Leadership & Democracy Lab

Political Risk Assessment

GO Expansion in the Greater Toronto and Hamilton Area: Risks and Mitigation Strategies

Prepared by the Leadership & Democracy Lab, University of Western Ontario

Published April 2023

Generated By
Ethan Chen – *Student Director*
Cecilia Cai – *Analyst*
Srinjoyee Chakraborty – *Analyst*
Devon Jarovi – *Analyst*
Ali Khan – *Analyst*
Grishma Patel – *Analyst*

Democracy Lab Faculty Director
Dr. Cristine de Clercy
Martin Eidenberg
Dr. Peter Ferguson
Bruce Fyfe

Graphic Design & Report Layout
Ravinder Hans

Leadership and Democracy Lab
University of Western Ontario
1151 Richmond Street
London, Ontario, Canada, N6A 3K7

http://www.democracylab.uwo.ca/

Table of Contents

Executive Summary

The GO Expansion project is a transportation infrastructure initiative aimed at transforming the rail network of the Greater Toronto and Hamilton Area (GTHA). The project will provide faster and more efficient train service with two-way all-day service, accessible stations, and 15-minutes or better service on core portions of the GO rail network. It is a single, fully integrated project to design, build, operate, and maintain the new infrastructure and trains for 25 years. The expansion is one of the largest and most expensive infrastructure projects in Canadian history.

This report presents a compilation of research from primary and secondary sources to identify risks to this transit project. The report offers mitigation strategies to neutralize the risks and provides recommendations for their implementation to improve the project. While this report focuses on the GO Expansion project in Toronto, it has broader implications for the construction industry and infrastructure in general. This report includes various risks that need to be identified, assessed, and mitigated for the project to succeed. This includes risk such as:

Societal and environmental risks: Public backlash from local stakeholders, reputational risks associated with pursuing the project, and environmental risks from new infrastructure.

Project management and financial risks: Cost overruns, and issues with project management

Political Risks: The limitations of government support, and funding for the project.

The risks and mitigations can be translated into actionable policies that will reduce these risks and ensure better infrastructure for the region.

Figure 1**:** Train at Malton GO Station

Current State

GO transit is a provincial transportation service operated by Metrolinx, the agency responsible for Ontario's provincial public transit projects in the Greater Toronto and Hamilton Region (GTHA). Metrolinx also operates a variety of other services including the PRESTO smartcard system, and the Union Pearson Express train. Its principal transit services are eight rail lines along with a network of buses. These routes are primarily targeted to commuters travelling to Toronto. They operate infrequently throughout the days and weekends and focus on bringing commuters to downtown Toronto in the morning, and to the suburbs during the evening. GO transit currently operates diesel pulled trains.

The GO Expansion project is identifiable with its primary goal; all day, two-way service, every 15 minutes or better, across its rail lines. The expansion will result in trains that are up to 29% faster and 50% more cost-effective to operate, an expansion to Toronto's Union Station, and more accessible stations. Following completion of the project, GO will conduct over 10,000 weekly trips with some lines operating trains every 15 minutes, all day[1].

Along with 200 kilometers of additional track the project will electrify a large part of the rail system. The project is expected to electrify upwards of 600 kilometers of existing train tracks and run a new electric fleet which will reach peak speeds of 140 kilometers per hour[2]. This will transform GO's current focus on commuter trips, to a comprehensive regional rail network capable of serving customers all day. Electrification and all-day service expansion plans do not include the Milton and Richmond Hill GO Lines which will remain configured towards serving commuters.

The core problem of the current transit system is its inability to match the requirements of a "growing region." By 2041, the population of the GTHA, Kitchener-Waterloo, Barrie, and Niagara is expected to grow to over 12 million people, resulting in travel demand increasing by fifty percent. The congestion from this new growth may result in an annual $15 billion dollar loss in productivity by 2031[3]. In making its economic case, Metrolinx states that the total benefits of the project compared to its economic costs will produce a benefit to cost ratio of 2.6 to 1. GO Expansion is estimated to recoup 110% of its operating costs, increasing to 130% per year by 2055. The project has economic benefits for transit users of $35.4 billion dollars, auto users of $3.3 billion dollars, auto operating savings of $1.9 billion dollars, health and safety benefits of $1.1 billion dollars, and emission reduction benefits of $330 million dollars. Passengers will save 10 minutes per trip and will generate 70% less pollution[4].

A key aspect of the GO Rail Expansion project is its partnership with the private sector. Through a public private partnership (P3) model, accountability remains with Metrolinx, but the task of designing, and building the new infrastructure belongs to private partners[5]. The project type is characterized as a "Progressive Design, Build, Operate, Maintain model," where the private sector teams collaborate, plan, and operate the line in concert with Metrolinx[6]. The process of selecting a partner for the project began in April of 2018.[7] On April 19th, 2022, Metrolinx and Infrastructure Ontario selected ONxpress Transportation Partners as the winning bidders, making them the official private sector partner of the project[8]. The project has been valued at $15.7 billion, one of the most expensive infrastructure projects in Canada[9]. Concern has been expressed regarding the pace and costs of the construction program[10]. Currently the project faces headwinds in community opposition, rising costs, and political disruption.

[1] "Go Expansion." Metrolinx. Accessed January 21, 2023. https://www.metrolinx.com/en/projects-and-programs/go-expansion.
[2] Ontario, Transportation. "Ontario Moving Forward with Historic GO Rail Expansion." Ontario Newsroom, April 19, 2022. https://news.ontario.ca/en/release/1002048/ontario-moving-forward-with-historic-go-rail-expansion.
[3] Metrolinx, "GO Expansion Full Business Case." Go Expansion Studies, Metrolinx.com. 2018. ii.
[4] Metrolinx, "GO Expansion Full Business Case." iii.
[5] City of Toronto. "Go Expansion Program." City of Toronto, October 4, 2022. https://www.toronto.ca/services-payments/streets-parking-transportation/transit-in-toronto/transit-expansion/go-expansion/.
[6] Infrastructure Ontario. "Go Rail Expansion - On-Corridor Works." Infrastructure Ontario, April 19, 2022. https://www.infrastructureontario.ca/RER-GO-Regional-Express-Rail-Corridor/.
[7] Infrastructure, Ontario. "Go Rail Expansion - On-Corridor Works."
[8] Ibid.
[9] Demarco, Zoe. "Nearly Half of Canada's 100 Most Expensive Infrastructure Projects Are in Ontario." Storeys, January 17, 2023. https://storeys.com/renew-top-100-canada-infrastructure-projects-2023-ontario/.
[10] Watson, H.G. "Signal Failure: Why Ontario's Plans to Electrify GO Transit's Train Lines Are Running Late." The Narwhal, May 13, 2022. https://thenarwhal.ca/ontario-go-transit-electrification/.

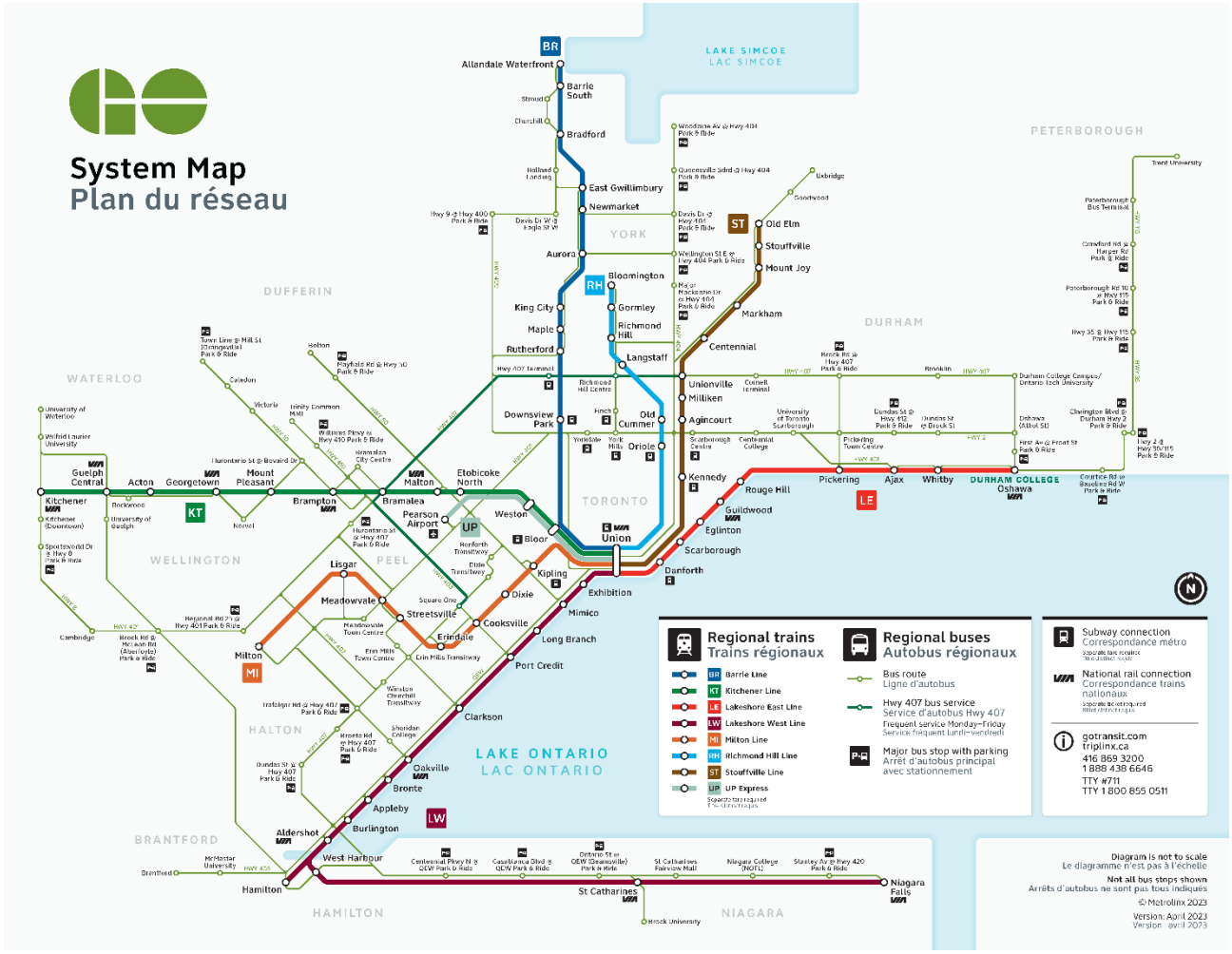

Figure 2: System map for GO Transit (April 2023)

Social Risks

Risk: Public Opposition

The GO Expansion project brings lofty promises – Metrolinx and Infrastructure Ontario (IO) plan to substantially complete the expansion by 2025[11]. With a tight deadline, and the complex nature of the project, bidders and industry partners remain uncertain about their ability to complete the project on time and on budget. One of the most significant risks associated with the project are social risks such as public opposition. Large infrastructure projects often face resistance from local communities, who may be concerned about the impact of the project on their neighborhoods, and quality of life[12].

Metrolinx and IO rethought its procurement plan due to the objections of several private sector bidders as the financial burden placed on bidders was significant. Adjustments to the partnership and procurement process delayed the project, leading to public backlash. The scale of the project, and the uncertain capacity of the private construction teams to complete the project contribute to public hesitancy. Further, with the P3 model being new to Toronto there is doubt from the public on whether the model can better deliver transit projects[13]. While there is progress in addressing the procurement issues, this will delay the project creating public backlash. If the project encounters difficulties with the P3 agreement it will reduce public confidence in the procurement system, while also pushing away bidders on future projects[14].

Another key stakeholder in the project are Indigenous peoples specifically the Haudenosaunee Development Institute which represents the Haudenosaunee nations living in southern Ontario. Metrolinx and the Ontario government have not obtained consent to build rail lines through its territories, and Metrolinx has resisted engagements with Indigenous people about current and future rail lines on their lands[15]. Based on the *Saugeen First Nation v Ontario (2017)* case, the crown has a duty to fund consultations with Indigenous people[16]. Further delays due to a lack of negotiations will reflect poorly on Metrolinx as a partner, and the reliability of the project timeline[17].

Another area of concern is the shift to working from home which has reduced demand for public transport[18]. While this does change the ridership projections for GO expansion, the purpose of the project is to reach ridership beyond just commuters. Given that ridership level on weekends and for leisure has increased since pre-covid, this project remains necessary[19]. Further, as workers return to the office GO's commuter base will continue to recover, justifying the additional service. Additionally, the service has significant environmental and congestion benefits which are needed if Ontario is to reach emissions targets[20]. The need for public transportation will continue to rise in Ontario and the quickest demographic for ridership recovery is the main target for the expansion project. Therefore, the risk to the project is not major.

Risk: Layover Facility

A pressing concern is Metrolinx's plan to build a layover facility in the Don Valley area. This facility is necessary to reduce train congestion at Union Station from additional trips, and to provide storage and maintenance for trains during daytime off-peak periods. However, the facility may disrupt efforts to conserve and restore the green space in the Don Valley (Figure 3). Several concerns were raised by conservationist groups and the Toronto and Region Conservation Authority (TCRA) including damage to the local environment,

[11] Spurr, Ben. "GO Expansion Plans Facing Uncertainty as Companies Raise Concerns over P3 Procurement Model, Documents Warn." Toronto Star, January 20, 2020. https://www.thestar.com/news/gta/2020/01/20/go-expansion-plans-facing-uncertainty-as-companies-raise-concerns-over-p3-procurement-model-documents-warn.html.

[12] Gehl, P. (2019). Participatory Planning for Sustainable Communities: Strategies for Community Engagement in the Formation of a Visionary Land Use and Transportation Plan. Sustainability, 11(4), 942.

[13] "How Do You Build Effective Public-Private Partnerships?," Yale Insights, May 16, 2017, https://insights.som.yale.edu/insights/how-do-you-build-effective-public-private-partnerships.

[14] Xiangtian Nie et al., "The Evolutionary Game of Trust in Public-Private Partnership Project Networks," *Mathematical Problems in Engineering* 2021 (2021): pp. 1-11, https://doi.org/10.1155/2021/5514708, 2.

[15] Harvey, Lex. "First Nations Group Warns of Possible GO Train Delays from Environmental Assessments." Toronto Star, August 24, 2022. https://www.thestar.com/news/gta/2022/08/24/first-nations-group-warns-of-possible-go-train-delays-from-environmental-assessments.html.

[16] Maggie Wente, "Consultation Funding and a Fair Process Required to Meet Consultation Obligations," Aboriginal Consultation Requires Funding and a Fair Process | CanLII Connects (CANLII Connects, July 18, 2017), https://canliiconnects.org/en/commentaries/46064.

[17] Brian Payer and Michael Bonshor, "BEST PRACTICES FOR CONSULTATION AND ACCOMMODATION: MOVING TO INFORMED CONSENT," *New Relationship Trust*, February 2019, https://doi.org/https://www.newrelationshiptrust.ca/wp-content/uploads/2019/05/Consultation-and-Accommodation-Best-Practices-FINAL-Feb2019.pdf.

[18] Statistics Canada Government of Canada, "Has the COVID-19 Pandemic Changed Commuting Patterns for Good?," Statistics Canada (The Daily, November 30, 2022), https://www150.statcan.gc.ca/n1/daily-quotidien/221130/dq221130c-eng.htm.

[19] Matt Elliot, "More People Take GO Transit on Weekends Now than before the Pandemic. That May Not Be Good News," *Toronto Star* , September 20, 2022.

[20] David Thompson, "Putting Transportation on Track in the GTHA A Survey of Road and Rail Emissions Comparisons," *PEMBINA Institute* , January 19, 2011, https://doi.org/https://www.pembina.org/pub/2155, 21.

disruption to wildlife migration, stormwater management, and erosion[21].

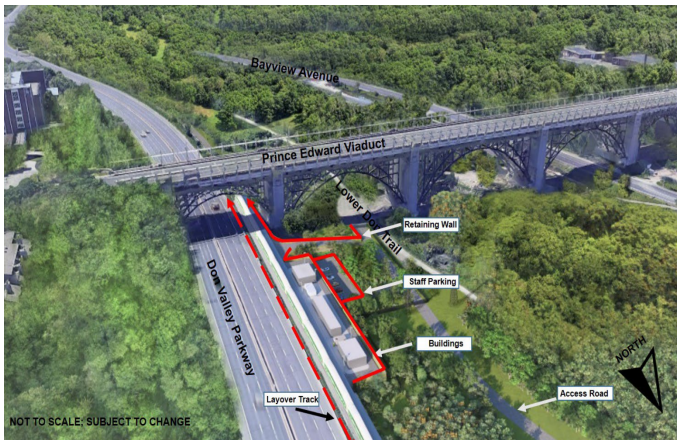

Figure 3: Proposed footprint of the Don Valley Yard

Mitigation: Consultation Practices

To mitigate issues with the Don Valley yard Metrolinx should consider more consistent community feedback initiatives. Consistent communication about the solutions is also necessary. For instance, highlighting descriptions of new physical structures and their impact on the region including their necessity, and timeline for completion. Further construction contractors should provide transparency to stakeholders and demonstrate sincerity in implementing feedback received from community meetings [22]. For the railyard specifically, this could include a sediment control plan, assessing potential flooding impacts, tree planting, and landscaping additions. Finally, a new location for the facility could be found in consultation with local stakeholders. Revisions and assessments to the proposal to mitigate damage is necessary to preserve the sensitive area, and consistent effort to engage with stakeholders is key.

With respect to Metrolinx's relationship with Indigenous peoples, best practices should be followed. That involves recognizing the inherent jurisdiction of Indigenous peoples in their lands and providing a plan for land development that highlights the benefit for future generations. When conducting consultations, staff should recognize that the needs and interest of Indigenous communities are distinct from industry and government, while just as important. They should also provide the resources for Indigenous communities to legitimately participate in consultations. Finally, conducting consultations with consistent follow through with communities builds trust, and integrates effective feedback that improves projects[23]. Metrolinx has adopted some of these practices through its Ontario Line archeological consultations. It should continue implementing this work on the GO expansion projects and develop unique Indigenous consultations strategies for each project[24].

Mitigation: New Legislative Powers

Another development that impacts the social risks surrounding the GO Expansion project is the Ontario Provincial Governments' Bill 171, *An Act to enact the Building Transit Faster Act and make other related amendments to other Acts* (Act). The Act is an attempt to remove "roadblocks in the planning, design and construction process to allow transit to be built in a more streamlined and efficient manner". The bill is currently applied to four transit projects with defined timelines but can be expanded to others.

- Ontario Line Subway with 15 stations by 2027.
- Scarborough Subway Extension with 3 stations by 2029 – 30.
- Yonge North Subway Extension with 5 stations by 2029 – 30.
- Eglinton Crosstown West light rail extension with multiple stops by 2030 – 31.

The Act allows the Ontario Minister of Transportation to manage delays that may result from the proximity of a transit project to other developments. By designating land as "transit corridor land", it will be considered a priority project and other projects and developers must attain a permit to conduct utility and other building work. There is no comment on how permits are granted, nor the costs to property owners under this act. Although applicable to the GO Expansion project, it is unclear if this will streamline the process of construction, especially as many delays lie in the planning phase. Additionally, critics of the act highlight that it removes rights of landowners to oppose the expropriation of properties. This could lead to additional public opposition from locals which would contribute to local tensions and undermine consultations.

[21] City of Toronto. "Metrolinx's Proposed Don Valley Layover Facility and the Wonscotonach Parklands," April 9, 2022.
[22] Lauren Arnold and Kevin Hanna, "BEST PRACTICES IN ENVIRONMENTAL ASSESSMENT: CASE STUDIES AND APPLICATION TO MINING," *Canadian International Resource Development Institute*, 2017, https://doi.org/https://ok-cear.sites.olt.ubc.ca/files/2018/01/Best-Practices-in-Environmental-Assessment.pdf, 30.
[23] Ibid.
[24] "METROLINX'S APPROACH TO INDIGENOUS ENGAGEMENT AT THE FIRST PARLIAMENT SITE AND FUTURE CORKTOWN STATION SITES" (City of Toronto, 2022), https://www.toronto.ca/legdocs/mmis/2022/ex/bgrd/backgroundfile-226600.pdf.

Nonetheless, the act does act as a blunt instrument in removing local roadblocks at the expense of engagement with communities and can be used as a last resort to advance key phases of the project[25].

Mitigation: Network Resiliency

Mitigations may be sought by better targeting construction. This can be done by evaluating the resiliency of the current transit network. King et al. conducted a resiliency study on the Toronto Subway, highlighting critical stations that if disrupted, would have a serious impact on network functionality[26]. Figure 4 depicts that the larger the circle, the more important the station is to the network [27] . As such, by defining core stations, planners and organizers can optimize construction by working around critical stations while improving at-risk stations and network functionality to limit the dela[28]. Future studies can use a similar methodology on the GO Expansion Project to analyze stations for network importance and implement measures to minimize construction delays to improve user experience.

Figure 4: Colour coded map indicating importance level of TTC subway stations.

Project Risks

Risk: Procurement

While the P3 model can accelerate the construction of infrastructure, reduce government financial pressure, and lower whole-life costs, these have not been achieved[29]. In response to objections from private sector bidders regarding financial risks on the P3 used for delivery, the procurement process had to be reconsidered by Metrolinx and IO during various checkpoints during the program. As early as January 2020, the bidding teams for the GO Expansion project expressed concerns over the project's scale and raised questions about the industry's capacity to complete the project. Given this, Metrolinx and IO were considering options to address concerns raised by bidding teams. These options include separating the procurement into smaller parts and shortening the contract term to 35 years. Further, due to the lack of response and solutions from leading members of the project, the challenges faced in the GO Expansion project are reflective of wider concerns raised by the private sector regarding Metrolinx's use of P3s to deliver major transit project[30]. Under the P3 the government issues payment once the project is completed, and the private companies can face significant financial penalties if the work is not completed on time or within the budget[31]. The P3 model may result in poor alignment between public and private sector actors. Private sector companies have more incentives to reduce financial risk and will hire more project managers, add leeway to budgets, and assign incentives for keeping costs low. While this increases efficiency, the government view this as costs overruns. This creates a conflict where the government adjusts its budget to reduce "overruns" at a budgetary level but does not allocate enough funding to address the real issue. When differences between real and budgeted amounts appear during actual construction the budget will exceed the allocated budget resulting in overruns[32]. As a result, costs are underestimated and the use of the P3 model faces backlash.

[25] Michael Paiva, " Understanding the Building Transit Faster Act," Expropriation lawyer (Unified LLP, April 5, 2023), https://unifiedllp.com/the-building-transit-faster-act/.
[26] King, David, Aya Aboudina, and Amer Shalaby. "Evaluating Transit Network Resilience through Graph Theory and Demand-Elastic Measures: Case Study of the Toronto Transit System." *Journal of Transportation Safety & Security* 12, no. 7 (August 8, 2020): p. 925. https://doi.org/10.1080/19439962.2018.1556229.
[27] Ibid., p. 938.
[28] Ibid., p. 941.
[29] Advanced Solutions International, Inc. "What Are Public-Private Partnerships (p3s)?" What are P3s. Accessed March 4, 2023. https://www.pppcouncil.ca/web/Knowledge_Centre/What_are_P3s_/web/P3_Knowledge_Centre/What_are_P3s.aspx.
[30] Ben, Spurr "Go Expansion Plans Facing Uncertainty as Companies Raise Concerns over P3 Procurement Model, Documents Warn." thestar.com. Toronto Star, January 20, 2020. https://www.thestar.com/news/gta/2020/01/20/go-expansion-plans-facing-uncertainty-as-companies-raise-concerns-over-p3-procurement-model-documents-warn.html.
[31] Advanced Solutions International, Inc. "What Are Public-Private Partnerships (p3s)?" What are P3s. Accessed March 4, 2023. https://www.pppcouncil.ca/web/Knowledge_Centre/What_are_P3s_/web/P3_Knowledge_Centre/What_are_P3s.aspx.
[32] Frank Beckers and Uwe Stegemann, "A Smarter Way to Think about Public–Private Partnerships" (McKinsey & Company, September 10, 2021), https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/a-smarter-way-to-think-about-public-private-partnerships.

Risk: Financial Management

Governmental budget issues may delay the progress of the program. In April 2019, the transit budget in Ontario was reduced by $1.4 billion under the fall economic plan released by Ontario. Funding was cut from transit infrastructure projects without any indication of which projects would lose on their original financial backing[33]. This uncertainty reduced incentives for private capital to enter the urban infrastructure construction market. Urban infrastructure projects not only have major fixed costs but also high variable costs. Given its highly complex nature, the GO Expansion must be built with a large one-time investment to function. Any disruptions in the operational chain will cause financial difficulties that hinders the progress of the project[34]. For instance, it is necessary to build transmission systems, generator equipment, communication facilities, and roads. Simultaneously, most urban infrastructure capital is invested in the initial stages and cannot not be used to solve cash flow issues in the preceding stages of the project[35]. Overall, the operating cost of infrastructure is the sum of the fixed cost of construction investment and the marginal cost of application.

Risk: Construction

Poor performance, and lack of accountability during construction is common. There have been instances of design consultants producing and submitting designs that are unfeasible to construct and filled with errors. As per a 2018 report by the Auditor General of Ontario (AGO) these errors caused delays and resulted in an additional cost of $22.5 million. These errors were not accounted for when Metrolinx selected these consultants for future projects[36]. Further, there are limited accountability mechanisms in contracts that penalize poor performance[37]. Metrolinx has continuously awarded contracts to poorly performing contractors without confirming their performance history, and in instances has awarded new contracts to companies that it has previously cancelled contracts with.

Mitigation: Better Accountability

These poor practices can lead to delays, increased construction costs and higher maintenance costs. Metrolinx does plan to implement a process to check the performance of companies prior to awarding its contracts. This process was implemented in 2022 and was confirmed by the AGO. Nonetheless, it has shown little to no progress in reviewing existing contracts with companies that perform poorly on the vendor performance review[38]. For instance, two companies that Metrolinx renews its contracts with regardless of quality or performance are Canadian National Railway (CN) and the Canadian Pacific Railway (CP), both of which have a track record of poor performance. CN installed recycled parts when Metrolinx had paid for new parts. This was due to a lack of mandatory and documented inspections of construction sites.[39] A key mitigation would be to change their practice of renewing contracts with firms that have continuously performed poorly and to implement consistent inspections to keep firms accountable. Firms that do not perform to satisfaction should not have their contracts renewed or extended.

Mitigation: Improved P3 Process

The P3 process can be adjusted. Rather than provide a single large contract for a bidder, projects can be separated into different smaller contracts to maintain accountability among different bidders[40]. Additionally better application of P3 contracts is necessary. The model should not be used for projects under $50 million as efficiencies gained in private sector participation are not fully realized[41]. Both private and public sector actors should focus on their strengths in P3 projects. Private sector actors generally have a more holistic view of risk management as they have financial incentives, as well as external lenders pressuring companies to keep costs low. Thus, governments can establish an optimum level of private sector involvement and utilize the strength of more robust financial guardrails in the private sector to better manage projects[42]. Using the governments' strengths of

[33] News, 2018 Published: December 10, and Jeff Halcrow. "Budget Cuts Could Further Delay Kitchener to Toronto All-Day Go Service." Spoke, December 10, 2018. https://spokeonline.com/2018/12/budget-cuts-could-further-delay-kitchener-to-toronto-all-day-go-service/.

[34] "2018-2028 Canadian Transit Infrastructure Needs "(Canadian Urban Transit Association, January 2019), https://cutaactu.ca/wp-content/uploads/2021/01/2018-2028-infrastructure-needs.pdf.

[35] "Infrastructure Costing," The Online BRT Planning Guide (ITDP), accessed April 9, 2023, https://brtguide.itdp.org/branch/master/guide/.

[36] Standing Committee on Public Accounts Follow-Up, "3.09 Metrolinx—Public Transit Construction Contract Awarding and Oversight," Auditor General of Ontario, 2018, https://www.auditor.on.ca/en/content/annualreports/arreports/en16/v1_309en16.pdf, 491.

[37] Standing Committee on Public Accounts Follow-Up, "3.09", 482.

[38] Standing Committee on Public Accounts Follow-Up on Section 3.07, "Metrolinx—LRT Construction and Infrastructure Planning," 2018, https://www.auditor.on.ca/en/content/annualreports/arreports/en21/3-04MetrolinxLRTPAC_en21.pdf, 5-6.

[39] Standing Committee on Public Accounts Follow-Up, "3.09", 484.

[40] Ibid, 7.

[42] Frank Beckers and Uwe Stegemann, "A Smarter Way to Think about Public–Private Partnerships" (McKinsey & Company, September 10, 2021),

lower borrowing costs and a longer-term perspective on projects and combining it with the private sector's strength of risk management, an optimum balance can be found for the GO expansion project (figure 5).

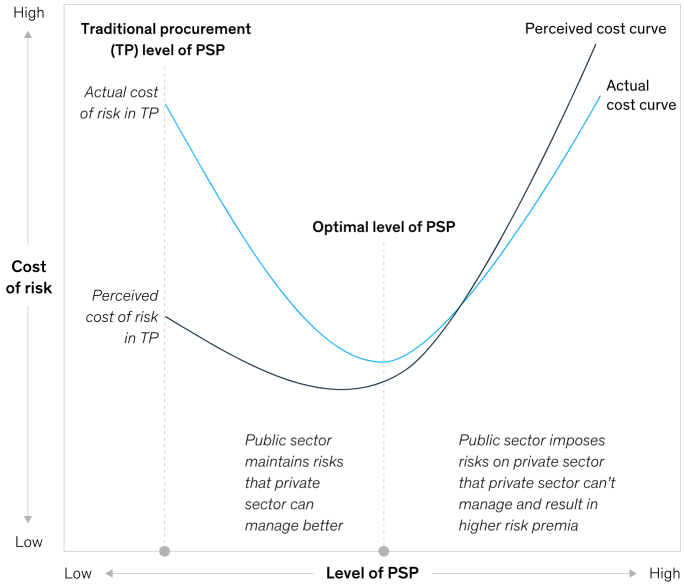

Figure 5: The optimal point for P3 projects.

To mitigate budget issues, it is important to have accurate cost estimates, develop a comprehensive budget plan, and allocate resources efficiently. Contingency plans should also be developed to address unforeseen costs or funding shortfalls. It is also important to continuously monitor the project's costs and adjust the budget as needed to avoid cost overruns. It will be cost-effective to improve the risk-sharing mechanism which not only ensures the effective operation of the P3 projects, but also improves risk management. Moreover, Metrolinx should formulate corresponding response plans based on risk profiles of the market, policy, environmental regulations, and operations to maintain risk at an acceptable level[43]. For instance, implementing incentives such as construction material buybacks and fixed investment returns, authorities should control the strength of incentives to reduce the risk exposure of project operations[44].

Mitigation: Improved Data Collection

Another element in ensuring the smooth progress of the project is to establish an integrated risk identification and early warning system. Centralizing all data in a single office using one software, with contractors reporting to Metrolinx on their schedule and cost updates increases accountability for private sector partners[45]. This will reduce costs, and bring issues regarding scope, and cost escalation to management faster resulting in a more streamlined project. Metrolinx can learn from the City of Toronto, which uses a similar system in the "Contractor Performance Evaluation Form" and tailor it to meet its specific needs[46]. To mitigate risks regarding the industry capacity, Metrolinx should reward contractors with a precedent of good performance. Rather than accepting bids with the minimum requirements. Firms that have performed better on previous contracts should be assigned extra points in the bidding process. This is used in cities like Singapore and Hong Kong which often have lower procurement costs. Further, it offers firms additional incentives to deliver projects on budget[47]. Notably, this mitigation works best if the data collection recommendation is implemented, as it hinges on having a record of the effectiveness of previous contractors.

Political Risks

There are several potential political actions that could impact the GO Expansion project. Government leadership and policies have a critical role in the success of infrastructure projects[48]. Changes in government priorities or policies could impact the project's funding, financing, and timeline[49]. For instance, a change in government could lead to a reallocation of funds or a change in infrastructure priorities, which could reduce funding for the project. Additionally, public opposition and regulatory non-compliance can create significant barriers to the project's implementation[50]. Regulatory non-compliance can arise from a lack of adequate communication with regulatory bodies and stakeholders[51]. Further, political instability can pose significant risks to the success of large infrastructure projects, as changes in political leadership and policy can lead to uncertainty and delays[52]. Political

https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/a-smarter-way-to-think-about-public-private-partnerships.
[43] Frank Beckers and Uwe Stegemann, "A Risk-Management Approach to a Successful Infrastructure Project" (McKinsey & Company, November 1, 2013), https://www.mckinsey.com/capabilities/operations/our-insights/a-risk-management-approach-to-a-successful-infrastructure-project.
[44] Weiyang Zeng and Yining Jin, "Research on Enterprise Risk Identification and Early Warning System Based on Big Data Background," *Journal of Physics:*
[45] Matti Siemiatycki, "Cost Overruns on Infrastructure Projects:" *Institute on Municipal Finance & Governance*, November 2015, pp. 125-140, https://doi.org/10.2307/j.ctv8bt1wq.12, 6
[46] Ibid, 6.
[47] Ibid, 7.
[49] Brouwer, " A Framework for Evaluating the Governance of Large-Scale Infrastructure Projects," *Journal of Cleaner Production*, n.d., pp. 1200-1215.
[50] Michael Regan, "Collaborative Governance of Controversial Infrastructure: An Examination of Conflicts and Collaboration in the Planning and Delivery of the Perth Freight ," *Journal of Environmental Planning and Management*, n.d., pp. 1076-1097.
[51] Robert Osei-Kyei and Albert P. Chan, "Comparative Analysis of the Success Criteria for Public–Private Partnership Projects in Ghana and Hong Kong," *Project Management Journal* 48, no. 4 (March 2017): pp. 80-92, https://doi.org/10.1177/875697281704800407.
[52] BENT FLYVBJERG, METTE K. SKAMRIS HOLM, and SØREN L. BUHL, "What Causes Cost Overrun in Transport Infrastructure Projects?," *Transport*

instability can also result in budget cuts and project cancellations which have precedent in Toronto with the cancellation of the under-construction Eglinton West Subway line. Therefore, it is critical for project planners and stakeholders to anticipate and mitigate political risks by engaging with political actors, building a broad-based coalition of support, and maintaining transparent communication throughout the project's lifecycle[53]. By doing so, they can minimize political disruptions and ensure the project's successful implementation.

Mitigation: Stakeholder engagement

With the high probability of political action impacting the GO Expansion project, it is important to satisfy government and local stakeholder[54]. Collaboration between different levels of government is essential for the success of large infrastructure projects like the GO Expansion. For example, accessing funding from the federal government can provide significant support to the project's funding and financing, while local initiatives such as Toronto SmartTrack can complement the GO Expansion project by providing additional funding[55]. By working together, different levels of government can also help to address political risks associated with the project, such as funding and financing issues, by sharing the responsibility and cost of the project. As costs are shared and agreements made with multiple levels of government this reduces the reliance on a single government Should one level leave, the project would still have the financial support of other governments which would enable the project to continue. In addition to collaboration between governments, it is also important for Metrolinx to engage with other stakeholders, such as local communities, and transit users[56]. By engaging with these stakeholders, planners can ensure that the project satisfies the needs of the public which the government represents, adding support to the project which raises the political costs of its cancellation.

Mitigation: Political Risk Insurance

Purchasing Political Risk Insurance (PRI) is essential for private sector actors. This insurance protects against political actions that would cause major financial loss[57]. This ensures that the P3 partners can receive adequate compensation and reduces the impact of political decisions impacting future projects. The purchase also has second-order impacts as it gives confidence to institutional investors such as pensions funds to invest in infrastructure companies which would increase capital for GO expansion and future infrastructure project[58]. Additionally, it shifts part of the financial burden away from the public should the project face significant disruptions, providing more social license for private partners to operate. The PRI acts as a last resort for private partners should a government determined to end the project come to power.

Conclusion

The GO Expansion will provide significant benefits to the GTHA. However, the project also faces several risks that could impact its success. To mitigate these risks, project stakeholders must prioritize collaboration and engagement, develop robust contingency plans, and prioritize accountability throughout the project lifecycle. By taking these steps, stakeholders can ensure that the GO Expansion project provides lasting benefits to the region.

Reviews 24, no. 1 (January 2004): pp. 3-18, https://doi.org/10.1080/0144164032000080494a. 4

[53] Jere Lehtinen, Kirsi Aaltonen, and Risto Rajala, "Stakeholder Management in Complex Product Systems: Practices and Rationales for Engagement and Disengagement," *Industrial Marketing Management* 79 (2019): pp. 58-70, https://doi.org/10.1016/j.indmarman.2018.08.011, 59.

[54] "How to Prioritize Infrastructure Stimulus Investments," Deloitte Perspectives (Deloitte, September 5, 2022), https://www.deloitte.com/global/en/Industries/infrastructure/perspectives/how-to-prioritize-infrastructure-stimulus-investments.html.

[55] "SmartTrack/GO RER Integration Initial Business Case ," INTEGRATED GO RER SMARTTRACK OPTIONS (City of Toronto, June 2016), https://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-94513.pdf, 10.

[56] Philip R. Berke and Maria Manta Conroy, "Are We Planning for Sustainable Development?," *Journal of the American Planning Association* 66, no. 1 (2000): pp. 21-33, https://doi.org/10.1080/01944360008976081.

[57] Strategic Infrastructure Mitigation of Political & Regulatory Risk in Infrastructure Projects," World Economic Forum (Boston Consulting Group, February 2015), https://web-assets.bcg.com/img-src/Risk_Mitigation_Report_Feb_2015_tcm9-61366.pdf, 10.

[58] Marsh and McLennon, "Political Risk in Infrastructure Projects" (Marsh & McLennon, June 2016), 5

Figures

Figure 1. “Malton GO Station.” Wikimedia Commons. Wikimedia, February 2, 2022. https://commons.wikimedia.org/wiki/File:Malton_ON_GO-Transit-Station_2022-02-01_(8).jpg.

Figure 2. “System and Route Map: Trip Planning: GO Transit.” System Map. Metrolinx, April 2023. https://www.gotransit.com/en/trip-planning/system-and-route-map.

Figure 3. “Metrolinx's Proposed Don Valley Layover Facility and the Wonscotonach Parklands.” City of Toronto, April 9, 2022. https://www.toronto.ca/legdocs/mmis/2022/ie/bgrd/backgroundfile-224375.pdf.

Figure 4. King, David, Aya Aboudina, and Amer Shalaby. “Evaluating Transit Network Resilience through Graph Theory and Demand-Elastic Measures: Case Study of the Toronto Transit System.” Journal of Transportation Safety & Security 12, no. 7 (August 8, 2020): 924–44. https://doi.org/10.1080/19439962.2018.1556229.

Figure 5. Beckers, Frank, and Uwe Stegemann. “A Smarter Way to Think about Public–Private Partnerships.” McKinsey & Company, September 10, 2021. https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/a-smarter-way-to-think-about-public-private-partnerships.

Bibliography

“Agenda Item History 2020.EX16.4.” toronto.ca, September 30, 2020. https://secure.toronto.ca/council/agenda-item.do?item=2020.EX16.4.

“Four Teams to Bid for Go Rail Expansion Project.” Canadian Consulting Engineer, May 31, 2019. https://www.canadianconsultingengineer.com/transportation/four-teams-to-bid-for-go-rail-expansion-project/1003409244/.

“Go Expansion.” Metrolinx. Accessed January 21, 2023. https://www.metrolinx.com/en/projects-and-programs/go-expansion.

“Go Rail Expansion - on-Corridor Works.” On. Accessed March 4, 2023. https://www.infrastructureontario.ca/RER-GO-Regional-Express-Rail-Corridor/.

“How Do You Build Effective Public-Private Partnerships?” Yale Insights, May 16, 2017. https://insights.som.yale.edu/insights/how-do-you-build-effective-public-private-partnerships.

“How Metrolinx Will Tackle Future GO Expansion Projects.” Metrolinx. Accessed March 4, 2023. https://www.metrolinx.com/en/news/how-metrolinx-will-tackle-future-go-expansion-projects-.

“How to Prioritize Infrastructure Stimulus Investments.” Deloitte Perspectives. Deloitte, September 5, 2022. https://www.deloitte.com/global/en/Industries/infrastructure/perspectives/how-to-prioritize-infrastructure-stimulus-investments.html.

“Infrastructure Costing.” The Online BRT Planning Guide. ITDP. Accessed April 9, 2023.

https://brtguide.itdp.org/branch/master/guide/.

“METROLINX'S APPROACH TO INDIGENOUS ENGAGEMENT AT THE FIRST PARLIAMENT SITE AND FUTURE CORKTOWN STATION SITES.” City of Toronto, 2022. https://www.toronto.ca/legdocs/mmis/2022/ex/bgrd/backgroundfile-226600.pdf.

“Metrolinx's Proposed Don Valley Layover Facility and the Wonscotonach Parklands.” City of Toronto, April 9, 2022.
https://www.toronto.ca/legdocs/mmis/2022/ie/bgrd/backgroundfile-224375.pdf.
“Ontario Begins Construction on Confederation GO Station.” Ontario newsroom. Accessed March 4, 2023. https://news.ontario.ca/en/release/1002369/ontario-begins-construction-on-confederation-go-station.

“Partner Selected for Go Rail Expansion On-Corridor Works Project.” Partner selected for go rail expansion on-corridor works project, April 19, 2022. https://www.infrastructureontario.ca/Partner-Selected-RER-GO-Regional-Express-Rail-Corridor/.
“SmartTrack/GO RER Integration Initial Business Case .” INTEGRATED GO RER SMARTTRACK OPTIONS. City of Toronto, June 2016. https://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-94513.pdf.
“Strategic Infrastructure Mitigation of Political & Regulatory Risk in Infrastructure Projects.” World Economic Forum. Boston Consulting Group, February 2015. https://web-assets.bcg.com/img-src/Risk_Mitigation_Report_Feb_2015_tcm9-61366.pdf.

“System and Route Map: Trip Planning: GO Transit.” System and Route Map . Metrolinx, April 2023. https://www.gotransit.com/en/trip-planning/system-and-route-map.

2018-2028 Canadian Transit Infrastructure Needs .” Canadian Urban Transit Association, January 2019. https://cutaactu.ca/wp-content/uploads/2021/01/2018-2028-infrastructure-needs.pdf.

Advanced Solutions International, Inc. “What Are Public-Private Partnerships (p3s)?” What are P3s. Accessed March 4, 2023. https://www.pppcouncil.ca/web/Knowledge_Centre/What_are_P3s_/web/P3_Knowledge_Centre/What_are_P3s.aspx.

Arnold, Lauren, and Kevin Hanna. “BEST PRACTICES IN ENVIRONMENTAL ASSESSMENT: CASE STUDIES AND APPLICATION TO MINING.” Canadian International Resource Development Institute, 2017. https://doi.org/https://ok-cear.sites.olt.ubc.ca/files/2018/01/Best-Practices-in-Environmental-Assessment.pdf.

Beckers, Frank, and Uwe Stegemann. “A Risk-Management Approach to a Successful Infrastructure Project.” McKinsey & Company, November 1, 2013. https://www.mckinsey.com/capabilities/operations/our-insights/a-risk-management-approach-to-a-successful-infrastructure-project.

Beckers, Frank, and Uwe Stegemann. “A Smarter Way to Think about Public–Private Partnerships.” McKinsey & Company, September 10, 2021. https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/a-smarter-way-to-think-about-public-private-partnerships.

Berke, Philip R., and Maria Manta Conroy. “Are We Planning for Sustainable Development?” Journal of the American Planning Association 66, no. 1 (2000): 21–33. https://doi.org/10.1080/01944360008976081.

Brouwer. “ A Framework for Evaluating the Governance of Large-Scale Infrastructure Projects.” Journal

of Cleaner Production, n.d., 1200–1215.

City of Toronto. “Go Expansion Program.” City of Toronto, October 4, 2022. https://www.toronto.ca/services-payments/streets-parking-transportation/transit-in-toronto/transit-expansion/go-expansion/.

City of Toronto. “Metrolinx’s Proposed Don Valley Layover Facility and the Wonscotonach Parklands,” April 9, 2022.

City of Toronto. Metrolinx GO Expansion Program. Update on the Metrolinx GO Expansion Program – First Quarter 2022, Toronto, Ontario, 2022. https://www.toronto.ca/legdocs/mmis/2022/ex/bgrd/backgroundfile-175065.pdf

Demarco, Zoe. “Nearly Half of Canada's 100 Most Expensive Infrastructure Projects Are in Ontario.” Storeys, January 17, 2023. https://storeys.com/renew-top-100-canada-infrastructure-projects-2023-ontario/.

Deputy City Manager. “Metrolinx-City of Toronto Master Agreement for the Go Expansion Program,” 2020. https://www.toronto.ca/legdocs/mmis/2020/ex/bgrd/backgroundfile-156541.pdf.

Elliot, Matt. “More People Take GO Transit on Weekends Now than before the Pandemic. That May Not Be Good News.” Toronto Star , September 20, 2022.

FLYVBJERG, BENT, METTE K. SKAMRIS HOLM, and SØREN L. BUHL. “What Causes Cost Overrun in Transport Infrastructure Projects?” Transport Reviews 24, no. 1 (January 2004): 3–18. https://doi.org/10.1080/0144164032000080494a.

Gannett Fleming. “New Track and Facilities Transit Project Assessment Process Final Environmental Project Report – Executive Summary,” March 5, 2021. https://assets.metrolinx.com/raw/upload/v1663151657/Documents/Metrolinx/exec_sum_-_ntf_tpap_final_epr_rev02_deliverable_dlaixe.pdf.

Government of Canada, Statistics Canada. “Has the COVID-19 Pandemic Changed Commuting Patterns for Good?” Statistics Canada. The Daily, November 30, 2022. https://www150.statcan.gc.ca/n1/daily-quotidien/221130/dq221130c-eng.htm.

Green, Joe. “Silicon and Lithium Shortage Make Supply Chain Considerations Critical for It.” TechHQ, May 11, 2021. https://techhq.com/2021/05/taiwan-silicon-battery-lithium-eu-recycling-it-sustainability-batteries-chips/.

Harvey, Lex. “First Nations Group Warns of Possible GO Train Delays from Environmental Assessments,” Toronto Star, August 24, 2022. https://www.thestar.com/news/gta/2022/08/24/first-nations-group-warns-of-possible-go-train-delays-from-environmental-assessments.html.

Hovy, Pauline. “Risk Allocation in Public-Private Partnerships: Maximizing Value for Money.” International Institute for Sustainable Development, August 2015. https://doi.org/https://www.iisd.org/system/files/publications/risk-allocation-ppp-maximizing-value-for-money-discussion-paper.pdf.

Infrastructure Ontario. “Go Rail Expansion - On-Corridor Works.” Infrastructure Ontario, April 19, 2022. https://www.infrastructureontario.ca/RER-GO-Regional-Express-Rail-Corridor/.

King, David, Aya Aboudina, and Amer Shalaby. “Evaluating Transit Network Resilience through Graph

Theory and Demand-Elastic Measures: Case Study of the Toronto Transit System." Journal of Transportation Safety & Security 12, no. 7 (August 8, 2020): 924–44. https://doi.org/10.1080/19439962.2018.1556229.

Lehtinen, Jere, Kirsi Aaltonen, and Risto Rajala. "Stakeholder Management in Complex Product Systems: Practices and Rationales for Engagement and Disengagement." Industrial Marketing Management 79 (2019): 58–70. https://doi.org/10.1016/j.indmarman.2018.08.011.

Marsh and McLennon. "Political Risk in Infrastructure Projects." Marsh & McLennon, June 2016. file:///C:/Users/ethan/Downloads/Political%20Risk%20in%20Infrastructure%20Projects%20(3).pdf.

Metrolinx, "GO Expansion Full Business Case." Go Expansion Studies, 2018.

News, 2018 Published: December 10, and Jeff Halcrow. "Budget Cuts Could Further Delay Kitchener to Toronto All-Day Go Service." Spoke, December 10, 2018. https://spokeonline.com/2018/12/budget-cuts-could-further-delay-kitchener-to-toronto-all-day-go-service/

Nie, Xiangtian, Kai Feng, Guoxiang Zhao, Tianyu Fan, and Shengnan Wang. "The Evolutionary Game of Trust in Public-Private Partnership Project Networks." Mathematical Problems in Engineering 2021 (2021): 1–11. https://doi.org/10.1155/2021/5514708.

Ontario, Transportation. "Ontario Moving Forward with Historic GO Rail Expansion." Ontario Newsroom, April 19, 2022. https://news.ontario.ca/en/release/1002048/ontario-moving-forward-with-historic-go-rail-expansion.

Osei-Kyei, Robert, and Albert P. Chan. "Comparative Analysis of the Success Criteria for Public–Private Partnership Projects in Ghana and Hong Kong." Project Management Journal 48, no. 4 (March 2017): 80–92. https://doi.org/10.1177/875697281704800407.

Paiva, Michael. " Understanding the Building Transit Faster Act." Expropriation lawyer. Unified LLP, April 5, 2023. https://unifiedllp.com/the-building-transit-faster-act/.

Paiva, Michael. "The Building Transit Faster Act." Unified LLP, April 22, 2020. https://unifiedllp.com/the-building-transit-faster-act/.

Payer, Brian, and Michael Bonshor. "BEST PRACTICES FOR CONSULTATION AND ACCOMMODATION: MOVING TO INFORMED CONSENT." New Relationship Trust, February 2019. https://doi.org/https://www.newrelationshiptrust.ca/wp-content/uploads/2019/05/Consultation-and-Accommodation-Best-Practices-FINAL-Feb2019.pdf.

Regan, Michael. "Collaborative Governance of Controversial Infrastructure: An Examination of Conflicts and Collaboration in the Planning and Delivery of the Perth Freight ." Journal of Environmental Planning and Management, n.d., 1076–97.

Siemiatycki, Matti. "Cost Overruns on Infrastructure Projects:" Institute on Municipal Finance & Governance, November 2015, 125–40. https://doi.org/10.2307/j.ctv8bt1wq.12.

Spurr, Ben. "GO Expansion Plans Facing Uncertainty as Companies Raise Concerns over P3 Procurement Model, Documents Warn," Toronto Star, January 20, 2020. https://www.thestar.com/news/gta/2020/01/20/go-expansion-plans-facing-uncertainty-as-companies-raise-concerns-over-p3-procurement-model-documents-warn.html.

Spurr, Ben. “Go Expansion Plans Facing Uncertainty as Companies Raise Concerns over P3 Procurement Model, Documents Warn.” thestar.com. Toronto Star, January 20, 2020. https://www.thestar.com/news/gta/2020/01/20/go-expansion-plans-facing-uncertainty-as-companies-raise-concerns-over-p3-procurement-model-documents-warn.html.

Spurr, Ben. “Planned GO Train Facility Could Undermine Years of Don Valley Restoration Efforts, Conservationists Warn,” Toronto Star, September 3, 2020. https://www.thestar.com/news/gta/2020/09/03/planned-go-train-facility-could-undermine-years-of-don-valley-restoration-efforts-conservationists-warn.html.

Standing Committee on Public Accounts Follow-Up on Section 3.07. “Metrolinx—LRT Construction and Infrastructure Planning,” 2018. https://www.auditor.on.ca/en/content/annualreports/arreports/en21/3-04MetrolinxLRTPAC_en21.pdf.

Standing Committee on Public Accounts Follow-Up. “3.09 Metrolinx—Public Transit Construction Contract Awarding and Oversight.” Auditor General of Ontario, 2018. https://www.auditor.on.ca/en/content/annualreports/arreports/en16/v1_309en16.pdf

Thompson, David. “Putting Transportation on Track in the GTHA A Survey of Road and Rail Emissions Comparisons.” PEMBINA Institute , January 19, 2011. https://doi.org/https://www.pembina.org/pub/2155.

Watson, H.G. “Signal Failure: Why Ontario's Plans to Electrify GO Transit's Train Lines Are Running Late.” The Narwhal, May 13, 2022. https://thenarwhal.ca/ontario-go-transit-electrification/.

Wente, Maggie. “Consultation Funding and a Fair Process Required to Meet Consultation Obligations.” Aboriginal Consultation Requires Funding and a Fair Process | CanLII Connects. CANLII Connects, July 18, 2017. https://canliiconnects.org/en/commentaries/46064.

Yurek, Jeff. “Getting Ontario Moving Act (Transportation Statute Law Amendment), 2019.” Legislative Assembly of Ontario, Accessed March 1, 2023. https://www.ola.org/en/legislative-business/bills/parliament-42/session-1/bill-107.

Zeng, Weiyang, and Yining Jin. “Research on Enterprise Risk Identification and Early Warning System Based on Big Data Background.” Journal of Physics: Conference Series 1302, no. 4 (2019): 042001. https://doi.org/10.1088/1742-6596/1302/4/042001.