



Averting a Crisis: The Need to Protect Ontario's Infrastructure Investments

NOVEMBER 2020



RESIDENTIAL AND
CIVIL
CONSTRUCTION
ALLIANCE OF
ONTARIO

Constructing Ontario's Future

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Executive Summary

This report focuses on an immediate threat to Ontario's economic recovery – the growing financial pressure on the MUSH sector (municipalities, universities and colleges, school boards and hospitals) to deal with the effects of Covid-19 on their operating budgets by cancelling or deferring needed investments to maintain infrastructure. This report shows that **the inevitable effect of these cancellations and deferrals will be to prolong the recession while, at the same time, allowing our essential infrastructure to further wear down and fall into a state of disrepair**. The report builds on previous studies of the impact of infrastructure investment, notably studies by the Conference Board of Canada, RiskAnalytica, the Residential and Civil Construction Alliance of Ontario and the Centre for Spatial Economics. All of these studies document the significant short-run and long-run employment impact of investment in infrastructure.

The key findings set out in this report are:

117,000
JOBS AT RISK

Cancellations and deferrals by the MUSH sector of needed investment in the maintenance and expansion of infrastructure put upwards of 117,000 jobs at risk. Infrastructure investment by the MUSH sector creates **65,000 direct jobs** in the construction industry. This investment also creates a further **29,000 jobs in the construction industry's supply chain**, i.e., building materials manufacturers, transportation and warehousing, and engineering and architecture firms, etc. Spending by these workers supports an additional **23,000 jobs in the broader economy**.

65,000
DIRECT
CONSTRUCTION
JOBS AT RISK

Jobs Impact of Investment by the MUSH Sector in the Maintenance and Expansion of Infrastructure

Direct Construction Jobs	65,000
Supply Chain Industry Jobs	29,000
Broader Economy Jobs	23,000
Total Number of Jobs	117,000

Estimates by Prism Economics and Analysis based on BuildForce Canada, 2019-2020 Outlook and Statistics Canada's Input-Output Model

There is mounting evidence that a wave of deferrals and cancellations of infrastructure maintenance and investment will lead to the loss of a significant number of these 117,000 jobs:



A recent report by RBC Economics warned that: "Covid-19 has dealt a severe blow to Canadian municipal finances... [and] **measures designed to help cities have thus far fallen short...**"¹



An October survey by the Ontario Construction Secretariat found that **57% of ICI contractors and 49% of civil/engineering contractors reported a decline in the number of bidding opportunities** relative to the same period in prior years.² Fewer bidding opportunities means fewer jobs.



Building permits for "institutional and government" construction for July to September are down a striking 35% compared to the same period in 2019. Fewer building permits means fewer construction starts.

ONTARIO WILL LOSE 41,000 JOBS

IF THE DEFERRALS + CANCELLATIONS
CONTINUE TO TRACK AT THE 35% RATE

If the deferrals and cancellations continue to track the 35% rate indicated by the recent trend in building permits, **Ontario will lose 41,000 jobs** and perhaps more. Our already precarious recovery will be weakened and our infrastructure will deteriorate as a result of deferrals of needed repair work.

This crisis is foreseeable. It can be averted.

What Needs to be Done

- 1** **Both the federal and the provincial government should bring forward their repair expenditure plans** so that this needed repair work can be used to stimulate a precarious recovery. Repair work can be quickly mobilized. It typically does not require complex design, environmental review and permitting processes. Repair work also has a high multiplier effect on jobs in the supply chain industries and the broader economy.
- 2** **The provincial government should require the MUSH sector to adhere to plans to keep their constructed assets in a state of good repair.**
- 3** **The provincial government should provide additional support to the MUSH sector to carry out backlogged repair work.** As RBC Economics stated: “preventing big spending cuts or tax hikes should be a priority for provincial governments, and could be achieved with transfers to cities.”³
- 4** **The federal and provincial government should work with the MUSH sector to bring forward capital spending programs** so that spending on this work can restart our recovery.

Why This Report?

This report focuses on an immediate threat to Ontario's economic recovery – the implications for jobs and growth of cancellations and deferrals of investments in construction maintenance and repair by the MUSH sector, i.e., municipalities, universities and colleges, school boards and hospitals. These cancellations and deferrals reflect the impact of Covid-19 on operating budgets. Throughout the MUSH sector, needed maintenance and new investment projects are being cancelled or deferred to protect operating budgets. **This report shows that the cancellation and deferral of these investments is both short-sighted and counter productive. The inevitable effect will be to prolong the current downturn while, at the same time, allowing essential infrastructure to fall into a state of disrepair.** The report concludes that urgent action is needed by the federal and provincial government to enable the MUSH sector to maintain planned investments on infrastructure maintenance and new capital projects.

This report builds on previous studies of the impact of infrastructure investment.

- A 2010 study by the Conference Board of Canada concluded that infrastructure spending by the Ontario government between 2006 and 2010 had created an average 164,467 person years of employment in each year. Significantly, only a third of these jobs were in the construction industry. Almost half of the jobs were in the service sector, with the remainder being mainly in manufacturing, transportation and warehousing.⁴
- A subsequent report by RiskAnalytica (now the Canadian Centre for Economic Analysis) concluded that, when long-run productivity impacts are taken into account, the economic benefits of infrastructure investment are even greater than those estimated using the conventional 'multiplier' methodologies employed by earlier studies.⁵
- In 2013, a study by Haider et al. estimated the employment effects in Ontario of a \$12.0-billion investment in infrastructure. The report found that this investment would create 203,000 jobs and increase the province's Gross Domestic Product by \$18.5 billion.⁶
- Studies by the Centre for Spatial Economics (C4SE) for both the Broadbent Institute and the Ontario government similarly found significant multiplier effects in addition to the direct employment created in the construction industry by infrastructure investments.⁷



A Foreseeable Crisis

In 2020, the MUSH sector (including cultural institutions) accounted for approximately 17.4% of employment in the construction industry. This represents 91,566 direct jobs in the construction industry. This figure does not include jobs in the construction industry supply chain (i.e., manufacturers of building materials and related transportation and warehousing) or other jobs in the Ontario economy that are supported by the spending of construction industry workers. The following table shows the distribution of this employment.

Estimated Direct Construction Employment in Ontario supported by Construction Spending on Capital and Repair Work by Public and Not-for-Profit Sectors

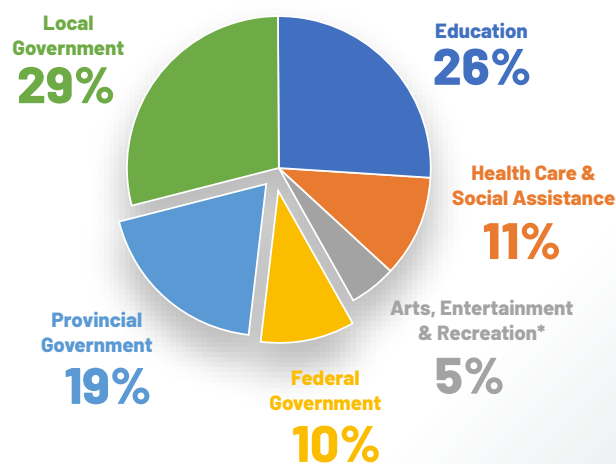
	Total Estimated Employment Ontario	Public and Not-for-Profit Sectors	
		Estimated Share	Estimated Employment
Residential Construction and Maintenance	291,129	0.7% ⁸	2,038
Non-Residential Building Construction (ICI)	84,988	43.0% ⁹	36,545
Civil and Engineering Construction	89,211	35.0% ¹⁰	31,224
Maintenance (Civil/Engineering and ICI)	62,169	35.0% ¹¹	21,759
Total	527,497	17.4%	91,566

Estimates by Prism Economics Based on BuildForce Canada Outlook for 2019-2020

Approximately 71% of the public sector's investment in infrastructure is undertaken by the MUSH sector. This investment is essential both to maintain our current infrastructure and to meet our future needs.

Covid-19 has had a serious impact on the finances of the MUSH sector. A recent report by RBC Economics warned that "Covid-19 has dealt a severe blow to Canadian municipal finances... [and] measures designed to help cities have thus far fallen short..."¹² Consistent with this assessment, a recent report to Toronto City Council estimated that in 2020, Covid-19 would cause a budget shortfall of \$1.342 billion. Roughly half of this shortfall will be supported by additional provincial funding, leaving the City with a projected deficit of \$673.1 million. Current rules require municipalities to take steps to eliminate a deficit and prohibit planning for a deficit. When a deficit is not eliminated it must be carried into the subsequent budget which must include plans to eliminate the deficit and prevent a recurrence.

Non-Residential Spending on Capital and Repair Construction, 2018



Statistics Canada, Table No. 34-10-0035-01

There is every reason to believe that the pressure on local government finances will not only continue into 2021, but will increase. Similarly, school boards and hospitals have experienced additional operating costs that exceed the emergency support provided to them. For many cultural institutions, the loss of audiences or attendees has had devastating effects on operating budgets.

Faced with serious deficits in their operating budgets, it is no surprise that in municipalities throughout Ontario, spending on capital and repair is either being deferred or threatened with deferral:

- In Toronto, the 2020 capital budget was preserved. However, the 2021 budget must carry forward the unexpected and large deficit that accrued this year while at the same time budgeting to avoid a 2021 deficit. The September 23rd City Manager’s report discussed “a permanent reduction in capital funding.”¹³
- The Chief Administrative Officer of the City of Kingston recommended deferral or closing of 24.8% of budgeted capital expenditures.¹⁴
- The City of Ottawa’s Finance and Economic Development Committee recommended deferral of 33 capital projects.¹⁵
- The City of Mississauga’s strategic plan, *Covid-19: Financial Recovery Pillar*, stated that “a review of the capital budget will consider the appropriateness of deferring or cancelling projects to free up funding to offset the deficit...”¹⁶ The Chief Financial Officer recommended capital deferrals or closures equal to approximately 4.2% of budgeted amounts.
- The City of London plans identified 17 capital projects that could be deferred.
- In Hamilton, City staff have identified 127 capital projects for possible deferral.¹⁷
- In June, recommendations were presented to Thunder Bay City Council to defer a number of capital projects.

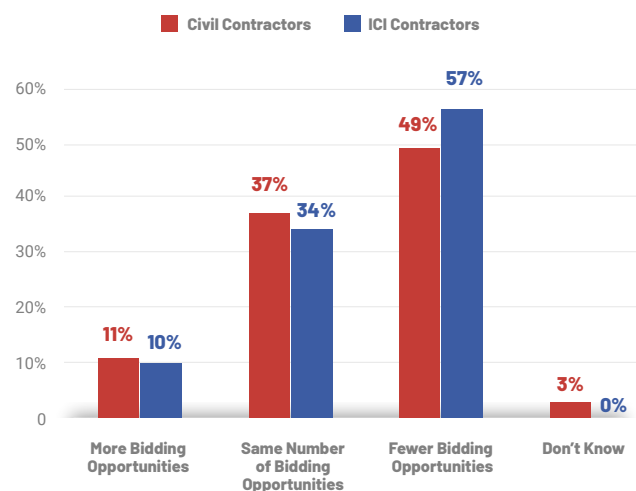
Some municipalities are committed to maintaining their capital and repair commitments. Faced with operating deficits and the need to raise property taxes above the rate of inflation, however, these commitments will likely be unsustainable without additional support from the federal and provincial government. RBC Economics estimated that large cities would need to “raise property taxes between 7% and 15%, or cut services a similar degree, in order to cover costs under current rules.”¹⁸ While many municipalities’ projects were too advanced this year to make deferrals feasible, that is not the case as we enter the 2021

budget process. What is true for municipalities is equally true for school boards, post-secondary institutions, hospitals, and cultural institutions. The threat to capital and repair budgets is real and growing.

Contractors have already reported a decline in bidding opportunities as a result of planned projects being deferred or cancelled. The following data from an October survey undertaken by the Ontario Construction Secretariat show that a large proportion of both civil/engineering and ICI contractors are reporting fewer bidding opportunities.¹⁹ The survey indicates that 57% of ICI contractors and 49% of civil/engineering contractors report a *decline* in the number of bidding opportunities relative to the same period in prior years.²⁰ Fewer bidding opportunities mean fewer jobs.

Bidding Opportunities, October 2020

Ontario Construction Secretariat



These survey findings are striking. The number of bidding opportunities is a reliable leading indicator. **The marked decline in bidding opportunities confirms that the reduction in MUSH sector investment in capital and repair construction is real and is becoming a serious threat to our economic recovery.**

The same conclusion emerges from building permit data. The following table compares the value of building permits issued in Ontario for various types of government and institutional construction for the period July to September in 2019 and 2020. As can be seen, compared to a year prior, there has been a sharp decline in almost all categories of building construction. The most striking declines are in the public school system and in colleges and universities. **Overall, the building permit data indicate a decline of around 35% when 2020 is compared to 2019.**

Building Permits (\$1,000s)²¹
Institutional Construction, Ontario

	July to September 2019 (1,000s)	July to September 2020 (1,000s)	Change (1,000s)	Percent Change
Public School System	\$227,418	\$127,500	-\$99,918	-43.9%
Colleges & Universities	\$124,108	\$46,771	-\$77,337	-62.3%
Libraries, museums, etc.	\$44,026	\$33,874	-\$10,152	-23.1%
Medical & Social Assistance	\$382,230	\$272,377	-\$109,853	-28.7%
Government Buildings	\$34,674	\$38,943	\$4,269	12.3%
Other	\$117,138	\$81,349	-\$35,789	-30.6%
Total	\$929,594	\$600,814	-\$328,780	-35.4%

Statistics Canada, Table No. 34-10-0066-01

Without prompt steps to reverse this trend, the retrenchment of capital and repair investments by the MUSH sector will cause unemployment to ratchet up and further undermine our already precarious economic situation. The reason for this is the powerful multiplier effects of capital and repair construction. The multiplier is a double-edged sword. When

spending on capital and repair construction is increased, there is a broad stimulus effect on both the local and the provincial economy. Conversely, **when investment in capital and repair construction is reduced - as is occurring now - the effect is to drag down both the local and the provincial economy.**



Employment Impacts and Multiplier Effects

To understand the employment impacts of reducing or increasing construction spending on capital and repair projects, we need to understand the multiplier effect. Spending on capital and repair construction affects employment in three ways:

Direct Jobs Effect:

The Direct Jobs Effect consists of jobs that are directly created in the construction industry by spending on capital and repair projects. The jobs are measured in person-years, such that one job is the equivalent of a full year of employment for one person. Many construction projects – especially repair projects – require less than a full year for completion. When this is the case more workers are employed, but the project employs them for less than a full year. For example, a repair project that directly creates three person-years of employment but lasts for only four months would employ nine workers during that three-month period. The person-years metric is important for comparing the employment effects of different types of construction spending. It is important to bear in mind, however, that the person-years measure *understates* short-term employment effects for some types of construction spending, notably spending on repair construction and on seasonal work (e.g., roads).

Indirect Jobs Effect:

The Indirect Jobs Effect comprises the jobs that are created in the supply chain that support the construction industry. The supply chain consists primarily of materials suppliers, directly related transportation services, and professional services (e.g., architectural and engineering design). As with the Direct Jobs Effect, employment is measured in person-years.

Induced Jobs Effect:

The Induced Jobs Effect measures the jobs that are created in the broader economy as a result of spending by workers in the construction industry and in its supply chain. The Induced Jobs Effect is measured in person-years.

Fiscal impacts are over and above the employment effects. All spending on goods and services and all incomes, whether the result of direct, indirect or induced job effects, are associated with both indirect taxes (e.g., the HST) and direct taxes (i.e., income tax).

The following table summarizes the employment effects of spending on capital and repair construction projects. The employment effects are measured in person-years of employment created per million dollars of construction spending. These multipliers are taken from Statistics Canada's Input-Output Model for Ontario. The most recent data are for 2016.



Employment Effect in Person-Years of \$1.0 Million of Spending

	Direct Jobs Effect	Indirect Jobs Effect	Induced Jobs Effect	Total Jobs Effect
Residential building construction	4.7	2.5	1.5	8.7
Non-residential building construction	5.5	2.4	1.9	9.8
Civil / Engineering construction	3.6	2.8	1.7	8.2
Repair construction	9.9	1.6	2.4	13.9

Statistics Canada, Table No. 36-1-0113-01

Implications for Ontario

- Investment in capital and repair construction by the public and not-for-profit sector supports approximately 91,566 direct jobs in the construction industry.
- Roughly 71% of these 91,566 construction jobs are supported by investments in the maintenance and expansion of infrastructure by the MUSH sector, along with cultural institutions. This represents approximately 65,012 jobs.
- These 65,012 jobs in the construction industry support a further 29,255 jobs in the supply chain that is linked to the construction industry. This is the 'indirect jobs effect' described earlier.
- **The total employment at stake – the sum of direct jobs, the indirect jobs effect and the induced jobs effect – is 117,671 jobs.**

The table below summarizes these estimates.

It is these 117,000 jobs that are at risk when the MUSH sector cancels or defers investments in maintaining and expanding infrastructure.

If cancellations and deferrals track the 35% rate suggested by the recent decline in government and institutional building permits, the losses would be around 41,000 jobs and perhaps more. In addition, Ontario's infrastructure would begin to deteriorate as a result of deferrals of repair work.

Jobs Supported by Construction Spending on Capital and Repair Work Undertaken by Municipalities, School Boards, Colleges and Universities, Hospitals and Cultural Institutions

Based on Prism Economics Estimates of Employment and Multiplier Effects

	Estimate	Rounded Estimate
Total Direct Construction Jobs supported by Public Sector and Not-for Profit Sector Construction Spending on Capital and Repair Work	91,566	91,500
Share of Public Sector and Not-for Profit Sector Construction Spending on Capital and Repair Work undertaken by Municipalities, School Boards, Colleges and Universities, Hospitals and Cultural Institutions	71%	71%
Direct Construction Jobs supported by Construction Spending on Capital and Repair Work undertaken by Municipalities, School Boards, Colleges and Universities, Hospitals and Cultural Institutions	65,012	65,000
Indirect Jobs Effect: (Supply Chain Industries)	29,255	29,000
Induced Jobs Effect: (from spending by workers in construction and its supply chain industries)	23,404	23,000
At Risk Jobs: Total Number of Jobs supported by Construction Spending on Capital and Repair Work undertaken by Municipalities, School Boards, Colleges and Universities, Hospitals and Cultural Institutions	117,671	117,000

What Needs to Be Done to Avert a Foreseeable Crisis

Municipalities, school boards, colleges and universities, hospital and cultural institutions are either directly subject to provincial legislation or covered by funding agreements.

- 1 Both the federal and the provincial government should bring forward their repair expenditure plans** so that this needed repair work can be used to stimulate a precarious recovery. Repair work can be quickly mobilized. It typically does not require complex design, environmental review and permitting processes. Repair work also has a high multiplier effect on jobs in the supply chain industries and the broader economy.
- 2 The provincial government should require the MUSH sector to adhere to plans to keep their constructed assets in a state of good repair.** Deferrals of repair work should not be permitted. Funding agreements, whether federal or provincial, should include similar requirements to adhere to plans to keep constructed assets in a state of good repair.
- 3 The provincial government should provide additional support to the MUSH sector to carry out backlogged repair work.** As RBC Economics stated: “preventing big spending cuts or tax hikes should be a priority for provincial governments, and could be achieved with transfers to cities.”²²
- 4 The federal and provincial government should work with the MUSH sector to bring forward capital spending programs** so that spending on this work can restart our recovery.



Endnotes

- ¹ RBC Economics, *Current Analysis*, “Canadian city finances ailing from COVID-19”, June 9, 2020.
- ² ICI Contractors are construction firms that typically perform work on non-residential buildings. ICI is an abbreviation of Industrial, Commercial and Institutional which are the three segments of non-residential building construction. Institutional construction comprises predominantly public sector projects, such as schools, hospitals, colleges, cultural institutions, etc.
- ³ RBC Economics, *Current Analysis*, “Canadian city finances ailing from COVID-19”, June 9, 2020.
- ⁴ Pedro Antunes, Kip Beckman and Jacqueline Johnson, *The Economic Impact of Public Infrastructure in Ontario*, Conference Board of Canada (March 2010).
- ⁵ RiskAnalytica (now operating as the Canadian Centre for Economic Analysis), “Public Infrastructure Investment In Ontario”, An Independent Study Commissioned by the Residential and Civil Construction Alliance of Ontario (December 2011).
- ⁶ Murtaza Haider, David Crowley and Richard DiFrancesco with assistance from Kenneth Kerr and Liam Donaldson, “Investing in Ontario’s Infrastructure for Economic Growth and Prosperity”, An Independent Study commissioned by the Residential and Civil Construction Alliance of Ontario (May 2013)
- ⁷ Broadbent Institute, “The Economic Benefits of Public Infrastructure Spending in Canada”, a report prepared by the Centre for Spatial Economics (September 2015); Centre for Spatial Economics, “The Economic Benefits of Public Infrastructure Spending in Ontario”, report prepared for Ontario Ministry of Economic Development and Growth, Ontario Ministry of Finance Ontario Ministry of Infrastructure (March 2017).
- ⁸ Prism Economics figure based on estimated maintenance and repair spending on affordable housing units. Affordable housing units represent approximately 5.5% of dwellings in Ontario.
- ⁹ Prism Economics figure based on government and institutional share of non-residential building investment.
- ¹⁰ Prism Economics figure based on estimated spending on highways and bridges and other civil/engineering projects.
- ¹¹ Prism Economics figure based on public sectors estimated share of civil/engineering assets.
- ¹² RBC Economics, *Current Analysis*, “Canadian city finances ailing from COVID-19”, June 9, 2020.
- ¹³ City of Toronto, Financial Update, September 23, 2020.
- ¹⁴ City of Kingston, Report to Council, “Covid-19 Response and Update – Operational and Financial Impacts”, May 20, 2020.
- ¹⁵ City of Ottawa, “Committee approves budget directions, financial mitigation strategies”, October 6, 2020 <https://ottawa.ca/en/news/committee-approves-budget-directions-financial-mitigation-strategies>.
- ¹⁶ City of Mississauga, *Covid-19: Financial Recovery Pillar*, June 24, 2020.
- ¹⁷ City of Hamilton, *Financial Implications of Covid-19 Response*, June 15, 2020.
- ¹⁸ RBC Economics, *Current Analysis*, “Canadian city finances ailing from COVID-19”, June 9, 2020.
- ¹⁹ The data cited were extracted from the survey which in its initial report consolidated civil/engineering contractors and ICI contractors. A separate set of results for civil/engineering contractors was published by RCCAO. Survey results can be found in:
Ontario Construction Secretariat, “Coronavirus Contractor Survey 4” (October 5, 2020).
Residential and Civil Construction Alliance of Ontario (RCCAO), “Coronavirus Contractor Survey: Spotlight on Civil/Engineering Sector” (October 20, 2020).
- ²⁰ ICI Contractors are construction firms that typically perform work on non-residential buildings. ICI is an abbreviation of Industrial, Commercial and Institutional which are the three segments of non-residential building construction. Institutional construction comprises predominantly public sector projects, such as schools, hospitals, colleges, cultural institutions, etc.
- ²¹ These data do not include road construction or most types of transit construction. Nor do they include construction for social housing.
- ²² RBC Economics, *Current Analysis*, “Canadian city finances ailing from COVID-19”, June 9, 2020.

Methodology Note

- The estimates for overall construction employment in Ontario and employment by sector are based on the 2019-20 BuildForce Canada Outlook for Ontario.
- The estimate for the overall share of construction employment supported by capital and repair projects undertaken by the public sector and the not-for-profit sector is based on Statistics Canada's Input-Output Tables for the Ontario economy. These are 2015 data, released in November 2018.
- They are the most recent data at the time this report was prepared. The figures for the sectoral share of construction employment supported by capital and repair projects undertaken by the public sector and the not-for-profit sector are Prism Economics estimates. The rationale for these figures is provided in the respective endnotes.
- The jobs per \$1.0 million of construction investment spending are from Statistics Canada, Table No. 36-10-0113-01. An unweighted average, excluding the residential repair sector, was used to estimate an overall jobs effect.

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