

Pandemic, Lockdowns and Construction Cost Escalation in Canada: Recalibrating Risk Models

BTY Briefing Note

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Briefing Note Authors:



Neill McGowan
Partner
E NeillMcGowan@bty.com



Rob Wilson
Director
E RobWilson@bty.com



Phil Pavitt
Director
E PhilPavitt@bty.com



Robyn Player
Associate Director
E RobynPlayer@bty.com



Michael Zegarelli
Director
E MichaelZegarelli@bty.com



Neil Murray
Associate Director
E NeilMurray@bty.com



Michael Gabert
Director
E MichaelGabert@bty.com



Sean Corbett
Senior Project Consultant
E SeanCorbett@bty.com



John Wang
Associate Director
E JohnWang@bty.com

What Could Come Next

We are in uncharted territory. To help orient our clients and industry collaborators, and begin mapping possible paths forward in the pandemic, we have modeled three scenarios.

Scenario A: Optimistic Outlook

Scenario B: Pessimistic Outlook

Scenario C: Likely Outlook

Each identifies social and economic impacts, cost escalation drivers, and projections on cost escalation. It should be kept in mind that each scenario is linked to overall economic recovery. The Bank of Canada estimates real activity was down 1-3% in the first quarter of 2020, and will be 15-30% lower in the second quarter than in fourth-quarter 2019. The Bank does not expect GDP levels to surpass 2019 levels until 2022. It further anticipates that recovery will be uneven across industries and provinces.

We also developed snapshots of the pandemic's impact on select provinces, including survey data from local contractors, developers, lenders and designers.

Construction Cost Escalation Forecast: *Top Three Takeaways*

1

The greater the short-term impact of COVID-19 on labour availability, productivity and supply chain reliability the more prices will go up.

2

As the pandemic's immediate impact subsides, macro-economic factors will play a more dominant role in influencing investment decisions.

3

The extent and availability of testing will drive workforce confidence in site safety in the short term. "Workarounds" in response to social distancing will help counter losses it causes to productivity.

Modelling Methodology

Our analysis is based on past market performance, market trends during crisis times, realtime data from current projects, specific impacts of COVID-19 and impact models for construction cost escalation under scenarios of varying economic outlooks.

Baseline Price Index and COVID-19 Premium

We are using Statistic Canada's reported non-residential buildings construction price index – a 0.5% increase for Q1 2020 – as a baseline for gauging changes to tender prices under each scenario.

We have further incorporated a COVID-19 Premium as a specific cost driver having temporary influence on escalation to varying degrees under each scenario.

In addition to these sources and considerations, we surveyed members from four main industry groups – lenders, developers, contractors and designers – in key Canadian construction markets.

They provided current, on-the-ground evidence of the pandemic's knock-on effects as well as their near- and mid-term expectations.



1. Scenarios



2. Past Market Performance










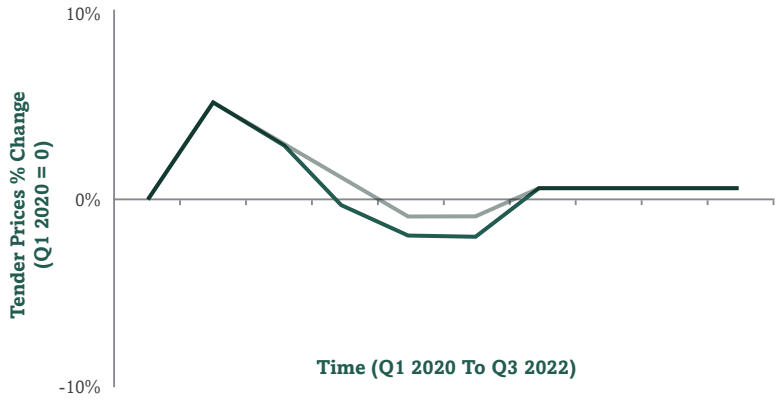
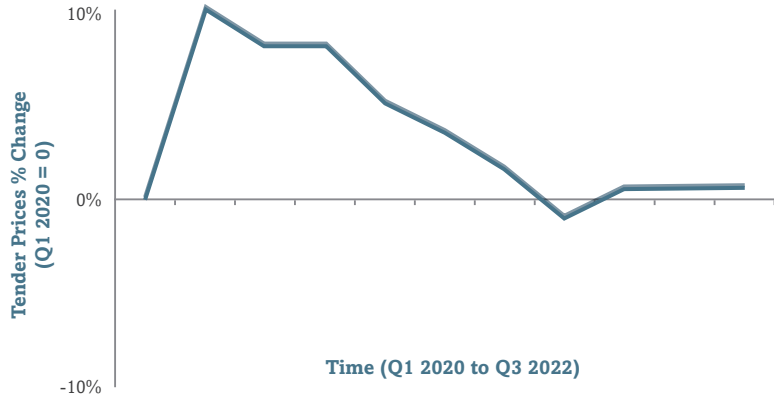
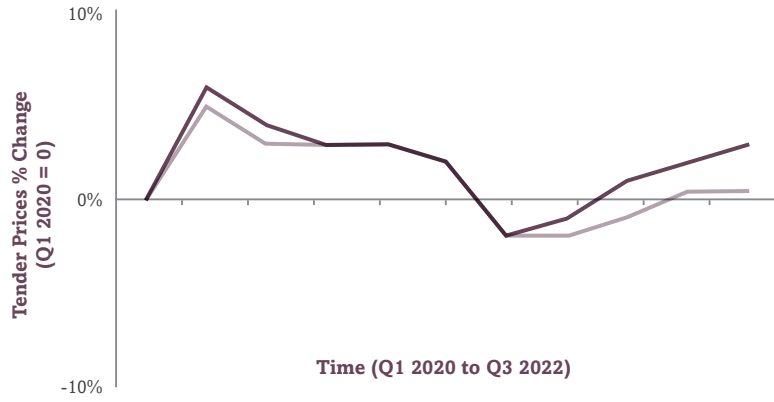


3. Survey



4. Parameters

Scenario Overview

	A - Optimistic Outlook	B - Pessimistic Outlook	C - Likely Outlook
 SOCIAL	<ul style="list-style-type: none">> Regular testing adopted across Canada> Control of 2nd wave and international transmission spread> Vaccine and treatment available by Q1 2021	<ul style="list-style-type: none">> Testing not widely available> 2nd wave of pandemic more severe> Vaccine and treatment not available until Q3 2021	<ul style="list-style-type: none">> Delayed rollout of testing> Curve flattens, with high vigilance to combat 2nd wave> Vaccine and treatment delayed to Q2 2021
 ECONOMIC	<ul style="list-style-type: none">> Restored confidence in ability to return to work safely> Rapid adaptation of supply chains, site operations to activate workloads> Speedy launch of stimulus programs and public works projects	<ul style="list-style-type: none">> Debilitating loss of confidence in ability to return to work safely> Severe work stoppages, compounding economic losses> Long delays in launching stimulus programs and public works projects	<ul style="list-style-type: none">> Gradual increase in confidence in returning to work> Slow adaptation of supply chains, increased near-term volatility> Some delay to launch of stimulus programs and public work projects
 DRIVERS	<div>Oil prices</div> <div>Materials</div> <div>Commodities</div> <div>Interest Rates</div> <div>Labour Availability</div> <div>Productivity</div>		
 ESCALATION	<p>TENDER PRICES RELATIVE TO Q1 2020</p> <p>Escalation ON, QC, BC Escalation AB, SK</p>  <p>Tender Prices % Change (Q1 2020 = 0)</p> <p>Time (Q1 2020 To Q3 2022)</p>	<p>TENDER PRICES RELATIVE TO Q1 2020</p> <p>Escalation ON, QC, BC Escalation AB, SK</p>  <p>Tender Prices % Change (Q1 2020 = 0)</p> <p>Time (Q1 2020 to Q3 2022)</p>	<p>TENDER PRICES RELATIVE TO Q1 2020</p> <p>Escalation ON, QC, BC Escalation AB, SK</p>  <p>Tender Prices % Change (Q1 2020 = 0)</p> <p>Time (Q1 2020 to Q3 2022)</p>

Analysis by Scenario

A – Optimistic Outlook



SOCIAL

- > Sufficient testing available widely
- > Controlled spread of 2nd wave
- > Capacity available in health care system
- > Consistent decline in mortality & new infections
- > Vaccine and treatment available by Q1 2021



ECONOMIC

- > Containment measures support confidence in safe return to work
- > Construction sites remain open
- > Supply chains adapt to incorporate local, accessible, distribution
- > Accelerated public works program
- > Few projects delayed or cancelled
- > Financing remains available
- > Contractors adapt in time to mitigate productivity loss
- > Condo pre-sales centres will reopen early, enabling pre-sales that will support new project launches
- > Sufficient demand/ prices for condo projects to proceed with minimal COVID-19 premium and escalation



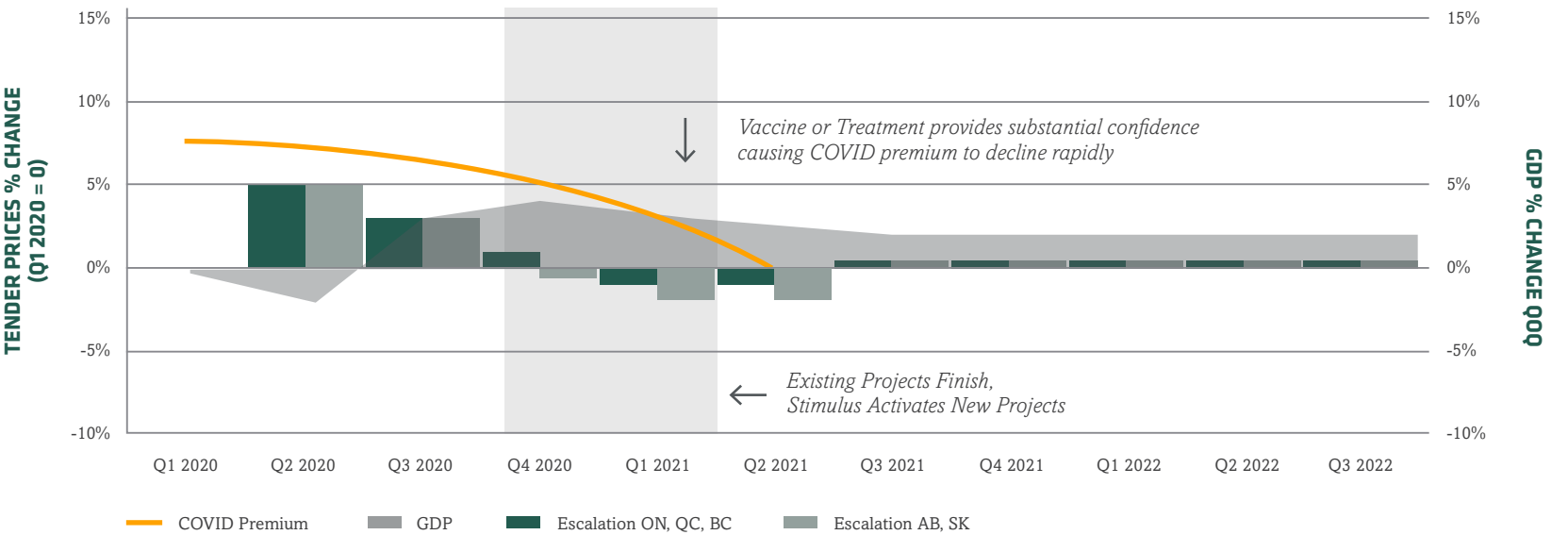
DRIVERS

Oil prices	+
stabilize & stay positive	
Materials	=
steady availability with little or no cost increases	
Commodities	↓
prices remain low	
Interest rates	↓
remain low	
Labour availability	=
fluid and balanced	
Productivity	↑
increases after initial decline due to social distancing	



ESCALATION

Economy recovers quickly and restrictions that remain in place successfully prevent a second wave. Relatively few projects cancelled and government brings forward shovel-ready projects to take up the slack. Allowances are added to tenders for safety measures but mitigated with reduced margins. As these requirements dissipate, some prices drop due to recessionary drag.



Analysis by Scenario

B – Pessimistic Outlook



SOCIAL

- > Testing not widely available
- > 2nd wave of pandemic more severe
- > Health care system overwhelmed
- > Unchecked increase in mortality & new infections
- > Vaccine and treatment not available until Q3 2021



ECONOMIC

- > Debilitating loss of confidence in returning to work safely
- > Construction sites shut down or function inefficiently
- > Massive supply chain disruptions
- > Delayed or ineffective public works program
- > Widespread project delays and cancellations
- > Lenders lose confidence
- > Insufficient labour availability drives up cost
- > Severe loss of productivity drives up cost
- > Condo pre-sales centres will remain closed indefinitely preventing pre-sales and delaying new project launches
- > Severe drop in market demand/prices for condo projects drive major increase in delays/cancellations



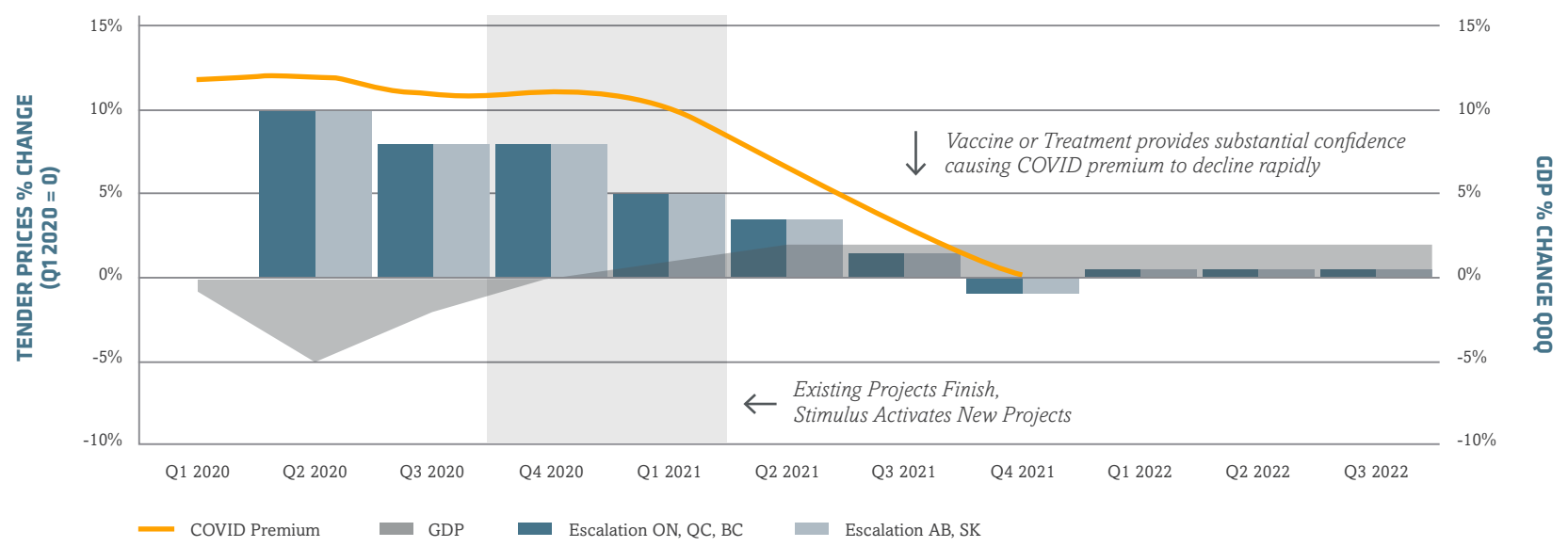
DRIVERS

- Oil prices
stay negative, lower transportation costs
- Materials
unreliable supply with sharp cost increases to imports
- Commodities
prices rise rapidly
- Interest rates
stay low or potentially reach negative
- Labour availability
extremely low due to illness, safety fears, insolvency
- Productivity
declines dramatically compared to Q1 2020



ESCALATION

Large risk premiums added to bids. Developers and Governments wait and see as projects go over budget. Second wave hits as restrictions are eased and crisis extends into 2021. Failure to contain the virus in the U.S. leads to large-scale supply-chain disruption and increased costs.



Analysis by Scenario

C – Likely Outlook



SOCIAL

- > Delayed rollout of testing
- > Curve flattens, with high vigilance to combat 2nd wave
- > Health care system operates mostly at capacity with timely decisions to address overflow through temporary measures, as needed
- > Mortality rate & new infection still concerning
- > Vaccine and treatment delayed to Q2 2021



ECONOMIC

- > Containment measures support increased confidence in safe return to work
- > Gradual opening of all construction sites across the country
- > Slow adaptation of supply chains with increased near-term volatility
- > Slow start and uneven roll out of public works program
- > 20% or more projects delayed in the near term
- > 20% or less projects cancelled in the mid-term
- > Shovel ready projects activated
- > Financing tightens
- > Contractors struggle to mitigate productivity loss in the near term, changes take time
- > Condo pre-sales centres will reopen later, enabling pre-sales but still causing some delay to new project launches
- > Lower demand/prices for condo projects cause some increase in delay/cancellations; projects proceed only with low COVID-19 premium



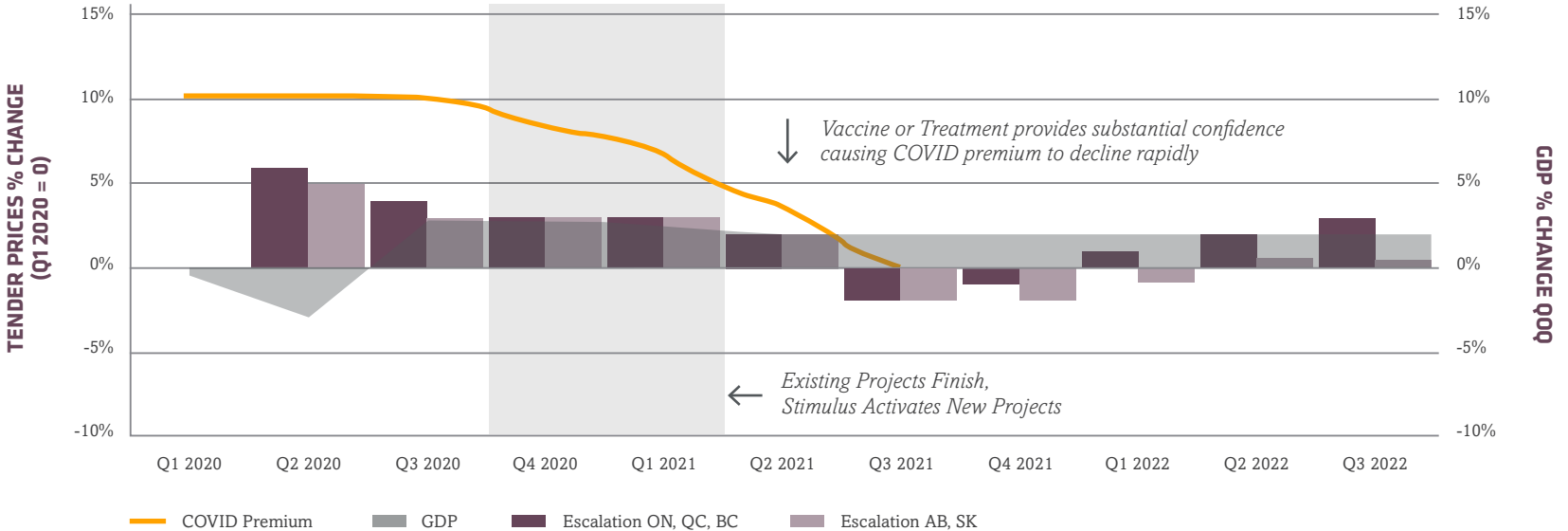
DRIVERS

- Oil prices
negative in the near term, continued volatility
- Materials
steady supply in near-term; availability and cost issues in mid-term
- Commodities
minimal price increases
- Interest rates
remain low
- Labour availability
variable availability; cancelled projects increase, worksite fears decrease
- Productivity
initial declines of 10% to 20%; restored to near normal through adaption over time







ESCALATION

Cautious re-opening of the economy over a period of months means continuing economic impact, but existing projects continue. Contractors add COVID-19 premium but sacrifice margin. Government continues to roll out projects. Private sector pauses but starts to recover in late 2020, so economy is close to business as usual in Q1-Q2 2021.







GDP Forecast Source TD Bank, Canadian Quarterly Economic Forecast, March 17, 2020





Select Regional Snapshots

	 Overview	 Developer Sentiment	 Contractor Sentiment	 Lender Sentiment
BRITISH COLUMBIA	<ul style="list-style-type: none">> Construction declared an essential service.> Major infrastructure projects (LNG Canada and Site C) continue with reduced workforces.> Overall unemployment forecast to stabilize at 8% for year.> GDP projected to decline by 3% before rebounding by 6% in 2021.> Hardest hit sectors (hotel, restaurant, entertainment, retail and tourism) to recover as restrictions are lifted.> New housing starts to decline sharply from 2019 peak.> The value of building permits issued fell by 26.8% compared with March 2019. The residential and non-residential sectors saw a decline of 41.9% and 8.4%, respectively.	<ul style="list-style-type: none">> Fairly optimistic in near term; none of the respondents have reported site closures on current projects.> Caution flags up over future projects; 50% of respondents are postponing, or considering postponing future projects.> Sentiment currently favours keeping planning projects on the books, i.e., foresee few cancellations.	<ul style="list-style-type: none">> High confidence in the short term; concern over supply chain issues and labour availability in longer term. An initial drop in labour availability, especially in mechanical and electrical trades, was noted in March, and abated later, in April.> Also supply chain issues for HVAC from Europe.> Strong effort to implement distancing and onsite hand washing to build confidence workplaces are safe.> Expectation that province will continue rolling out infrastructure and healthcare projects.	<ul style="list-style-type: none">> Finance is tightening, with more scrutiny on new deals.> Business as usual on existing deals.> With big Canadian banks less likely to look at deals from new applicants, there may be opportunities for alternative lenders to step in.
ONTARIO	<ul style="list-style-type: none">> Effective May 4, government allowed restart of additional essential construction projects closed since April 4. These include including shipping and logistics, broadband, telecommunications, and digital infrastructure; any other project that supports the improved delivery of goods and services; municipal projects; colleges and universities; child care centres; schools; and site preparation, excavation, and servicing for institutional, commercial, industrial and residential development.> From April 4, only critical construction projects in healthcare, transportation and energy had been allowed to remain open. New starts in residential were also stopped on that date. Projects with an above-grade permit or nearing completion were allowed to continue after April 4.> GDP drop of 3% to rebound by 6% in 2021.> Curtailed manufacturing, especially in automotive, will add to the economic burden from shutdowns in customer-facing industries.> The value of building permits issued fell by 50.5% compared with March 2019. The residential and non-residential sectors saw a decline of 54.6% and 44.3%, respectively.	<ul style="list-style-type: none">> Maintaining momentum on existing projects; minor delays on materials and low impact on productivity from distancing. Labour availability fluid; adjusting by moving workers from closed sites to open sites.> Staggered shifts are helping to offset productivity losses and keep projects on schedule. Minimal postponements to date, accept that there will be delays, but too early to tell about cancellations.	<ul style="list-style-type: none">> Similar to developers, with some issues in labor availability (due to concern over spread of COVID-19 onsite) and supply chain reliability, such as delayed marble from Italy.> Expect delays to develop in permitting and inspections, and increased costs.	<ul style="list-style-type: none">> Caution flags up.> Reduction in new loan consideration, deal flow slowed, increase in premiums to cover potential risk; closer scrutiny of guarantor and available liquidity, but also more adaptive approach in response to COVID-19.> Greater interest in build-to-rent projects instead of condos for next year and reviewing language in term sheets.

Select Regional Snapshots

	 Overview	 Developer Sentiment	 Contractor Sentiment	 Lender Sentiment
ALBERTA	<ul style="list-style-type: none">> Certain types of essential construction, as well as projects that can comply with CMOH Public Health guidelines/directives permitted.> Record low oil prices aggravating the negative impacts of COVID-19 on the provincial economy.> GDP to contract by up to 6%, largest decline on record.> Radically reduced government revenues (estimated at \$6 Bn) will limit provincial stimulus measures.> Government is investing \$1.5 Bn to aid the construction of Keystone XL pipeline. It is also contributing \$1 Bn to the clean up of orphan oil wells.> Unemployment forecast to average almost 11% for year, with housing starts projected to decline by 15%. The premier expects to see unemployment between 25 to 30% in Q2.> The value of building permits issued increased by 11.7% compared with March 2019. While the residential sector saw a 12.1% decrease, the non-residential sector saw a 41.6% increase.	<ul style="list-style-type: none">> With minimal site closures and no labour issues, for most it has been business as usual, apart from physical distancing and hand washing measures.	<ul style="list-style-type: none">> Cautious confidence; have experienced some supply chain issues and are anticipating more especially from the U.S., in flooring and doors; some local supply issues in pre-cast due to slowdown in production driven by health concerns and precautions.> No labour shortages or cost increases yet. Some loss in productivity due to physical distancing.	<ul style="list-style-type: none">> Rigorous evaluation but no change in approach to new loans.
SASKATCHEWAN	<ul style="list-style-type: none">> Construction, including maintenance and repairs, declared an essential service.> Challenges to exports (potash, canola, and oil and gas) compounded by COVID-19 related losses expected to drag down the provincial economy.> GDP to decline by 5%.> Job losses in arts, entertainment and recreation, accommodations, and food sectors projected to cause 3% drop in employment.> The value of building permits issued increased by 80.9% compared with March 2019. While the residential sector saw a 12.6% decrease, the non-residential sector saw a 182.8% increase.	<ul style="list-style-type: none">> Proceeding with cautious optimism; minor uncertainty with 5% to 15% of projects postponed, but few cancellations of planned projects to date, and little loss of productivity.> Some supply chain delays, planning alternatives.	<ul style="list-style-type: none">> Adapting well and preparing for eventual delays/unavailability in supply change, especially mechanical and electrical.> Minimal productivity loss, little cost increase to date.	<ul style="list-style-type: none">> Exercising greater caution with rigorous review of applications, but no change to date in approvals.

Select Regional Snapshots

	 Overview	 Developer Sentiment	 Contractor Sentiment	 Lender Sentiment
QUEBEC	<ul style="list-style-type: none">> All construction to reopen May 11, subject to following government guidelines set out in a kit to equip employers and workers with the information to manage the risks of spreading COVID-19 and ensure the safety of all stakeholders.> Prior to that date, most construction sites were shut down, except for residential dwellings under construction or renovation where possession occurs on or before July 31, 2020.> Even with that limitation, builders are projected to undertake on an estimated 48,000 to 49,000 housing starts in 2020.> Surveying and building inspection continue.> Jobless rate up 14%.> GDP decline of 4% forecast for year.> The number of permits filed declined 39.1% in March compared with the same period a year earlier. The residential and non-residential sectors saw a decline of 27.8% and 60.3%, respectively.	<ul style="list-style-type: none">> With high level of government mandated site closures, there has also been a higher level of postponements than in other provinces, and more uncertainty of potential cost increases and supply chain delays on reopening.	<ul style="list-style-type: none">> Wait and see attitude following the closure of most sites, not anticipating major cost increases or supply chain delays on reopening.> Labour availability could be an issue.	<ul style="list-style-type: none">> Business as usual for current clients, tightening finance for new applications, taking a more cautious approach and adjusting to rapidly changing situation.> Many requests for deferred payment on capital, interest and taxes.> Investigating new language/ clauses for pandemic.

Top 10 Take Aways



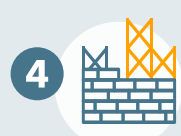
1 The greater the impact of COVID-19 on labour availability and productivity and supply chain reliability in the short term, the more prices will go up.



2 As the pandemic's immediate impact subsides, macro-economic factors will play a more dominant role and influence investment decisions.



3 The adaptation and reliance on testing will drive workforce confidence in site safety in the short term, along with adaptations like staggered shifts being used to counter productivity losses due to social distancing.



4 Most projects under construction will continue, albeit with potential delays from productivity and/or labour and materials availability issues.



5 Greater scrutiny from lenders with new projects, general tightening of finance.



6 Effectiveness of general containment measures major determinant of speed of overall recovery.



7 Industry adaptation critical to building confidence in worksite safety, meeting productivity challenges, and reassessing risk for future projects.



8 Market showing signs of widespread reassessing of supply chains and development of alternate options already.



9 Resilience inherent in relationships among industry participants.



10 Increasing reassessment of contract terms and language with regard to future deals.

Industry Survey Results Summary



CONTRACTORS

86% of survey respondents reported none of their sites closed; 14% reported more than 30% of sites closed.

100% of those with closed sites have plan to reopen with social distancing and PPE.

90% reported no or minimal labour shortage.

55% reported decline in productivity ranging from 5% to more than 15%.

50% have plans in place to adapt pre-COVID supply chains to minimize future disruptions.

80% said consultants are still visiting project sites.

55% have yet to see increase in construction costs; 44% expect to see increases.

44% have experienced supply chain issues; 88% expect to have some issue or delay eventually.

17% experiencing delays in permitting.



LENDERS

69% reported no increase in loan defaults; 6% reported an increase.

21% reported financing tightening.

45% increased due diligence around accepting new applications.



DEVELOPERS

90% of survey respondents have no plans to cancel projects so far.

77% reported no closures.

62% lack plan to adapt supply chains.

45% of Developer's with closed sites, have plans in place to reopen while keeping distancing measures in place.

42% have experienced delays in permitting.



DESIGNERS

20% of respondents have a solid pipeline of projects over next 6 to 12 months because of supply of public works.

40% are certain of a busy pipeline of work for the next 6 months, but unsure about anything beyond.

20% reported some softness at municipal level with master planning projects put on hold, as well as "non-essential" projects in commercial fit-out and interior design.

50% say that they are somewhat confident about securing new work over the next 3 quarters. 14% are not confident.

50% reported between 5 and 15% of projects being postponed.

60% reported permitting delays.