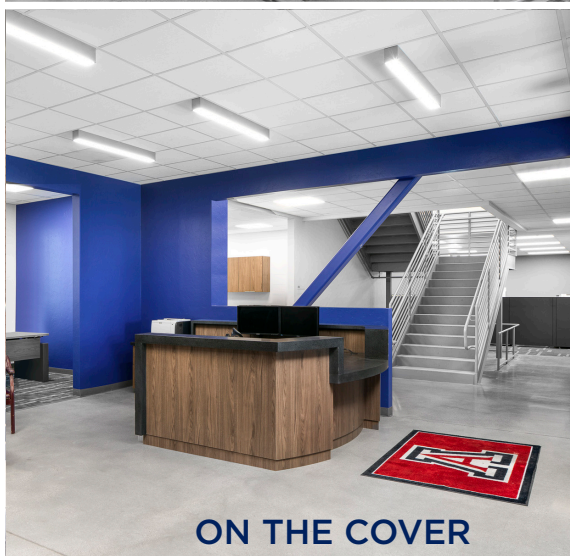


FIRST QUARTER 2023

NORTH AMERICA

QUARTERLY CONSTRUCTION COST REPORT





ON THE COVER

UNIVERSITY OF ARIZONA FACILITIES MANAGEMENT HEADQUARTERS ▲

TUCSON, ARIZONA

The University of Arizona Facilities Management has a mission to effectively and efficiently provide maintenance, operational, and utility services that support the faculty, staff, and students in pursuit of excellence in their individual and institutional academic research and community objectives. With more than 600 team members in their Facilities Management Department, it was critical to the University that the relocation of their headquarters be both timely and cost effective – as to not jeopardize the integrity of their services.

Rider Levett Bucknall provided cost estimating services at all design milestones for the University of Arizona Facilities Management's new headquarters. On behalf of the University of Arizona, RLB successfully and quickly reconciled each of these estimates with the design-build contractor.

RLB's proactive and collaborative approach provided for open and productive communication with the University of Arizona and their design-build contractor from the onset of the project, allowing preconstruction to stay on schedule with minimal disruptions. Any variances between our cost estimate and the design-build contractor's estimate were resolved swiftly through our cooperation and detailed transparency in our estimate.

This project demonstrates RLB's primary goal of affording our clients the level of certainty they need to make critical, real-time decisions to ensure the commercial success of their projects. The University of Arizona Facilities Management HQ is a testament to the accuracy in our quantity takeoffs and unit pricing, our respect for the preconstruction schedule and being proactive in anticipating issues in advance of them happening, and our overall cooperation with the project team.

NORTH AMERICA

AT A GLANCE

Q1 2023

If there's anything I've learned over the past few years, it's that we need to see the forest through the trees when it comes to our industry challenges. The continued workforce challenges and economic uncertainty are still concerns for the coming year, but it is likely "less bad" than we initially feared just a couple of months ago, to borrow a sentiment from IMF Chief Kristalina Georgieva.

Keeping an eye on the bigger picture is critical to weathering the persistent challenges of our times. Look at inflation, for example. The topic of inflation seems to be finally leaning in the right direction, and its stickiness will inform the path of the Federal Reserve's interest rate increases.

Infrastructure Investment and Jobs Act (IIJA) funding is finally reaching the project level. The forward progress of projects funded by the IIJA is a bright spot in terms of construction activity.

While seeing these projects moving forward is great, it comes at a price. The funding for these works is devalued with the current economic situation, resulting in the industry doing less with more. There's also been some frustration with some of the projects' tax credit and "buy American" requirements, and the program's start has taken longer than hoped. But the good news is that the IIJA funds have now reached the states, money has been allocated to projects, and states are working on getting the projects out to bid.

The workforce numbers continue to rise, thanks partly to pay raises for hourly workers, with 24,000 employees added to construction firms just last month. Employment levels have reached record levels for the industry, but it's still not enough. The road to filling the workforce needs will continue to be bumpy as even fewer people are available with industry-specific knowledge to fill these jobs. As an industry, we've done an excellent job getting people with any exposure to the sector into jobs. Now, we need to start building awareness of the rewarding career opportunities in the construction industry with students or those looking for a satisfying career with great pay and benefits.

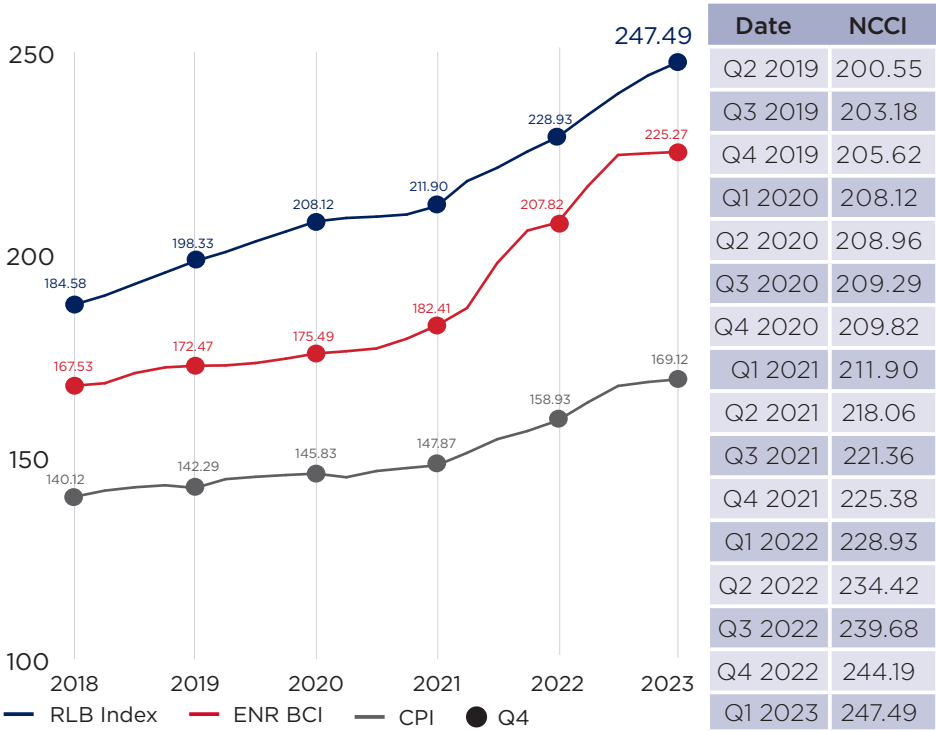
When we think about where at this time last year, with the pandemic, escalating geopolitical concerns, ongoing supply chain issues, and construction costs, it can be hard to see the forest through the trees. While much has improved on those fronts, the current concerns around oil prices and the impact of intensifying bank stress are something to keep a close eye on. The big picture for the remainder of 2023 looks challenging, but for different reasons from those that were impacting a year ago.. At Rider Levett Bucknall, our decades of advisory experience are here by your side as we push forward this year.



Julian Anderson FRICS
President,
North America

UNITED STATES

NATIONAL CONSTRUCTION COST INDEX



Welcome to the first quarter 2023 issue of the RLB Quarterly Cost Report! This issue contains data current to mid-Q1 2023.

\$1,825.7

billion

According to the U.S. Department of Commerce, construction-put-in-place during January 2023 was estimated at a seasonally adjusted annual rate of \$1,827.5 billion, which is

0.1%

below

the revised December 2022 estimate of \$1,827.5 billion, and

5.7%

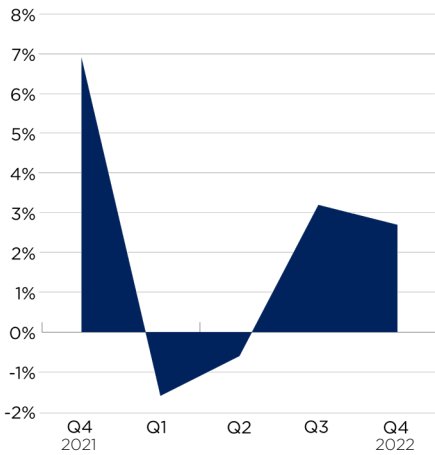
above

the January 2022 estimate of \$1,726.6 billion.

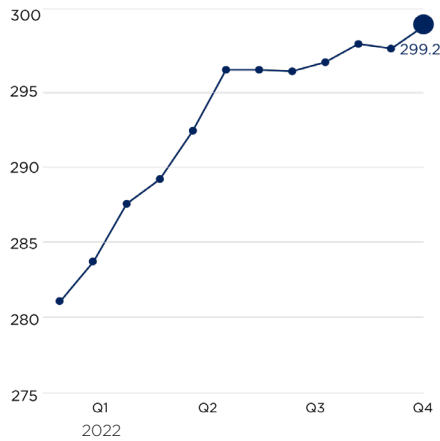
The National Construction Cost Index shows the changing cost of construction between January 2018 and January 2023, relative to a base of 100 in April 2001. Index recalibrated as of April 2011.

KEY UNITED STATES STATISTICS

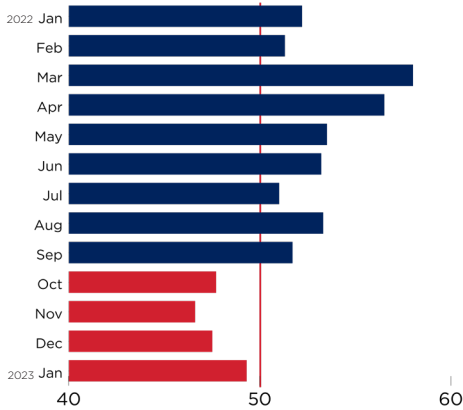
Gross Domestic Product* (GDP)



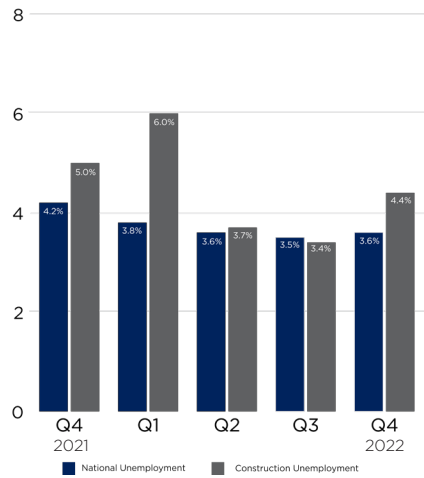
Consumer Price Index (CPI)



Architectural Billings Index (ABI)



Unemployment Comparison



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	380	600	245	355	220	325	165	260	435	635	300	425	465	735
Chicago	305	505	185	305	185	405	150	250	455	710	330	455	385	810
Denver	350	445	200	300	160	300	145	230	425	625	285	415	600	800
Honolulu	345	580	215	335	265	560	245	420	660	800	380	600	505	855
Las Vegas	250	435	175	235	150	595	135	325	385	720	230	390	495	590
Los Angeles	250	375	190	280	170	365	145	205	395	585	300	380	640	970
New York	370	855	215	535	320	640	340	670	460	690	340	460	580	870
Phoenix	240	405	150	215	190	320	110	185	380	595	200	300	460	650
Portland	250	335	230	320	230	325	205	280	425	550	300	405	600	800
San Francisco	430	740	330	530	315	520	240	410	550	820	390	650	580	925
Seattle	330	595	225	305	245	395	180	300	430	670	300	415	530	745
Washington	335	550	230	360	180	325	145	240	425	650	280	435	510	885
CANADA														
Calgary	265	405	225	270	220	300	140	190	290	455	215	245	665	905
Toronto	280	455	230	325	210	440	170	220	405	745	240	290	590	925

CONSTRUCTION CONFIDENCE INDEX

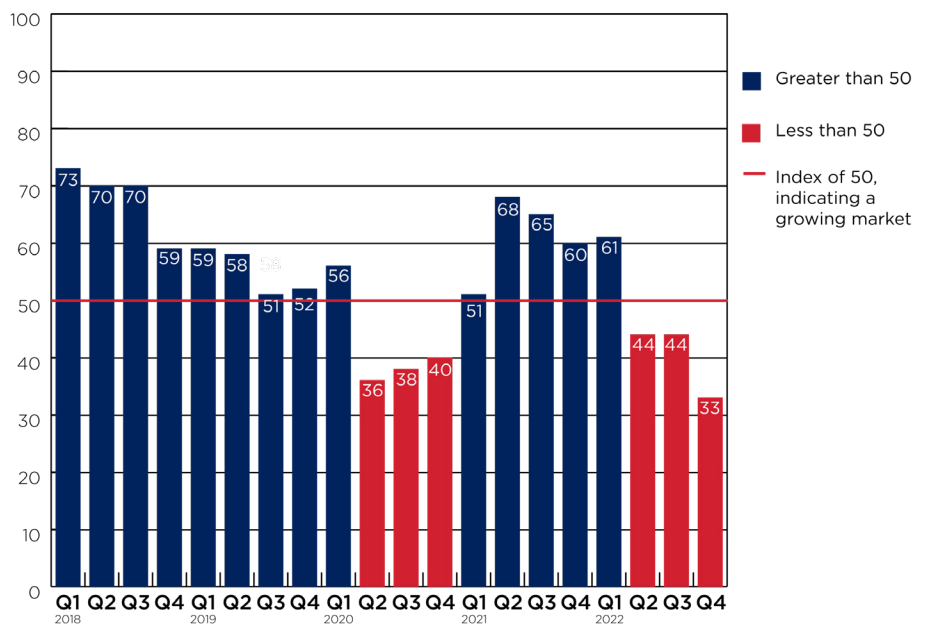
ENR's Construction Industry Confidence Index (CICI), launched in 2009, is a survey of different types of firms (Design Professionals, General Contractors, and Subcontractors) and represents their overall view of the current and future construction market. The Q4 2022 CICI is 33, 11 points below the previous rating of 44 during Q3. This index reflects a drop of 27 points from Q4 2021 year-over-year. It is worth noting that the threshold for negative sentiment regarding industry growth is 50.

The progressive decline of the CICI reflects an ongoing uncertainty largely driven by extreme economic indicators (e.g. skilled labor shortages, high-material costs, and limited availability of supplies and equipment). The national jobs report shows that unemployment remains low (3.6% in February 2023) and job growth remains steady. However, CPI inflation - at a 40-year high - creates concerns and challenges for the construction industry for 2023.

Source: 2022 Q4 Engineering News Record Confidence Survey

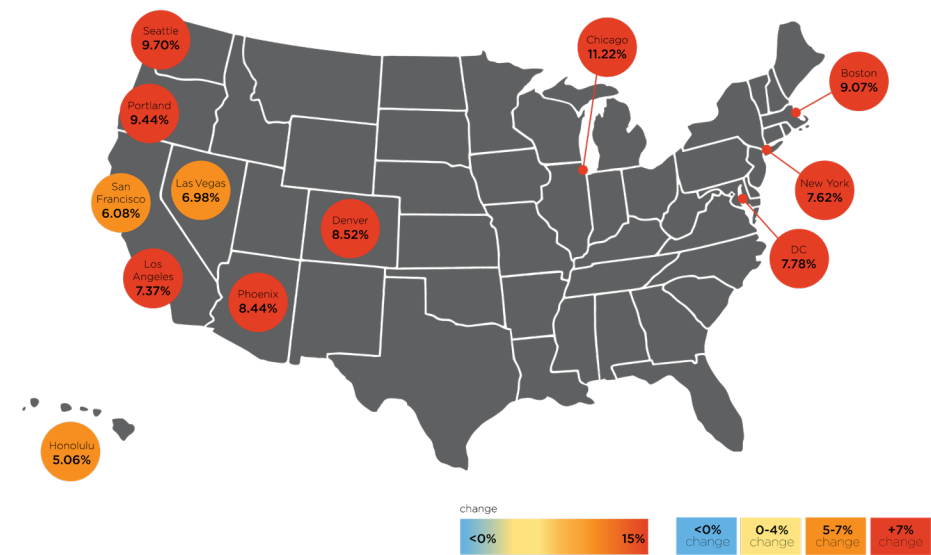
The data in the chart below represents estimates of current building costs in each respective market. Costs may vary as a consequence of factors such as site conditions, climatic conditions, standards of specification, market conditions, etc. Values of U.S. locations represent hard construction costs 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
120	205	95	155	110	175	200	345	285	395	380	520	410	545	410	655
125	205	85	130	140	250	185	425	255	505	285	425	325	455	400	810
125	195	145	200	200	250	185	325	210	465	310	450	350	500	500	700
120	255	150	200	170	275	270	455	295	560	510	840	520	715	655	960
75	145	75	100	95	175	185	440	215	435	400	500	480	650	620	820
130	200	110	130	145	205	245	385	215	380	380	500	325	575	480	650
125	215	105	185	145	225	225	435	320	640	490	620	535	680	525	750
80	135	55	100	85	145	170	265	180	490	270	380	295	460	405	625
180	265	180	220	190	265	250	340	215	360	400	500	425	525	475	620
150	255	130	205	250	350	400	625	310	520	390	570	440	750	570	1000
155	220	110	150	175	250	255	435	230	355	385	605	305	610	540	725
130	210	70	95	90	155	205	355	265	390	320	440	340	465	420	715
110	165	90	125	95	150	190	260	285	415	240	335	245	345	320	495
130	175	120	150	145	210	235	305	300	590	255	315	255	335	295	520



UNITED STATES

COMPARATIVE COST INDEX



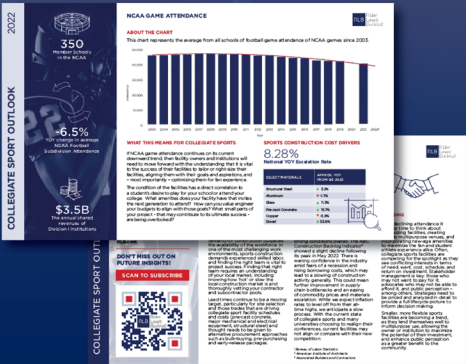
City	January 2022	April 2022	July 2022	October 2022	January 2023	Annual % Change
• Boston	26,350	26,876	27,443	28,192	28,741	9.07%
• Chicago	26,026	27,093	28,583	28,718	28,947	11.22%
• Denver	16,805	17,468	17,821	18,004	18,236	8.52%
• Honolulu	27,705	28,125	28,533	28,802	29,106	5.06%
• Las Vegas	16,762	17,102	17,456	17,777	17,932	6.98%
• Los Angeles	24,760	25,291	25,756	26,238	26,585	7.37%
• New York	31,087	31,918	32,476	32,986	33,456	7.62%
• Phoenix	17,516	17,897	18,309	18,693	18,993	8.44%
• Portland	19,141	19,578	20,055	20,631	20,949	9.44%
• San Francisco	31,748	32,246	32,656	33,115	33,679	6.08%
• Seattle	21,551	22,038	22,575	23,239	23,641	9.70%
• Washington, DC	24,918	25,444	25,880	26,615	26,857	7.78%

Comparative Cost Map and Bar Graph Indicate percentage change between January 2022 to January 2023.

INTRODUCING

SECTOR MARKET INSIGHTS

*A Companion to the QCR
Providing a Expert Insights and
Construction Cost Drivers
Impacting the Future of the Sector.*



WHAT IS A SECTOR MARKET INSIGHT?

A companion to the Quarterly Cost Report, our sector market insight offers clients the certainty they need to make critical, real-time decisions to ensure the commercial success of their aviation projects.

The sector market insight takes a deep dive into:

- state of the market,
- what cost drivers are likely to affect material prices,
- industry trends, and
- what information like this means for the future of the sector.

What sectors are included?

The Sector Market Insights will feature Aviation, Convention Centers, Data Centers, Healthcare, Hotels & Leisure, Infrastructure, Sports & Events, and Sustainability. Of these 10 sectors covered, we'll be highlighting two a quarter.

For Q1 2023, we'll be highlighting:



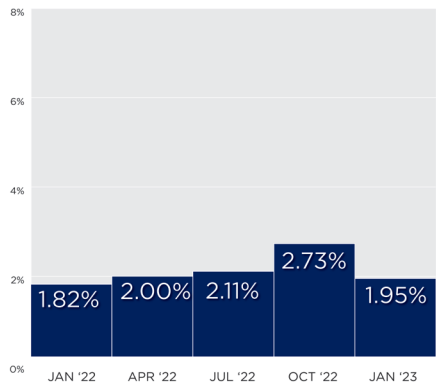
HEALTHCARE



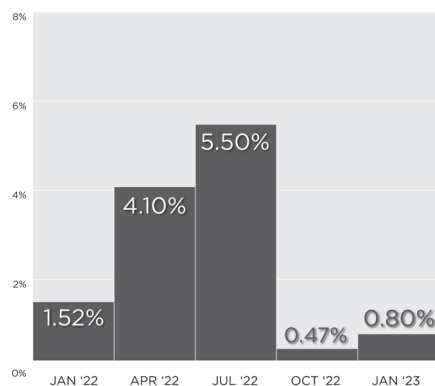
INFRASTRUCTURE

UNITED STATES

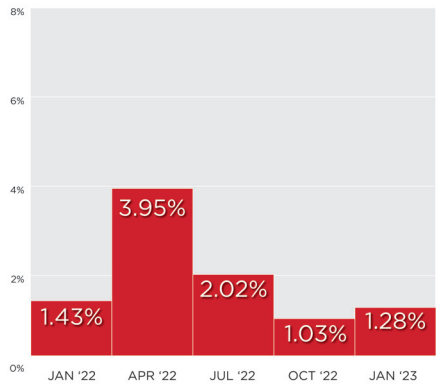
The following escalation charts track changes in the cost of construction each quarter in many of the cities where RLB offices are located. Each chart illustrates the percentage change per period.



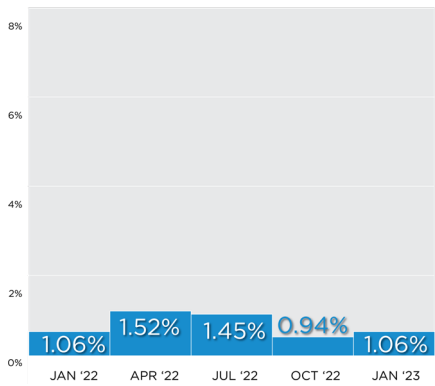
Boston Cost Index



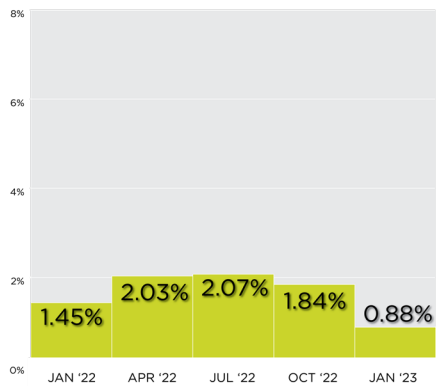
Chicago Cost Index



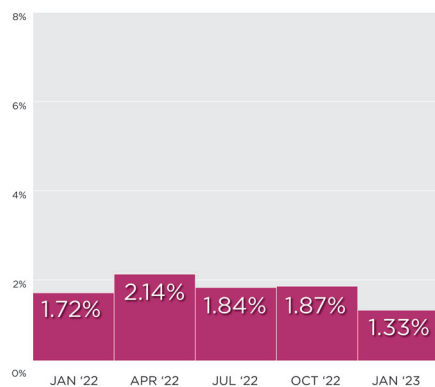
Denver Cost Index



Honolulu Cost Index

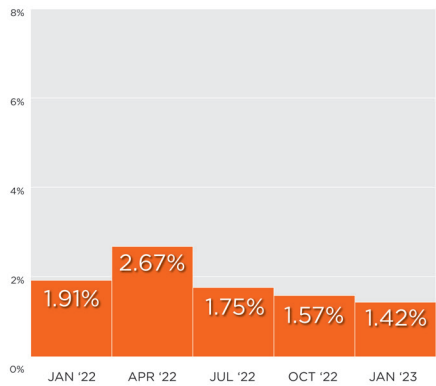


Las Vegas Cost Index

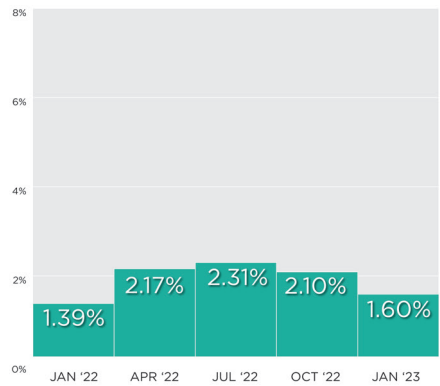


Los Angeles Cost Index

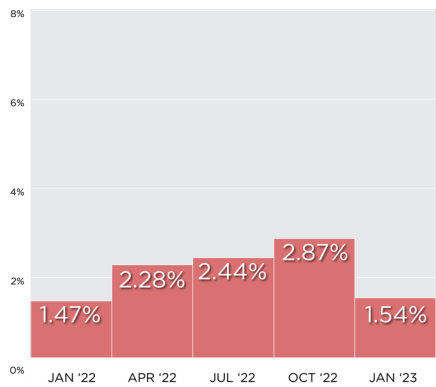
Our research suggests that over the course of 2022, the national average increase in construction cost was 8.11%. Boston, Chicago, Denver, Phoenix, Portland, and Seattle experienced the greatest annual increases, showing an escalation above the national average. Honolulu, Las Vegas, Los Angeles, New York, San Francisco, and Washington DC experienced lower annual increases, ranging from 5.06% (Honolulu) to 7.78% (Washington DC).



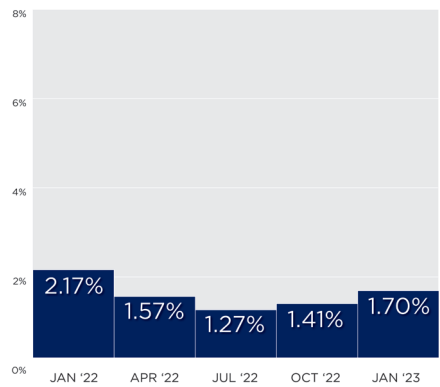
New York Cost Index



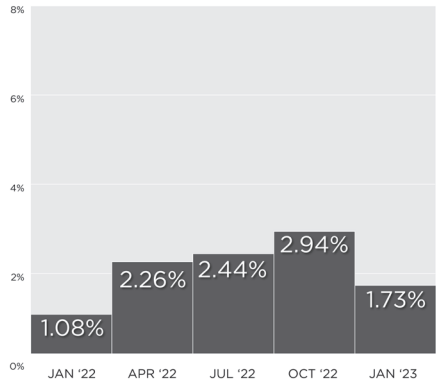
Phoenix Cost Index



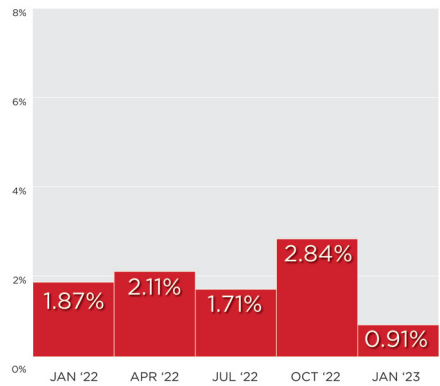
Portland Cost Index



San Francisco Cost Index



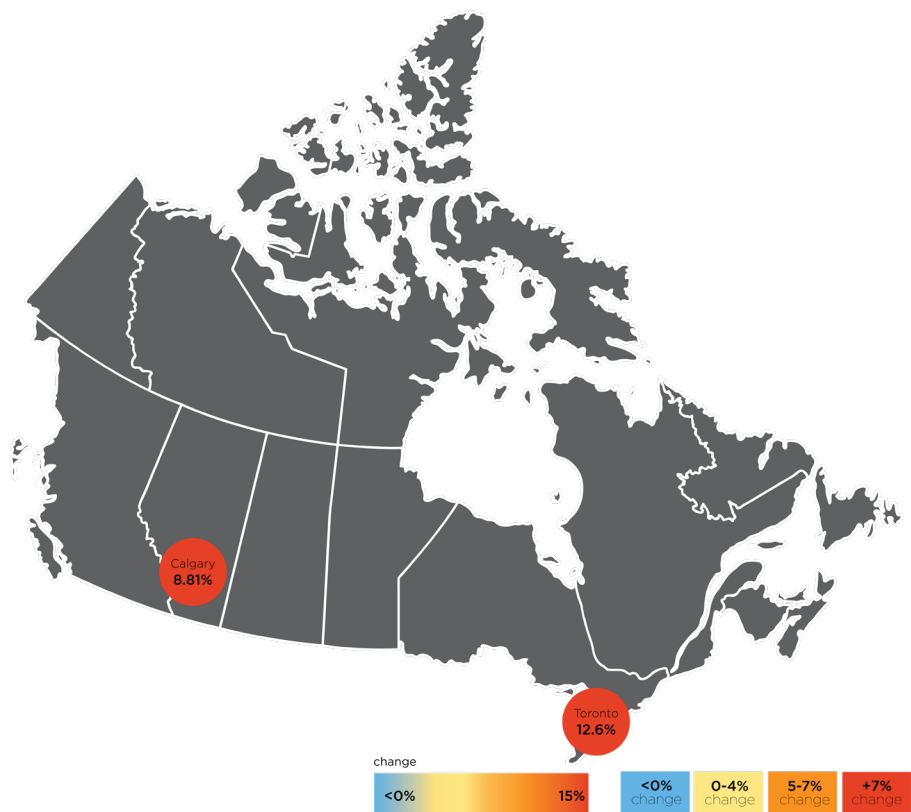
Seattle Cost Index



Washington DC Cost Index

CANADA

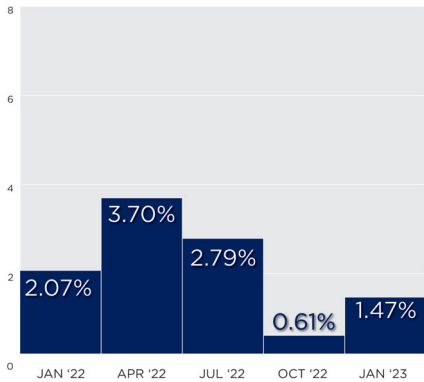
COMPARATIVE COST INDEX



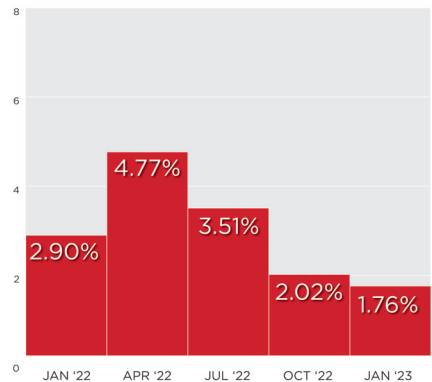
City	January 2022	April 2022	July 2022	October 2022	January 2023	Annual % Change
• Calgary	22,494	23,326	23,976	24,123	24,477	8.81%
• Toronto	28,445	29,801	30,849	31,473	32,028	12.6%

Alberta’s economy is predicted to continue to grow amid the persistent difficulties caused by high inflation and interest rates. The government intends to invest \$2.3B over the next three years to build and upgrade classrooms. Housing starts in the province are predicted to decline. Despite this, the projection is 13.5% greater than the five-year average prior to the pandemic. Furthermore, as Calgary experiences unprecedented growth, the construction investment comprises \$1.6B in transportation infrastructure over three years.

The general forecast for the construction sector in Ontario is extremely favorable; there are several projects and a high demand for building, which is supported by population expansion and the need to upgrade infrastructure including new critical transportation projects. Residential construction is being displaced by large infrastructure projects, which will probably cause completion delays to residential projects. The provincial government has established the widely acknowledged goal of constructing 1.5M additional homes in Ontario over the course of ten years. According to Canada Mortgage and Housing Corporation, 1.85M dwellings are required to make housing affordable. Home sales in the GTA represent 15% of all home sales in Canada.

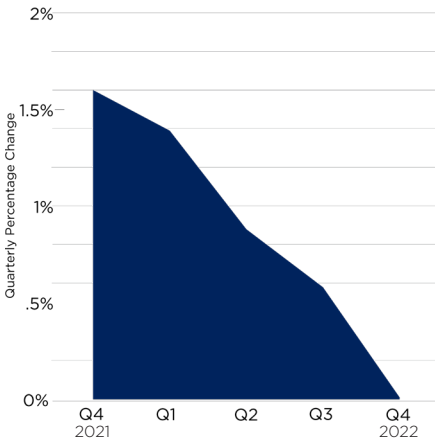


Calgary Cost Index

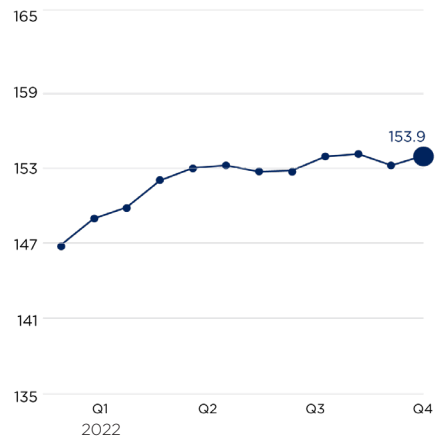


Toronto Cost Index

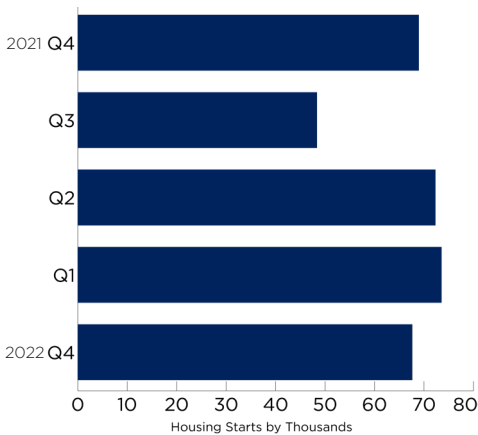
KEY CANADIAN STATISTICS



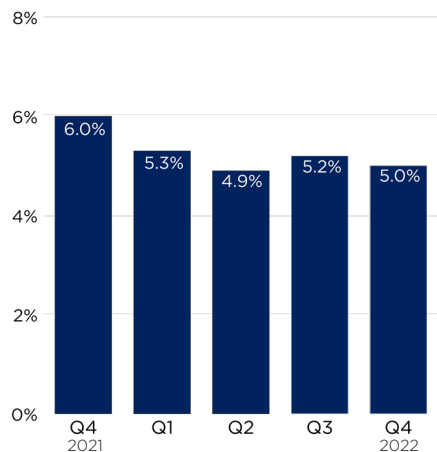
Gross Domestic Product* (GDP)



Consumer Price Index (CPI)



Housing Starts



Unemployment Comparison



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.

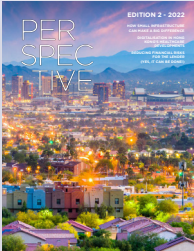
While the information in this publication is believed to be correct, no responsibility is accepted for its accuracy. Persons desiring to utilize any information appearing in this publication should verify its applicability to their specific circumstances.

This issue was compiled and designed by Taryn Harbert with contributions from Aled Jenkins, Antonio Gonzalez, 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.

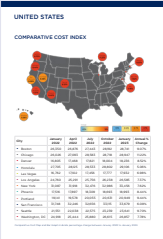
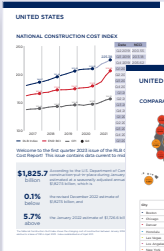
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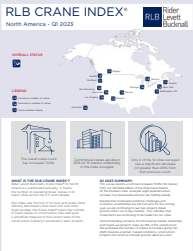
PERSPECTIVE



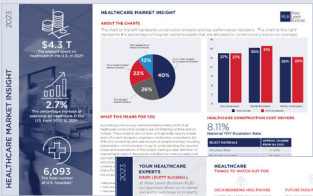
CONSTRUCTION COST REPORT



CRANE INDEX



SECTOR MARKET INSIGHTS



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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 Schroth

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