the version of my thesis you are reading. Daniel is everything a student could ask for: surgical, speedy revision[1]; warm, welcoming meetings to both explore and narrow down; connections to people in academia and outside of it; media coaching – you name it. I owe the success of this project to Daniel. I'd also like to thank Dr. Amy Janzwood, who arrived at McGill in fall 2022. The lack of an environmental focus in McGill Political Science (a significant missed opportunity for the department) deflated the rhythm of my masters about halfway through; Amy's arrival revived it. I owe much to our conversations, the projects Amy gave to me, and the brilliance of Amy's research for reminding me that Political Science can be a good fit for urban politics and environmental studies. I would also like to thank Stéphan Gervais, who provided me with much insight onto Montreal's municipal context and for referring me to pertinent contacts. Finally, I am grateful for being awarded the 2022-23 CGS-M award.

We don't usually associate research-oriented programs like McGill's with being professionally strategic, but I'd also like to recognize the privilege and opportunity that this program has afforded my career. I was able to do internships at both the Ville de Montréal (for which I received course credit!) and the Federation of Canadian Municipalities. These are two organizations I would have only dreamed of working for before this program. Beyond this, I was able to do research work at the McGill Institute for the Study of Canada (MISC), the Urban Politics

[1] Listen, I don't know other supervisors who get thesis drafts back to their students within 1-2 days.

and Governance (UPGo) research group, the McGill Sustainability Systems Initiative (MSSI), and the Institut de la recherche scientifique (INRS). It was also a great pleasure to TA 4 courses, including Comparative Local Government (POLI 318), Canadian Public Policy (POLI 321), Climate Crisis and Climate actions, (FSCI 198) and Contemporary Environmental Thought (ENVR 400). It was through TAing these courses that I learned that I may want to be a professor one day. Kudos to my amazing students, and sorry to my family and friends for threatening a PhD.

On that note, I of course need to thank my parents, Gillian Clarke and Mike Medicoff, who have provided guidance and support throughout my academic career; I owe everything to them. I’d like to thank my sister, who is carving her own path in the bravest way possible. My partner, Michael Webster, has been outrageously patient and supportive of my path through this program. Michael has only ever been interested in a world different from the one in which he works; he teaches me new things every day. Michael, I love you. I’d also like to thank my friends, for their support, feedback, and general patience with my blabbering: Jacquelyn McClure, Veronica Ciastko, Sage Broomfield, Kate Colenbrander, EJ Kneifel, Lexi Kinman, Daniel Thériault, Emily Michelin, Ally Hays-Alberstat, Charlotte Bélot, Brooke Steinhauer, and countless others. The past two years have been an immense privilege and an immense undertaking – I look forward to bringing my learnings with me into the next phase of my life.

Abbreviations

Title	Abbreviation
Communauté métropolitaine de Montréal (FR) / Montreal Metropolitan Community (EN)	CMM
Communauté urbaine de Montréal (FR) / Montreal Urban Community (EN)	CUM
Autorité régionale de transport métropolitain	ARTM
Institutional Analysis and Development framework	IAD
Greater Golden Horseshoe	GGH
Census Metropolitan Area	CMA
Plan métropolitain d'aménagement et de dévéloppement (FR) / Metropolitan Planning and Development Plan (EN)	PMAD
Grand parc de l'Ouest (FR) / Great Western Park (EN)	GPO
Highway 413	H413
Société de transport de Montréal (FR) / Montreal Transportation Authority (EN)	STM
Sainte-Anne-de-Bellevue	SADB

Figures

1. Introduction / Problem Statement

Recognizing that biodiversity loss and climate change are twin crises, urban regions across Canada are seeking to implement biodiversity strategies to reverse the impacts of urban sprawl, highway expansion, and degraded ecosystems (ICLEI - Local Governments for Sustainability 2010). However, as levels of government that are neither mentioned nor accorded any powers in either of Canada's *Constitution Act*'s (1867 or 1982), the powers municipalities possess are tightly circumscribed by the provinces in which they are located. Provinces set the rules of the game for municipal government, including their capacities to self-finance, the configuration of their elected councils, and — most importantly for this project — the size, scope, and autonomy of the regional projects they are enabled to undertake. A lack of constitutional autonomy exists both within individual municipal boundaries and the metropolitan regions of which they are a part, meaning that the official ability for cities to collaborate with each other on regional goals is determined by the provinces.

A lack of autonomy, changing political headwinds, and intergovernmental tensions are nothing new for municipal policymakers. Municipalities have evolved in Canada with varying autonomy and fiscal capacity since Confederation. The speed with which they are required to change in the coming years, however, is unprecedented. The Intergovernmental Panel on Climate Change (IPCC) is clear that governments have until 2030 to limit global emissions to 1.5 degree Celsius; without immediate action, ecological, economic, social, and political life will be fundamentally transformed (IPCC 2018). Swift movement, which is what the IPCC is calling for, requires getting all hands-on deck. That includes cities, where 56% of the global population lives, a number that is significantly higher in Global North (The World Bank 2023). In Canada, 73.7% of people live in cities larger than 100,000 people. For Canada to decrease its emissions, policymakers (federal and provincial) cannot ignore the role urban regions will play combatting the climate crisis. Beneficially, biodiversity protection is substantially more effective at larger scales (Bush, Coffey, and Fastenrath 2020; Miller et al. 2008; Hunter 2007). This fact, combined with the key roles metropolitan regions have towards reaching emissions targets, mean that understanding the outcomes of the institutional configurations of metropolitan governance is essential to develop best practices in the protection of urban biodiversity.

To understand the effects of metropolitan institutions on the governance of urban biodiversity, I examine the institutional structures of Canada's two most populous metropolitan regions: Greater Montreal and Greater Toronto. In addition to large populations, Greater Montreal and Greater Toronto are two of the most sprawling metropolitan regions in the country, have complex governance structures, and are located in areas high in biodiversity (a major river and a lake, respectively). These two regions therefore have the potential to provide clear insights into urban governance in Canada; the politics of each jurisdiction extend far beyond their boundaries.

Considering this, my research question is: *How does the institutional organization of metropolitan regions affect the governance of urban biodiversity*? I examine the differences between these jurisdictions and how these differences' structure approaches to biodiversity governance. Like governance more broadly, biodiversity governance is the ways in which governing institutions make and enforce rules, and deliver services and goods with respect to biodiversity (Fukayama 2013). More specifically, I am asking which type of goods are better governed at the regional, metro-level scale, and which are provided by smaller units of government. At the heart of this question are ideas regarding the efficacy of two-tier government — an upper-tier, regional level of government situated between municipalities and the province— and its impact on the governance of biodiversity protection. Because two-tier governments provide a degree of governance between individual cities in a region and provinces, they are necessarily more decentralized actors in the governance of metropolitan regions.

In all, my thesis project aims to compare and understand the distinct policy consequences of the metropolitan governance(s) of Greater Montreal and Greater Toronto. This includes understanding how the presence of a second tier of government in Montreal (the Communauté métropolitaine de Montréal), which sets biodiversity protection and conservation targets in the Montreal region, contrasts with the Toronto region, whose larger region is more directly governed by the Province of Ontario. I hypothesize that fragmented institutional arrangements will be dominated by provincial management. I illustrate this by comparing Greater Toronto to the CMM in Montréal, which acts as an interlocutor with the province as well as acts as a platform for collaboration between municipalities within its territory.

If my central hypothesis is proven, it may suggest that for regional environmental governance, particularly in urban areas, having single, unified, and less fragmented upper-tier

governance can improve environmental governance. If this is true, it could help provinces (and even second-tier governments themselves) understand which type of projects to pass to regional governments, or at least help guide the implementation of major projects in urban areas that are primed to have an impact on the environment. Conversely, if a fragmented structure of biodiversity governance is more effective at the regional level, this would suggest that biodiversity is not necessarily a good that benefits from a metropolitan scope.

2. Objectives and Contributions

Overall, this research will contribute to three areas in governance literature: (1) the literature on metropolitan governance (including the two traditions on metropolitan governance and new regionalism); (2) the literature on federalism in Canada, particularly how it relates to provinces, cities, and intergovernmental relationships; and (3) the emerging field of urban environmental governance, including biodiversity governance.

3. Literature review on metropolitan and urban environmental governance in Canada and the United States

In this section, I bring together the existing theoretical and empirical research on metropolitan and regional governance in Canada and the United States (US). My first objective is to establish a theoretical basis for my research question, which I accomplish by engaging with Elinor Ostrom's work on the structure of metropolitan governance in the United States and more recent debates on new regionalism. My second objective is to establish that a small but focused group of scholars in Canada have discussed the benefits and drawbacks of two-tier government in Canada since the restructuring of municipal governance in the 1990s. These restructurings were implemented by provincial governments across Canada as cost cutting measures amidst decreases in federal transfers to provinces. One of the principal victims, particularly in Ontario, was two-tier government, seen as inefficient wastes of resources by largely conservative provincial governments (Sancton 2000; Sancton and Young 2009). My third and final objective is to establish biodiversity as a public good that warrants a regional focus.

3a. Metropolitan governance as a theoretical practice: foundations

3a.a Elinor Ostrom and theories of metropolitan governance

The theoretical foundation of my thesis lay in the work of urban political economy theorist Elinor Ostrom. Ostrom's seminal work, *Governing the Commons*, sought to understand the conditions and institutional arrangements that enable communities to self-govern. Self-government, in Ostrom's context, is about the ability for communities to self-organize without the imposition of structures and regulations from a central authority (Ostrom 1990). This work was a reaction to neoliberal policy that favoured metropolitan centralization and amalgamation, and the subsequent reduction of governing units in metropolitan regions[2]. Though Ostrom focuses on natural resources (like forests or a waterway), *Governing the Commons* illustrated how communities can be self-governing, countering domineering neoliberal narratives that state control and centralized authority are the only way to successfully govern collective resources (ibid.) Yet, while Governing the Commons provides the spiritual template for this thesis project, it is her precursor to this work, which focuses on metropolitan governance, that forms the theoretical basis of my research.

In 1972, as postwar suburban booms faded and oil crises loomed, Ostrom outlined two distinct and emerging visions for the governance of metropolitan areas. This work, *Metropolitan Reform: Propositions Derived from Two Traditions*, is the theoretical basis of my thesis project as it – partially – helps delineate the different approaches to metropolitan[3] governance in the Toronto and Montreal regions (Ostrom 1972). Ostrom was responding to the suggestion that urban governments were "one large community tied together by economic and social relationships," yet were "artificially divided by imposed governmental units" (Ostrom 1972, 475). According to this perspective, the fundamental problem was "the existence of a large number of independent public jurisdictions within a single area" (ibid.). These complex statements exceed the scope of this thesis work, but the tension they illuminate — what size, level, and boundary of government most effectively provide services and empowers self-government — is pertinent. With *Governing the Commons*, Ostrom established that with well-defined, collectively chosen boundaries, local communities *can* self-govern natural resources. The size and institutional set-up of metropolitan

[2] As discussed later, the amalgamation of Metropolitan Toronto into the City of Toronto – fusing 5 previously independent municipalities into one 'mega city' – is a good example of this.
[3] Metropolitan and regional are used interchangeably in this thesis project.

governance, then, is an important concern when considering the governance of urban environmental issues.

In *Two Traditions*, Ostrom outlines two methods of metropolitan governance — that is, the ways in which government and service and good responsibility is implemented in metropolitan areas. The first method, called metropolitan reform, is a reaction to the postwar suburbanization that became the de-facto planning model in Canada and the United States. Metropolitan regions were plagued by too much bureaucracy and too many governing units, which created redundancy and variation in the quality of service output (Greer 1961). Metropolitan reform proponents believe a single local government is the ideal structure of metropolitan governance. This system of municipal governance calls for the complete abolition of separation of powers in local government, ensuring the redistribution of resources across a single jurisdiction (Taylor 2020; Greer 1961). For metropolitan reformers, increasing the geographical size of a (single) city government, and decreasing the number of governmental units within the region, reduces bureaucratic delay, and increases service efficiency, output, and citizen participation.

The second method outlined by Ostrom is that of political economy (sometimes referred to as public choice). In *Two Traditions*, Ostrom suggests that metropolitan governance is sometimes similar to the production of private goods. Producing private goods (ranging from laundry to car manufacturing to seedlings) involves "thousands of complex private industries" that involve hundreds of enterprises producing and distributing goods and finding the most efficient scale at which to do it (1972, 481). Since hundreds of interactions between different public agencies also occurs at the urban level, Ostrom argues that the "large number of public enterprises operating at the local level" isn't surprising and not necessarily an indication of bureaucratic bloat (1972, 481–82). In the political economy tradition, autonomous municipalities in the same region enable metropolitan residents to 'vote with their feet' by moving where they will receive services at the cost they would like to pay (Taylor 2020).

Ostrom underscores that some services operate better at regional scales than others. Like the private sector, economies of scale exist in the public sector for certain services (Christoffersen et al. 2007). The question of which services are better delivered at which scales are heterogenous and depend on characteristics like geographical reach (i.e., sprawl), population demographics, and physical geography (i.e., lakes, rivers, forests, etc.). Ostrom, for examples, highlights services

including air pollution control, public transportation, and water supply as industries that benefit from economies of scale (Ostrom 1972). Consequently, debates about the size and scale of metropolitan service delivery are still pertinent today. For example, public transportation – not covered in this thesis – is a regional issue often managed by non-regional individual agencies. In Greater Montreal, for example, public transit was previously delivered by a variety of urban and suburban transportation agencies; more recently, regional institutions like the Autorité régionale de transport métropolitaine (ARTM) have been created to ensure a regional vision and coherence. Yet, the region still possesses 4 other sub-regional transportation agencies, complicating this vision (Mercier et al. 2018).

3a.b New regionalism

More recently, scholars of urban and metropolitan governance updated Ostrom's discussion with the concept of new regionalism. Ostrom's political economy and metropolitan reform concepts were developed in a broader framework based on public choice and public competition (Wheeler 2002). By contrast, new regionalism developed in the late 1990s in response to widespread disparities between central cities and their suburbs. Wheeler (2002, 269) defines new regionalism as being "concerned with environment and equity, as well as economic development"; in addition, it is also "action-oriented and normative." Thus, new regionalism is less focused on intraregional competition (i.e., between municipalities in a broader region) and more focused on integrating regions together in a way which makes the metropolitan region more competitive. Part of this equation is efficient regional integration.

A key aim of new regionalism is to examine issues created by the fragmentation of metropolitan regions. These issues are the result of the explosive growth created by postwar suburbanization and increased urbanization and immigration, creating demand for spatial expansion. The postmodern metropolis, according to Wheeler (2002: 271), is "enormous in physical extent, increasingly polycentric, [and] fragmentated politically." The argument proposed by new regionalism, then, is that today's metropolitan regions are harder to govern coherently and require innovative solutions. While the needs of inner cities and outer suburbs may seem disparate, in reality political coalitions can help resolve issues such as "maintaining a tax base and services" (Orfield 1999). Pertinently, Wheeler's 2002 overview of new regionalism discusses the politics

and planning of the Toronto region, exemplifying its fragmented regional governance structure. Examining Greater Toronto's growth, Wheeler recounts how Greater Toronto transformed into a polycentric metropolitan region with suburbs that have expansive retail and office sectors. This happened with little regional coherence or planning (Wheeler 2002).

A central challenge of new regionalism is the political possibility of its action-oriented principles being applied, largely because provincial governments are often "unwilling to give to give up power" (Wheeler 2002). Owing to the fact that municipalities are 'creatures of the provinces' in Canada's constitutional set-up, exploiting municipal and regional weakness can be a robust strategy for provincial governments (Medicoff and Béland 2022). Yet Savitch and Vogel (2000) also demonstrate that in the absence of formal institutions for regional collaboration, political actors can be innovative. They create ad hoc working groups and sign operating agreements between municipalities, largely from outside the framework of established hierarchies (Savitch and Vogel 1996). This reality is sub-optimal yet displays the ability of constrained actors to innovate. I also find this to be true in my own interview data and elaborate in section 7.

3c. Biodiversity, public goods, and the study of environmental issues at the regional level

Building from Ostrom's concept of metropolitan governance and the collaboration-oriented aspirations of new regionalism, in this section I briefly discuss the idea that biodiversity is a public good and one that can benefit from being governed at the regional scale. I briefly summarize the literature on public goods and move on to discuss how biodiversity is a public good that can and should be considered regionally.

3c.a Biodiversity as a public good

A public good is a good that is both non-excludable (available to all) and non-rivalrous (consumption by one person doesn't restrict another's consumption) (Héritier 2001). The idea that biodiversity is a public good is not new, though it is somewhat undertheorized in the literature in urban studies, political science, and geography (Mercier et al. 2018). Economists, by contrast, have underscored the myriad public benefits of biodiversity: resilient ecosystems, higher agricultural productivity, protection against dangerous pathogens, and knowledge of the diverse workings of

the natural world (Heal 2003). Yet these attributes are what render it difficult to govern. For starters, biodiversity's non-excludability renders it largely unprofitable to provide in market economies. For governments, the free rider problem, in which some people use a resource but do not contribute to its production, also renders biodiversity challenging (Heal 2003, 554). Relatedly, Rands et al. (2010, 1301) discuss how "no single body has jurisdiction" over the biodiversity at the international level. Though discussed in the context of international agreements, the same issue is common at every jurisdictional level, particularly one that is a "jurisdictional archipelago" (Klein and Tremblay 2010, 569).

Ostrom's discussion of public goods and scale is pertinent here. Though Ostrom was firmly in the politician economy camp of metropolitan governance, she also acknowledged that some public goods benefitted from larger scales, larger governing units, and economies of scale (Ostrom 1972). Among other public goods, she exemplified services like public transit and sewage disposal as public services that are more efficiently offered at the regional scale. That's in part because these goods require integrated planning between governing units, or at the very least a platform through which they can collaborate. The question, thus, becomes (1) the scale at which an issue should be addressed and (2) the organization of the body that will be addressing it.

3c.b A regional focus on biodiversity

There is high confidence in the literature that the protection of biodiversity is better accomplished at bigger scales, including regions. For starters, biodiversity outcomes improve when the issue is tackled at broader scales (Bush, Coffey, and Fastenrath 2020; Miller et al. 2008; Hunter 2007). Administratively, biodiversity planning is already recognized as something benefitting from larger-scale institutions in the Montreal region. For example, Montreal's biggest parks are not governed by individual boroughs but instead by the Service des grands parcs, du Mont-Royal et des sports (Service for Big Parks, Mont Royal, and Sports). This reflects the integrated nature of large biodiversity planning, especially for areas that have intact forests and protected species (Cornet 2020; Thiffault et al. 2015). Contrary to popular belief, cities are also often more biodiverse than their surrounding areas. This is largely explained by 3 components of the urban-rural dynamics: (1) the hinterlands of most Canadian cities are agricultural, generally with monocultures like wheat, and are spaces of low biodiversity; (2) cities are often located in

fertile and ecologically productive areas, hence their settlement; and (3) as major ports and areas of shipping or container transport, they are vulnerable to invasive species (Gandy 2022). Overall, these dynamics mean that it is essential for us to understand how the structures of metropolitan governance impact regional biodiversity governance.

4. Framework and Hypotheses

This thesis project is broadly framed by Elinor Ostrom's Institutional Analysis and Development (IAD) framework. The IAD broadly attempts to assess how the institutional structures under which people live, as well as the people themselves, affect the management common pool resources like fish stocks or woodlands (Ostrom 1990b). Ostrom developed this framework to understand how "a group of principals who are in an interdependent situation can organize and govern themselves" to obtain "joint benefits when all face temptations to free ride, shirk, or otherwise act opportunistically" (Ostrom, 1990: 29). While Ostrom developed this framework with both individuals and the collective institutions they maintain as case studies, this project does not have the scope to fully assess how individuals (i.e., citizens, residents) play into the management of public goods such as biodiversity in urban areas.

This is, however, where the current institutional frameworks of both Greater Toronto and Greater Montreal are useful. Both regions have enough municipalities in their respective regions—Toronto with 25 and Montreal with 82—that municipalities and regions may act like individual units within a broader, regional framework. I am adapting Ostrom's IAD framework for metropolitan governance, with a central caveat: this discussion focuses on regions, not individual municipalities. That means that I have adapted metropolitan reform for Montreal, where there is a single, unified, upper-tier authority, and that I have adapted political economy for Toronto, where the region's upper-tier municipalities are fragmented and broken into smaller unit.

Ultimately, to bring the IAD framework into sharper focus with debates on metropolitan governance, I draw from Ostrom's two traditions.

4.a Political economy, metropolitan reform, and new visions

The metropolitan reform perspective relies on the concept that municipalities will be more successful under a unified municipal system (Wheeler 2002; Ostrom 1972). Ostrom summarizes

seven (see Annex A) propositions that can be observed if this tradition is to be effective (Ostrom, 1972: 479). I have only retained four for this research project. This is because three propositions (P2, P4, and P5) deal with professionalization of the municipal public sector, which is beyond the scope of this project. A related concept to professionalization elucidated by Ostrom is that of hierarchy (in my interpretation, subordination), which I have retained without discussion of professionalization, as the issue remains pertinent in the context of municipalities 'creatures' status, particularly in Ontario. I have also excised aspects of public participation and responsibility of elected officials, which are likewise outside the scope of this thesis.

Figure 1: Theoretical foundation of metropolitan reform

Governance method: metropolitan reform	**Metropolitan reform - propositions (Ostrom 1972, 479)**	**Adaptation for regional governance (by author)**	**What would be observable (by author)**
1	Increasing the size of urban governmental units will be associated with more efficient provision of services, more equal distribution of costs to beneficiaries.	A single regional governance system (in terms of territory and government size) will result in more efficient service provision, higher equality in service provision, and more coherent orientations.	Increased equality in service provision, along with more coherent operations.
2	Reducing the number of public agencies within a metropolitan area will be associated with more output per capita, more efficient provision of services, more equal distribution of costs to beneficiaries.	A regional, non-fragmented second tier of government (reducing # of public agencies) will result in better provision of services, more equal distribution of costs.	More equal distribution of costs between municipalities.
3	Increasing the reliance upon hierarchy as an organizing principle within a metropolitan area will be associated with higher output per capita, more efficient provision of services, more equal distribution of costs to	Regionally sized, unified second tiers of government reduce subordination, enable higher efficiency, and improve equality in service provision.	Increased subordination to the upper tier.

	beneficiaries, and increased responsibility of local officials.		

I hypothesize that a metropolitan approach to governance with respect to biodiversity leads to better goods deliver due to more coherent, regional orientations, a more unified regional perspective vis-à-vis the municipalities and the province, and a wider scope for the dissemination of biodiversity protection, a public good.

In the political economy perspective, Ostrom summarizes the following propositions (Ostrom, 1972: 486). I have sought to harmonize these propositions with those of the metropolitan reform perspective to provide comparability between these propositions. The core of these variables for this thesis project are whether goods provision is more unified (as in the metropolitan governance perspective), or whether they are less unified, and are more fragmented along regional lines. Inherent in this unification/non-unification debate is the degree of subordination between the province and the city; that is, the degree to which cities and their metropolitan regions can make self-contained decisions, such as on transportation or green-space planning. I retain the same exclusions as the previous section, surrounding professionalization (P2 and P4; P5 does not exist in Ostrom's summary of the political economy counter propositions), as well as public participation. These counter propositions are available in Annex B.

I hypothesize here that the less unified and more fragmented governance style espoused by the political economy tradition leads to weaker delivery of public goods. I hypothesize that the larger the number of upper-tier agencies in the context of metropolitan governance (distinct from lower scale urban governance), the weaker they are at providing regionally scoped projects. Additionally, I hypothesize that fragmentation enables higher amounts of interventionism in regional public policy.

Figure 2: Theoretical foundation of political economy

Governance method: political economy	**Political economy - propositions (Ostrom 1972, 486)**	**Adaptation for regional governance (by author)**	**What would be observable (by author)**
1	Whether increasing the size of urban governmental units	Whether a fragmented system of second-tier	Biodiversity is the type of public good

	will be associated with higher output per capita, more efficient provision of services, more equal distribution of costs to beneficiaries depends on upon the type of public good or service being considered.	governance is more effective in provision than unified upper-tier governance depends on the type of good or service being provided.	that benefits from smaller units.
2	Whether reducing the number of public agencies within a metropolitan area will be associated with more output per capita, more efficient provision of service and more equal distribution of costs to beneficiaries depends upon the type of public good or service being considered.	Depending on the type of good, a fragmented upper tier of governance will result in better provision of the public good or service being considered.	Biodiversity is the kind of good that benefits from institutional fragmentation.
3	Whether increasing the reliance upon hierarchy as an organizing principle within a metropolitan area will be associated with higher output per capita and more efficient provision of services depends upon the type of good or service.	A fragmented upper tier of metropolitan government, which decreases the strict subordination of municipalities to the province, will produce higher output per capita and more efficient provision of services, depending on the type of good or service.	Decreased subordination to the upper tier

5. Cities, upper-tiers, regions, provinces: Metropolitan governance in Canada, Toronto, and Montreal

While Ostrom never turned her attention to Canada, there are a handful of scholars that have sought to understand metropolitan governance in Canada. This includes scholars Robert Young and Andrew Sancton (2009) who have extensively engaged with the organization of metropolitan governance in Greater Toronto and Greater Montreal. In this section, I overview their

general engagement with metropolitan governance in Canada, Québec, and Ontario, focusing on the concepts of two-tier governance and their history in Toronto and Montreal.

Canadian municipalities are 'creatures of the provinces,' meaning they are legislatively subservient to the direction taken by provincial governments (Sancton 2015). The tension in this realities lies in the fact that municipal governments are generally seen as embodiments of local democratic expression, yet are often regarded by provinces as actors who mainly administer services (de Tocqueville 2010; Crawford 1954). Provincial governments have the power to – and often do – redefine the boundaries of their municipalities and regions, as well as the number of elected representatives within such boundaries, evidenced by Ontario's decision to unilaterally shrink the size of Toronto's city council (Zimonjic 2021).[4] The view that municipalities are mere service administrators was especially pertinent in the years following the expansion of the post-war Canadian economy, during which large metropolitan regions formed as a result of the explosion of suburban growth.

To manage these urban expansions, provinces created second tiers of government, which were tasked with managing growth between municipalities and on the outskirts of existing inner municipalities (Magnussen 2015). Indeed, Metro Toronto, one of the regional governments established to manage this growth, was referred to as more as "a construction agency than a regional government" (Wheeler 2002, 273). Then, during the neoliberal reform waves of the 1990s and 2000s, many provincial governments in Canada adopted the view that more units of municipal government at different scales was administratively inefficient and too costly. This prompted the consolidation of municipalities like Halifax, Winnipeg, Toronto (only Metro Toronto), and Montreal (only the Island of Montreal) to broadly restructure government in each region, and, in the case of Toronto and Winnipeg, to eliminate the second tier of government altogether. While neoliberal reformers suggest this reduced costs, it has also been suggested fusing and centralizing municipalities increased wait times for services and administrative costs (Siegel 2009).

The literature on metropolitan governance has gone through periods of interest and disinterest, spiking when regions are reorganized and quieting when the dust settles (Sancton and Young 2009; Sancton 2000; Magnussen and Sancton 1983). Yet interest remains in the ways that

[4] This decision was upheld by the Supreme Court of Canada.

Canada's municipal and regional systems are established by provinces, in connection with the idea of Canada's decentralized system being a laboratory of democracy (Kössler 2015; Taylor 2020). This literature has tended to focus on two-tier governance, the focus of this thesis.

A two-tier system is a system of metropolitan governance generally comprised of an 'upper' tier and 'lower' tier of government. In Ontario, an upper tier municipality is a municipality of "two or more lower-tier municipalities" (Government of Ontario 2001). Québec, by contrast, has no formal upper tier municipalities, but does have regional municipalities, which are effectively the same thing. The Ville de Montréal also has a special legal status as the *Métropole du Québec* (Québec's metropolis) (Gouvernement du Québec 2003). In two-tier systems, the upper tier generally governs the larger region, setting strategic direction and regional laws (Lemieux 2023, author's translation). For example, Montreal's upper tier, the Communauté métropolitaine de Montréal (CMM), handles "equipment, infrastructures, services and activities of metropolitan scope," including regional highways (Gouvernement du Québec 2000). Part of the intrigue of two-tier systems in Canada is that the larger "tier" of government effectively acts as a buffer between the province and the cities. While the province remains the sovereign over municipal affairs, in systems with two-tier government there exists another level that governs regional affairs.

Lower tiers are comprised of multiple separate municipalities that manage local issues and are generally elected. Yet, lower tiers possess the same diversity as upper tiers. In Ontario, a lower municipality is simply one that forms part of an upper tier municipality (Government of Ontario 2001). In the case that a lower-tier municipality's law conflicts with that of its upper tier, the law of the upper tier prevails (Ibid.) By contrast, in Québec, the Ville de Montréal sets the general strategic direction of its upper-tier municipality, officially influencing the direction it takes while lobbying other actors within the region (Lemieux 2023).

Canada's two largest city-regions, Toronto and Montreal, follow markedly different forms of metropolitan governance. Here, I provide an overview of these systems within the relevant literature.

5a. Greater Toronto

Figure 3: Map of Greater Toronto, including the upper-tier regions (InSauga 2019).

Despite its regional population of 5.9 million people, Toronto has no unified upper tier of government and broadly follows Ostrom's political economy tradition. This means Greater Toronto is made up of several disparate upper-tier municipalities and/or regions. Historically, what is now the City of Toronto was a classic two-tier system called the Municipality of Metropolitan Toronto, created in 1953. It was considered a "model of governmental arrangements for city regions" in part due to its use of the regions' "lucrative tax base" and ability to funnel growth to different areas of its territory (Sancton 2000). Composed initially of Etobicoke, Old Toronto, York, North York, East York, and Scarborough, Metro Toronto was governed with a mix elected officials from lower-tier municipalities and specifically elected members to the regional government. However, in the 1990s, amidst Premier Mike Harris' 'Common Sense Revolution,' the Province of Ontario committed to getting rid of two-tier government (Sancton 2000). Harris argued that "service delivery and accountability would be improved if municipalities were consolidated into

larger units" (Siegel 2009, 28). The province eliminated Metro Toronto and fused previously distinct municipalities into one (at the time) megacity, now known as the City of Toronto.

Importantly, Greater Toronto has never had a truly regional two-tier system. By this, I mean that the boundaries of Metro Toronto only encompassed a fraction of what constitutes today's Toronto region, better known as the Greater Golden Horseshoe (GGH). More specifically, as Taylor (2020, 6) establishes, the GGH has no "overarching governing institutions or authority." This is, in part, because of the Government of Ontario's desire to assume "the role of regional government" (Taylor 2020). While the GGH encompasses seven upper-tier regions (Durham, Halton, Hamilton, Niagara, Peel, Toronto, and York), due to space limitations and I focus on five (Durham, Halton, Peel, Toronto, and York), as these regions are a pertinent scale to study biodiversity conservation with relevant, current case studies. In all, these five regions contain 25 urban and rural municipalities (see Figure 1). Siegel (2009, 29) notes that there is weak "integration in the broader region," in part a result of the lack of a cohesive planning structure between them.

Since the amalgamations, the Province of Ontario has introduced two regional growth plans: the Growth Plan for the Greater Golden Horseshoe, in 2006, and A Place to Grow: Growth Plan for the Greater Golden Horseshoe, in 2020 (Government of Ontario 2020; 2006). Both plans have set targets around housing supply, transportation, and other pertinent issues. These plans supersede the authority of the upper tiers across the GGH, reinforcing the fact that the Province of Ontario is the GGH's regional government. Yet despite the hierarchical (rather than collaborative) nature of this set-up, "implementation [of the 2006 plan] has been slow and uneven" (Taylor 2020, 37). This is because, as per Taylor (2020), though the Province sets these targets, the targets, they must still be legislated through upper tiers, lower tiers, and then through labyrinthine zoning processes, which can also be complicated by the Ontario Land Tribunal. In effect, disconnect "across scales of infrastructure and service delivery" as well as "politicization of infrastructure investment decisions" hinders the process of a true regional vision (Taylor 2020, 38)

5.b Greater Montreal

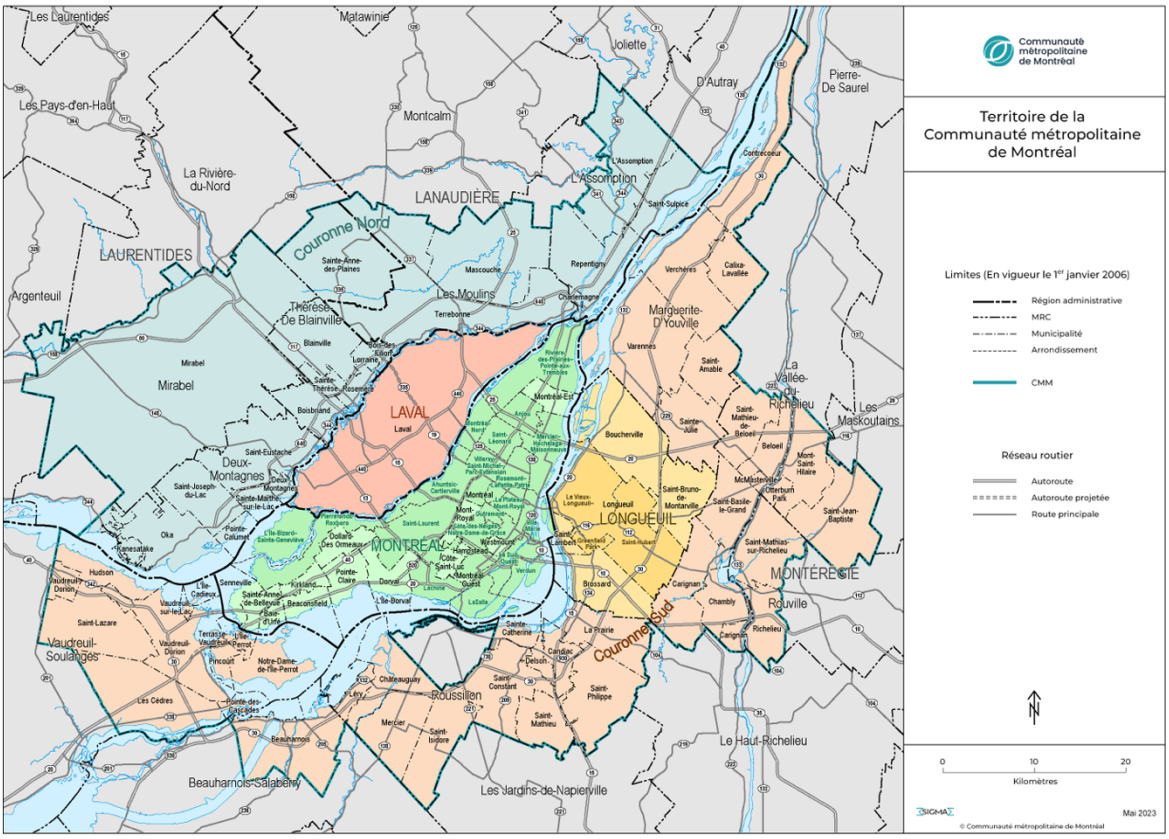

Figure 4: Map of the Greater Montreal; the Agglomeration of Montreal is green (CMM 2017).

Montreal follows Ostrom's metropolitan reform tradition, wherein a unified regional institution governs the entire Census Metropolitan Area (CMA). However, like Toronto, Montreal used to have a more fragmented metropolitan system with little formal connections between the Island of Montreal and the northern and southern suburbs. This former institution, borne out of budgetary crisis – rather than to rubber stamp new development, as was the (partial) case for Metro Toronto – was called the Communauté urbaine de Montréal (CUM) (Boudreau et al. 2006). It encompassed the entirety of the Island of Montreal, which included 28 municipalities, and was chaired by the Ville de Montréal. The goal of the CUM was to create a metropolitan fiscal system as well as to provide a mechanism for effective coordination between growing municipalities (Boudreau et al. 2006; Collin 2001). The CUM was, however, not a consistent success story, as political and economic crises roiled both Québec and the Montreal region during the referendum-

era years of the 1980s and 1990s. As proposed by Simard (1998), there are 3 periods in the CUM's history: (1) 1970-82: Montreal-led domination due to Montreal's majority of votes, (2) 1982-90: a period of peace due to the double-majority of suburban elected officials, between and (3) 1990-2000: instabilities due to debates on suburban contributions to metropolitan governance. Conflict between municipalities of the CUM has been a consistent hallmark of its existence.

Yet the CUM's territorial presence hasn't been continuous. In the same neoliberal period when Metro Toronto was amalgamated, the Government of Québec initiated the amalgamations of the CUM. In December 2001, the entirety of the CUM and the entirety of Longueil were amalgamated into "mega-cities," similar to the Toronto megacity (Boudreau et al. 2006). The main goal was to "create large and healthy urban centers" and to "promote fiscal equity within the metropolitan regions" (Boudreau 2003, 189). In contrast to Toronto, the goal was to merge all municipalities on the island and create more coherent tax systems and financing mechanisms, responding to a period of prolonged decline from the Ville de Montréal. In effect, the 'One Island, One City' ('*Une île, une ville*') was meant largely as a fiscal redistribution measure from suburbs to central city, championed by former mayor of Montreal Pierre Bourque. This was a central reason in the Government of Québec's decision to amalgamate the Island: the Ville de Montréal accumulated debt and inefficiency due to changing labour geographies, while suburbs kept most profits due to smaller geographical reach and property taxes from expensive properties (Boudreau 2003). The amalgamations were met with vociferous resistance, though again the reasons why differed from those of Toronto. Principally, resistance came from anglophone suburbs on the West Island of Montreal. In the wake of the Quiet Revolution, local participation and democracy become a significant institution to express linguistic and cultural practices for Québec's anglophone minority (Boudreau et al. 2006; Boudreau 2003; Radice 2000). With amalgamation into one Ville de Montréal, local municipalities would lose their bilingual status due to a stipulation in the Québec Charter of the French Language that a municipality must have a population of over 50% English-speakers as a first language for bilingual status (Gouvernement du Québec 1977). In the amalgamated Ville de Montréal, anglophone municipalities lost their bilingual status and, consequently, their vehicle for local expression. Despite the Government of Québec's constitutional authority on this matter, provincial ministers were still reticent about amalgamating the municipalities on the Island of Montreal together. When Bourque suggested amalgamation, the province was "hesitant, as resistance to mergers was very emotional" (Boudreau 2003, 189).

Despite similar timing and scales, the 2001 amalgamations are largely where similarities end with Montreal and Toronto. If the dissolution of Metro Toronto was an opportunity for the Province of Ontario to assert more control over both Toronto and the region, the Government of Québec saw it as an opportunity (reticently) to knit a growing region together. And while the Government of Québec amalgamated the Island of Montreal, it also created a *new* upper tier of government covering the entire Census Metropolitan Area (CMA) of Greater Montreal. This upper-tier government, which has since gone through many changes, is called the Communauté métropolitaine de Montréal (*Montreal Metropolitan Community*); in this thesis, it is referred to in its French acronym, the CMM. The CMM's responsibilities are broad and intrinsically regional in scope: regional planning, environment, economic development, housing, transportation, and more (Communauté métropolitaine de Montréal n.d.). The CMM is largely designed as a collective planning and coordinating body, and less so to meet daily needs like garbage pickup or property value assessment (Taylor 2020; Meloche and Vaillancourt 2013).

It has been argued that metropolitan governance institutions are necessary because Montreal, like many other jurisdictions in North America (including Toronto), is an "administrative archipelago" (Klein and Tremblay 2010, 569). Since the amalgamation of the Island of Montreal in 2001, the Island in 2006 went through a de-merging process after significant and sustained complaints from many municipalities, contributing to this archipelagic-like structure.[5] 15 municipalities regained their status as independent municipalities; together with the Ville de Montréal, which itself contains 19 boroughs with their own elected mayors and councils, there is 16 municipalities on the Island of Montreal. With the borough system, there is 34 elected councils that govern a variety of matters related to daily life on the island. Above these municipalities is the Agglomération de Montréal, which integrates Island-level issues including property assessment, social housing, major parks, public safety (police and fire), public transit (bus and metro), major streets (arterials), water, and sewage (Meloche and Vaillancourt 2013). The

[5] The 2006 demergers further demonstrate the enmeshing of language, politics, and municipal-provincial governance in Québec. While the mergers were done by a Parti québécois (PQ) government – pro-independence - the demerger referendums were implemented by the Parti libéral du Québec (PLQ), which is pro-federalism. The West Island of Montréal, where most anglophones in the province live, largely de-merged from the Ville de Montréal in the referendums held by the PLQ.

Agglomération is not a true upper tier, however, as administratively it is housed within and managed by the Ville de Montréal. Above the Agglomération is the CMM, which regroups the entirety of the 82 municipalities in the CMA.

Complexity abounds in the archipelago, creating opportunity and challenges for the success of the CMM that the literature has documented. For example, though the CMM is a metropolitan institution, it has been suggested that due to its budgetary structure as well as the representation provided by the CMM's administrative structure, the Ville de Montréal is a central actor in region. For starters, the mayor of Montreal serves as the de facto president of the CMM; the Ville de Montréal holds 13 other seats on the CMM's 28 person steering committee, in effect half of the represented members (Communauté métropolitaine de Montréal 2023b)[6]. Furthermore, approximately ¾ of the CMM's budget comes from the Ville de Montréal, giving it both the representation and fiscal capacity to direct the organization; the other quarter of financing comes from the province (Taylor 2020). This creates tension between the Ville de Montréal and both anglophone and francophone municipalities, who often regard the orientations of the Ville de Montréal not feasible in their municipalities (Trent 2023; Shearmur et al. 2022; Boudreau et al. 2006). Yet the CMM also enables the municipalities to strategically collaborate and exchange on issues of regional scope – and ones that may otherwise fall under provincial jurisdiction. Take, for example, the forthcoming update of the 2011 *Plan métropolitain d'aménagement et de dévéloppement* (PMAD) (Metropolitan Planning and Development Plan). This plan is identical in scope and size to the Government of Ontario's Growth Plan for the Greater Golden Horseshoe (2006) and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020); the plans were even adopted in similar time frames (2006/2011, 2020/2023). The differences between these regional orientations are thus important to analyze and assess.

[6] The complete *Conseil d'administration* is as follows: the mayor of Montreal plus 13 representatives; the mayor of Laval plus 2 representatives; the mayor of Longeuil plus 2 representatives; 4 mayors from the *Couronne nord* (Ville de Mirabel, MRC de Deux-Montagne, MRC de Thèrese-De Blainville, MRC Les Moulins, MRC de L'Assomption); and 4 mayors from the *Couronne sud* (MRC de Roussillon, MRC de Marguerite-D'Youville, MRC de La Vallée-du-Richelieu, MRC de Rouville, MRC de Beauharnois-Salaberry, MRC de Vaudreil-Soulanges). A MRC is a *Municipalité regionale du compté*, in English a County Regional Municipality (Communauté métropolitaine de Montréal 2023b).

6. Case Studies and Methods

6.a Case study selection

To examine the impacts of regional governance on the provision of public goods (biodiversity), I have chosen two major regional projects in the Toronto and Montreal regions. The projects are:

1. Highway 413 in the Toronto region (see Figure 3)
2. The Grand parc de l'Ouest (*Great Western Park*) in the Montreal region (see Figure 4)

I selected these projects using two central criteria. First, the selected projects required a size and scope that involved more than one municipality in their respective regions. To elaborate, the project must be within the boundary of the metropolitan region, but also transboundary in nature. This is because often, but not as a rule, intermunicipal projects in Canada generally require the revision or involvement of a higher political authority for planning and review, whether it be the province, an upper-tier municipality, or both (Taylor 2020; Sancton 2015). An interesting outlier for these kind of projects or agreements is municipal-Indigenous agreements, which involve constitutional and jurisdictional complexity with multiple actors including First Nations, municipalities, provinces, and the federal government (Nelles and Alacantra 2011). Nevertheless, projects with a regional scope tend to implicate regional authorities, which guided the selection of my case studies.

Second, the projects required a significant (positive or negative) effect on the biodiversity of the metropolitan regions, whether by design or as an externality. Large-scale metropolitan projects to protect biodiversity are becoming more common but are generally rare in Canada. Biodiversity protection projects tend to be focused at the municipal, not regional, level, and largely limited to individual parks (ICLEI - Local Governments for Sustainability 2010). For this reason, the two projects I have chosen are currently being designed and are going through regulatory review but are not yet complete. However, the processes behind their development, including the politics and institutional complexities that shaped their design, fit the needs of my hypothesis.

One potential concern about the selection of the two case studies under consideration is that they are not necessarily comparable in terms of desired outcomes. For instance, the creation

of a highway, meant largely to shuttle road users and goods from one place to another, has a strikingly different end goal than the creation of a park, which is explicitly meant to conserve land that may otherwise be developed. To address this potential concern, I draw on two existing contributions, one theoretical and one practical.

First is Gerring's (2004) discussion of the use of disparate case studies to identify causal mechanisms and not just causal effects. Gerring discusses the trade-offs between comparability and representativeness in case study analysis, noting case studies can "fall short in their representativeness – the degree to which causal relationships evidenced by that single unit may be assumed true" for other units (2004, 348). This is true. Gerring notes, however, that case studies help reveal the causal mechanisms of causal effects by examining "the motivations of the actors involved" (2004, 348–49). In this, I am using my two case studies to help unveil the causal mechanisms in the relationship between metropolitan institutions and the governance of urban biodiversity. These case studies, therefore, are not necessarily about the *desired* outcomes of each project, but instead about what their creation says about the metropolitan governance of biodiversity and understanding the causal mechanisms in the governance of the issue.

Second, I draw from Kate Neville's work on biofuel resistance across case studies in contexts and settings that may be challenging to compare. An explicit comparison between projects was difficult because they "rarely continued smoothly or stopped entirely," shifting as a result of changes in political, financial, and social events (Neville 2021, 4). She additionally notes that different sets of historical change in different periods challenged rendered explicit comparison difficult. As a result, Neville shifted her focus from "outcomes to processes" and began looking for "explanations for the dynamics" (Neville 2021, 4). Thus, a methodological approach using disparate case studies has both a precedent and is a valid approach to examining variation in causal mechanisms. Despite divergences in end-uses between my cases studies, they reveal insightful things about the mechanisms of fragmented and unified metropolitan institutions and the governance of biodiversity.

6.b Case studies

6.b.1 Greater Toronto: Highway 413

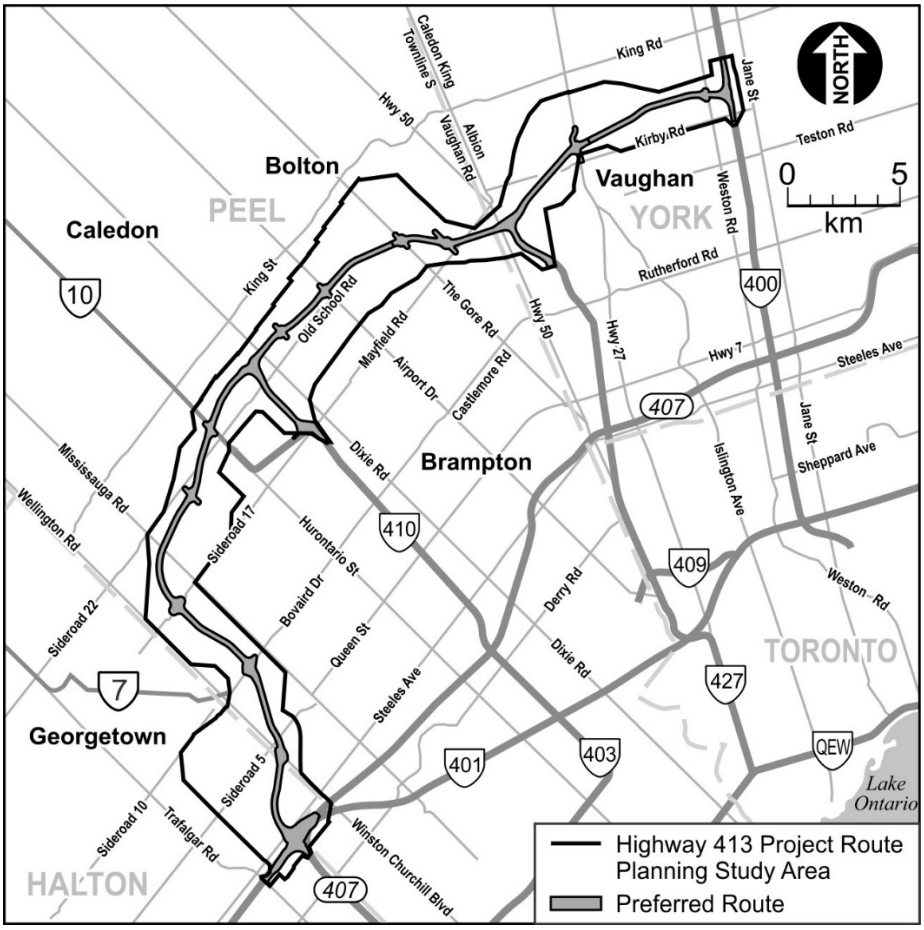

Figure 5: Proposed map of Highway 413, including municipalities and upper-tier regions (Government of Ontario 2021).

For Greater Toronto, I selected the Province of Ontario's regional highway project, Highway 413. Highway 413, when built, will run through three out of the five upper-tier municipalities in the Toronto region (see Figure 2) From west to east, the project connects Halton Region, runs through Peel region, and ends in York Region. It will be 52 kilometers long with 11 interchanges at municipal roads, with a transit corridor running parallel to the highway (Government of Ontario 2021). Within the 3 regions, it will cross through four municipalities, from west to east: Vaughan, Caledon, Brampton, and Halton Hills.

Highway 413 has been fiercely contested since its inception. Initially proposed by the Ontario Liberals in 2008, the former government shelved the project in 2018, before it was replaced by the current Progressive Conservative government led by Doug Ford. In 2017, an expert

panel was convened by the Liberals to assess the viability of the project, as well as to consider other options. The panel categorically recommended the project be reconsidered and for the government to invest in other forms of transit, such as light rail (The Editorial Board 2021; Ministry of Transportation 2017). It was this report, and significant lobbying by municipal officials, that eventually influenced the then-Liberal government to cancel the highway. Municipal actors were worried, among other things, that it would bisect their municipal territory and was unnecessary, especially if Highway 401[7] were to be widened (Bonnette 2023). However, not all municipalities were against the construction of the new highway, for example the City of Brampton. This potentially demonstrates that the former Liberal government was more open to municipal lobbying than the current Progressive Conservative government. Indeed, this is a phenomenon that is well-observed in Ontario, as it was a Progressive Conservative government that also forced amalgamations of Metropolitan Toronto in 1995 (see section 5a).

Beyond reinforcing car-dependent infrastructure, Highway 413 would significantly disrupt a variety of ecosystems in the Toronto region. This includes farmland, waterways, wetlands, and a protected greenbelt (Emma McIntosh 2023; Government of Canada, n.d.). H413 has been extensively discussed in the context of protecting biodiversity, as it will fragment and pave over habitats with great biodiversity as well as endangered species of animals. This has long been known by both provincial and municipal actors. In fact, the project has been on pause since late 2021 due to a federal investigation into federally protected endangered species along its route (Bonnette 2023; Callan and D'Mello 2023). Thus, it fits within my core criteria of needing to be regional in scope and having an impact on biodiversity. In the case of 413, the impacts of biodiversity will be an externality – i.e., not a direct aim of the project – but as I note, the criteria were such that the impact could be intentional or not.

The governance of Highway 413 follows the same structure as other regional transportation projects in Greater Toronto: The Province of Ontario acts, effectively, as the judge, jury, and executioner of the project. As aforementioned, the Province views itself as the regional government of the Toronto region, meaning that the Ministry of Transportation has been tasked with environmental assessment, planning, construction, and general management of the project

[7] Highway 401 is North America's busiest highway and runs 828 kilometers from Windsor to the Ontario-Québec border. It bisects the Toronto region.

(Anonymous 2023a; Taylor 2020). Though upper-tier municipalities have control over intermunicipal roads within their boundaries, the interregional character of Highway 413 means that the province is the proponent of the project. York, Halton, and Peel region have all submitted official, and differing perspectives Highway 413, but the decision-making on the planned route is wholly the jurisdiction, in both legislative set-up and constitutional authority, of the province.

The planning of Highway 413 follows the institutional set-up of the political economy theory. It has a variety of municipal, upper-tier, and regional authorities (see Figure 3) involved in the design and deployment of the project. It is therefore an ideal testing ground for my first hypothesis, which is that more fragmented forms of regional governance weaken municipality's ability to strategically plan, as well as provide a layer of 'deference' to the municipalities that provinces are less willing to be deferential toward.

6.b.2 Greater Montreal: The Grand parc de l'Ouest (Great Western Park)

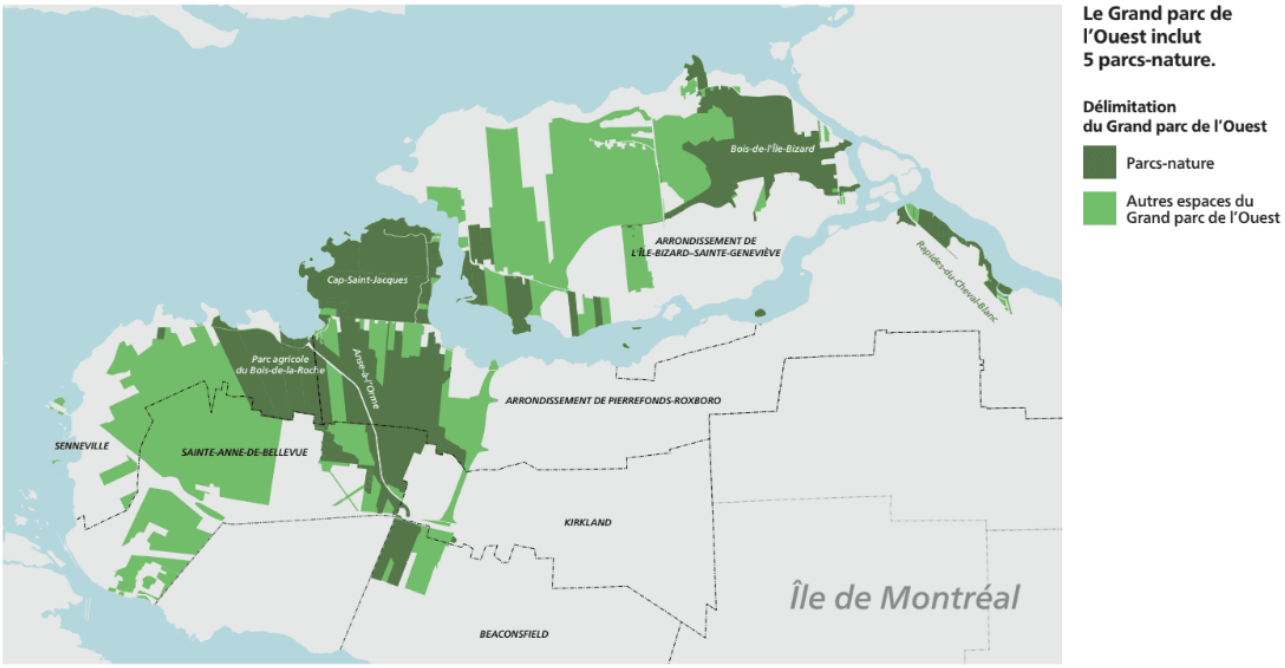

Figure 6: Proposed map of the Grand parc de l'Ouest (Ville de Montréal and L'Atelier urbain 2020)

For Greater Montreal, I have chosen the Grand parc de l'Ouest (GPO) project (known in English as the *Great Western Park*, referred here as its French name). The project is the formalization of a network of parks on the West Island (Ouest-de-l'Île) of Montreal and Bizard Island (l'Île-Bizard). The project is within the boundaries of the Agglomération de Montréal, meaning all municipalities are part of the Island of Montréal. However, not all municipalities are part of the *Ville* de Montréal, a key distinction.

The GPO involves multiple actors working across formal boundaries. First is the Ville de Montréal. Second are the boroughs of the Ville de Montréal that the GPO passes through. The boroughs include: Île-Bizard-Sainte-Geneviève to the west and Pierrefonds-Roxboro to the east. Next are five non-amalgamated members of the municipalities: the City of Sainte-Anne-de-Bellevue to the southwest, the City of Beaconsfield to the south, and the Town of Senneville to the northwest, the Town of Kirkland to the east (see Figure 4). Next is the Agglomération de Montréal, a council made up of 16 elected officials from the Ville de Montréal and 14 from non-amalgamated municipalities on the Island of Montréal (see Figure 2). The Agglomération manages spending related to common services on the Island, including social housing, emergency services, and the Société de transport de Montréal (STM).[8] However, it is administrated by the Ville de Montréal and does not set strategic goals; it fulfills are different role than the CMM. Following the Agglomération, the Communauté métropolitaine de Montréal (CMM) provides a wide variety of upper-tier services, including a regional planning strategy, social housing, highway, and transportation planning, and more. In the context of this project, the GPO fits within the conservation targets the CMM has set for itself, currently 30% of Greater Montreal by 2030.

The GPO project is explicitly designed to protect the remaining biodiversity on the island of Montreal. It also hinges on the collaboration and involvement of multiple jurisdictions *beyond*

[8] A valid question is why I did not choose to compare highway projects or large-scale parks in both regions. The example is straightforward: there are a lack of comparative projects between regions. The Greenbelt in Ontario could have been an interesting case, but its boundaries stretch far beyond the Greater Golden Horseshoe (in fact, it extends all the way to the westernmost point of the Western Ontario region). Rouge National Urban Park could have been interesting, but it is a federal park. Likewise in the Montreal region, no new highways at the scale of Highway 413 have been planned and in any case, regional highways are under the jurisdiction of the CMM. Thus, the projects were selected based off their fulfilment of broader criteria that would enable a comparative study, rather than an exact match based on the genre of project. In any case, biodiversity will be impacted in significant ways in both projects.

the Ville de Montréal, all of which exist within the CMM's borders, and under the CMM's responsibilities. Thus, while many actors exist within the region, at the upper tier there is only one actor: the CMM. It is for this reason that Montreal best exemplifies the metropolitan reform tradition at the regional level, and I will use it to examine my hypotheses when it comes to regional fragmentation v. unification.

6.c Methods

I follow in the tradition of Matthew Gandy, an urban geographer who writes of growing acknowledgement that "biodiversity is a culturally and historically specific phenomenon"; by extension, biodiversity and its governance are politically specific as well (Gandy 2022, 205). Bringing together methods from urban geography and political science, I employ a qualitative case study approach. I do so for two reasons.

First, it is not generally within the purview of political science to collect and assess scientific data on bioecological behavior, nor is it possible within the scope of this master's research project. Thus, my case studies assess the structure of governance within which biodiversity-affecting projects have been undertaken, not their actual effect on biodiversity. Furthermore, since the projects have not yet been built, I cannot assess their actual impact on biodiversity in the regions.

Second, because this project focuses on only two respective case studies in two respective jurisdictions, quantitative analysis was not suitable. Therefore, to find patterns across multiple jurisdictions in multiple governing institutions, from city to province, it was essential to directly interview participants involved in projects. In doing so, I sought to understand how their experiences differed and, ultimately, how they interacted with my theoretical frame around fragmented and unified upper-tier contexts.

In terms of document analysis for the case studies, I largely relied on 2 layers of documents. First, I assessed the regional plans for Greater Toronto and Greater Montreal. As noted, two different actors draft these plans. In Greater Toronto, this is *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* (2020), drafted by the Government of Ontario. In Montreal, this is the *Plan métropolitain d'aménagement et de développement (PMAD)* (2011), drafted by the Communauté métropolitaine de Montréal. Second, I used the primary documents and websites for

each case study to guide my understanding of the project. For Toronto, I primarily used the province's website, Highway 413: Planning with Vision, Planning for People (Government of Ontario 2021), which includes sections on environment, consultation, and time savings. For Montreal, I principally used the public consultation report *Consultation: Rêvons notre grand parc de l'Ouest* (Ville de Montréal and L'Atelier urbain 2020) as well as the city's website for the project on the website *Réalisons Montréal*. However, the reality is that in Canada's federal system, intergovernmental relations are highly informal. As elaborated by many scholars of intergovernmental relations in Canada, the process of negotiation and formalization of projects is often opaque (Taylor 2020; Simeon and Cameron 2002). Thus, the document analysis in my thesis project is largely for context. The actual findings emanated from the semi-structured interview conducted over the course of the research period.

For my semi-structured interviews, I targeted interview participants in the levels of government mentioned in my case studies section. These include:

Figure 7: Interviews participant location

Greater Toronto	**# of interviews**	**Greater Montreal**	**# of interviews**
Town: Acton	1[9]	**Town:** Senneville	1
City: Brampton	2	**Town:** Sainte-Anne-de-Bellevue	1
City: Halton Hills	1	**City**: Ville de Montréal	1
City: Milton	1	**Region:** Communauté métropolitaine de Montréal (CMM)	1
Region: Halton	2	**Total interviews**	**4**
Region: Durham	1[10]		
Total interviews	**6**		

In both case studies, the proposed projects traverse multiple jurisdictions at multiple scales. It was thus instructive to interview people who are involved in and/or work at the jurisdictions these projects cross.

[9] Also an interviewee for Halton Region; not double counted.
[10] Also an interviewee for Halton Region; not double counted.

6.c.1 Greater Toronto participants

For Highway 413 and Greater Toronto, the levels of government that currently exist are single-tier municipalities, upper-tier municipalities, and the Province of Ontario. For the municipalities, there is currently a range of opinions on Highway 413; to encompass the variety of perspectives that exist on the project, I interviewed participants from Brampton (which is for H413) and Halton Hills (which is against H413)[11]. I was unable to reach interviewees from two of three regions that H413 crosses (York and Peel). However, I interviewed participants from Halton Region, where it does cross, and from Durham Region. It does not cross through Durham, but the participant provided important information in the way these projects are planned. Furthermore, I interviewed participants from Brampton, a municipality in Peel Region, and was able to gain insight from the region from that. I was unable to obtain interviews from the Province of Ontario. The people I interviewed were both public servants (transportation planners and engineers) as well as elected officials (for both the single-tier and upper-tier municipalities), providing insight into the design and politics of decision making for H413.

6.c.2 Greater Montreal participants

As for the Greater Montreal case, I interviewed slightly fewer actors than for the Ontario case; this is in part because of the more centralized nature of governance on the Island of Montreal and in the CMM. My rationale was to interview participants at all scales, including the borough, city, region, and provincial level. I was unable to interview borough representatives (from either Pierrefonds-Roxboro or l'Île-Bizard-Sainte-Genvième); in each case, I was informed that it was not the boroughs that were in charge or consulted for planning the project. Thus, I interviewed participants from the Ville de Montréal to understand how the city and the agglomeration designed the project, as well as from the Communauté métropolitaine de Montréal. I also interviewed participants from West Island municipalities whose territory the GPO crosses; this included Senneville and Sainte-Anne-de-Bellevue. Because of my inability to reach actors from the Province of Ontario, I did not contact participants from the Province of Québec. The actors I

[11] I do not include the City of Toronto simply because Highway 413 does not run through it.

interviewed ranged from urban planners and directors to political representatives in some municipalities.

6.c.3 Questions asked

I used general, pre-written interview questions to understand different components of the way projects came together in each region. The questions were mirrored with each other to maximize comparability in results. My interviews were semi-structured, and therefore occasionally went off-course from questions when the conversation was illuminating. I asked the following questions from my interview guide (in English and French):

- Can you provide me with an overview of your role at [LEVEL OF GOVERNMENT INVOLVED IN PROJECT]?
- Can you provide me with your involvement in [PROJECT]?
- Can you provide me with [GOVERNMENT LEVEL]'s role in [PROJECT]?
- In what ways did the government level at which you work shape the creation of [PROJECT]?
- What were some of the positives of the government's role in the creation of [PROJECT]?
- What were some of the negatives of the government's role in the creation of [PROJECT]?
- What could have been amended in the process?
- What is your perspective on the impact two-tier government may have had in the creation of this project?
- What is your perspective on the region system as it currently stands in [NAME OF] region?
- How did the Government of [PROVINCE] involvement in this project shape the way it was and has been executed?

I recorded my interviews using Otter.ai, to which only I have access. Following this, I used Otter.ai to transcribe my interviews.

7. Results

7.a Breakdown

The following sections assessing my interview data goes case-by-case. First, I assess Highway 413, dividing my interview data into three categories: a) single-tier municipality, b) upper-tier municipality, and c) province. In each section, after interview analysis, I examine if my hypotheses were correct. The data may not necessarily be from interviews with each actor, however: not all

made themselves available for interview. Following two sections involving this (one for Greater Toronto, one for Greater Montreal), I do a comparative analysis of the results.

I class my findings by discussing the hypothesis on political economy v. metropolitan reform as outlined in section 4. To resume, if political economy – a more fragmented provisional system – is better for the delivery of biodiversity protection, we will see that:

- Biodiversity is the type of public good that benefits from smaller units
- Biodiversity is the kind of good that benefits from institutional fragmentation
- Decreased subordination to the upper tier

Conversely, if metropolitan reform – a more unified provisional system – is better for the delivery of biodiversity protection, we will see:

- Increasing equality in service provision, along with more coherent operations
- More equal distribution of costs
- Increased subordination to the upper tier

Following this hypothesis, I now assess my interview findings from both regions according to their case studies.

7.b Greater Toronto, Highway 413, and political economy

7.b.1 Municipalities (single tier)

Publicly, several municipalities are for *and* against Highway 413 (H413). Several municipalities, however, expressed both frustration and resignation towards the way in which the H413 was planned. One interviewee, a Transportation Policy Planner at the City of Brampton, which is for H413, noted that staff at their municipality "expressed concerned that [the province] hasn't integrated issues like species, rivers, [and] water courses," and this to "the extent there was a request made of feds to undertake a federal environmental assessment" (Anonymous 2023a). The interviewee explained an example connected to Highway 413. Initially, the City of Brampton was intent on developing a piece of undeveloped land near H413, but in a way that promoted intensification and preservation of some greenspace (biodiversity was not stated as a key concern but can be extrapolated as related to the non-development of the undeveloped land). Brampton

presented the idea of connecting this development with an urban boulevard instead of H413, which would have included bike lanes, trees, and other ecologically friendly road infrastructure. In response, the Province of Ontario "did not concur with the city," and is actively "planning for it to be a freeway," i.e. H413 (Anonymous 2023a). Yet this interviewee was also highly deferential to the hierarchy of power in the region. Discussing the urban boulevard, they noted that they fully "understand that it's a provincial" decision and that "the province will do what it wants," even despite the upper-tier region (Peel) being opposed to the project (Anonymous 2023a). When asked whether the Province's role was good for municipalities, the interviewee responded: "debatable […] not enough attention is being paid to the bigger picture" (Anonymous 2023a). The interviewee suggested the Province may be "out of step" with what municipalities want (Anonymous 2023a).

Another interviewee, a municipal (single-tier) and regional (upper-tier) councillor for Acton, in Halton Region, Clark Somerville, was not opposed to Highway 413 and was highly deferential to the province. Despite this deference, Mr. Somerville also proposed that environmental conservation is "best done at a watershed level" because "doing a regional-level project is cheaper, and there's an economy of scale" (Somerville 2023). This perspective was echoed by Colin Best, Regional Councillor for Milton in Halton Region; regional governance makes sense for services like water and biodiversity governance, especially in the context of multi-million dollar projects (Best 2023). Mr. Sommerville suggested that many things don't work at the regional scale, but some things do. These include goods like "water, wastewater, and transit" (Somerville 2023). This is something that Mr. Somerville critiqued regionally, insofar as there is a lack of coherence between municipalities on regional issues like wastewater filtration. By contrast, regional highways are goods "that need to be provincial due to their enormous cost," and as for the ecological and biodiversity planning required, Mr. Somerville trusted provincial actors to do their due diligence (Somerville 2023). Despite his support for the project, however, Mr. Somerville acknowledged "there is no interregional connection" in Greater Toronto, and critiqued the Province's "ham-fisted" approach to H413, in particular the way that it came in and said the project would be going through, not *whether* it would be going through (Somerville 2023). Mr. Best echoed the same perspective (Best 2023).

7.b.2 Regions (Upper-tier)

Only 1 of 3 upper-tier regions that cross Highway 413 was available for interview, but data was gleaned from the relationship between other upper-tier Toronto regions and the province, as well as from municipal-level interviewees, in addition to interviews with Mr. Somerville, Mr. Best, and Rick Bonnette, who all represent or represented municipalities in Halton Region.

The Transportation Policy Planner from the City of Brampton extensively discussed the relationship of Peel Region to the City of Brampton and the Province of Ontario. They noted that while Peel Region was officially against Highway 413, this is in part due to Peel's more bottom-up decision-making tendencies. Peel Region has "has historically not been top-down," especially compared to "York [Region], which is much more top-down" (Anonymous 2023a). In York Region, "decisions are more often made at regional levels, with constituents and municipalities conforming and falling in line" (Anonymous 2023a). Not so in Peel, where "municipalities have much more power," particularly in transportation planning (Anonymous 2023a). This can be viewed, in effect, in two areas of Peel's planning as it relates to intergovernmental relations. First, according to the employee, Peel Region endorsed the idea of the urban boulevard, and were heavily involved in its design since it would connect to other regional roads. Second, the region's opposition to H413 displays the weight of Mississauga as the dominant municipality in the upper-tier Peel Region, in particular considering that the City of Caledon is neutral on the project and the City of Brampton is for the project (Anonymous 2023; Gray and Mahoney 2022). What this demonstrates is both that upper-tier municipalities are sometimes dominated by their larger municipalities, who influence from the bottom-up their official position on issues. Yet it also demonstrates that the regions are likely to listen their single-tier municipalities as well, as evidenced both by the urban boulevard supported by Peel and Mississauga's position on H413.

Mr. Somerville and Mr. Best noted a similar dynamic present in Halton Region. In 2021, the City of Halton Hills presented and legislated a growth plan, which was passed unanimously. This growth plan, however, would go into agricultural land. According to Mr. Somerville, a councillor from another municipality in the region (Oakville) brought it to Halton Region. At regional meetings, the two largest municipalities in the region, Oakville and Burlington, "ran roughshod and ignored" the initial plan proposed by Halton Hills (Somerville 2023). Following modifications by Halton Region, largely around intensification and steering away from greenspace and agricultural land, the "province took the decision and threw it away" (Somerville 2023; Best

2023). In the decision made by the Province, which was denounced by environmental action groups like Halton Hills Climate Action and Stop Sprawl Halton, which went explicitly against the proposal by the regional council, Halton Region was ordered to sprawl into agricultural land (Hennessey 2022). On this level, the actions of the province seem to be at odds with most municipalities in Halton Region, particularly the larger ones.

Another interviewee, Greg Perreira, Manager of Transportation Planning at Durham Region (crucially, not a region in which H413 crosses), also elaborated on the role of the province when it comes to regional planning. As with Mr. Somerville, Mr. Perreira was highly deferential to the role of the province in transportation and environmental planning. He noted that "sometimes you need to have decision makers that make the tough decisions," as in the case of H413 (Perreira 2023). At the same time, however, he noted that "municipalities are creatures of the province," going so far as to support the idea that regional spaces of biodiversity should be managed by the province, including the Greenbelt (Perreira 2023). However, he also noted that on decisions relating to the Greenbelt, another hotspot of biodiversity, that "it's all about politics," and the ways in which the province prioritizes urban sprawl versus conservation. Mr. Best largely confirmed this perspective, noting that "developers and builders are significant contributors" to Doug Ford's Progressive Conservatives in Ontario (Best 2023)

In these interviews, the tension between political interests (such as developing land and relationships with developers) at the provincial level versus conservation of biodiversity were clear. Furthermore, the contrast between the upper-tier regions acting for protection of biodiversity, and the province - the de facto regional government of the Toronto region - acting against these interests was evident, even in interviews that were supportive of a provincial role in regional politics. Overall, in the fragmented system, two trends emerge as it respects to political economy. First, many municipalities (even in fragmented regions) act collectively on biodiversity issues; indeed, both Halton and Peel regions have demonstrated a willingness to override municipal policies for an integrated system or oppose projects that go against these targets. Second, however, is that in fragmented systems, upper-tier municipalities are still strictly subordinate to the province, contributing to a lack of unification around key issues. Mr. Best stated this unequivocally: "having multiple regions involved" is "worse" for regional environmental issues

(Best 2023) This is evident in both examples from Peel and Halton regions, insofar as their legislated targets and planning was washed away by provincial action.

7.a.3 Evaluation of political economy hypothesis

In terms of the metropolitan reform perspective, these interviews permitted a few different trends to emerge related to the size of governmental units, the effects of fragmentation, and subordination to the upper-tier. First, interview data did not suggest that biodiversity is the type of public good that benefits from smaller units. Interviewees (including Mr. Somerville, a councillor for both a municipality and region) were highly supportive of environmental issues being managed at the regional level, including biodiversity-related projects such as highways and regional parks like the Greenbelt. Second, biodiversity is not benefited from institutional fragmentation at the regional level. Because each region in Greater Toronto is its own institution, with no connective tissue other than the Province of Ontario, cohesively planning projects related to biodiversity get left by the wayside, and indeed, vulnerable to the province, who has its own agenda. This is evident with Highway 413, which has a variety of actors for-and-against the project with little forum to discuss the issue. Finally, the subject of decreased subordination was not found in the case of H413. Interviews with municipal officials demonstrated a general lack of enthusiasm or flexibility about what the province's power was. They were highly deferential and highly aware of their subordinate position within the region. While some municipalities in individual upper-tier municipalities (e.g., Mississauga in Peel Region) may have helped democratic regional decision making, the reality in the Toronto region is a *high* level of hierarchy between municipalities and the province in formal decision-making. There is no deference to lower levels of government in the current political climate in Ontario.

7.b Greater Montreal, the Grand parc de l'Ouest, and metropolitan reform

7.b.1 Municipalities (single-tier)

Unlike Highway 413, there is general unanimity toward the creation and construction of the Grand parc de l'Ouest (GPO) in Greater Montreal. The research interviews I did for this project illuminated, however, the interesting roles each municipality played in its creation, as well as the role of the Agglomération de Montréal, the institution that governs the Island of Montreal. All

interviewees were clear that the Agglomération de Montréal had a more active role in the Grand parc de l'Ouest than the Communauté métropolitaine de Montréal (CMM). An employee of the Ville de Montréal was straightforward in noting that the GPO was the "responsibility of the Agglomération," but that the Agglomération is still subordinate to the CMM (Anonymous 2023b, author's translation). While the project is meant to fit directly into the conservation targets of the CMM, "there was no leadership" from the CMM on the project (Anonymous 2023b, author's translation). The interviewee from the Ville de Montréal was straightforward in suggesting that the project was born from the political will of actors at the Ville de Montréal, and that the project was initially conceived through informal networks and connections before going to the Agglomération council.

Complicating this portrait are the West Island municipalities (Sainte-Anne-de-Bellevue, Beaconsfield, Senneville, and Kirkland) in which most of the park will exist.[12] Paola Hawa, mayor of Sainte-Anne-de-Bellevue (SADB) since 2013, suggested that the GPO was created by her municipality: SADB is "a small city with a big vision; the GPO was our idea," noted the mayor (Hawa 2023). According to the Mayor Hawa, SADB proposed the park in part protect l'Anse-à-l'Orme, a forested site previously owned by developers, which is a site rich in biodiversity. However, if SADB went to protect the site alone, it wouldn't have happened due to the budgetary constraints of being a small municipality (Hawa 2023). This fiscal reality was shared by another participant on the West Island of Montreal, whose municipality the GPO crosses (Anonymous 2023). Mayor Hawa then discussed a series of – informal – meetings in which the GPO was created. The initial park was created largely by political actors: according to the Ms. Hawa, this included herself, former Plateau-Mont Royal Mayor Luc Ferrandez, the SADB city manager, and the chief of the *Service des grands parcs, du Mont Royal et des sports de Montréal* (SGPM) (Hawa 2023). From there, the park went to the Agglomération council to vote, and the GPO was born.

More on the Agglomération will be discussed in the following section, but it's crucial to note that vociferousness with which Mayor Hawa critiqued the Agglomération. The Agglomération is made up of all the municipalities of the Island of Montréal, 15 total), but is dominated by the Ville de Montréal; Montréal has more voting power due to its population size

[12] This is not to suggest that it isn't found significantly in the territory of the Ville de Montréal. Much of the park is in the Pierrefonds-Roxboro and Île-Bizard-Sainte-Geneviève boroughs.

(Hawa 2023; Anonymous 2023, author's translation; Meloche and Leblanc-Desgagné 2018). Mayor Hawa described Montreal as "a bully," noting its "selfish" tendencies, in which it "gets everything it wants" due to the structure of the Agglomération (Hawa 2023). The West Island participant echoed similar frustrations with the Agglomération's set-up, noting that demerged municipalities "don't have much power [and] what party in power in Montréal decides is what happens" (Anonymous 2023; author's translation). Thus, despite the Agglomération and its fiscal power being one of the central reasons the Grand parc de l'Ouest could even exist, the regional governance model here provokes serious tension within municipalities.

Yet municipalities in the metropolitan reform system of regional governance were largely able to work together to make this regional park come together. It is also noteworthy that this occurred in the context of a public good like biodiversity, one of the explicit aims of the project. Why? Because, as I explain further in the next section, municipalities within the Agglomération are *always* fighting with each other – or, more specifically, with Montreal, in the context of other public goods that are centralized and delivered regionally. This includes other Agglomération level services such as policing and public transit. Mayor Hawa was unequivocal:

> "*[Sainte-Anne-de-Bellevue is] better run than the City of Montreal. The City of Montreal is in deep, deep shit when it comes to finances, and they need us, the demerged cities to prop them up, to give them money. Because their ambitions are bigger than their means. And yet, they take all that money and they put it into their boroughs, not to us. I mean, I'll give you an example that's got nothing to do with the environment. But police for example, we pay for police, okay. We pay for police.*[13] *Five cities share one police station with two cops. Five cities. You know where the other money goes? Not here. It goes over there, it goes to the boroughs*" (Hawa 2023).

In this context, then, the fact that environmental issues are at the top of the list of issues of collaboration suggests that regional visions – and political will – are compelling ingredients for its provision.

[13] Mayor Hawa is referring to the Service de la police de la Ville de Montréal (*City of Montreal Police Service*) (SPVM), which polices the entire Island of Montreal, including the demerged cities.

7.b.2 Agglomération de Montréal and Communauté métropolitaine de Montréal (Upper-tier)

The biggest takeaways from interviews with these actors, as well as actors related to the other municipalities in the region, is that the City of Montréal is the most powerful agent in Greater Montreal, and perhaps, in practice, more powerful than the Québec government. Interestingly, it does this largely through the structures of the Agglomération and the CMM, which I explain here through interview data. I first explain the role of these regional players in the GPO and then discuss how to summarize it according to the metropolitan reform perspective.

A key result of these interviews was discovering the larger-than-expected role of the Agglomération in the creation of the GPO. It is not evident in the way it is administered, but the Agglomération acts as a level of regional government between the municipalities on the Island of Montréal and the CMM. It is not, however, comparable to the upper-tier municipalities in Toronto, because decision making is centralized within the bureaucracy of the Ville de Montréal. This reality was critiqued by Mayor Hawa and the West Island participant (Anonymous 2023, author's translation; Hawa 2023). An interviewee from the Ville de Montréal suggested that Montréal and the Agglomération are the "same hat, with different roles" for the Ville (Anonymous 2023b, author's translation). This creates headaches for other municipalities, who have a smaller population percentage in the Agglomération and therefore less decision-making power. Mayor Hawa noted that the Agglomération has effectively "no accountability" to the other municipalities on the island (Hawa 2023). Mayor Hawa also suggested that the reason why the GPO was able to be created so swiftly was because "it was handed [to the City] on a silver platter" by the suburban West Island municipalities (Hawa 2023). This also means that the Ville de Montréal's vision dominates. For example, the West Island participant suggested that they had investigated adding certain sections of forested land in the middle of highways 20 and 40, located in Senneville; Montreal, however, declined to pay for the land to add to the GPO. The West Island participant suggested this was because it didn't fit within Montreal's vision of the park (Anonymous 2023, author's translation). Yet the Agglomération, according to Mayor Hawa and other interviewees, also has the financing ability to create the GPO, soon to be Canada's largest urban park.

Fiscal capacity was, likewise, largely the involvement of the CMM in the context of the GPO. Rémi Lemieux, Manager of the *Bureau de projet de la Trame verte et bleue* (Office of the

Green and Blue Network) of the CMM, noted that it was the Ville de Montréal that approached the CMM about the GPO. The Ville did so understanding that it would be able to take advantage of a 1/3 project financing model, in which the municipality pays for a third of the project, the CMM pays for a third, and the province also pays for a third (Lemieux 2023, author's translation). According to Mr. Lemieux, the CMM finances many large parks in the region, and also strategizes on the subject with the Agglomération (Lemieux 2023, author's translation).

The CMM provides a comprehensive and holistic vision of biodiversity planning in the region, drawing on the expertise of its staff and other planners in the region. For example, the CMM provides expertise to smaller municipalities (with less financial capacity) to figure out how to protect greenspace or do landscape planning in a biodiversity-friendly way. Another example is a compensation program for "smaller municipalities to protect agricultural land"; in this program, the CMM pays municipalities to protect land (forested or agricultural) from development (Lemieux 2023, author's translation). This was corroborated by the West Island participant, who noted that after being rejected by Montreal, they pursued the CMM for funding to buy and protect the land (Anonymous 2023, author's translation). Senneville and the CMM are currently in the final steps of purchasing the land, using the 1/3 project financing model (Anonymous 2023, author's translation). Both Mr. Lemieux and the employee of the Ville de Montréal also noted that the GPO was designed to fit within the CMM's goal of conserving or protecting 30% of its territory by 2030 (Lemieux 2023; Anonymous 2023b). Thus, despite the CMM's largely fiscal role in the creation of the GPO, the fact that the regional government has self-directed these targets and provides expertise on towards its implementation demonstrate that its presence (in addition to the Agglomération) aided in removing friction and rendering the planning process more coherent.

However, a commonality that emerged through interviews is the ways in which Montreal uses both the Agglomération and the CMM to influence regional politics. As noted, the mayor of the Ville de Montréal sits as the de-facto president of the CMM. The Ville de Montréal is also the most populous municipality in the entire region. Thus, Mr. Lemieux was clear that "Montreal has the veto" (Lemieux 2023, author's translation). In this set-up, it would have been highly unlikely that the CMM would have rejected the financing or planning for the GPO; in fact, it is likely (but unconfirmed) that the Ville de Montréal that helped fix the 30% by 2030 targets. The employee of the city noted that the "CMM has become much more proactive and has made multiple

acquisitions" in the governance of biodiversity in the region (Anonymous 2023b, author's translation), and this is largely after the election of Projet Montréal in 2017. Mayor Hawa was more fiercely critical of the CMM's role in the GPO. She suggested that the CMM is "thoroughly useless," that it's "too big," and that the GPO was done through political leadership instead of using the CMM (Hawa 2023). With its influence in the Agglomération and the CMM, Mayor Hawa suggested, and then confirmed, that the Ville de Montréal is a more active and powerful player in the Montreal region than the Government of Québec (Hawa 2023). This contradicts the conventional wisdom of provincial dominance of municipalities, their 'creatures'. The West Island participant was less critical of the CMM, noting it plays an essential regional role with the PMAD, and that "it's logical to have a level of government over the entire region," especially when discussing biodiversity (Anonymous 2023, author's translation).

However, while many municipalities in the region complain or are frustrated by the power of the Ville in regional affairs, the employee of the Ville was clear to say that "in the context of the GPO, there was not much conflict" between the municipalities – a rarity (Anonymous 2023b, author's translation) This echoes the same process in the Agglomération, an institution likewise 'captured' by the Ville de Montréal's power, but in which the proposal, design, and vote on the GPO happened with relative speed. This may suggest that regional institutions are more ideal venues for environmental collaboration, under the right circumstances. Because the CMM collectively sets its own conservation targets, and because environmental issues are one of the competencies of the CMM, the social acceptability (and financing) of biodiversity planning seems to be served by these regional structures. Furthermore, the vigour and activity of the CMM win these structures seems to prevent a level of interference from the Government of Québec. Mr. Lemieux noted that the CMM acts as "an interlocutor with the Government of Québec," effectively noting that the CMM, despite an occasional lack of unity, is able to act as a cohesive bloc when it comes to discussing and/or negotiating issues with the province (Lemieux 2023, author's translation). This is relatively rare in Canada's constitutional set-up.

7.b.3 Evaluation of metropolitan reform hypothesis

In terms of the metropolitan reform perspective, these interviews permitted a few different trends to emerge related to equity and coherence in service provision, distribution of costs, and

subordination related to biodiversity provision. First is that the unified regional vision of the CMM does equalize biodiversity provision, at least on a surface level. Municipalities can draw from the expertise of other municipalities and CMM staff to execute their visions. The result of this distribution remains to be seen, but Mr. Lemieux was clear that the smaller and poorly resourced municipalities can draw from this expertise to execute their visions. Second is that generally equal distribution of costs. The CMM was principally a financial actor in the GPO, using the 1/3 model to assist the Agglomération in its construction of the GPO, including land acquisition. Third, and perhaps most interestingly, is that there *is* an increased subordination to the upper-tier of government. However, this is not necessarily to the CMM itself, but to the Ville de Montréal, which interviewees were clear in saying is, in part, a conduit for the Ville. The structures of regional governance in Greater Montreal, though not uniformly, tend to benefit the Ville de Montréal's vision. When this vision is coherent, for example on biodiversity, it can be an efficient and essential tool. However, the complaints of smaller municipalities are also understandable, since they are occasionally at the whims of the Ville.

8. Discussion

In this section, I effectuate a brief comparative analysis of the Greater Montreal and Greater Toronto regional systems with discussion of the political economy and metropolitan reform model and conclude this thesis.

8.a Hypothesis

Here, I briefly summarize sections 5.a.4 and 5.b.4. Ultimately, Ostrom's theorization on political economy and metropolitan reform did not hold completely true at the regional level. That's acceptable: regions, which have several times more levels of government involved, are likely to require different theorizations than individual municipalities. In figure 5, I break down which hypothetical elements held, and which did not.

Figure 8 – Evaluation of hypothesis

Political economy hypothesis	Political economy findings

Biodiversity is the type of public good that benefits from smaller units	No
Biodiversity is the kind of good that benefits from institutional fragmentation	No
Decreased subordination to the upper tier	No
Metropolitan reform hypothesis	**Metropolitan reform findings**
Increasing equality in service provision, along with more coherent operations	Yes
More equal distribution of costs	Yes
Increased subordination to the upper tier	Mixed

8.b Comparative discussion

8.b.1 Similarities between the cases

Despite having regions governed very differently, a couple of shared trends emerged that warrant discussion. First is the dominant role of certain municipalities in upper-tier regional bodies. In interviews, Mississauga, the largest city in Peel Region, with 828 854 residents, demonstrated a similar dominance in regional environmental affairs as the Ville de Montréal. Despite Highway 413 not crossing through Mississauga, it was steadfast in opposition to the project, helping persuade the regional council to formally reject the project. Interviewees from Greater Toronto were likewise highly recalcitrant about the possibility of a CMM-style institution for fear of the City of Toronto being the dominant actor of the region. Indeed, these seem to be about the differences between 'lifestyle' between suburban and peri-urban municipalities and the centre-city. Nevertheless, this was a salient similarity through interviews and suggests that big cities in regions are formidable, occasionally domineering, players.

Another similarity is the effect of regional governance on subordination to certain levels of government. While metropolitan reform-style systems seem to decrease subordination to the provinces through the collective unification ability, they may simply just be transferring the subordination from one actor to another. All interviewees acknowledged the powerful role the

Ville de Montréal plays in both the Agglomération de Montréal and the Communauté métropolitaine de Montréal. Certainly, on the Island, despite democratic decision-making based on population, the suburban municipalities are largely subordinate to the whims of the Ville de Montréal. This seems to not be a problem on issues with less friction (i.e., provision of biodiversity), but highly challenging on others. Likewise, the dominance of Mississauga in Peel effectively renders the other municipalities in the region subordinate to its influence in the region. While this subordination is not constitutional, i.e., the province can reorganize this reality as it wishes, in practice some municipalities may still feel subordinate to the dominant municipality in its respective region. One difficulty here is that 'pushing the needle' on important issues like biodiversity may also fall out of style if a change in government occurs in a dominant municipality. Thus, decision-making in metropolitan reform systems, which here are more city-led, may be challenged. Conversely, in a political economy, fragmented system, where no regional unification exists, if the province is not interested in acting on this file, it will also suffer. This is largely what can be observed in both the Greater Toronto and Greater Montreal areas.

8.b.2 Differences between the cases

In reality, there are more differences than similarities between these two regions due to their institutional set-up. One key difference, which may be related to the case study, is the lack of consensus in terms of project support. As noted, Highway 413 is a highly contentious project in the Toronto region, with little agreement both intra- and interregionally. By contrast, the Grand parc de l'Ouest has unanimous support from effectively all actors, both municipally, regionally, and provincially. Yet a 'project' of a similar scope, with a similar aim (to protect agricultural land and biodiversity), that of the Halton Hills master plan, which was escalated to the upper-tier level with a similar lack of unanimity as Highway 413, between the municipalities that constitute Halton Region. This could simply be because biodiversity protection isn't on the agenda, or perhaps that the upper-tier municipalities in Ontario are simply more deferential to the province to intervene when the municipalities and/or regions can't come to an understanding.

Another essential difference between the two cases is the clear lack of provincial interference in one case (Montreal) and the very high-level interference in the other (Toronto). The literature suggests that the mayor of the Toronto region is the premier of Ontario – and this largely

holds up in my research. The base of this fact in terms of regional biodiversity planning is that the Government of Ontario produces the regional planning documents in the Toronto region, whereas this is done by the CMM in the Montreal region. This basic fact shapes the provision of biodiversity in both regions. In Montreal, a more unified CMM provides an interlocutor between municipalities and the province, effectively acting as a lobby to the province and reducing the need for one domineering actor to interfere from above. The Agglomération and the CMM also provide consistent formal and informal opportunities for exchange, strategizing, and, perhaps more importantly, debate. If municipalities can't agree on a planning decision, they can hash it out in the context of the CMM, because that's what it exists for.

9. Conclusion

9.a Overview

In the case of the provision of biodiversity as a public good, one system analyzed is more efficient and equitable in its provision of this service than the other. My analysis suggests that the metropolitan reform system – a unified and broad regional institution with much diversity in its ranks – supports efforts to preserve biodiversity. By contrast, the political economy system, with its fragmented, decentralized management, both provides this service in a worse way and enables a degree of interventionism from a higher authority, the Province of Ontario. This is not to suggest that the CMM system is flawless. It clearly funnels power to one actor in the Montreal region: the Ville de Montréal, which has significant power over the Agglomération and the CMM itself – perhaps more, informally, than the Government of Québec. Yet as climate change and biodiversity loss become more and more on the agenda of municipal policymakers, and these policymakers seek avenues to manage their affairs more swiftly, the metropolitan reform system is a model to analyze, and perhaps even emulate.

9.b Policy recommendations

Canada's constitutional set-up enables provinces to set the terms and conditions of municipalities internal functioning and external intergovernmental affairs. That is unlikely to change. However, municipalities – specifically Canada's large metropolitan regions – are economic powerhouses and enormous population centres. Toronto, for example, accounts for 20%

of Canada's entire GDP ("TORONTO REGION QUICK FACTS" 2023). With climate change and biodiversity loss accelerating, it's important, then for municipalities and provinces to think regionally. Here are three recommendations to accomplish this:

1. **Thinking biodiversity? Think regionally.** Biodiversity benefits from larger scales of protection. If habitat fragmentation is a threat to biodiversity, so is institutional and territorial fragmentation. Decisions about biodiversity in urban areas benefits from region-sized thinking, especially considering the location of metro regions in Canada along areas of considerable biodiversity. The biodiversity issues of one municipality, in this case, spill out onto the next. My interviews demonstrate that even municipal actors who are skeptical of upper-tier governance and who are deferential to the province believe that biodiversity and environmental issues merit a regional vision.

2. **Create durable regional institutions at the right scale.** Institutions like the CMM are functional because they take a wide portrait of wide issues, while giving participating municipalities the platform to discuss, debate, and implement issues and attendant solutions. Municipalities know their territories the best and need the ability to collectively plan without fear of provincial micromanagement. In other words, just because you have the power does not mean you should use it. Regional governments should be able to set conservation targets in tandem with provincial and national governments, provide financing from bigger to smaller municipalities to protect undeveloped land, and set their own planning regimes. The CMM is a robust example: my data shows how it enables resource-poor municipalities the intergovernmental support and financing to protect greenspace. That's a tool for municipalities and provinces alike.

3. **If you've got an interventionist province, create the informal processes you need.** It is often in the political interests of provinces to keep municipalities fragmented or bereft of tools that enable region-sized change. Yet, the intergovernmental process in Canada is highly informal, relying on key actors playing key connective roles behind the scenes. For region-sized issues, municipalities should

be thinking beyond the strictures of the province. For example, interviewees cited how former Toronto mayor John Tory informally convened the upper-tier regions and municipalities of Greater Toronto during COVID-19 in order to ensure policy coherence across the region (Somerville 2023). Biodiversity loss and climate change are emergencies like COVID-19; municipalities should recognize their essential role in the solution by leveraging informal networks toward collective and strategic action.

9.c Limitations

This thesis has some limitations. First, it could be argued that other case studies could have been utilized to measure the efficacy of certain forms of regional governance to maximize comparability. Because the governance of biodiversity is difficult to measure, and because limited data exists on this file, gaining an accurate understanding of which methods of metropolitan governance better suits biodiversity was a limitation. Second, in terms of interview data to measure biodiversity governance, a central challenge was obtaining the ability to interview actors at a central role of government in the context of urban governance: the Province of Ontario. Political and non-political actors in the Province of Ontario (particularly the Ministry of Transportation and Ministry of Environment and Climate Change) were contacted multiple times to either outright rejection or ignored emails and calls. To avoid asymmetry, I therefore did not interview actors in the Province of Québec. While a portrait could still be gleaned from interview data with municipalities and upper-tier regions because these actors are in constant communication, there is a gap in data due to these actors' recalcitrance about being interviewed. Third, I did not have the space to discuss the difference between Ontario and Québec's political cultures, which could have had a significant effect on the results.

9.d Agenda for future research

I outline three components of an agenda for future research in this final section. First, this issue could easily be widened to encompass different goods and services. There are other potential goods and services to study which would provide more directly comparative cases. For example, an interesting, understudied good that crosses metropolitan scales could be regional bike lanes. In

general, coherence of bike networks between municipalities is lacking; is this because there lacks a coherent regional authority to coordinate the planning?[14] Second, as noted, a discussion of political cultures is missing. This is important because Ontario and Québec possess markedly different political cultures, which should be explored in future work (Haddow 2015). The effect of political culture on regional governance should not be discounted in the context of regional governance and deference to municipalities, particularly considering the particularities of each city's relationship with their provincial master. Third, it would be useful to widen the scope of the analysis to include provincial, federal, and non-governmental actors, all of whom play a key role in the metropolitan governance of these goods. Finally, Canada's urban regions are all governed in disparate and dovetailing ways. A doctoral dissertation could easily be widened to compare the regional governance of biodiversity in Vancouver (with a unified upper-tier), Calgary (a unified lower-tier), and Halifax (which acts as both a single and regional municipality, like the City of Toronto).

[14]At the *Agora métropolitaine 2023*, the Communauté métropolitaine de Montréal's annual conference, Chairman and Executive Director Massimo Iezzoni noted, pertinently, that the CMM is planning a regional bike highway. This will be modeled after the *Réseau éxpres métropolitain* (Express Bike Network) of the City of Montreal (Communauté métropolitaine de Montréal 2023a).

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