



Designed to Fail

How fossil fuel infrastructure
undermines municipal finances

IISD REPORT

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Designed to Fail: How fossil fuel infrastructure undermines municipal finances

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Executive Summary

Municipalities across Canada are facing a growing infrastructure crisis. A nationwide CAD 270 billion infrastructure deficit reflects the gap between available funding and the amount required to maintain existing infrastructure at current service levels. In the city of Winnipeg alone, the deficit is estimated at roughly CAD 8 billion, contributing to the closure of a bridge, as well as pools and community centres throughout the city.

At the same time, Canada faces an escalating climate crisis driven by greenhouse gas emissions. Despite net-zero commitments by governments across Canada, emissions-reduction targets are not being met at the pace required to avoid severe climate impacts.

The dual infrastructure and climate crises mirror one another: both stem from a failure to plan for the long-term impacts of development choices. Urban development that prioritizes personal vehicle use often becomes fiscally unsustainable for municipalities as the long-term costs of maintaining infrastructure exceed the tax revenue these areas generate. Sprawling, low-density land use spreads development over larger areas, requiring municipalities to extend roads and water and wastewater systems over greater distances. The federal government has identified Winnipeg as one of Canada's most sprawling cities in recent years, contributing to its infrastructure deficit.

This report identifies systemic issues in urban development financing that create infrastructure deficits and lock in emissions production. First, municipal infrastructure is systematically underpriced. Residents and developers are not charged in ways that reflect the true life-cycle costs of infrastructure. Second, municipalities often fail to rigorously evaluate the long-term costs and revenues associated with new development. Fiscal impact assessments (FIAs), including those reviewed in Winnipeg, often lack the level of detail required to produce reliable results and are not well integrated into political decision making.

The full economic costs of emissions production related to climate change are also not incorporated into infrastructure costs and are not paid for by drivers. If life-cycle fiscal liabilities and carbon costs were fully accounted for in development analysis, many high-emission infrastructure projects would not proceed as currently designed.

Communities designed for people rather than cars produce more net revenue for municipalities, consume less energy, and deliver broader benefits for society.

While infrastructure deficits are often attributed to a lack of government spending, their root causes are more structural: decades of development decisions have been made without evaluating long-term costs and revenues. Reforming infrastructure pricing, integrating life-cycle and carbon accounting into project evaluation, and prioritizing compact, complete communities can reduce long-term liabilities while lowering emissions.



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1.0 Introduction

1.1 The Rise of Sprawl

During the post-World War II economic boom, cheap fossil fuels and new federal support for home ownership gave rise to a new form of urban landscape in Canada: urban sprawl. While definitions vary, here, urban sprawl refers to low-density neighbourhoods built around car infrastructure, where homes are distant from everyday places such as stores and workplaces, and where walking and cycling are unsafe or impractical transportation options. The construction of urban sprawl across the country represented a radical shift away from walkable, human-oriented landscapes that were fundamental to communities for millennia (Marohn Jr., 2019).

Winnipeg, Manitoba, stands out as a Canadian case study of a municipality that has been overcome by sprawl. Over 80% of Winnipeggers commute by personal automobile, a number that has increased over the past decade (Statistics Canada, 2022). Over the past 50 years, the city's area grew by 93% while its population grew by only 37%, driving down density (City of Winnipeg, 2022b). As of 2017, Winnipeg had twice as many roads per person compared to Toronto (City of Toronto, 2017). Winnipeg is the largest city in Canada without a rail-based urban transit system, such as a light rail, tram, or subway system.

1.2 The Finances and Emissions of Sprawl

Many decades of research have confirmed the wide-ranging negative impacts of sprawl, including effects on physical and mental health, racial inequality, biodiversity, flooding, microplastics, and beyond (Litman, 2025). Of all the negative impacts, this report focuses on two issues specifically: the climate and financial costs of sprawl.

1.2.1 Car-Oriented Development Generates Fiscal Losses

The fiscal burden that urban sprawl places on municipalities is surprisingly underdiscussed. A long list of studies evaluating the costs and revenues of urban development has confirmed that low-density suburbs generate significantly less revenue for municipalities relative to their counterparts in complete communities (Metro Vancouver Regional Planning, 2023; Nelson et al., 2022). In many cases, the imbalance between infrastructure costs and revenues created by sprawling, low-density neighbourhoods is so extreme that municipalities are pulled into negative fiscal positions.

Municipalities across Canada are struggling with infrastructure deficits, which arise when municipalities cannot afford to sustain their built infrastructure. An estimated CAD 270 billion infrastructure deficit across Canada has resulted in key infrastructure falling into disrepair, directly impacting the lives of citizens (Federation of Canadian Municipalities, 2025). The problem is particularly acute in Winnipeg, where bridges and community centres are being closed due to a CAD 8 billion infrastructure deficit.



1.2.2 Car-Oriented Development Produces High Emissions

Urban form directly shapes how people travel and, as a result, how many emissions are produced. Complete communities where services, schools, and employment are located nearby produce significantly less emissions (Ewing & Cervero, 2010). Research has demonstrated a direct correlation between urban density and transportation emissions (Transformative Urban Mobility Initiative, 2014).

The car infrastructure that covers Canada's urban landscape requires significant energy resources to sustain. Research shows that cars are the single largest source of transportation emissions in high-income nations (Akenji et al., 2021). In Canada, transportation is the second-largest source of emissions, with individual car use accounting for the largest share (Statistics Canada, 2023). Road construction and car manufacturing are not always counted in transportation emissions, contributing further to car-related emissions.

The high carbon intensity of car-based transportation means that the expansive road networks in Canadian municipalities can be understood as a form of fossil fuel infrastructure. While pipelines and refineries are often scrutinized for their environmental impacts, the downstream infrastructure that depends on the fuel they deliver often escapes the same level of attention. Roads are not neutral public assets: they represent carbon-intensive systems that lock in dependence on fossil fuels.

1.3 Tackling Sprawl Across Canada

For decades, governments at the municipal, provincial, and federal levels have attempted to limit sprawl in response to growing awareness of its negative impacts (Blais, 2011; Thompson, 2013). Official community plans in municipalities across Canada consistently outline municipal planning visions that focus on promoting complete communities and reducing sprawl (Blais, 2011).

Despite coordinated efforts to mitigate sprawl, car-oriented development continues to proliferate on the edges of municipalities across the country. Satellite analysis of neighbourhood development in Canada over the past 2 decades shows that 89% of newly urbanized land in the nine largest cities consists of low-density neighbourhoods (Bouchard & Shiab, 2022). There is little evidence that efforts to reduce sprawl have produced the level of change required to realize the benefits of complete communities, and few municipalities are achieving their reurbanization targets (Blais, 2011). This is consistent with literature from countries across the global north, many of whom are also struggling to curb sprawl (Siedentop et al., 2022).

The city of Winnipeg continues to sprawl despite strong language in official planning documents declaring a new vision of sustainable, complete communities (City of Winnipeg, 2022b). Winnipeg has been singled out by the federal government as a city experiencing the most sprawl by proportion of new housing in major cities across Canada (Statistics Canada, 2024). For decades, the city has been losing residents from the urban core to low-density suburbs (City of Winnipeg, 2022b).



1.3.1 How Pricing Creates Sprawl

While there are many contributors to sprawl, including zoning, overly prescriptive engineering standards, lengthy planning approvals, and NIMBYism, a key barrier to compact development stands out: pricing (Blais, 2011). The economic landscape around urban development makes it clear why sprawl endures: key economic policy levers often operate in ways that directly undermine complete community objectives (Blais, 2011). A network of hidden subsidies pushes urban development toward sprawl.

1.4 Land Use, Energy, and Municipal Finance

This report explores the intersection of land-use planning, emissions production, and municipal finance. These fields fundamentally inform and bolster one another through the physical landscape of the city, including where, when, and how infrastructure is built, and directly impacts both carbon emissions and public finance. Urban sprawl not only locks in high-emission lifestyles but also drives municipalities toward long-term fiscal strain.

Given the climate and infrastructure crises across Canada, it is critical to understand how to overcome barriers to financially and ecologically sustainable neighbourhoods. Shifting away from sprawl and toward complete communities requires a change in the economic incentive structures that ultimately govern infrastructure investment and land-use outcomes.

In this report, Section 2 outlines the report's research methodology, including data sources and analytical approaches.

Section 3 provides key background information relevant to urban development in Canada, including the true cause of infrastructure deficits and the pricing structures that shape growth. This chapter presents key literature demonstrating that complete communities are more fiscally productive than low-density sprawl.

Section 4 reviews the tools municipalities use to evaluate costs and revenues and explains why these tools have been underused or poorly applied. Key fiscal impact assessments in the City of Winnipeg are evaluated to illustrate how fiscal impact assessments are often conducted ineffectively.

Section 5 examines the impacts of federal and provincial transfers to municipalities, focusing on how reliance on outside government funding can create infrastructure price distortions.

Section 6 explores how climate costs can be more effectively incorporated into infrastructure decisions. If the full costs of carbon were reflected in decision making, carbon-intensive infrastructure like car-oriented suburbs would be far less likely to be built.

The infrastructure deficit crisis facing Winnipeg, as well as many other municipalities across North America, could be improved if urban sprawl were reduced in favour of complete communities. If Winnipeg continues its historical pattern of sprawl, the city could eventually cover an area roughly the size of Berlin while housing only about 30% of its current population (City of Winnipeg, 2022b).



2.0 Methodology

This report is based on a combination of semi-structured expert interviews and a targeted review of academic and practitioner literature. Interviews were conducted with experts from a range of backgrounds, including academics, municipal staff, private sector consultants, and elected officials, with expertise spanning urban planning, municipal finance, and economic policy. Interviewees were identified through a combination of published research, referrals, and local relevance.

The literature review draws on a broad and interdisciplinary body of work, including research from municipal finance scholars, economists, urban planners, and city reports. While literature from across Canada was used, the report focuses on the city of Winnipeg. Findings may have broader relevance across North America.

Land-use planning and municipal finance are broad fields that encompass diverse perspectives. In fact, cities have been described as “hyperobjects” because they are extraordinarily complex expressions of human cognition, entangling land use and infrastructure, energy flows, finance, transportation systems, political decision making, social relations, ecological challenges, and more (Morton, 2013). There is no single agreed-upon analytical framework for addressing issues as complex and interconnected as those found in the field of urban planning. This research engages with different perspectives while focusing on the need for cities to properly evaluate the long-term fiscal and climate costs of infrastructure.

The report is authored by an energy policy analyst based in Winnipeg, Treaty 1. It reflects a perspective shaped by close engagement with emissions-reduction policy and the costs of fossil fuel infrastructure.



3.0 Inherited Infrastructure Liabilities

3.1 How Neighbourhoods Are Built

The process of building a neighbourhood in Canada typically begins when a developer purchases a tract of natural or agricultural land next to a municipality, constructs a development, then transfers ownership of the newly built infrastructure over to the municipal government. On the surface, this appears to be a win-win transaction: Developers profit from real estate sales, and municipalities benefit from a free tax-producing development.

Problems with this arrangement can surface decades later when key infrastructure in the development needs renewal. The costs of renewing this infrastructure within the development may be significantly higher than the cumulative tax revenues generated by the development, leading to a cycle of fiscal loss (Hajilou et al., 2023; Nelson et al., 2022; Tomalty, 2022). These costs ultimately fall on the taxpayer.

As finances decline, municipalities may be more eager to launch a new development that provides an immediate injection of tax revenue, while negatively impacting the long-term municipal fiscal position even further (Tomalty, 2022; Urban Development Institute & Manitoba Home Builders Association, 2016). This vicious cycle has been referred to as a municipal Ponzi scheme and can be seen in municipalities across North America (Marohn Jr., 2019; Nelson et al., 2022).

Land-use decisions are fiscal decisions for municipalities. The placement of each road, sewer, and building, along with development density, network configuration, life-cycle durability, and long-term maintenance requirements, all shape the balance of publicly managed costs and revenues. Infrastructure that is built today must eventually be rebuilt in the future, meaning that every infrastructure purchase burdens not just current taxpayers but also the next generation (Nelson et al., 2022). While municipalities often adequately assess the immediate costs of new development, they consistently struggle to evaluate long-term fiscal sustainability (Tomalty, 2022).

Land-use decisions also involve energy future planning for municipalities. The physical form of the landscape directly shapes the amount of energy that is required: Private vehicles, public transportation, and active transportation all require significantly different levels of energy supply.

3.2 Complete Communities Generate More Revenue Compared to Low-Density Neighbourhoods

Across jurisdictions and methodologies, studies consistently find that low-density urban sprawl imposes substantially higher-net public costs and generates weaker fiscal returns compared to compact, complete communities. While compact or infill developments can involve higher upfront capital investments, a full consideration of life-cycle costs, operations and maintenance, and long-term revenue generation shows that sprawl is the more fiscally burdensome development pattern



(Bise & McAweeney, 2022). The underlying principle is straightforward: low-density development has a greater distances between homes, offices, and shops, requiring more road and pipe infrastructure per capita (Nelson et al., 2022). Studies often show a linear relationship between density and cost (Halifax Regional Municipality, 2005; Metro Vancouver Regional Planning, 2023).

Studies evaluating the costs of land-use patterns typically model urban growth under a “business-as-usual” sprawl scenario and compare outcomes to one or more compact or smart-growth alternatives:

- A study from Vancouver found that the municipal costs of servicing a house are approximately five to nine times more expensive on a per capita basis compared to an apartment building (Metro Vancouver Regional Planning, 2023).
- A study for the Halifax Regional Municipality found that up to CAD 3 billion in savings could be achieved by avoiding low-density sprawl development (Stantec Consulting, 2013).
- A study from Minneapolis–St. Paul found that investing in “smart growth” instead of a typical sprawl would save 57% of the capital costs, amounting to roughly USD 3 billion (Center for Energy and Environment et al., 1999).
- A planning analysis from the state of Maryland found that directing growth to higher-density priority areas would require only 40% of the local road infrastructure, saving approximately USD 15 billion in construction costs and USD 320 million in maintenance costs (Kenneith & Fricke, 2010).
- Many studies from across Canada and the United States document how complete communities generate vastly greater revenue for municipalities relative to low-density urban sprawl (1000 Friends of Oregon, 2013; Canada Mortgage and Housing Corporation & Regional Municipality of Ottawa-Carleton, n.d.; Carruthers & Ulfarsson, 2003; City of Edmonton Finance and Treasury Department, 2011; Frank, 1989; Halifax Regional Municipality, 2005; Hemson Consulting, 2013, 2020; IBI Group, 2009; Metro Vancouver Regional Planning, 2023; Nelson et al., 2022; Stantec Consulting, 2013; Tomalty, 2022; Transportation Research Board, 1998; U.S. Environmental Protection Agency, 2009, 2012).

Land-use decisions also generate a range of impacts beyond direct infrastructure and servicing costs. Car-dependent development patterns are associated with higher rates of collisions, a leading cause of fatal injuries in Canada (Thompson, 2013). Household car ownership costs are substantial, with average annual costs in Canada exceeding CAD 16,000 (Lavin, 2026). Complete communities, on the other hand, generate broader economic benefits ranging from higher labour productivity to improved job matching (Thompson, 2013).

Alongside roads, water management is one of the largest and most expensive components of municipal infrastructure. Conventional stormwater systems are costly because they are designed



to rapidly drain water into sewer networks, requiring extensive and expensive underground infrastructure. However, this approach is not the only option for managing water in urban environments. Landscape-based strategies such as swales, retention ponds, and permeable surfaces can absorb and slow stormwater at its source, reducing pressure on pipes and treatment systems (Lancaster, 2019). Cities across North America are increasingly adopting these forms of water-sensitive design, finding that they lower infrastructure costs while delivering environmental benefits (Lancaster, 2019). Bioeconomy benefits include reduced need for storm sewer networks, lower long-term maintenance costs, and increased biodiversity.

3.3 Infrastructure Deficits in Canada

Municipal infrastructure encompasses the physical systems that support everyday life in cities. These assets are foundational to economic activity, public health, and basic mobility. Water and transportation infrastructure specifically represent the vast majority of municipal infrastructure costs, typically accounting for over 85% of total infrastructure expenditures¹ (Durand-Wood, 2025; Financial Accounting Office of Ontario, 2021).

Infrastructure deficits arise when municipalities lack sufficient funding to maintain existing infrastructure at acceptable standards while also accommodating future growth (Canada Infrastructure, 2019). Because municipal accounting standards prohibit operating-budget deficits, municipalities convert what would be financial debt into a form of infrastructure debt, creating infrastructure deficits.

Municipalities across Canada have been warning of growing infrastructure deficits for many decades. In 1985, the Federation of Canadian Municipalities (FCM) warned of a CAD 12 billion shortfall needed to address infrastructure upkeep across the country (Mirza, 2007). By 2007, the national infrastructure deficit had grown to over CAD 60 billion, at which time the FCM warned that the infrastructure deficit represented “a looming crisis for our cities and communities and ultimately for the country as a whole” (Mirza, 2007).

In 2025, the national municipal infrastructure deficit was estimated at CAD 270 billion (FCM, 2025). This has direct implications for the quality of infrastructure across Canada. In 2020, data from Statistics Canada’s Core Public Infrastructure Survey found that renewing or rehabilitating municipal assets rated in “poor” or “very poor” condition would require approximately CAD 170 billion (FCM, 2024a). In 2019, Canada’s federal infrastructure department found the state of Canada’s infrastructure to be at risk, stating that “there are enough Canadian roads in poor condition to build a road almost halfway to the moon” (Canada Infrastructure, 2019). Today, local media across the country consistently cover concerns about crumbling roads, degrading water and sewage lines, and poor public transit (Kitchen, 2006; Mirza, 2007; Slack, 2023; Slack & Tassonyi, 2017).

¹ Water and transportation infrastructure include municipal drinking water systems, wastewater collection and treatment, stormwater drainage systems, and road networks



Box 1. The high costs of infrastructure

The average taxpayer might be surprised to find how much infrastructure they are responsible for. In 2024, the FCM estimated that, on average, the municipal infrastructure required to support new housing construction costs approximately CAD 107,000 per home (FCM, 2024a).

In Winnipeg, the average household is effectively responsible for roughly CAD 150,000 in municipally owned infrastructure. This figure can be calculated by comparing total municipal infrastructure replacement costs with the city's tax base (Durand-Wood, 2025).

3.4 Infrastructure Deficit in Winnipeg

The City of Winnipeg has been publishing infrastructure crisis reports for over 3 decades. A 1998 infrastructure report estimated Winnipeg's infrastructure deficit at over CAD 750 million (Committee on Works and Operations, 1998). By 2009, Winnipeg's infrastructure deficit had grown to CAD 3.5 billion (Hemson Consulting, 2016).

The most recent estimate places Winnipeg's infrastructure deficit at CAD 8 billion (City of Winnipeg, 2024a). The City of Winnipeg has used urgent language to describe the infrastructure deficit: "the City cannot afford to continue providing the current level of service to residents without changing its priorities or increasing revenue" (City of Winnipeg, 2022b).

Impacts of the infrastructure deficit are now being felt by Winnipeggers. Budget pressures have resulted in the closure of a bridge in the heart of the city, three community swimming pools, 20 wading pools, and a softball centre (CBC News, 2023; Petz, 2024; Thompson, 2024). Most concerning, the City of Winnipeg is partially responsible for funding paramedic services, which are suffering from serious under resourcing (Manitoba Government and General Employees' Union, 2025).

3.5 The Cause of Municipal Infrastructure Deficits

Municipalities often assert that the main cause of the infrastructure deficit is the lack of funding from provincial and federal governments (FCM, 2024a). This explanation is partially correct. Historically, much of Canada's core municipal infrastructure was built with significant support from federal and provincial governments. Research has shown that federal and provincial infrastructure funding declined in real terms toward the end of the 20th and early 21st centuries, placing growing pressure on municipal budgets (Mirza, 2007; Standing Committee on Transport, Infrastructure and Communities, 2015).

At the same time, reduced government transfers are not the whole story. Municipalities have the option to include the known real costs of infrastructure in their budgets, but often choose not to,



as doing so requires them to raise taxes. The City of Winnipeg, for example, instated a 14-year tax freeze from 1998 to 2012, during which time the city's infrastructure deficit ballooned (Real Estate News, 2012). Some municipal finance economists have pointed out that there is not an infrastructure deficit, but rather, a pricing deficit (Dachis, 2018; Kitchen, 2006). If municipalities priced their infrastructure costs correctly, there would be no deficit (Dachis, 2018).

Municipalities are reluctant to raise taxes largely because the tax increases necessary to eliminate infrastructure deficits would overwhelm taxpayers. In Winnipeg, property taxes would have to double to erase the infrastructure deficit.² Municipalities rely on borrowing to finance infrastructure, allowing them to keep taxes artificially low while deferring full cost accounting to a later date.

In effect, municipalities have an arrangement with provincial and federal governments in which they build far more car-oriented infrastructure than they can sustain. The long-term costs of maintenance and infrastructure renewal are not accounted for in the funding arrangement. When infrastructure inevitably needs to be rebuilt, shrinking support from federal and provincial governments leaves municipalities in difficult fiscal situations.

Although municipalities may have initially been caught off guard by the costs of infrastructure renewal and the decline of transfers from other governments, the net-negative finances associated with low-density, car-oriented development have been well documented, as has the gradual decline in senior government infrastructure funding. Continuing to approve high-cost, low-return development patterns and then blaming the resulting deficits on other governments obscures the underlying issue. Municipalities are ultimately responsible for ensuring that the infrastructure they approve can be financed, maintained, and renewed over time.

Increased government transfers may address a symptom but not the core problem: Infrastructure deficits arise when municipalities neglect their responsibility to consider the long-term costs of infrastructure. Provincial and federal governments contribute to the infrastructure deficit when they enable infrastructure spending on low-return development patterns.

3.6 How Municipalities Misprice Infrastructure

Canadian cities have access to a limited set of revenue-generating tools, primarily property taxes, user fees, development cost charges (or impact fees), and transfers from provincial and federal governments (Slack, 2023). Depending on the province, additional tools may be available—for example, sales revenue or investment income (FCM, 2024a). This core list of tools has not changed substantially for over a century (FCM, 2024a).

The market for urban development does not occur within a vacuum (Kitchen, 2006). The taxes, fees, and subsidies that shape land-use outcomes are established and maintained by municipal

² A CAD 8 billion deficit over 10 years means CAD 800 million dollars per year. In 2025, the City of Winnipeg aimed to collect a total of CAD 798 million through property taxes (City of Winnipeg, 2025a).



and provincial governments. Together, these fiscal tools form a network of prices that strongly influences how and where cities grow (Blais, 2011).

The full costs of fossil fuel-dependent urban sprawl have been systematically underpriced by municipalities across Canada. The intensity of resources required to sustain low-density neighbourhoods is rarely reflected in the prices, taxes, or fees that support them. This problem has been noted as early as the 1960s, when economist Wilbur Thompson described cities as distorted price systems because the prices residents face do not accurately reflect the costs of the infrastructure and services they consume (Thompson, 2011).

3.7 Municipal Subsidies to Fossil Fuel-Dependent Urban Sprawl

The following fiscal tools are controlled by municipal governments and can subsidize urban sprawl if not adjusted correctly.

Flat-rate road access: Roads are typically funded through general municipal revenues rather than user-based charges, meaning residents who drive frequently and over long distances often pay no more for road infrastructure than residents who do not drive at all. This incentivizes driving as residents are blind to the full costs of car infrastructure (Thompson, 2013). Additionally, provincially funded highways allow residents of surrounding communities to commute into cities at no extra cost. Road tolls, though rare in Canada, have been advocated as a means of bringing accountability to road spending (Slack & Tassonyi, 2017).

Development cost charges (DCCs)/impact fees: DCCs are a per-unit fee on new development intended to pay for the infrastructure supplied by the municipality. DCCs are widely used across Canada and are often set based on average costs rather than reflecting the density and location of development (Canada Mortgage and Housing Corporation, 2025b). Average costing DCCs can inadvertently subsidize low-density growth. For example, charging the same fee for a 20-foot lot as a 60-foot lot disincentivizes building more compactly. Likewise, charging the same fee regardless of where the neighbourhood is located ignores vastly different infrastructure costs (Blais, 2011; Tomalty, 2022). At scale, this distortion has significant implications for land-use patterns and municipal finances.

Property tax: Property taxes are levied primarily on assessed property value and are the foundation of how cities produce revenue. Just like DCCs, if property taxes do not reflect infrastructure costs for different locations and densities, they can subsidize low-density development (Tomalty, 2022).

Parking requirements and pricing: The full cost of parking is rarely priced correctly, despite the considerable space it requires. Minimum parking requirements demand large amounts of land to be dedicated to storage, hiding the full cost. Additionally, employers often subsidize vehicle use by providing free parking for employees. If drivers were required to pay the true cost of parking, low-density, car-oriented development would be more expensive (Shoup, 2005).



Local roads: Like parking, local residential roads that often serve only a small number of homes or businesses are typically funded through general municipal revenues rather than user-based charges, socializing their costs and reinforcing car-dependent development patterns.

Stormwater charges: Stormwater systems are typically funded through general taxation rather than fees tied to impervious surface area. As a result, lots with extensive paved surfaces, such as parking lots, often do not pay in proportion to the runoff they generate, effectively subsidizing dispersed, car-oriented development.

3.8 Non-Municipal Subsidies to Fossil Fuel-Dependent Urban Sprawl

Policies outside of municipal control also shape urban development patterns and can influence the extent of urban sprawl. Mortgage lending rules, mortgage loan insurance, and housing tax policies affect how households access housing and how developers finance new construction. While some programs do incorporate environmental or housing supply objectives, their impacts on sprawl are unclear (Canada Mortgage and Housing Corporation, 2026).

Conventional mortgage policy: Mortgage underwriting does not account for transportation costs: households located centrally with lower transport expenses could safely carry larger mortgages and lower default risk but receive no pricing advantage (Blais, 2011).

Tax policies supporting homeownership: Policies such as GST rebates apply to new home construction but not renovations or additions, biasing incentives toward greenfield development over infill (Canada Revenue Agency, 2026a). While the rebate supports residential construction broadly, it effectively benefits urban fringe development as it is typically the lowest-cost and least constrained form of building.

RRSP and home buyer incentives: Savings and first-time home buyer programs often support homeownership broadly without location or form constraints, indirectly incentivizing larger, more land-intensive housing forms associated with sprawl. An equivalent program is not available for renters (Canada Revenue Agency, 2026b).

Transportation tax policies (gas taxes): Fuel taxes remain low relative to the full social and environmental impacts of driving. Studies suggest that higher gas taxes contribute to reduced urban sprawl (Young et al., 2016).

Infrastructure grants and loans: Federal and provincial programs often fund large-scale road and servicing projects, lowering the upfront cost of sprawl-oriented development.

Low-density, fossil-fuel-intensive lifestyles only appear affordable because a substantial portion of their full costs has been removed from sight and buried in infrastructure deficits. If the full fiscal costs of car-oriented infrastructure were reflected to residents, demand for comparatively lower-cost complete communities would likely be significantly higher.



3.9 Urban Form and Fossil Fuel Subsidies

Because fossil fuels are foundational to car-dependent urban form, all of the subsidies to sprawl listed above function in practice as fossil fuel subsidies. Direct subsidies to fossil fuel production increase supply, while subsidies to road networks and car infrastructure increase fossil fuel demand.

When residents cannot safely or comfortably access the services they need on foot, they are forced to participate in a transportation system dependent on fossil fuels. While electric vehicles are becoming more popular, they represented less than 2% of all registered vehicles in Canada in 2024 (Yakub, 2025). Incorrectly structured property taxes or DCCs may not appear to be fossil fuel subsidies, but in a car-dependent transportation system, they effectively encourage fossil fuel consumption. Urban planning decisions are ultimately climate decisions.

3.10 Recommendations

Pricing systems are not permanent and can be amended by municipal governments, often without provincial legislative changes. Municipal fiscal tools such as development charges, property taxes, and user fees do more than generate revenue; they shape how cities grow. When these tools are not aligned with planning objectives, they can encourage inefficient land-use patterns and subsidize fossil fuel use. The following recommendations outline how key municipal fiscal instruments can be adjusted to better reflect infrastructure costs and support more sustainable urban growth.

DCCs: Reform DCCs to reflect the true, location-specific life-cycle costs of infrastructure rather than relying on average cost assumptions. DCCs should vary based on density, lot size, and proximity to existing services; encourage development within already serviced areas; and be structured to recover future maintenance and replacement liabilities associated with planned growth.

Property taxes: Reform property tax policy to eliminate preferential rates and exemptions that distort land-use incentives, and align tax structures and provincial grant programs with intensification and growth management objectives.

User fees: Expand cost-reflective user charges such as stormwater fees, road pricing, parking pricing, and transit fare reform to better align infrastructure use with actual costs and reduce cross-subsidization.

Integrate climate considerations into planning: Municipal climate committees or climate offices should review major infrastructure and development proposals to evaluate how they influence long-term energy demand and transportation emissions.



4.0 Fiscal Impact Assessments

Municipal governments have tools available to evaluate the costs and revenues of development; however, they have not always used these tools effectively. As the infrastructure deficit crisis has grown, municipalities have become increasingly interested in monitoring the cost of infrastructure. This section reviews how the city of Winnipeg has applied fiscal impact assessments (FIAs) to urban development.

4.1 FIA and Asset Management Plans

4.1.1 What Are FIAs?

FIAs are analytical tools used by municipalities to measure costs and revenues associated with new development over time (Tomaselli, 2019). When conducted rigorously, FIAs consider how construction and service costs interact with factors such as density, location, and distance from existing infrastructure to influence both costs and revenues (Nelson et al., 2022). FIAs are highly complex and require significant training to undertake (Tomalty, 2022).

FIAs can illuminate the fiscal consequences of land-use decisions. Low-density, car-oriented development typically requires longer utility lines, expanded road networks, additional pumping capacity, and broader service coverage, increasing both capital and operating costs relative to compact development patterns (Nelson et al., 2022).

4.1.2 What Are Asset Management Plans?

Asset management plans (AMPs) are municipal infrastructure inventories that document what exists, its condition, and the estimated costs to maintain and eventually replace it (FCM, n.d.-a). AMPs are essential for identifying maintenance backlogs, forecasting capital renewal needs, and supporting responsible stewardship of existing infrastructure.

Unlike FIAs, AMPs are not designed to evaluate whether infrastructure or development is fiscally sustainable. They generally do not assess the revenues generated by different land-use patterns and advise on alternative options. AMPs tend to be undertaken by engineers and focus on managing assets rather than questioning whether certain development patterns should be pursued in the first place. AMPs represent the first step a municipality can take toward a greater understanding of infrastructure costs; however, they do not present a full picture of infrastructure financing.

4.2 Growing Acceptance of FIAs

For many years, municipalities routinely proceeded with urban development without evaluating the costs and revenues associated with it. FIAs and AMPs were often entirely absent. It was



“assumed” that the costs of growth would be paid by the revenues of growth (Nelson et al., 2022, p. 33; Tomalty, 2022, p. 15). A common phrase used to describe this approach to development is “growth pays for growth” (Hemson Consulting, 2016). Imagine a business owner neglecting to evaluate costs and revenues, insisting that profit will occur because “business pays for business.” Legally, municipalities were simply not required to balance their books with respect to infrastructure (Ballance, 2010). The emergence of widespread infrastructure deficits makes more sense in this context.

Even though Canadian municipalities have been required to balance their operating budgets for many years, a balanced budget alone is not a reliable indicator of financial health (FCM, 2024a). Understanding a city’s true financial position requires visibility into the condition and renewal needs of its infrastructure. For example, whether a municipality will face hundreds of millions of dollars in bridge replacement costs over the next 5 years or not has significant budgetary implications. Municipal budgets regularly omit work that has been deferred or left undone to achieve their mandated balanced budget (FCM, 2024a).

Attention to long-term costs of infrastructure has increased as infrastructure deficits have become larger. Leading the country, the Province of Ontario implemented PS 3150 in 2009, a public sector accounting standard requiring municipalities to more rigorously account for both financial and non-financial assets in their reporting (Ballance, 2010). In 2013, the federal government required provinces and municipalities to identify asset management goals and report on their progress to qualify for the Gas Tax Fund (Johnston, 2016). By 2017, AMP became a requirement in Ontario (Tomalty, 2022). The City of Winnipeg published its first AMP in 2015 (City of Winnipeg, 2015). Without AMPs, municipalities are effectively blind to the scale and implications of infrastructure spending.

As of 2019, 29% of small municipalities, 56% of medium-sized municipalities, and 70% of large municipalities reported having a documented AMP (Canada Infrastructure, 2019). Between 2016 and 2024, FCM reported funding nearly 1,600 AMP projects across Canada (Federation of Canadian Municipalities, 2024b).

4.3 Details Are Essential for Effective FIAs

FIAs can provide powerful spatial insight into how different land-use patterns generate revenue and incur costs. When thoroughly designed, FIAs can reveal which neighbourhood configurations are fiscally productive and which create ongoing fiscal liabilities. However, in practice, FIAs vary substantially in quality, scope, and methodology. Many rely on average, per capita assumptions that treat development as fiscally equivalent regardless of location or density, reducing complex spatial dynamics to less informative generalizations (Nelson et al., 2022; Tomaselli, 2019). This approach can obscure meaningful differences between compact development and dispersed, infrastructure-intensive growth.



4.4 The Challenge of Estimating Full Infrastructure Costs

Although FIAs can provide a certain depth of information about expected costs and revenues, they are often highly politicized and uneven in quality. In many cases, FIAs are commissioned by developers seeking project approvals rather than initiated as neutral public sector evaluations, resulting in compromised outcomes (Tomalty, 2022; Tomaselli, 2019). This dynamic is reinforced by pressure from municipal governments and constituents, making it difficult for consultants to label proposed projects as fiscally unsustainable (Tomalty, 2022). Cultural biases toward certain kinds of development can also make it difficult for politicians to accept FIA outcomes, resulting in politicians who “can’t handle the truth” about a proposed development (Tomaselli, 2019).

Challenges of evaluating costs and revenues in urban development reflect similar cost-estimating challenges for general infrastructure investment—for example, fossil fuel infrastructure. Most cost-benefit analyses (CBAs) require assumptions about factors relating to revenues, costs, time horizons, and valuation methods, often in the absence of complete or certain information. Different methodological choices can produce widely different results. For both fossil fuel production infrastructure and urban development, governments are often under pressure from constituents and lobbyists to approve development deemed to be in the public interest. CBAs that carefully account for long-term fiscal costs and costs relating to carbon emissions may produce results that conflict with desired proposals.

4.5 Accounting for Emissions in FIAs

FIAs have the potential to incorporate greenhouse gas (GHG) emissions into infrastructure and development decisions. Although emissions are often left out of FIAs, a growing number of municipalities have recently begun integrating emissions considerations into planning and fiscal decision-making frameworks. Because infrastructure investments shape transportation demand and building energy use for decades, development patterns effectively determine long-term emissions trajectories.

Two emerging approaches illustrate how climate impacts can be embedded within municipal fiscal tools: eco-fiscal tools and climate budgets.

Eco-fiscal tools describe how municipal revenue instruments and pricing decisions influence fiscal performance and environmental outcomes. While often narrowly defined as taxes or fees intended to change environmentally harmful behaviour, in practice, eco-fiscal tools are much broader (IMFG, 2025). Any tax, subsidy, fee, or incentive that shapes land-use patterns also shapes emissions outcomes. Development charges, parking requirements, and road subsidies, among others, function as eco-fiscal tools because of their influence on energy use and carbon intensity.

Climate budgets are increasingly being adopted by municipalities as a way to embed carbon considerations into decision making from the outset (Municipal Net-Zero Action Research Partnership, 2025). Climate budgets integrate emissions targets from a city’s climate action plan



directly into fiscal, capital, and infrastructure decision making, helping ensure that projects and policies align with long-term climate commitments rather than undermining them (Municipal Net-Zero Action Research Partnership, 2025). Many cities across Canada now integrate climate budgeting into decision-making processes, including Toronto, Edmonton, and Saskatoon (City of Saskatoon, n.d.; Purcell, 2025; Sustainability Solutions Group, 2024). While each city implements climate budgeting differently, they typically pair emissions accounting with the conventional budget process and require departments to estimate the GHG impacts of initiatives alongside financial costs and benefits.

4.5.1 Incorporating Carbon Emissions Into FIAs

FIAs can incorporate GHG emissions into land-use analysis. The FCM has shared a free Land Use Impact Calculator that allows anyone to estimate both the financial and climate impacts of different development patterns (FCM, n.d.-b). The tool estimates emissions from transportation and building energy use associated with different development patterns and shows how more compact, mixed-use development can reduce both infrastructure costs and carbon emissions.

Once the emissions associated with a given development or infrastructure project are quantified, a cost must be assigned to those emissions. This is inherently difficult. Environmental damages are notoriously difficult to quantify, and conventional economic frameworks struggle to capture them (Buller, 2022). Traditionally, economists refer to negative environmental impacts as “externalities” because they are external to—or not inherently represented within—market considerations. This framing has often led to the exclusion of climate impacts from decision making, even though those impacts are real.

The costs of carbon emissions can be quantified in planning by using either a carbon price or a social cost of carbon (SCC). A carbon price is typically set by governments as a policy instrument designed to achieve emissions-reduction targets. Global institutions like the World Bank similarly incorporate a carbon price in project appraisals to reflect future climate policy risk in infrastructure investment decisions (World Bank, 2024).

A more comprehensive approach to incorporating emissions costs is to apply the SCC, which estimates the total global economic damages associated with emitting one additional tonne of GHGs. In Canada, federal estimates place the SCC at roughly CAD 250 per tonne of CO₂, significantly higher than the current carbon price (Government of Canada, 2023). By assigning a monetary value to emissions, the SCC allows climate impacts to be evaluated alongside infrastructure costs and municipal revenues within a conventional financial analysis.

Climate instability also affects the financial assumptions underlying infrastructure planning, particularly the discount rate used in life-cycle costing. As climate change drives greater economic volatility, municipalities will likely face higher inflation and financing costs. Full cost accounting requires recognizing that infrastructure costs are likely to rise over time.



Beyond emissions, land-use decisions can also affect the value of ecosystem services, including flood mitigation, water filtration, and carbon sequestration, which are rarely captured in conventional infrastructure planning (Reid-Wainscoat et al., 2024).

Incorporating carbon costs through a carbon price or the SCC can significantly weaken the economic case for high-emission infrastructure. Development patterns that rely heavily on automobile travel and fossil energy become much less economically attractive when these costs are included.

4.6 An Analysis of Fiscal Impact Assessments in Winnipeg, Manitoba

4.6.1 FIAs for Neighbourhood Development

The first publicly available FIA in Winnipeg was conducted for the 2004 Waverley West development. The Waverley West FIA was conducted by an external consultant, and it was not until 2021 that the city established its own FIA process.

To date, there are no official provincial Manitoba standards or federal standards for FIAs or CBAs for urban development. A high-level review of other jurisdictions shows that most FIAs are produced by land economics, municipal finance, and/or planning consultants either for the municipality or the development proponent.

The City of Winnipeg does not mandate FIAs for new development, though they are encouraged in key planning documents. Winnipeg's Official Community Plan uses discretionary language, making it clear that FIAs are optional, and there is no regulation under the City of Winnipeg Charter requiring an FIA (City of Winnipeg, 2022b). In February of 2026, the city updated the Point Douglas Secondary Plan, which presented an opportunity to conduct an FIA for the neighbourhood (City of Winnipeg, 2026). Despite city policy suggesting an FIA, none was undertaken.

Winnipeg's current Land Development Financial and Economic Impact Analysis Model, formalized in 2021 and updated in 2024, evaluates the short- and long-term operating and capital implications of new development over a 75-year horizon (City of Winnipeg, 2024b). The model compares municipal costs and revenues using both constant-dollar cash flow and discounted net present value (NPV) analysis. It incorporates per capita operating costs, incremental service expansions (e.g., fire, transit), road life-cycle maintenance, and capital expenditures. Shared and off-site infrastructure costs are allocated proportionally to projected users and anticipated provincial or federal cost-sharing is deducted from the city's portion. The model relies heavily on assumptions regarding development timelines, land-use mix, inflation, discount rates, and population projections. While methodologically detailed, outcomes are highly sensitive to these underlying assumptions.



4.6.2 Key Issues With FIAs in Winnipeg

Issue 1: Lack of spatial analysis

FIAs conducted by the City of Winnipeg have many of the same limitations identified in the broader fiscal impact literature: high-level assumptions, lack of consideration of different land-use forms, and insufficient spatial detail leave many open questions regarding long-term fiscal performance (City of Winnipeg, 2024b; Tomaselli, 2019). City of Winnipeg FIAs do not model how different development patterns alter infrastructure costs and revenues over time (City of Winnipeg, 2024b). Higher-density forms can significantly reduce the total length and life-cycle cost of linear infrastructure (roads, water, sewer, and utilities), even if they require strategic upsizing of certain systems (like trunk pipes) to accommodate compact growth. Without scenario-based modelling, these trade-offs are hidden. Evaluating NPV per acre, per land-use type, per unit, or per length of road would give the public a clear understanding of the cost savings potential through different land uses.

Issue 2: Short timelines

A further limitation of FIAs in Winnipeg is that evaluation timelines are often too short to capture the full infrastructure life-cycle costs. For example, the city's fiscal analysis typically projects 75 years into the future (City of Winnipeg, 2024b). While this may seem like a long time frame, major road reconstructions frequently occur beyond that horizon, meaning full replacement costs are not incorporated into the model. Similar gaps exist for other capital assets. For facilities such as community centres, fire halls, and libraries, there is no consistent process for fully accounting for eventual replacement. Instead, it is generally assumed that building lifespans can be extended indefinitely through renovations, leaving long-term liabilities understated.

Issue 3: No benchmark for fiscal return per land unit

Another gap in Winnipeg's FIAs is the absence of a clear benchmark for what constitutes an acceptable fiscal return per acre. While FIAs estimate whether a development produces a positive net impact, they do not establish what level of surplus is sufficient to support long-term fiscal sustainability. Without a benchmark, developments may be approved even if they generate only marginal surpluses, which may be insufficient in a municipality facing significant infrastructure liabilities. This issue is compounded by the lack of per-acre performance metrics, as different development patterns generate substantially different levels of revenue relative to the land and infrastructure they consume. While investors often evaluate risk-adjusted returns, these are often excluded from municipal FIAs.

A similar issue appears in the Airport Area West analysis, where the average potential scenario produced a 50-year NPV of roughly CAD 232,000 per year (City of Winnipeg, 2022a). This amount is unlikely to materially address Winnipeg's broader infrastructure deficit and can shift significantly with minor changes in assumptions.



Issue 4: Unclear impact on political decision making

A further concern is the policy status of FIAs within municipal decision making. There is no formal, legislated, or regulated process requiring the city council to review or approve FIAs. There is also no formal requirement for the city council to approve or reject development based on FIA results. FIA documents can be lengthy, complex documents, and some guidance may be required for politicians to fully understand their findings.

In practice, an FIA functions as one among many informational inputs, and political decisions are shaped by many competing priorities and perspectives. Moreover, existing tools do not clearly connect FIA findings to complete community goals, such as compact development or fiscal resilience. As a result, the practical influence of FIAs on land-use and infrastructure decisions remains ambiguous.

Issue 5: Environmental costs unaccounted for

While FIAs model municipal revenues and expenditures, they do not assign fiscal value to the carbon implications of land-use patterns, transportation demand, or energy consumption. As a result, developments that increase vehicle kilometres travelled or lock in fossil fuel dependence may appear fiscally viable within the model, even though they impose substantial climate-related costs on society.

4.6.3 FIAs for Individual Infrastructure Development

The City of Winnipeg produces FIAs for stand-alone pieces of infrastructure rather than neighbourhood developments. Most recently, the city produced an evaluation for an extension of the Chief Peguis Trail in the northwest of the city (City of Winnipeg, 2025b). This roadway would open previously inaccessible land for future development.

The conventional methods used by the City of Winnipeg to evaluate the economic value of transportation infrastructure have been widely critiqued for several decades. These critiques focus on the assumptions embedded in CBA, particularly the monetization of travel-time savings, operating costs, and fuel consumption.

Key Benefit Categories Used by the City of Winnipeg

- **Residual value (future benefits):** Residual value is the value of economic benefits that occur after the main evaluation period. It can be controversial because residual value assumes current benefits continue far into the future. For the Chief Peguis expansion, 42% of the value of the project is expected to accrue 25 years after it is built (City of Winnipeg, 2025b).
- **Travel-time savings:** Travel-time savings are among the most debated components of transport appraisal. A large body of research shows that travel-time reductions are often temporary and may be offset by induced travel or longer trip distances (Litman, 2023; Metz, 2008; OECD, 2019). Faster travel often leads people to travel farther rather than



saving time overall. In this case, the city's report only considers time travel savings for automobile drivers, not for cyclist or pedestrian travel (City of Winnipeg, 2025b).

- **Vehicle operating costs and fuel consumption savings:** Vehicle operating costs and fuel consumption savings are estimated based on faster traffic conditions and shorter distances under the “build” scenario. However, these estimates assume that improved road capacity reduces driving costs without changing travel behaviour. In practice, lower travel costs often induce additional vehicle travel, which can offset or reverse the projected savings. Expanding road infrastructure to accommodate fossil fuel vehicles while simultaneously treating reduced fuel use and vehicle operating expenses as net benefits can obscure the broader fiscal and environmental implications of infrastructure expansion (Litman, 2023).

Additional Methodological Issues

- **Induced demand:** The City of Winnipeg analysis does not fully account for induced demand resulting from the new road itself. The modelling does not incorporate the well-documented phenomenon that expanding road capacity can generate additional vehicle trips, longer travel distances, and shifts from other transportation modes (Duranton & Turner, 2011).
- **Requires above-inflation tax increases for decades:** The City of Winnipeg analysis on the Chief Peguis extension project indicates that an annual tax rate increase of 2.48% is required to avoid loss (City of Winnipeg, 2025b, p. 60). Even with these significant tax increases, the breakeven point is estimated to occur in 2067.
- **Fuel consumption modelling assumptions:** Fuel savings assume fuel use per vehicle stays the same and that shorter travel distances reduce fuel consumption. However, if new road capacity leads to more driving, these savings may disappear. Also, the modelling assumes that vehicles will transition almost entirely to electric vehicles by 2050, which is highly unlikely (Winkler et al., 2023).
- **Incomplete accounting of environmental costs:** While the Chief Peguis extension report monetizes operational vehicle emissions, several major environmental costs are excluded. These include emissions from construction materials, construction equipment, and the full life-cycle emissions associated with building and maintaining the road infrastructure. The analysis also does not apply an SCC to account for the broader economic damages associated with greenhouse gas emissions.

The various financial analyses commissioned by the city on the Chief Peguis Trail extension project complicate the picture. An independent financial advisory firm found that the net value of the project is estimated at CAD 41.8 million, while the city's own report suggests the value could be as high as CAD 279.5 million (CityNews Winnipeg, 2026). The full versions of both reports have not been made public. This discrepancy shows that costs and benefits associated with the project are highly sensitive to modelling assumptions.



4.7 Recommendations for Municipal Governments

1. Require spatial FIAs that compare different development patterns.

FIAs should evaluate alternative density and land-use scenarios and report fiscal performance metrics, such as NPV per acre, per unit, and per land-use type, to clarify how urban form influences long-term municipal costs and revenues.

2. Extend FIA time horizons to capture full infrastructure life-cycle costs.

Financial models should extend beyond the current 75-year horizon and include full reconstruction and replacement costs for major assets such as roads, community centres, fire halls, and libraries.

3. Establish minimum fiscal performance benchmarks for new development.

Municipalities should define minimum fiscal performance thresholds such as NPV per acre or revenue-to-infrastructure cost ratios.

4. Formalize the role of FIAs in municipal decision making.

Councils should be required to review FIA findings prior to major development approvals and explicitly address their implications in council reports. FIAs should also be incorporated into official community plans.

5. Integrate emissions analysis into FIAs.

FIAs should estimate transportation-related emissions associated with development patterns and evaluate how design choices affect long-term carbon outcomes. This should include transit connectivity, mixed-use development, and active transportation infrastructure.

6. Incorporate climate adaptation costs into infrastructure modelling.

Financial models should account for future infrastructure adaptation needs, including stormwater system upgrades and climate-resilient infrastructure investments

7. Improve assumptions about long-term municipal service costs.

FIAs should refine per capita service cost estimates to reflect actual service delivery patterns and account for demographic and service demand changes as neighbourhoods evolve over time.

8. Apply FIAs to redevelopment and infill projects.

FIAs should be mandatory for major redevelopment areas and secondary plans.



5.0 Infrastructure Grants

While most municipal revenue is generated from municipal sources, a share of municipal funding is transferred from provincial and federal governments. These transfers have been criticized for creating misaligned incentives that can distort planning priorities and obscure long-term fiscal accountability (Dachis, 2018; Kitchen, 2006). If these funds are used to expand the network of fossil fuel-based transportation, they can be understood as a form of fossil fuel subsidy.

Historically, suburban development required significant funding from outside municipal governments. These substantial upfront funding streams altered the incentives surrounding growth, enabling large-scale infrastructure expansion without requiring municipalities to fully internalize long-term costs. Prior to urban sprawl, urban development occurred incrementally, allowing cities to adapt through smaller investments and manageable adjustments.

Per capita intergovernmental funding to municipalities varies significantly across provinces (Dachis, 2018). Estimates of total provincial and federal support can be misleading, as most transfers are restricted to capital projects and do not cover ongoing operations and maintenance costs (FCM, 2024). In practice, provincial governments provide substantially more funding to municipalities than the federal government (Dachis, 2018; Slack, 2023).

Infrastructure funding for municipalities in Canada operates through a complex and fragmented set of programs and cost-sharing arrangements rather than a single funding stream (Grace, 2014; Granja & Champagne, 2023). While Infrastructure Canada plays the central coordinating role, the federal government retains little direct authority over infrastructure decisions. These remain municipal and provincial responsibilities (Grace, 2014; Granja & Champagne, 2023).

5.1 Issues With Government Transfers to Municipalities

Issue 1: Transfers disconnect funders and beneficiaries.

At their core, intergovernmental transfers weaken the link between those who benefit from infrastructure and those who ultimately pay for it, obscuring the true cost of municipal services (Dachis, 2018; Slack, 2023). These grants have the tendency to be viewed as “free money,” lowering the perceived price of municipal services and encouraging over-consumption and over-investment relative to what would be chosen if costs were fully borne locally (Hajilou et al., 2023; Kitchen, 2006). On a political economy level, a municipal politician advocating for an increase in taxation to pay for infrastructure would struggle to get elected.

Issue 2: Transfers can undermine asset management planning.

When outside grants cover a share of capital costs, municipalities face weaker incentives to develop and maintain robust AMPs. Full accounting of both capital and operating costs is essential for sound infrastructure decision making, yet asset replacement costs are often excluded



when infrastructure is originally funded through grants (Bird & Slack, 2017). As a result, prices or taxes fail to reflect the true cost of service provision, and no revenue is set aside for eventual replacement, leaving municipalities exposed as assets deteriorate.

Issue 3: Transfers create incentives to spend in the wrong places.

Grant structures can also encourage municipalities to prioritize spending that aligns with funding availability rather than value for money. Local governments may pursue low-return or poorly aligned projects simply because failing to spend available grants can jeopardize access to future funding (Dachis, 2018).

Issue 4: Transfers reduce accountability across all levels of government.

When multiple levels of government jointly fund the same infrastructure or service, accountability becomes blurred (Kitchen, 2006). Users often cannot determine which level of government is responsible for project outcomes or for addressing problems when they arise. Governments are more likely to spend accountably when they are also responsible for raising the revenues they spend. This issue is evident in local media when municipal politicians place blame for infrastructure problems on other levels of government.

Issue 5: Grants are unstable and create long-term vulnerability when they disappear.

A fundamental weakness of relying on federal and provincial grants is their lack of stability and predictability. Funding levels can shift with changes in governments or policy priorities, as has been seen over the past decades of infrastructure funding (Slack & Tassonyi, 2017).

Issue 6: Grant programs disadvantage small municipalities and encourage wasteful consultancy spending.

Applying for senior government infrastructure grants is often an onerous, resource-intensive process that many small municipalities lack the capacity to manage. Unlike large cities with extensive staff and technical expertise, smaller municipalities may have only a handful of employees responsible for all administrative functions, yet they are required to navigate complex application processes and extensive reporting requirements. Small municipalities are then forced to hire external consultants and engineering firms to prepare studies and designs that may cost tens or hundreds of thousands of dollars without any guarantee that funding will ultimately be approved.

Instead of spending resources directly on infrastructure enhancements, a dependence on outside grants means municipalities are spending limited resources on studies to confirm what the local government already knows, making the studies redundant.

Even when municipalities successfully secure funding, additional challenges often emerge. Approval may be conditional on program requirements that are poorly aligned with local realities, particularly in rural or low-growth contexts. In some cases, municipalities have proceeded



through costly application processes only to discover that they cannot meet post-approval conditions, leading them to decline funding altogether.

Grant programs are frequently designed around the capacities and conditions of large urban centres, rather than the diverse administrative realities faced by municipalities across Canada. One contributing factor to the substantial infrastructure deficit in Manitoba is that federal programs are not well-suited to the provincial context, leading to additional delays in the grant transfer process.

Issue 7: Provincial and federal influence in municipal affairs.

When municipalities rely on federal or provincial transfers, they may be required to relinquish decision-making authority within their own jurisdiction. For example, a key condition of the Canada Housing Infrastructure Fund, a CAD 6 billion federal infrastructure program, is that municipalities are not permitted to introduce new DCCs (Housing Infrastructure and Communities Canada, 2025). These charges are critical tools used by municipalities to generate revenue and shape development patterns. Other federal infrastructure organizations that provide significant infrastructure funding have campaigned against DCCs, such as the Canada Mortgage and Housing Corporation (2025a).

Federal or provincial influence can also shape local infrastructure priorities. In Winnipeg, federal pressure contributed to the prioritization of the Waverley underpass over the repair of the Arlington Bridge, despite the latter being a recognized municipal priority (Kives, 2026).

5.1.1 Infrastructure Challenges for Provincial Governments

Another reason to be cautious about relying on provincial governments to fund municipal infrastructure is that provinces themselves can struggle to manage their own infrastructure. The Province of Manitoba, for example, does not undertake asset management planning for its infrastructure (MNP Consulting, 2024). The lack of an AMP leaves Manitoba blind to the provincial infrastructure deficit and limits the province's ability to undertake strategic capital planning (MNP Consulting, 2024). Additionally, 100% of the province's capital spending is financed through debt in the province, which contributes to long-term fiscal risk.

5.2 Recommendations

Ongoing federal and provincial support for municipal infrastructure may be unavoidable due to its significant cost; however, there are clear opportunities to improve how these programs are structured and applied. Both the infrastructure deficit and climate crises can be more effectively addressed if federal and provincial funding programs are restructured to reflect long-term costs, reinforce sound asset management, account for spatial and cost realities, and avoid incentivizing infrastructure expansion that creates lasting municipal liabilities.



1. Condition major capital transfers on rigorous FIAs

Large external funding commitments should require clear evidence that projects are fiscally sustainable over their full life cycle and do not impose unfunded replacement or operating burdens on municipalities.

2. Align federal and provincial funding with municipal asset management frameworks

Intergovernmental transfers should explicitly recognize and reinforce FIAs and asset management plans.

3. Design funding programs that account for the capacity constraints of small and rural municipalities

Federal and provincial programs should recognize that smaller municipalities face limited administrative, fiscal, and technical capacity and tailor requirements accordingly.

4. Make intergovernmental transfers spatially sensitive

High-cost, low-density infrastructure should receive lower per-unit subsidies so as not to penalize compact, infill, and infrastructure-efficient development.

5. Tie funding eligibility to performance-based metrics

Transfers should be contingent on measurable outcomes, such as cost per household, emissions intensity, and asset productivity, rather than purely on project scale or construction volume.



6.0 Additional Factors Influencing Urban Development

This report focuses specifically on the fiscal and carbon implications of neighbourhood design. However, many other considerations also shape how cities function and evolve. Urban systems are complex and interconnected, involving social, environmental, economic, and cultural dynamics that extend far beyond the scope of this analysis.

6.1 Cultural Attitudes Toward Economic Growth

Infrastructure spending is often treated as synonymous with economic growth, based on the observation that the failure of essential systems like highways would undermine economic activity. As a result, large infrastructure commitments are frequently framed as direct investments in economic well-being, even when the quality or necessity of the projects is uncertain. However, evidence suggests this assumed link is inconsistent (McArthur, 2017). Empirical studies find that while public investment and growth are, on average, positively correlated, the relationship is small and highly variable, making infrastructure spending levels a poor proxy for economic effectiveness (McArthur, 2017).

6.2 Municipal Boards

Municipal boards are quasi-independent bodies established by provincial governments to oversee, regulate, or adjudicate aspects of municipal decision making, particularly in areas such as land-use planning, development approvals, and appeals. They are relevant because they can override or reshape local planning and infrastructure decisions, often emphasizing procedural compliance or provincial priorities over municipal fiscal sustainability or climate objectives. As a result, municipal boards play a significant but often underexamined role in reinforcing growth-oriented development patterns and limiting cities' ability to align land-use decisions with long-term financial and environmental goals.

6.3 Public Sector Accounting Board

Municipal fiscal reporting must comply with accounting standards established by the Public Sector Accounting Board. A body of literature reviewing the shift from cash-based to accrual accounting finds that while the transition improved transparency around infrastructure spending, it also introduced issues around fiscal accountability (Bonollo, 2022). This framing can obscure the true fiscal burden of infrastructure.



7.0 Conclusion

All three levels of government across Canada participate in a system of infrastructure decision making that produces unsustainable infrastructure expansion. Municipal governments consistently approve urban development without fully accounting for long-term life-cycle costs, supported in large part by provincial and federal capital funding structures that also neglect sustainability considerations. The failure to rigorously account for long-term costs has contributed to infrastructure deficits across the country, and the failure to account for emissions production has produced landscapes dominated by fossil fuel-intensive, car-oriented infrastructure. The result is a structurally misaligned system that is financially and environmentally unsound.

Discussions on infrastructure deficit often focus on spending more money to sustain existing development patterns rather than examining why infrastructure costs are so high in the first place (FCM, 2024a). Infrastructure deficits are the predictable outcome of low-density, car-dependent land-use patterns. An alternative to high-cost, high-emission development is available: compact, human-scaled communities oriented around public and active transportation. These communities generate more revenue, produce fewer emissions, and offer a higher quality of life.

This report contributes to a growing pool of literature calling for more rigorous standards in infrastructure financing decisions. Ensuring that FIAs are detailed and actively shape development is essential to sustainable infrastructure decision making. At the same time, governments must critically assess and reform the fiscal structures that make low-density, car-oriented development appear affordable. This includes evaluating underpriced parking and road use, as well as property tax and development charge systems that fail to reflect the full cost of servicing dispersed growth.

Infrastructure deficits across Canada are now so large that some public infrastructure will inevitably need to be abandoned. This has already started to happen—examples in Winnipeg are a bridge, pools, and community centres that have been shut down. Decades of mispriced infrastructure expansion have left municipalities fiscally overextended. Transitioning to fiscally sustainable infrastructure systems will require changes in how our communities are built and what types of infrastructure they prioritize. It will also produce healthier neighbourhoods that are more desirable to live in.



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