

Green Transit, Good Jobs

A National Public

Transportation Strategy

for Canada

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Executive summary

Canada's transit systems are underdeveloped. As a result, Canadians are reliant on personal vehicles and airplane fares for transportation—methods of travel that are far more carbon intensive than buses and trains.

To reduce carbon emissions in the transportation sector, Canada must reduce personal vehicle and airplane use by improving alternative methods of transit.

The government needs to fill the gaps in its approach to transit within and between communities.

Regarding transportation within communities, public transit systems in Canada lack sufficient operations funding and are overly reliant on the private sector.

In terms of transportation between communities, Canada lacks high-speed rail systems in major urban corridors, as well as bus services between rural communities.

To address these gaps, we call for an \$82.75 billion investment over five years to enhance public transit systems within and between communities in Canada. These funds will contribute to developing public transit systems within municipalities, bus services between rural communities, and high-speed rail along Canada's busiest urban corridors.

A plan for clean transit in Canada on this scale will lower carbon emissions, improve health & safety, and create thousands of good jobs across Canada.

Introduction

For Canada to make the much-needed shift to a green economy, major investments will be needed to enhance our public transit and intercity rail capacity to reduce our dependency on private automobiles.

The transportation sector was responsible for 21 percent of Canada's greenhouse gas emissions in 2021. Just over half of the energy used in this sector is specifically dedicated to transporting people.²

Because buses and trains are more efficient at moving people than personal vehicles and airplanes, increasing investments in public transportation will significantly reduce fuel consumption rates and carbon emissions.³

Transportation is also a quality-of-life issue. In comparison to transit passengers, those who get around by personal vehicle are more likely to suffer from traffic congestion-related stress, property damage, and even death. In a single year, public transportation has been estimated to save Canadians about \$12.62 billion in vehicle operating costs and \$3.17 billion in collision costs.⁴ There is an urgent need to rethink how we transport people.

Additionally, there are significant economic benefits that come with investment in public transit.⁵ Public transit has also been shown to contribute to at least \$6.2 billion of economic output in Canada in a single year, all while reducing greenhouse gas emissions by 4.7 million tonnes. In 2017 alone, the transit industry directly employed 59,600 people, and investment in transit infrastructure created an additional 65,000 jobs.⁶

In sum, public investment in transit is a cost-effective solution to improve lives, create good jobs, and reduce Canada's carbon footprint.

Canada needs a national transportation plan designed to encourage Canadians to reduce their dependency on private automobiles as their main mode of transport. We propose a **National Public Transportation Strategy** that involves a two-pronged approach:

- 1. **Improving transit within communities:** the development and/or the expansion of public transit systems within municipalities across the country.
- 2. **Improving transit between communities:** the development of high-speed rail systems in urban corridors and inter-community transit between rural and Indigenous communities.

To be effective, the Public Transportation Strategy needs to be accessible, affordable, and accountable.

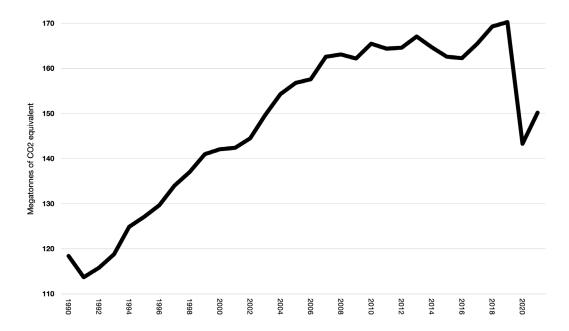


Chart 1

Canada's Transit Sector Greenhouse Gas Emissions, 1990-2021⁴⁶

Transit within Canadian communities: key issues

Canadians are less satisfied with the current state of public transit in their communities when compared to other public services such as healthcare and education.⁷ This should come as no surprise: for those who use public transit, average commuting times are nearly double what they are for those who use personal vehicles.⁸ This has environmental implications, as GHG emissions from the transportation sector have increased significantly over the last three decades: between 1990 and 2021, transportation-related emissions increased by 27%, a change partially attributable to a growth in vehicles on the road.⁹

These issues stem from underfunding, as well as Canada's piecemeal approach to the development of public transit which is overly dependent on private sector actors that often fail to produce optimal results. Fixing these issues to increase public transit use within communities will be key to cutting emissions in the transportation sector.

Underfunding

Issues in underfunding stem in large part from under-capacity at the municipal level. Provincial and federal governments help municipalities pay for capital projects in public transportation, but municipal governments still end up bearing the brunt of operations costs. An average of 51% of operating costs are covered through ridership fees; the rest is covered by municipal property taxes. However, municipalities are limited in their ability to generate revenues, receiving just 10% of total tax receipts, which often puts a financial strain on public transit authorities.¹⁰

In 2020, ridership declined because of the COVID-19 pandemic. To supplement the loss of ridership revenues, the government established the Safe Restart Agreement,

which provided funds for operations costs within municipalities in need. It renewed its support for the program in 2022 through an additional infusion of cash. However, that funding has since run out, and ridership remains below pre-pandemic levels, forcing many municipalities to enact service cuts.¹¹

In 2021, the federal government announced the introduction of a Permanent Public Transit Fund to help fund the building of inner-city transit. However, this funding does not cover operations expenses. When public transit services' operations costs are underfunded, it creates a vicious cycle whereby unreliable arrivals and long wait times incentivize users to opt for alternative options, which lowers revenues generated by fares. 13

Underfunding and the Public Transit Death Spiral

When public transit systems are underserviced, it creates a vicious cycle. Unreliable public transit leads to lower ridership, which leads to lower fare revenues. When revenues decline, municipalities often cut services to make up the difference. However, service cuts lead to even more fare revenue declines by further exacerbating unreliability.

In 2023, the City of Toronto announced it would be hiking fares by 10 cents per ride, while at the same time cutting services 9 percent below pre-2020 levels. Despite justifying the decision on financial grounds, the city has acknowledged that this change will increase wait times and overcrowding. This negative feedback loop puts the city at risk from suffering from what critics call a public transit "death spiral."

Often, municipalities have the capacity to fund the development of public transit, but not to run these systems once they've been built. This capacity issue has been exacerbated by the growing tendency of provinces to download the costs of service delivery onto municipal governments.¹⁴

Additionally, under the federal government's funds-matching approach to transit project investment, cities and towns in provinces that do not want to match federal funding for transit development are unable to use federal assistance.

Over-reliance on the private sector

Paradoxically, the low capacity of Canada's municipal public sectors has in many cases raised project costs by making public authorities dependent on the private sector to complete transit projects.

In-part due to a lack of in-house capacity, municipalities across North America have for decades become increasingly reliant on public-private-partnership (P3) arrangements for transit development projects.¹⁵ P3s are contracts in which one or more private firms assume responsibility for activities once undertaken by the public sector. They vary in private sector involvement: P3s often entail the private sector operating or maintaining public infrastructure; in other instances, the private sector may design, build, finance, own, and maintain said services.¹⁶

P3s have been the preferred model of public infrastructure development for the federal government since the Harper era. In 2009, the government founded Public-

Private-Partnerships (PPP) Canada, a Crown Corporation tasked with promoting P3 development. PPP Canada managed the "P3 Canada fund," which allowed provinces and municipalities to apply for funding from the federal government to finance projects that had "meaningful private sector involvement." ¹⁷ PPP Canada was dissolved by the Liberals in 2017 as the government reasoned that "with the P3 model now widely adopted across Canada, PPP Canada has effectively fulfilled its mandate." Indeed, by this time, there were more than 250 P3 projects either under construction or operational across the country. ¹⁸

PPP Canada has since been succeeded by the Canada Infrastructure Bank (CIB), which was given a mandate by the federal government to invest in "revenue generating infrastructure which benefits Canadians and attracts private capital." ¹⁹ The CIB has been criticized by three of Canada's largest public sector trade unions for promoting privatization, ²⁰ as well as by academics for failing to achieve its objectives. ²¹

Proponents of P3s claim that this model save municipalities money and offload risk away from the public sector, while ensuring infrastructure is built in a timely manner. However, there is mounting evidence that the P3 model has significant downsides and often fails to meet these ends.

Regarding project timelines, a 2021 report by the Office of the Parliamentary Budget Officer on the CIB noted that when it comes to P3 projects, funding delays are "pervasive." ²² Moreover, despite their cost-saving aim, P3s often end up costing public authorities more than public approaches to infrastructure development. A 2014 report by the Ontario Auditor General analyzed 74 P3s in the province and found that they cost the government \$8 billion dollars more than if they had been completed through a public procurement model. ²³

P3s also often lead to diminished quality of service and construction regarding muchneeded expansions to inner-city transit infrastructure, as has been the case with
inner-city light rail transit (LRT) development in Ottawa. Ottawa's LRT project has
gained notoriety for construction delays and service failures. ²⁴ In response to several
breakdowns and derailments that occurred since the opening of Ottawa's Confederation
Line in 2019, the Ottawa Light Rail Transit Commission (OLRTC) was established
to investigate the cause of and potential remedy for these issues. In 2022, the OLRTC
released its Final Report of the Ottawa LRT Public Inquiry. The report noted that
the project's reliance on the private sector to build and maintain the system "led to a
situation where the parties' attention was diverted to protecting their legal rights instead
of opening a reliable LRT."²⁵

Bottom line

Canada's public transit systems suffer from low public sector capacity to build and maintain major transit projects, as well a corresponding overdependence on private companies that are often ill-suited to meet the task of providing public goods. This diminishes the ability of public transit systems to provide Canadians with a viable alternative to performing day-to-day activities with a personal vehicle.

Transit between Canadian communities: key issues

Canada is behind the rest of the industrialized world in developing transit between communities. This gap can be primarily attributed to deficiencies that exist in our intercommunity rail and bus services.

Inter-community rail

Regarding the issue of rail, Canada is currently the only G7 country without any high-speed rail (HSR) trains in operation. Meanwhile, Canada's national passenger rail service provider, VIA, has become notorious for unreliability, boasting an on-time performance record of just 53%. ²⁶ As is the case with transit within communities, few reliable and economical rail options between communities means more GHG emissions from cars on the road and planes in the air.

Nonetheless, there is a distant light at the end of the tunnel: we are currently on-track to towards the potential creation of three new HSR train lines in Canada's busiest corridors.

However, persistent underfunding of VIA Rail and a lack of a mandate for the agency has left the private sector and other jurisdictions to take the lead in developing these projects, which could hamper their success.

Despite calls for VIA to develop HSR across the Canadian west coast's two busiest passages (the Edmonton-Calgary and Vancouver-Seattle corridors), the agency is not involved in any of the proposed projects aimed at doing just that.

In Alberta, two projects have been proposed to see the private development of HSR between Edmonton and Calgary. The first is led by the Prairie Link Rail Partnership (PLRP), a joint initiative between two private firms. The project is projected to cost approx. \$9 billion as a P3 between the PLRP and the Alberta government. The second, T being proposed by TransPod Inc.,

proposed by TransPod Inc., proposes the use of untested "hyperloop" technology to connect the cities. The project's feasibility is highly questionable, ²⁷ and thus risks delaying meaningful action on inter-city transit in the province. Meanwhile, in British Columbia, the provincial government is currently studying the feasibility of a high-speed

Table 1 **High-Speed Rail in the G7 Compared**47

Country	Km of HSR Track in commercial operation, 2021	Km of HSR track under construction, 2021
Canada	0	0
France	2735	
Germany	1571	147
Italy	921	327
Japan	3081	402
United Kingdom	113	225
United States	735	274

rail line that would run between Vancouver, Seattle, and Portland in partnership with Washington State and Oregon.²⁸

Without VIA Rail supporting the development of HSR projects in BC and Alberta, these projects risk being scrapped before construction begins, as is often the case with rail projects that lack federal support.²⁹

In the sole instance where the federal government is developing new infrastructure akin to what HSR advocates have been calling for, it is leaning heavily on the private sector and promising less-than-optimal solutions.

The government is pursuing a "High-Frequency Rail" project along the Windsor-Quebec City corridor. This will require building a new track linking Windsor, London, Toronto, Ottawa, Montreal, and Quebec City with a fleet of electric trains running on a regular basis. Rather than construct the project by public means, the government is pursuing a P3 contract and intends to outsource the financing, building, operation, and maintenance of the corridor to the private sector.³⁰

In December 2022, the government created a subsidiary of VIA to facilitate the project, and it is currently undergoing a procurement process to select a private firm that would lead in the line's development. Construction is expected to begin in 2027, and the government is aiming to finish the project by the early-2030s.

Whether or not these trains will reach speeds that meet the "high-speed" designation remains an open question. When the project was announced in 2021, it proposed trains that would reach max speeds of 200 km/h, which is less than what is considered high-speed for new lines. However, the government is now "challenging" private partners to come up with a design that allows trains to reach 300 km/h, although additional funding has not been allocated to assist in meeting this goal.³¹

Inter-community bus

The issue of rail systems along major corridors is only one piece of the inter-community transit puzzle. Canadians also lack access to viable bus services between municipalities, an issue that primarily impacts rural regions.

In 2018, Greyhound—once the largest inter-city bus service provider in the country—ceased operations in Western Canada. In 2021, the company fully ended operations nation-wide. Meanwhile, austerity policies have led to the shutdown of many publicly operated bus services. This was the case in with the closure of the Saskatchewan Transportation Company in 2017.³²

A lack of access to bus service leaves people in rural areas with no choice but to commute between towns by personal vehicle. If this is not an option, many are forced to either hitchhike or use unregulated ridesharing. This issue particularly impacts Indigenous communities in Canada, as approximately 60 percent of Indigenous people live in rural regions.³³

Since Greyhound's departure, other operators have slowly begun filling in the gaps in

Canada's inter-community bus service. However, it has been mostly private firms that have been investing in Canada's busiest and most lucrative corridors, such as the route between Montreal, Ottawa, and Toronto, leaving many small-town residents out to dry.³⁴

One expectation has been Ontario Northland, a crown corporation which provides inter-community bus and rail services. In response to a lack of service on the part of private companies in northern Ontario, as well as a partial shutdown of its own rail lines in 2012, Northland has expanded bus operations in the area in recent years: the organization introduced services between Ottawa and Sudbury in 2016, as well as additional routes for 20 northern communities in 2018. In 2020, the provider also expanded its operations to the Thunder Bay-Winnipeg corridor, and in 2022, it announced a \$140 million investment that would see the re-instatement of passenger rail service between Toronto and Timmins. However, Northland has faced threats of privatization in the past, as was the case in 2012.³⁵ If privatized, the corporation would be unlikely to provide services along many of these less-profitable corridors.

Bottom line

Canada's transit networks fail to provide adequate rail and bus service between communities. This leaves Canadians with few options to traverse outside of their place of residence beyond personal vehicles and airfares.

A plan for clean public transit in Canada

Reducing air travel and personal vehicle use in Canada by expanding clean public transit is key to paving the way towards net-zero carbon emissions by 2050. However, Canada's current approach to public transit development fails to meet this challenge. Within communities, there is a lack of public sector capacity to fund transit projects and to finance their operations. Between communities, there is a lack of access to viable rail and bus service along Canada's metropolitan and rural corridors.

To address the deficiencies that exist in Canada's current approach to public transit, we propose:

- \$30.75 billion over a 5-year period from the federal government.
 - o 63% (\$3.9 billion annually) of these funds would go to a new core stream in the federal Permanent Public Transit Fund. This stream would be earmarked to help cover public transit operating costs, as well as to electrify municipal bus and ferry fleets. This funding would be in addition to the \$3 billion dollars per year the fund has already earmarked for new infrastructure spending.
 - o 4% (\$250 million annually) would go to fund inter-city transit between rural municipalities and Indigenous communities.
 - o 33% (\$2 billion annually) would go to funding VIA Rail, alongside the passing of a National VIA Rail Act that gives the Crown Corporation a legislative mandate.³⁶
- **\$52 billion** over a 5-year period from the federal government and other sources for the speedy implementation of three high-speed rail projects.
 - o 55% (\$5.8 billion annually) would go to building the Windsor-Quebec City corridor.
 - o 17% (\$1.8 billion annually) would go towards a HSR link between Calgary and Edmonton.
 - o 27% (\$2.8 billion annually) would go to the Vancouver-Seattle-Portland project.

Total cost over a 5-year period: \$82.75 billion.

Additionally, improvements to public transit should be developed alongside other efforts to make major cities more accessible without the use of a personal vehicle, such as paths dedicated to walking, cycling, or wheelchair use. The federal government should expand and make permanent the Active Transportation Fund, which is aimed at assisting municipalities in doing just that.³⁷ Accessibility can also be enhanced by improving municipal by-laws and legislation surrounding zoning, allowing for denser housing development around transit routes, as well as through increased public support for non-profit housing development.

These funds should also coincide with the passing of a Transit Worker & Pedestrian Protection Act that would require transit agencies to work with unions and frontline workers to implement transit safety improvements.³⁸

While GEN favours a public development model for these projects, it is assumed that the private sector will continue to play a role in the P3 projects that are already locked in. The federal government must be ready to step in and take a leading role if these projects fail in achieving their goals. Moreover, in instances where the government is pursuing P3 projects in the early phase of development, there should be a long-term vision that positions public authorities and employees to control and maintain these projects once they are in operation.

We also call on governments at all levels to develop a long-term strategy that would usher a move away from P3 contracts that create the potential for private firms to operate and/or maintain transit services.³⁹ At a time when it is paramount to create high-quality public transit infrastructure quickly, it is irresponsible to pursue a model where project delays are common, and results are often sub-optimal. Investing in building public sector capacity to undertake public infrastructure development will pay off in the long-term through improved transparency and quality of service.

Restructuring the Canada Infrastructure Bank to be a public bank, rather than one legally required to attract private finance, would also promote the creation of publicly led green development strategies.⁴⁰

Benefits of enhancing Canada's approach to transit within communities

Investments in public transit would lower the cost of living at a time when this issue is of pressing importance.

Canadians living in and around metropolitan areas often face an "affordability paradox" whereby they must choose between affordable housing in suburban outskirts (where a lack of public transit means costly personal vehicle ownership is a must) or expensive housing in the urban core (where access to public transit renders automobile ownership unnecessary). On top of this, in 2022 Canada saw levels of inflation unseen since the 1980s. As the cost of fuel and other vehicle related expenses have risen, it has become untenable for an increasing amount of Canadians to own a car. It is more important than ever to ensure public transit alternatives are reliable and affordable for those who need it most. On the cost of the c

Establishing a core funding stream in the Permanent Public Transit Fund to help cover operations costs would improve affordability by allowing transit authorities to provide discounted fare rates.

This would also allow municipalities to expand transit service with the comfort that they will be able to cover costs once projects are completed. Relatedly, this funding would ideally empower local transit authorities to build up the institutional capacity needed to plan and implement transit projects without over-relying on private contractors, thus lowering capital costs in the long run.⁴³

Additionally, implementing these measures would mean more good jobs in the place of low-paying, precarious ones. When public transit is unable to meet the demand for fast, dependable service, that need is filled by the private sector. In recent years, private sector transit service supply has increasingly taken the form of platform ridesharing apps such

Table 2

Economic impacts of proposed Clean Transit Plan⁴⁸

Proposed spending

(per year)

(\$ billions)

\$16.55

Projected employment impacts (jobs created per year)

Low estimate

\$153,749.5

High estimate

\$217,963.5

as Uber, which are notorious for providing their drivers with low pay and denying them the benefits that come with traditional employment status.⁴⁴ Filling the demand for reliable transit would thus mean more good jobs in the place of precarious "gigeconomy" work.

Lastly, implementing this vision for public transit would improve the experience of navigating metropolitan areas by lowering traffic congestion, which would improve public safety. When commuters use personal vehicles, ridesharing apps, and taxis instead of public transit, it contributes to traffic gridlock. Incentivizing municipalities to invest more in public transit would decrease the number of private automobiles on the streets, improving congestion issues and thus lowering the instances of vehicular collisions. Increased operations funding could also be used by municipalities to improve safety measures for transit

operators and riders at a time when this has become an increasing concern.

Benefits of enhancing Canada's approach to transit between communities

Dedicated funding for rural inter-community transit would empower local transit authorities to develop collaborative projects that provide bus services between municipalities.

Ramping up funding and creating a mandate for VIA Rail would unlock the potential for the public sector to take the lead in cross-community transit development. This would allow the agency to build in-house knowledge and expertise and to pursue a public model of financing, development, and ownership for Canada's intercity transit infrastructure.

In the long run, this approach would bring down costs, timelines, and improve quality of service.

While there exists a potential roadmap towards reliable HSR lines across Canada's major corridors, none of these projects are expected to be completed earlier than 2030. In the meantime, there must be a focus on ensuring VIA Rail can provide adequate service on its existing passenger rail systems.

It is estimated that the building of HSR lines across Canada's busiest corridors would lead to emissions reductions of 23.5 megatons over a 30-year period.

Table 3

Projected GHG impacts of High-Speed Rail in Canada⁴⁹

Corridor	GHG reductions over 30 years (megatons)
Windsor-Quebec City	10
Vancouver-Seattle-Portland	4.5
Calgary-Edmonton	9

Conclusion

Further investment in transit between and within communities will significantly improve the quality of life for Canadians.

Moreover, a national public transportation strategy will contribute to substantial reductions in Canada's greenhouse gas emissions.

Developing and implementing a national public transportation initiative along these lines will require leadership from the federal government. Both provincial and municipal governments have major roles to play. However, the effectiveness of such a strategy depends on having national targets and predictable financing arrangements in place. The federal government must play an integral role in facilitating and coordinating agreements amongst all levels of government, including incentives designed to strengthen community support for transit.

Endnotes

- 1 Government of Canada, <u>"Greenhouse gas emissions from the transport sector,"</u> Canada.ca, accessed on 20 Jan 2023.
- 2 Based on 2019 data. Data on personal vehicle use in 2020 is an outlier due to the outbreak of the COVID-19 pandemic; Environment and Climate Change Canada, <u>Greenhouse Gas Emissions: Canada Environmental Sustainability</u> <u>Indicators</u>, Government of Canada: 2022.
- 3 John Holmgren, "The effect of public transport quality on car ownership A source of wider benefits?," Research in Transportation Economics 83 (2020).
- 4 CUTA-ACTU, <u>"The Economic Impact of Transit Investment in Canada,"</u> CUTA-ACTU Issue Paper Series 50, January 2019.
- Moreover, although investments in public transit would lower the rate of car ownership in Canada, the impacts of this on Canada's car industry would be minimal: domestic consumption accounts for just 12% of the vehicles manufactured within Canada's borders. (See, Canadian Vehicle Manufacturers' Association: Industry Facts, accessed April 2023).
- 6 CUTA-ACTU, "The Economic Impact of Transit Investment in Canada."
- 7 Andrew Parkin, <u>Canadians' satisfaction with public services: Trend analysis and OECD comparisons</u>, Environics Institute, Sept 2019.
- 8 Unifor, <u>"Keeping our Communities Moving: Unifor's National Transit Policy,"</u> Unifor.org, n.d.
- 9 Government of Canada, <u>"Greenhouse gas emissions,"</u> Canada.ca, accessed on 23 January 2023.
- 10 CUTA-ACTU, <u>"Why Public Transit Needs Extended Operating Support,"</u> CUTA-ACTU Issue Paper Series 53, June 2021.
- 11 Nate Wallace, "Service cuts to public transit are just the first step in a death spiral," Theglobeandmail.com, 16 Jan 2023.
- 12 Ryan Patrick Jones, <u>"Trudeau pledges billions in permanent funding for public transit,"</u> Cbc.ca, 10 Feb 2021.
- 13 Nate Wallace, *Stopping the Public Transit Death Spiral*, Environmental Defence, February 2023.
- 14 The Canadian Press, <u>"27 Ontario mayors slam province for downloading costs, forcing possible tax hikes,"</u> CBC.ca, 30 April 2019.
- 15 Alon Levy, <u>So You Want to Do an Infrastructure Package</u> (Washington: Niskanen Centre, 2021).

- 16 John Loxley & Salim Loxley, <u>Asking the Right Questions: A Guide for Municipalities</u> <u>Considering P3s</u>, second edition, Canadian Union of Public Employees (CUPE): September 2020.
- 17 National Union of Public & General Employees (NUPGE), <u>New Forms of Privatization</u>, NUPGE Research: October 2016, p. 26.
- 18 Infrastructure Canada, "Government of Canada announces wind-down of PPP Canada Crown Corporation," News Release, Government of Canada, November 2017.
- 19 Canada Infrastructure Bank, "About the CIB," Cib-bic.ca, accessed 23 Jan 2023
- 20 Canadian Union of Public Employees, <u>Banking on privatization: the Canada Infrastructure Bank</u>, June 2017; Public Service Alliance Canada, <u>Quick facts about the proposed Canada Infrastructure Bank</u>, <u>July 2017</u>;
- National Union of Public and General Employees, <u>NUPGE calls for a fresh start for infrastructure bank plans</u>, May 2017.
- 21 David Macdonald et. al. note that the CIB was supposed to raise between 4 and 5 dollars in private capital for every dollar of public money invested in new infrastructure. However, as of 2022, only one-third of the \$19.4 billion invest-ed was from the private sector. (See, David Macdonald, Susan Spronk, and Thomas Marois, "It's time for the Cana-da Infrastructure Bank to reclaim its public purpose," Queen's Gazette, Queen's University, 12 April 2022).
- 22 Nora Nahomick, *Canada Infrastructure Bank Spending Outlook*, Office of the Parliamentary Budget Officer: April 2021.
- 23 Auditor General of Ontario, <u>2014 Annual Report</u>, p. 7.
- 24 Ian Austen <u>"Canada's Slow and Troubled Path to Rapid Transit,"</u> Nytimes.com, 9 July 2022.
- 25 National Union of Public & General Employees, <u>"Ottawa LRT inquiry exposes problems with P3 privatization schemes,"</u> Nupge.ca, 7 Dec 2022.
- 26 Star Editorial Board, "Why does reliable train service remain so elusive?," Thestar. com, 4 September 2022.
- 27 A 2020 feasibility study conducted on behalf of Transport Canada has concluded that there exist "too many uncertainties" for hyperloop "to be considered a nearterm, viable alternative" to already existing transit technologies. See, Scott Van Voorhis, "Alberta Weighs \$7B Hyperloop Between Calgary and Edmonton," Enr.com, n.d.
- 28 Ali Pitargue, "B.C. shells out \$300k to help fund 3rd study into high-speed rail to Washington and Oregon," CBC.ca, 13 September 2022.

- 29 Robert Williams, "The high-speed rail debate is back. Will the feds deliver where the province could not?" Therecord.com, 4 March 2023.
- 30 Unifor, *Fact Sheet on the Privatization of VIA Rail*, Unifor.org, accessed 20 January 2023.
- 31 Joel-Denis Bellavance, <u>"Le projet est bien « réel », dit le ministre des Transports,"</u> Lapress.ca, 10 December 2022.
- 32 Emily Leedham, *Fact Sheet: Still Waiting for the Bus: The Unnatural Death of Prairie Intercity Transit*, Amalgamated Transit Union (ATU) Canada, 3 October 2019.
- 33 Organisation for Economic Co-operation and Development (OECD), "Profile of Indigenous Canada: Trends and data needs," Linking Indigenous Communities with Regional Development in Canada, Paris: OECD Publishing, 2020.
- 34 Andrew Duffy, <u>"With Greyhound gone, new bus services move into Ottawa most destined for Toronto or Montreal,"</u> Ottawacitizen.com, 28 December 2022.
- 35 John Michael McGrath, "Ontario Northland bounces back after dodging a government bullet," Tvo.org, 27 Jan 2017.
- 36 See also: Canadian Centre for Policy Alternatives, <u>Alternative Federal Budget</u> <u>2023</u>, Ottawa: 2023; Unifor, "Get Canada Back on Track," accessed 20 January 2023.
- 37 Government of Canada, "Overview: Active Transportation Fund," Infrastructure.gc.ca, n.d.
- 38 See ATU-Canada, <u>"The Transit Worker & Pedestrian Protection Act,"</u> Atucanada.ca, n.d.
- 39 See also: Amalgamated Transit Union (ATU) Canada, <u>Submissions to the Public Engagement on Permanent Public Transit Funding in Canada</u>, 3 October 2022.
- 40 Thomas Marois, <u>A Public Bank for the Public Interest: Recommendations for the Canada Infrastructure Bank five-year review</u>, Canadian Union of Public & General Employees: 2022.
- 41 Anna Kramer, <u>"The unaffordable city: Housing and transit in North American cities,"</u> Cities 83, no. 31 (2018): pp. 1-10.
- 42 CUTA, "Combating the affordability crisis through transit," Cutaactu.ca, 11 January 2023.
- 43 See also: Nate Wallace, <u>Public Transit and the Path to Net Zero: Submission to consultations on permanent public transit funding in Canada</u>, Environmental Defence, September 2022.
- 44 Mischa Young, Jeff Allen, and Steven Farber, "Measuring when Uber behaves as

- a substitute or supplement to transit: An examination of travel-time differences in Toronto," Journal of Transport Geography 82, 2020; Sheila Block and Trish Hennessy, "Sharing economy" or on-demand service economy?: A survey of workers and consumers in the Greater Toronto Area, Canadian Centre for Policy Alternatives: 2017.
- 45 Matt McFarland, "Uber wants to compete with public transit: These experts are horrified," Cnn.com, 25 April 2019.
- 46 Environment and Climate Change Canada, *National Inventory Report 1990–2021: Greenhouse Gas Sources and Sinks in Canada*, 2023.
- 47 International Union of Railways (UIC), *High-Speed Lines in the World 2021*, UIC Passenger Department: September 2022.
- 48 Author's calculations based on Marc Lee, Caroline Brouillette, and Hadrian Mertins-Kirkwood, *Spending What it Takes: Transformational climate investments for long-term prosperity in Canada*, Canadian Centre for Policy Alternatives, 9 February 2023; and Silas Xuereb and Inez Hillel, *Job creation through transformational climate investments: Assessing the impact of proposed climate investments in Canada*, Vivic Research, 21 March 2023.
- 49 Vancouver figure based author's calculation of projections from feasibility study by B.C. Washington state, and Oregon. Windsor-Quebec City figure retrieved from the Railway Association of Canada.
 - Ali Putargue, <u>"B.C. shells out \$300k to help fund 3rd study into high-speed rail to Washington and Oregon,"</u> Cbc.ca, 13 September 2022; Charles Milliard & Rocco Rossi, <u>"High-frequency rail an essential project for economic recovery."</u> Thespec.com, 15 March 2021; Railway Association of Canada, 2021 Pre-Budget Submission, 2020.