



FOURTH QUARTER 2022

NORTH AMERICA

QUARTERLY CONSTRUCTION COST REPORT



ON THE COVER

“OLD MAIN” MODERNIZATION & ADDITION ▲

MOUNT VERNON, WA

Mount Vernon High School's centerpiece building, otherwise known as 'Old Main', recently celebrated a century of educating Mount Vernon's youth. Over the span of the last 100 years, Old Main has become a historical and cultural community staple, providing classroom spaces for multiple generations living in the Skagit Valley region. But learning environments have evolved over the last century. As part of a 2016 Bond Measure, Old Main recently underwent a modernization and expansion to provide safe, inclusive, energy efficient, and inviting spaces for generations to come.

The modernization and addition project for Old Main included work to both the building and site. Improvements to the Old Main building included work in three general categories: preservation, seismic upgrades, and modernization of systems. The original auditorium footprint was restored and modern theatrical systems installed. Historical features including the exterior brick and terra cotta and terrazzo floors were restored. Modern improvements included the addition of energy efficient windows, new HVAC systems, and new learning technology. These building changes were made to retain the historic dignity of the building, while positively impacting occupant health and safety, and promoting an equitable learning experience. Other work on the campus included various improvements to existing structures and attention to overall campus site improvements that unified connections between buildings and improved overall security features.

Our team of specialists provided project management services to Mount Vernon School District. Our goal for this project was to deliver successful outcomes to Mount Vernon – focusing on creating a new space that aligned with their desired criteria, while maintaining the essence of the 100-year-old building. To realize the school district's vision for Old Main and other improvements, our team worked closely with the school district, the design team, and the general contractor helping to guide the project toward an environment representative of the community and to deliver an up-to-date learning environment that their students needed.

NORTH AMERICA

AT A GLANCE

As 2022 comes to a close, the construction industry continues to face a variety of challenges. Labor remains in relatively short supply. Supply chain issues, while easing, remain. Costs continue to escalate, albeit at a slowing pace. The Federal Reserve's efforts to crush pandemic era inflation have started to work, resulting in a downturn for the housing industry and depressing starts in non-residential construction.

The AIA's Architecture Billing Index for November 2022 reinforced the downward trend reported a month earlier indicating that "...not only are firms seeing a decline in current work, but that less new work is entering the pipeline as well". Of course, the trend is not uniform. The AIA reported that design firms in the South reported a small increase in billings while firms in the Northeast have seen the largest declines.

While year-over-year figures for many construction materials still show hefty increases, prices for some items such as lumber, plywood, and aluminum sheet have decreased in recent months, providing developers and contractors with little clarity about the future trajectory of total costs.

Workforce numbers are also growing, but in a positive way, with construction companies adding 20,000 employees in November and raising hourly wages more steeply than other industries. While these numbers are good, the number of job openings continues to outpace hiring in most areas.

Overall, developers, designers, and contractors are keeping a wary eye on the coming new year.

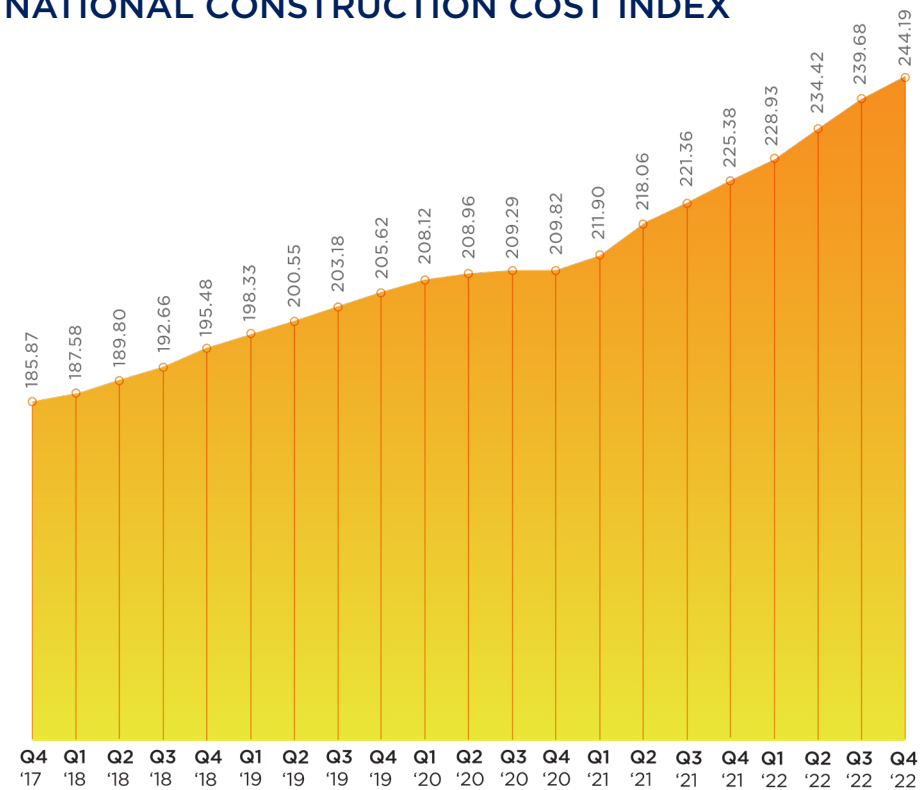
As we ride the unpredictable motion during this time, we all seek stability that is informed by experience and facts. At Rider Levett Bucknall, we have always placed a high premium on earning and keeping your trust, and we assure you that we will continue to do so in the face of the changing challenges and opportunities that continue to present themselves in the construction industry.



Julian Anderson FRICS
President,
North America

UNITED STATES

NATIONAL CONSTRUCTION COST INDEX



Welcome to the fourth quarter 2022 issue of the Rider Levett Bucknall Quarterly Cost Report! This issue contains data current to mid-Q4 2022.

**\$1,807.5
Billion**

According to the U.S. Department of Commerce, construction-put-in-place during November 2022 was estimated at a seasonally adjusted annual rate of \$1,807.5 billion, which is

**0.2%
above**

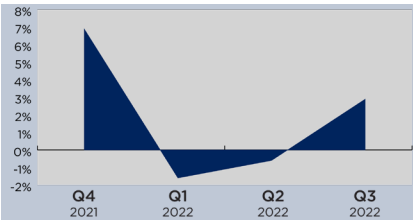
the revised October 2022 estimate of \$1,803.2 billion, and

**8.5%
above**

the November 2021 estimate of \$1,665.2 billion.

The National Construction Cost Index shows the changing cost of construction between October 2017 and October 2022, relative to a base of 100 in April 2001. Index recalibrated as of April 2011.

KEY UNITED STATES STATISTICS

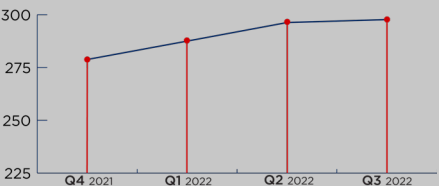


Gross Domestic Product* (GDP)

GDP continues to fluctuate, due to inflation. GDP reports at 2.9% in the third quarter.

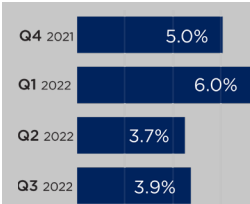
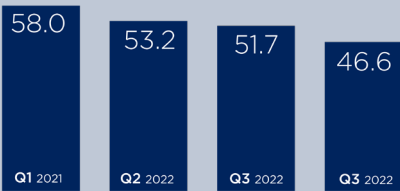
Consumer Price Index (CPI)

CPI is 296.8 a year-over-year increase of 8.20%; compared to the previous year-over-year ('21-'20) increase of 5.38%.



Architectural Billings Index (ABI)

The ABI reports 46.6, with architecture firms continuing to report a steady decline in their business conditions.

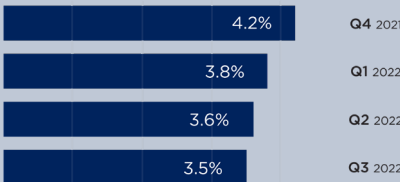


Construction Unemployment

Construction unemployment continued a downward trend, reporting a rate of 3.4% in Q3.

National Unemployment

National unemployment continues a downward trend, reporting 3.5% during Q3.



GDP represented in percent change from the preceding quarter, seasonally adjusted at annual rates. CPI quarterly figures represent the monthly value at the end of the quarter. Inflation rates represent the total price of inflation from the previous quarter, based on the change in the Consumer Price Index. ABI is derived from a monthly American Institute of Architects survey of architectural firms of their work on the boards, reported at the end of the period. Construction Put-in-Place figures represent total value of construction dollars in billions spent at a seasonally adjusted annual rate taken at the end of each quarter. General Unemployment rates are based on the total population 16 years and older. Construction Unemployment rates represent only the percent of experienced private wage and salary workers in the construction industry 16 years and older. National unemployment rates are seasonally adjusted, reflecting the average of a three-month period.

* Adjustments made to GDP based on amended changes from the Bureau of Economic Analysis.

Sources: U.S. Bureau of Labor Statistics, Bureau of Economic Analysis, American Institute of Architects.

UNITED STATES

INDICATIVE CONSTRUCTION COSTS

LOCATION	OFFICES				RETAIL SHOPPING				HOTELS				HOSPITAL	
	PRIME		SECONDARY		CENTER		STRIP		5 STAR		3 STAR		GENERAL	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
USA														
Boston	350	550	225	325	200	300	150	240	400	580	275	390	425	675
Chicago	300	500	180	300	185	400	150	250	450	700	320	450	380	800
Denver	315	445	180	245	145	235	135	230	365	575	285	415	430	685
Honolulu	335	570	210	330	260	550	240	410	645	785	370	590	500	840
Las Vegas	200	350	135	190	120	480	105	190	310	580	185	315	400	475
Los Angeles	245	370	185	275	165	360	140	200	390	575	295	375	630	950
New York	365	845	215	530	315	630	335	660	455	680	335	455	570	855
Phoenix	220	375	140	200	175	295	100	170	350	550	185	275	425	600
Portland	230	315	210	310	210	315	185	260	360	460	280	385	550	710
San Francisco	420	720	325	525	310	510	235	400	525	775	380	600	570	890
Seattle	315	585	215	290	235	375	175	290	410	640	290	400	510	710
Washington	335	550	230	360	180	325	145	240	425	650	280	435	510	885
CANADA														
Calgary	260	400	220	265	215	295	140	185	285	450	210	240	650	895
Toronto	270	440	220	310	200	425	160	210	390	715	230	280	570	895

CONSTRUCTION INDUSTRY CONFIDENCE INDEX

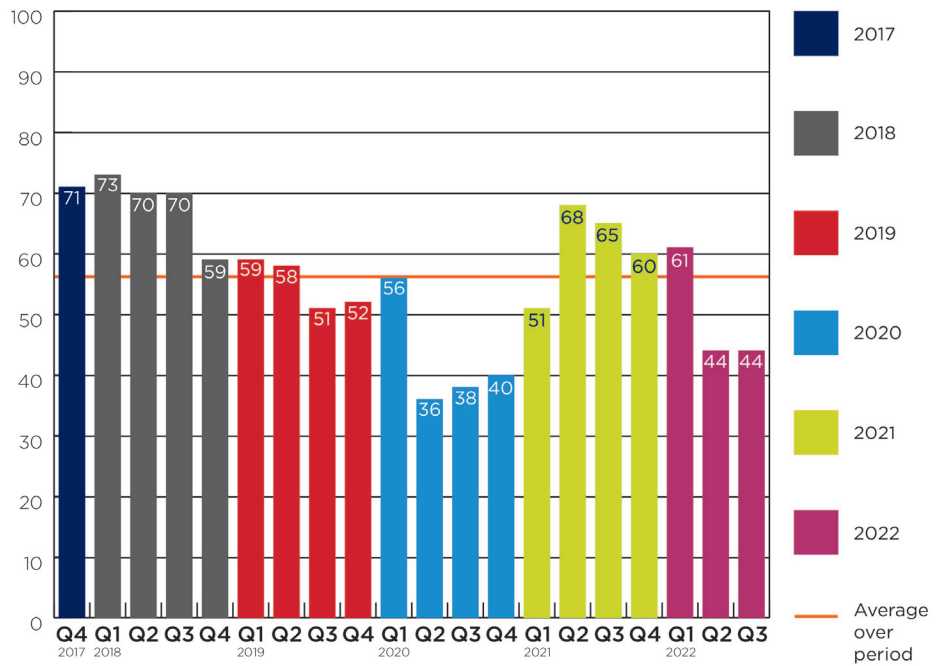
ENR's Construction Industry Confidence Index (CICI), launched in 2009, is a survey of different types of firms (Design Professionals, General Contractors and Subcontractors) and represents their overall view of the current and future construction market. The Q3 2022 CICI is 44, 12 points below the five-year average of 56.3. This index reflects a drop of 17 points from Q1 2022, and down 21 points year-over-year. It is worth noting that the threshold for negative sentiment regarding industry growth is 50.

The CICI, unchanged from Q2, reflects ongoing uncertainty largely driven by mixed-economic indicators. The national jobs report shows that unemployment remains low (3.7% in November 2022) and job growth remains steady. However, CPI inflation - at a 40-year high - combined with supply chain issues and skilled labor shortages, creates concerns and challenges for the construction industry moving into 2023.

Source: 2022 Q3 Engineering News Record Confidence Survey

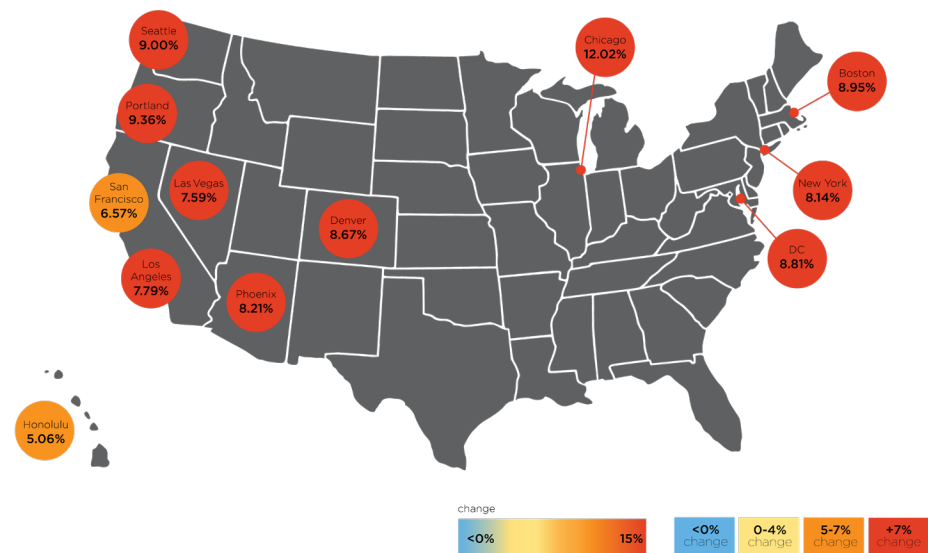
The data in the chart below represents estimates of current building costs in each respective market. Costs may vary as a consequence of factors such as site conditions, climatic conditions, standards of specification, market conditions, etc. Values of U.S. locations represent hard construction costs based on U.S. dollars per square foot of gross floor area, while values of Canadian locations represent hard construction costs based on Canadian dollars per square foot.

INDUSTRIAL		PARKING				RESIDENTIAL				EDUCATION					
WAREHOUSE		GROUND		BASEMENT		MULTI-FAMILY		SINGLE-FAMILY		ELEMENTARY		HIGH SCHOOL		UNIVERSITY	
LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
110	190	85	140	100	160	185	315	260	360	350	475	375	500	375	600
120	200	80	130	140	250	180	420	250	500	280	420	320	450	400	800
105	195	145	200	200	250	185	325	210	465	290	430	325	490	410	600
120	250	150	200	165	270	265	445	290	550	500	825	510	700	640	940
70	100	50	85	70	145	150	355	175	350	225	350	270	455	350	575
130	195	110	130	140	200	240	380	210	375	375	490	320	565	470	640
120	215	100	185	140	225	225	425	315	630	485	610	530	670	520	740
75	125	50	90	80	135	155	245	165	450	250	350	270	425	375	575
160	240	140	180	160	245	210	315	185	340	360	450	400	500	435	585
150	255	130	195	240	345	385	600	300	490	385	560	425	740	560	990
145	210	105	140	170	240	245	415	220	335	365	575	290	580	515	690
130	210	70	95	90	155	205	355	265	390	320	435	340	460	420	700
110	165	85	120	95	150	185	255	275	410	235	330	240	340	315	490
120	165	110	140	135	200	220	290	285	560	245	300	245	320	285	500



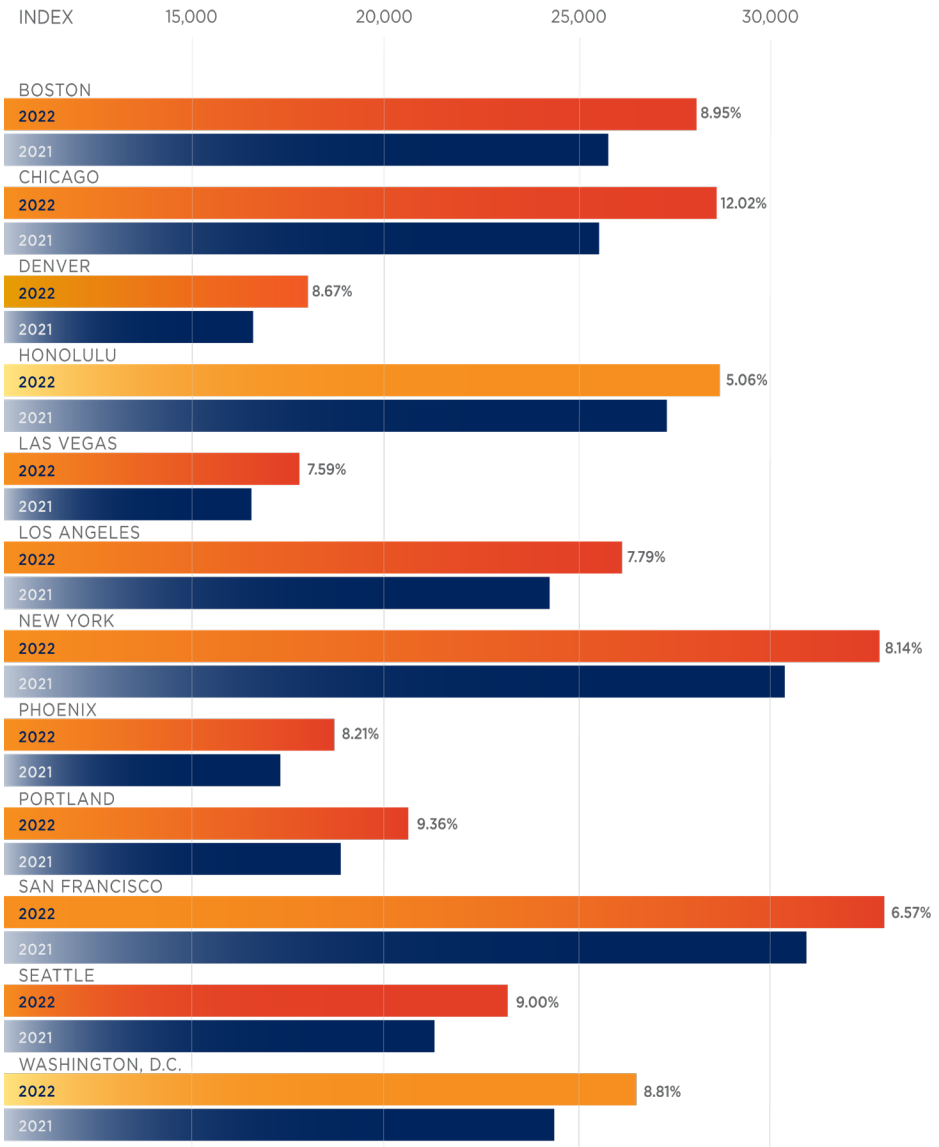
UNITED STATES

COMPARATIVE COST INDEX



City	October 2021	January 2022	April 2022	July 2022	October 2022	Annual % Change
<div></div> Boston	25,877	26,350	26,876	27,443	28,192	8.95%
<div></div> Chicago	25,636	26,026	27,093	28,583	28,718	12.02%
<div></div> Denver	16,567	16,805	17,468	17,821	18,004	8.67%
<div></div> Honolulu	27,413	27,705	28,125	28,533	28,802	5.06%
<div></div> Las Vegas	16,522	16,762	17,102	17,456	17,777	7.59%
<div></div> Los Angeles	24,341	24,760	25,291	25,756	26,238	7.79%
<div></div> New York	30,504	31,087	31,918	32,476	32,986	8.14%
<div></div> Phoenix	17,276	17,516	17,897	18,309	18,693	8.21%
<div></div> Portland	18,864	19,141	19,578	20,055	20,631	9.36%
<div></div> San Francisco	31,073	31,748	32,246	32,656	33,115	6.57%
<div></div> Seattle	21,320	21,551	22,038	22,575	23,239	9.00%
<div></div> Washington, DC	24,460	24,918	25,444	25,880	26,615	8.81%

Comparative Cost Map and Bar Graph Indicate percentage change between October 2021 to October 2022.



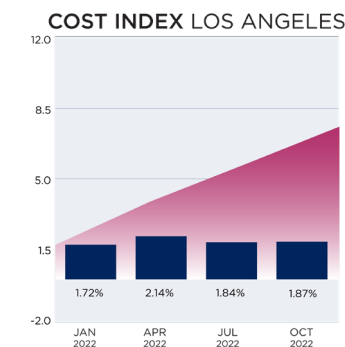
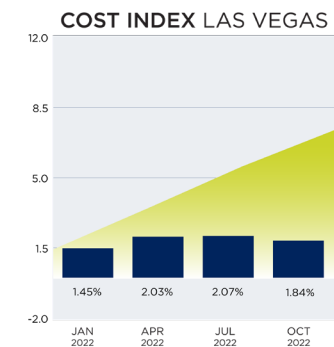
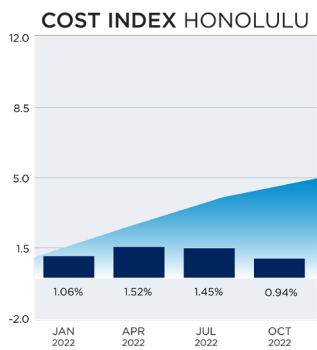
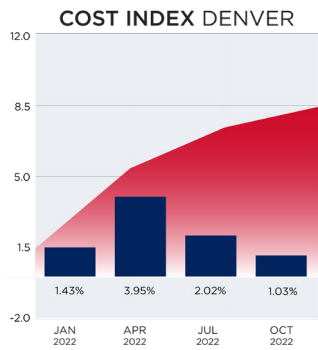
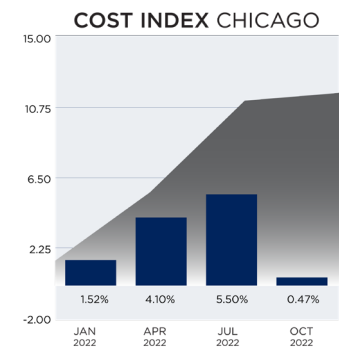
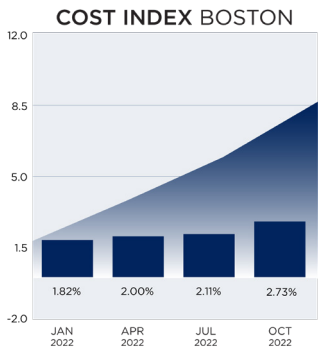
Each quarter we look at the comparative cost of construction in 12 US cities, indexing them to show how costs are changing in each city in particular, and against the costs in the other 11 locations. You will be able to find this information in the graph titled Comparative Cost Index (above) and in the Cost and Change Summary (right).

Our Comparative Cost Index tracks the 'true' bid cost of construction, which includes, in addition to costs of labor and materials, general contractor and sub-contractor overhead costs and fees (profit). The index also includes applicable sales/use taxes that 'standard' construction contracts attract. In a 'boom,' construction costs typically increase more rapidly than the net cost of labor and materials. This happens as the overhead levels and profit margins are increased in response to the increasing demand. Similarly, in a 'bust', construction cost increases are dampened (or may even be reversed) due to reductions in overheads and profit margins.

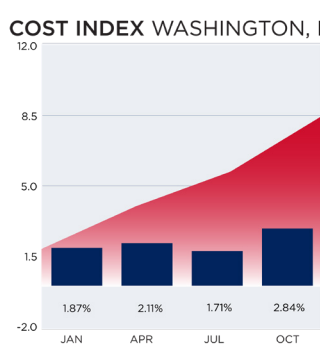
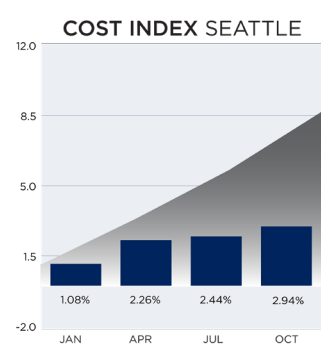
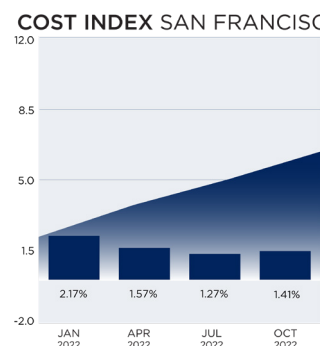
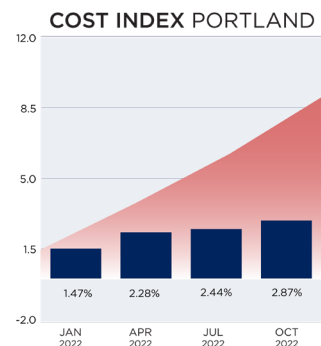
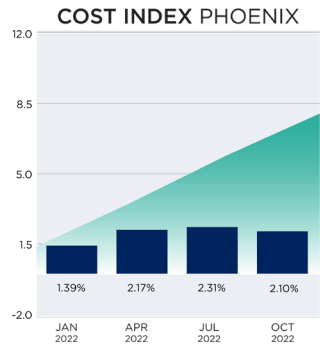
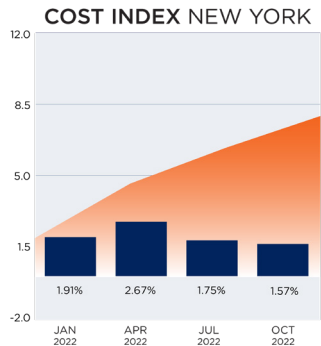
UNITED STATES

The following escalation charts track changes in the cost of construction each quarter in many of the cities where RLB offices are located. Each chart illustrates the percentage change per period and the cumulative percentage change throughout the charted timeline.

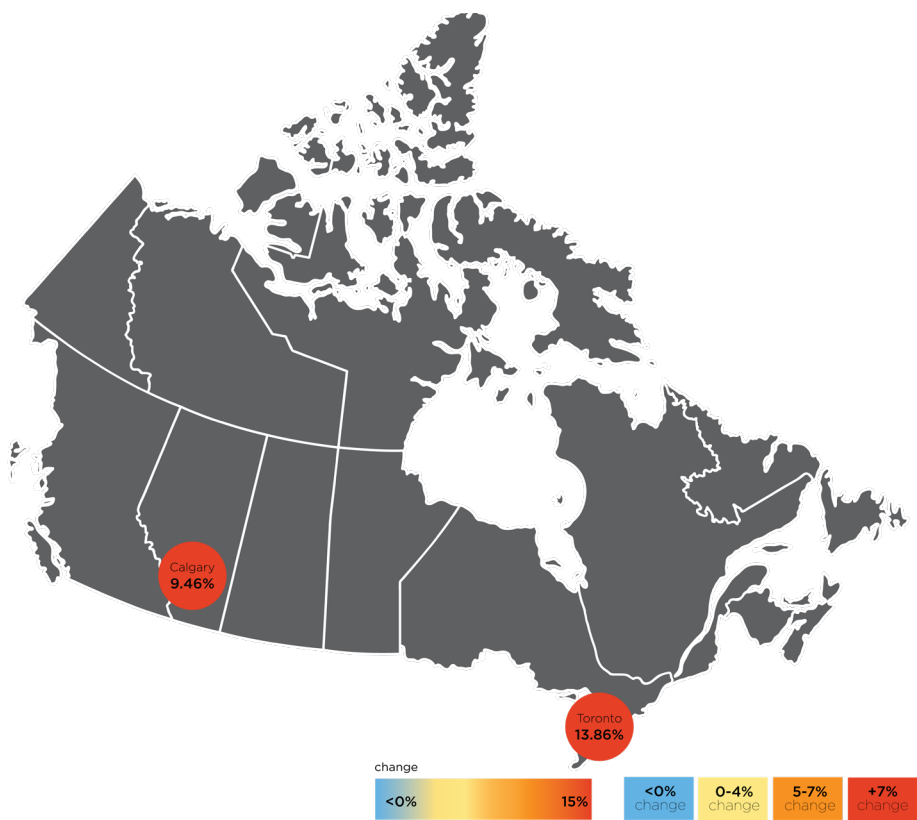
■ Percentage change per quarter ▲ Cumulative percentage change for the period shown



Our research suggests that between July 1, 2022 and October 1, 2022 the national average increase in construction costs was approximately 1.88%. Boston, Phoenix, Portland, Seattle, and Washington, D.C. all experienced increases greater than 1.88% in the quarter. Chicago, Denver, Honolulu, Las Vegas, Los Angeles, New York, and San Francisco experienced increases less than the national average.

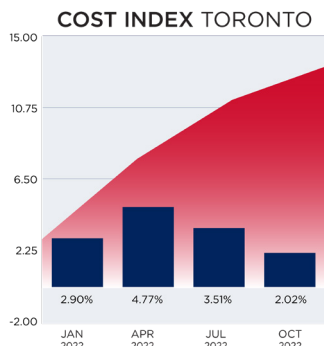
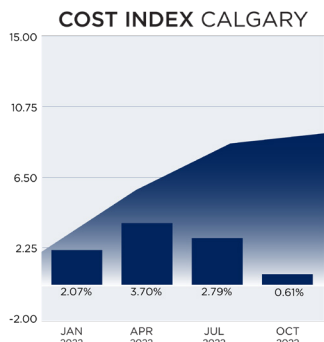


COMPARATIVE COST INDEX

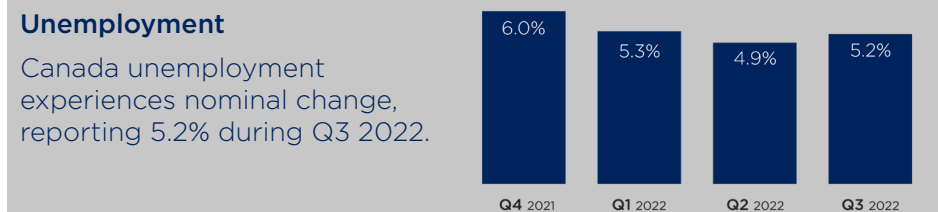
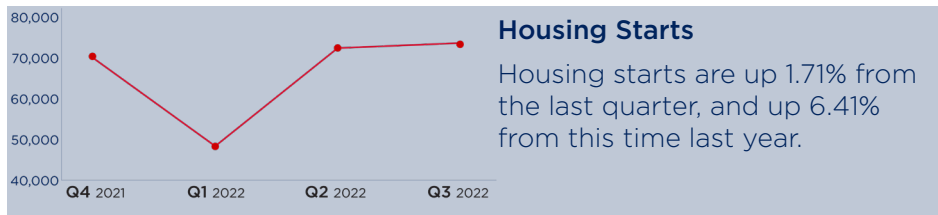
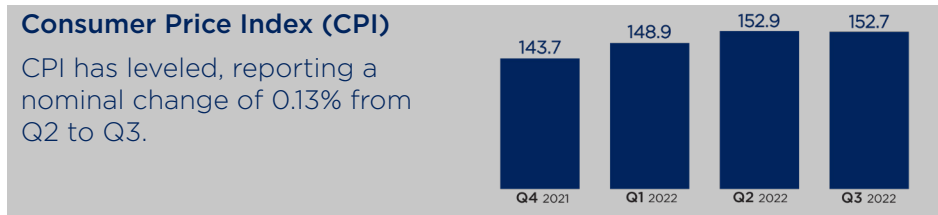
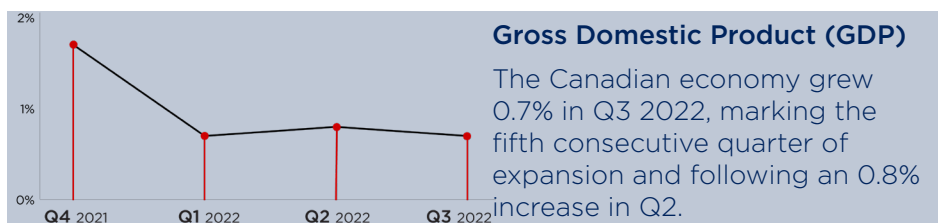


City	October 2021	January 2022	April 2022	July 2022	October 2022	Annual % Change
• Calgary	22,039	22,494	23,326	23,976	24,123	9.46%
• Toronto	27,642	28,445	29,801	30,849	31,473	13.86%

In Calgary, the total value of construction for Q3 2022 was \$1.43B, up 38% from the prior quarter, with 5,101 building permits having been issued. It is anticipated that Calgary's 2022 housing and business fixed investment level, which is currently at a record high, will contribute nearly half of GDP growth this year. Building permits are expected to total \$6.2 billion in 2022. It is the second highest level on record, only surpassed by the high in 2014, when a few large downtown office towers were being built. Great Toronto Area's (GTA) construction activity is not expected to slow down until the second half of 2023. In Ontario, investments in building construction increased gradually across all Industrial, Commercial, and Institutional (ICI) sectors. The total ICI investment increased from Q2 2022 to Q3 2022 by 7.7%. The total amount invested by ICI so far this year is up 7.1%. As investment in building construction is an indicator of current construction, these trends signal that ICI construction activity is continuing to steadily increase.



KEY CANADIAN STATISTICS



GDP represented in percent change from the preceding quarter, seasonally adjusted at annual rates. CPI quarterly figures represent the monthly value at the end of the quarter. Inflation rates represent the total price of inflation from the previous quarter, based on the change in the Consumer Price Index. General Unemployment rates are based on the total population 16 years and older. Construction Unemployment rates represent only the percent of experienced private wage and salary workers in the construction industry 15 years and older. Unemployment rates are seasonally adjusted, reported at the end of the period.

Sources: Statistics Canada



ABOUT RIDER LEVETT BUCKNALL

Rider Levett Bucknall is an award-winning international firm known for providing project management, construction cost consulting, and related property and construction advisory services – at all stages of the design and construction process.

While the information in this publication is believed to be correct, no responsibility is accepted for its accuracy. Persons desiring to utilize any information appearing in this publication should verify its applicability to their specific circumstances.

This issue was compiled by Taryn Harbert with contributions from Aled Jenkins, Antonio Gonzales, Cassie Idehara, Chris Harris, Daniel Junge, Evans Pomegas, James Casey, Julia Flores, Kirk Miller, Lucy Liu, Maelyn Uyehara, Mel Yungblut, Paul Brussow, Paraic Morrissey, Peter Knowles, and Scott Macpherson.

© Q4 2022 by Rider Levett Bucknall Ltd.

If you have questions or for more information, please contact us.

BOSTON

Phone: +1 617 737 9339
E-mail: BOS@us.rlb.com
Contact: Michael O'Reilly

CALGARY

Phone: +1 403 571 0505
E-mail: YYC@ca.rlb.com
Contact: Mel Yungblut

CHICAGO

Phone: +1 312 819 4250
E-mail: ORD@us.rlb.com
Contact: Chris Harris

DENVER

Phone: +1 720 904 1480
E-mail: DEN@us.rlb.com
Contact: Peter Knowles

HILO

Phone: +1 808 934 7953
E-mail: ITO@us.rlb.com
Contact: Guia Lasquete

HONOLULU

Phone: +1 808 521 2641
E-mail: HNL@us.rlb.com
Contact: Erin Kiriha
Cassie Idehara

KANSAS

Phone: +1 816 977 2740
E-mail: MCI@us.rlb.com
Contact: Julian Anderson

LAS VEGAS

Phone: +1 702 227 8818
E-mail: LAS@us.rlb.com
Contact: Paul Brussow

LOS ANGELES

Phone: +1 213 689 1103
E-mail: LAX@us.rlb.com
Contact: Aled Jenkins

MAUI

Phone: +1 808 875 1945
E-mail: OGG@us.rlb.com
Contact: Paul Belshoff

NEW YORK

Phone: +1 646 821 4788
E-mail: NYC@us.rlb.com
Contact: Paraic Morrissey

PHOENIX

Phone: +1 602 443 4848
E-mail: PHX@us.rlb.com
Contact: Julian Anderson
Scott Macpherson
John Jozwick
Scott Sumners

PORTLAND

Phone: +1 503 226 2730
E-mail: PDX@us.rlb.com
Contact: Daniel Junge

SAN FRANCISCO

Phone: +1 415 362 2613
E-mail: SFO@us.rlb.com
Contact: Brian Scroth

SAN JOSE

Phone: +1 650 943 2317
E-mail: SJC@us.rlb.com
Contact: Joel Brown

SEATTLE

Phone: +1 206 441 8872
E-mail: SEA@us.rlb.com
Contact: Craig Colligan

ST. LUCIA

Phone: +1 758 452 2125
E-mail: UVF@us.rlb.com
Contact: David Piper

TORONTO

Phone: +1 905 827 8218
E-mail: YYZ@us.rlb.com
Contact: Mel Yungblut

TUCSON

Phone: +1 520 777 7581
E-mail: TUS@us.rlb.com
Contact: Josh Marks

WAIKOLOA

Phone: +1 808 883 3379
E-mail: KOA@us.rlb.com
Contact: Guia Lasquete

WASHINGTON, DC

Phone: +1 410 740 1671
E-mail: DCA@us.rlb.com
Contact: Kirk Miller

RLB.com

