‘New Era’ of Mass Transit: Governance, Suburbanization, and Regionalism in Toronto and Montréal

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Abstract

This paper examines the ways in which two mass transit projects, the Eglinton Crosstown in Toronto, and the Réseau express métropolitain in Montréal, are responding to changes and challenges in terms of governance, suburbanization, and regionalism. It uses experiences from the two projects, and the lessons learned from them, in order to identify a series of best practices for transit planning in Canada. Methods used included a document and content analysis, as well as walk-through components of station areas on both lines. The results of the research indicated that the lines were designed and built with goals of ameliorating some of the challenges related to suburbanization and regionalism in mind. However, one of the two projects was more successful in countering the challenges related to governance, whereas the other may be more successful in curtailing suburban sprawl. Overall, the paper concludes that the Eglinton Crosstown and the Réseau express métropolitain have provided a framework of how to develop mass transit projects in Canada, and has found that a focus on public involvement, transparency, and accountability are important for success in transit projects, and that developing a local industry from the experiences of projects built will be highly beneficial in the future.

Keywords: Suburbanization, Transit Planning, Governance, Regionalism, Transit-Oriented Development

Foreword

The following research paper fulfills many of the components that I had previously outlined in my final Plan of Study, notably "suburban planning" and "transit network connectivity." When I began my time in the Master in Environmental Studies in Planning, my focus was on surface transit, and I wanted to explore the effectiveness of these networks. However, my interests began to change for a few reasons. Firstly, I felt that this topic would be difficult to properly engage with, to my expectations, in the seven months that are allocated for the research paper within the program. Secondly, consistent delays with the Eglinton Crosstown, alongside increasing personal interests in the Réseau express métropolitain, changed my personal transit interests. As such, when it came time to decide on the topic for the final paper wished to write, I felt that comparing specific projects in Toronto and Montréal, both of which will have significant positive impact on my life, was something that I wished to explore further. This ended up being the correct choice. On a personal level, I feel that this research paper combines many interests I have, such as governance, finance, transit planning, and suburbanization, with two transit projects that I am highly anticipating. On an academic level, my continued work into this topic has aided me in fulfilling some of the more specific learning objectives that I had set out for myself in my Plan of Study. Three notably important ones are as follows:

Objective 2.1: To gain a strong knowledge of suburbanization within North American cities in order to develop a deeper understanding of how this influences broader transportation planning objectives;

Objective 2.2: To gain both technical skills and new ways of thinking for developing solutions that could effectively retrofit suburbs in ways that are conducive to improving public transportation; and

Objective 3.1: To acquire in-depth knowledge about the ways in which transit network connectivity can improve access to the city.

Based on these objectives, amongst others from the Plan of Study, this research paper explores, and hopes to answer, the following five research questions:

1. Do the Eglinton Crosstown in Toronto and REM in Montréal challenge the ongoing processes of splintering urbanism, and do they promote a more even development pattern in their cities?
2. Have the Eglinton Crosstown and REM worked towards progressing or rejecting regional governance in their respective regions? In what ways do the Eglinton Crosstown and REM accounting for conflicting local and regional needs? Do they promote multiple scales of regional transit network connectivity?
3. Have the Eglinton Crosstown and REM developed governance structures that account for ongoing trends in state roll-out in Canada?
4. Is the 'new era' of rapid transit projects responsive to challenges of suburbanization, regionalism, and governance, compared to previous iterations of rapid transit expansion?
5. Do the experiences of the Eglinton Crosstown and REM establish best-practices?

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I am grateful for two of my school peers in particular: Anab Mohamud and Nasra Mohamed. Although time passed quicker than any of us had hoped, it was incredibly beneficial to have peers who were researching similar topics, and who had similar interests to mine. I am indebted to them for their feedback, the edits that they provided, and the resources they shared that furthered my research.

I am thankful for my family, notably my mother Denise, my brother Ryan, and my aunt Cheryl. You always comment that you forget that I am in school, but you were always there with support and love. Even when I was stressed out, you all knew how to make me feel better and refocus my energy elsewhere. Without this support system, I would not have been able to make my way through this program.

I would be remiss in not mentioning some of my out-of-school friends: Aidan, Deon, Gabriella, Lucas, and Yzabela. Their support was significant throughout both the course of my graduate studies and in the writing of this paper. Providing space for me to vent and decompress when stressed out, as well as engaging in discussions with me about urbanism, cities, transit, politics, and whatever else came to mind, it is appreciated. I am beyond lucky that these conversations will continue even after I complete this program!

Lastly, I would like to mention some of the other professors I had throughout both my undergraduate and graduate studies, as well as my other peers. Even if we spoke only a handful of times, or just crossed paths, I am glad to have had you be a part of the bigger picture.

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Introduction

Although defining what constitutes an ‘urban’ or a ‘suburban’ environment has always been difficult due to varying arrangements and built forms, one true statement is that they are perpetually changing spaces. Whether or not the suburban image of the single-family house, housing a mother, father, two kids, and a dog, with a white-picket fence and a car in the garage ever truly existed, it surely is not the reality of today. Contemporary suburban spaces are diverse in terms of demographics, diverse in terms of built form, and diverse in terms of transportation modes of choice. One significant development is the ongoing trend of anchoring suburban centres around transit megaprojects. These developments have become standard practice in North America, especially true as shrinking municipal budgets can no longer be stretched across lower-density landscapes (Filion, Pulver, & Keil, 2019, p. 23). The ongoing trend is referred to as ‘transit-oriented development,’ a term that has made the transition from planning terminology to common parlance (Graham, Philipps, & Maslove, 1998, p. 30). Despite its prevalence in the urban planning field and our urban realities, success is not guaranteed and there is an ongoing need to ensure that those with the highest need for improved access to frequent and reliable public transit are the one who benefit the most from these improvements and developments (Moos & Woodside, 2019, p. 357). As an additional challenge, the standard model used for infrastructure provision in Canada is a public-private partnership (Loxley & Loxley, 2010, p. 1). This model has had both its fair share of critics and supporters, but evidence from across the country is showing that it may not live up to their promises of higher efficiency and reduced costs, when compared to the public procurement and tendering processes (Siemiatycki & Farooqi, 2012, p. 44). The usage of public-private partnerships for virtually all infrastructure projects in some provinces raise concerns that the neoliberal rolling-out of the state is quickly

turning into a privatization of infrastructure and a privatization of governance, meaning that control is situated elsewhere than the state (McDonald, 2022).

In both the Greater Toronto Area and in Grand-Montréal, new transit megaprojects are presently under construction that serve locales that would likely be described as 'suburban' in nature. In the Greater Toronto Area, the Eglinton Crosstown project will travel nineteen kilometres along Eglinton Avenue, replacing several busy bus routes, and providing an east-west link across the center of the city (Metrolinx, n.d.a). In Grand-Montréal, the *Réseau express métropolitain* will replace a former commuter rail service, and introduce rapid transit to West-Island, the South Shore, and the city's airport (REM, n.d.b). These projects are both highly-anticipated due to the number of people who will benefit from their openings, but there have been long delays in the construction process, for a variety of reasons (Johnston, 2016; Reynolds, 2019; Thomas, 2020). The lines have also had their fair share of criticism, including concern with the governance and delivery models used, and the lack of transparency throughout the construction process, compounded by persistent delays (Bisson, 2017; D'Mello & Callan, 2023). In transit circles, there are additional concerns that the specific mode chosen for the Eglinton Crosstown in particular, being light rail that is not entirely grade-separated, may be insufficient for the identified need. There are questions of whether the lines are being built primarily for improving transit, or whether the principal focus is to reel in suburban sprawl by encouraging private sector investment in densification. Lastly, this paper will look at how these lines work towards developing the ideas of 'regions' in the Toronto and Montréal areas, aiming to integrate the core cities with both the inner, and more peripheral, suburban regions.

In this paper, I pose several questions related to governance, suburbanization, and transit planning, in relation to Toronto's Eglinton Crosstown and Montréal's Réseau express

métropolitain. Specifically, I ask how the projects challenge the ongoing processes of splintering urbanism (Graham & Marvin, 2001), how they are vehicles for progressing or rejecting regional governance (Keil, Hamel, Boudreau, Kipfer, & Allahwalla 2017), how they make progress towards amelioration of some of challenges related to providing public transit in lower-density areas, how they aim to counter ongoing urban sprawl (Flynn, Duggan, Hutchinson, & Lema, 2019; Thompson, 2019), and whether their degree of success is above those of previous iterations of rapid transit expansion.

As of submission of this paper, on 31 July, 2023, the Eglinton Crosstown has not yet opened. The first phase of the Réseau express métropolitain opened on the date of submission of this paper. Due to this, final, definitive answers for the above research questions will not necessarily be found within this paper. That said, the findings of this paper are still very relevant, especially as the governments of Ontario and Québec plan construction on further mass transit projects, including the Ontario Line, the Hamilton LRT, and REM de l'Est.

Inspiration

The topic of this major research paper is very important to me. I have lived my entire life in Scarborough, and I have waited many years for the opening of the Eglinton Crosstown. Being able to cross the city of Toronto without having to travel as far south as Bloor is something that would significantly improve commutes for many people in the city and region. Despite my excitement for the project, the regular headlines that speak of constant delays and cost overruns, in addition to no clear timeline for completion of the line, make me pessimistic. I decided that the important question that I needed to answer was "Why?" Why is the Crosstown taking so long, and why is it being built in the way that it is?

Similarly, Montréal's REM network is something I have long awaited. I have avoided travelling to Laval, Longueuil, and West-Island extensively, due to the burden of multiple transfers across different transit systems, and complicated fare schemes. REM will allow me to explore Grand-Montréal to a much higher degree than I was able to before. While I had already been interested in the project, while I was conducting my field research in Montréal, I lived at the Université de Montréal. I had to travel around Mont-Royal each time I wanted to travel to downtown, using both the Orange Line and the Blue Line, whereas REM would shorten my travel time significantly by cutting through the mountain.

Acknowledging my interest in the uniqueness of both the Crosstown and the REM in relation to the remainder of the rapid transit networks of their respective cities, in addition to encouragement from my supervisor, Dr. Roger Keil, it became very clear to me that comparing the mass transit projects from a perspective of governance, suburbanization, and regionalism was the correct route to take with my major research project. A comparison between Toronto and

Montréal was always a given, but it now felt that I had something personally important to me that would be worthwhile comparing.

Now, of course, I would have no interest in these projects if I had no fascination with transit itself. My mother has been a Toronto Transit Commission operator for more than three decades, and my primary mode of transportation is public transit, and so I come by the interest honestly. I want to make public transit even more useful than it already is, and I want it to be something that we as a city and region can take pride in.

Chapter 1: Literature Review

There are three overarching topics that will be encountered throughout this paper. In this section, I will be outlining some of the currents of thoughts and practice of these topics. Firstly, I will look at urban governance, with components related to regionalism. Secondly, I will look at contemporary transit planning, with a particular focus given to transit-oriented development. Lastly, I will outline the current discussions around suburbanization, particularly in relation to suburban infrastructures, as well as additional focus on regionalism. These will provide a basic understanding of the current trends that the case studies are situated within, and will help guide the research process to find answers to the research questions.

Urban Governance

Urban regions are the product of cities that have grown and sprawled into one another (Shields, 2015, p. 53). Regions are multi-nodal, and no longer have a single focus of activity (ibid, p. 54). Cities are not isolated entities, but are social, economic, and environmental systems that are formed through networks of places, and a region is effectively the physical expansion of the city, beyond its municipal boundaries (Kidokoro, Murayama, Katayama, & Shima, 2008, p. 3). Cities and their suburbs are codependent on each other (Morphet, 2019, p. 67). Identification with a region is assumed as a fact, which is the used to justify the construction and expansion of a region, with a concern of focus being sustainable economic and social development (ibid, Park, & Shields, 2011, pp. 137-145). The current pattern of urbanization supports a polycentric metropolis, and attempts have been made to expand governance structures towards this new reality, realigning internal administrative boundaries to mirror economic spaces (Hamel, 2013, p. 29; Keil, Hamel, Boudreau, Kipfer, & Allahwala, 2017, pp. 3-4; Morphet, 2019, p. 72).

However, due to chronic institutional lag, governance structures have not necessarily kept pace with this new urban reality: there is often a mismatch between the governance structures required and the governance structures provided that make cross-jurisdictional issues difficult to resolve, especially when considering competing interests across an urban and suburban region (Addie, 2019, pp. 55-56). It can be argued that governance in this case has become state-centrist, which Brenner (2009) identifies as being problematic, as there is a lack of ability to respond to connections between "geographically dispersed locations… [which is] an increasingly significant dimension of contemporary sociospatiality" (p. 32). Space is not a bounded location, but is instead constitutive of the actions of people, which transcends the terrestrial plane (Kobayashi, Peake, Benenson, & Pickles, 1994, p. xxix).

As Graham, Phillips, and Maslove (1998) posit, "the political economy asserts that analysis of decision-making cannot tell the whole story because the urban state only has a limited degree of autonomy for decision-making in the first place, due to the nature of the capitalist economy" (p. 27). This has proven to be a challenge when we consider what Castells (1977) identifies as "collective consumption." This is in reference to services that are provided by the state due to their complexity, and are consumed individually. Regulation theorists suggest that the role of local government is often the provision of infrastructure, channeling of growth, and managing urban renewal (Graham et al., 1998, p. 29), and so, in the interest of cost-cutting, private sector management styles have been integrated, which include an emphasis on contracting out functions and taking a minimal provision on the collective consumption services (Graham et al., 1998, p. 30). One means in how this is carried out is through private-public partnerships, otherwise referred to as 'PPP' or '3P', where economic development is promoted through the building of infrastructure and facilities (Mayer, 1995, p. 232). This is important to

note, especially when governance "is the single most important issue that affects the decision-making process and subsequent implementation of investment plans and operating policies intended to deal successfully deal with transportation problems in the GTHA" (Soberman, 2010, pg. v). Four rationales have been used to justify using 3P agreements, but each has their own set of detractors. The four are: bringing in new money for infrastructure, enable off balance sheet accounting of infrastructure, restricting the provision of public services, and drive value for money in public procurement (Siemiatycki, 2015, p. 346). Siemiatycki (2015) has suggested that the former two are "not…appropriate…for delivering infrastructure through a PPP" (p. 354).

Graham et al. (1998) states that there is "an understanding of urban policy as encompassing complex patterns of non-local institutions and non-governmental bodies" (p. 28). She also comments that "governance almost always requires working with outside partners and allies" (ibid, p. 34), with these partnerships banking on the underlying power imbalance within cities that tend to turn the decision-making process in favour of the property development industry. For example, the toolbox of local economic development interventions often see private actors deeply involved. These can include infrastructure development, relaxing of zoning, often near transit stations, revitalization zones, and emphasis on the function of the city, like transportation provision (ibid, p. 234). Noting the prevalence of neoliberalism, there is, by default, an emphasis on "the state and governance [to provide] the conditions for the market to resolve [urban] problems" (Etherington, 2015, p. 122). The state has taken advantage of these conditions by absolving themselves of responsibility for these issues, as has been seen in terms of transportation, housing, and the environment (Fanelli, 2016; Vojnovic, Kotval-K, Eckert, & Li, 2019, p. 158; Young, 2019, p. 121). This can have significant impacts, including infrastructure deficits due to shrinking budgets (Filion, Keil, & Pulver, 2019, p. 23). As

Boudreau, Keil, & Young (2009) note, the absence of the state is not simply a retreat, but is more akin to a "set of changing technologies of power", with a focus on privatization, performance, and efficiency (pp. 28-29). It is a realignment of the three overlapping modalities in suburban governance: the state, the market, and private authoritarianism (Ekers, Hamel, & Keil, 2012, p. 418). In terms of infrastructure mega-projects, for example, there is an assumption that private sector is able to deliver on construction more quickly and efficiency than the public sector, and that each individual actor lacks the capacity to deliver on objectives, especially in the face of diminished government funding for transit mega-projects, conditions which are often self-imposed (Wallis, 2008, p. 107; Adams, 2014, p. 31; Vojnovic, Kotval-K, Eckert, & Li, 2019, p. 158), and so public-private partnerships (also known as 3P, P3, or PPP) in Canada are the norm (Loxley & Loxley, 2010, p. 1; Whiteside, 2016, p. 1; Walks & Raco, 2020, p. 106). This type of neoliberalism is the "rolling-out" of the state, as welfare state arrangements are replaced by profit-making mechanisms, as opposed to the "rolling-back" of the state, which simply dismantles the arrangements (Peck & Tickell, 2002, p. 380-404; Etherington, 2015, p. 137; Filion, Keil, & Pulver, 2019, pp. 23-24). This is especially true noting the frequency of allegations of improper procurement and poor spending controls by the public sector (Devitt & Deazeley, 2010, p. 24). The model of project delivery falls on a continuum of corporate involvement (see Figure 1), but in general, it differs from more traditional models that use in-house expertise and separate contacts with different actors as one consortium is selected, who, in turn, hires subcontractors themselves (Loxley & Loxley, 2010, pp. 1, 10). Ownership and operation tend to be through public sector delivery, but there are some cases where this is also contracted out. As noted by Whiteside (2016), "governments have begun to rearrange their governance of P3s through changes in fiscal and procurement policies. In other words, the public

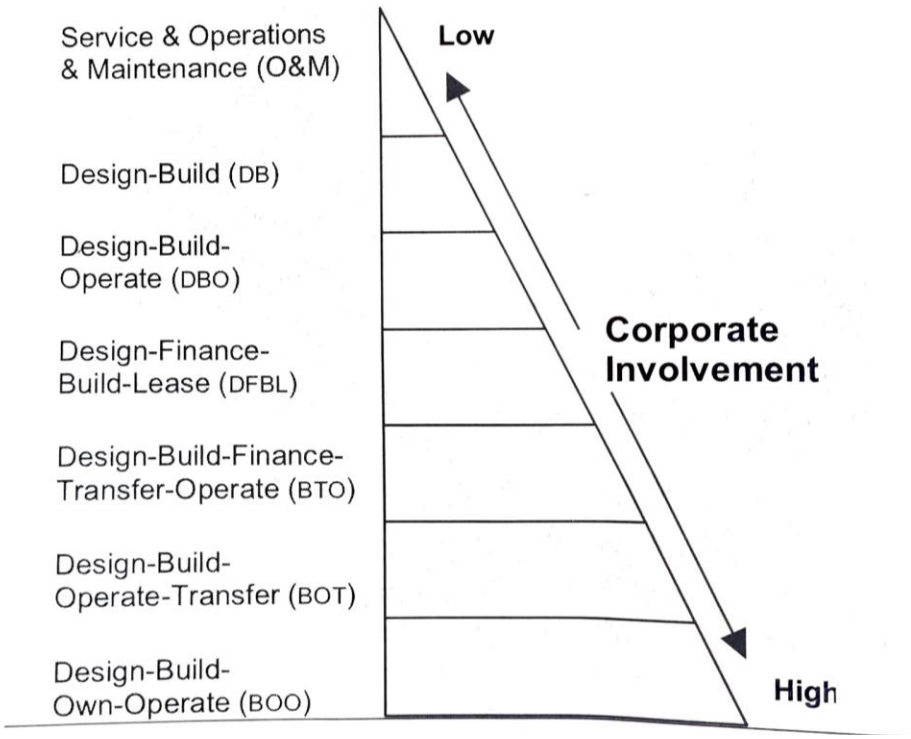

Figure 1: The 3P continuum of corporate involvement. (Source: Loxley & Loxley, 2010).

sector bent to accommodate the P3 model rather than the P3 model bending to accommodate the needs of the public and public sector" (p. 40). For example, in Ontario, a policy change in 2004 mandated that the P3 model be considered for all projects with a cost over $50 million, and another in 2005 established Infrastructure Ontario, a specialized agency that provides institutional support for the model (ibid). In Québec, the establishment of *l'Agence des partenariats public-privé du Québec* in 2004 reinforced the intention of the state to reduce their scope and influence in infrastructure delivery (Loxley & Loxley, 2010, p. 54). There may be some merit in these policy changes if the public sector had a history of inadequately providing infrastructure, and that previous 3P projects achieved their goals of efficiency, but this does not appear to be the case. Since there is always a transfer of risk from the state to the private sector, the private sector must be compensating to the extent that taking on their risk is worthwhile (ibid, p. 34). While 3P projects in Ontario have had a variable record, Siemiatycki & Farooqi (2012) found that, when averaging the costs of twenty-eight 3P projects, 3P projects were sixteen

percent (16%) more expensive than if they have been provided using the traditional public tendering model (p. 44). Furthermore, the value for money assessments in Ontario have been particularly high, reaching up to half the cost of base construction (Siemiatycki, 2015, p. 356). Whether these high costs are justifiable has remained to be seen, as much of the information provided is not public (Siemiatycki & Farooqi, 2012, p. 44; Siemiatycki, 2015, p. 356). In the few cases where costs were lower, like Highway 407 in southern Ontario, much of the $200 million in savings were as a result of cutting numerous corners during construction, rather than private sector efficiencies (Loxley & Loxley, 2010, p. 141). The experience of projects built using the 3P model is true in other provinces as well, like in British Columbia (Reynolds, 2018). Some other important considerations are that there is a lack of public accountability, and that there is a lack of competition maturation (Reynolds, 2018; Whiteside, 2016 pp. 40, 54). Montréal's *Centre de universitaire de santé McGill* (CUSM) speaks loudly to the latter: aside design, SNC-Lavalin will provide all other items for the next fifty years. As Peters (2019) notes, there is a dominance of a predominately financial and technocratic thinking, with limited ability to respond to social needs (p. 132). It can be argued that public interest at the forefront has been displaced for the sake of maximizing private profits (Loxley & Loxley, 2010, p. 150). While the Toronto Region Board of Trade suggests that a good governance system is an independent body that can remain focussed through election cycles and resulting changes in political agendas, independence does not necessarily have to mean privatization. However, that is not often not the case in Canada: incoming government regimes have cancelled past plans in favour of their own alterations (Soberman, 2010, pp. 40, 47; Xue, 2022a). Despite the lack of evidence of success of public-private partnerships in Canada, there is still an "allure of alterative service delivery" that leads to the striking of new partnerships (Graham et al., 1998, p. 208).

With urban regions covering numerous municipalities, and involving public actors to many degrees, there is a multiplicity of actors in any given city. Additionally, scale-centricity, despite aiming to resolve challenges across a fragmented urban region, may instead increase fragmentation (Boudreau, Keil, & Young, 2009, pp. 69-70; Higashide, 2019, p. 94). These two conditions have led to a rise in a new challenge: the managing of the drama of urban fragmentation (McFarlane, 2021, p. 40). Considering the overarching theme of tension between actors in an urban environment, and the fact that infrastructural networks are embedded into the material, economic, and geopolitical fabric of contemporary cities, is it easy to see the current crisis in infrastructure (Graham & Marvin, 2001, pp. 12, 92, 405; Miller, 2008, p. 17). That said, there have also been amalgamations of otherwise disconnected governance units within urban regions (Boudreau, Keil, & Young, pp. 69-70). The aim here is an increase in efficiency by combining units that would otherwise have overlapping mandates, reducing operating costs, but also reducing ability to respond to more localized needs for the sake of broader regional objectives (Adams, 2014, p. 27). Governance reform can take one of three major approaches: top-down imposition, independent commissions, or through incentives (Morphet, 2019, pp. 79-80). Noting the experience of Portland, Oregon's foray with successful regional governance and regional planning, especially within the context of densification around transit stations, it is an activity that is not purely top-down, nor is it purely bottom-up, but is some combination of both (Seltzer, 2008, p. 279). Within this bottom-up planning mechanism is some degree of public involvement. While public consultation is standard practice in most planning in Canada, the degree of involvement, and the valuation of public comments, vary greatly. According to Arnstein (1969), on her ladder of citizen participation, she identifies eight categories of

participation, ranging from non-participation, to tokenism, to citizen control: manipulation, therapy, informing, consultation, placation, partnership, delegation, and citizen control (p. 216).

Public Transit Planning

Good public transit is widely known to be a net positive for both the city as an entity, and the residents of said city individually. Large movements of an urban population moving to public transit use can increase quality of life by reducing congestion, cutting commute times, and can reduce negative impacts on the environment that emissions and congestion cause (Hamiton, Hokkanen, & Wood, 2008, pp. 280-281). Building public transit can be significantly cheaper to build and maintain than highway infrastructure, as seen with the Atlanta-Macon commuter line's estimated cost being 57 percent less than a plan to widen Interstate 75 and US Highway 19/41 by two lanes (ibid, p. 282). The citizens benefit by reducing their transportation costs compared to that of a purchasing and maintaining an automobile (ibid, pp. 279-280).

Adams (2014) suggests that "all planners recognize the potential of transportation to influence land development" (p. 25). As such, one of the major developments in public transit planning since the 1990s has been the idea of connected, or even integrated, public transit, which has taken the form of a complete paradigm shift towards the desirability of density (Maulat, 2014; Schorung, 2019, p. 14). In the United States, Canada, and Australia, this concept has been connected closely to two similar movements: new urbanism and smart growth (Cournoyer-Gendron, 2017, p. 1; Schorung, 2019, p. 14). New urbanism and smart growth cover several development and conservation strategies that both protect the natural environment, and aim to make nearby communities more attractive, stronger economically, and more socially diverse, with embedded principles including walkability, mixed land-use, and a variety of transportation options (Grant, 2006, p. 3; Kidokoro, Murayama, Katayama, & Shima, 2009, pp. 13-14; Curtis,

2012, p. 282; Wey & Hsu, 2014, p. 166). New urbanism and smart growth support urban regions that are polycentric (Hamel, 2013, p. 29). The relevance of these concepts cannot be understated: transit-oriented development is now an expectation of mass transit projects in North America. As Walker (2012) states, "[when] low density is…near a station…it negatively affects performance" (p. 115), and lower-density suburbs are generally more expensive to maintain (Filion, 1995, p. 50; Wallis, 2008, p. 92; Graham et al., 1998, p. 30). As such, urban governments have pushed for the intensification of areas near major transit stations, both for the sake of line performance and for more efficient provision of municipal services (Graham et al., 1998, p. 30). Transit-oriented development aims to tie the provision of housing closely to the provision of mobility, encouraging those who live near transit to use automobile less, and there is benefit to tying transit provision to land-use for the benefit of moulding regional growth (Hamilton, Hokkanen, & Wood, 2008, p. 276; Filion, 2013b, p. 83; Tan, Janssen-Jansen, & Bertolini, 2014, p. 34). It is generally agreed that 800 metres radius from the transit station that the transit-oriented development is the 'sweet spot' in terms of developing successful plans (Curtis, 2012, p. 276; Cournoyer-Gendron, 2017, p. 4). Additionally, it aims to leverage transit infrastructure in order to achieve broader objectives related to housing and the environment (Arrington, 2009, p. 123). Figure ___ from Cervero et al. (2004) outlines some of the primary and secondary benefits of transit-oriented development (p. 120). The recent trends towards densification of suburban areas aim to answer Filion's (2013a) question: "What happens when the liberal funding required for the building and maintaining of… the dispersed suburban form is no longer available?" (p. 43). The answer, seemingly, is private actors redeveloping areas that benefit from being situated near new or improved public transit options, producing a new urban form (ibid, p. 44). We have yet to find a distinct name for these new suburban spaces (Lehrer, 2013, pp. 59-60). The lack of one

consistent definition of transit-oriented development leads to a wide variety of products (Feldman, Lewis, & Schiff, 2012, p. 25).

As can be seen in Grand-Montréal with the Ville-de-Mont-Royal, transit-oriented development is not a new concept, but their prevalence cannot be understated (Dufour, n.d.). Newman (2009) suggests that four strategic planning tools are necessary for implementing successful transit-oriented development (p. 13):

1. A strategic policy framework that asserts where centres need to occur, and at what kind of density and mix;
2. A strategic political framework that links centres with a rapid transit base;
3. A statutory planning base that requires developments to occur at the necessary density and design in each centre, preferably facilitated by a specialized development agency;
4. A public-private funding mechanism that enables the transit and the transit-oriented development to be built or refurbished through a linkage between the transit and the centres it will serve.

These strategic planning tools are all present in the toolbox of Portland, Oregon, a city that is considered to have the most aggressive transit-oriented development program in the United States, considered successful as it is linked closely to other goals, as outlined by Cervero et al. (2004; Arrington, 2009, p. 109, 111). The fourth goal acknowledges the role that private enterprise has in transit-oriented development, but still perceives as transit being delivered by the public sector primarily. While transit-oriented development does exist on a continuum between public delivery and private deliver, it tends to have components of private delivery in North America (Mouritz & Ainsworth, 2009, p. 131). Cucuzzella, Owen, Goubran, & Walker (2022) suggest that, while the above tools are critical for success, there must also be an assessment of

three other factors: socio-economic characteristics, economic vibrancy, and the often-forgotten development potential (p.1). Since proximity to transit increases land values and demand, housing tends to get built because the price premium command it (Moos & Woodside, 2019, p. 341). If this is done on a regional scale out of proactivity, since some extent of redevelopment is inevitable, then there is some degree of success with these developments (Harris, 2013, p. 37; Moos & Woodside, 2019, p. 348). Seltzer (2008) reiterates that sustainability is ultimately about people, and not just places, and so Portland's focus on participation guarantees some degree of success (pp. 294-296). As Moos & Woodside outline, sustainability-as-density is the most common form of transit-oriented development in North America, whereby building dense nodes near transit is the main way of promoting sustainability in an urban region (p. 340).

Some mass transit projects, however, are built for the sake of making peripheral lands viable for profit-making, ignoring the existing contexts of cities (City of Lone Tree, 2018). Existing mobility needs, and opportunities, are bypassed for the sake of increasing land values, and thus profit, for privately owned lands located close to a new corridor. This is not a new concept: for example, in Southern California, railway barons would build rail lines out into the desert, in the hopes of luring new buyers away from the established big cities, or accidentally creating towns (Goolsby, 2014; Gopnik, 2021). Some recent projects fall in between these two opposing methods of linking housing to transit: in a Region of Waterloo-produced documentary about the ION light rail line prior to its opening, emphasis is put on the developments and examples of adaptive reuse along King Street in downtown Kitchener to counter ongoing suburban spawl in the region, seemingly ignoring the fact that the line provided a strong axis for all Grand River Transit routes throughout Kitchener and Waterloo (Flynn, Duggan, Hutchinson, & Lema, 2019; Thompson, 2019). Recentralization, a different model that hopes to counter

urbanization, is tasked with creating nodes within a suburban landscape; in essence, it is the "urbanization of the suburb" (Saboonian & Filion, 2019, pp. 256-260). If smart growth principles are applied here, there is a necessity in providing a variety of transportation options (Kidokoro, Murayama, Katayama, & Shima, 2008, p. 14). Moos and Woodside (2019) would describe these as both being examples of 'sustainability-as-density,' whereby transit anchors sustainable residential areas, at higher densities, within otherwise unsustainable suburban regions (p. 340).

One challenge in public transit planning currently is the obsession with technological innovation. Addie and Keil (2015) note that this may be because "…real existing regionalism operates in the confines of the roll-with-it straightjacket, its technological… dimensions at times imply a sense of a more fundamental change" (p. 409). Technology produces organizations and operating practices in its image, which is problematic when the primary goal of technology implementation is the accomplishment of objectives (Bunting, 2004, p. 21). New technologies have challenged many of traditional assumptions that infrastructure be provided by monopolies, either public or private (Graham & Marvin, 2001, p. 144). Choosing incorrect or inadequate technology can put the entire enterprise at risk. Bunting (2004) identifies three key questions that must be asked when developing a transit project (p. 23):

1. What do we want to achieve?
2. How can a proposed technology help us achieve it?
3. Does it do so at a lower cost or higher quality than the alternatives?

By asking these questions, decision-makers are in the best possible position to select a technology that appropriately matches the objectives of the entire project. Incorrect technology selection limits usefulness and functionality of the entire project. As such, to some degree, there is a benefit in selecting options that are already familiar to the government implementing the

project, or the transit operator who will have to make the project work, but this is not universal (Spieler, 2021, p. 156). Because infrastructure produces inertia, innovation may be obstructed even when the innovation is better suited for solving the present concern (Filion, Keil, & Pulver, 2019, pp. 24-26). That said, innovating builds knowledge bases closer to home, and, in the longer-term, there is benefit to governments to try out unfamiliar technologies.

Suburbanization, Suburban Infrastructures, and Regionalism

The majority of North America's population is not urban, as commonly argued, but is much better defined as being suburban. Growth on the periphery of an urban area is where most new development occurs (Filion, Keil, & Pulver, 2019, p. 4). 'Suburban' is situated somewhere on continuum between 'urban' and 'rural,' but the term itself encompasses a diverse set of forms and arrangements (McGee, 2013, p. 21). The best definition for suburbanization is "the combination of non-central populations and economic growth with urban spatial expansion," that generally considered to be extended urban space (Ekers, Hamel, & Keil, 2012, p. 408; McGee, 2013, p. 20). Suburbanization and its unique land use patterns helps produce suburbanisms, which are distinctive suburban ways of life, which, in North America, are often based on reliance on the automobile (Ekers, Hamel, & Keil, 2012, pp. 408-409). Cityscapes are now what Sudjic (1995) describes as being "single urban soup," as there are patterns of growth and decline, of concentration and decentralization, and of poverty and wealth (p. 30). Discontinuous polycentric urban growth is typical in North America, and the linkages between these centres is intensive, but very uneven as well (Polo, 1994, p. 24; Graham & Marvin, 2001, p. 115). As such, there is an inherent challenge in properly connecting these areas, as travel demand is not in one predictable line. This is further complicated by geographic constraints. It is important to note the differences between Canadian suburbs and American suburbs; in general, Canadian suburbs took

a different development pattern in that there are some variances in density, and many were establishment with multifunctional suburban centres (Filion, Keil, & Pulver, 2019, p. 13). The extending of the urban region has also meant that problems seen as emblematic of the central city has been regionalized, especially due to sprawl (Wikstrom, 2008, p. 30-33).

Filion, Keil, & Pulver (2019) argue that infrastructures are important as they transmit the condition of well-being within a society (pp. 26-27). They describe infrastructure as enablers, noting that the purpose of infrastructure is not the pursuit of their own ends, but is instead the creation of conditions that will help society achieve broader goals (ibid, p. 3). However, not all infrastructures are created equally, and unequal access to infrastructure has significant social ramifications (p. 10). Different types of infrastructures support different urban and suburban forms, which can further equity by allowing all individuals in a society to participate in that society, but they can also aid in furthering fragmentation, either as an unintended consequence, or built-in intentionally (ibid, pp. 12, 17-18). They do contribute to "[extending] the neo-liberal induced polarization of society" (ibid, p. 24).

A key challenge with infrastructures is the inertia that they produce, originating from path dependencies (Filion et al., 2019, p. 24). Infrastructural inertia may obstruct innovation that would be beneficial during changing circumstances, but it fails in preventing it (ibid, pp. 25-26). The benefits of innovation may be strong enough that they propel change anyways (ibid, p. 26).

Approaching suburban infrastructures can be difficult, as they take many different forms and play different roles within the broader infrastructural picture. There are three key types of suburban infrastructures: "infrastructures in suburbs are exist as a consequence of their location; "infrastructures of suburbs" are chiefly led by suburban institutions; and "infrastructures for suburbs" support, or even encourage, suburban growth and ways of life (Addie, 2019, p. 48-49).

There are also three key processes: “infrastructures of suburbanization” play a role in the promotion and supporting of increases in non-central population and economic activity; “infrastructures of suburbanism(s)” produce differentiated expressions of suburbanism as a way of life; and “mediatory infrastructures” perform a role in terms of producing connections between and resolving abstract social relations, and concrete spaces and practices of everyday life (ibid, pp. 50-52). It is important to note that none of these categories are mutually exclusive, and most infrastructures sit within multiple categories.

Suburbanization has provided both opportunities and challenges for governance. Miller (2008) shows how the structure of regional governance in the United States is like that of Canada, in that local government exists at the whim of the state or province, can exist at different scales and intensities, and deals across sectors in a wide variety of patterns, noting the diversity of the private and non-profit sectors (pp. 5-11). Miller does not tackle the direct relationships between the provincial government and the private sector, which further entrenches the supremacy of the province over local governments. Nevertheless, the overarching theme of this system of relations is unresolved tension (ibid, p. 17). Wallis (2008) argues that there are three key generalizations about the current system of regional governance. Firstly, when the ‘public interest’ is at a regional scale, regionalism is mandated top-down, as this has a higher claim of legitimacy (ibid, pp. 120-121). Secondly, when the objectives for regional planning are prescriptive, with specific objectives to be met, there is a greater claim to legitimacy from bottom-up regionalism (ibid, p. 121). Finally, Wallis states that the third is simultaneously top-down and bottom-up, providing legitimacy from all angles and promoting broader cooperation between partners (ibid).

The constantly expanding and changing suburban landscape, especially with the continued rise of transit-oriented development, implementation of new urbanism and smart growth policies, and goals of recentralization has proven to be a challenge for governance to match. The rolling-out of state governance has seen private enterprises, often in the form of public-private partnerships, take an important role in governance and development within suburban environments. While there is little evidence in Canada that public-private partnerships are more cost-effective and efficient than the traditional public procurement and tendering processes, there are the norm in terms of infrastructure delivery.

Chapter 2: Methods and Methodology

This research paper is mixed methods, as the practice of transit planning combines qualitative and quantitative methods. Data used for the purposes of this paper will be from both primary and secondary sources, and will be mostly descriptive in nature. This permits some degree of flexibility in the research, and allows for the inclusion of both technical and social aspects of transit planning.

This project aims to answer several research questions. While six were initially present in the proposal for this project, this has been modified to five, as follows:

1. Do the Eglinton Crosstown in Toronto and REM in Montréal challenge the ongoing processes of splintering urbanism, and do they promote a more even development pattern in their cities?
2. Have the Eglinton Crosstown and REM worked towards progressing or rejecting regional governance in their respective regions? In what ways do the Eglinton Crosstown and REM accounting for conflicting local and regional needs? Do they promote multiple scales of regional transit network connectivity?
3. Have the Eglinton Crosstown and REM developed governance structures that account for ongoing trends in state roll-out in Canada?
4. Is the ‘new era’ of rapid transit projects responsive to challenges of suburbanization, regionalism, and governance, compared to previous iterations of rapid transit expansion?
5. Do the experiences of the Eglinton Crosstown and REM establish best-practices?

Initially, three specific research methods were to be used to answer the research questions, being document and content analysis, observation/walk-throughs, and interviews. As

the research progressed, the necessity for the interviews was greatly reduced, and, eventually, they were removed from the research entirely. The document and content analysis answered many of the research questions, and so there were little gaps for the research to fill.

For the document and content analysis, a wide variety of sources were gathered. Included in this were academic articles that have already been written about the REM project, and books that outline a great deal about the government and politics of the two regions, including how planning happens within these government and governance systems. Government decisions, policies, and planning documents were also used, in the context of outlining past proposals for rapid transit on the corridors studied, and for identifying key components of the projects. In general, these were sourced from York University Libraries, the Toronto Public Library, and the Bibliothèque et Archives nationales du Québec. The press released from agencies such as Metrolinx were also used, in order to compare how they frame the ongoing challenges, versus how the media frames them. Much of the content analysis was of newspaper articles, generally available online, in order to create a timeline of the challenges that both projects experienced. These were sourced from publicly-owned sources, like the Canadian Broadcasting Corporation, and private sources, such as the Montréal Gazette. These sources provided key timepoints in the development and construction phases, and, viewed in succession, allow for a deep understanding of how challenges have compounded, and how opportunities have been identified. Some less-than-traditional resources were also used, including YouTube videos. All online sources, whether they be newspaper articles or YouTube videos, were snowballed: references and other links provided were analyzed, and so on. This allowed for an extensive list of resources to be found.

In the context of the REM project in Montréal, resources in both French and English were used. Some of the French resources I found had more extensive discussions and arguments than

the corresponding English versions had. Incorporating bilingualism into the breadth of the research allowed for a further expansion of the data base.

For the observation/walk-through method, numerous stations were visited. These stations were selected to give a representative sample of all the stations. For example, in Toronto, stations visited were aboveground, or belowground; some stations were local, walk-in stations, while others were major transfer points. In Toronto, the following Eglinton Crosstown stations were visited in April and May, 2023: Kennedy, Pharmacy, Laird, and Eglinton. The following stations were visited in June, 2023: Eglinton West (soon to be renamed Cedarvale), Keelesdale, and Mount Dennis. In Montréal, the following Réseau express métropolitain stations were visited during my time there in the first half of May, 2023: Panama, Île-des-Soeurs, Gare Centrale, Édouard-Montpetit, Ville-de-Mont-Royal, Sunnybrooke, Roxboro-Pierrefonds, des Sources, Fairview—Pointe-Claire, Anse-à-l'Orme, and YUL-Aéroport-Montréal-Trudeau. At each station, a few activities were performed. The first was to assess how the stations, and the projects in their entireties, are situated within current transportation realities. This includes how they integrate the surrounding environment into the station area, how they provide meaningful connections for passengers, and how they support densification. The latter was helped by the second activity: identifying transit-oriented developments adjacent to the stations, visually through zoning change signs, but also online through newspaper articles and centralized databases, like Toronto's Application Information Centre. These two activities allowed for a better understanding of how the project exists within space, as opposed to a line on the map. The findings from the two activities were analyzed alongside the documents gathered, and from there, the previously-completed literature review.

Chapter 3: Introduction to the Case Studies

This research paper will compare two key case studies on mass transit construction currently ongoing in Canada. In Toronto, the case study will be the Eglinton Crosstown. This project is known by a variety of names, and will be referred to as 'Line 5' upon opening as to be in line with TTC's rapid transit numbering system, but for the sake of consistency across many years, it will be referred to as 'the Crosstown' for the purposes of this paper. In Montréal, the Réseau express métropolitain will be the case study, and will be referred to by its acronym of 'REM' throughout the paper. In this part, specific elements of each project will be introduced. When considering Addie's (2019) typology, both lines are principally 'infrastructures for suburbs' and 'infrastructures of suburbanization.' Additionally, one initial similarity between the lines is that they can be described as 'political footballs': changing governments have prioritized these corridors for upgrades for many years, but their timelines keep getting 'punted' further along.

Case Study 1: Eglinton Crosstown, Toronto

The Crosstown is a nineteen-kilometre light rail line, with twenty-five stations between its western terminus of Mount Dennis Station, where it will connect with GO Transit's Kitchener commuter rail line, and the Union-Pearson Express rail service, and its eastern terminus of Kennedy Station, served by the Toronto Transit Commission's (TTC) Line 2 and Line 3, as well as GO Transit's Stouffville commuter rail line (Metrolinx, n.d.a). Between Mount Dennis and a point east of Laird Station, the line will be fully grade-separated, with majority of the route being beneath the surface of the road (Figure 2). It will serve a single at-grade station in the middle of Eglinton Avenue, at Sunnybrook Park, before dipping below-grade at Science Centre Station,

Figure 2: Map of Eglinton Crosstown. (Source: Metrolinx, n.d.c).

which will be a major interchange in the future with the also under-construction Ontario Line (Metrolinx, n.d.b). Beyond Science Centre, until just before its arrival at Kennedy, service will operate at-grade along Eglinton (Metrolinx, n.d.a). In addition to what has already been mentioned, the line will make several important connections: it will connect to TTC's Line 1 twice: at Eglinton Station and at Cedarvale Station (the new name to be given to Eglinton West Station). The line will permit transfers to sixty TTC bus routes, many of which will be adjusted to better feed into the line, allowing for a significant reduction in overlapping and redundancy, including the perpetually busy 32 Eglinton West and 34 Eglinton East bus lines (Westoll, 2022a). Future connections are proposed at Caledonia Station, to GO Transit's Barrie commuter rail line. The Crosstown was planned by Metrolinx, a provincial Crown agency that operates at an arm's length (D'Mello & Callan, 2023). The line is being constructed by the Crosslinx Transit Solutions consortium, based upon a pre-existing plan developed by the City of Toronto (Crosslinx Transit Solutions, n.d.). Upon completion, the line will be owned and operated by the TTC, but maintenance will still be the business of Crosslinx for a period of thirty years (Kalinowski, 2015b; Moore, 2015). Initial construction activities began in 2011, with a projected

Figure 3: Bombardier Flexity Freedom. (Source: Barak, 2019).

opening date of sometime in the year 2020 (Kalinowski, 2015a). The line has since been delayed numerous times, and, as of writing, is expected to open towards the very end of 2023, or at the beginning of 2024, but this is still up in the air: Crosslinx reportedly has “no credible plan” to complete the line (Harvey, 2022b; King, 2022). Alongside the constant delays, the price tag has increased to $12.81 billion as of last estimation, and counting. Based on this figure, the cost per kilometre is approximately $674 million.

The Crosstown will be different than the TTC’s current rapid transit offerings in a few ways. Firstly, the line is light rail, and will operate using Bombardier’s Flexity Freedom vehicles (Figure 3), stored at a maintenance facility near Mount Dennis Station (Metrolinx, n.d.a). These vehicles have previously been used in the province of Ontario on Waterloo Region’s ION LRT. Two units will be coupled to form a train initially, with the opportunity to add a third unit to each transit should ridership progress to that point (Metrolinx, 2022). These vehicles are very similar to TTC’s streetcars, the Bombardier Flexity Outlook, and they will source power from an overhead wire, as opposed to an electrified third rail. The second major difference is another echoing of Toronto streetcar system: the line will have significant portions that are not grade

separated (Metrolinx, n.d.a). Despite these differences, the TTC considers the Crosstown, and the similar, under-construction Line 6 Finch West, to be rapid transit. The rapid transit network maps feature these lines with no distinguishment from the city's grade-separated rapid transit with the Crosstown being assigned an orange colour. One of the major discourses that have arose in relation to the Crosstown is the debate on whether the line is a slow streetcar or a fast subway (Harvey, 2023). As Toronto only has experience with mixed-traffic street cars, and grade-separated subways, there is not a large amount of experience in the public with something that combines the two modes (ibid). This discourse has also resulted in questions of whether the line was worthwhile, as a significant amount of money is being poured into a mode that may be perceived as being a 'downgrade' from a subway.

In addition to the line's construction between Mount Dennis and Kennedy, there is a western extension currently being tunnel west towards Renforth. While construction is occurring simultaneously, it is presently on a different stage. As a result, this extension is considered to be a separate project than the main segment, and will not be focussed on in this paper (Westoll, 2022b). Other proposed extensions, like to Pearson Airport in the west, or University of Toronto's Scarborough Campus and Malvern in the east, will also not be discussed within this paper (Shephard, 2021; Fox, 2022).

Case Study 2: Réseau express métropolitain, Montréal

The *Réseau express métropolitain*, more often referred to as simply 'REM,' is a light metro system currently under construction in Grand-Montréal (Lemyre, 2023a). With the most updated cost figures being $6.9 billion, as of June 2023, the entire system will measure sixty-seven kilometres in total, with a total of twenty-six stations (Vailles, 2021). This puts the cost per kilometre at just under $103 million, with an estimated 34,000 jobs were estimated to have been

Figure 4: Alstom Metropolis. (Source: REM in Service, 2021).

created during construction (CDPQ Infra Inc., 2019; Railway Technology, 2020; Saunders, 2022c). The trains, being the 'Saint-Laurent' model of Alstom's popular Metropolis (Figure 4), will operate in two-car sets during most hours, expanded to four-car sets during peak periods, and will source their power from an overhead cantenary (Railway Technology, 2020; REM, 2021). These trains will be fully automated, with no driver on board (Vailles, 2021). The trains will be stored at two facilities: one near Deux-Montagnes, and one near du Quartier in Brossard. Parts of the line will replace the former Deux-Montagnes commuter rail line, operated by the *Réseau de transport métropolitain*, also known as Exo (Magder, 2020a; Saunders, 2022a).

The first portion, which will open on July 31st, 2023, will operate between the South Shore suburb of Brossard and Gare Centrale, in downtown Montréal. Connections here can be made here with the Montréal Metro's Station Bonaventure, on the Orange Line, VIA Rail's 'Corridor' services to Toronto, Ottawa, and Québec, as well as some commuter rail lines. There will be will be four intermediate stops on this portion of the line, but one of them, Griffintown—Bernard-Landry, is expected to open later than the other stations. This stretch is entirely elevated, aside the underground terminus at Gare Centrale. Eventually, the line will extend northwards from Gare Centrale (Figure 5). The line will continue underground, passing under Mont Royal, with connections to the Metro's Green Line at McGill, and Blue Line, at Édouard-Montpetit. The

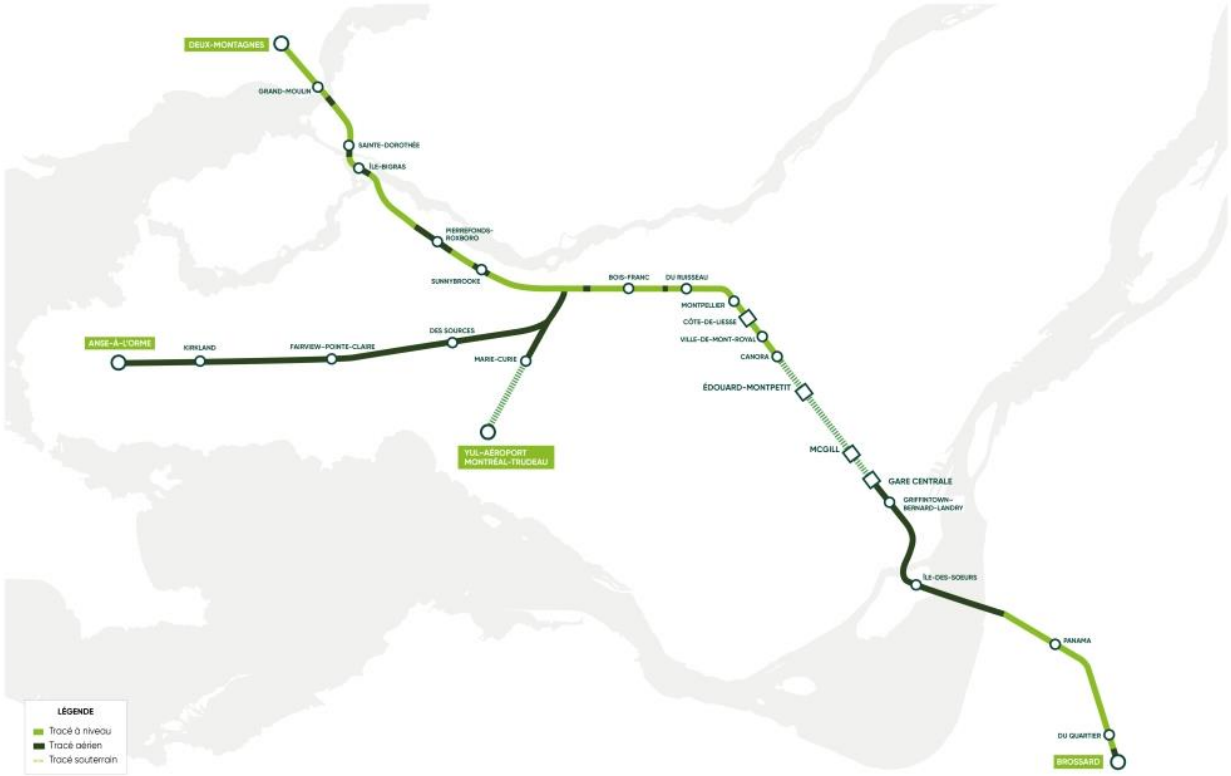

Figure 5: Map of Réseau express métropolitain. (Source: REM, n.d.d).

next six stations, through to Bois-Franc, will be in a shallow trench that was originally constructed for the Deux-Montagnes commuter rail line. Past Bois-Franc, the service splits into three branches (REM, n.d.b). One branch replicates the former Deux-Montagnes commuter rail line, with five stations spread across the northwestern part of the city of Montréal, in the city of Laval, and in the city of Deux-Montagnes. The second branch will run east-west, parelling Autoroute 40, on an elevated guideway, through the municipalities of West-Island. There will be four stations on this segment: notably, Fairview—Pointe-Claire will serve West-Island's major bus terminal; and the terminus of Anse-à-l'Orme will be located close to John Abbott College and the MacDonald Campus of McGill University (Sargeant, 2020; Magder, 2023c). The former two branches, and the combined service south of Bois-Franc, are expected to open sometime in 2024. The last branch, which is expected to open in 2027, will feature two stations: Marie-Curie,

within Technoparc Montréal; and YUL-Aéroport-Montréal-Trudeau (Magder, 2023c). This branch features both elevated and underground components, as it is to be tunnelled under the airport's runways (Carpenter, 2022). One major note is that the Exo6 Mascouche commuter rail line will no longer operate to downtown: it will terminate at Station Côte-de-Liesse, where passengers can transfer to the REM (Gyulai, 2019). REM will serve a large portion of the island of Montréal and off-island suburbs, and will travel through residential, commercial, industrial, and mixed-use areas (Urban Integration, n.d.). The REM was planned by the *Caisse de dépôt et placement du Québec*, a public pension fund, and is being constructed by two consortiums: Groupe NouvLR was selected, and Groupe des Partenaires pour la Mobilité des Montréalais (Vérificateur général du Québec, 2018). The contracts with the consortiums are in effect for ninety-nine years, having begun with the breaking of ground in 2018 (Ministre des transports, de la mobilité durable et de l'électrification des transports du Québec, 2018). The line, after completion of construction, will be owned by CDPQ Infra, who anticipates a "return of eight to nine per cent on its initial investment by billing the province for its services" (Magder, 2023c).

While it will connect to the Montréal Metro, and will use the same fare structure, the REM will operate entirely independent of the Metro (Société de transport de Montréal, 2022). Its operator is distinct that of the Société de transport de Montréal (STM), which operates the Metro and bus services on-island. There are several notable differences between the REM and the Metro: the REM sources power from an overhead wire instead of an electrified third rail, the trains are significantly shorter, there will be no driver on board, and, most notably, the REM can operate outside (Lemyre, 2023a; Lemyre, 2023b). The latter allows for more flexibility than the Metro currently permits, as even the newest Metro trains are not permitted to operate outside of a tunnel. Most stations will feature bus terminals where connections can be made. While the

region's bus operators plan to modify bus routes to feed into REM and reduce redundancy, only the plans of the Réseau de transport de Longueuil (RTL), which serves the *Agglomération de Longueuil*, on the South Shore, and the plans for Montréal's Île-des-Soeurs sector have been made public as of writing (Réseau de transport de Longueuil, 2023; Société de transport de Montréal, 2023). RTL's plan will free up many buses that currently run into downtown Montréal, allowing for improved and new bus routes elsewhere on the South Shore (Magder, 2023a).

The REM has had a significant impact on the fare structure in Grand-Montréal, as it crosses numerous municipal boundaries. In July 2022, the *Autorité régionale de transport métropolitain*, or ARTM, which is responsible for transit planning in Grand-Montréal, changed the fare structure for all transit within the region (Société de transport de Montréal, 2022). A flat fare was instituted in the *Agglomération de Montréal*, which includes the city and all on-island suburbs (constituting Zone A), with no premium paid to mode. This allows for a close integration of the local bus network, operated by the Société de transport de Montréal (STM), and the REM network, as well as the commuter trains. In the same vein, Zone B was installed in Longueuil and Laval, and Zone C was installed in the Couronne-nord and Couronne-sud, which includes Deux-Montagnes (ibid). This fits within one of the key goals of the remove project: to improve transit to both on-island and off-island suburbs that are otherwise dependent on bus connections. Another key goal is relieving of congestion on Autoroute 40 through West-Island, which is a major trucking route. Reducing congestion will improve transport speeds for trucks, with immediate economic benefits.

While they will not be focussed on in this paper, there are several proposals to expand the REM network. Of note, there is a proposed single station extension proposed from YUL-

Aéroport-Montréal-Trudeau to Terminus Dorval, which is a major intermodal terminal serving STM buses, the Exo1 Vaudreuil-Hudson commuter rail line, and VIA Rail's 'Corridor' services (Meagher, 2022). A second project inspired by the success of REM proper, tentatively named REM de l'Est, would run in some form from downtown with branches to Pointe-aux-Trembles and CÉGEP Marie-Victorin in Montréal-Nord (Saunders, 2022d; Saunders, 2022e).

Chapter 4: Timeline of Local History, Local Development, and the Case Studies

Having described many of the technical details of the two rail projects in Toronto and Montréal, we are now changing tracks to consider the histories and geographies of the projects as they have developed over time. We will start again in Toronto.

Case Study 1: Eglinton Crosstown, Toronto

Eglinton Avenue is a major east-west arterial road running across the city of Toronto, holding a major symbolic position, as it is the only street in Toronto to travel through all six of the city's boroughs: Etobicoke, York, North York, Toronto, East York, and Scarborough. This, however, is a relatively new development: prior to 1957, Eglinton Avenue ended in the east at Brentcliffe Road, as the Don Valley was a significant obstacle (Coulman, 2022). The work to build this bridge was undertaken under the new Metropolitan Toronto government, partly as a project to better connect the entire metropolitan city. This was particularly important, as the next road to the south that crossed the Don Valley was the Bloor Street—Danforth Avenue corridor, more than four kilometres to the south. The completion of Eglinton Avenue through this section instantly propelled it to be one of the most important streets in the city, and, to this day, both the arterial immediately south, St. Clair Avenue, and the arterial immediately north, Lawrence Avenue, have disconnected sections. Eglinton has always had traffic and travel patterns that are 'crosstown,' as opposed to the less-direct routings that define St. Clair and Lawrence. While it does not concern the Crosstown's initial phase specifically, Eglinton Avenue was only bridged over the Humber River Valley in the 1970s (Coulman, 2022).

The current development pattern along Eglinton is relatively mixed. Between Mount Dennis and Laird, Eglinton itself is mixed-use, whereas the side streets off Eglinton are

dominated by single-family homes. Nevertheless, these areas tend to be somewhat walkable. The exception to this low-density character is at Yonge Street, where high-density development has occurred for many years, facilitated by the existence of Eglinton subway station on the TTC's Line 1 (Rudka, 2021). The Minto Midtown residential development, located at 2195 Yonge Street, was one of the first large-scale developments in the area (Boudreau, Keil, & Young, 2009, p. 111). The Yonge and Eglinton area was identified as a major centre by the former City of North York, and later within the Toronto Official Plan, signalling that intensification should be channelled here. Beyond Laird Station, there is some higher-density development near Sunnybrook Park, Science Centre, and Wynford Stations, but the presence of the Don Valley, the Don Valley Parkway, and Sunnybrook Park provide breaks in the development. Low- and medium-density housing and light industry are present at Sloane and approaching O'Connor Station at Victoria Park, but between Victoria Park and Birchmount, there is exclusively suburban strip malls, big box stores, office buildings, and light industry. This area, known as the Golden Mile, is subject to a secondary plan that will see a change of use to mixed-use developments, and will see high-density developments in the longer-term, as per the Toronto Official Plan (Kassam, 2022; Toronto.com, 2023). The short stretch between Birchmount and Kennedy is characterized by mid-rise apartment buildings, with densities decreasing away from Eglinton Avenue itself. This fits within the sudden push towards an urban region that has existing in Toronto since 2012 (Addie & Keil, 2015, p. 415).

Improvement of public transit along Eglinton Avenue has been talked about for nearly forty years. Each proposal iteration has been differed slightly from previous ones, but the general proposal of a Crosstown transit connect has been consistent. Some discussion of an Eglinton Line began in 1973. The GO-Urban proposal was to be a maglev system, with several lines

crossing the city, in lieu of the recently cancelled expressway network (Xue, 2022a). The line along Eglinton was to begin around the intersection of Eglinton Avenue West and Islington Avenue, and travel east, eventually reaching the neighbourhood of Malvern. Although there were challenges with the plan, including pessimism from planners, lack of support from the public, and a prototype that was long-delayed and over-budget, the line was only cancelled when support for the manufacturer, Krauss-Maffei, was pulled by the West German government (ibid). The next proposal for rapid transit on Eglinton originates in the Toronto Transit Commission's 'Network 2011' plan, from 1985, which was two-pronged. The initial project was a temporary busway along the street's western half. At the time, the estimated cost was to be $365 million, and would be completed by 2003 (Bow, 2017; Xue, 2022b). This busway was only to be temporary, and would be replaced by a light-rail line or a subway. Construction on the light-rail or subway replacement was scheduled to begin in 2011. While the plan was relatively well-received downtown and in the east end, the mayors and councillors in York and Etobicoke wanted to the light-rail or subway plan to be moved up, eliminating the temporary busway project (Bow, 2017). The jealousy was based the fact that North York and Scarborough would be receiving a subway on Sheppard Avenue, and what had been allocated for York and Etobicoke was perceived as being of less value (ibid). The alternative proposal of moving up the subway was supported by the City of Mississauga and Peel Region, who felt that the line would eventually extend into their jurisdiction, and that, since the provincial government had committed to paying seventy-five percent of the plan, the City of Toronto should not be the sole beneficiary of the project (ibid). Their protesting paid off, as in 1986, the approved Network 2011 featured Eglinton West as a subway, with the busway removed entirely (Nickle, 2021). The Eglinton West subway would have originated at Eglinton West station on Line 1, and would

have continued west. The initial phase would have ended at York Centre Station, near the currently under-construction Mount Dennis Station, with stops at Dufferin, Caledonia, and Keele. Subsequent phases would have brought the line through Etobicoke until at least Martin Grove. Initial propositions suggested two branches: one running further west, and one turning north. In 1994, Ontario Premier Bob Rae agreed to fund the subway project, and construction began on August 25th of that year (Bow, 2015). The following year, the Progressive Conservative Party won the Ontario election, and the new premier, Mike Harris cancelled the project (Bradburn, 2012). The excavation that had already occurred near Eglinton West Station was subsequently filled in. Since Harris also eliminated provincial subsidies for transit agencies, the budget of the TTC was tightened significantly, and there were simply no funds available for such large-scale capital projects (Davis, 2023b).

The next iteration of rapid transit along Eglinton originated in 2007, with the 'Transit City' plan, announced by Toronto Mayor David Miller and Toronto Transit Commission Chair Adam Giambrone (Davis, 2023a). This plan was relatively simple: it aimed to replace some of the city's busiest bus routes with mostly surface-running light rail transit, and improve other corridors with bus priority. The Eglinton Crosstown LRT, as it was christened at the time, was the most significant of these projects, as the line between Keele and Laird would be built entirely underground, reviving the original Eglinton West subway's first phase (Figure 6). The line would run from Toronto Pearson International Airport in the west, and Kennedy in the east, with a total of forty-three stations, with an expected cost of $4.6 billion (Bow, 2021). Much of the cost of the Transit City plan was to be covered by the province's 'MoveOntario 2020' initiatives, which was eventually reconstituted as Metrolinx's 'The Big Move' (Carter, 2013; Addie, 2017, p. 128). While Metrolinx internally wished for a full subway along Eglinton, they eventually

Figure 6: Map of Transit City. The Eglinton Crosstown is coloured blue. (Source: Bow, 2021).

changed their tune, as in April 2009, the province and the city agreed on the specifics of funding to build the light rail lines (CBC News, 2008; Kalinowski, 2009). The dispute between the TTC and Metrolinx on this front was based on the fact that the TTC did not expect people to travel the entire length from Pearson Airport to Kennedy, and thus speed should not be the top priority, whereas Metrolinx viewed the line as being important to the regional transit system (Addie, 2017, pp. 131-132; Metrolinx, n.d.a) This plan would have seen service as far west as Jane Street during phase one, with service to the airport coming in a later phase. However, less than a year later, the province decided to postpone approximately $4 billion in funding to Metrolinx, much of which had been earmarked for Transit City, meaning that the construction of the prioritized lines, including the Crosstown, were to be delayed (Warren, 2010). The plan took another blow, as the newly-elected mayor of Toronto, Rob Ford, cancelled the Transit City plan in its entirety

on his first day in office (CBC News, 2010). Ford had characterized light-rail as glorified streetcars, and suggested that the city should only be building subways. Noting this, he suggested a completely underground subway line, from Black Creek Drive to Kennedy, then following the corridor of the aging Line 3 Scarborough RT, to McCowan. This plan would have less stops than the Crosstown LRT, and would have doubled the cost to nearly $8.2 billion (Nickle, 2021).

In 2012, parts of Transit City were revived. Toronto City Council, led by Toronto Transit Commission Chair Karen Stintz, voted to override Ford's modifications to Eglinton Crosstown LRT, Finch LRT, and Sheppard LRT (CBC News, 2012a). The revived proposal would only be underground between Laird and Keele, as originally proposed, with the ends being on the surface. Metrolinx, as well as Ontario premier Dalton McGuinty, confirmed provincial support for the plan. This support was solidified on September 28, 2012, when Metrolinx signed a master agreement with the Toronto Transit Commission to deliver four light rail lines, including the Eglinton Crosstown (Kalinowski, 2012; Rider, 2012). While there was minor alteration of the original environmental assessment, related to the location of the eastern portal to the surface being moved further east, and alterations to the proposed station at Leslie, this was reversed soon after (Kalinowski, 2013). Construction began in 2011, with the official ground-breaking occurring on November 9th at Keelesdale Park. Despite the many changes in the past, this plan was full steam ahead, and is the iteration presently being built, with an anticipated opening in the year 2020.

In 2013, Infrastructure Ontario, who would be managing the project through a public-private partnership, issued a request for qualifications for companies to construct the line, with the successful bid for the line east of Yonge Street being a venture joint between Aecon Group and ACS Dragados Canada (Aecon, 2013). 2013 was also the year that tunnelling on the line's

western half began, reaching Allen in 2015 (Metrolinx, 2015). Other highlights in 2015 included the beginning of tunnelling from Laird west towards Yonge, and the first opening date adjustment, moving it back from 2020 to Fall 2021 (Kalinowski, 2015a). Additionally, the contract awarded to Crosslinx Transit Solutions, often referred to as simply 'Crosslinx,' was inked. The total cost was $9.1 billion, which is around $2 billion below initial estimates, and includes a contract for thirty years of maintenance for the line (Kalinowski, 2015b; Moore, 2015). Crosslinx is made up of four different private sector partners; ACS-Dragados, Aecon, EllisDon, and SNC-Lavalin (Crosslinx Transit Solutions, n.d.). Tunnelling continued through 2016, but this year was scarred by several challenges. In April, the façade of the future Forest Hill Station collapsed, injuring seven people (Johnston, 2016). Bombardier Transportation, who was to construct the vehicles for the line, did not meet the deadline to delivery the pilot Flexity Freedom, and so Metrolinx filed a notice of intention to cancel its contract with Bombardier (Spurr, 2016). Bombardier took Metrolinx to court, where it was revealed that the prototype that Metrolinx received from Bombardier was allegedly incomplete, and was unable to even power up (Jeffords, 2017; Moore, 2017). In 2017, the west end tunnelling was deemed complete. 2018 brought more challenges, when Crosslinx sued Metrolinx, for having exceeded the timelines specified for prerequisite utility works (Spurr, 2018a). Crosslinx wished to extend the proposed 2021 opening by one more year. While Metrolinx aimed to have the lawsuit dismissed, they ended up paying $237 million to Crosslinx to ensure that the 2021 opening date was met, with other disputes to be resolved after construction was completed, as had been agreed upon prior (Spurr, 2018b). The Auditor-General, however, flagged this payment as being done improperly (Moore, 2018). At this point, the budget had ballooned to $11.78 billion (King, 2022). In 2019, the Eglinton Maintenance and Storage Facility was substantially complete, and was able to

receive the first Flexity Freedom light rail vehicle from Bombardier (Burman & Mulligan, 2019). Bombardier continued to deliver vehicles throughout 2019, but only managed to deliver half of the six required by a deadline, and was fined by Metrolinx (Reynolds, 2019). In November 2019, Crosslinx revised the completion date of May 6th, 2022, and that the total cost of construction would be $12.58 billion (Spurr, 2019; King, 2022). Crosslinx chalked up these delays to major issues around the Yonge and Eglinton intersection.

The following year, Metrolinx followed up, stating that the line would not open until "well into 2022," due to further delays (CBC News, 2020a). Metrolinx later proposed a partial opening of the line in early 2022, but without the direct connection that would permit transfers to Line 1 at Eglinton Station. In October, Crosslinx again sued Metrolinx, for $134 million, citing challenges brought on by the COVID-19 pandemic, which Metrolinx countered with the assertion that the Crosslinx falling behind on the project occurred prior to the onset of the pandemic (CBC News, 2020b). Despite a year of negativity, the entire project's tunneling was completed, and the energization of the catenary system followed soon after (Metrolinx, 2021). This meant that vehicles were able to traverse most of the line for their burn-ins. In 2021, Crosslinx won their case against Metrolinx at the Ontario Superior Court, with the result being Crosslinx gaining the ability to negotiate with Metrolinx and Infrastructure Ontario for financial compensation and a later completion date of the line (Spurr, 2021a). By the end of the year, a settlement had been reached, which amounted to $325 million in additional costs paid to Crosslinx, with substantial completion of construction expended by September 2022, but opening unlikely until 2023 (Spurr, 2021b). 2022 marked the arrival of all seventy-six Flexity Freedom vehicles, which also began full testing (Metrolinx, 2022). However, in September, it was announced that Crosslinx was again behind schedule, and that the line would not be

completed by the end of the year, with an internal revised date of September 2023 (CBC News, 2022; Harvey, 2022a). While Crosslinx expected a date of March 2023, Metrolinx found it unrealistic, as Eglinton Station was still being an issue.

Confidential documents from Metrolinx that have since leaked have indicated that Crosslinx had no "credible plan" to complete the line, despite 98% of the construction work being completed (Harvey, 2022b; King, 2022). More than two-hundred and sixty quality control issues were found on the line (CBC News, 2023a). Additionally, as of April 2023, Crosslinx has $260 million in outstanding claims against Metrolinx, and the line's budget has increased to $12.81 billion (King, 2022). In May 2023, Crosslinx indicated that they will be ceasing cooperation with the Toronto Transit Commission, suggesting that the TTC's ability to request alterations at any time throughout the construction phase complicates Crosslinx's ability to construct the line, as per their contractual obligations (Callan & D'Mello, 2023). Crosslinx has filed a notice of application with the Ontario Superior Court of Justice, with Metrolinx and Infrastructure Ontario being the responding organizations (CBC News, 2023b). In brief, it cites the changes to the line wanted by the TTC, as well as the failure of Metrolinx to retain an operator for the line. They argue that Metrolinx has yet to enter into their contract with the TTC for the operation of the line, which would have to be consistent with the project agreement between Crosslinx, Metrolinx, and Infrastructure Ontario. That said, many of the specifics of the current challenges have still yet to be made public (Harvey, 2023).

Case Study 2: Réseau express métropolitain, Montréal

The development pattern alongside the Réseau express métropolitain route is quite suburban, but there is some variation. The Rive-Sud stations between Brossard and Panama are flanked by either low-density housing, or suburban shopping centres with large parking lots,

including three thousand parking spots at Brossard (Cambron-Goulet, 2021). While there is some density on the north side of Station Île-des-Soeurs, with more proposed to be constructed, the south side is a suburban shopping centre and office park. The stations between Griffintown—Bernard-Landry and McGill are at much higher densities, with a significant concentration of both housing and employment around the three stations. Station Édouard-Montpetit is somewhat less dense, but its location adjacent to Université de Montréal will likely mean there is still significant demand to use this station. Although Ville-de-Mont-Royal was built as a transit-oriented community back in the first half of the twentieth century, it is not very dense near the stations. While there are some apartment buildings near the stations further north on the Deux-Montagnes branch, the housing form is low-density, particularly around Station Sainte-Dorothée. Station Île-Bigras is a bit of an exception: while it is entirely low-density, the island itself has only one bridge, which leads north into the rest of Laval. As such, REM, just like the old Deux-Montagnes line did, will significantly cut travel times into the rest of Montréal (Colpron, 2021). The low density and population count on Île-Bigras due not necessarily means that transit will be a small modal share. The other two branches, en-route to the YUL-Aéroport-Montréal-Trudeau and Anse-à-l'Orme, is entirely suburban, especially on the latter branch, falling entirely within the right-of-way of Autoroute 40.

The Réseau express métropolitain has its origins in the commuter rail line to the town Deux-Montagnes, on the North Shore. The original service on this corridor was the product of the Canadian Northern Railway, who decided in the early twentieth century that they could provide passenger rail service into Montréal from the north by travelling through Mont-Royal. In 1918, service began with the opening of the Mont-Royal Tunnel, significantly reducing the distance required to travel towards downtown from points to the north (Dufour, n.d.). Service ran

between downtown and Bois-Franc initially. This included a station at Ville-de-Mont-Royal, which was a model city built by the railway company. Service was extended in 1924 to Pointe-Calumet, then again in 1925 to St-Eustache-sur-le-Lac, now known as Deux-Montagnes. Bankruptcy of the Canadian Northern Railway in 1943 led to the service being incorporated into Canadian National Railway (ibid).

By the 1960s, there were numerous plans to modify the commuter rail line to Deux-Montagnes, especially considering that much of the line's infrastructure and equipment were reaching forty years of age. Originally, the line was to be replaced by the Metro's Red Line, which was never built as the Yellow Line was prioritized in the lead-up to Expo 67 (Blais-Poulin, 2012). As ridership declined throughout the 1970s, the Canadian National Railway wanted to close the line, but this was rejected. The *Ministère de transports et mobilité durable*

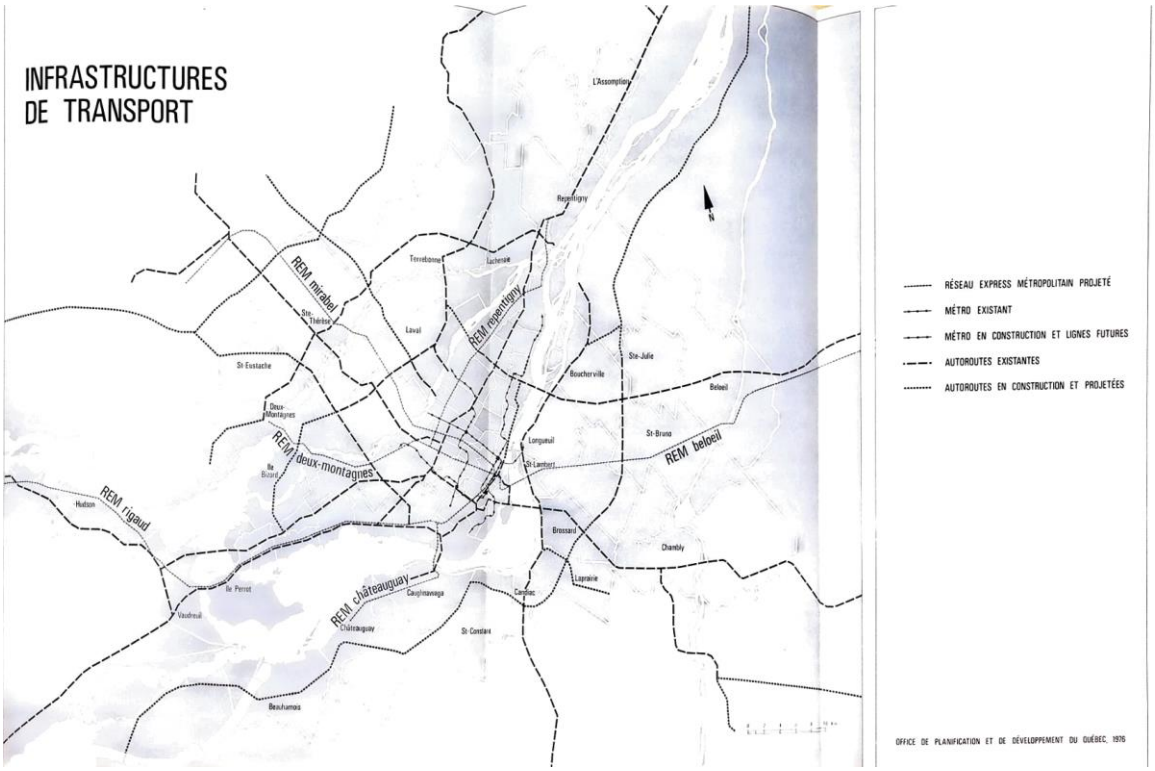

Figure 7: Map of Transport rapide régional aéroportuaire Montréal-Mirabel. (Source: Bureau d'aménagement du réseau express de Montréal, 1977, p. x).

suggested that, with the pending opening of the new Mirabel Airport, north of the city, the St-Jérôme commuter rail line could be upgraded to metro standards (Figure 7), providing a frequent and fast connection from downtown to the airport (Bureau d'aménagement du réseau express de Montréal, 1977). This proposed line, named *Transport rapide régional aéroportuaire Montréal-Mirabel* was soon expanded to be the first in a series of six light metro lines, based on the Bay Area Rapid Transit system in the San Francisco area (Figure 8). The five new corridors chosen in addition to Mirabel were Deux-Montagnes, Repentigny, Beloeil, Châteauguay, and Rigaud (Camus, DesRosiers, Fauteaux, Labonté, Roy, & Saicans, 1980). This plan had several goals outlined from the onset, including a reduction in urban sprawl through transit-oriented development in the suburbs. However, this entire plan was shelved when it became clear that Mirabel Airport would not be the principal airport for the region, meaning the initial line to be

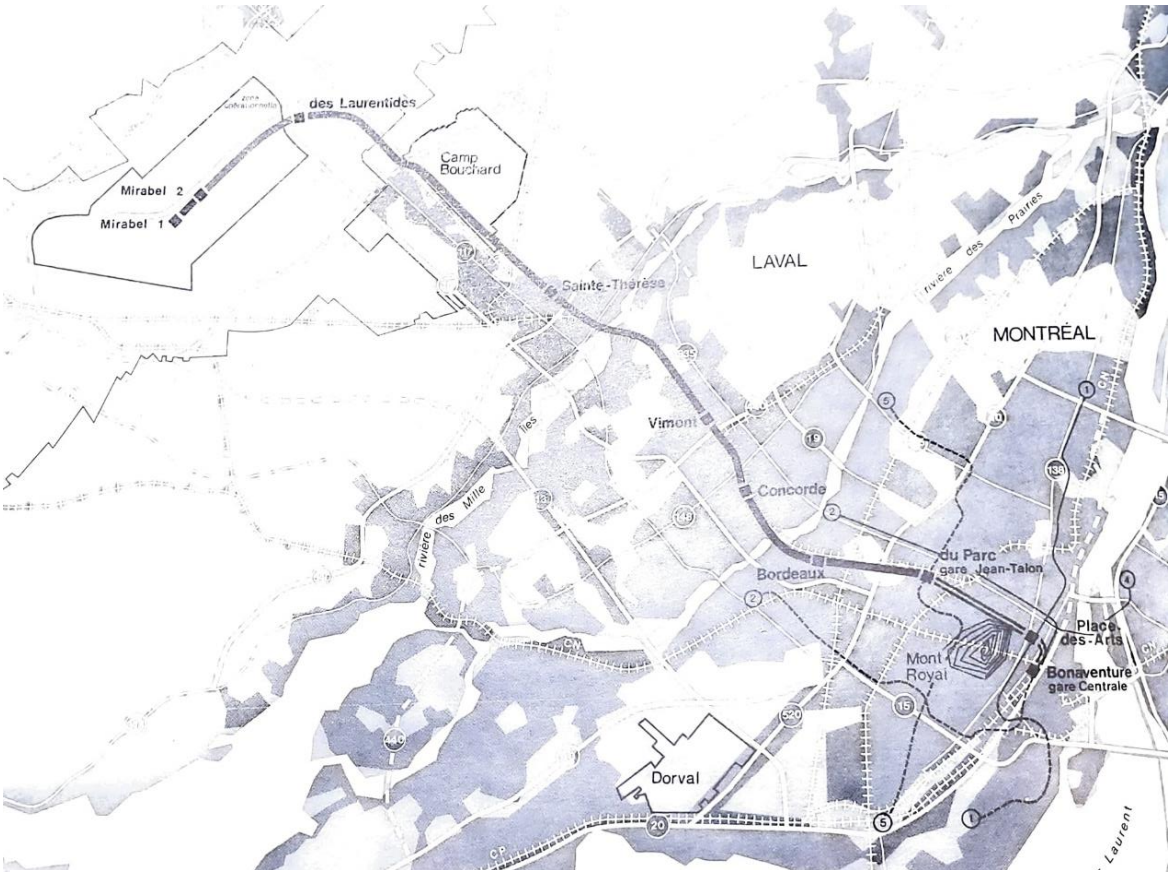

Figure 8: Map of the six axes of the Réseau express métropolitain. (Source : Camus, DesRosiers, Fauteaux, Labonté, Roy, & Saicans, 1980, p. 121).

offered would be of little use (La Presse, 1977; Binsse, 1979). On the south side of the island, a study from 1981 was undertaken, exploring options for building a tramway or light metro, to and through Longueuil. The plan would have followed Boulevard Taschereau to some extent, and making a connection to Gare Centrale. Note that the REM station of Panama is located on Boulevard Taschereau, and, like in the 1981 plan, has a large bus terminal for regional bus connections.

In 1982, all commuter train lines were transferred from their private operators to the publicly-owned and operated *Commission de transport de la communauté urbaine de Montréal*, or CTCUM, later rebranded as the STCUM, being a Crown corporation (Société de transport de Montréal, n.d.). Initially, CTCUM set fares and schedules, but Canadian National Railway still provided equipment and operated the service. In 1987, the Ministère des Transports du Québec investigated possible scenarios should the Deux-Montagnes line be closed, but in the end, the line continued to operate (TRANSURB Inc. Experts-conseils, 1987). In 1992, the government of Québec announced the electrification of the line, which required seasonal closures in the mid-1990s for construction to occur. Management of the commuter lines was moved from STCUM to the newly created, provincial *Agence métropolitaine de transport*, abbreviated as AMT, in 1999 (Hamel, 2017, p. 190). STCUM's focus was reoriented closer to the Metro and bus network on the island of Montréal, and eventually became the dedicated local transit operated, the *Société de transport de Montréal* (STM), alongside the amalgamation of the island in 2002 (Société de transport de Montréal, n.d.). In 2014, the AMT purchased the entire Deux-Montagnes line from Canadian National Railway for $92 million (Riga, 2014). There were two major benefits of this new arrangement. First, it prioritized commuter trains over freight trains in both directions, throughout the day, allowing for far improved service over whatever was possible under

Canadian National Railway ownership. Secondly, by owning the infrastructure, AMT was in a better position to pursue improvements to the line, which helped set the stage for the construction of the REM, which will be explored later in this chapter. In 2017, AMT was dissolved, and was replaced with the Autorité régionale de transport Métropolitain, or ARTM, and the Réseau de transport métropolitaine, or RTM (Radio-Canada, 2015). These new agencies had some provincially-appointed experts on their boards, but they were mostly under the control of the *Communauté métropolitain de Montréal.* The new structure gave roles to several key actors in the broader governance picture for transit in the region (Figure 9). As such, they helped reduce concerns from municipalities in the region that felt that AMT was encroaching on that is otherwise their jurisdiction (Hamel, 2017, p. 195). RTM took over the management of this line,

Acteurs	Niveau d'intervention	Rôles
Communauté métropolitaine de Montréal	Politique	▪ Établir les orientations métropolitaines
Autorité régionale de transport métropolitain	Stratégique	▪ Assurer la mobilité des personnes sur son territoire par le transport collectif ▪ Simplifier la tarification sur le territoire de la région métropolitaine
Organismes publics de transport en commun	Opérationnel	▪ Offrir le service de transport collectif en fonction du contrat accordé par l'ARTM
REM commandité inc. et Projet REM s.e.c.	Stratégique et opérationnel	▪ Établir ou modifier l'offre de service du REM ▪ Offrir le service de transport collectif du REM selon les modalités de l'entente intervenue avec l'ARTM

Figure 9: Actors and their roles after the 2017 governance reorganization. (Source: Vérificateur général du Québec).

as well as the other commuter lines previously operated by AMT (Vérificateur général du Québec, 2018). This redefinition of the governance structure aimed to resolve some of the intermunicipal issues of transit in the region, which would benefit REM as it serves so many of the municipalities. In 2018, RTM rebranded itself as Exo, and the Deux-Montagnes line was given the number 'Exo6.' Exo6, at the time, was the third-busiest commuter rail line in Canada, trailing only GO Transit's Lakeshore lines in the Greater Toronto Area, with weekday boardings exceeding thirty thousand per weekday (Barrieau, 2019, p. 9).

In 2015, a partnership between the Caisse de dépôt et placement du Quèbec, or CDPQ, and the government of Québec, under Liberal Premier Philippe Couillard, was agreed to. This agreement would permit CDPQ, a for-profit public pension fund in the province with Crown corporation status, to finance major transportation projects in the province (Dougherty, 2015). This was to be done through a new arm of the agency, CDPQ Infra, as outlined in the *Loi concernant le Réseau électrique métropolitain, RLQR c R-25.02* and the *Loi visant à permettre la realization d'infrastructures part la Caisse de dépôt et placement du Québec, LQ 2015, c 17.* The rationale behind this agreement was that, in the 2007-2008 financial crisis, while CDPQ's investments were hemorrhaging value, their infrastructure investments did not fluctuate in value significantly (Saunders, 2022a). One of these infrastructure investments was with Vancouver, British Columbia's Skytrain: CDPQ was a party to the InTransitBC joint venture company, alongside SNC-Lavalin, and the Investment Management Corporation of British Columbia (bcIMC), which invested approximately $750 million for the line's construction (Canada Line Rapid Transit Inc, 2006). This was CDPQ's first foray into constructing rapid transit, and the lessons learned from this project could then be applied to projects within their home province of Québec. Initial estimates pegged the first wave of spending at $7.4 billion through to 2024. The

model would require the government of Québec to send requests to CDPQ, who would assess feasibility from both financial and technical standpoints (Saunders, 2022e). The first two projects that the Québec government proposed were a South Shore rail line, and the *Train de l'Ouest* across West-Island, identified as the two most significant needs for Montréal at the time (Delean, 2015; Magder, 2015; Saunders, 2022c).

The arrangements that CDPQ was seeking out were described by the agency as being 'public-public partnerships' (Denmark, 2017). While they were to have a similar layout to public-private partnerships, the private partner would be replaced by a public partner, in the form of CDPQ, that had the financial resources to invest in the project (Dougherty, 2015). The *Vérificateur général du Québec* (2018) described this arrangement as a "novel approach."

In 2016, CDPQ Infra and then-mayor of Montréal Denis Coderre unveiled the rapid project to the public for the first time (Radio-Canada, 2016). Then known as the *Réseau électrique métropolitain*, known as REM, this project merged the two initial proposals of a South Shore line and the Train de l'Ouest into one rail system, along with two other branches (Saunders, 2022a). This plan, after more than forty years of failed proposals, replace the Exo6 Deux-Montagnes commuter rail line. The project would be a total of sixty-seven kilometres in length, with twenty-four stations announced initially. The first phase of the line was estimated to be completed in late 2020 (REM, n.d.b). The proposal from CDPQ Infra took advantage of several opportunities that had been presented, including the reconstruction of the Champlain Bridge, and the underutilization of the city's rail corridors for passenger services (Bisson, 2013; Saunders, 2022a). The initial cost was laid out in two requests for qualification: one for engineering and construction, valued at $4 billion; and one for rolling stock, systems, operations, and maintenance, valued at $1.5 billion (Briginshaw, 2016). In 2016, the proposed 'Autoroute

13’ station was dropped, and three new stations were added: Édouard-Montpetit, with a connection to the Metro’s Blue Line; McGill, with a connection to the Metro’s Green Line; and Bassin-Peel, later renamed to Griffintown—Bernard-Landry (Magder, 2016; Yoon, 2020). These new stations increased the cost of the project from the original combined $5.5 billion to a new total of $5.9 billion (ibid). The plan for REM had numerous similarities to what had been proposed for the Deux-Montagnes and Rigaud corridors in the 1970s.

Noting these opportunities and the costs of resolving the city’s needs, the REM project was put portrayed as being ‘common sense’: it would be a better service, at a lower cost than what was currently in place (Colpron, 2021; Saunders, 2022a). This is a big development, as there have been general concerns from the central city with sharing projects with the suburbs, and that there is no one vision for Grand-Montréal (Hamel, 2017, pp. 177, 185). The technology chosen was automated light metro, requiring full grade separation, and would use shorter trains in order to provide a more frequent service. For example, the Exo6 Deux-Montagnes commuter rail line operated nine round-trips per day, most of which were peak-directional, at a cost of 89 cents per passenger kilometre, excluding maintenance (Saunders, 2022a). The REM, on the other hand, would have forty round-trips per day up the Deux-Montagnes branch, at a cost of 72 cents per passenger kilometre, including maintenance and new equipment (Vailles, 2021; Saunders, 2022a). If ridership was to exceed projections, this cost will be reduced further: at 115% of projected ridership, the cost is 58 cents; at 140%, the cost is purely the ticket cost. This 72-cent cost becomes what ARTM pays to CDPQ Infra per passenger kilometre when REM opens, from the fares that they sell to passengers, which CDPQ Infra will use to generate a profit on the line, expected to be eight to nine percent (Magder, 2023c). While CDPQ assessed several other requests for a rapid transit line, it found that four axes would be cost-efficient: Rive-Sud, Deux-

Montagnes, Sainte-Anne-de-Bellevue (West-Island), and Aéroport Pierre-Elliott-Trudeau (Le REM en service, 2018; Saunders, 2022a). These four axes were thus integrated into the REM project, each being one of the four branches.

With a new name of Réseau express métropolitain decided upon, reviving the name for the proposed network from the late 1970s, preparatory construction work began in March, 2018, and the ground was officially broken on April 12th, 2018 (REM, 2018; Radio-Canada, 2018; Magder, 2018; CDPQ Infra Inc., 2018). One immediate challenge was the 2018 Québec General Election, where some candidates, in order to secure votes, promised extensions of REM to the ridings they were running in. Infamously, Coalition Avenir Québec candidate Jean-François Roberge, for the riding of Chambly, promised a REM extension to the town of the same name and its 30,000 residents, should the CAQ win the election (Bedard, 2018; Saunders, 2022c). As per their model, when the CAQ was elected with a majority mandate, CDPQ Infra had to take time to assess the proposal, and consider whether it would fit within the system's tight financial model. In the end, it did not, so the project continued unchanged, but time was spent dealing with political promises instead of what is realistic.

In December 2019, CDPQ Infra adjusted the total cost of the project to $6.5 billion, alongside the finalized optimization agreement with NouvLR, the consortium responsible with building the REM (CDPQ Infra Inc., 2019; DCN-JOC News Services, 2020). The onset of the COVID-19 pandemic caused delays, as construction was suspended between March and May of 2020 (Thomas, 2020). While construction progressed well, a major snag was hit when there was an unanticipated explosion in the Mont-Royal tunnel. It is believed to have been caused by latent explosives that were left behind during the tunnel's original construction (CBC News, 2020c; Magder, 2020b; Magder, 2021; Lemyre, 2023a). This incident caused the section of the line to be

delayed from 2022 to 2023. To facilitate construction of the line, service on Exo6 Deux-Montagnes was permanently suspended between Gare Central and Bois-Franc in May 2020, with the remainder of the line closing on December 31st, 2020 (Magder, 2020a; REM, 2022; Saunders, 2022d). In June 2021, the updated cost provided by CDPQ Infra was $6.9 billion, citing impacts from the COVID-19 pandemic (Kovac, 2021; Vailles, 2021; Corriveau, 2021). By the end of 2017, Alstom had delivered thirty-seven rail cars, more than the twenty-eight required for the South Shore branch to open (Tomesco, 2021). While there were initially quality control issues with the rail cars, they were quickly resolved by Alstom (ibid). The following year, in June 2022, CDPQ Infra pushed back the opening of the line, to 2023 for the South Shore segment, and to 2024 for much of the rest of the line (Cambron-Goulet, 2022). This was for several reasons: construction challenges in the Mont-Royal Tunnel, as well as labour shortages and supply chain constraints brought on by the pandemic. While it was stated that the cost would exceed the most recent update of $6.9 billion, no specific figure was provided. It was not immediately clear who would pay for this unanticipated cost overruns, but it was expected that CDPQ Infra would burden any additional costs (Tomesco, 2022). While the section to the South Shore was expected to open during “Spring 2023,” and the line itself is nearly ready to run, the opening had been pushed back again, seemingly by only a few weeks, in order to ensure consistently safe operation of the line before it can begin operation (Magder, 2023b; Riga, 2023). On June 26, 2023, ARTM announced that the line was beginning its final phase of testing, and that the public should expect the line to begin service within thirty to forty-five days (Sherwin, 2023a). The following day, it was announced that NouvLR had violated several of health and safety regulations on the project, including an incident in September 2022 that saw a runaway piece of rolling stock travel the Champlain Bridge (Sherwin, 2023b).

In early July 2023, it was announced that the first phase of REM, operating between Gare Centrale and Brossard, will open for regular passenger service on Monday, July 31st, with the first train from Brossard towards Gare Centrale departing at approximately 5:30am (Lajeunesse, 2023). Gradually, the bus networks for the South Shore and Île-des-Soeurs will be modified significantly in order to better feed into the new REM stations (Réseau de transport de Longueuil, 2023; Société de transport de Montréal, 2023; Ville de Chambly, 2023). In July, as well, the per passenger kilometre cost paid by ARTM to CDPQ Infra was adjusted to match inflation, changing from 72 cents to 75.3 cents (Saint-Arnaud, 2023). This still falls well below what CDPQ Infra calculated for the former EXO6 Deux-Montagnes commuter rail line.

Chapter 5: Systems of Governance

Having explored the timelines of how the lines are developing, this paper will now explore the governance structures at play in both the planning and construction phases of these transit megaprojects. It is important to note that governance is not synonymous with government: governance has numerous other actors, including land owners, and system users (Raco, 2020). Governance is not an open process, but more of how political, social, and economic actors interact with each other while attempting to resolve complicated issues, like transit.

Case Study 1: Eglinton Crosstown, Toronto

The current planning regime in relation to public transit megaprojects within the City of Toronto can be traced back to some of the fallout related to the construction of the Toronto York Spadina Subway Extension, often abbreviated as 'TYSSE,' but reflects an ongoing uploading of responsibilities from municipalities to the provincial government. As cities are "creatures of the province," the city had no choice but to oblige. The province has a great deal of power over local governance, and this is just another form of it (Spicer, 2022, p. 100).

Up until the 1990s, transit megaproject planning was done in-house at the Toronto Transit Commission, with funding originating from the both the TTC's own sources, as well as from the City of Toronto. While capital did occasionally originate from the provincial government and the federal government, the planning and construction of mass transit was done at the local level. The first major change to this was in 1996, when then-Ontario Premier Mike Harris' government undertook the neoliberal 'Common Sense Revolution'. This turn in policy saw taxes slashed, and saw many responsibilities downloaded from the provincial government to the municipal government (Bradburn, 2023). The municipalities had no say in the matter, and the

slashing of taxes meant that cities had fewer revenue sources despite seemingly larger budgets. For the Toronto Transit Commission, this meant the loss of their provincial subsidy, impacting both capital projects and day-to-day operation of the system (Davis, 2023b). As such, any rapid transit network expansion was put on hold, simply because there was no way to pay for it.

After many years of uncertainty, the City of Toronto and the Toronto Transit Commission began construction on the Toronto York Spadina Subway Extension in 2008. This project aimed to achieve several goals, including the replacement of TTC's busy 196 York University Express bus, a rationalization of bus service in the northwest quadrant of the city, and extending rapid transit across Toronto's municipal boundary for the first time, with two stations planned for the City of Vaughan (Beattie, 2017). Approximately one third of the project's total budget was provided by the provincial government, but the planning was still a TTC in-house project (Toronto Transit Commission, n.d.) This project was plagued by a few issues throughout the construction period. Included in this are numerous delays to opening the line, significant and frequent cost overruns, and the death of a construction worker at York University Station in 2011 (CBC News, 2012b). These specific issues were cited by the provincial government as the reason why they, through the Crown agency of Metrolinx, took over rapid transit megaproject delivery within the Greater Golden Horseshoe, including the City of Toronto (Moore, 2016). This was a stark contrast from the previous fifty years of transit planning in the City of Toronto, but there was already a learning curve for Metrolinx. Metrolinx was primarily involved with the GO Transit network, whose market is located outside of Toronto, and they had little experience in constructing transit megaprojects. Supporting this claim is a TTC report from May 2012, stating that Metrolinx's goal of opening the Eglinton Crosstown was unlikely by 2020, with 2022 or 2023 being more realistic (Chu, 2012). The TTC specifically cited the fact that Infrastructure

Ontario, who would handle project management, would be using their 'Alternative Finance and Procurement' strategy, which would use a private contractor, which turned out to be the Crosslinx consortium (ibid). This is how the state "rolled-out" their responsibilities to the private sector. Just over two years after TTC's report was issued, Metrolinx revised the completion date to late 2021, then 2022, proving the TTC's report to be at least somewhat correct (Spurr, 2019). Further revisions of date have occurred subsequently, and even TTC's worst-case estimate of 2023 is looking more and more like the best possible case, unfortunately. While there was some benefit to Metrolinx's operating within the provincial government, but still maintaining an arm's length distance, recent events have shown that Metrolinx is directly controlled by the provincial government, even down to public communications (D'Mello & Callan, 2023).

The effective uploading of public transit planning and construction to the province, from the City of Toronto in particular, reflects a change towards regionalism. As seen with how Metrolinx speaks about the projects that they are involved in, they often have a focus on how the line will integrate the Greater Toronto Area as a whole (Metrolinx, n.d.a). While they already had involved themselves in transit planning in Toronto's suburban municipalities, which tended to have a higher degree of core-focussed traffic, Toronto was a significant gap in better coordinating transit across the region. The new focus on regionalism by Metrolinx had exercises in both mentally building the region, and physically connecting it, and so coordinating transit projects in Toronto with other objectives was a necessity. In a sense, Metrolinx was physically building the region based on a pre-existing mental image (Davidson, Park, & Shields, 2011, pp. 137-145). The Toronto Transit Commission and the City of Toronto knew this as well: while provincial influence was present in the approval of the subway extension to Vaughan Metropolitan Centre on the TYSSE, it shows that the idea of the Toronto region surely did not

end at Steeles Avenue. Additionally, due to the rise of job centres in many of Toronto's suburbs, the codependency between the city and its suburbs is further entrenched (Morphet, 2019, p. 67). The impact of the Common Sense Revolution of the 1990s was intentional in promoting 'governing by crises,' where the constant, deliberate budgetary challenges of the TTC were something that could be resolved by the province, with the TYSSE challenges being convenient to validating this argument. By promoting that the issues with TTC and the City were chronic, the province was able to upload transit planning to Metrolinx relatively easily, and thus outwards to private enterprises. Through manufacturing of a crisis, the province provided the conditions required for private enterprises to resolve urban issues, while also cutting costs for the state (Mayer, 1995, p. 232; Graham, Maslove, & Phillips, 1998, pp. 29-30; Wallis, 2008, p. 107; Adams, 2014, p. 31; Etherington, 2015, p. 122; Vojnovic, Kotval-K, Eckert, & Li, 2019, p. 158). The usage of state roll-out to provide infrastructure was the easiest way for the province to embed neoliberalist ideals into infrastructure deliver, as roll-back paired with shrinking budgets would have led to a politically unpopular infrastructure deficit (Peck & Tickell, 2002, pp. 380-404; Etherington, 2015, p. 137; Filion, Keil, & Pulver, 2019, p. 23). Despite this new regional focus, there is a clear gap between what the goal of regional coordination is, and what is presently being discussed. Metrolinx, in the case of the Crosstown, simply was vehicle for the province to shape the scope and function of local government (Spicer, 2022, p. 100).

The specific governance structures in play in terms of the Eglinton Crosstown are a typical model for transit projects in Ontario in the present day. Metrolinx's role is coordinating the project, and planning the line itself. It is important to note that a lot of the work planning the Crosstown had been completed prior to Metrolinx's delivery of the project. The line is based directly on the original plan for the Eglinton Crosstown present in the City of Toronto's Transit

City plan (CBC News, 2012a; Davis, 2023a). Metrolinx, in turn, delegated construction responsibilities to Crosslinx, a consortium of private enterprises, which includes well-known names such as EllisDon and SNC-Lavalin (Crosslinx Transit Solutions, n.d.). Crosslinx, in typical public private partnership fashion, takes on the risk of the project, at a cost. This arrangement is complicated by the fact that the relationship between Metrolinx and Crosslinx has been somewhat tense since the start of the project. The project's completion is not even guaranteed, as of writing, and there have been numerous delays which reflect badly on the provincial government. Some deals have been struck between Metrolinx and Crosslinx in order to resolve their constant issues, and to complete the line as soon as feasibly possible, but it remains to be seen if these have been effective (Spurr, 2018b). Changes to the opening date of the line, and financial compensation for delays have been brought before the court, and there appears to be little structure for resolving these issues besides using the province's legal system, keeping the relationship sour. This is not unlike the relationship between the City of Ottawa and the Rideau Transit Group that developed during the construction of that city's O-Train light rail network, and so I think that it is reasonable to suggest that a sense of cooperation is not inherent to public-private partnerships, at least in the Ontarian context (Chianello, 2022; Woods, 2023).

The flow of money from Metrolinx, and by extension, the province, to Crosslinx reflects the dominant financial and technocratic thinking present in infrastructure delivery, over social need, which would be to open the line in a timely manner (Peters, 2019, p. 132). This, combined with the fact that the challenges present in TYSSE that prompted the uploading of transit planning are still present in the Crosstown construction, potentially speaks to broader issues in North America with transit megaprojects. The experiences during the Crosstown construction may not be unique, but reflect more broadly on issues with transit construction in North America

as a whole, especially issues related to costs of construction (Goldwyn, Levy, Ensari, & Chitti, 2023). However, this reflects an inability in the province of Ontario to buck the trend, and use models that prioritize the public need in an efficient timeframe.

While the line is constructed by Crosslinx, the line will be owned and operated by the Toronto Transit Commission, and so the operation phase is within public hands. Complicating this arrangement, however, is that the contract for thirty years of maintenance for the line is to be fulfilled by Crosslinx, who have outright refused to cooperate with the TTC (Kalinowski, 2015b; Moore, 2015; Callan & D'Mello, 2023). As such, the final product of the Eglinton Crosstown mixes elements of public and private ownership, which could potentially see further challenges, as the goals of each partner may differ. Based on this, there is a direct link between the governing by crises that began in Ontario in the 1990s, and the ongoing rolling-out of the state (Peck & Tickell, 2002, pp. 380-404; Etherington, 2015, p. 137). Whether or not this was an intentional goal from the get-go, it suggests that the state wishes to validate the roll-out form of neoliberalism but positioning it as an inevitability to resolving the challenges of public infrastructure delivery (Wallis, 2008, p. 107; Adams, 2014, p. 37; Vojnovic, Kotval-K, Eckert, & Li, 2019, p. 158).

While private enterprise is present in the construction and operation phases of the Eglinton Crosstown, I would suggest that it is also present in the planning phase, even with the project being closely based off a City of Toronto plan. The Toronto Official Plan, as directed by the province's growth plan, outlines Major Transit Station Areas, or MTSAs. These areas are drawn around each rapid transit station within Toronto, with the hopes of developing neighbourhoods that are transit-oriented (City of Toronto, 2022). The suggestion of a "transit-oriented re-urbanisation in Toronto" has existed within the City's official plans since around

2003 (Toronto Transit Commission, 2003; Boudreau, Keil, & Young, 2009, p. 173; Addie, 2017, p. 131). In the MTSA areas, minimum densities of both housing and employment are set by the province, which can be increased by the municipality, with the goal being to build dense hubs that are anchored by public transit, integrating transit with housing (Maulat, 2014; Schorung, 2019, p. 14). The Eglinton Crosstown is no exception to this policy, and each station has an area around it that is set to be upzoned, based on these minimum densities. Without the Crosstown, development in these areas would have a much more difficult time being approved, and it shows how provincial policies like MTSAs encourage private developments and further involvement of private actors in governance (Graham, et al., 1998, p. 234). More stations increase the amount of land to be upzoned, and so there is a significant stake for private enterprise in ensuring that more stations are built. As such, there was benefit to private developers in ensuring the maintaining of the stations at Leslie (Sunnybrook Park), Ferrand (Aga Khan Park & Museum), Hakimi Lebovic, and Ionview were built, which were all proposed to be cut, as they would provide four additional opportunities to develop land for profit. Noting Newman's (2009) tools for successful transit-oriented development, there are two lacking significantly in the case of the Crosstown: there is no specialized development agency for coordinating developments, and there is no strong public-private funding mechanism (p. 13). This means that planning these MTSAs, especially in different municipalities across the region, will not necessarily be consistent, and private and public flows of money will remain entirely separated from one another. It is important to note that the degree that developers had in planning the line is relatively low compared to more recent cases, like GO Transit's improvements to the Lakeshore West rail line in Niagara Region. Despite all the upgrades on the branch line, the long-promised station at Casablanca Boulevard in Grimsby will now only be implemented with developer involvement (Levesque, 2020). As

such, a private developer gets to single-handedly decide about whether a growing town of around 30,000 people gets improved public transit access. There are other examples of this recently as well, including Woodbine GO and Park Lawn GO.

Seltzer (2008, p. 279) and Wallis (2008) have both suggested that governance and planning need to be some combination of top-down planning initiatives, as well as bottom-up initiatives. Metrolinx's actions, however would suggest otherwise. While there is an enormous amount of evidence that Metrolinx plans top-down, either through the provincial government, or the private sector, there is a large body of documentation to suggest that Metrolinx's community consultation and outreach was little more than a bullet point on a checklist. Generally, when Metrolinx presents plans to the public, they are often suggested to be the only possible options, and any other ideas have already been abandoned. Their decision-making process is very secretive, so, to the public, there is no apparent reasons as to why specific decisions are made (Davis, 2023b). This assertion suggests that the macro-level thinking from Metrolinx is always the most correct option, absolving them from even looking for potential alternatives. On Arnstein's (1969) ladder of citizen participation, I would argue that Metrolinx's public consultation activities almost never get higher than the third or fourth rungs: informing and consultation (p. 216). Unlike other public bodies in Ontario, many service changes and adjustments on GO Transit occur spontaneously, often based on provincial direction with little input from the public (D'Mello & Callan, 2023). Some planners in the Greater Toronto Area have expressed that they feel chance at "succeeding" in their work is limited due to the ongoing process of neoliberalism, but they make efforts to plan bottom-up when it is possible (Jackson, 2018, pp. 156-158).

One recent high-profile example that exemplified the problem of Metrolinx not looking for alternatives was in relation to a proposed GO Transit railyard. This yard would have been located within the Don Valley parklands, and within Toronto and Region Conservation Authority-regulated flood plains (Draaisma, 2023). Metrolinx's position, for approximately three years, was that the plans were impossible to change. Somewhat suddenly, in March 2023, Metrolinx announced an abandonment of these plans in favour of a railyard near York Mills Road and Leslie Street, in North York (ibid). Community pressure, including the charity Don't Mess with the Don, advocacy group A Park for All, and Indigenous groups that wish to see the parkland improved with the long-proposed Wonscotonach Trail, had some impact (Jones, 2021). However, Lawrence Warriner, president of "Don't Mess with the Don," believes that the relocation was due more to practical considerations that made the York Mills and Leslie site more favourable, notably the lack of major flooding risk, which Metrolinx did not take into consideration when the initially selected the Don Valley site (ibid). While the final plan satisfied what the activists had been asking for, the decision was made unilaterally, behind closed doors, as is often the case with provincial government (Spicer, 2015). Other issues that have pitted Metrolinx against communities include backtracking on their promise to donate land for a new community hub and arts centre near Jane and Finch, tree removal near the Lakeshore East corridor alongside Small's Creek, and the removal of several trees on the Osgoode Hall property for construction of the Ontario Line, in addition to many more in the Moss Park neighbourhood (Westoll, 2021; Marfo, 2022; Fleguel, 2023; MacMillan, 2023).

Specific to the Crosstown, in 2020, Metrolinx cut down a few trees on a slope situated on the north side of Eglinton Avenue, just east of Brentcliffe. This was done for the construction of a new retaining wall. Prior to this, nearby residents were unaware of the tree removal, which

amounted to approximately two hundred and seventy-five trees (Kettel, 2020). While the local Member of Provincial Parliament, Kathleen Wynne, organized outreach with community members and Metrolinx after works had begun, many in the area felt that Metrolinx had done little to consult with the neighbourhood before any work took place. Later that year, at the same location where the trees were removed, a portion of earth collapsed down towards Eglinton (DeClerq, 2020; Kettel, 2020). Fortunately, there were no reported injuries. While Metrolinx was aware of the 'significant earth movement,' they provided little additional comment. The concerns of the neighbours were valid, but Metrolinx still pushed through with what they believed to be the correct course of action. Additionally, trust was broken with communities by showing little concern to local businesses that were impacted by construction. Although construction began on a large scale in 2015, it was not until 2020 that the provincial government decided to provide aid to these local businesses, with the total fund amounting to just $3 million (Rider, 2020). While the businesses that do survive the construction will benefit from easier access, and additional foot traffic, there is no respite for the numerous businesses that have went open throughout the perpetually extended construction period. These events show that Metrolinx, by virtue of being at the whims of whatever political party is governing the province at the time, prioritizing macro-level thinking, and treating community involvement and participation as a barrier towards progress. Metrolinx does not even consider the fact that communities have knowledge that could improve plans, and that communities are stakeholders with lots to contribute at various stages of the planning.

However, this is not to say that Metrolinx does not wish to share information with the public: as per freedom of information requests pursued by CityNews, high-level provincial staff have forced Metrolinx to remain silent on several issues (Westoll, 2023). Metrolinx, being a

Crown agency of the province, with all its board members being appointed by the Lieutenant Governor, on the advice of the provincial Minister of Transportation, is still a cog in the political machine, and must abide by rules set by the Premier and act based on what the government in power desires (Addie, 2017, p. 130; Government of Ontario, n.d.). This is relatively standard for Ontario: Spicer (2017) requested copies of intermunicipal agreements from twenty-seven Ontario municipalities. Of the twenty-seven, only eight municipalities complies, and only two of those were fulfilled within the maximum timeframe permitted (p. 397). Despite outsourcing much of the risk related to the project to the Crosslinx consortium and its numerous subcontractors, the government is still the first recipient of scrutiny. When they do not respond to public concerns and need, it reflects poorly on the government's ability to build infrastructure, further reducing public trust. This is ironic: the governance structure that the province justified implementing due to TTC issues with building construction is arguably worse, and less responsive to public concerns, reinforcing the governing by crises that encourages state roll-out (Peck & Tickell, 2002, pp. 380-404; Etherington, 2015, p. 137). This is partly why the provincial government has begun proofreading and editing Metrolinx's public releases: it allows the government to govern public opinion, with Metrolinx then being on the receiving end of scrutiny (D'Mello & Callan, 2023). While events were laid out in the contract for the Crosstown, the constant delays suggest a lack of clarity, discouraging cooperation (Ontario Infrastructure and Lands Corporation, 2015).

When considering the public-private partnership undertaken for the construction and maintenance of the Crosstown, several critiques can be levelled at Metrolinx, and the Province of Ontario. Firstly, as Loxley and Loxley (2010) state, the main benefit to the state is the transferring of risks to the private sector, which the private sector must assess as being worthwhile, or not (p. 34). The benefit for the private sector, of course, is payment for the what

is laid out within the contract for the infrastructure project (ibid, p. 150). However, Crosslinx's regular attempts to bring Metrolinx and Infrastructure Ontario to court over cost overruns and delays suggests that private consortium is attempting to return the risk to the state, while still receiving profits from the construction of the project. Because some of these lawsuits have resulted in favour of Crosslinx, the 'partnership' aspect of 3Ps would be entirely lost: private corporations would be able to seek out state contracts for the sake of profit, without having to consider that there is a degree of risk present throughout. This is a by-product of a political system that is willing to bend to accommodate 3Ps, combined with a lack of maturation of competition that leaves only a handful of partners with the capacity to work on the project (Whiteside, 2016, pp. 40, 54). While the contract outlined circumstances that would result in alterations to payments and to construction timelines, the lawsuits between partners on the project suggest they make have been insufficient for a project of this scale (Ontario Infrastructure and Lands Corporation, 2015). Additionally, to the general public, Crosslinx is a relatively unknown organization, and so the entirety of blame for any delays in the project are directed at the state. Crosslinx's member corporations, who are the well-known ACS-Dragados, Aecon, EllisDon, and SNC-Lavalin, receive little, if any, of the negative publicity from the project blundering. Due to the delays, a new governance challenge has arisen for the provincial government: governance of public opinion. The construction for the Crosstown has been seen as never-ending process, a vision that is shared with the public, the Toronto Transit Commission, and, seemingly, Metrolinx itself.

In a reflection of the project from April 2023, Metrolinx CEO Phil Verster stated that, in hindsight, having one large contract was a flaw, and the scale alone of the project limits the ability of the consortium to succeed (D'Mello, 2023). The lesson learned here, as identified by

Verster, is that future projects will be done through a few small contracts, with individual partners focussing on specific components of construction and operation (Gismondi, 2023). The lessons learned from the Eglinton Crosstown were applied in June 2023, when the contracts pertaining to the long-stalled LRT in Hamilton, Ontario, were announced. Metrolinx, who will be responsible for the Hamilton LRT, has recommended two major changes. Firstly, instead of one large contract, two contracts will be signed. The first pertains to major civil works and utility relocations, whereas the second relates to LRT stops, rails, and system work (Hamilton LRT, 2023a). The second major change is that an 'Alliance' model is recommended (Wall, 2022; Hamilton LRT, 2023b). Metrolinx states that, as opposed to a 3P contract, an Alliance "is a collaborative approach where…a partnership [is formed] with private sector entities, working as one team to deliver the package and make decisions on a "best-for-project" basis" (Hamilton LRT, 2023c). It is not immediately clear exactly how the model to be used in Hamilton differs from the 3P contracts of the past, but it shows that the challenges related to the Eglinton Crosstown are being accounted for, and a more cooperative approach with private sector entities is required (D'Mello, 2023; McGrath, 2023).

Case Study 2: Réseau express métropolitain, Montréal

The Réseau express métropolitain is owned by the Caisse de dépôt et placement du Quèbec, or CDPQ. The CDPQ is a Crown corporation, and is an institutional investor that manages several public pension plans in the province. As of the end of 2022, they manage assets of $402 billion (Caisse de dépôt et placement du Québec, 2022). In 2015, as per an agreement with the provincial government, a new arm was established, named CDPQ Infra, which would be able to finance major transportation projects in the province. Of the estimated $6.5 billion figure that was put forward for the REM project in 2018 (Figure 10), CDPQ Infra is investing $2.95

Provenance	Montants investis (G$)	Type de participation anticipée au projet
CDPQ Infra	2,952	Actions privilégiées de catégorie A, votantes
Gouvernement du Québec	1,283	Actions privilégiées de catégorie B, non votantes
Gouvernement du Canada[1]	1,283	Actions privilégiées de catégorie B, non votantes
Hydro-Québec	0,295	Contribution – entente commerciale avec un client majeur
Autorité régionale de transport métropolitain	0,512	Paiement en remplacement de la plus-value foncière
Total des fonds prévus pour la construction du REM	**6,325**	

1. Cette participation du gouvernement fédéral est actuellement sous forme de contribution. Si cette participation n'est pas convertie en actions privilégiées, cela aura une incidence sur la structure du capital du projet.

Figure 10: Contributions by various actors to the Réseau express métropolitain. (Source: Vérificateur général du Québec, 2018).

billion, and the Québec government is investing $1.28 billion (Vérificateur général du Québec, 2018). The Québec government's portion was matched by the federal government in 2017, through the Canada Infrastructure Bank (Caisse de dépôt et placement du Québec, 2017; Kennedy, 2018; Vérificateur général du Québec, 2018; Saunders, 2022b). Hydro-Québec, the provincial electric utility service, committed to contributing $295 million that will be used related to electrification of the rail line (Vérificateur général du Québec, 2018). In addition, a fifteen-year loan worth just under $1.3 billion was secured with the Canada Infrastructure Bank in August 2018, its first investment (CDPQ, 2018; Magder, 2023c).

CDPQ Infra published two public procurement tenders for the project in mid-2016. The first was titled "*Ingénierie, Approvisionnement et Construction des infrastructures du Réseau Électrique Métropolitain de Montréal*," or IAC, and concerned needs related to engineering, procurement, and construction, at a value of $4 billion, and the second was titled "*Fourniture du*

Matérial Roulant, de Systèmes, et de Services d'Exploitation et de Maintenance du Réseau Électrique Métropolitain de Montréal," shortened to MRSEM, and covered topics related to rolling stock, systems, operation, and maintenance, valued at $1.5 billion (CDPQ Infra, 2016a; CDPQ Infra, 2016b). After a prequalification phase, a shortlist of qualified candidates that were permitted to submit a bid was published. Two consortia were selected for the IAC contract: Groupe NouvLR, made up of SNC-Lavalin Grands Projects, Dragados, Aecon, Pomerlau, EPC, and AECOM; and the Kiewit-Eurovia consortium, which included the Kiewit Corportation, Eurovia, WSP Global, and the Parsons Corporation (CDPQ Infra, 2017; Radio-Canada, 2017; REM, n.d.a). For the MRSEM contract, there were three companies and consortia: Bombardier Transportation alone; Alliance Montréal Mobilité, which was composed of Parsons Corporation, Hyundai Rotem, RATP Dev, and Thales Canada; and the Groupe des Partenaires pour la Mobilité des Montréalais, with Alstom and SNC-Lavalin Operations and Maintenance (CDPQ Infra 2017; Radio-Canada, 2017; REM, n.d.a). Final bids were submitted on October 27th, 2017, but the announcement date for the selected contractors originally scheduled for November was pushed back to allow for more time for analysis and evaluation of the bids, and to organize additional discussions with the bidders (Montréal Gazette, 2017). On February 8th, 2018, CDPQ Infra announced its selections. For the IAC contract, Groupe NouvLR was selected, and for the MRSEM contract, Groupe des Partenaires pour la Mobilité des Montréalais won (Vérificateur général du Québec, 2018). Construction commenced within the following two months.

While the procurement process appears to have gone relatively smoothly, a 2017 report from the *Bureau d'audiences publiques sur l'environnement*, or BAPE, notes several serious concerns. This office, under the *Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs*, is an independent, arms-length, organization

that aims to inform and consult with the public, as well as inform the government decision-making process on issues related to the environment (*Loi sur la qualité de l'environnement, RLRQ c Q-2*). The report's overarching themes included the fact that information pertaining to the financial model of the project, its environmental impact, and its impact on public transit ridership across Grand-Montréal were seemingly absent, going as far to suggest that approval of the project was premature (Fragasso-Marquis, & Arsenault, 2017; Bisson, 2017). This is a relatively fair critique: the planning and negotiations between partners were kept relatively under wraps until the final plan was ready to be announced, and public involvement was limited (Saunders, 2022a; Magder, 2023c). While the project would be under the RTM umbrella, there were outstanding questions related to whether municipalities would have to pay for the infrastructure to access REM, and whether the municipalities would have operation costs downloaded onto them (Bisson, 2017). As such, BAPE posits that CDPQ Infra had not met transparency obligations. Despite being the premier of Québec that permitted CDPQ to undertake infrastructure projects, Philippe Couillard echoed concerns of a lack of transparency in the development of REM (La Presse Canadienne, 2018). There was also a lawsuit filed by Coalition Climat that suggested the REM projects' lack of a federal assessment of harms to environmental rights was contrary to federalism. This lawsuit was dismissed by the Cour supérieure du Québec in 2017 (La Presse Canadienne, 2017).

In the context of transit-oriented development, the Communauté métropolitaine de Montréal, better known as the CMM, plays a significant role (Communauté métropolitaine de Montréal, 2018). In Québec, zoning and land-use are mostly left to municipalities, but there is a provincial toolbox that can be used in order promote transit-oriented development, and regional orientations must be in line with those at a provincial level, and the local orientations must

cascade from the regional orientations (Cournoyer-Gendron, 2017, p. 6). The CMM's role is thus acting as the primary planning, coordination, and funding organization in the fields of regional planning, economic development, social housing, and mass transit (ibid, p. 6; *Loi sur l'exercice de certaine compétences municipals dans certaines agglomérations, RLQR c E-20.001*). Through the current *Plan métropolitain d'aménagement et de développement*, which came into effect in 2011, the CMM encourages the construction of transit-oriented communities in order to counter urban sprawl, and increase public transit usage, as well as encouraging population growth and urban liveability (Soliz, Rodrigue, Bernard, Duffy, & El-Geneidy, 2023, p. 5). This plan established 155 transit-oriented development zones around metro stations, commuter rail stations, and commuter park-and-ride lots, implementing a plan that had originally been suggested in the early 2000s. (Kenworthy & Townsend, 2009, p. 31; Cournoyer-Gendron, 2017, p. 9). The goal is oriented 40% of household growth to these zones, through densification, as opposed to sprawl (Colpron, 2021). While mixed-use is implied in these areas, no specific thresholds for uses other than residential are explicitly outlined. Specific to the REM line, the CMM has established minimum-density thresholds in zones with a one-kilometre radius around transit stations (reduced to 500 metres at the three downtown stations), originating in order number 2018-03. Not every station has been prescribed minimum densities as of writing this paper. From this, the Québec government passed *Loi sur l'Autorité régionale de transport métropolitain, RLQR c A-33.3*, which, in subsections 97.2 and 97.3, outlined the *Règlement concernant la redevance de transport à l'égard du Réseau express métropolitain, c A-33.3, r.2.* This regulation further helped enable CDPQ by laying out plans for a new transportation tax in the newly reestablished zones (Autorité régionale de transport métropolitain, 2018; Building Owners and Managers Association Québec, 2018; McCarthy Tetrault, 2018; Saunders, 2022a).

The tax would relate to several new developments, including erections, reconstructions, increases in floor area, and a change in use during redevelopment, which would be paid directly into ARTM (Building Owners and Managers Association Québec, 2018; McCarthy Tetrault, 2018). As such, despite REM crossing many municipalities, and transit-oriented development not having one consistent definition within Grand-Montréal, the basics of public policy related to intensification around transit stations stay relatively consistent region-wide (Cournoyer-Gendron, 2017, p. 14). In a sense, referring to Newman's (2009) four principles for successful transit-oriented development, the CMM, alongside CDPQ Infra, operate as a specialized development agency, and there is a private-public funding mechanism that directly benefits the development of transit (p. 13). Whether this will result in a significant amount of densification near REM stations, however, remains to be seen: this topic will be explored in more depth in Chapter 6. Another law, from 2017, allowed for CDPQ to undertake land expropriations along the REM project, as necessary (Cambron-Goulet & Fortin, 2022). Here, the state, in the form of both the province of Québec and the CMM, is empowering a public agency, CPDQ Infra, to undertake infrastructure projects.

In a traditional public-private partnership arrangement, the risk is transferred to the private partner. However, in the case of REM's arrangement, the 'public-public partnership,' the public CDPQ acts as the 'private' partner by taking on the risk (Denmark, 2017). This is a good arrangement for a few reasons. CDPQ has a close, but legally separate, relationship with the government of Québec, which resolves a public concern with public-private partnerships, being that taxpayer money is going to private firms (Saunders, 2022b). This close relationship with the government (Figure 11; Figure 12) means that the REM project has an emergency brake, with the most important partners being accountable to both each other and the public (Saunders,

2022a). CDPQ, being the biggest ‘owner’ of risk in the project’s development, has the largest stake in ensuring that the line has the smoothest and best possible outcome, linking public interest into a publicly-responsible body. To ensure ongoing smoothness, the project partners developed a list of specific circumstances that would constitute adjustments in the project scope, the timeline for delivery of the project, or payments (Vérificateur général du Québec, 2018, pp. 15-16). These included changing in provincial laws, environmental issues, necessary archaeological works, amongst others (Vérificateur général du Québec, 2018, pp. 15-19). This provided a degree of predictability for when inevitable challenges arose. In particular, the circumstances outlined related to the changing in provincial laws was a serious effort to ameliorate the challenges that come with infrastructure projects in a first-past-the-post voting system that sees governments, and thus the wants of the government, change within quick

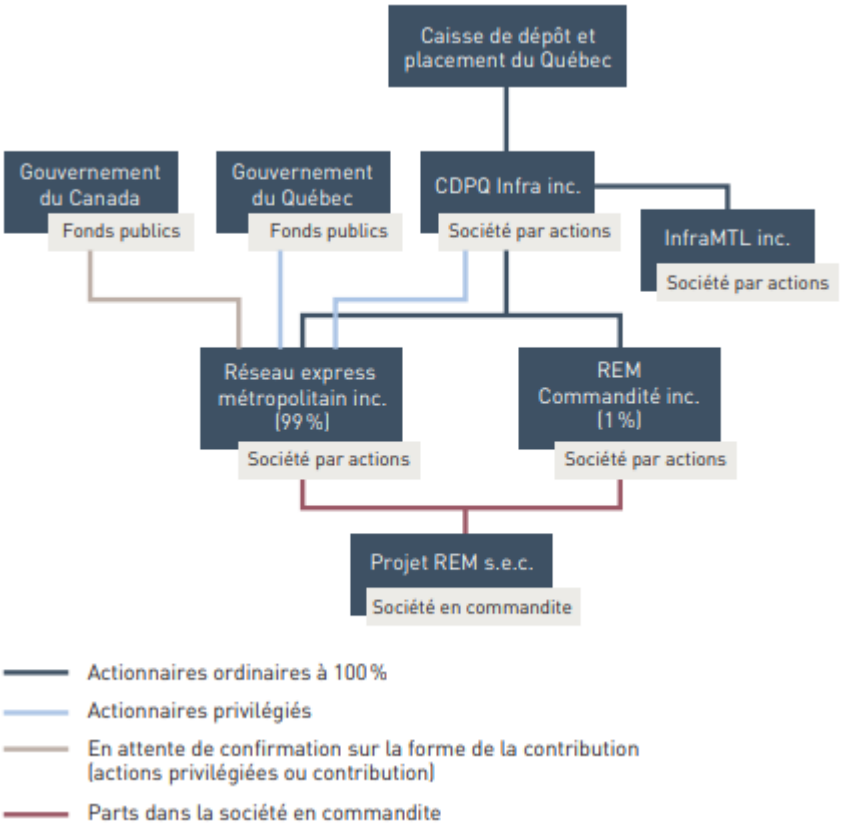

Figure 11: REM governance structure, part 1. (Source: Vérificateur général du Québec, 2018, p. 8).

Société et mandat	Actionnaires	Capital-actions détenu par actionnaire	Caractéristiques des actions	Composition du conseil d'administration
CDPQ Infra inc. Réaliser ou financer des projets d'infrastructures	Caisse	▪ Actions ordinaires	▪ Votantes ▪ Participantes	▪ 3 administrateurs, tous employés de la Caisse
Réseau express métropolitain inc. (REM inc.) Acquérir les terrains et droits immobiliers nécessaires à la réalisation du REM	CDPQ Infra	▪ Actions ordinaires ▪ Actions privilégiées de catégorie « A »	▪ Votantes ▪ Participantes ▪ Votantes ▪ Participantes et dividendes prioritaires	▪ 3 administrateurs, tous employés de la Caisse ▪ Seuls les actionnaires ordinaires et privilégiés de catégorie « A » ont le droit de nommer ou de destituer les administrateurs de la société
	Gouvernement du Québec	▪ Actions privilégiées de catégorie « B »	▪ Non votantes ▪ Participantes	
	Gouvernement du Canada[1]	▪ Actions privilégiées de catégorie « B »	▪ Non votantes ▪ Participantes	
InfraMTL inc. Acquérir certains actifs multi-opérateurs et conclure des baux avec les autres transporteurs ferroviaires	CDPQ Infra	▪ Actions ordinaires	▪ Votantes ▪ Participantes	▪ 3 administrateurs, tous employés de la Caisse
REM commandité inc. Agir à titre de commandité dans Projet REM s.e.c.	CDPQ Infra	▪ Actions ordinaires	▪ Votantes ▪ Participantes	▪ 3 administrateurs, tous employés de la Caisse

1. La participation du gouvernement du Canada est actuellement sous forme de contribution financière.

Figure 12: REM governance structure, part 2. (Source: Vérificateur général du Québec, 2018, p. 9).

succession (Vérificateur général du Québec, 2018; Saunders, 2022c). The close relationship also means that, if the government of Québec was to decide that they wish for CDPQ to sell REM to the City of Montréal, the city is likely to be cut a good deal. Overall, CDPQ's close relationship with government, while maintaining a large degree of flexibility, ensures that the deal is fair for all involved partners.

Comparison of the Case Studies

While both the Eglinton Crosstown and the REM projects reflect new types of public transit, and involve new systems of governance, they still have several differences. In this section, I will outline some of the similarities first, then some of the important differences. From a technical standpoint, building light-rail transit in Toronto, to this scale, has not been done before, and the same can be said province-wide for light metro in Québec. These new types of

public transit are distributed globally through fast policy transfer, where models that have been used elsewhere are being introduced in Canada (McCann & Ward, 2013, p. 15). There is a lack of local expertise related to these types of transit, and, as was shown in the Radio-Canada documentary related to the REM, requires experts from elsewhere in the world to contribute to the project (Lemyre, 2023a). This is one of the most significant challenges for technological innovations in infrastructure delivery. This also means that much planning for the lines cannot be done in-house, and so private partners and consultants are necessary components during all phases of transit delivery (Goldwyn, Levy, Ensari, & Chitti, 2023). The current necessity of involving private partners, for the sake of providing expertise in new technologies, should be succeeded by local, new-found knowledge-building reducing the need for private partners in future projects (Bunting, 2004; Goldwyn, Levy, Ensari, & Chitti, 2023). Another similarity in the projects is the lack of public involvement in the planning of the project. Both the Crosstown and the REM have been critiqued for not having involved the public in the planning process, and a lack of transparency is also present, especially when considering the numerous delays to the projects (Fragasso-Marquis, & Arsenault, 2017; Bisson, 2017; Westoll, 2023; D'Mello & Callan, 2023). The planning processes for both projects have been very top-down, with limited involvement for bottom-up planning. As such, there have been challenges in the governance of public opinion: in Toronto, Metrolinx does not think the public should be privy to information, and so the delays are both constant, yet unexplainable. The lack of true bottom-up planning initiatives does not suggest a good governance system (Seltzer, 2008, p. 279; Wallis, 2008, pp. 120-121). The lack of involvement by the public contributes to the discourse of what the Crosstown is: the mode is unfamiliar to Torontonians, and so it is only perceived as being a 'fast streetcar' or as a 'slow subway' (Harvey, 2023). Similarly, in Montréal, the REM is often

described as ‘light rail’ as opposed to ‘light metro,’ again, due to unfamiliarity with the mode (REM, n.d.c).

That said, there are several differences in terms of governance between the Eglinton Crosstown and the REM. The first major difference is accountability to municipalities and local agencies, where there is a large gap in accountability, especially between municipalities (Spicer, 2017, pp. 394-395). In terms of the Eglinton Crosstown, Metrolinx, a provincial Crown agency, is entirely responsible for delivering the entire project. The City of Toronto, despite being a signatory to the contract, had little involvement in the decision-making process, besides their original plans for the Eglinton Crosstown, from the cancelled Transit City project (CBC News, 2010). Thus, the Toronto Transit Commission’s needs and specifications for the project were not really considered for much of the planning and construction process, and have been forced to come at the end, close to when the line’s ownership will be transferred to the TTC (Callan & D’Mello, 2023). These late-stage suggestions by the TTC are the reason that Crosslinx is suing Metrolinx and refusing to cooperate with the TTC, as of May 2023, but they reflect a system where municipal involvement was quite limited, especially when compared to the role that private enterprise played in the entire process of developing the Crosstown (CBC News, 2023b; Callan & D’Mello, 2023). While the contract related to the Crosstown addressed possible delaying events, the lack of full participation of all partners throughout meant that delays outside of what had been outlined should have been expected, and a process should have been set out (Ontario Infrastructure and Lands Corporation, 2015). Due to provincial overhauls of the Planning Act in Ontario, and the implementation of transit-oriented developments in major transit station areas, I think it is fair to say that the City of Toronto has its hands relatively tied. This is in contrast with Montréal’s experience with the REM. The multi-level governance system

in the Montréal area encourages cooperation between municipalities, and the ‘common sense’ nature of the REM project is the first case where the region’s municipalities share a common vision in terms of public transit (Hamel, 2017, pp. 177, 185; Colpron, 2021). Additionally, since zoning and land-use are mostly municipally-driven, Montréal and other affected municipalities have a significantly higher amount of control in the creation of transit-oriented developments (Cournoyer-Gendron, 2017, p. 6). Since the CMM’s orientation is in line with that of the province, the province has no reason to intervene within the planning of the REM and its associated transit-oriented developments. While this does mean, in practice, that municipalities may not densify around the REM stations immediately, it encourages a more democratic and structured process where many of the needs related to new developments can be sorted out prior to them being constructed. Grand-Montréal is somewhat successful in fulfilling Newman’s (2009) four principles for successful transit-oriented development, whereas the Greater Toronto Area is only able to take credit for completing two of them (p. 13).

The second major difference is how the contracts for the project were laid out. As is the case with the Eglinton Crosstown, one contract was signed with the Crosslinx consortium (Ontario Infrastructure and Lands Corporation, 2015). This, obviously, is a large ask, and ties too many specific components together. On the other hand, REM was two contracts from the start, which forced cooperation between partners, and made the actual goals in each more digestible for all parties involved (CDPQ Infra, 2016a; CDPQ Infra, 2016b). The Crosstown follows a more standard public-private partnership model. On the continuum of corporate involvement, outlined by Loxley & Loxley (2010, pp. 1, 10). I have a hard time situating the Crosstown, especially since none of the seven degrees of corporation involvement are mutually exclusive. The Crosslinx consortium is directly involved in the building, service, operations, and

maintenance of the line, and, to a less direct extent, design. However, Crosslinx is not involved in operations; that is exclusively a TTC affair. This would put the Crosstown on a rung of the continuum where corporate involvement is low, but they were involved to some extent with finance on the line, albeit indirectly. The increased tax revenues from private developments that are being constructed with the provincial policies that encourage MTSAs offset some of the costs of the line that the City of Toronto is paying, albeit not directly. As such, I begrudgingly situate the Crosstown at the Design-Finance-Build-Lease (DFBL) location on the continuum, which is the middle of the seven degrees. While private partners are significantly involved in the line, the public is still involved to a substantial degree. With the Crosstown located in the center, however, it is difficult to determine whether the project's private or public partners were 'in control' throughout the design and construction phases. The tense relationship between Metrolinx and Crosslinx would suggest that the contract did not sufficiently lay the relationship (CBC News, 2023b; Callan & D'Mello, 2023). In the case of REM, I think it is necessary to situate the degrees of corporate involvement at two different locations, due to the unique model used for delivery. If we consider the private partners to be the consortiums awarded the two contracts, then I would locate the REM at the Design-Build (DB) degree on the consortium, as private involvement was relatively low. However, since REM used an innovative public-public partnership, with CDPQ Infra operating as a private partner, I would also argue that the 'private' involvement is at the Design-Build-Own-Operate (BOO) location, which is the highest. While this would normally be the privatization of infrastructure, CDPQ Infra's accountability to the public means that the project is at an extremely public degree, even if CDPQ is for-profit. I think it is fair to suggest that REM benefits from having a public agency able to take on risk, while still being publicly responsible. While both projects are responsive to current trends of neoliberal

state roll-out, REM's roll out from the state directly to an arm's length organization suggests that the previous challenges with public-private partnerships were considered. Phil Verster, the CEO of Metrolinx, is very aware of the challenges with the governance structure on the Crosstown, and will be adopting the two contracts for transit projects from the Hamilton LRT onwards (Wall, 2022). This new 'Alliance' model will also see some changes with how the private and public partners cooperate, bringing more voices to the table (Hamilton LRT, 2023a; Hamilton LRT, 2023b). The two contracts do not allow for the creation of one powerful private partner, but instead separates responsibilities. While the specifics of this are not yet clear, I would hope that the Alliance model would be located on the continuum above the Crosstown's model, suggesting less public involvement. This would hopefully ameliorate the tense relationship between the public and private partners, as well. As mentioned, the contracts for both lines outline delaying events and compensation for them (Ontario Infrastructure and Lands Corporation, 2015; Vérificateur général du Québec, 2018). I suggest that, while both had the right idea in mind, the lack of space for involvement by all partners, particularly the Toronto Transit Commission, meant that delays were inevitable beyond what had been outlined (CBC News, 2023b). On the other hand, the REM contract included all partners from the beginning, in a rigid administrative and communication structure and so cooperation was closely embedded throughout the entire design, and later construction, processes (Vérificateur général du Québec, 2018).

CDPQ's close, but separate, relationship with the Québec government means that there is an emergency brake for the REM project if things get out of hand (Saunders, 2022a). There is no emergency brake for the Eglinton Crosstown, and so the project has no choice but to sit in a purgatory state, with no clear direction for finishing the project (Harvey, 2022b; King, 2022). I

suggest, as well, that this aided the REM project in being one where consensus can be built. Since all the partners had similar goals from the project, they could work cooperatively to ensuring that these goals were met. There was a clear definition of what the 'public good' was. In contrast, the Eglinton Crosstown involved public and private members, who may have had goals that were not compatible with each other. Since other partners were brought to the table later, like the TTC was, it bred a working relationship that was tense from the start, and encouraged partners to compete with other partners (Callan & D'Mello, 2023). This, alongside limited public involvement in the planning process, means that the public, who could use the line as soon as possible, remain ignored. The 'public good' was, at best, poorly defined, and at worst, was not even considered. Since the delivery model for the REM was designed acknowledging the challenges of changing governments, the risk of the project's construction being interrupted or suspended in its entirety was reduced greatly, which is a serious issue in Toronto (Vérificateur général du Québec, 2018; Davis, 2023b).

One of the longer-term benefits that the REM project is the development of institutional knowledge (Saunders, 2022b). Between the REM and the previous experience with the Skytrain's Canada Line, CDPQ Infra has learned many lessons related to the delivery of mass transit projects (ibid). Because CDPQ Infra is a permanent branch that will not be disbanded after the completion of the REM, it will continue to employ people who can act on these lessons and develop further transit projects. The model, in essence, created a Canadian industry related to mass transit projects, meaning that there will be less reliance on experts from elsewhere, private partners, and consultants (Goldwyn, Levy, Ensari, & Chitti, 2023; Magder, 2023c). The challenges that come with new technologies can be avoided (Bunting, 2004; Filion, Keil, & Pulver, 2019, pp. 24-26; Spieler, 2021, p. 156). Should the model used for the REM provide to

be sufficiently efficient, it may help break the deathtrap for transit projects. Planning and construction moving slowly is one challenge, and increasing costs is another, but combined they limit the ability for megaprojects to move forward. This combined challenge is aptly named ‘slowspensive’ by Paige Saunders (2022d). In fact, development of an Ontario-based rapid transit industry was one of the goals of Ontario’s proposed, but cancelled, GO-Urban program (Spieler, 2021, p. 156). However, recent projects in Québec, being the extension of the Metro’s Blue Line to Anjou, the REM de l’Est, the Tramway du Québec, may not be using the model nor working with CDPQ Infra, raising concerns that newly-developed institutional knowledge will be lost (Magder, 2023c).

Chapter 6: Suburban Development and Regionalism

Having outlined the governance structures at play in the development of the two case studies, the paper will now add on the suburban and regional contexts, and outline how the case studies are products of the environments that have been created.

Case Study 1: Eglinton Crosstown, Toronto

The municipal governance system in Ontario is two-tiered, with some municipalities existing in single-tiers. No matter the tier, all municipalities being 'creatures of the province' (Good, 2019). The City of Toronto Act, 2006, provides additional powers and funding mechanisms for the City of Toronto, reserved for no other municipalities. The City of Toronto is a single-tier municipality, meaning that it operates as both the upper county-level government and the lower-tier local municipal government. Prior to the forced amalgamation by the provincial government in 1998, 'Metropolitan Toronto' was the upper-tier municipality, corresponding to the modern-day city, with six municipalities below it that now constitute Toronto's present-day six boroughs (Frisken, 2007). While there are still many challenges towards producing 'one city,' notably in relation to differing zoning codes, there is a relatively high degree of coordination in terms of planning within the City of Toronto. The amalgamation of the city of Toronto in 1998 was the last adjustment major adjustment to the region's governance structure, pending the proposed dissolution of Peel Region into three single-tier municipalities (DeClerq, 2023). Depending on the context, the 'Toronto Region' can include as few as twenty-five lower- and single-tier municipalities, or as many as ninety-nine. No matter the definition, this region is the most densely populated and industrialized area in Canada, with high-end population counts at nearly 9.8 million people, as per the 2021 Canadian Census, equalling

more than 26% of the population of the entire country. What is important to note about these regional definitions is that they exist for organizational purposes, and there are no overarching governmental bodies, aside the province. The Greater Toronto Area, or GTA, includes the City of Toronto, and four regional municipalities: Durham, Halton, Peel, and York, totalling to twenty-five lower- and single-tier municipalities (Ontario Creates, 2019). The regional municipalities were created as part of a reorganization of local governance in 1975, as part of further efforts to balance regional and local needs (Kaplan, 1965; Fyfe, 1975). While Toronto is very economically dominant in this definition, there are major economic drivers throughout the region, particularly in Markham, Brampton, and Mississauga. The next largest definition is the Greater Toronto and Hamilton Area, or GTHA, which includes the entirety of the GTA, but adds in the single-tier municipality of Hamilton (Rashedi, Mahmoud, Hasnine, & Habib, 2017). When Niagara Region, and its twelve lower tier municipalities are added to the GTHA, it becomes the Golden Horseshoe. The physically largest definition regularly used is the Greater Golden Horseshoe, shortened to GGH. This includes the entirety of the Greater Golden Horseshoe, as well as several physically peripheral regional municipalities and counties, being Brant, Dufferin, Haldimand, Northumberland, Peterborough, Simcoe, Waterloo, and Wellington, in addition to some single-tier municipalities: Barrie, County of Brant, Brantford, Guelph, Haldimand County, Kawartha Lakes, Orillia, and Peterborough (Province of Ontario, 2020). In total, there are ninety-nine municipalities within the GGH (Figure 13). There are a few First Nation reserves are physically located within the region, but they are governed independently from any municipality. Even more so than the Greater Toronto Area, the Greater Golden Horseshoe is multi-nucleated: major economic centres exist in places like Kitchener, Waterloo, Hamilton, St. Catharines, and Guelph, amongst others. The City of Toronto is less dominant here, and, when considering the

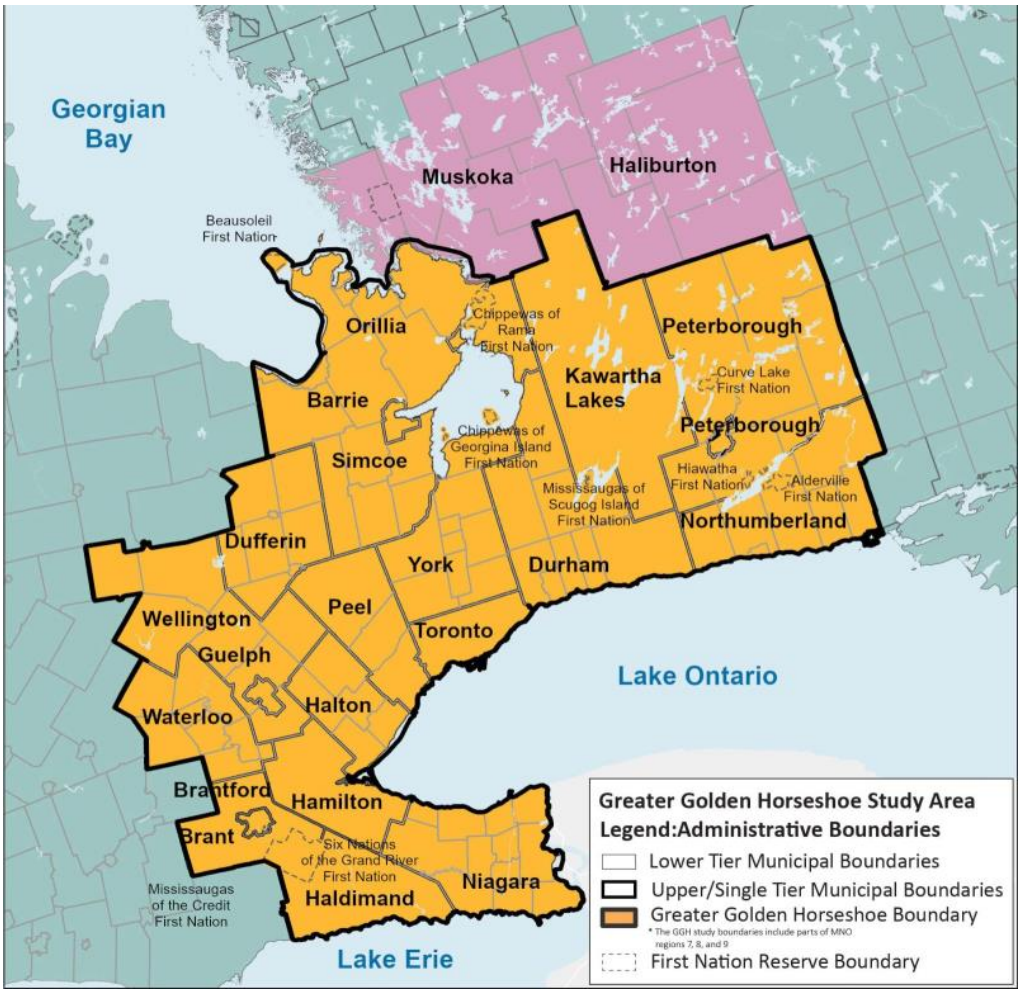

Figure 13: Map of the Greater Golden Horseshoe. (Source: Ministry of Transportation Ontario, 2022).

context of transportation, there are many commutes that operate counter-peak and outside peak hours.

Clearly, lots of thought has been put into how we conceptualize the Toronto region, but the lack of coordination between municipalities no matter the definition, especially so in the case of the Greater Golden Horseshoe, shows that there is uncertainty on how to approach governance issues in the region (Davidson, Park, & Shields, 2011, pp. 137-145). While the municipalities on both tiers are relatively coordinated within themselves, the inter-municipal system is quite fragmented. As such, otherwise administrative boundaries are present in every-day life. This is felt mostly in terms of public transportation: despite development being long-standing on both

the south side of Steeles Avenue, in Toronto, and the north side, in Markham and Vaughan, a separate fare is required to use transit on both sides of the arterial street (Toronto Region Board of Trade, 2023). This is not to say there have been no attempts to introduce a new level of government on a regional scale. In 1998, the Greater Toronto Services Board, or GTSB, was created by the province, which included representatives from Toronto, Mississauga, Hamilton, and later, York Region. Its major goals were specifically related to coordination of infrastructure and the resolution of interregional issues. However, the GTSB lasted only until 2001, and never really had political power besides the management of GO Transit through its Toronto Area Transportation Operating Authority arm (Collin, Poitras, and Bussière, 1998, p. 29; Boudreau, Hamel, Jouve, & Keil, 2007, p.47; Addie, 2017, p. 125).

In terms of public transit, the fragmentation between municipalities is very present. The Toronto Transit Commission is the main operator of rapid and local transit within the City of Toronto, and has existed since 1921. While it does operate some services in Peel and York Regions, this is contracted to the TTC from the municipalities, and requires a separate fare like any other route in those jurisdictions, and for that reason they are parts of the TTC network. Other municipalities have their own local transit systems, but there is not one consistent model (Rashedi, Mahmoud, Hasnine, & Habib, 2017). For example, the transit in York, Durham, Waterloo, and, very recently, Niagara, corresponds to the region, whereas elsewhere, like in Peel, individual lower-tier municipalities have their own systems. That said, like Brampton Transit and MiWay do in Peel, they tend to coordinate their services somewhat well. While there is fare integration between local agencies, and with GO Transit, in the Greater Toronto Area, there is none with the TTC (The Canadian Press, 2022). The province of Ontario regularly makes promises that this will be resolved, with the most recent promise being implementation by the

end of 2023, progress has moved backwards: there was formerly a discount in place when transferring from the TTC to GO Transit with a Presto fare card, but this was not renewed by the current provincial government when they took power in 2018 (Champion, 2019; Callan, 2023). The TTC is managed by a board, consisting of five Toronto city councillors (one of whom is selected as the chair), and five public citizens. While the governance system at TTC aims to involve the public, there are several challenges. Citizen members provide less feedback than the councillors, and there are assertions that the public members of the TTC board are selected for being well-connected, and less so due to their knowledge of transit in Toronto, or in general (Kalinowski, 2014; Munro, 2022).

GO Transit operates regional rail and bus services across the Greater Golden Horseshoe, focussed towards Toronto. Originally, until 1999, GO Transit was provincially run; GO services, which were operated by the Toronto Area Transportation Operating Authority, or TATOA, fell under the mandate of the Greater Toronto Services Board, effectively downloading regional transit provision to the municipal level (Collin, Poitras, and Bussière, 1998, p. 29). This was widely disliked by the municipalities, and the GO Transit Act, 2001, brought GO Transit services back under provincial power on January 1st, 2002. In 2006, the Greater Toronto Transportation Authority was established as a provincial Crown agency, with the Greater Toronto Transportation Authority Act, 2006, with the goal of managing public transit within the Greater Toronto and Hamilton Area (Addie, 2017, p. 126). The authority was officially renamed to Metrolinx in 2007 (with the name of the act simultaneously adjusted to the Metrolinx Act, 2006) and, in 2009, it assumed responsibility for GO Transit system (Marshall, 2007). It has since become responsible for construction of transit mega-projects within the region, as well as the Presto contactless smart fare card, governed through its board of directors. This fifteen-

member board is entirely appointed by the Lieutenant Governor of Ontario, based upon recommendations by the Minister of Transportation (Metrolinx Act, 2006). Although Metrolinx was established for the sake of improving coordination in terms of transit throughout the region, its results have been somewhat mixed. Firstly, while their mandate is for the GTHA, a significant number of services operates into the Greater Golden Horseshoe, and so the supposed quilt of connectivity frays noticeably at the edges (Peterborough Examiner, 2022). Secondly, GO Transit's origins in improving transit from suburbs to the downtown core means that much of the City of Toronto is bypassed: as of writing, there is no fare coordination between GO Transit and the TTC, unlike other municipalities, and train-bus services pass through Toronto extensively, but only stop at Union Station downtown (The Canadian Press, 2022). Thirdly, within the GTHA region that Metrolinx mandates, some local transit agencies have not adopted the Presto card, like Milton Transit and the Toronto Island Ferry, but there has been adoption of the card by Ottawa's OC Transpo. These three key issues show that there is still a significant amount of work to do in terms of coordinating delivery of transit within the region, no matter the definition (Collin, Poitras, and Bussière, 1998, p. 29).

Despite being situated entirely within the City of Toronto, Metrolinx's delivery of the Crosstown implies that the line has an important role on a regional scale as well, which they had made clear in their desire to build a fast subway across the city, as opposed to a more localized LRT service (Addie, 2017, pp. 131-132). Additionally, Metrolinx, on their website's page about the Crosstown, states that "From accessing TTC Line 1 at both Yonge and further west at Cedarvale, to link with three GO stations and a larger network of buses, the Crosstown LRT really serves the larger GTA community by reaching out across the entire region" (Metrolinx, n.d.a). There are a few reasons as to why this can be considered true. Firstly, it serves an

important employment hub, centred on the intersection of Yonge Street and Eglinton Avenue. Due to its strength, it pulls employees from across the region, “connecting midtown better than ever before” (Metrolinx, n.d.a). Secondly, as the line is seen as being a driver of density around its stations, the region benefits from less destruction of farmland and greenspace by suburban sprawl. The farmland is highly productive, and serves many of the food needs for the province and country, and the greenspace provides ecosystem services that benefit on a watershed-wide or regional scale. Thirdly, because it makes connections to three GO Transit rail lines, with a fourth planned, it will connect the new dense neighbourhoods and hubs of employment to areas that are presently far flung from Midtown Toronto and other, more physically central, parts of Toronto. It effectively reduces the size of the Greater Golden Horseshoe, increasing opportunity for the entire population. While the goals of the Crosstown are laudable, lack of consistent governmental policies means that, in practice, there are still many outstanding goals. However, while mass transit projects are being used as a vehicle to better connect the region, there are outstanding concerns that infrastructures can further fragment a region (Filion, Keil, & Pulver, 2019, pp. 12, 17-18). As such, Metrolinx’s mission is developing a regional identity in the Greater Toronto Area, via mass transit.

Concerns related to sprawling municipalities are very present in the Toronto Region, and there has been an ongoing process whereby ‘urban problems’ have been suburbanized (Wikstrom, 2008, pp. 30-33). In Toronto and Mississauga, nearly all land is developed, so additional residents must be accommodated on infill developments and brownfield sites. However, in every other municipality, there is a significant amount of land that can be developed, and most of these developments are traditionally suburban, thus being low-density and with mobility being highly dependent on automobility, even with the Places to Grow Act,

2005, in effect. While the Greenbelt, which wraps around much of the Golden Horseshoe, acts as an urban growth boundary, with aims to keep sprawl contained, and to protect highly productive farmland, there are two major issues with the Greenbelt that prevent this from being accomplished (MacDonald & Lynch, 2019, p. 295). Firstly, there is still a significant amount of developable land within the Greenbelt, and so a significant number of low-density developments would be permitted before the region is 'built out' within the urban growth boundary. Secondly, the Greenbelt is relatively narrow, and with numerous freeways crossing it, suburban developments have "leapfrogged" to the other side of it (ibid, p. 289). This had led to typical suburban developments being constructed in small, peripheral municipalities, like Shelburne, and Cobourg, that are generally considered to be beyond the Greater Toronto Area. Acknowledging these concerns, some municipalities have instituted their own urban growth boundaries. However, recently, the provincial government has instructed several of these municipalities begin developing outside their urban growth boundaries, into the farmland (Hristova, 2022). Additionally, the provincial government has moved some pieces of land out of Greenbelt protection, which would open them up for development (Jones, 2022).

While much suburban development tends to be low density, other initiatives have aimed to increase densities in suburban areas, particularly those adjacent to transit stations. The Major Transit Station Area (or MTSA) policy identifies all major transit stations within the province of Ontario, and provides a density of housing and employment that must be reached, permitting flexibility for transit stations that may be located within employment lands. Minimum floor space indexes are prescribed to specific plots of land adjacent to these stations within the City of Toronto. As such, there has been a significant increase in development applications close to transit stations, including along the Crosstown route (Figure 14). Additionally, as shown in the

Figure 14: Development proposal for 849 Eglinton Avenue East. This development is located just east of Laird Station. Taken by author.

2023 provincial budget, the province is spending nearly three times as much on transit projects as they are on highway projects, which is quite rare in a North American context. The province has bought into the idea that sustainability-as-density is good for both municipalities individually, for regions, and for the province.

Noting the above, it is apparent that the province's idea of good development is contradictory with itself. While this has been pronounced particularly by the current provincial administration, led by Premier Ford, this is not necessarily that much different than past provincial governments. On one hand, the province is encouraging development near transit, and the province is pouring a significant amount of capital development of transit. On the other hand, sprawl is, at best, not being discouraged, and, at worst, is still being encouraged (Hristova, 2022).

The lack of consistency in provincial policy, I argue, means that goals are missed entirely. While the MTSA policy has some strength to it, the simultaneous encouragement of sprawl negates any possible benefits of increasing density. However, that conversation about contradictory provincial policies, goals, and orientations, is separate from the argument identified in this paper.

Case Study 2: Réseau express métropolitain, Montréal

Like other Canadian provinces, the municipalities of Québec are 'creatures of the province.' Québec's municipal system is multi-tiered, with all local municipalities responding to some regional government structure between itself and the province. Grand-Montréal exists at several degrees, with some regional governmental structures. From the 1970s until the end of 2001, the *Communauté urbaine de Montréal*, abbreviated as CUM, existed, corresponding to the Island of Montréal, in addition to the nearby islands of Île-Dorval and Île Bizard (Boudreau, Hamel, Jouve, & Keil, 2006, p. 23). At the beginning of 2002, forced amalgamation by the province created the megacity of Montréal (Boudreau, et al., 2006, p. 25). This lasted only until 2006, when referendums were held in order to determine which former municipalities were to be reconstituted, of which sixteen were, most of which are primarily anglophone (Boudreau, Hamel, Jouve, & Keil, 2007, p. 33). Since the partial de-amalgamation, the main governmental body is the Agglomération de Montréal, which has a governing council made up of mayors of all the municipalities, with heavy vote weighting towards the city of Montréal proper (Ville de Montréal, n.d.a). This council supports the two million people who live on the island, and has a wide range of powers, including public transportation, road works, water supply and management, public safety, economic development, and public housing. As such, despite there being many municipalities on the island, there is a fair degree of coordination between municipalities on several affairs.

Some of these powers reserved by the council of the Agglomération are delegated to a higher level of government, being the Communauté métropolitaine de Montréal, abbreviated as CMM. This is often what is referred to as Grand-Montréal, and has a total population of more than four million people across its eighty-two municipalities (Communauté métropolitaine de Montréal, 2018). The CMM's core includes the Agglomération urbaine de Montréal, the city of Laval, and the Agglomération urbaine de Longueuil. The outer ring is divided into the couronne-nord and couronne-sud, named due to their physical location around the inner ring (Figure 15). The couronne-nord falls within two administrative regions, being Laurentides and Lanaudière,

Figure 15: Map of the Communauté métropolitaine de Montréal. (Source: Communauté métropolitaine de Montréal, 2011).

and includes large components of the regional county municipalities of Thérèse-De Blainville, Mirabel, Les Moulins, Deux-Montagnes, and L'Assomption (ibid). The couronne-sud consists of the entirety Montérégie, and includes significant pieces of the regional county municipalities of Beauharnois-Salaberry, La Vallée-du-Richelieu, Marguerite-D'Youville, Roussillon, Rouville, and Vaudreuil-Soulanges (ibid). In addition, two First Nations reserves are physically located in the region, but are governed entirely separately: Kanesatake and Kahnawake. The CMM has a council as well, with much of its power being located closer to the core. The CMM was originally created in 2001 for the sake of addressing city-regional questions, but its resources are relatively limited as it cannot levy taxes itself, but instead must be transferred money from its constituent municipalities (Boudreau, et al., 2006, p. 29). The CMM is tasked with dealing with topics of planning, the environment, social housing, and more (ibid).

On the front of public transit, both the Agglomération urbaine de Montréal and the CMM play important roles. The former Agence métropolitaine de transport, or AMT, was dissolved in 2017, and replaced by two new organizations: Réseau de transport métropolitain, or RTM; and the Autorité régionale de transport métropolitain, or ARTM (Magder, 2017). The territory that these agencies govern corresponds to the CMM, with the additions of the city of St-Jérôme and the First Nations reserve of Kahnawake, but some services extend beyond this territory (Exo, n.d.). RTM is commonly referred to as 'Exo,' and it operates the commuter rail and regional bus systems across the region, as well as local transit in the couronne-nord and couronne-sud. Prior to its establishment, local transit was organized by each municipality, with the result being a lack of coordination between services. Additionally, while the transit systems within Montréal, Laval, and Longueuil are not operated by Exo, they are overseen by it. The Autorité régionale de transport métropolitain, or ARTM, has a mandate in planning, and is involved in the operation of

the Opus contactless smart card system. RTM's board is appointed by the Agglomération urbaine de Montréal, and ARTM's board is constituted by three members selected by the CMM, five of the region's elected mayors, and six transit experts appointed by government of Québec (Autorité régionale de transport métropolitain, n.d.). As such, each municipality, in addition to the province, has some say in how transit is operated within the region, and there is no outright distinction between the regional transit system and local transit systems: they are one in the same. One benefit of this arrangement is the implementation of a consistent, region-wide fare system, in 2022, which had long been promised (Société de transport de Montréal, 2022). It splits the region into four zones, allowing for ease of travel across the region.

The REM project's benefit to regionalism is very clear: because it crosses so much distance and serves so many municipalities. It helps shrink the region, putting economic opportunities significantly 'closer' to many individuals. Unlike the original REM proposal from the 1970s, which would have seen all six lines terminate at Gare Centrale, the actual REM service travels through Gare Centrale, permitting suburb-to-suburb travel, on other sides of downtown (Camus, DesRosiers, Fauteaux, Labonté, Roy, & Saicans, 1980). In a sense, REM is an attempt at reconnecting the francophone suburbs with the increasingly anglophone parts of Grand-Montréal, in the hopes of developing one clear vision for Grand-Montréal (Hamel, 2017, pp. 185-185). The REM project also hopes to curtail sprawl, and some transit-oriented development zones have been established around stations, with minimum densities of housing per hectares identified. While this effort at recentralization is laudable, not every station has a specific area, and there are some stations with higher-density proposals that are not within an identified TOD zone (Kramberger, 2021). Some large-scale transit oriented-development has occurred, such as the Solar Uniquarter development near Station du Quartier, and others have

been proposed (Figure 16), but applications of densification have been inconsistent. Additionally, these zones do not have a minimum number of jobs specified, and so stations that are located within employment lands will not have any ‘formal’ transit-oriented development for the foreseeable future. As this will extend transit far into suburban areas without any new housing, there have been arguments that this will increase urban sprawl, not reduce it (Canadian Union of Public Employees, 2016). Whether this will occur remains to be seen, but densification and intensification of activity should still be a principal goal.

The REM has a global dimension as well. As there is little experience in Canada building light metro systems, some work must be outsourced to experts from other countries that have more experience (Lemyre, 2023a). This is only possible with globalization: the idea for a new way of implementing transit diffused from elsewhere, and was not necessarily ‘grown’ close to home. However, in addition to REM building regionalism, it also builds expertise (Saunders, 2022d). As discussed in Chapter 5, the lessons learned by CDPQ Infra in relation to the REM

Figure 16: Rendering of a proposed development by Cadillac Fairview. This is adjacent to Fairview—Pointe-Claire Station. (Source: Shields, 2022).

project and their work on Vancouver's Skytrain project can be applied to future projects as well, which may help relieve some of the governance challenges of transit megaproject delivery in other Canadian cities, and reduce some of the challenges of using new technologies (Spieler, 2021, p. 156).

Comparison of the Case Studies

Although the municipal structures in the Greater Toronto Area and Grand-Montréal are very different from one another, which is reflected in each city's ability to govern on a regional level, there are a few similarities in their cases. Both cities are highly globalized, and globalization processes result in rescaling of local government on different levels and due to different waves of neoliberalism (Boudreau et al., 2006, p. 48). Using technologies that are otherwise unfamiliar to the regions they are being implemented in, subject to a global policy transfer, aim to connect the respective cities and regions to the rest of the world (McCann & Ward, 2013, p. 15). Additionally, both projects are important to their respective regions, as they aim to develop an identity within the region, as opposed to the present, where identity is more localized (Hamel, 2017, pp. 185-186). The usage of public transit to develop a regional identity is not without precedence, either: the transformation of urban transport in Paris, France, and its surrounding region, for example, is "inextricably linked to the making of a new mode of urban regional governance…," particularly related to the Grand Paris Express project that will make suburb-to-suburb connections (Halpern & Le Galès, 2016, p. 7).

In the case of the Greater Toronto Area, there is no regional government. The province is the next highest level of government for cities like Toronto and Hamilton, and the definitions used to define the Greater Toronto Area are loose, often only used in the context of where provincial policy is being applied to. The Crosstown is regionally important due to the desire to

curtail sprawl, and to offer rapid transit to major jobs centres, but it is hard to situate the line within the region when the region itself is not well-defined. To some extent, the Crosstown, connected with regional rail projects on GO Transit's Kitchener and Stouffville lines, aims to define the important pieces of the region, but this exercise alone cannot do everything. Additionally, the selection of light rail without full grade separation over other modes, like a light metro, is somewhat questionable for what the line is expected to do: be a cross-city connector, which Metrolinx saw as being an issue for a link that exists on a regional level (Addie, 2017, p. 131-132; Metrolinx, n.d.a). On the other hand, the REM project aims to make connections between existing municipalities that already cooperate on several scales, acting as a regional transit backbone. As there is already a strong definition of what Grand-Montréal is, REM does not have to be a vehicle for that, and can instead aim to shrink the region by improving travel times across it. The light metro mode is appropriate for what the line is expected to do, especially true with its low cost per kilometre.

While the REM project does hope to curtail sprawl by encouraging densification, often by recentralizing, the extent that this is being undertaken pales in comparison to Toronto (Saboonian & Filion, 2019, pp. 256-260). Toronto has a few advantages for their MTSA, transit-oriented development program, visible even with just numbers (Appendix A; Appendix B). Firstly, the average densities around stations include both people and jobs, and so there is flexibility for stations that are located closer to employment areas than residential neighbourhoods. In Montréal, the Station Marie-Curie, located in the Technoparc, an office park, has no transit-oriented development assigned to it. Due to the higher flexibility with these densities, stations in Toronto are, on average, proposed to have TOD twice as dense as that in Montréal. Secondly, the physical areas of the TOD zones are eleven times larger in Toronto.

While floor space indexes vary across the areas, Toronto's zones are contiguous, and are on all sides of the station. In Montréal, the zones are often limited to specific parcels of land, some at a bit of a distance from the station that is supposedly served by them, and so the recentralization efforts are often not to the extent that they could be. Comparing two example stations, one on each line, located mostly within employment lands, the difference is stark. Golden Mile Station in the Crosstown has a minimum density of 200 people and jobs per hectare, and proposed density of 402 people and jobs per hectare, on an MTSA of 129.7 hectares (Figure 17). Station des Sources, on Montréal's West-Island, has a proposed density of 0 people per hectare, and no TOD zone is identified (Figure 18). While Montréal's densities due exclude employment in favour of housing, the lack of a corresponding mechanism to encourage densification and intensification of employment, meaning that ridership at some stations will be dependent on walk-ins from what is currently located nearby, and transfers from passing bus routes.

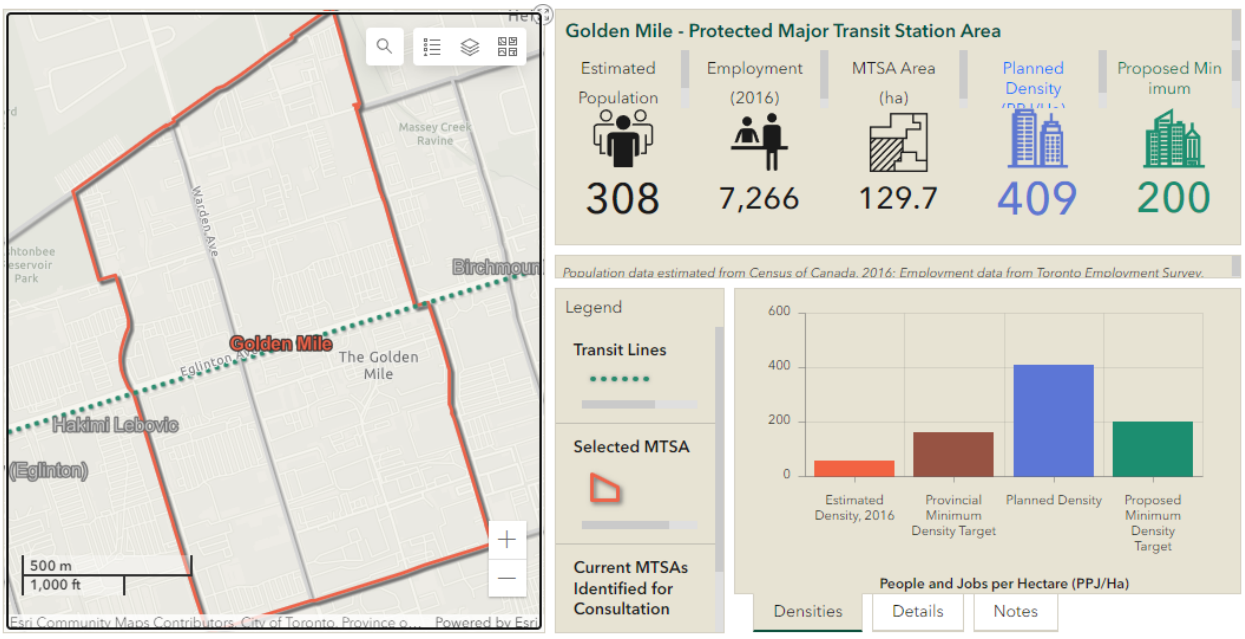

Figure 17: MTSA for Golden Mile Station. (Source: City of Toronto, n.d.).

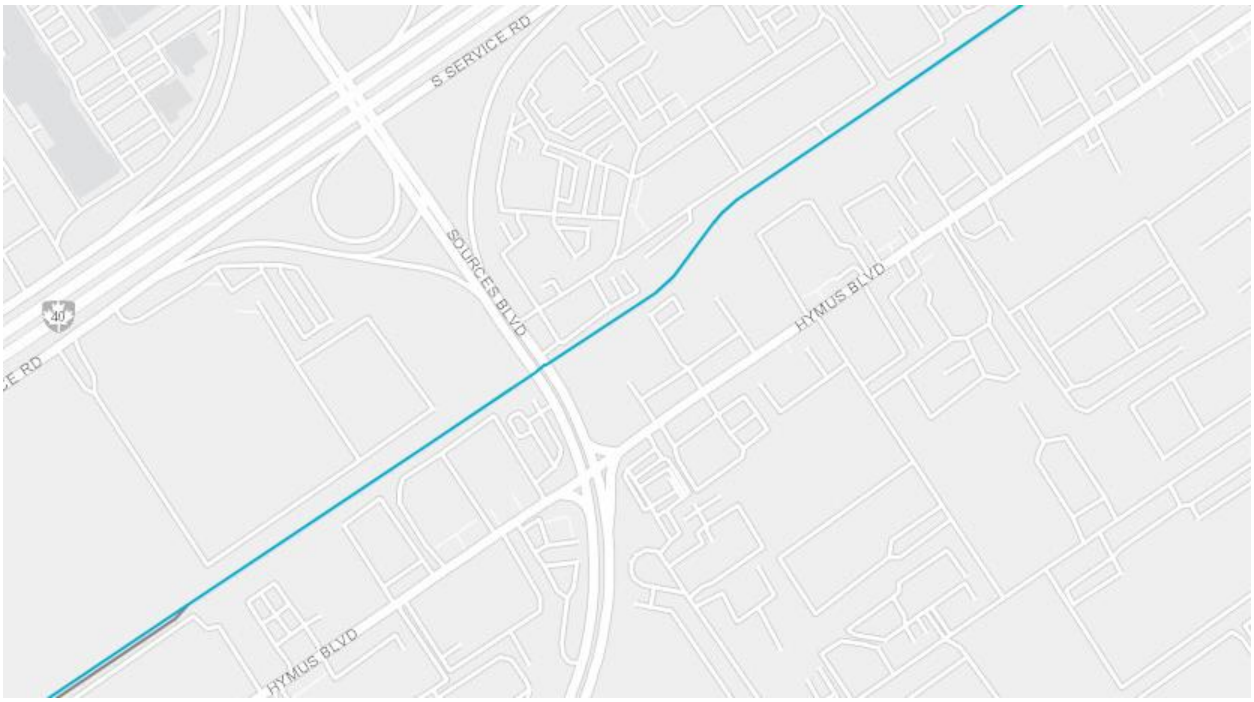

Figure 18: Transit-oriented development zone for Station des Sources. The future REM line is marked in blue (Source: Ville de Montréal, n.d.b).

If the goal of both projects is to better connect their respective regions together, the REM is already at an advantage from the jump. While all REM branches serve downtown, they do not terminate there. This means that travelling from the South Shore to Laval and beyond, or to the West Island, is possible with a one-seat trip. It begins a refocussing of the region away from downtown-centric trips, to one that acknowledges different job centres, changing needs, and additional hours of service. This is not to say that the Crosstown does not do this. It does, and it connects many of the inner suburbs together, while also serving a very dense node near Yonge and Eglinton. That said, it acts more as a piece of the regional transit puzzle, as opposed to REM, which is quickly becoming the backbone for transit in the more suburban parts of Grand-Montréal.

If the goal of the project is to curtail urban sprawl, and encourage densification, the Crosstown will see slightly better results because the areas being densified tend to be well-

established, municipal services are already offered near the stations, and the MTSA plan for transit-oriented development encourages intensity of both employment and housing near stations. On the other hand, the REM lacks targets for densification around stations, and even if they do identify them, it only includes housing. Densification around some REM stations, such as at Anse-à-l'Orme, will see challenges in that there are few amenities within even a few kilometres of the stations. This does not immediately mean failure, but the challenges will be more difficult for the REM to surmount.

Chapter 7: Lessons and Best Practices

Having studied both the Eglinton Crosstown and the Réseau express métropolitain extensively in the topics of governance, suburbanization, and regionalism, I will now identify key lessons learned, and how they respond, inform, and establish best practices for public transit planning in the Canadian, and, possibly, the North American, context.

Lessons

Our cities are changing. While the COVID-19 pandemic made a significant, obvious, impact on urban lives, the change was an ongoing process. Despite the operating patterns of transit systems across North America suggesting otherwise, travel from the suburbs to downtown in the morning peak period, and vice versa in the afternoon, was slowly being replaced by job centres further out in the suburbs. Transit had a hard time serving these trips for several reasons, including institutional lag. With the COVID-19 pandemic, and many downtown jobs become work-from-home (at least partially), and many suburban jobs still operating as if business was as usual, this became glaringly obvious. Even as office vacancies decrease, and many people return to the office, albeit on a limited schedule, it is apparent that many jobs have become suburban in nature. This ‘new era’ of jobs being located throughout regions, and a ‘new era’ of more mixed-use suburbs, as opposed to one central business district for employment and suburbs for housing requires transit solutions that break the pattern in North America. Both the Eglinton Crosstown and the REM, designed prior to the onset of the pandemic, have shown some degree of responsiveness to this new reality. The Crosstown offers a rapid transit service across the city’s middle, reducing distance for much of the city’s population to reach a reliable, east-west, transit route. It acknowledges that downtown is not the destination for all trips, and that many jobs are

now located away from the downtown core. The connections that will eventually be made to three GO Transit rail lines locates areas along Eglinton within the broader Greater Toronto Area. While the REM serves Montréal's downtown core, it connects suburbs on either side of the city, with opposite-peak service operating at high frequencies. This flexibility allows for many trips to occur on public transit that would have been, at best, inconvenient, prior to opening of the line. Both the Eglinton Crosstown and the REM are important pieces to the broader transit pictures. Both lines are successful in that they respond to need. By replacing busy bus routes, or finally building transit on long-proposed corridors, both the Crosstown and REM will improve public transit within their respective regions.

In terms of responsiveness to the 'new era' of governance, the REM has seen far more success than the Crosstown has. Both Ontario and Québec have heavily used public-private partnerships in infrastructure delivery, to a varying degree of success. While this paper has been relatively negative towards the 3P agreement used for the Eglinton Crosstown, it has proven to be a significant source of learning for all the involved partners. The numerous challenges experienced reflect an incompatibility with partners when it comes to infrastructure megaproject. While the Crosstown fits neatly within state roll-out neoliberalism, it reflects a political system that is willing to bend to accommodate the needs of public-private partnerships, and so there has been significant pushback against this model more recently. I would argue that the Crosstown's delays led to further challenges with changing circumstances for governance, and its lack of responsiveness to these arising challenges has identified the need to be more proactive and responsive to changing circumstances with future transit megaprojects, like has been seen with the new 'Alliance' model that will be used for the Hamilton LRT (Wall, 2022). The REM's usage of an arm's-length, public agency in lieu of a private partner, effectively creating a public-

public partnership, shows that there is some dissatisfaction with public-private partnerships in Québec. The usage of a public-public partnership may suggest a dissatisfaction with public-private partnerships, and a need to return construction of transit megaprojects to the state.

Considering responsiveness to a 'new era' of suburbanization, the Crosstown responds to challenges better. While increased supply cannot be the only solution to the housing crisis, densification of lands near transit in Toronto, whether that be in terms of housing or employment, shows that the Crosstown is a good tool for curbing suburban sprawl, like one of the goals laid out in Waterloo Region's implementation of their ION LRT. On the other hand, Montréal's parcel-by-parcel implementation of transit-oriented development adjacent to REM stations shows a lack of responsiveness to transportation needs in the suburban parts of the region. While there are some zones proposed, the overall area identified for intensification is low, and extending lines into the suburbs without plans to densify the areas around the stations may encourage urban sprawl. Additionally, since Montréal's methodology for transit-oriented development is concerned solely with housing, it does not encourage mixed-use areas, nor does is it flexible for encouraging intensification within employment areas.

In terms of responding to a 'new era' of regionalism, both lines have some degree of success. As has been seen with Paris, France, in the past fifteen years, transportation is connected to the creation of a new mode of urban regional governance (Halpern & Le Galès, 2016, p. 7). Metrolinx has made it clear that they view rapid transit along Eglinton as an integral piece of the regional transportation puzzle (Addie, 2017, pp. 131-132; Metrolinx, n.d.a). REM's existence is as the backbone for developing a regional identity and regional vision for transportation. While they are not the final step for encouraging a higher level of regional governance and cooperation, they are an important piece of the puzzle.

Previous iterations of rapid transit expansion have attempted to answer the same questions, and the success of Toronto subway and Montréal Metro, especially in the face of mass suburbanization and autocentric development, show that there was some success in answering these questions. While neither the REM nor the Crosstown are as successful as those past iterations of transit megaprojects, the REM in particular has moved away from many of the challenges that plagued more recent rapid transit projects, like TYSSE, and even the Crosstown itself.

Best Practices

The Eglinton Crosstown and the REM, for being responsive to changing realities in our cities, are huge learning opportunities for all stakeholders in public transit construction and development. Considering the relative unfamiliarity with the specific technologies used in the projects, to governance systems that were themselves innovative and brought on several challenges, both the Eglinton Crosstown and the REM have worked towards establishing a series of best practices within transit planning in Canada. In this chapter, I will identify the most important lessons learned in the projects, and how the work towards establishing best practices that can, and should, be used for future transit megaprojects in the Canadian, or even North American, context.

The first lesson relates to the governance of the project themselves. In Toronto, one of the most significant challenges related to the Crosstown was the tense relationship between the public agency of Metrolinx and the private consortium of Crosslinx. The power struggle between the two delayed the line significantly, and there were no guidelines for resolving disputes, at the expense of the general population. On the other hand, in Montréal, the REM had a few delays, but they were unexpected, like the discovery of explosives within the Mont-Royal Tunnel, or

with the COVID-19 pandemic and its related issues concerning supply chains. Nevertheless, the original contract laid out specific guidelines for how disputes could be resolved, including delays and cost increases, and so the relationship between the public partners and the private partners did not become tense like it did in Toronto. Additionally, the public-public partnership used, with the public CDPQ Infra acting as the 'private' partner, allowed for a system that was publicly accountable, and one where the principal partner had reason to build the line to the best possible. If not, there was an emergency brake, meaning that the state of limbo that the Crosstown is presently in would have never occurred. The lesson here is to that the partners on the project should lay out specific situations that would be challenging to construction of the line, and agree to specific resolutions should these problems arise, as they allow some degree of predictability even when construction can be unpredictable. Predictability can be a continued theme if smaller, more digestible, contracts are used. Additionally, the success of REM and the knowledge built by and for CDPQ Infra has developed a local, public agency that is familiar with technologies that are otherwise uncommon in Canada. Public pensions using their assets to build public infrastructure is an untapped opportunity in Canada, and they could be used for a wide variety of infrastructure megaprojects, in turn reducing the need for private partners throughout the planning and construction phases of the project (Goldwyn, Levy, Ensari, & Chitti, 2023).

The second lesson relates to regional governance. Seltzer (2008, p. 279) and Wallis (2008) have both argued that regional governance must combine top-down and bottom-up initiatives to be successful. The fragmented Greater Toronto Area does not have a governing body, and so policy is implemented from the province downwards, to varying degrees of success. Local municipalities are creatures of the province, and have little influence in making decisions that affect them. In Grand-Montréal, the Communauté métropolitaine de Montréal governs

strongly. This, combined with a relatively laissez-faire approach taken by the Government of Québec when it comes to urban planning, allows for policies to be implemented bottom-up. The Government of Québec's orientations and toolbox of resources, along with passing laws that enable the CMM's policies allow for a planning regime, and by extension, regional governance system, that combines top-down and bottom-up initiatives, meaning that decisions are responsive to a wide variety of concerns. If transit is to be used as the first step in developing urban regional governance, there is worldwide precedence (Halpern & Le Galès, 2016, p. 7). As such, the best practice is the development of connections throughout urban regions, and the establishment of governing bodies for regions that do not replace smaller local units. By downloading responsibilities and powers to these regional governing bodies, a gradient of governance can be created in urban areas, allowing for more efficient service delivery, and less of a rivalry between municipalities, and between levels of government (Spicer, 2017).

The third lesson concerns the knowledge built throughout the design and construction phases of these projects. Between their involvement in the SkyTrain Canada Line in Vancouver, and now REM, CDPQ Infra has become a Canada-based agency that understands how to design and construct technologically-innovative public transit. CDPQ Infra is a permanent arm of CDPQ, and so they can leverage this knowledge when building other projects, increasing efficiency, and reducing delays. Currently, in Ontario, each light-rail train project has had a different consortium. While individual members of the consortiums have developed knowledge, this can get lost when paired with other partners. Crosslinx, the Rideau Transit Group, and Mosaic Transit Group, to name a few, exist only for the purposes of building a specific transit project, but cannot contribute to a Canadian industry of building transit. Encouraging continuity, in order to retain knowledge, is important to keeping transit project costs low, reducing delays,

and mitigating challenges from the get (Magder, 2023c). This is not a new idea, either: the government of Ontario was aware of this in the 1970s, as the GO-Urban plan had goals to build a local industry for transit planning and construction that could be spread across the province (Spieler, 2021, p. 156).

The fourth and final lesson relates to densification around transit. Should a goal be to encourage transit-oriented development, an Ontarian model should be adopted. This is because it considers the entire area around a station, not just specific parcels of land that are available for redevelopment, and includes intensification of both housing and employment within these zones, as opposed to just housing. Having said that, the lack of a specialized development agency in Ontario means that there is a lack of coordination across municipalities, and the developments may get caught in political crossfire, so using a model similar, if not more dedicated, than the CMM in Montréal will allow for consistent application of densification.

Conclusion

As our cities change, there is a need to change our public transit systems in order to maintain their effectiveness. This is a difficult situation, since our institutions move so slowly, that there are likely to be new challenges arising by the time one is resolved. If the trend includes employment moving into suburban areas, then transit agencies need to consider how the traditional downtown-centric focus of transit system must be reoriented, which policies like the Growth Plan have already considered. Additionally, because of state roll-out, many things traditionally provided by the state have moved to privatized delivery, often through a public-private partnerships.

Two new mass transit projects, the Eglinton Crosstown in the Greater Toronto Area, and the Réseau express métropolitain in Grand-Montréal, operate mostly through communities that are traditionally seen as being suburban. The goals of these projects include reducing commute times, reducing congestion, and rationalizing bus networks into ‘feeders.’ Despite numerous delays and a decent amount of criticism for both lines, the openings of both are highly anticipated to open for the benefits that they will provide for public transit users. The most important goal that the projects aim to achieve, whether intentional or not, is the development of new systems of urban governance. Transit provides physical links that can reduce disconnectivity, and reduce tensions in the regions.

This paper answered several questions related to governance, suburbanization, and regionalism, focussing on the planning of both aforementioned transit megaprojects. The answers to these questions are important in the context of transit planning in Canada as a whole, as they provide a series of lessons, and work towards developing best practices that can be

implemented in other cities that wish to provide rapid transit. Overall, the best practices include transparency to the public, leveraging the resources that public partners have when developing projects, establishing bodies of knowledge that allow for easy transmission across the country, and encouraging densification in areas that transit can easily serve. While the success of both projects remains to be seen, noting that, as of writing, neither the Crosstown or the REM have opened, I am optimistic that this ‘new era’ for public transit in Canada can be bright.

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Appendix A

Table 1: Major Transit Station Areas on the Eglinton Crosstown and their densities

Station	Minimum Prescribed Density (people and jobs per ha)	Proposed Prescribed Density (people and jobs per ha)	Area (ha)
Mount Dennis	160	174	82.9
Keelesdale	160	220	109.3
Caledonia	160	228	100.3
Fairbank	160	262	95.7
Oakwood	160	237	72.4
Cedarvale	200	200	90.2
Forest Hill	160	173	80.8
Chaplin	200	200	45
Avenue	200	200	68
Eglinton	600	852	81.5
Mount Pleasant	350	387	64.8
Leaside	200	350	69.9
Laird	160	185	108.2
Sunnybrook Park	65	67	82.1
Science Centre	200	408	67.9
Aga Khan Park & Museum	200	476	74.4
Wynford	200	546	35.9
Sloane	160	194	66.8
O'Connor	200	239	87.5
Pharmacy	200	405	107.7
Hakimi Lebovic	200	307	110.1
Golden Mile	200	402	129.7
Birchmount	200	356	96.2
Ionview	160	164	88.1
Kennedy	200	280	131.2
AVERAGE DENSITY		300.48	
TOTAL AREA			2146.6
AVERAGE AREA			85.864

Note. Data are from City of Toronto (n.d.).

Appendix B

Table 2: Transit-Oriented Development Zones on the Réseau express métropolitain (within the Agglomération de Montréal) and their densities

Station	**Minimum Prescribed Density (units per ha)**	**Area (ha)**	**# of parcels**
Roxboro-Pierrefonds	40	3.56	2
Sunnybrooke	40	7.31	2
Bois-Franc	80	71.16	10
Du Ruisseau	0	0	n/a
Montpellier	0	0	n/a
Cote-de-Liesse	0	0	n/a
Mont-Royal	0	0	n/a
Canora	80	14.2	1
Édouard-Montpetit	0	0	n/a
McGill	0	0	n/a
Gare Centrale	150	3.08	3
Griffintown—Bernard Landry	0	0	n/a
Île-des-Sœurs	110	11.6	1
Marie-Curie	0	0	n/a
YUL-Aéroport-Montréal-Trudeau	0	0	n/a
Des Sources	0	0	n/a
Fairview—Pointe Claire	35	9.99	1
Kirkland	0	0	n/a
Anse-a-l'Orme	15	25	1
AVERAGE DENSITY	28.95		
TOTAL AREA		145.9	
AVERAGE AREA		7.68	

Note. Data are from Ville de Montréal (n.d.b). Area calculations performed by author.