Research

2023 U.S. and Canada Construction Outlook

Navigating a changed reality

JLL SEE A BRIGHTER WAY

jll.com

Contents

State of the industry

Some construction fundamentals improved, but trepidation remains

JLL's Construction Outlook explores key indicators for measuring the health of the construction industry and its near-term outlook. 2023 marks the first year that the report includes the U.S. and Canada. The evaluation of our prior forecasts reflects the report's historical U.S.-only focus.

The latter half of 2022 saw a prolonged decline in construction materials prices, winding down a period of overheated inflation and extreme volatility. The easing of supply chain issues for some categories and the end of the few remaining global COVID measures has returned a feeling of normal. However, the return to "normal" is proving to be complicated, with the construction industry remaining exceptionally busy while also fraught with cautious action in anticipation of a downturn.

The construction pipeline remains robustly active and year-over-year construction costs remain up despite a drop in pricing for select materials. Reimagining the built environment is critical to thriving in a post-COVID world, regardless of sector. However, economic indicators point to broader uncertainty. A brief contraction is predicted, and ongoing geopolitical conflicts imbue the outlook with more volatile swings in supply chain and pricing.

The tensions between the need for investment on a grand scale, incredible momentum already underway, new pricing baselines born from unprecedented inflation, unaddressed structural issues, and a tenuous hold on normal will make 2023 a challenging year.

Costs retrospective and forecast: U.S. and Canada

Pricing moderates while activity grows

U.S. and Canada construction cost indicators: few surprises

In the U.S. and Canada, cost increases in 2022 were within expected ranges; below the prior year but well above historical growth. We expect 2023 construction costs to moderate alongside broader inflation, falling closer to the average historical rate.

We expect Canadian input cost growth to slightly outpace the U.S. in 2023 as Canada is exposed to more infrastructure vulnerabilities than the U.S., for example fewer highways and more congested ports. According to the United Nations, average container ship sits in Canadian ports for 1.98 days, compared to 1.43 days for the U.S. and 0.84 days globally.

U.S. and Canada pricing summary and 2023 outlook

	Materials cost	Labor cost (wages only)	Final cost
2022 U.S. final increase (forecast)	16% (12-18%)	6.5% (5-8%)	12% (10-14%)
Forecast grade	On target	On target	On target
2023 outlook	U.S.: 3-5% CA: 4-6%	U.S.: 5-7% CA: 5-7%	U.S.: 4-6% CA: 5-7%

Materials

- U.S. construction materials prices declined in the second half of 2022, particularly for steel and lumber, but average prices over the course of 2022 were 16% higher than in 2021

Labor

- Year-over-year wage growth for both nonresidential building construction labor and specialty trades was in the U.S. 6.5%, just barely above inflation over the same period
- Total compensation growth for U.S. construction labor including wages and bonuses was slower at 4.3% year over year and remains below overall inflation levels with only one-third of firms raising compensation beyond wages

Construction deliveries and activity

U.S.	Deliveries	Construction activity
2022 final	10.2%	20%
Forecast grade	On target	--
2023 outlook	+5.9%	+5%

U.S. construction value put in place increased by 10.2% year over year, slightly below total construction inflation and in line with the prior year's heightened activity. On a seasonally adjusted annual basis, the year-end rate was up roughly 7.7% from the prior year, with backlogs averaging nine months.

We expect 5.9% higher construction value-in-place and 5% more active construction projects on average in 2023. Construction activity is anticipated to peak in mid-2023 and contract due to a ongoing decline in starts.

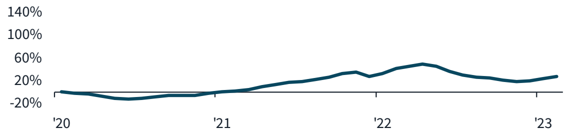
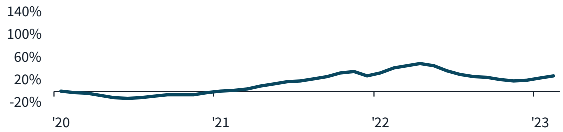
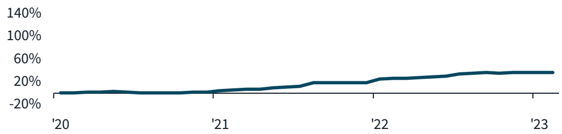
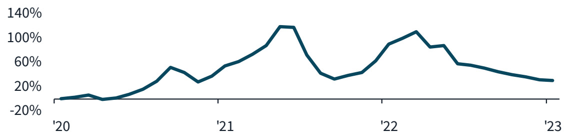
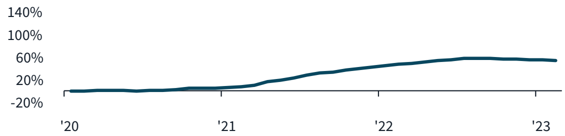
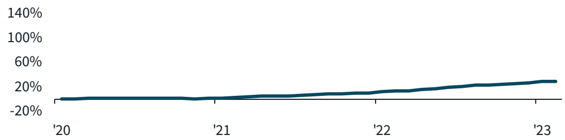
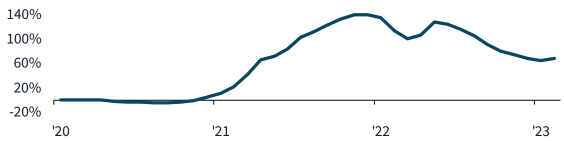
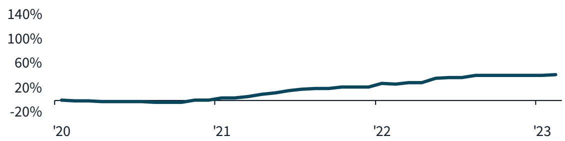
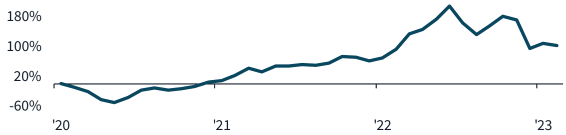
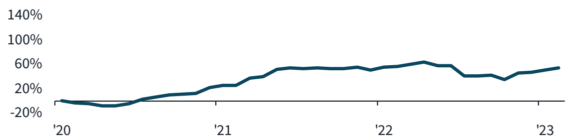
Materials and supply chain update

U.S. and Canada continue to navigate the complexities of global markets

Nonresidential construction inputs in the U.S. and Canada were above historical rates by roughly 7.2% and 12.5% year over year, respectively. Despite net price declines in the latter half of 2022, materials prices still saw considerable inflation as average prices in 2022 were 16% higher than in 2021. The recent trajectory shift has not fully offset the cumulative impact of heightened costs over the course of the year. Volatility, measured as changes in price index variance between years, has cooled significantly relative to the COVID period. Aggregate net construction input volatility is down 60% from the peak inflationary period but remains 50% above long run pre-pandemic levels. However, several materials have returned to historical pre-pandemic volatility and we expect overall price changes to stay more reasonably paced in 2023.

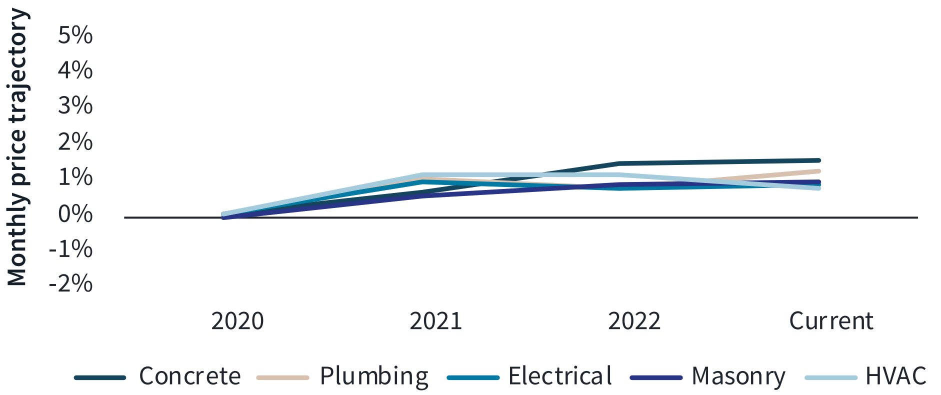
Steel and lumber prices dip while other materials continue to climb

Materials pricing has stabilized, with further net declines unlikely given the major drivers of the recent trajectory changes. Steel and lumber prices have seen significant declines due to numerous factors, including rising interest rates affecting residential development and automobile purchases. However, other materials are still at peak prices and climbing. U.S. steel mills announced price increases in January, and some sawmills on both sides of the border have reduced capacity or closed permanently in response to falling prices.

Historical volatility group	Material	Current volatility (relative to historical)	Three year PPI* change	Year-over-year PPI change	2021 vs. 2022 avg. PPI change
Low volatility	Flat glass	Higher		10%	10%
	Aluminum mill shapes	Similar		-5%	13%
	Insulation materials	Lower		15%	17%
	Lumber and plywood	Higher		-19%	-1%
Medium volatility	Plastic construction products	Higher		9%	23%
	Concrete products	Higher		15%	13%
	Steel mill products	Higher		-30%	9%
High volatility	Gypsum products	Lower		16%	19%
	#2 diesel fuel	Higher		21%	66%
	Copper and brass mill shapes	Similar		-2%	3%

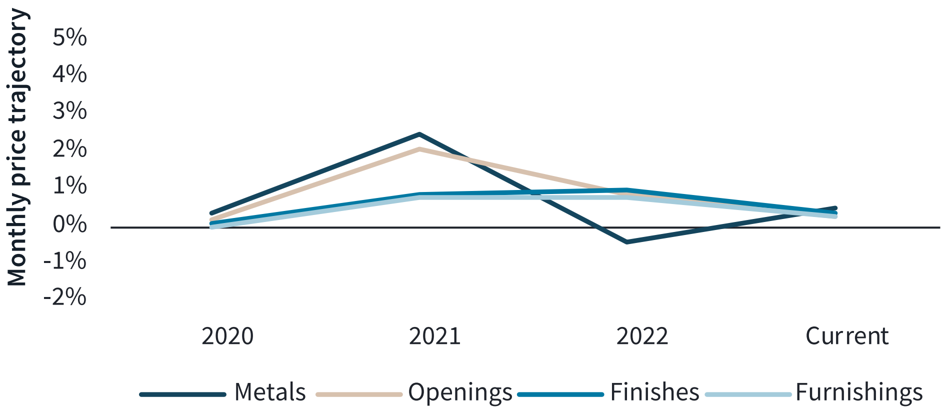
Source: JLL Research, Bureau of Labor Statistics; *Producer Price Index

Average trajectories of building product and construction material divisions



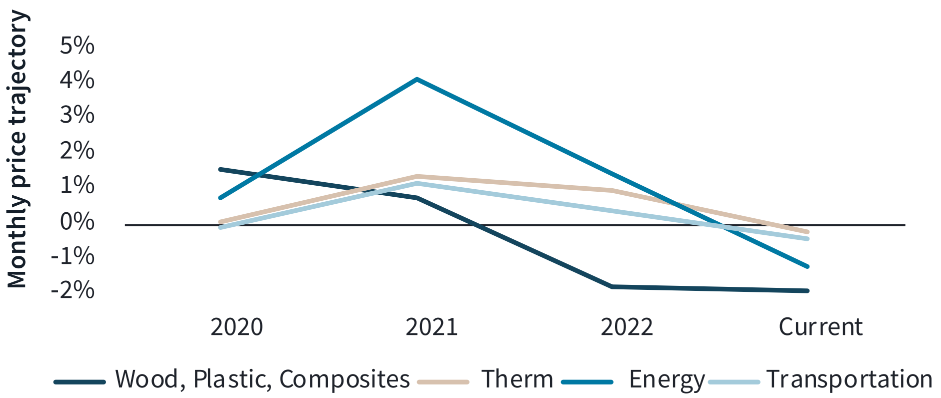
Increasing

Materials with current trajectories above historical averages for growth. High-demand finished goods largely compose this category. Concrete is an anomaly, with no periods of decline in 2022. Local issues dominate and as a result, demand is wildly high. HVAC has been a persistent issue due to the silicon chip shortage, which remains unresolved.



Stabilizing

Divisions for which current trajectory is within range of historical average. Most are seeing growth continue to decelerate but metals have pulled out of the decreasing category due to nonferrous metals increasing in January and will see further increases with steel.



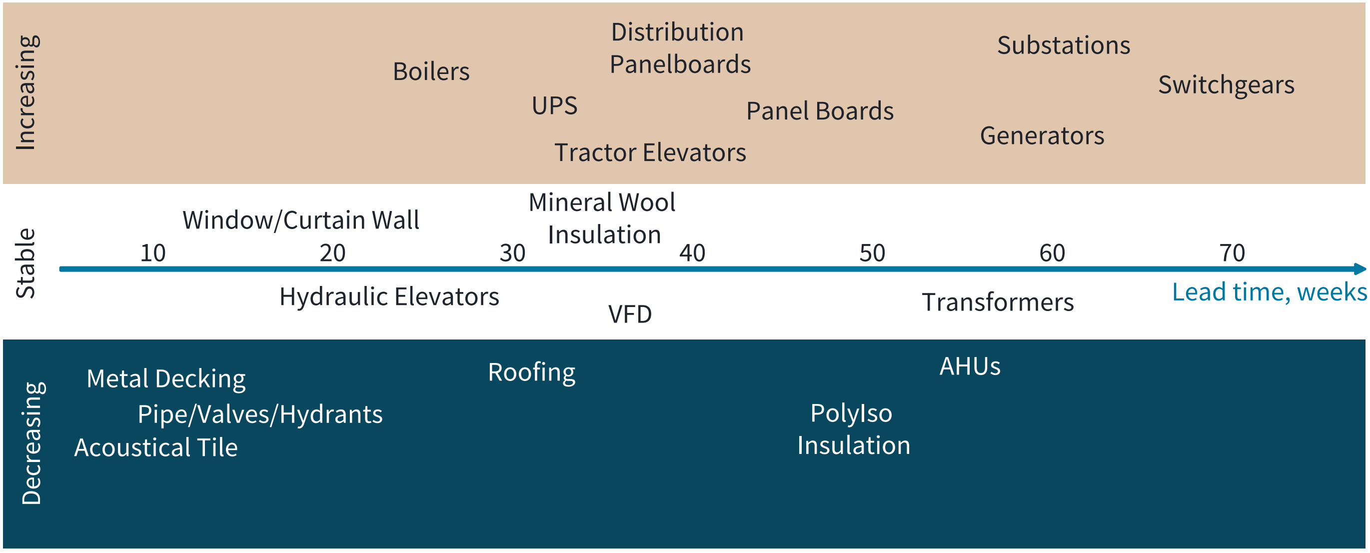
Source: JLL Research, Bureau of Labor Statistics

Declining

Materials with a current price trajectory below zero. Wood continues to fall on residential demand and the other divisions are petroleum dependent. As a result, most of these items are inherently more volatile and we anticipate only modest and temporary declines, as well as rapid changes due to geopolitical events.

Lead times: the wait goes on

Lead times and availability for most materials showed mixed improvement over the year, with finished products for specialty trades such as mechanical, engineering, and plumbing items still experiencing lead time increases or stabilization of extended lead times.



Source: JLL Research

While declining buildings starts will relieve some price pressures, infrastructure projects and international demand for select materials are likely to offset that relief, leading to more moderate growth rates for prices rather than a net drop.

Roofing, acoustical tile, and polyiso insulation, materials which had periods of extreme procurement difficulties in 2022, are seeing lead times trend down but have not returned to historical timelines. Current activity levels and revised procurement strategies, including some stockpiling and early orders, will continue to pressure production lines and limit availability through at least the first half of 2023.

Geopolitics weigh heavy on supply chains and materials forecast

Geopolitics and COVID-19 are still significantly impacting supply chains and materials. China's reopening after COVID-19 increased demand for raw materials, putting pressure on steel and other metal prices. The pace of China's construction and manufacturing industries will determine the trajectory of core items and overall materials pricing amid escalating international tensions.

The U.S. has imposed more sanctions on Chinese companies in response their aid to Iran and is investigating rumored technological aid to Russia. India's reliance on Russian oil and arms has created friction with the U.S., raising the possibility of sanctions. Trade disputes between major economies and their allies will significantly impact the global construction industry, limiting the flow of raw and finished construction materials.

Global demand for construction materials will be further boosted by the rebuilding of Ukraine and impending earthquake reconstruction efforts in Turkey and Syria. Over 100,000 structures were destroyed or damaged in the earthquake. Turkey is a major exporter of cement and clinker, accounting for 40% of US imports or 11% of total usage. Damage to Turkey's national production and export capacity will have global repercussions on a material seeing continued price increases already and may accelerate adoption of lower clinker cement mixes.

Forecast

+3-5% U.S.

+4-6% CA

Metals and petroleum-reliant materials remain wildcards in 2023, with numerous pent-up demand sources ready to be released and put prices back into motion. Reversing the aggressive production cuts to shore up prices along with increasing capacity may temper the cost increases, but responsiveness to changing demand from producers remains questionable.

Concrete and other historically non-volatile materials have continued their march upward, mitigating net declines. However, local issues have dominated the pricing and availability, and no global solutions are readily available. Similarly, production of finished MEP goods remains an issue and creative sourcing continues to be a necessary art to keep schedules on track. Unless reshoring capacity evolves, expect disruptions to chip supplies to continue.

U.S. construction market spotlight

Infrastructure investments yield optimism, but distribution challenges loom

In 2022, the U.S. construction industry faced materials costs volatility, supply chain disruptions and labor shortages as the deficit of commercial building construction workers deepened with elevated activity.

The Infrastructure Investment and Jobs Act (IIJA), Inflation Reduction Act (IRA) and other major bills are kicking off spending, with announced and awarded projects starting construction that will continue for several years depending on project size. Awards are anticipated to accelerate.

When it comes to the deployment of these funds, challenges exist due to eroded purchasing power and a divided House and Senate. While spending is unlikely to be curtailed from current amounts, additional resources may be more difficult to come by if needed in the coming years.

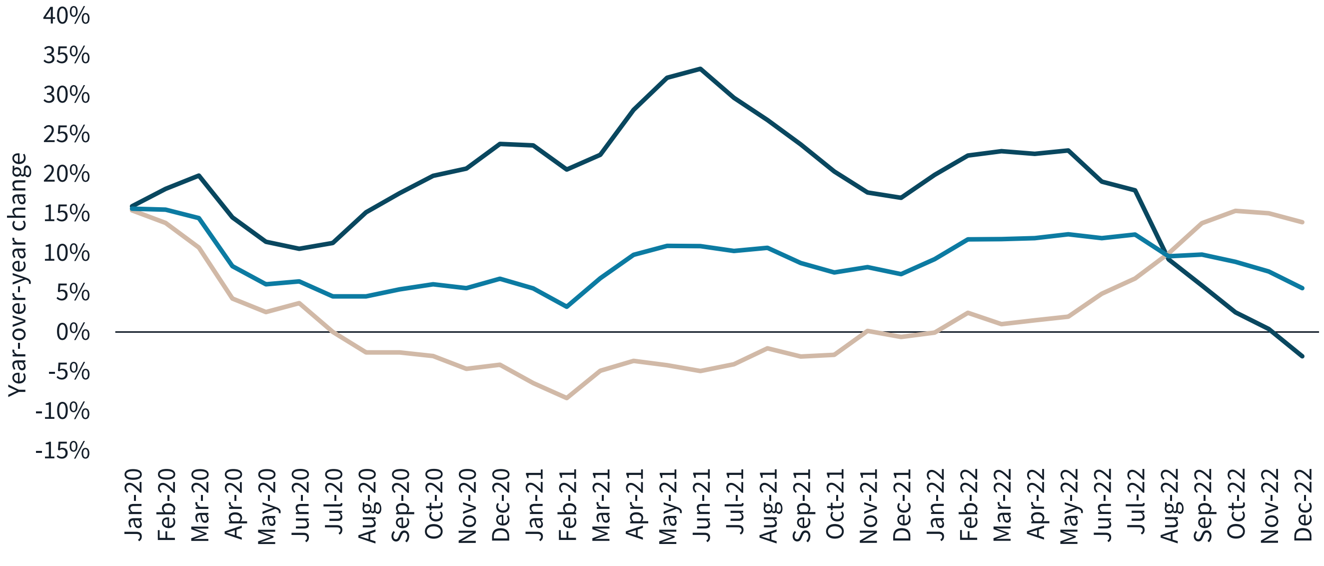
$198 billion

IIJA funding announced in 2022

Key trends in U.S. construction:

- Market participants' willingness to wait out interest rate fluctuations is slowing down starts but demand remains elevated
- We expect construction activity to contract as the current pipeline delivers, stabilizing around pre-pandemic levels by late 2024
- As major investments in the nation's built environment remain a pressing need and activity is elevated, demand for materials and labor will remain strong during this lull in starts
- Billings are expected to surge once economic recovery releases pent-up demand
- Labor remains an issue despite high demand and hiring activity

U.S. construction: value put in place



Source: US Census Bureau

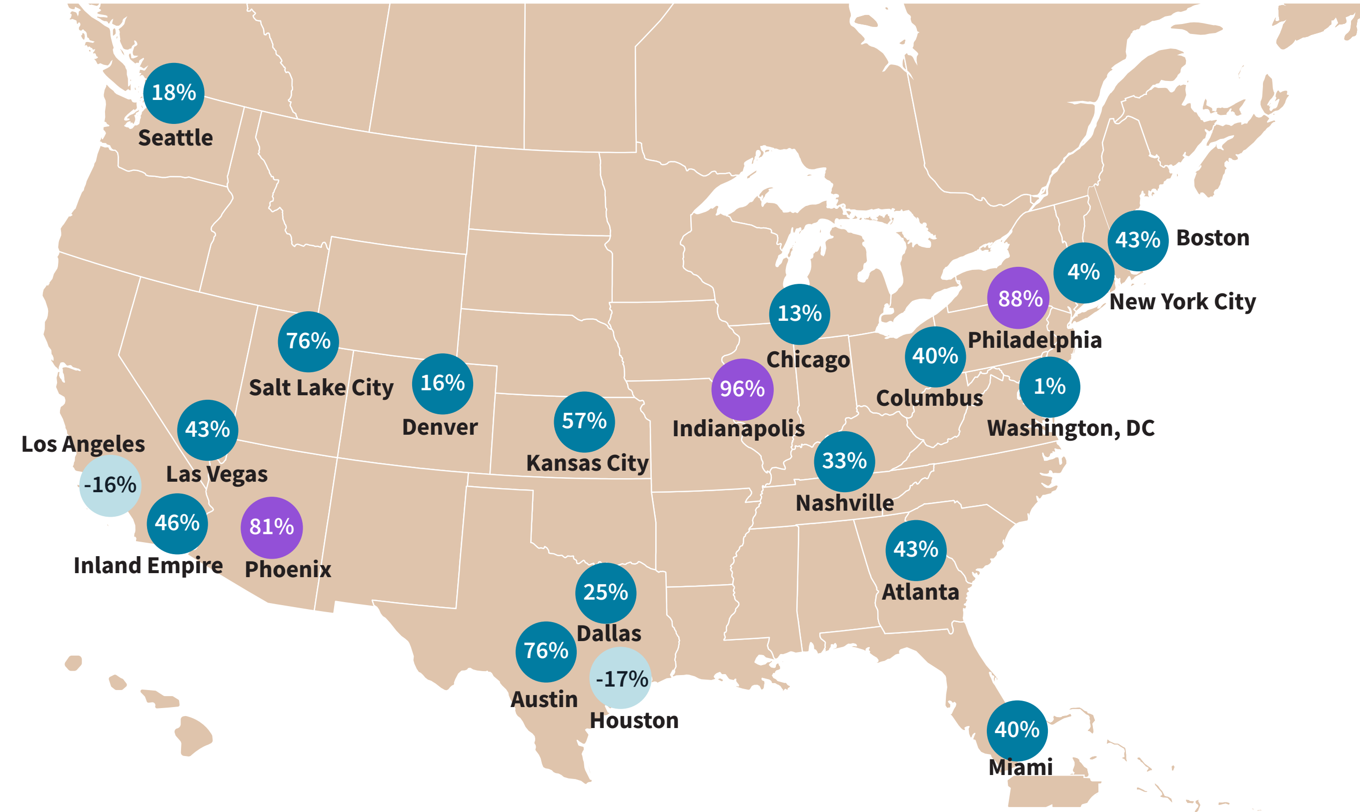
In 2022, U.S. nonresidential construction value in place rose 7.4% year over year, driven by manufacturing and commercial sectors with 35% and 21% increases, respectively. Compared to pre-pandemic levels, these sectors were up 56% and 38% on a seasonally adjusted annual rate.

While most sectors saw growth level off towards year end, the value of nonresidential construction put in place is expected to grow roughly 6% in 2023 with industrial leading the way. Infrastructure sectors are also growing above inflation and are poised to continue growing for the next few years as IIJA funds roll out and the first projects begin to deliver. However, productivity measures fell due to employment growth rates outpacing the value-added increases.

Elevated construction activity nationwide

Most large- and mid-sized metro areas saw a net increase in construction activity in 2022, with 74% of metros experiencing growth in one or more building construction sectors. Industrial development activity was up in nearly half (48%) of metros, while multifamily is experiencing historical inventory growth. However, office construction lagged significantly in most metros. Despite the current momentum, the elevated level of construction activity is expected to peak in the second quarter of 2023 and revert back to pre-pandemic levels while market participants evaluate economic concerns.

Active commercial building construction 2020 vs. 2022

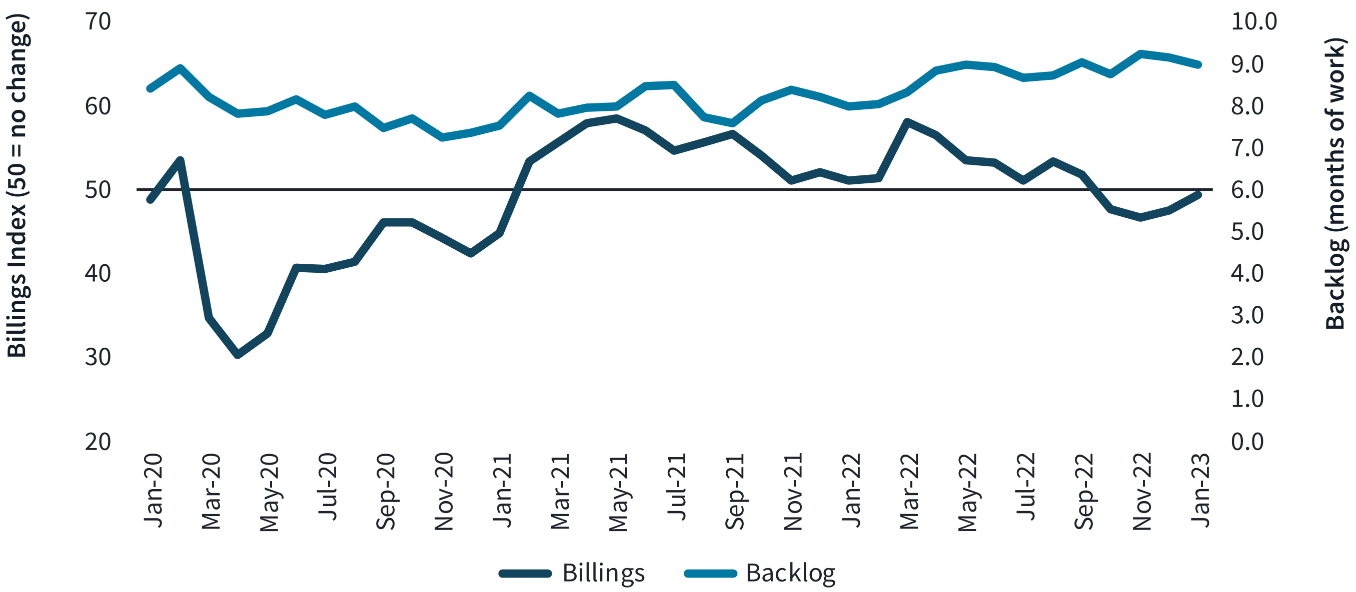


Source: JLL Research, CoStar Market Analytics

The Architectural Billing Index contraction in the last quarter of 2023 suggests a slowdown of construction starts in Q2-Q3 2023. Though cancellations and delays are increasing, most impacted projects cite cost pressures rather than a lack of interest.

Individual sectors are facing various pressures, in addition to the rising cost of capital and input prices.

Billings and Backlog



Source: American Institute of Architects, Association of General Contractors

Industrial

Pandemic-boosted online shopping produced high deliveries. Now, strategic investment in urban logistics and changing manufacturing trends will require a net decline in construction square footage.

Multifamily

Rents are coming down with a boom of product hitting the market, but affordability is still a problem. Targeted conversions and product design will modify the current development pattern.

Retail

Shopper preferences have shifted quickly, leaving considerable amounts of outmoded mall and middle-of-the-road retail space. Conversion and new opportunities remain.

Office

Construction pipeline continues to fall amidst rising construction and financing costs and work-from-home trends. Some markets will see new boutique projects driven by a flight to quality and amenities race.

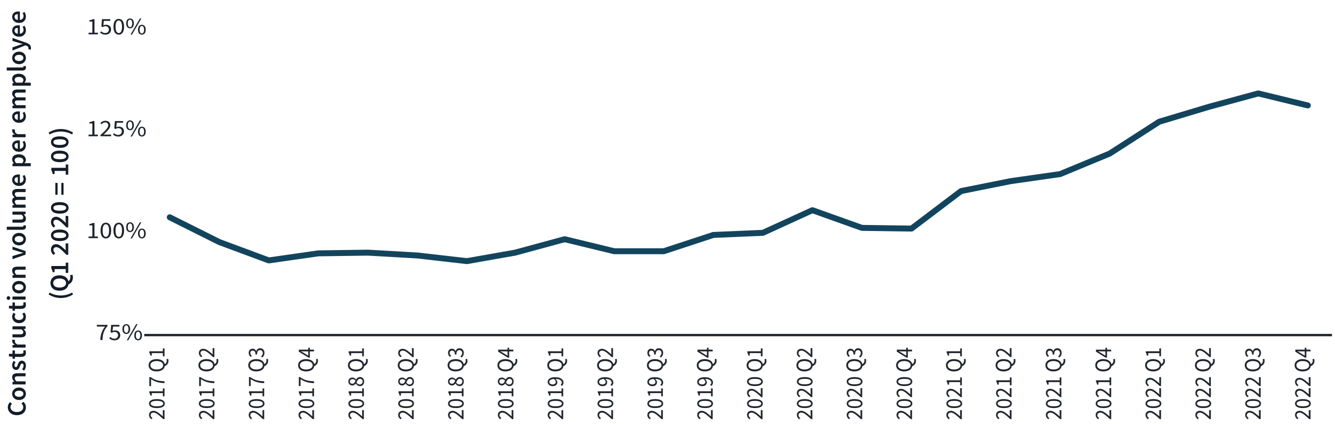
Persistent labor shortages despite high demand and hiring

In 2023, the U.S. construction industry still faces structural challenges with its labor force due to shifting demographics, limited immigration, domestic migration and education preferences. The issues are particularly acute in the skilled trades, project management, and heavy and civil engineering.

Despite recession fears, job openings and additions in the construction industry are at peak levels, with demand for labor exceeding supply. Most contracting firms plan to add more workers in 2023, with 70% stating that their current staffing is low relative to their backlog. However, the industry has seen limited efficiency gains, with the average volume delivered per worker remaining flat despite a significant increase in construction activity.

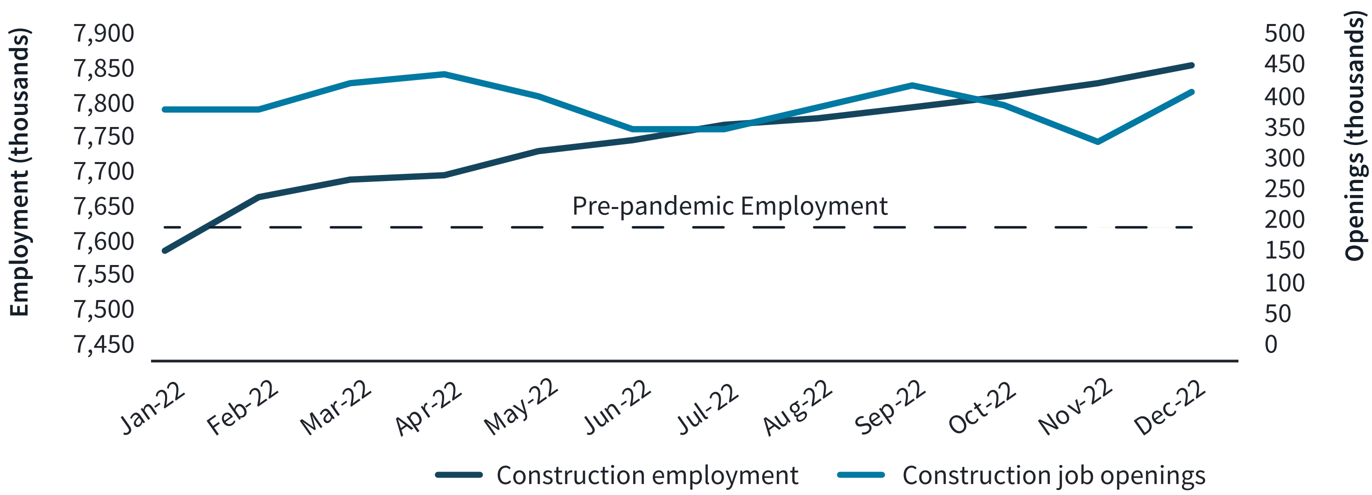
Returning the ratio of construction activity to delivery capacity to pre-pandemic levels would require 320,000 more commercial building construction employees nationwide. Heavy and civil engineering construction faces an even more acute labor shortage with a lower growth rate and will see a more rapid increase in demand for labor expected over the coming year with increased infrastructure funding.

Volume per employee



Source: JLL Research, Bureau of Labor Statistics, CoStar Market Analytics

Labor



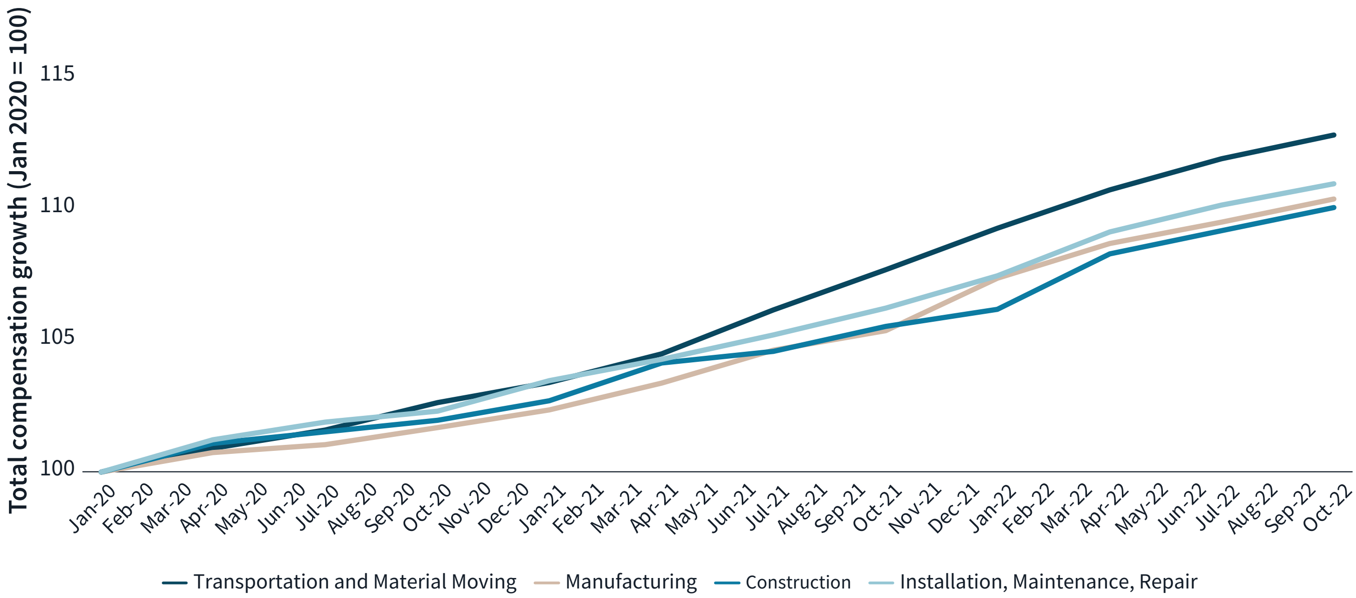
Source: Bureau of Labor Statistics

Wages and compensation

Real growth remains low, creating challenges for attraction and retention

Employee attraction and retention rates in the U.S. are challenged by low compensation growth in real terms. Total compensation growth remained below the rate of inflation at 4.3% in the fourth quarter of 2022, despite three quarters of firms increasing base pay rates and one quarter increasing benefits. Wages barely beat inflation at a 6.5% increase for nonresidential building construction and specialty trades employees and a 5% increase in wages for heavy and civil engineering construction. While construction continues to command a wage premium, sectors competing for similar labor pools offered wage gains above inflation in 2022. These positions also benefit from lower perceived barriers to entry, physical risk, and difficulty.

Shrinking compensation premium for construction labor over the pandemic



Source: JLL Research, Bureau of Labor Statistics

Labor cost forecast

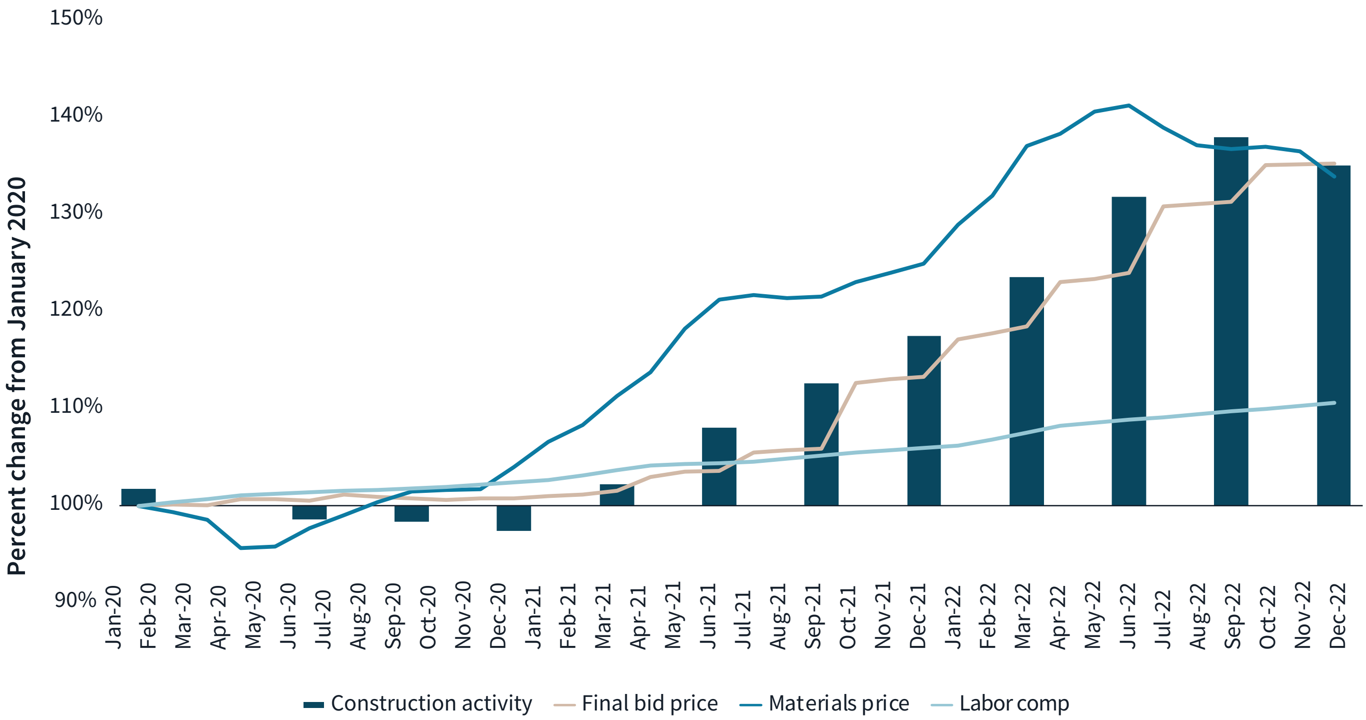
$

+5-7%

Labor costs will continue to rise as there are no structural changes and strong retention efforts in the industry. While a downturn may lead to lower activity or layoffs, consistent real losses to compensation are likely to keep the floor of growth on its present course to maintain a premium over competing industries for quality employees.

Firms strive to overcome post-pandemic challenges and maintain profitability

Final costs



Source: JLL Research, Bureau of Labor Statistics, CoStar Market Analytics

Firm margins caught up to material increases at the end of the year as steel and lumber prices fell, but strong backlogs, labor shortages, supply chain pressure, recession fears and delays remain challenges.

Firms are taking pragmatic approaches that cement connections between labor and clients, boost predictability, and minimize risk. Strong backlogs, careful bids and retention goals for quality labor will keep costs high for clients even if there is a downturn. Small and mid-sized contractors without extensive work lined up may offer competitive pricing, but final bids will continue to increase in step with material and labor availability.

Forecast

Final costs

+4-6%

With margins now restored after a period of high inflation, the pressure to increase prices has reduced. Instead, the pace will align with the expected lower growth for both labor and materials. The focus is on adopting more strategic approaches to managing current backlogs and future work in order to stabilize revenues and mitigate disruptions in the event of a potential downturn. The current plans involve maintaining and gradually expanding capacity, with a cautious approach to increasing prices only as the market can handle it.

Canada construction outlook: market downshifting as supply-side costs mount

Raw material price hikes, labor shortages and rising capital costs will impact construction momentum

In 2022 the combination of price escalations for several raw materials, construction industry labor shortages, and the rising cost of capital dealt a triple blow to the Canadian construction industry, just as the sector was brimming with post-pandemic exuberance. Though Canada faces a nationwide housing shortage and will welcome record levels of immigration — especially in major metropolitan centers —there are signs that a historic construction boom has peaked, in large part due to the confluence of these supply-side factors.

The federal government as well as provincial governments are devising incentive schemes to encourage sustained levels of construction, particularly on the residential side. Major programs include:

- Canadian Mortgage and Housing Corporation's (CMHC's) Rental Housing Finance Initiative, which offers preferential construction loan terms for purpose-built rental housing in exchange for commitments to keep a number of suites in the building affordably priced;
- CMHC's MLI Select program, which provides long-term lending (50 year amortization) and high LTV (95%) for rental projects that demonstrate affordability, accessibility, and energy efficiency attributes;
- Ontario's More Homes Built Faster Act which aims to streamline the construction of 1.5m new housing units over the next decade by eliminating administrative barriers in permitting, and allowing 3 residential units per parcel without needing a change in zoning.

In 2023, we expect to see different levels of government beginning to implement these programs and greenlighting more projects. However, the pace of building will likely slow as construction financing for many developers remains prohibitively high. The trajectory of the looming economic downturn will likely dictate the outlook as well; a deeper recession will make construction riskier and will therefore lead to falling supply. If a recession does not materialize or is less severe than expected, we may expect more ground breakings.

Key trends in Canadian construction:

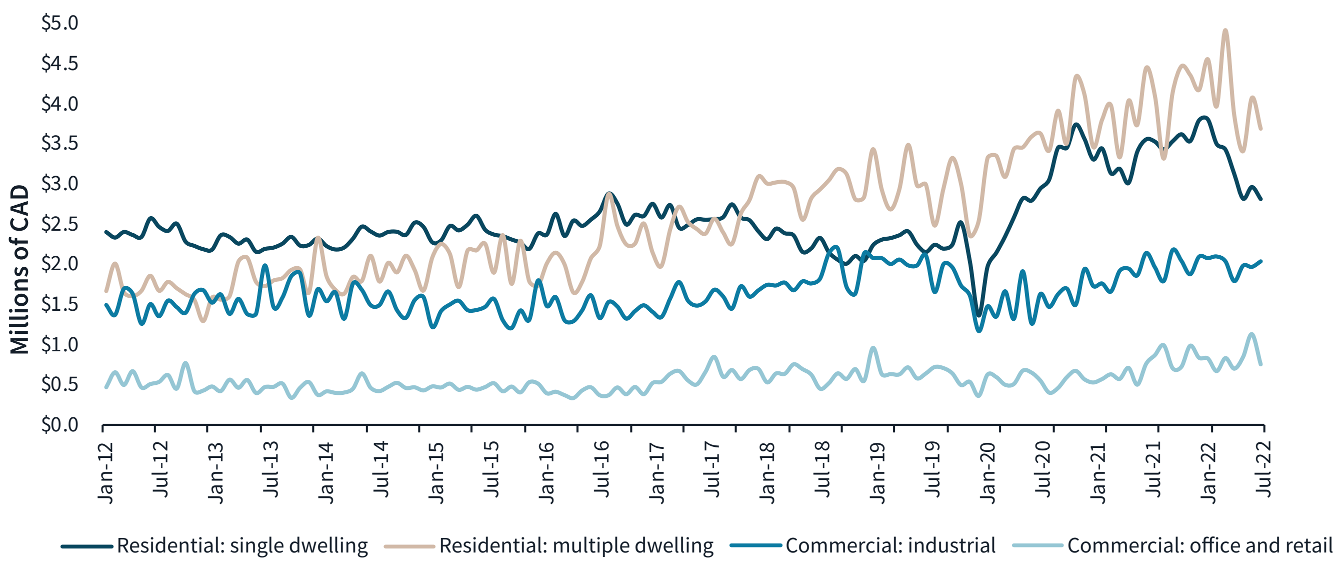
- Demand for residential construction due to Canada's housing shortage and increasing immigration
- Government intervention to help consumers recoup costs related to condominium project cancellations
- Demand for new industrial development, as vacancy is at an all-time low of 1.5%
- Labor shortages across many construction trades as elder generation moves into retirement

Activities and deliveries

Multiple dwelling construction soars

Canada saw a notable rise in construction permitting particularly in the residential segment following the pandemic. The "multiple dwelling" and "single dwelling" sectors saw the largest increases, driven by robust demand for space, low interest rates that facilitated lending, and construction incentives from provincial and federal levels of government. In 2022 permitting was down year-over-year, but commercial construction saw a relatively lighter fall. In 2023 we expect to see permitting mirror the economy - continuing to slow its pace as we move into a downturn, but eventually picking up with the broader economy in the second half of 2023 and early 2024 when lenders have more certainty on borrowing costs.

Value of construction permits, millions of CAD, seasonally adjusted



Source: JLL Research, Statistics Canada

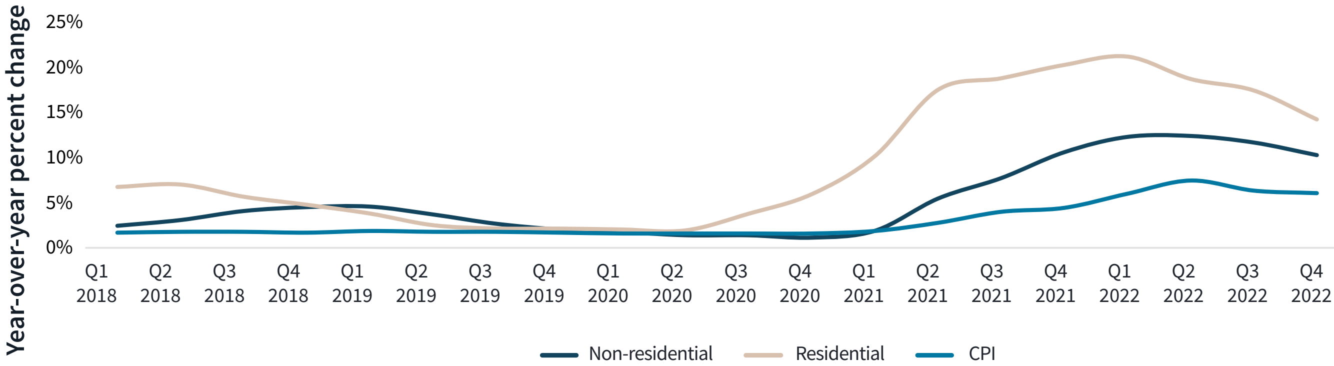
Residential construction delays will squeeze the market in the years ahead

We noted an increase in project cancellations and delays in the latter half of 2022 as developers reconciled higher construction costs with less certain final demand. Urbanation, an analytics firm that tracks the Toronto residential market, estimated that more than 10,000 units expected to be completed in 2022 were delayed. This will put short-term pressure on the housing market and is leading to more disputes between condominium developers and buyers who put down hefty deposits. So many condo projects in the Toronto area have been cancelled or delayed that the Ontario government has enacted legislation doubling the maximum fine to developers for unjustified cancellations to recoup money for purchasers.

Commercial construction costs seeing less volatility than residential

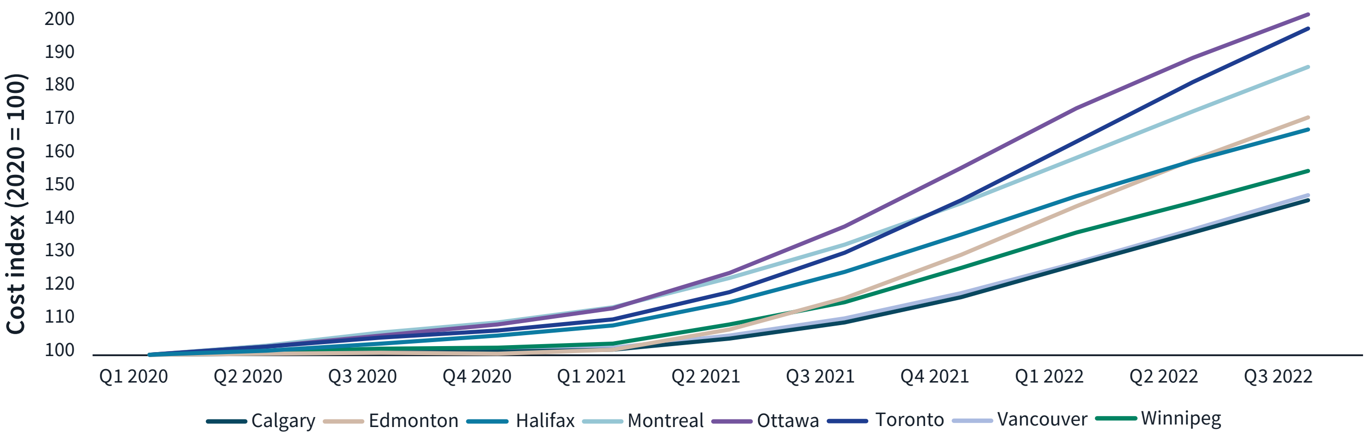
Construction costs have risen more steeply for residential than for commercial, as the robust pace of housing construction since the pandemic contends with supply chain bottlenecks over the past two years. Prices and availability of materials seem to be stabilizing for many inputs over the past six to nine months. We are especially seeing relief on prices and lead times for steel, drywall, studs, roofing, doors, frames and lumber. However, pricing and availability remain challenged for glass and curtainwall, HVAC and electrical equipment and electronics (for example, security devices like card readers). These sectors continue to be plagued by global supply chain disruptions and factory labor availability.

Construction cost index, residential vs. commercial



Source: JLL Research, Statistics Canada

Commercial construction cost index by market, 2020-2022

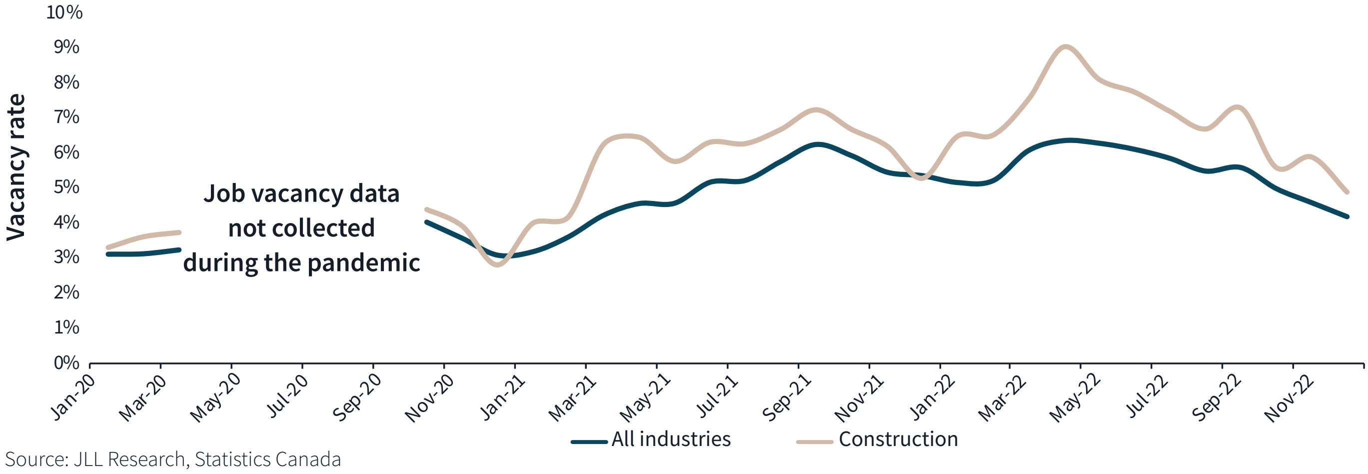


Source: JLL Research, Statistics Canada

Non-residential cost inflation from 2020-2022 has been higher in Eastern Canada (up 100% in Ottawa, 96% in Toronto and 85% in Montreal), due to higher land values and distance from raw materials. Prairie markets have seen slower cost growth (up 70% in Edmonton, 54% in Winnipeg and 46% in Calgary), while Vancouver has experienced slower inflation due to its location near Canada's largest port and an abundance of raw materials.

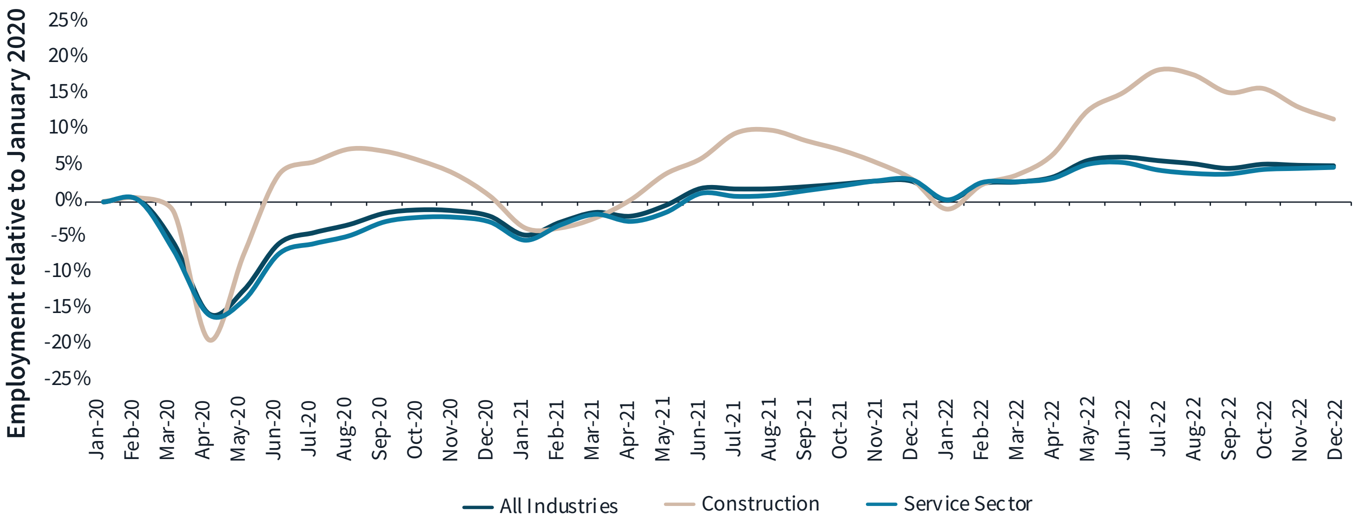
Labor shortage is putting upward pressure on construction wages.

Job vacancy rate



Source: JLL Research, Statistics Canada

Employment change vs. Pre-Covid



Source: JLL Research, Statistics Canada

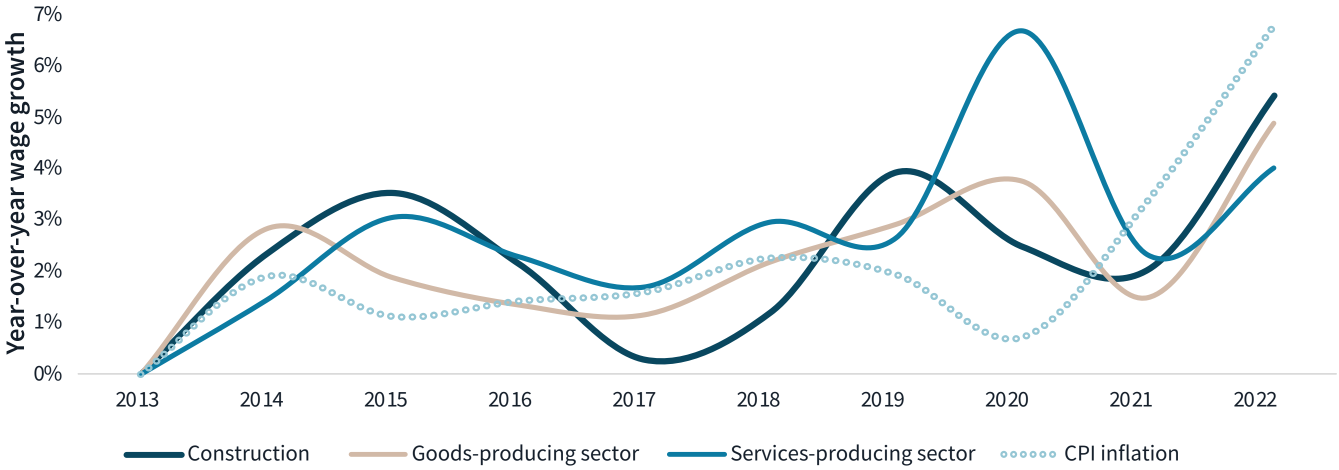
The construction sector has seen a rise in job vacancies compared to all other industries. Currently, Statistics Canada estimates job vacancies at 4.2% across the economy and 4.9% for construction trades, well above the 10-year averages of 3.6% and 4.1%, respectively. Unfilled construction jobs peaked in the early part of 2022 as the construction industry was fulfilling pent-up demand. They have since fallen as activity slowed toward the end of 2022, though construction job vacancies remain well above the overall economy.

Even as construction job vacancies remain elevated relative to the rest of the economy, construction employment has been very strong. This suggests that the supply of laborers cannot keep up with demand. With an aging trade workforce moving into retirement or to other industries, the construction sector has not been able to backfill at the same rate. As a result, builders are offering higher wages and other incentives to workers who are often less experienced. This leads to slower construction at higher costs and is expected to carry on throughout 2023.

Construction industry advocates have predicted a potential shortage in the order of 100,00 tradespeople in Canada by 2029 if no interventions are made. The Canadian government responded in Nov 2022 by prioritizing foreign immigration to support construction labour. They also have been promoting trades educations with scholarships and specialized programs like Level Up!, Building Builders, BILD Alberta Scholarships for Construction Careers, Union Training and Innovation Program, and Women in Skilled Trades Initiative.

Wages

Y-o-y wage increases vs. inflation

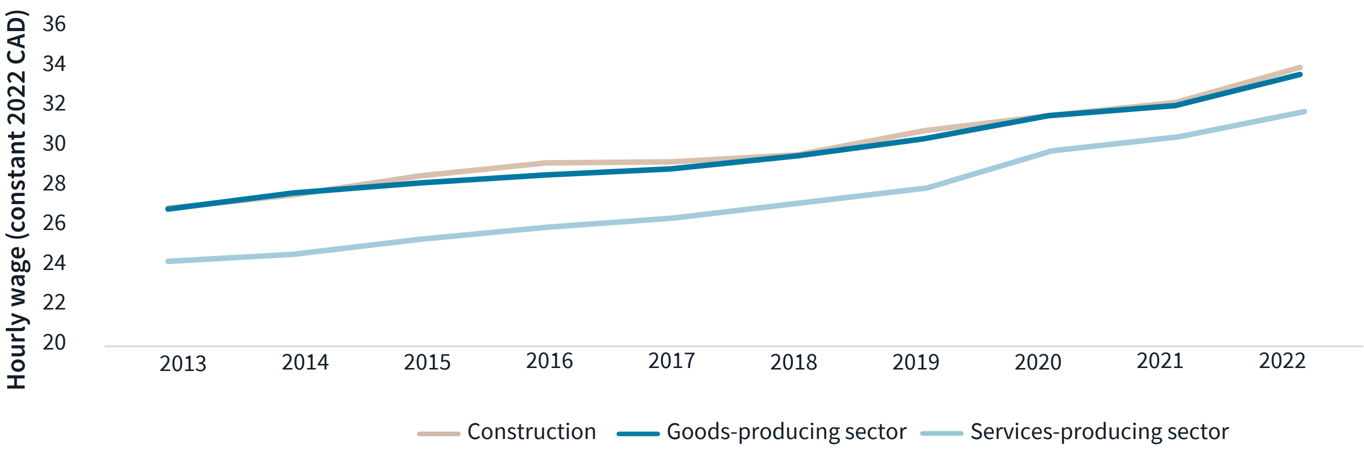


Source: JLL Research, Statistics Canada

Robust demand running up against a labor shortage has given construction workers significant leverage in wage negotiations over the past year. Full-time salaries are up 5.4% over a year ago, compared with average wage increases of 4.9% across all goods-producing industries and 4% in all service-producing industries. However, the 6.8% annual increase in inflation was far higher than wage growth, leaving many workers with diminished purchasing power from a year ago. In fact, only one industry saw 2022 wage growth outpace inflation: Professional, Scientific, and Technical Services (PSTS), where wages rose by 8.2% y-o-y.

The Bank of Canada's interest rate hikes are having their intended effect thus far, with the inflation rate falling to 5.2% as of February 2022. Yet there are many factors at play that could keep inflation slightly higher than historical levels. The Russia-Ukraine War will keep pressure on prices for energy, grains, and fertilizers. Re-shoring and "just in case" inventorying will add cost to supply chains. Finally, Canada's aging workforce could keep unemployment near historic lows and therefore could lead to sustained upward pressure on wages for some time. As we have noted, the construction industry is especially vulnerable to labor shortages – more than most other industries. For this reason, we believe construction wage inflation could stay in the range of 5-7% in the year ahead, but will likely fall from 2022 levels as fewer overall projects will dampen demand for workers.

Average hourly wage rate, CAD, current dollars



Source: JLL research, EMSI Lightcast

Contacts:

Todd Burns
President, PDS
todd.burns@jll.com

Andrew Volz
Construction
Research Lead, Americas
andrew.volz@jll.com

Scott Figler
National Research
Director, Canada
scott.figler@jll.com

About JLL

JLL (NYSE: JLL) is a leading professional services firm that specializes in real estate and investment management. JLL shapes the future of real estate for a better world by using the most advanced technology to create rewarding opportunities, amazing spaces and sustainable real estate solutions for our clients, our people and our communities. JLL is a Fortune 500 company with annual revenue of $19.4 billion, operations in over 80 countries and a global workforce of more than 102,000 as of September 30, 2022. JLL is the brand name, and a registered trademark, of Jones Lang LaSalle Incorporated. For further information, visit jll.com.

About JLL Research

JLL's research team delivers intelligence, analysis and insight through market-leading reports and services that illuminate today's commercial real estate dynamics and identify tomorrow's challenges and opportunities. Our more than 400 global research professionals track and analyze economic and property trends and forecast future conditions in over 60 countries, producing unrivalled local and global perspectives. Our research and expertise, fueled by real-time information and innovative thinking around the world, creates a competitive advantage for our clients and drives successful strategies and optimal real estate decisions.