
**WHO DOES WHAT** SERIES

# The Municipal Role In TRANSPORTATION

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IMFG Institute on Municipal Finance & Governance

URBAN POLICY LAB

UNIVERSITY OF TORONTO

SCHOOL OF CITIES

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The Institute on Municipal Finance and Governance (IMFG) is an academic research hub and non-partisan think tank based in the School of Cities at the University of Toronto.

IMFG focuses on the fiscal health and governance challenges facing large cities and city-regions. Its objective is to spark and inform public debate, and to engage the academic and policy communities around important issues of municipal finance and governance. The Institute conducts original research on issues facing cities in Canada and around the world; promotes high-level discussion among Canada's government, academic, corporate, and community leaders through conferences and roundtables; and supports graduate and post-graduate students to build Canada's cadre of municipal finance and governance experts. It is the only institute in Canada that focuses solely on municipal finance issues in large cities and city-regions.

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# Executive Summary

Investments in transportation are among the most visible investments made across all orders of government in Canada, with each order of government illustrating different forms of involvement in the country's transportation networks. The federal and provincial governments oversee long-distance transportation, while municipalities are responsible for public transit, active transportation, and local highways and roads. By changing policies and priorities across all orders of government, cities could make transportation networks more effective while reducing emissions.

The four papers in this report focus on the role that Canadian municipalities currently play in transportation and how other orders of government can support that role. The papers also propose policies to strengthen the municipal role in transportation while alleviating congestion, moving goods more efficiently, and promoting active transportation and sustainability.

## Municipalities

Fanny Tremblay-Racicot examines the links between transportation, urban planning, and land use and asserts that municipalities have the power to prioritize complete streets interventions and active transportation investments, particularly in vulnerable neighbourhoods, as well as to democratize land-use planning.

Patricia Burke Wood argues that Canadian cities need collaborative and regional transportation governance for strong, multimodal networks to provide better service to transit riders. She recommends that municipalities play a leading role in these governance structures and in efforts to coordinate travel across local networks.

Carolyn Kim, Chandan Bhardwaj, and Adam Thorn discuss the unique policy levers that municipalities can use to make urban freight transportation more sustainable by encouraging low-emissions deliveries and optimizing freight routing.

Marie-Ève Assunçao-Denis and Matt Pinder stress that municipal governments should continue to designate mixed-use areas, especially near public transit, and complement such land-use changes with upgrades to active transportation infrastructure to create more walkable environments.

## Provincial governments

Tremblay-Racicot notes that provinces need to implement stronger growth-management policies and legislation regarding transportation and urban planning, so that local governments have more incentive to make changes.

Wood finds that the working relationships between municipalities and provincial governments on urban transit governance are often weak, unclear, unstable, and antagonistic. She recommends more collaboration, drawing on international models.

Kim, Bhardwaj, and Thorn advocate for provinces to enhance financial support and autonomy for municipalities. This support could include funding for low-emissions freight transportation technologies and granting the power to implement policies required to support more efficient goods movement.

Assunçao-Denis and Pinder call for provinces to increase the funding available to municipalities for active transportation infrastructure and initiatives, highlighting existing programs in British Columbia and Québec.

## Federal government

Wood argues that Canada's transportation governance structures and practices are uneven and often unaccountable. The federal government's current role is characterized by ambiguity and inconsistency, which could be improved by mutually agreed-upon expectations across orders of government.

Kim, Bhardwaj, and Thorn highlight federal programs that have supported municipalities in adopting more sustainable practices, such as fleet electrification and the accompanying need for more public electric-vehicle charging stations.

Assunçao-Denis and Pinder emphasize the crucial role of federal funding in the development and improvement of active transportation infrastructure and programs, including research and feasibility studies, community engagement initiatives, and cycling and walking infrastructure projects.

## Intergovernmental cooperation

The need for increased intergovernmental cooperation among orders of government is an underlying assumption of all the contributors, particularly with respect to stronger legislation and funding assistance. Assunçao-Denis and Pinder call for more

horizontal coordination across local governments such as boroughs and municipalities to support active transportation. Kim, Bhardwaj, and Thorn suggest that sustainable freight traffic would benefit from improved coordination of goals and policies among all orders of government.

## About the Who Does What Series

Canadian municipalities play increasingly important roles in addressing policy challenges such as tackling climate change, increasing housing affordability, reforming policing, and confronting public health crises. The growing prominence of municipalities, however, has led to tensions over overlapping responsibilities with provincial and federal governments. Such "entanglement" between orders of government can result in poor coordination and opaque accountability. At the same time, combining the strengths and capabilities of different orders of government – whether in setting policy, convening, funding, or delivering services – can lead to more effective action.

The Who Does What series gathers academics and practitioners to examine the role municipalities should play in key policy areas, the reforms needed to ensure municipalities can deliver on their responsibilities, and the collaboration required among governments to meet the country's challenges. It is produced by the Institute on Municipal Finance and Governance and the Urban Policy Lab.

Image by Jeff Allen

# Who Does What: The Municipal Role in Transportation

## Backgrounder: Transportation Policy

By Gabriel Eidelman, Kass Forman, Spencer Neufeld, and Kinza Riaz

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The transportation infrastructure connecting Canadian cities is owned, funded, and managed by all three orders of government. The interconnected nature of transportation networks – from sidewalks and bike lanes, to roads, subways, highways, and rail lines – means federal, provincial, and municipal responsibilities related to transportation are complex and often intertwined.

This backgrounder outlines the role that Canada's municipal governments play in three specific areas of transportation policy – public transit, highways and roads, and active transportation – as well as how local governments work both independently and collaboratively to manage transportation challenges within these three realms.

### Municipal action within legal and fiscal constraints

Generally, sections 91 and 92 of the *Constitution Act, 1867,* grant the federal government exclusive authority over international and interprovincial transportation infrastructure, such as airports, shipping ports, and rail corridors, and give provincial governments control over intraprovincial infrastructure, such as intercity highways

and roads. Provinces, in turn, often delegate (at least some) responsibility for planning, funding, construction, and oversight of transportation infrastructure to municipal governments, including public transit, city highways, local roads, and public rights-of-way such as sidewalks and bikeways.

Seven provinces specify transportation systems, broadly defined, as a distinct sphere of municipal jurisdiction within their respective legislative frameworks.[1] These powers, however, are typically exercised within a broader set of provincial statutes, regulations, and policy directives that constrain municipal autonomy.

*Transit*

About 12 percent of Canadians use public transit on a regular basis, including commuter trains, subways, light rail, and buses.[2] Most of these commuters are served by municipally controlled transit agencies, such as the Toronto Transit Commission, the Société de Transport de Montréal, Calgary Transit, Winnipeg Transit, OC Transpo (Ottawa), the London Transit Commission, and Halifax Transit. In 2020, a total of 218 urban municipalities across Canada owned public transit assets,[3] with larger urban municipalities owning 80 percent of Canada's public transit rolling stock.[4]

In the largest metropolitan centres, local transit operators must abide by plans set out by regional transportation agencies controlled, to a greater or lesser extent, by municipal or provincial appointees. For example, TransLink, which spans 21 municipalities across the lower mainland of British Columbia, as well as one Electoral Area and one Treaty First Nation, is governed by provincial legislation (the *South Coast British Columbia Transportation Authority Act*) and overseen by the Mayors' Council on Regional Transportation.[5]

**About 12 percent of Canadians use public transit on a regular basis, including commuter trains, subways, light rail, and buses.**

In the Montréal region, transit services are provided by four operators, three of which are municipal: the Société de transport de Montréal, the Réseau de transport de Longueuil, and the Société de transport de Laval. Exo, an inter-regional operator, provides regional bus and train services as well as local service in areas not covered by the other systems.[6] The operators are collectively overseen by a provincially established regional transit authority, the Autorité régionale de transport métropolitain (ARTM), whose board includes a majority of appointees selected by municipal representatives from the Communauté métropolitaine de Montréal.[7]

Finally, transit in the Greater Toronto and Hamilton Area includes services provided by the Toronto Transit Commission (TTC), MiWay (Mississauga), Brampton Transit, and York Region Transit. Metrolinx, a provincial agency, operates the interurban GO Transit system and plans, delivers, and coordinates transit expansion in accordance with its Regional Transportation Plan. The agency is overseen by a board of directors wholly appointed by the Government of Ontario.[8]

*Highways and roads*

Municipalities collectively own approximately 7,000 km of highways across Canada (13 percent of the national total), more than 155,000 km of arterial and collector roads (61 percent of the national total), nearly 530,000 km of local roads (89 percent of the national total), and about 21,000 km of lanes and alleys (98 percent of the national total).[9] While the cost of constructing, repairing, or replacing these assets is at least partly funded by municipal revenues, maintenance standards are typically set by provincial governments. In Ontario, for example, municipalities pay 90 percent of the cost of road infrastructure,[10] yet detailed maintenance standards are defined by Ontario's *Municipal Act*.[11]

Vehicle and driver licensing, load and weight restrictions, safety standards, and speed limits are also dictated by provincial legislation, such as Nova Scotia's *Traffic Safety Act*, Québec's *Code de la securité routière*, and Manitoba's *Highway Traffic Act*. In Alberta and British Columbia, municipal governments are required to fund highway expansion or improvements related to new urban development, while remaining subject to provincial (and sometimes federal) environmental assessments.[12] In Ontario and Saskatchewan, municipalities receive provincial funding to maintain and expand highways that pass through their borders.[13]

*Active transportation*

Walking, cycling, and other active transportation infrastructure are typically the exclusive domain of municipal governments. Approximately 70 percent of all sidewalks in Canada are owned by urban municipalities,[14] along with at least 12,000 km of cycle routes and bikeways.[15]

Many cities in Ontario and British Columbia, including Brampton, Markham, Windsor, Saanich, Surrey, and Victoria, have developed active transportation master plans that set out both short- and long-term expansion goals.[16] These plans are often guided by provincial frameworks, such as the British Columbia Active Transportation Design Guide.[17] The Government of Québec has established specific locations where cyclist and pedestrian infrastructure may be implemented as part of its highway safety code.[18]

## Municipal collaboration with other orders of government

*Transit*

The distinction between capital investments in public transit and operating subsidies is important: the former attracts considerable attention from higher orders of government, while the latter is largely left to municipalities.[19] In 2021 in Ontario, provincial and federal governments spent 4 and 28 times more, respectively, on capital investments than they did on operating subsidies. Conversely, in the same year, Ontario municipalities spent twice as much on operating subsidies as on capital investments.[20] In Québec, the situation is similar: the provincial government is planning to invest an average of $1.5 billion per year in public transit infrastructure between 2022 and 2032,[21] compared with $296.5 million in operating subsidies in 2022.[22]

The federal government's principal funding program for public transit, the Public Transit Infrastructure stream of the Investing in Canada Infrastructure Program (ICIP), is dedicated exclusively to capital investments. The $20.1-billion application-based program, which will expire in 2028, funds up to 50 percent of the cost of rehabilitation projects and up to 40 percent of new construction and expansion projects launched by municipalities.[23] Starting in 2026–27, the federal government has also committed to investing $3 billion a year in public transit infrastructure projects on a permanent basis.[24] Federal funds for public transit invested under the ICIP flow through the provinces, which distribute them to municipalities. In this way, the federal government enters into agreements with the provinces concerning the use of the funds, rather than with municipalities directly.[25]

**The distinction between capital investments in public transit and operating subsidies is important: the former attracts considerable attention from higher orders of government, while the latter is largely left to municipalities.**

While provinces generally gear their support towards capital investment, some provinces contribute to operating expenditures, although the extent of their support varies by province. British Columbia, Manitoba, and Québec contribute higher amounts. In B.C., Victoria's regional transit agency is required to pay 68 percent of operating costs, while the province covers the remaining 32 percent.[26] In Manitoba, Winnipeg Transit receives a provincial subsidy amounting to about 20 percent of its operating budget.[27] Just before the pandemic, ARTM in the Montréal region obtained about 14 percent of its operating funding from provincial subsidies.[28]

Other provinces are more parsimonious in their support for municipal transit operations, even if they invest heavily in capital assets. In recent years, Ontario has focused its transit investment in infrastructure,[29] though programs such as the province's Gas Tax Fund have also been used to subsidize transit operations in Toronto to a small extent.[30] Similarly, Alberta's Municipal Sustainability Initiative grants support public transit (among other areas) and can be allocated to both operating expenditures and capital investments, although they are primarily allocated to capital investments.[31] Saskatchewan has a small program that helps fund operating costs associated with municipal paratransit services for people with disabilities.[32] Similarly, Nova Scotia and Newfoundland have small-scale programs to fund transit in unserviced areas with low population density[33] and bus passes for low-income individuals,[34] respectively.

The pandemic affected intergovernmental support for public transit. Diverging from their orientation towards capital spending, both federal and provincial governments extended one-time operating support to municipalities for transit. In February 2022, the federal government announced an exceptional investment of $750 million to support transit systems that had been affected by the pandemic.[35] This amount was transferred to the provinces, which also had to match it, before disbursement to municipalities. Provinces subsequently individually announced these one-time funding boosts to support municipal transit operations, in excess of their usual contributions.[36]

Municipalities tend to provide the largest share of operating subsidies. In Ontario in 2021, municipalities contributed 83 percent of operating subsidies as a share of total contributions across levels of government.[37] In the same year, municipalities contributed 52 percent of the ARTM's operating subsidies across levels of government.[38] For Saskatoon Transit, the figure was 99 percent.[39] TransLink stands apart in receiving direct tax revenues as permitted by its enabling legislation, including a property tax it levies on properties in the region, rather than depending on municipal transfer.[40]

Many major transit development projects feature a combination of federal, provincial, and municipal investment. For instance, Calgary's Green Line LRT project received $1.7 billion in provincial funding and $1.64 billion

in federal funding, with the municipality contributing $1.56 billion.[41] Likewise, Vancouver's Broadway Subway project received $1.83 billion in provincial funding and $896.9 million in federal funding, with the City of Vancouver contributing $99.8 million in kind.[42] In Toronto, the Finch West LRT and Eglinton-Crosstown LRTs will be operated by the TTC, but are largely funded by Ontario,[43] with a $333-million contribution from the Government of Canada for the Finch West LRT.[44]

*Highways and roads*

Local roads are managed and planned by local authorities across the country, while provinces are responsible for highways and for setting transportation strategies that balance regional economic and mobility needs with sustainability efforts and regional land-use plans. The federal government also contributes funding, though its support for municipal road infrastructure is featured less prominently than its support for public transit, with the latter benefitting from highly visible, dedicated funding streams.

The Government of Canada's strategic plan for transportation, *Transportation 2030*, makes little mention of municipalities, though it calls for greater cooperation with provincial and territorial governments.[45] Moreover, the Investing in Canada Infrastructure Program, which explicitly facilitates cost-sharing with municipalities, does not have any dedicated stream to fund road infrastructure (in contrast with public transit), even if roads may be an eligible expense under certain circumstances.[46]

**Federal support for municipal road infrastructure is featured less prominently than federal support for public transit, with the latter benefitting from highly visible, dedicated funding streams.**

Of the large federal infrastructure programs that support municipalities, only the Canada Community Building Fund makes direct mention of local roads and bridges.[47] However, this program does not require approval of projects by Infrastructure Canada. Indeed, the federal government emphasizes the provincial role in allocation and reporting. Taken together, the structuring of federal programs suggests a different intergovernmental dynamic in the area of roads and bridges compared with public transit; one in which the municipal-federal relationship is less important.[48]

Provinces, as owners of 95 percent of Canada's National Highway System,[49] have a more pronounced role than the federal government in funding the maintenance and expansion of highway infrastructure, even where the infrastructure exists within or connects municipalities. Alberta, Saskatchewan, and Manitoba produce detailed highway infrastructure investment plans as part of the capital plans prepared in their budget cycles.[50] The investment plans highlight the communities which will benefit from the upgrades to highway infrastructure, though these communities do not contribute financially. Certain flagship highway projects within cities have attracted high levels of provincial support. Québec's Ministry of Transportation invested $3.67 billion in Montréal's Turcot Interchange,[51] while the Alberta government spent $1.42 billion on Calgary's Southwest Ring Road.[52]

Provinces also contribute to the maintenance and expansion of local roads. For example, the Road Resource program stream of Alberta's Strategic Transportation Infrastructure Program is targeted to smaller municipalities. It prescribes a 50/50 cost-sharing model for road infrastructure projects that support industrial and economic growth.[53] New Brunswick and Nova Scotia have produced three- and five-year road infrastructure investment strategies, respectively. These plans, which do not correspond to the annual budget cycle, include projects cost-shared with municipalities by virtue of being local in scope.[54] New Brunswick consults with municipalities in developing its highway strategy.

Provinces also guide the development of highway infrastructure within and between municipalities through strategic planning. For example, Ontario's Greater Golden Horseshoe Transportation Plan sets a 30-year strategy to integrate transportation infrastructure, services, and policies across the Toronto-Hamilton region. This includes roads and highways, public transit, and active transportation.[55] These policy frameworks, in turn, inform regional transportation master plans developed by Ontario cities and upper-tier municipalities.[56] Moreover, municipalities often collaborate with the provinces to streamline highway development. For instance, both Peel and York Regions are working with the Ontario Ministry of Transportation on traffic studies and road improvement plans related to the extension of Highway 427.[57]

Finally, some small-scale programs related to innovation in road transportation feature cooperation across all orders of government. For example, ACTIVE-AURORA, a program that provides testing sites for connected-vehicle technologies, involves a partnership between the Government of Canada, the Province of Alberta, and the City of Edmonton.[58]

The federal government has also taken an interest in the greening of municipal vehicle fleets through support for charging infrastructure through the Zero-Emission Vehicle Infrastructure Program.[59] The program provides financial support for municipally managed on-street charging infrastructure. Because of its 50 percent cost-share ceiling, the program requires participating municipalities to match the federal contribution, or engage provinces or other entities in funding the projects.

*Active transportation*

Provision for active transportation, including the ownership, operation, and planning of facilities, is often the exclusive domain of municipalities. Provinces can set service standards, formulate guidelines, or implement strategies for active transportation, often in order to meet provincial goals. Federal programs link active transportation to broader goals of the federal government, such as mitigating climate change, promoting public health, and supporting the tourism sector. Though higher orders of government may offer funding for infrastructure development and planning, municipalities must initiate active transportation projects.

**Provision for active transportation is often the exclusive domain of municipalities.**

The National Active Transportation Strategy is Canada's federal policy framework, launched in 2021. The strategy highlights improvements in health outcomes; reducing greenhouse gas (GHG) emissions; promoting vibrant, equitable, and livable communities; and supporting the economy and tourism. It includes raising public awareness of the benefits of active transportation, coordinating investments and project planning, setting targets and collecting data, and investing in capital projects. The strategy is underpinned by the Active Transportation Fund, a $400-million program devoted to funding the planning and construction of active transportation projects across the country. Municipalities can receive up to $50 million in capital funding for up to 60 percent of project costs. Projects include building pathways and bridges, installing lighting, and creating bike lanes.[60]

Additionally, the federal government's Investing in Canada Infrastructure Program has funded several active transportation initiatives, including $1.25 million for streetscape and cycle track improvements on Toronto's Eglinton Avenue, $875,000 for British Columbia's All Ages and Abilities bicycle infrastructure project, and $875,000 for sidewalk and bicycle track upgrades in London, Ontario.[61]

At the provincial level, British Columbia's active transportation strategy aims to double the percentage of trips taken by active transportation by 2030. Funding programs such as the Network Planning Grant and the Active Transportation Infrastructure Grant support capital investments in infrastructure, paying 50 to 80 percent of total costs. This strategy includes public awareness campaigns, data collection, and subsidized e-bike purchases for individuals and businesses. The strategy also involves updating legislation to protect active transportation users from injury or death from vehicles.[62]

Similarly, Québec's Sustainable Mobility Policy outlines the province's commitments to improving active transportation infrastructure, emphasizing safety, efficiency, and sustainability. The plan aims for a 20 percent reduction in car trips by 2030, and a 37.5 percent reduction of GHG emissions from transportation relative to 1990 levels. The plan involves encouraging and empowering more active transportation infrastructure and safety in cities across the province.[63] This policy directly links with projects such as the Réseau velo métropolitain, a network of bicycle paths totalling 3,200 km across Greater Montréal, and the *Route verte*, a cycling network that connects municipalities across Québec. The Montréal region's ARTM is responsible for producing a master plan for active transportation, a policy framework that includes planning, funding, and public engagement strategies. Capital expenditure and oversight comes from the ARTM, the Government of Québec, and federal infrastructure programs.[64]

Large municipalities like Toronto and Vancouver have programs to facilitate active transportation, although these do not feature prominent intergovernmental partnerships.[65] In contrast, the City of Ottawa is implementing its cycling and pedestrian plans alongside its Transportation Master Plan, with support from the federal and provincial governments. Ottawa's plans contain strategies for e-scooters, winter cycling, tourism, capacity building, infrastructure, and multi-modal connectivity.[66] The federal government's Investing in Canada Infrastructure Program funded cycle track improvements in Ottawa, including $525,000 for intersection upgrades.[67] Ottawa has the second-highest proportion of bicycle commuters in North America (after Portland, Oregon).[68]

## Conclusion

Transportation infrastructure offers ribbon-cutting opportunities for any level of government that chooses to invest in it. Indeed, some of the highest-profile infrastructure projects have involved public transit in cities, such as the Eglinton-Crosstown LRT in Toronto, the Broadway Subway

in Vancouver, and the Réseau Express Métropolitain in Montréal.

But transportation is more than an assemblage of high-profile projects. As a system deeply tied to the urban fabric, it encompasses a range of less conspicuous functions of government, including active transportation, urban freight, and operating subsidies for bus routes. While higher orders of government have demonstrated a willingness to invest in visible capital projects, it is less obvious that a similar commitment exists to support municipalities in delivering the other facets of transportation within their jurisdictions.

## The Pivotal Role of Local Governments in the Fight Against Social and Environmental Injustices and Climate Change: Laying the Foundations for Sustainable Urban Transportation

By Fanny Tremblay-Racicot

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### Introduction

We know the story: too often, and for too long, municipalities have limited themselves to the role of serving landowners and their properties by authorizing real estate projects and providing the infrastructure necessary for their development. Even today, villages on the outskirts of cities are being urbanized without consideration for the impact that new construction and new residents will have on services, budgets, groundwater, automobile traffic, and other features of the municipality. At the same time, this development pattern is contributing to an exodus of citizens, taxpayers, and workers from city centres.

We also know what incentivizes urban sprawl: municipalities' desire to attract new residents and businesses and to increase municipal own-source revenues in the short term, and residents' desire for homeownership and safe, healthy living environments. In the absence of regulation by provincial governments, sprawl will continue as long as there is a market – whether in property, materials and labour to build, or residents to buy or rent.

What is less well-known in non-academic contexts and too often ignored by policymakers, however, is that transportation, urban planning, and land use are inseparably linked. Given that the transportation sector is the second-largest source of greenhouse gas (GHG) emissions in Canada (after oil and gas production) and the largest source of GHG emissions in Canadian cities, it is vital to understand the interrelationship between transportation infrastructure, land use, and mobility, as well as the pivotal role that municipalities can play in all three areas. Actions aimed at "sustainable" urban transportation can also be powerful tools for promoting social and environmental justice. Municipalities are capable of addressing the causes and consequences of climate change, provided they have the resources, ability, and political will to do so.

This essay presents what can be expected of Canadian municipalities in terms of sustainable mobility and access to

services, jobs, and institutions. But first, to understand how cities can shape mobility patterns, it is important to examine the interrelationships involved.

### Interrelationships between transportation infrastructure, land use and urban planning, and travel patterns

The links among transportation, land use, and mobility, shown in Figure 1, were established in the scholarly literature in the early 2000s.[69] In the 1960s and 1970s, highway development led to the development of low-density commuter towns. Although highway construction has less of an impact on real estate development today, it still influences the location of development, particularly non-residential development. Also, the widening and extension of highways favours suburbs over metropolitan centres, contributing to decentralization and low-density developments. In this way, increased highway capacity can undermine regional productivity by leading to inefficient and costly public infrastructure developments oriented to automobile use. Low-density real estate development, in turn, feeds the vicious cycle of increasing automobile traffic (transport demand) and subsequent political pressure from motorists for increased road capacity.

The impact of land use on mobility is illustrated in Figure 2. Increased residential density and population density, and a good balance of jobs and residences as well as businesses and residences – the so-called "functional mix" – covary and are associated with decreased automobile use[70] in terms of both trip frequency and distance.[71]

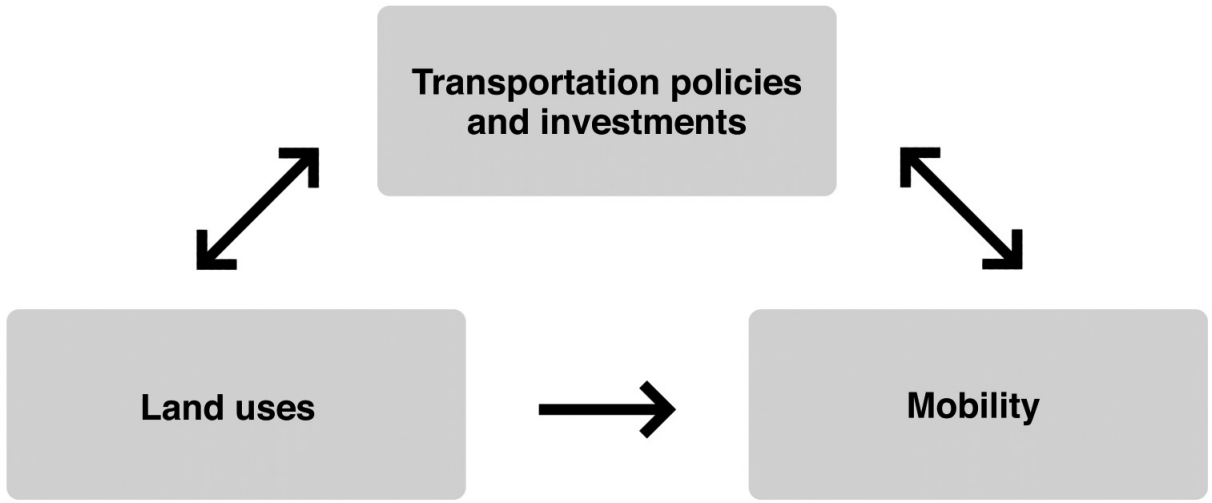
Finally, transportation policies and investments also influence mobility, for better or worse. While some measures can positively influence mobility habits and reduce single-occupancy vehicle travel, others generate adverse effects that increase road and highway traffic.

The first set of measures – those aimed at reducing GHG emissions from the transportation sector – is internationally recognized as "Avoid-Shift-Improve." According to this approach, public policies should aim to:

- **avoid** and reduce the need for motorized travel by adopting transportation demand measures, such as increasing residential densities;
- achieve modal **shift** from single-occupancy vehicles to more sustainable modes, for instance by improving active transportation options or by implementing congestion pricing;
- **improve** (that is, reduce) the $CO_2$ emissions of vehicles, for instance, by enforcing electric vehicle sales quotas.[72]

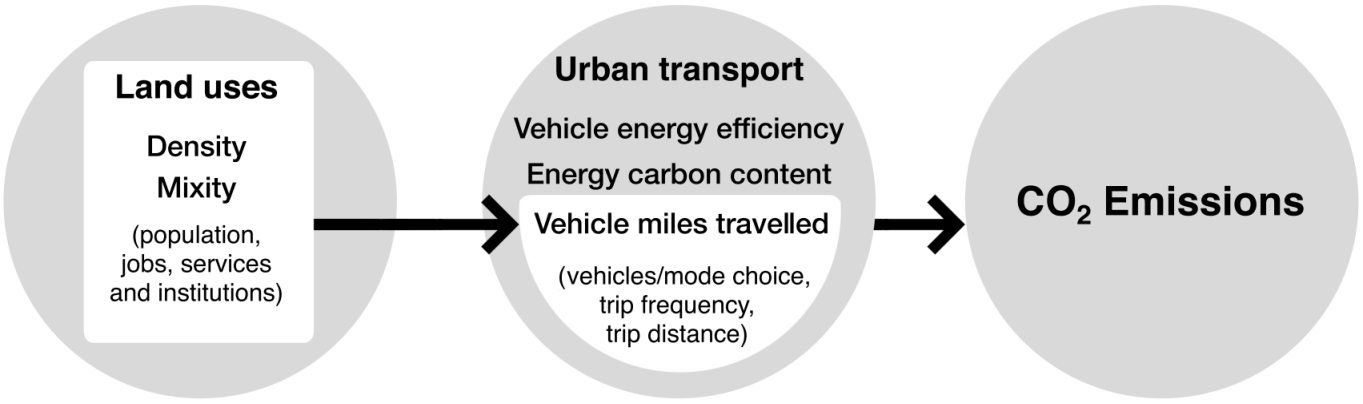
The policies and investments that undermine the achievement of sustainable mobility goals mainly involve increasing road and highway capacity, which invariably leads to increased car and truck traffic, commonly referred to as "induced demand."[73]

*Figure 1: Relationships between transportation, land uses and mobility*




**Source:** Author, adapted from S. Handy, "Smart growth and the transportation-land use connection: What does the research tell us?" *International Regional Science Review* 28,2 (2005): 146–67.

*Figure 2: Causal chain between land uses, vehicle miles traveled and $CO_2$ emissions*




**Source:** Author, adapted from Handy, "Smart growth and the transportation-land use connection," 2005.

Public policies aimed at integrating transportation and land use planning can be divided into five strategies:

- sustainable transportation planning;
- smart growth or growth management policies;
- transit-oriented development;
- parking management and pricing;
- complete streets.[74]

Although all levels of government can directly or indirectly influence these policies or their outcomes, local governments possess a fine-grained knowledge of the territory, including the built environment, natural spaces, citizens, private businesses, interest groups, and institutions, as well as their particular sensitivities.

## The key role of municipalities

Figure 3 shows a municipal framework for sustainable planning, specifically in the circled elements that represent the locus of authority at the regional level, the collaborative process with stakeholders, and the outcomes of the planning process.

Although municipalities do not control transportation infrastructure funding, provincial growth management policies, or the institutional design of regional planning bodies, they can still influence the policy choices that emerge from decision-making processes.[75]

In terms of investment in active transportation and public transit, municipalities and transit authorities can propose pilot projects and create the conditions for their adoption or success. More specifically, they can include citizens and other stakeholders at all stages of planning[76] thereby going beyond mere cost-benefit analyses and avoiding their shortcomings. Decision-makers can base their choices on multi-criteria analyses that take into account issues that are more difficult to quantify but that may be of primary importance to residents, such as territorial equity, the accessibility of certain destinations, the servicing of particular corridors, the conservation of natural environments, the location of station areas, or redevelopment planning.[77]

Governance that is more integrated and deliberative is associated "with far more sustainable and effective transport and land use integration outcomes"[78] and is arguably more responsive to citizens' needs and preferences. In addition, as shown in Figure 4, municipalities are responsible for the variables that determine the success of sustainable transportation policies, namely land uses, urban planning, and local road management, as well as management of the first mile (to a transit stop) and last mile (to a destination).

Local governments are also best positioned to protect or advocate for the most vulnerable residents of cities. They can do this by adopting measures to counter the adverse effects of gentrification and by ensuring that citizens who depend on public transit and active transportation have equitable access to it.[79] This may mean, for example:

- prioritizing complete street interventions and active transportation investments in the most vulnerable neighbourhoods;
- acquiring land near stations or along transit corridors for social housing;
- offering social rates for public transit;
- providing public transit and active transportation services between outlying employment locations where blue-collar and service employees work and the neighbourhoods where they live;
- enforcing commute-trip reduction and transportation management programs.

*Figure 3: The municipal role in regional planning intergovernmental structure*

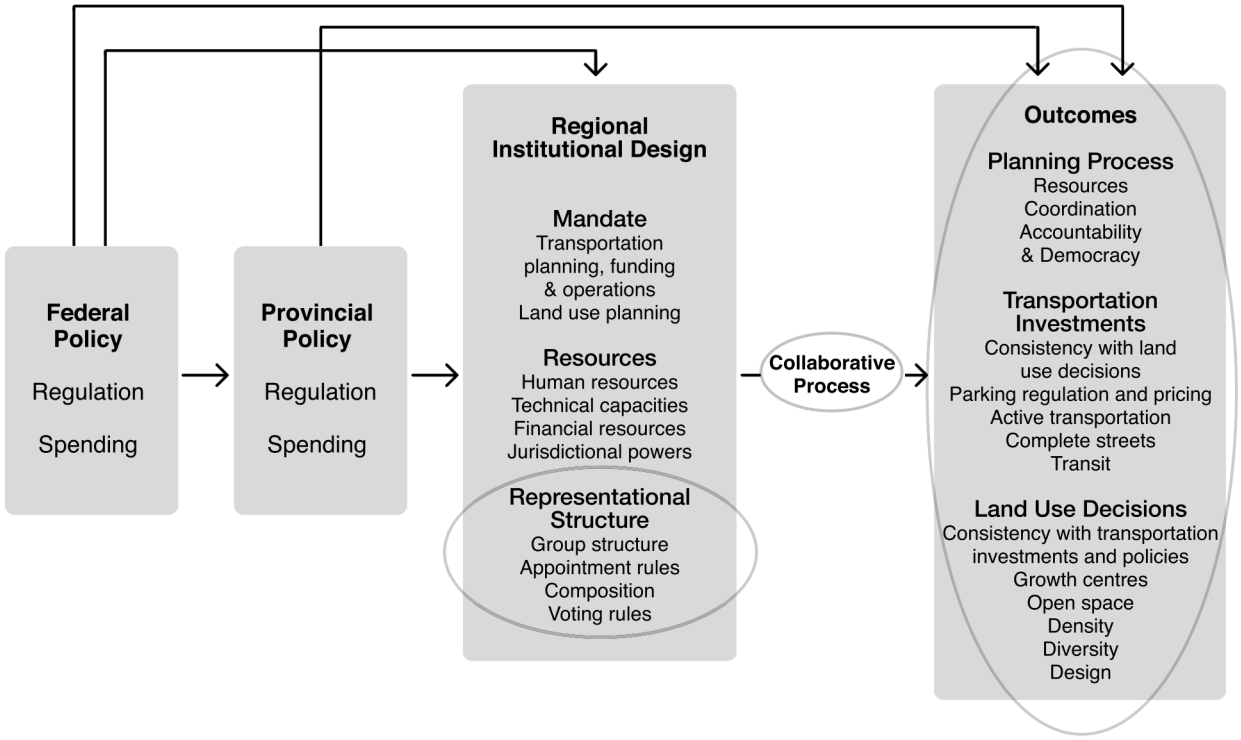
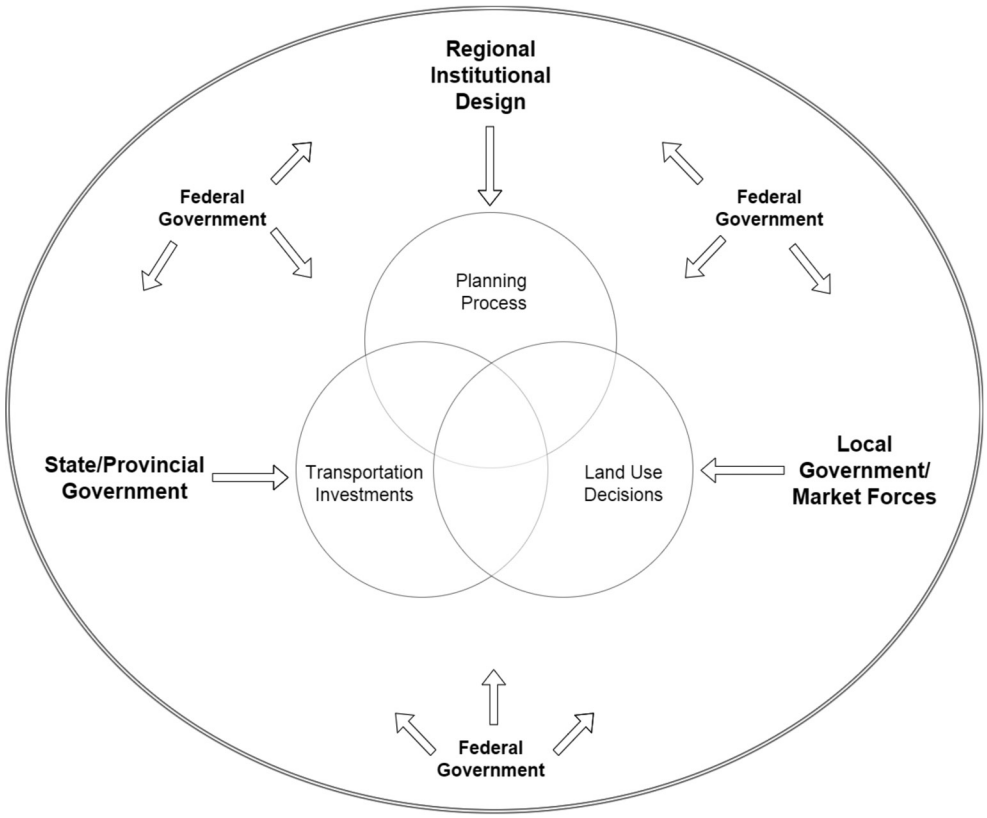



*Figure 4: Macro-scale political environment of regional planning in a federal system*



As for smart growth or growth management policies, which are mandated by some provincial governments, municipalities may coordinate their own growth management efforts at the regional level, although this is rare and unlikely[80] in the context of intra-regional competition, where the mandates of regional planning institutions are weak and their resources limited.

Nonetheless, municipalities can undertake sound land-use planning practices, such as densification around public transit hubs, tools to attract infill development, conservation of natural areas, enhancement of agricultural zones and urban agriculture, and strategies to include social and affordable housing.

Finally, in terms of public participation and democratization of planning exercises, municipalities can create a middle ground – that is, places, spaces, projects, or events in which individual and collective interests can be expressed and negotiated, and from which solutions or innovations that constitute a public value can emerge.[81]

## Policy instrument choices: developing new tools for the new jobs

Sustainable mobility goals, policies, and strategies – including the "Avoid-Shift-Improve" approach, smart growth, transit-oriented development, complete streets, and parking management – require the development of new implementation mechanisms or new uses of old instruments. Whether they aim at influencing the transportation demand or supply, these instruments can be more or less coercive, depending on the political context, the legitimacy of local governments, or the policy phase.[82] For example, more coercive instruments like road diets (reducing road capacity) or congestion pricing can be implemented only after having invested in transit and active transportation infrastructure, and following a public information campaign.

A variety of new tools or innovative uses of old ones are thus emerging at the local level, such as removing minimum parking requirements, allowing accessory dwelling units (secondary suites), or crafting inclusionary zoning ordinances. Equally interesting are the development of ecofiscal instruments, also called ecotaxes, which can be implemented by local governments in some provinces to fund public services and infrastructures, while encouraging or discouraging certain behaviours.[83] These new instruments, all of which involve the use of governmental authority, indicate an increase in breadth of expertise and legitimacy in some local governments, which tend to avoid voluntary approaches.

## Conclusion: A political environment in search of leadership

The pivotal role of municipalities in influencing the determinants of sustainable urban transportation raises questions about political will, empowerment, and capacity.

In the absence of strong legislative requirements or funding criteria from the federal and provincial levels, local governments have few incentives to change their approach to transportation and urban planning. Only a few have the administrative capacity and financial ability to change, and many are reluctant to go above and beyond their primary role of providing property services. However, residents sometimes vote in governments that are committed to tackling the root causes of climate change and addressing mobility and accessibility issues. The capacity of local elected officials for action will then be limited only by legislative and financial frameworks that were not crafted with sustainability principles in mind.

In Québec, for example, some cities have called for an additional vehicle registration fee to fund public transit, but the Québec government is reluctant to see the *Loi sur la société de l'assurance automobile du Québec* as mandatory. The City of Montréal wants to go even further by implementing a zero-emission zone in the downtown area, and Montréal's regional planning body is considering the adoption of kilometre charges for automobiles. Will the province act as a partner by enabling local and regional institutions to implement new policies, thereby contributing to national and international goals? Short of innovative and forward-thinking initiatives, higher orders of government could lift institutional barriers to sustainable urban transportation so that local governments can fulfil their mandates, for the benefit of their residents and the environment.

**In the absence of strong legislative requirements or funding criteria from the federal and provincial levels, local governments have few incentives to change their approach to transportation and urban planning.**

# The Municipal Role in Transportation Governance

By Patricia Burke Wood

*Patricia Burke Wood is professor of geography in the Faculty of Environmental and Urban Change at York University in Toronto*

## Introduction

This section reviews who does what with regard to transportation governance in Canada, considering the components of decision-making and authority, and specific goals for responsible, accountable, and inclusive governance. An arm's-length regional authority that coordinates the planning, funding, and operations of multiple modes of transportation for several municipalities with the involvement of several levels of government, a model found in urban regions around the world, is neither common nor well developed in Canada. This is particularly noticeable in Ontario, even though it has several of the country's largest cities and its most extensive regional transit system. I will describe models from urban regions outside North America to show other possibilities, along with examples of their more inclusive representation. Canada's transportation governance structures and practices are uneven, inconsistent, and often unaccountable, and this situation makes it more challenging for governments, especially the federal government, to work cooperatively. There are many lessons for Canada from urban regions in both the Global South and Global North.

**The structure of transportation governance in Canada is inconsistent and, in most cities and urban regions, weak and poorly coordinated.**

## Components of transportation governance

Governance and oversight of transportation is not a singular institution or practice. I consider six distinct components of the decision-making and authority that underlie the governance of public transportation:

- ownership
- planning and long-term decision-making
- scope of responsibility, in terms of space and modes of transportation
- operations
- funding for operations and maintenance
- financing capital projects

None of these components is powerful or authoritative on its own. An ideal governance structure is one that both stabilizes their status and brings them together for coordination. This paper focuses on passenger transportation, but goods transportation and its intersection with passenger transportation are also critical issues. Transportation governance can be structured to cover an extensive portion of transportation *space* as well as its different modes.

In many urban regions in Canada, these components are either unclear or insecure and may be divided among different parties or orders of government with no coordinating body. Canada is exceptional even in North America in this regard. With a few exceptions, the United States tends to have regional transportation bodies with appropriate representation, coordination of different parties and agencies, and secure sources of revenue and financing.[84] The glaring exception is New York City, which has some coordination and community representation, but divides ownership (by the city) from much of decision-making and funding (by the state), creating unproductive conflict.[85]

Worldwide, the cities with the most successful systems – in terms of size of network, service frequency, reliability, accessibility, volume and proportion of ridership, and absence of major conflict – have governance structures with the necessary authority, clarity, and financial support for successful planning and execution of operations, maintenance, and expansion.

When these components are clear and secure, they enable strong, successful and accountable governance of public transportation, which would be evident from the presence of the following:

- evidence-based planning and avoidance of partisan politics
- accountability to democratic bodies and to affected communities
- stability of funding and support for growth
- access to finance for expansion
- transparency of decision-making
- diverse representation, including user representation
- equity-focused planning
- support for the provision of excellent service

Regional transportation governance structures are specific to the political structures, history, and demographics of their cities. The models presented for comparison here, from across the country and around the world, are not proposals for cut-and-paste adoption in any city. Rather, taking several models together enables us to distil principles of effective transportation governance, especially regional coordination, which may be expressed in locally appropriate ways.

## The Canadian status quo

The structure of transportation governance in Canada is inconsistent and, in most cities and urban regions, weak and poorly coordinated. Municipalities should play a strong role with regard not only to local transit, but to the regional

and even international transportation networks that connect to the local systems, often in the same sites. In some cities, municipal governments and their transit authorities play a leading role; in others, they play a weak or changing or unclear role.

Provincial governments are actively involved in transportation governance, but inconsistently. Municipalities and communities are often not well represented (if they are represented at all) in province-led bodies, and provincial governments may not be represented in municipal bodies. What coordination there is on long-term planning or funding often takes the form of ad hoc consultation, with no accountability. Decision-making processes are not transparent and decisions are frequently and justifiably criticized as partisan. This situation makes it more complicated for the federal government to play a consistent and clear role to assist with funding and in interprovincial transportation planning, as there often are no clear, mutually agreed-upon expectations of the federal role, nor a recognized place at the table for Ottawa.

The public-private partnership (P3) model, which the federal government has made a condition of its recent contributions to capital financing of major transit infrastructure, further undermines the role of municipalities. It is well documented that P3s regularly fail to reduce costs, keep projects on budget, or ensure on-time completion of construction, nor do they remove risk (financial or otherwise) for governments.[86] The P3 model reduces local public oversight and authority while maintaining public risk, which may be detrimental for cities in which the infrastructure is being planned and constructed.[87]

As Matt Baker and Pat Weaver emphasize in their 2010 paper on regional transit governance models, "Transit coordination requires cooperative governance."[88] There are many ways to ensure responsible, accountable, and collaborative governance of public transportation. While there is no single model, large cities such as Toronto, Montréal, and Vancouver need systems and structures appropriate to the scale of their metropolitan regions.

The lack of coordination and the complicated role of the private sector are not problems unique to Canada. For example, in India, where an extraordinary amount of transportation infrastructure has recently been built or is under construction, tensions and even conflicts arise because different levels of government have different priorities and different agendas.[89] In part, these differences arise from diverging political ideologies and electoral strategies.

Tensions also result from the dual roles that cities, especially very large cities, play: not only are they places in which hundreds of thousands or millions of people live, but they are also nodes or hubs in transportation networks that extend beyond their boundaries. This situation is exacerbated by the rapid urbanization witnessed worldwide, the speed of which has outpaced models of governance appropriate to the scale of that growth.[90] Although the pace of urban growth in Canada has been significant, it has not been as fast as that in other parts of the world; this growth could have been anticipated, and greater efforts made to coordinate transportation governance.

The shapes and jurisdictional structures of urban regions differ across Canada. For example, Calgary has annexed almost all of its neighbouring municipalities (although the commuting region still exceeds the city's boundaries); Montréal has amalgamated and deamalgamated; Vancouver is only marginally the largest municipality (by population) in its urban region and houses less than one-quarter of the metropolitan area population.

In most other major and growing metropolitan areas, in which the central city possesses the largest population and ridership, several municipal transit corporations remain. This situation requires (or should require) some kind of coordination of both local services and fares, and of intercity and commuter rail and bus service within the region. In different forms, Edmonton, Montréal, and Vancouver have this coordination: Edmonton arranged it on a volunteer basis with some of its neighbours; Montréal works in partnership with the province; and Vancouver has a provincial-regional entity. Nevertheless, in all cases, city governments play a leading role.

Seven provinces have explicitly given municipalities transportation systems as a sphere of jurisdiction. British Columbia is a striking exception.[91]

Edmonton's transit governance structure is perhaps the most interesting example. What Edmonton started was what Baker and Weaver term "interlocal cooperation,"[92] which is allowed under municipal law in Canada, including the *City of Toronto Act*. In fall 2017, the city councils of Edmonton and the next largest municipality in the metropolitan area, St. Albert, signed a Memorandum of Understanding to explore the possibility of a regional transit commission. A year later, they received a grant from the province in support of their work and 11 other neighbouring municipalities joined the MOU. A team of officials and residents worked with consultants to develop a proposal and in 2020 the team released a detailed report of more than 300 pages.[93] The Edmonton Metro Transit Services Commission (EMTSC), a partnership of eight of the municipalities, was officially launched in 2021. The Commission's board did not have any representation from the province. However, the experiment proved to be short-lived. In December 2022, the Town of Devon Council and the Edmonton City Council voted not to fund the Commission's plan, and the process of dissolving the EMTSC has begun.[94]

Vancouver and Montréal's approaches offer two further examples of integrated coordination in transit governance, funding, and operations. TransLink (officially, the South Coast British Columbia Transportation Authority) is a provincial body specific to the 21 municipalities of the metropolitan Vancouver area. In addition to a board of

governors, it has a mayors' council with representation from all municipalities, including the head of the Tsawwassen First Nation, and a voting system that allows for votes weighted by population. The Council must approve all major decisions, including long-term planning. TransLink has authority over roads and all public transit, including independent operators. The province restructured TransLink in 2007, giving it the capacity to raise revenue through several forms of taxation – although a proposed tax increase was subjected to a plebiscite in 2015 and failed.[95]

In 2017, the province of Québec created the Autorité régionale de transport métropolitain (ARTM), which is responsible for planning and financing public transportation in Greater Montréal, including network coordination and the fare system. ARTM is co-governed by representatives appointed by the province and from the Montréal Metropolitan Community Council. The operations of commuter rail and bus systems are overseen by exo (officially, the Réseau de transport métropolitain), which reports to the ARTM.

These arrangements contrast with the role of Metrolinx in the Greater Toronto Area, which owns and governs the commuter trains and the fare card used throughout the region, but not the urban transit systems. Metrolinx's original governing body had municipal representation, but now its board is appointed by the provincial cabinet without legislative review.

**Although Toronto has one of North America's largest public transit systems, carrying a ridership second only to New York City, it is distinctive within Canada, in North America, and in the world, for its weak and disorganized transportation governance.**

Although Toronto has one of North America's largest public transit systems, carrying a ridership second only to that of New York City, it is distinctive within Canada, in North America, and in the world, for its weak and disorganized transportation governance. The Toronto region offers public transportation at multiple scales, each of which is overseen by a different level of government: urban public transit is operated by municipal agencies, most commuter rail and bus service (the GO system) is operated by a provincial agency, and intercity rail is operated by a federal agency, VIA.

This multiplicity of mode operation is not unusual; what *is* unusual is that there is no governing body that coordinates them all. There is no regional authority for Canada's largest city, Toronto, and its surrounding region, which includes two of Canada's largest cities (Mississauga and Brampton, which collectively have 1.4 million residents), and the region's immediate neighbour, Hamilton, Canada's tenth largest city.

Moreover, municipal transit agencies in the region typically do not have oversight of their local mobility planning and operations: they do not oversee all modes (for example, bicycles are outside their jurisdiction), they do not control their capital project planning, and they do not control their fare card system. Other Canadian urban regions, such as Vancouver and Montréal, offer somewhat better coordination and governance, but still fall behind international models that carry more authority, oversee more modes and planning activities, and offer more inclusive governance structures.

Decision-making concerning the planning and construction of transit infrastructure in the region is unclear and inconsistent. While Metrolinx, a provincial agency, is charged with some project delivery, high-level planning, and development of a regional vision, no governing body represents and coordinates the municipalities and their agencies. Municipal councils have some right (but not always) to approve projects; the planning of some capital projects is done by municipalities and some by the province; provincial funding for projects has been offered and withdrawn repeatedly.

Ontario's provincial government has declared authority over projects it funds and passed legislation forbidding Toronto to plan or work on similar projects. It has also dictated the role the city plays in contributing to design. While no formal "upload" of the Toronto Transit Commission (TTC) has taken place, its role and that of the City's Planning Department in planning capital projects in practice has been usurped by the province.

Even at the provincial level, there is a lack of coordination and clarity: some of the management of urban infrastructure development is conducted by Metrolinx, and some by Infrastructure Ontario (IO). Each is a crown agency with a board of governors appointed by cabinet without review by the legislature. Each agency reports to a different minister: Metrolinx to the Minister of Transportation, and IO to the Minister of Infrastructure.

### Urban regional transportation governance models

In many cities outside Canada, transportation governance looks quite different; it is formally structured to improve delivery and coordination of operations and to enable secure long-term capital maintenance and expansion of transportation networks.

In Asia, Europe, and South America, regional bodies formally bring together multiple levels of government and other parties to coordinate different agencies and modes

of transportation, as well as the planning and financing of capital projects. Each has its own distinct attributes, but the following list of characteristics is common, meeting many or all of the goals listed previously:

- Governance is shared among involved orders of government.
- City or regional government plays a strong, often leading role.
- Agencies have strong, legislated authority, and autonomy from elected bodies, but are still accountable to them.
- Regional agencies often oversee coordination of individual transportation agencies and companies, both public and private, without merging their operations.
- Oversight includes multiple modes and spaces of public, private, and active transportation, including roads and sidewalks.
- The coordinating agency has predictable sources of funding for itself and for transportation operations, commonly secured through dedicated taxes.
- Public subsidization is high, and the percentage of operations revenue derived from fares is low.

For example, the planning and coordination of transportation operations in the metropolitan region of Paris, France, is overseen by Île-de-France Mobilités, a cooperative endeavour of the national government, the Île-de-France Regional Council, the Council of Paris, and the councils of other regional departments. Regional councillors hold a slim majority on the board, which includes a representative from the regional Chamber of Commerce, one from the presidents of public bodies for intermunicipal cooperation in the region, one from the riders' association, and one from the Committee of Public Transport Partners.

Île-de-France Mobilités manages and coordinates the planning, operations, and development of all public transportation in the city of Paris and its region, including suburban commuter rail lines, privately operated suburban bus companies, the bikeshare program, and school buses, even though these are operated by different public and private agencies. Most operational funding for Île-de-France Mobilités comes from regional employers through set contributions, a payroll tax, and the reimbursement of employee passes. Fares contribute 38 percent of operating revenue.[96]

The metropolitan area of Barcelona, Spain, has a similar entity in its Autoritat del Transport Metropolità Àrea de Barcelona (ATM), which coordinates the transportation of the region's 346 municipalities. ATM is a partnership between the State of Catalunya and the City of Barcelona and other regional municipalities. Its governing board has an equal number of representatives from the state and Barcelona and its suburbs, plus two members from an association that represents smaller municipalities in the broader region. Two representatives from the central government also sit on the board as observers. ATM oversees the city's metro, state-level rail, national rail, buses, light-rail transit, cable cars, and funiculars, which are operated by different agencies and companies, both public and private.[97]

Coordinating modes of travel and the various operators and levels of government involved is a common practice not only in Europe or the Global North. Kochi Metro Rail Ltd. (KMRL), in the city of Kochi, India, is a partnership of the central and state governments with a board of directors that includes representatives from state ministries and the Delhi Metro Rail Corporation. KMRL oversees both planning and operations, and is arguably leading the country in its efforts to coordinate all metro trains, buses, boats, auto-rickshaws, and taxis, including their schedules and fares.[98]

**Île-de-France Mobilités manages and coordinates the planning, operations, and development of all public transportation in the city of Paris and its region, including suburban commuter rail lines, privately operated suburban bus companies, the bikeshare program, and school buses, even though these are operated by different public and private agencies.**

Based on their research, Manisha Jain, Artem Korzhenevych, and Anurima Mukherjee Basu recommend that "A constitutionally empowered regional authority should be established to ensure close coordination between the strategies of state governments and the national government," with that of municipalities, and note that "successful decentralization requires additional legislation to integrate funding mechanisms."[99] Baker and Weaver agree that "An RTA [regional transit authority] is the most effective regional measure, but it is also the most difficult to create."[100] They argue that the key aspect is a body's authority to access funding, including the authority to tax. Coordinating councils or similar bodies with less authority (those with no enabling legislation) lack this secure funding, but they can still go a long way towards coordination of services.

The creation of independent agencies is an effective way to isolate decision-making from partisan or even corrupt development practices and relationships, to allow the necessary technical planning and engineering expertise to come to the forefront of planning, and to enable coordination toward the provision of excellent service. With such autonomy, an important issue is how to maintain accountability and some degree of democratic oversight. The structure of the agency, and particularly its connection to citizens and democratically elected bodies is critical for accountability. Representation from municipal governments is essential, but democratic and inclusive representation extends beyond the role of local government and its elected representatives.[101]

Like other bodies and practices of local governments – especially those related to planning – transportation governance has often excluded certain populations from its deliberations.[102] In light of the role transportation plays or can play in urban economic participation and equity, it is essential that a diversity of voices and perspectives contribute to the definition and development of excellent service and to effective planning. The voices should include those of renters, people with low incomes, people from areas poorly served by transit, and people with mobility issues, as a way of meaningfully diversifying decision-making and making service substantively more accountable, equitable, and just.[103]

Thus, transportation governance needs to be made more equitable, accessible, and inclusive, especially in representing ridership experience. The TTC's Board of Commissioners includes four citizen members, who are encouraged but not required to be regular transit riders. Following the 2020 report's recommendations, the Board of Governors of the (now defunct) Edmonton Metro Transit Services Commission was made up of elected officials: one councillor from each participating municipality. There was an absence of equity in representation beyond issues of balancing the voices of differently sized municipalities. The ridership experience of, and possible need for representation by women, Indigenous people, racialized communities, people with disabilities, and so on, were not even mentioned in an otherwise comprehensive document.[104] Such considerations are similarly absent in other Canadian urban transit governance bodies.

Montréal has taken some steps here, adding representatives from its ridership, including one paratransit rider, on its Board of Directors. Many cities worldwide have gone well beyond that level of inclusiveness. For example, the board of directors of Barcelona's ATM is advised by a standing Mobility Council, a group of 40 participants that includes representatives of businesses, unions, and social organizations. Kochi Metro stations have been established as "Women Operated Centres of Excellence," where they are managed in partnership with Kudumbashree, a state project "towards poverty eradication and women upliftment mission" which also explicitly includes members of the transgender community in its employment policy.[105]

## Conclusion

As Zack Taylor and Alec Dobson have described it, some cities are policy makers, others are policy takers, the latter being those that implement policy originating at the provincial (or federal) level.[106] Municipalities in Canada are mainly policy takers, playing an active but constrained role in transportation policy, limited in their participation in the planning of major infrastructure.

Many working relationships on transportation governance among Canadian municipalities and between municipalities and provincial governments are weak, unclear, unstable, and conflictual. In many Canadian cities, most notably Toronto, there is no urban regional transportation authority to plan and coordinate operations and long-term expansion. Some cities in Canada have a regional authority in place, but Canadian models have less authority and less predictable funding, with less involvement and coordination among different orders of government compared with other cities around the world. There is also less in the way of inclusive governance structures and practices.

The common model in world cities that have strong, multimodal networks providing excellent service to a large ridership is a collaborative governance structure in which cities play a lead role, reflecting the use of the transportation by city residents, the significant share of city space given over to transportation infrastructure and use, and the need for the city to be at the centre of efforts to coordinate regional, national, and international travel coming into or through the city and connecting with city networks.

Canada's urban transportation governance structures are generally weak and uncoordinated, hindering their capacity to develop and maintain excellent transit infrastructure and service. Canada has much to learn from urban regions around the world that offer more effective models of governance.

# The Municipal Role in Sustainable Freight and Goods Movement

by Carolyn Kim, Chandan Bhardwaj, and Adam Thorn

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## Introduction

Urban road freight transport is critical to growing cities. In its current form (with heavy dependence on fossil fuel–based medium- and heavy-duty vehicles), road freight incurs health and environmental costs. But it is possible to transport freight more sustainably (reducing greenhouse gas emissions and local air pollutants) while reducing costs.

In this paper, we discuss two groups of policy levers that municipalities can use to make urban freight more sustainable: those that encourage low-emissions freight delivery, and those that optimize freight routing. We draw lessons from the successful implementation of these policy levers in Canada and across the world. We then identify the challenges that municipalities face in adopting these policies and conclude with a list of recommendations to address some of the challenges.

*Importance of road freight for municipalities*

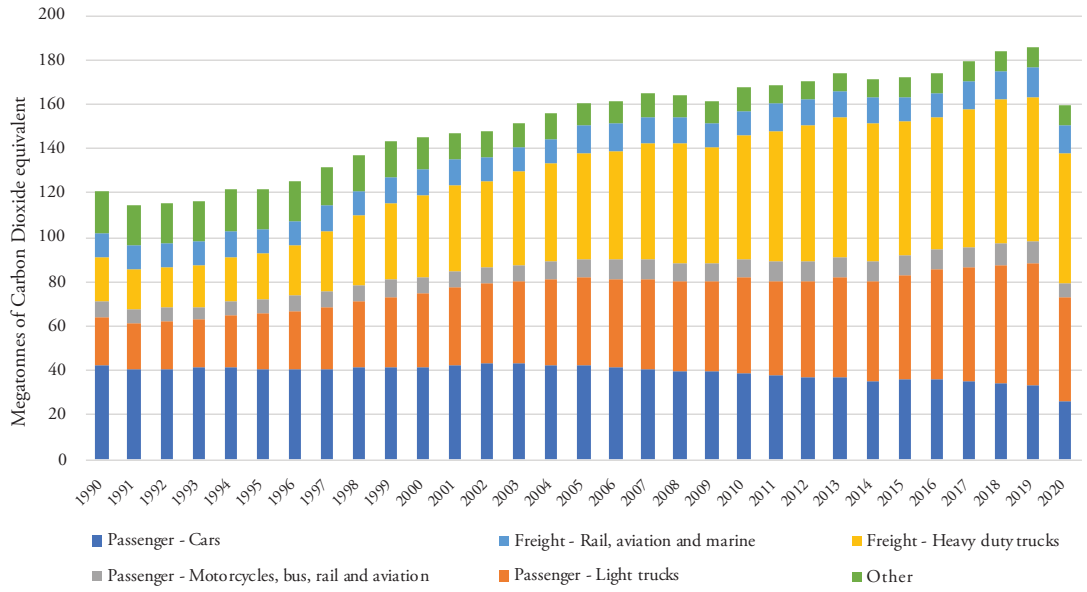
Road freight transport (dominated by medium- and heavy-duty trucks) facilitates economic growth and trade in municipalities and across the broader economy. As cities grow, so will the movement of freight. For example, the municipal region of Peel in Ontario is home to more than 87,000 businesses of all kinds, with daily movement of about 68,000 vehicles transporting goods, contributing more than $125 million in taxes from goods movement in the region.[107] Nationally, the amount of freight delivered to major Canadian cities increased by 26 percent in the five-year period between 2011 and 2016.[108]

The COVID-19 pandemic revealed the important role that urban last-mile freight vehicles play in delivering goods to consumers, but even before the pandemic, online purchases (and the corresponding last-mile delivery demand) by Canadians increased by 58 percent.[109] The World Economic Forum has published data suggesting "demand for urban last-mile delivery is expected to grow by 78% by 2030, leading to 36% more delivery vehicles in the world's top 100 cities."[110]

*Road freight is polluting in its current form*

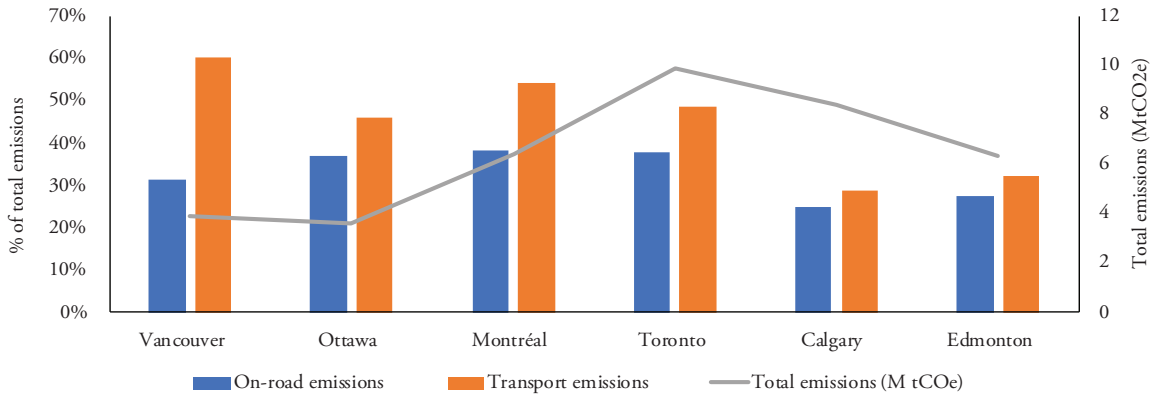
While vitally important for economic activity, current road freight vehicles are responsible for more emissions than any other class of vehicles across Canada[111] (see Figure 5). In the largest Canadian municipalities, transport is one of the highest-emitting economic sectors, contributing up to 50 percent of total emissions in some jurisdictions (see Figure 6). For example, there are about 1.4 million cars and trucks operating across Metro Vancouver, emitting more than 4.8 million tonnes of GHGs annually.[112] Goods movement represents about 35 percent (about 1.8 million tonnes) of total emissions.[113] Road freight transport does not have to be so polluting, however. A transition to cleaner, less pollutant-emitting freight movement can make both environmental and economic sense.

*Figure 5: Transport sector greenhouse gas emissions, Canada 1990–2020*




**Source:** Government of Canada

*Figure 6: On-road and total transport emissions (as a percentage of overall $CO_2$ emissions) for six large municipalities in Canada*




**Source:** Municipal Energy and Emissions Database: https://meed.info/en/ca

*Sustainable freight makes economic sense*

A sustainable low-emissions freight and goods movement system promises substantial savings for Canada in avoided health costs. Tail-pipe emissions from road transportation typically result in more than 300,000 deaths a year globally.[114] In Canada, air pollution contributes to more than 15,000 premature deaths a year, and pollution-induced health-related economic costs amount to CAD$120 billion (or about 6 percent of the country's GDP).[115]

The transition to a sustainable freight system can lead to financial savings for local businesses, for example, through the use of low-emissions freight options (such as electric vehicles or cargo bikes). Electric last-mile delivery vehicles, with lower fuel and maintenance costs, have already reached cost-of-ownership parity with diesel vehicles, as shown in an empirical study across six major European cities.[116] The financial benefits of electric vehicles should improve in future, strengthening the business case for them.

The optimization of the freight routing network (including dedicated freight routes, off-peak deliveries, and freight load management via distribution centres) will also lead to financial savings. Improvements in the way goods – especially last-mile freight – are transported can lower congestion on city roads and ensure faster delivery times, offering time and cost savings for both consumers and businesses.

Given the importance of road freight for municipalities, we examine the role of municipalities in improving the freight system by considering two questions:

- What are the municipal policy levers to advance a more efficient and sustainable freight and goods movement system?
- What challenges do municipalities face in achieving a sustainable urban freight system?

## Municipal policy levers for sustainable freight

Upper- and lower-tier municipalities can help facilitate a low-emissions freight system through their land use and transportation planning authority, particularly by encouraging low-emissions delivery options and optimizing freight routing.

*Encouraging low-emissions delivery options*

Municipalities can incentivize fuel switching (to low-carbon-intensity fuels or zero-emissions vehicles) or mode switching for last-mile delivery in the following ways.

**Road pricing or congestion charges**: One effective policy tool that cities can use is road pricing or congestion charges, whereby a fee is charged for driving certain vehicle types (for example, heavy-duty vehicles running on gasoline or diesel, while electric vehicles may be exempted) on specific city routes. Some examples of cities with congestion charges include Singapore, London, Milan, and Stockholm. In these cities, road pricing has led to a reduction in traffic volume of between 15 percent and 45 percent and a reduction in air pollution of between 6 percent and 40 percent, as well as an increase in the use of bicycles by up to 49 percent.[117]

**The transition to a sustainable freight system can lead to financial savings for local businesses, for example, through the use of low-emissions freight options (such as electric vehicles or cargo bikes).**

**Cargo bikes:** Numerous successful case studies demonstrate the positive contribution of cargo bikes (specifically e-bikes) in improving the sustainability of city logistics. For example, Gnewt Cargo, a cargo company in London, was able to reduce the total distance travelled by 14 percent and $CO_2$ emissions by 55 percent by using cargo bikes, while growing profitably. Policies such as zero-emission zones implemented by the City of London helped improved the business case for Gnewt Cargo (and other such companies).[118] In another example, the City of Toronto has permitted the use of pedal-assisted cargo bikes, which has enabled businesses to shift to e-bikes to make deliveries.[119]

**Public procurement:** Local authorities can use public procurement as a tool for driving demand for electric vehicles. Municipal street cleaning services, waste collection, and road maintenance involve the movement of goods and people, leading to significant kilometres travelled. The City of Copenhagen estimates that the municipal body's procurement of goods and services constitutes about 8.3 million kilometres travelled annually (excluding public transport services).[120] Making the transition to electric vehicles (or those that use cleaner fuels) can lead to significant emissions reductions. One example of this approach is the "BuyZET" project in the EU. As part of this project, local authorities in Copenhagen, Oslo, and Rotterdam have transitioned their fleet to zero-emission vehicles.[121]

**Local authorities can use public procurement as a tool for driving demand for electric vehicles.**

**Addressing non-technical barriers:** Due to their close connection to the community, local governments are in a unique position to inform, guide, and lead local inhabitants, businesses, and industries. Municipalities can garner support for electric vehicles by educating people about the benefits of the technology and hold public events and organize awareness campaigns to address non-technical barriers to sustainable transportation.

*Optimizing freight routing*

Municipalities can also encourage more efficient delivery processes that lower emissions and reduce congestion in the following ways.

**Off-peak deliveries:** Municipalities can encourage or mandate off-peak deliveries to shift delivery schedules of non-essential commodities to the night-time or off-peak hours. Peel Region experimented with a pilot project whereby freight trucks delivered goods to supermarkets at night. It was found that delivery time was reduced by 15 percent, and emissions were reduced by more than 10 percent.[122]

**Freight routes:** Dedicated freight routes can increase average freight vehicle speed by reducing congestion caused by passenger cars. Intelligent routing techniques (using information technology) can further improve efficiency. In Vienna, Austria, optimal freight routing helped reduce delivery times by 60 percent, emissions by 20 percent, and delivery costs (for cargo companies) by 30 percent.[123]

**Urban distribution centres:** Municipalities can set up urban distribution centres (UDCs), which act as centralized collection centres where bulk goods are received and sent to their final destination.[124] Such centres can reduce the movement of delivery trucks into busier parts of the city and residential areas, thereby reducing traffic and congestion. Once received, goods can be transported to their destination using cleaner modes of transport (such as small electric vehicles or bikes). The City of London has set up dedicated UDCs for the construction sector. The London Construction Consolidation Centre acts as a delivery and service location for major construction sites in the city, which has helped reduce the number of vehicles travelling into the area by 70 percent, leading to a further 70–80 percent reduction in energy use and resulting $CO_2$ emissions.[125]

**Land-use and city planning:** Over the long term, cities can integrate freight planning as part of the broader land-use planning process.[126] Roads occupy up to 30 percent of the total space in cities in North America.[127] This situation promotes the continued use of automobiles.[128] Municipalities could break such infrastructure lock-ins by designing cities that are less reliant on automobiles. The cities of Vancouver, Burnaby, and Richmond in British Columbia are starting to develop denser and more walkable communities,[129] which may help optimize freight and goods movement to residential (and other) locations.

## Municipal challenges for a sustainable freight transition

Municipalities face challenges in implementing a more sustainable freight transport system. Interviews with representatives from local authorities across Europe and North America (by Lindholm,[130] Akgun et al.,[131] Maxner et al.[132]) identified the following barriers to change:

- lack of political will;
- disconnected freight and land-use planning;
- lack of autonomy;
- insufficient financial capacity;
- unavailability of freight data;
- lack of federal-municipal coordination.

**Lack of political will:** To implement some of the policy levers discussed earlier, little or no change is needed in the

responsibilities of the municipalities. In particular, actions such as mandating off-peak deliveries, zone-cordoning, and organizing awareness campaigns are well within the jurisdiction of municipal authorities. For example, in 2022 the city of Vancouver passed a policy imposing a $10,000 fee on gas stations without electric vehicle chargers.[133] The city council proposed the policy, solicited stakeholder feedback, and passed the policy within three months of its initial proposal,[134] without having to rely on provincial or federal governments for funding or coordination. However, such political will may be missing in many city governments. Dedicated provincial and federal financial support for policies like this can help overcome political reluctance by alleviating the perceived financial burden.

**Disconnected freight and land-use planning:** Integrating freight planning early on in the broader city and land-use planning stage can help municipalities make decisions that make freight more sustainable over the long term. However, considerations for freight and logistics have often been missing in urban planning.[135] One reason for this situation is the difficulty in bringing together stakeholders (private businesses, city planners, real estate developers). Moreover, coordinating action between different departments within the same city council can be time-consuming.

**Unavailability of freight data:** Canada lacks data on local-level mobility trends and travel behaviour.[136] Lack of freight data makes it difficult to forecast future freight demand patterns, complicating the ability to integrate freight needs into urban planning.[137] Although optimized freight routing can be an effective and inexpensive policy lever for improving efficiency and reducing energy consumption and emissions, data unavailability can impede the implementation of this policy.

**Lack of autonomy:** Municipal agencies have limited regulatory power, making it difficult for them to implement certain policies if they conflict with those of provincial or federal governments. The case of low-emission zones illustrates this point. Low-emission zones have a demonstrated track record of reducing air contaminants and GHGs, and generating health and economic benefits in several cities such as London, Madrid, and Paris.[138] However, implementing low-emission zones can be difficult in certain jurisdictions. City governments in the United States, for example, do not have the authority to regulate emissions, and implementing low-emission zones effectively regulates emissions, which conflicts with the jurisdiction of the Environmental Protection Agency (or other state authorities).[139] Municipalities need to go through the time-consuming process of seeking approvals from the required agencies. Quicker action at the municipal level requires that they have greater autonomy and that senior levels of government remove regulatory barriers obstructing sustainable freight policies.

**Insufficient financial capacity:** Lack of funding can hinder municipalities in moving towards sustainability. One such instance is funding constraints faced by municipalities in fleet electrification. A key prerequisite for electric freight vehicles is the need to install public electric vehicle (EV) chargers. With a charger costing $10,000 (or more), and a typical city needing a few thousand chargers, installation costs add up to millions of dollars. A small municipality may not have the resources to allocate specifically to charger installation, which might explain the dearth of EV chargers in the rural communities of Kimberley and Trail in British Columbia.[140] Federal and provincial governments need to provide funding to municipalities. Notably, the Net Zero Accelerator initiative in Canada provides up to $8 billion to support projects that contribute to greenhouse gas emissions reduction. The City of Mississauga was able to install 43 EV chargers upon receiving a funding of $200,000 from Natural Resources Canada, as part of the Zero Emission Vehicle Infrastructure Program. [141]

**Lack of coordination between governments:** Goals and policies often differ across different levels of government.[142] The light-duty electric vehicle policies in British Columbia and its municipalities are one example of complementary efforts across the different forms of government. The provincial government put in place the Zero Emissions Vehicle mandate, which requires automakers to sell electric vehicles.[143] The transition towards electric vehicles was supported by other provincial policies, such as the clean fuel standard. The federal government complemented this policy initiative by the provincial government by offering subsidies to consumers for the purchase of electric vehicles.[144] At the municipal level, the cities of Burnaby, Coquitlam, Kamloops, Kelowna, Nelson, New Westminster, Port Moody, Richmond, Surrey, Squamish, and Vancouver implemented zoning by-laws and electric charger requirements for new buildings.[145] The result of this complementary action at the federal, provincial, and municipal levels is that British Columbia (and its municipalities) are among the areas with the highest number of new light-duty electric vehicle sales in North America.[146] Such well-coordinated efforts by different levels of government (similar to the one for light-duty passenger vehicles discussed above) offer lessons for designing effective strategy for freight vehicles as well.

## Conclusion

Road freight, a key to economic growth in municipalities, is polluting and harmful in its current form. A transition to sustainable low-emissions freight can lead to health and economic benefits. Two municipal policy levers can help achieve this transition: low-emissions delivery options and optimizing freight routing. A freight system that is sustainable, that reduces or eliminates carbon and other polluting emissions, and that is more efficient ultimately benefits the industry and Canadian communities.

# Walking and Wheeling to Better Communities: How More Collaboration Between Canadian Governments Can Improve Outcomes for Active Transportation

By Marie-Ève Assunçao-Denis and Matt Pinder

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## Introduction

For decades, all levels of government have made policy decisions to prioritize the convenience of driving above all other modes of travel. Single-use zoning ensured that homes were far from shops. Roadway design manuals prioritized ample capacity and high speeds for cars while leaving little (if any) space for walking and cycling. Parking minimums and free parking erased any sense of pedestrian environment at shopping malls and incentivized most shoppers to drive to these destinations. At the same time a lack of investment in transit meant that for most people, travelling longer distances meant taking the car.

Over time, people adjusted their lifestyles and daily activities around the car, making it a mark of social status. This change has contributed to societal and environmental problems: the obesity epidemic,[147] climate change,[148] worsening air quality,[149] and respiratory illnesses[150] are all linked to our increased use of (and dependence on) cars for transportation.

While many city residents will continue to depend on cars for the foreseeable future, it does not mean we should give up on walking and cycling. Traveller preference surveys have found that people who walk or cycle to work are happier,[151] and evidence demonstrates that building more cycling infrastructure encourages more people to cycle (in other words, "build it and they will come").[152] The very notion of the "community" itself is strengthened by active transportation: a recent study found that people who walk or cycle for transportation have higher rates of community participation.[153]

The question of how we got to this point is an interesting one, but a more important question is how to reverse the dominance of the automobile. This paper will discuss the roles of all levels of government in improving active transportation – using design manuals, zoning and development policies, funding programs, and joint efforts – and provide recommendations for policy changes and further collaborations.

## Street design manuals

Engineering street design manuals have substantially shaped our cities. Roadway design manuals grew up along with the car as newly invented highways were improved over the decades. Little thought was given to supporting other users of the roadway: pedestrians, cyclists, and transit vehicles. Early urban roadways were built with narrow sidewalks (if any) and no consideration was given to cyclists' needs.[154]

While most urban streets are owned and managed by municipalities, the design guidelines and standards used to create them include every level of government. The Transportation Association of Canada (TAC) provides guidance at the national level, including its *Geometric Design Guide for Canadian Roads*.[155] Each province typically adopts its own traffic laws and guidelines, such as Ontario's *Highway Traffic Act*.[156] Local governments layer in their own guidance and design standards. As a result, even if a municipal engineer wanted to build a street using a new set of ideas, those ideas would have to work within the bounds of provincial and national guidance.

**The good news is that all levels of government have been improving their policy guidance in recent years to support active transportation.**

The good news is that all levels of government have been improving their guidance in recent years to support active transportation. TAC updated its geometric design manual in 2017 with new chapters dedicated to pedestrian and bicycle infrastructure design.[157] Provincial design manuals for bicycle infrastructure have been developed and published in Québec,[158] British Columbia,[159] and Ontario.[160] Finally, municipal governments, big and small, are being recognized for their development of innovative new guidelines for the design of their streets; Nanaimo, British Columbia (population 90,500), won three awards for its *Complete Streets Engineering Standards* released in 2020,[161] along with Hamilton, Ontario, for its *Complete Streets Design Manual*[162] and Ottawa for its *Protected Intersection Design Guide* in 2022.[163]

While one might expect standards to "trickle down" from the federal level to municipalities, the reverse is possible too. Since 1996,[164] the National Association of City Transportation Officials (NACTO) has grown to include 95 major North American cities and transit agencies and has published dozens of widely used guidance documents, including its *Urban Street Design Guide*.[165] In fact, the title

of NACTO's annual report is *Cities Taking the Lead*.[166] More locally, when Ontario's cycling facilities design manual, originally released in 2013, became outdated, Ontario's municipalities advocated for and funded its second version in 2021.[167]

The story of street design manuals is a positive one, in that engineers and planners have demonstrated a willingness to innovate and improve street design practices for the benefit of active transportation. Collaboration between levels of government can strengthen this relationship, and governments should continue to support organizations like TAC and the Institute of Transportation Engineers, which offer forums for practitioners to share ideas and showcase best practices.

### Building walkable environments

One of the most effective ways to encourage people to walk and cycle is to design communities that favour walking and cycling. In a global study spanning 21 countries, researchers identified that land use diversity (amenities within a 20-minute walk) and street connectivity (the number of three-way and four-way intersections in an area) were associated with a higher likelihood of walking for transportation.[168]

Suburban neighbourhood layouts today are the antithesis of walkability based on these findings: amenities are concentrated away from homes along major roadways with long blocks and poor connectivity, while residential areas have a limited diversity of uses.

Fortunately, there is growing interest in reversing this trend and creating walkable communities with intention and by design. A growing, albeit controversial, planning trend in recent years is the development of "15-minute neighbourhoods," or the "15-minute city,"[169] where communities are planned to provide good walking access to amenities, with sufficient density and mixed uses.

Many municipalities, including the City of Ottawa, have upzoned large tracts of land adjacent to existing and planned LRT stations (denoting them "hubs") to allow higher densities and mixed uses with no minimum parking requirements.[170] Walking and higher-order transit are natural complements to each other, since improving walkability improves train station access and raises the potential for these sites to redevelop.[171] Ideally, residents of these developments will have the amenities of daily life within walking distance, and use a combination of transit, cycling, and car-sharing to reach further destinations.

Still, a significant challenge lies in the fact that many municipalities seem intent on preserving wide swaths of single-use, low-density residential areas. When the Ontario provincial government's Ontario Housing Affordability Task Force recommended measures to improve affordability in housing, including allowing up to four residential units and up to four storeys of residential use on a single lot as of right,[172] the City of Mississauga responded with concern and proposed its own methods to increase choice in neighbourhoods, such as allowing garden suites.[173] This response demonstrates significant friction between levels of government, especially in the realm of housing policy.

In the near future, the trend of 15-minute neighbourhoods may lead to the creation of more mixed-use centres, where residential and commercial uses are integrated and well-served by transit. The essential complement for encouraging walkability is to ensure that these redevelopments include improvements to street and network design, as pedestrian-hostile environments and intersections may cut off transit stops from the surrounding communities.[174] Upper-level governments should consider opportunities to support walkability, by targeting funding to improving walking infrastructure around transit stations, or even introducing hard policy measures to require these improvements as a condition of intensification. When upper-level governments provide funding for major transit projects, a portion of these funds should be set aside for pedestrian realm improvements around transit stations.

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### Funding for active transportation projects

In the past few decades, different levels of government have put in place or improved funding programs for active transportation. In 2021, the federal government launched its first National Active Transportation Strategy[175] and its Active Transportation Fund.[176] The fund will provide $400 million over five years for active transportation planning and design projects, including research and feasibility studies, community engagement initiatives, and cycling and walking infrastructure projects.[177] Other federal funds and programs, such as the Investing in Canada Infrastructure Program, the Canada Healthy Communities Initiative, and the Canada Community-Building Fund, have also provided financing for active transportation infrastructure.[178]

Provinces have been proactive in funding active transportation projects. In British Columbia, for instance, the Active Transportation Infrastructure Grants Program provides funding to Indigenous and local governments for both infrastructure and network planning projects.[179]

In Québec, as part of the Sustainable Mobility Policy – 2030,[180] its Action Plan 2018–2023,[181] and its Active Transportation Intervention Framework,[182] the government runs the Financial Assistance Program for the Development of Active Transportation in Urban Areas.[183] Funding from this program comes from the Québec Land Transportation Network Fund[184] and the Electrification and Climate Change Fund.[185] Through this program, municipalities can receive up to $1 million for each project, and up to $2 million for bike-sharing systems and structural infrastructure projects such as bridges and tunnels.[186]

The Québec government also funds the Active Transportation Infrastructure Assistance Program (Véloce III),[187] which will provide funds until 2025[188] for the development, maintenance, and improvement of utilitarian and recreational/tourist infrastructure. This includes the national Green Road (*Route verte*) network, which was initiated in 1995 by the provincial government and Vélo Québec[189] and extends for more than 5,000 km across the province.[190] The government also funds events such as the Tour de l'Île/Go Vélo festival in Montréal,[191] which has brought tens of thousands of cyclists into the streets in a safe and festive environment since its first appearance in 1985.[192]

**The current funding programs demonstrate the seriousness of governments in relation to active transportation and are a major step in securing more active transportation infrastructure.**

Since the beginning of the 21st century, there has also been a shift at the municipal level in funding and planning for the implementation and upgrade of active transportation infrastructure and programs. In the mid-2000s, municipalities started to include more cycling-related components in their transportation plans and to set higher objectives for following years.[193] Cities across the country have established active transportation advisory committees, and smaller administrative entities like boroughs have implemented local transportation plans.[194]

For example, Montréal's 2008 Transportation Plan[195] paved the way for a major expansion of the city's cycling network (the city added 200 km of infrastructure between 2010 and 2015), an increase in bike parking, better winter maintenance of cycling routes, and the installation of the popular BIXI bike-sharing system. The latter has greatly contributed to the democratization of cycling in the city by increasing its visibility. These plans have helped legitimize cycling as a mode of transportation,[196] added utilitarian paths to initially recreation-oriented and multi-use pathways, and assigned more resources to active transportation. The City of Montréal's cycling planning department grew from two to 14 employees during the years surrounding the implementation of the 2008 plan.[197]

Montréal's administration is also responsible for the survival of the BIXI system, saving it when the organization operating it filed for bankruptcy protection in 2014. The City created the non-profit organization BIXI Montréal to run the system and subsidized the program as a form of public transportation, just like the Société de transport de Montréal.[198] In 2019, the City of Montréal presented its plan for a Réseau express vélo (REV), a 184-km, mostly protected, year-round maintained bike path network linking major destinations.[199] Following the success of the project (in spite of initial skepticism) and the cycling boom observed over the last few years, the City announced the expansion of its cycling network with 200 km of new bike paths, including 60 km of REV infrastructure, when it unveiled its Vision Vélo 2023–2027 in late 2022. The City also emphasized territorial equity, building or upgrading cycling infrastructure in 17 of the 19 boroughs.[200]

Municipal entities can also seek provincial and federal funding to put their plans into effect. For instance, the City of Edmonton hopes to get federal funding to help pay[201] for its $100-million plan to increase its cycling network by 2026.[202] Another example is the 2016 Montréal Reflex Framework Agreement upon the recognition of Montréal's particular status as Québec's major metropolis, which merged provincial government grants into an unconditional annual money transfer from the government to the City.[203] This agreement provides more autonomy and flexibility for the City in decision-making, allowing it to use the money for active transportation projects, such as the seasonal pedestrianization of commercial arteries.[204]

As the demand for active transportation projects and associated funding continues to rise, upper levels of government should continue to make funding available to municipal governments, since most municipalities in Canada are not permitted to run deficits, thus limiting their ability to borrow money to fund projects.[205] The current funding programs demonstrate the seriousness of governments in relation to active transportation and are a major step in securing more active transportation infrastructure. It will remain important in the future to ensure the sustainability and growth of these funds.

## Coordination between different levels of government

Active transportation projects require coordination among different decision-making and planning entities. A lack of effective communication and planning among municipal departments, boroughs, local agencies, or utility companies can delay or even stall projects.[206] In the Greater Toronto Area, for instance, the regional transit planning agency Metrolinx has a goal to increase the number of riders who cycle to stations and has built cycling infrastructure at its GO station sites.[207] However, most customers report not having a safe cycling route to reach their stations,[208] which is the jurisdiction of the local municipality. In some cities, such as Montréal, it is not uncommon to see a newly revitalized street with brand new cycling or walking infrastructure be torn up a few weeks or months later because watermain or utility works could not be coordinated with the other infrastructure work as they fell under different departments or organizations.[209]

Boroughs within a single municipality may also plan and implement active transportation infrastructure and policies independently, leading to incomplete or inconsistent cycling and walking networks. For example, speed limits in Montréal vary between boroughs.[210] The City aims to standardize these measures throughout its territory[211] via its Vision Zero Plan[212] and the publication in 2024 of its Urban Planning and Mobility Plan 2050.[213] A lack of coordination or agreement between the Montréal central administration, which is in charge of arteries, and its boroughs, which manage local streets, can also lead to problems. In 2021, for instance, the City decided to cut $100 million from the annual budget allocated to the repair of local streets, stating that boroughs should assume their responsibilities in terms of street network maintenance.[214]

Coordination issues can also arise in cities where major arteries passing through municipalities fall under the jurisdiction of provincial transportation ministries.[215] Urban freeways, for example, are typically owned and managed by provincial governments, although they bisect urban areas managed by municipalities. Freeways are barriers to walking and cycling locally because they limit the number of crossings and funnel pedestrians and cyclists along busy roadways and across high-speed on-ramps.[216]

Coordination among government entities is needed to develop comprehensive networks, regardless of street jurisdiction. Montréal's summer pedestrian street projects constitute an example of good communication and partnership. Since 2021, the central administration has funded and worked with boroughs and commercial development corporations to implement seasonal pedestrian streets on commercial arteries, with great success.[217] Cities should also coordinate with paramunicipal entities, such as the Montréal Sustainable Mobility Agency, which is in charge of curb spaces, on-street and off-street parking lots, and public space surveillance.[218] It is essential that the organization's vision and activities be in sync with the objectives and plans of the central administration and boroughs.

Provincial governments can also have an impact on lower-level activities by providing guidance and enforcing policies. For instance, the Québec Ministry of Transportation has published an application guide for shared streets[219] and bike streets (*vélorues*).[220] It also collaborates with Vélo Québec on the *État du vélo au Québec*,[221] a recurring five-year study of bicycle use in Québec.[222]

## Recommendations and conclusion

All tiers of government have increased their attention to active transportation in the last few years, with many promising results and successes. Despite major developments in design guidelines, zoning and building policies, funding programs, and intergovernmental collaboration, there is still room for improvement.

The recommendations of this paper can be distilled into the following five points:

- All orders of government should promote the evolution of street design practices and support the participation of their staff in industry organizations to share and disseminate new ideas.
- Municipal governments should continue designating mixed-use areas, especially near public transit routes and hubs. Municipalities should complement these land-use changes with upgrades to street networks to create more walkable environments. Higher levels of government should consider requiring such street upgrades as a condition of funding for higher-order transit, or creating dedicated funding streams for street improvements near transit.
- Upper levels of government should continue to increase the amount of funding available to municipalities for active transportation infrastructure and initiatives.
- Cities must continue to prioritize cycling and pedestrian projects, in spite of political and logistical challenges and potential opposition, and allocate the required resources for such projects.
- More coordination is needed among boroughs, municipalities, and upper levels of government on projects and policies to support active transportation and in areas of jurisdictional overlap such as ward boundaries and urban freeways.

Active transportation must be perceived as a priority in the same way as other types of transportation, and governments' actions at all levels should reflect that priority. Governments should continue to emphasize cycling and walking in their mobility plans and projects and collaborate to ensure the development and enhancement of people-friendly infrastructure and cities.

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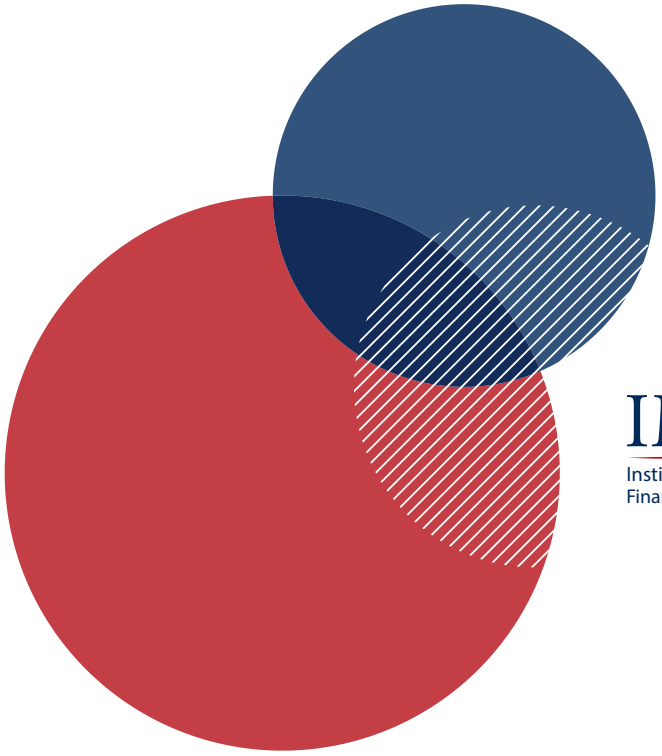

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