FIRST QUARTER 2021

NORTH AMERICA

QUARTERLY CONSTRUCTION COST REPORT

RLB Rider Levett Bucknall

ON THE COVER

GRANT HIGH SCHOOL

PORTLAND, OREGON

Grant High School in Portland, OR, is a historical building that required significant renovations. Originally opened in 1924, the Classical Revival style Grant High School physical facility consists of several buildings totaling approximately 293,000 sf of built space on an approximately 14.5-acre site. The school is home to just over 1,800 students, who relocated to Marshall High School for the duration of the renovations. Although the project had tight deadlines and a strict budget, the students were able to return to their fully modernized school on time for the Fall 2019 school year. The interior of the building was gutted and completely rebuilt. The project also included the addition of a new three-story common area, a new gymnasium, seismic retrofitting, and additional classroom space.

RLB completed their role as cost estimator for the two-year modernization of Grant High School. RLB was able to help ensure that the project was designed to the budget set out by the district. The construction team was able to fully modernize the internal areas of the school while staying true to the 1920's style of the original brick building on the exteriors.

NORTH AMERICA

Our first quarterly cost report of 2021 shows that despite the downward pressure caused by the perception of a slowing construction industry and the combined effect of material price increases and supply chain difficulties, cost escalation has returned to the familiar range of 1% per quarter (4% annualized).

Over the past 12 months, the upward trajectory of material costs has been striking. The price of copper has almost doubled (from a low of $2.11/lb to $4.01/lb today), aluminum has risen from $0.73/lb in April 2020 to around $1.05/lb in March 2021, oil from a low of $14/barrel in April 2020 to $64/barrel in March 2021, while lumber skyrocketed briefly in August 2020, then slumped by November, only to return to nearly $1,000/mbf in March 2021.

Looking ahead, we expect price pressure will increase due to the energizing effects on the construction industry, triggered by the ebbing of COVID-19 pandemic and the economic stimulus provided by the American Rescue Plan Act. And if the Biden administration is successful in pushing through an actionable infrastructure plan, that should keep the momentum going for a few more years.

It's clear that infrastructure projects are increasingly more ambitious than filling potholes, painting bridges, or repairing railroad ties. Rightly labeled as "game changers" by the American Society of Civil Engineers, these projects demonstrate the visionary capabilities of the AEC industries, prove the value of research and design, reduce risk of all kinds, and expand upon the conventional notion of infrastructure. Among the ASCE's latest picks for innovation:

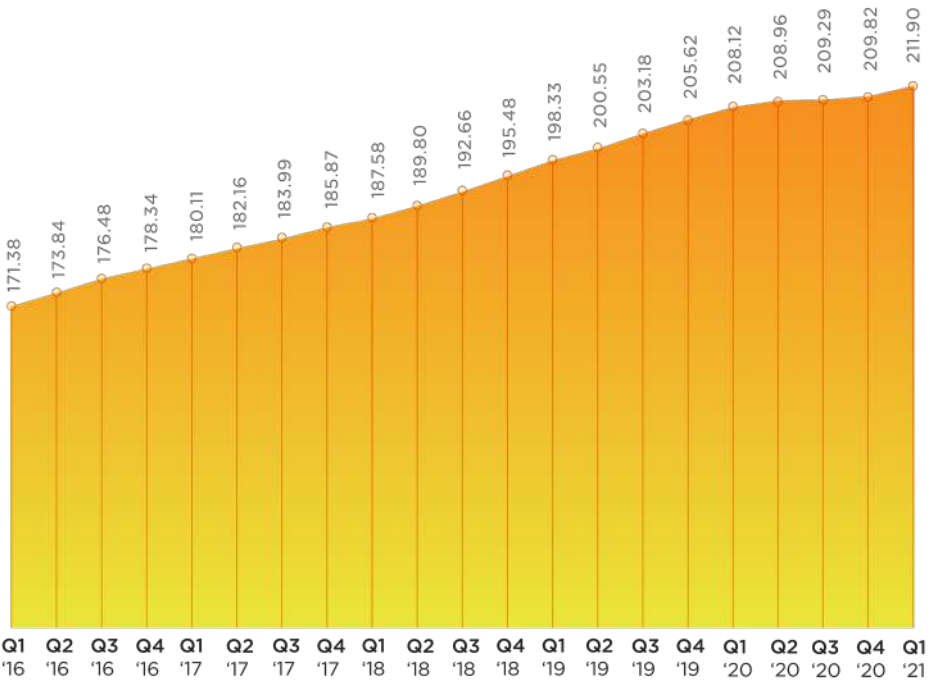
- The Arizona Department of Transportation's (ADOT) I-10 Dust Detection and Dynamic Response System was put in place to mitigate the significant role dust storms play in crashes and fatalities along the I-10 stretch between Phoenix and Tucson. Short-range dust gages and a long-range weather radar dish that can detect dust storms more than 40 miles away feed into a closed-circuit camera system. Informed by this data, ADOT can dynamically slow highway speed limits and update message boards in real time to keep motorists safe during adverse conditions.
- The Kilauea volcano eruption triggered massive cracking along a principal island thoroughfare, Highway 130, making it impassable and cutting off communities. In the wake of this incident, the Hawaii Department of Transportation installed heat-resistant panels on roadways. The calcium aluminate cement panels reduce surface temperatures to about 130 degrees—down from 175 to 275 degrees without the slabs—mitigating ruptures.
- The Port of Los Angeles is the largest container port in the nation and one of the largest in the world, so an efficient operation is key to AEC materials suppliers and consumers who depend upon this link in the supply chain. The new Port Optimizer software creates a single tool for the many stakeholders, including shipping lines, marine terminals, motor carriers, and railroads to tap into when looking for operational improvements. Productivity is estimated to grow 8-12% as throughput is improved, operations predictability becomes the norm, and customers receive an average of 14 days of advance visibility.

By coupling projects of this far-sighted nature with the overdue tasks of repair and maintenance, the AEC industries can make up for lost time and restore the balance of our infrastructure, now and for the future.

Julian Anderson FRICS
President,
North America

UNITED STATES

NATIONAL CONSTRUCTION COST INDEX



Welcome to the first quarter 2021 issue of the Rider Levett Bucknall Quarterly Cost Report! This issue contains data current to January 1, 2021.

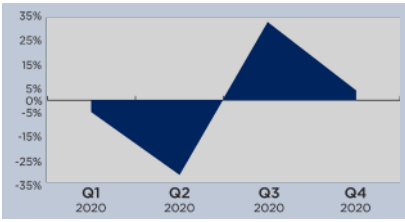
$1,521.5 Billion According to the U.S. Department of Commerce, construction-put-in-place during January 2021 was estimated at a seasonally adjusted annual rate of $1,521.5 billion, which is

1.7% above the revised December 2020 estimate of $1,496.5 billion, and

5.8% above the January 2020 estimate of $1,437.7 billion.

The National Construction Cost Index shows the changing cost of construction between January 2016 and January 2021, relative to a base of 100 in April 2001. Index recalibrated as of April 2011.

KEY UNITED STATES STATISTICS

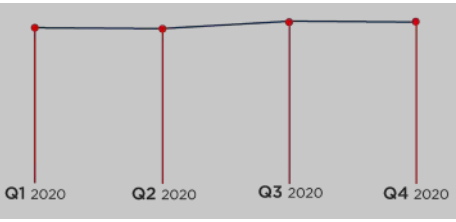


Gross Domestic Product* (GDP)

Growth of GDP rebounds to 4.1 during the fourth quarter of 2020, seeming to recover from the oscillations caused by the pandemic.

Consumer Price Index (CPI)

CPI experienced nominal fluctuation throughout the year. Inflation was 1.4% in the last year.



Architectural Billings Index (ABI)

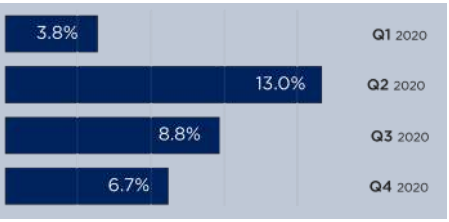
The ABI sees another decrease; reporting an index of 42.6 at the close of 2020. ABI remains below 50 (a score that indicates a decrease in billings).

Construction Unemployment

Construction unemployment remained around 10% throughout 2020.

National Unemployment

The national unemployment rate has recovered a bit from last quarter's spike, but is nearly double the rate from this time last year.



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.

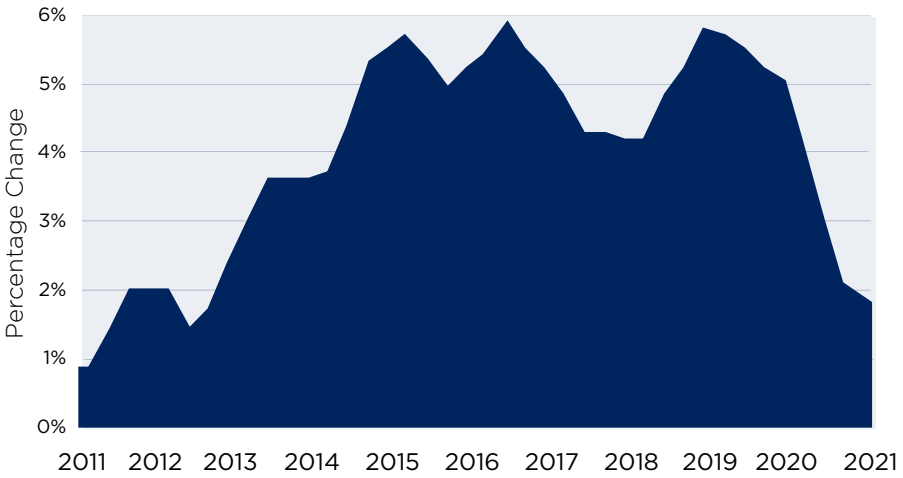
UNITED STATES

INDICATIVE CONSTRUCTION COSTS

	OFFICES				RETAIL SHOPPING				HOTELS				HOSPITAL	
	PRIME		SECONDARY		CENTER		STRIP		5 STAR		3 STAR		GENERAL	
LOCATION	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	280	450	175	280	185	290	135	220	400	660	290	410	380	720
Denver	240	325	165	200	95	150	80	175	300	500	250	350	400	550
Honolulu	300	545	255	410	220	510	185	450	530	770	335	560	490	785
Las Vegas	200	350	135	190	120	480	80	145	350	550	150	300	400	475
Los Angeles	240	360	180	265	160	350	135	195	380	560	285	365	615	930
New York	350	800	200	500	300	600	190	350	430	650	320	430	540	810
Phoenix	200	350	140	195	120	220	90	150	350	550	175	275	425	550
Portland	220	300	200	280	200	300	175	250	320	420	250	350	445	590
San Francisco	380	600	300	450	290	420	250	360	460	680	400	550	550	850
Seattle	300	500	225	325	250	425	225	325	400	600	300	400	440	600
Washington	325	500	225	325	175	300	140	225	400	600	265	400	500	765
CANADA														
Calgary	235	300	200	285	225	300	120	170	310	455	200	250	550	730
Toronto	230	310	200	285	245	300	130	175	425	530	220	280	530	740

AT-A-GLANCE: CONSTRUCTION COST CHANGE

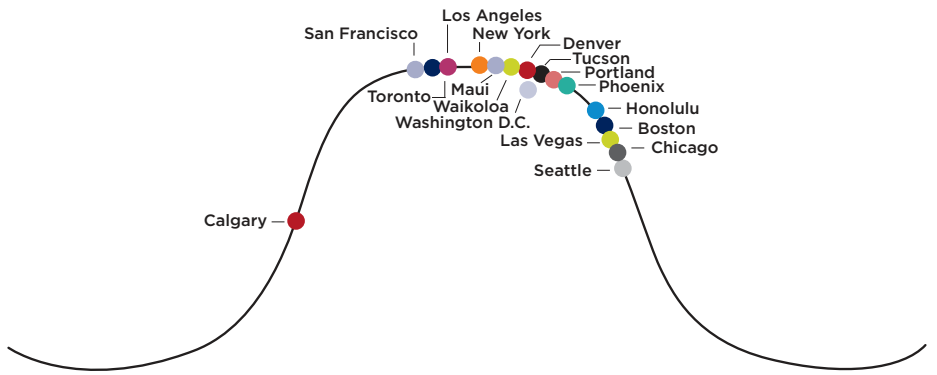
As construction costs across the country continue to increase, RLB takes a historical view of the percentage change of year-on-year construction costs, dating back ten years.



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.

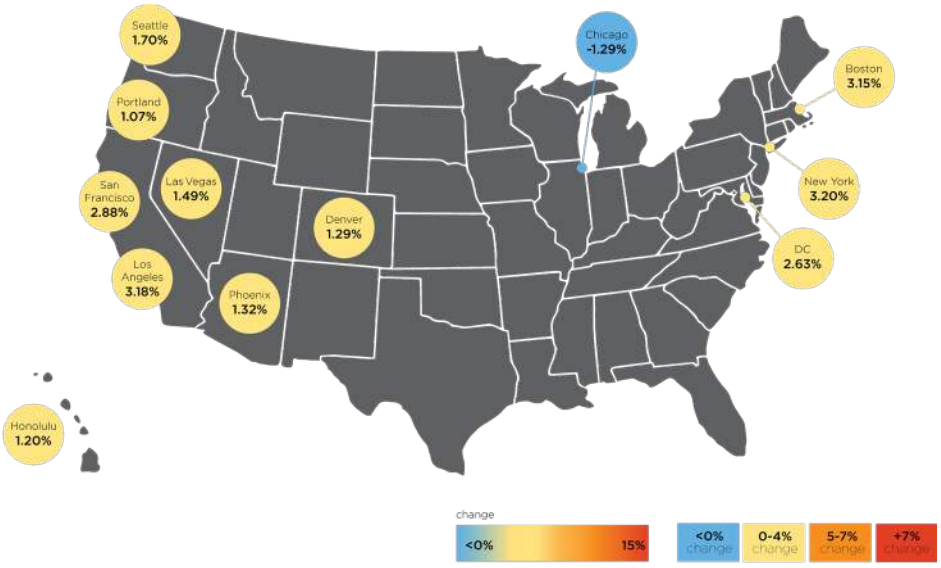
INDUSTRIAL		PARKING				RESIDENTIAL				EDUCATION					
WAREHOUSE		GROUND		BASEMENT		MULTI-FAMILY		SINGLE-FAMILY		ELEMENTARY		HIGH SCHOOL		UNIVERSITY	
LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
110	190	85	140	100	160	185	315	260	360	350	475	375	500	375	600
110	185	80	125	125	170	165	400	220	420	265	380	300	405	350	600
90	150	100	125	135	175	125	250	115	450	275	320	300	400	325	475
150	240	105	150	145	275	205	460	295	785	350	490	420	630	460	740
70	100	50	85	60	150	100	405	100	350	225	350	250	455	300	455
125	190	105	125	135	195	235	370	205	365	365	480	310	550	460	625
115	200	95	175	135	210	215	405	300	600	460	580	500	640	490	700
70	100	45	70	70	110	100	250	120	450	250	350	275	425	325	475
150	225	115	150	130	215	175	275	155	325	320	400	350	425	365	510
175	250	140	160	260	300	390	575	325	475	375	450	375	475	475	675
140	200	100	150	175	225	200	450	180	325	300	330	390	500	450	575
120	190	65	80	85	135	200	340	260	380	300	410	325	430	385	615
90	140	80	100	90	130	160	220	135	360	200	270	225	315	300	440
85	110	80	115	120	160	210	250	215	400	225	250	250	290	250	375

CONSTRUCTION ACTIVITY CYCLE



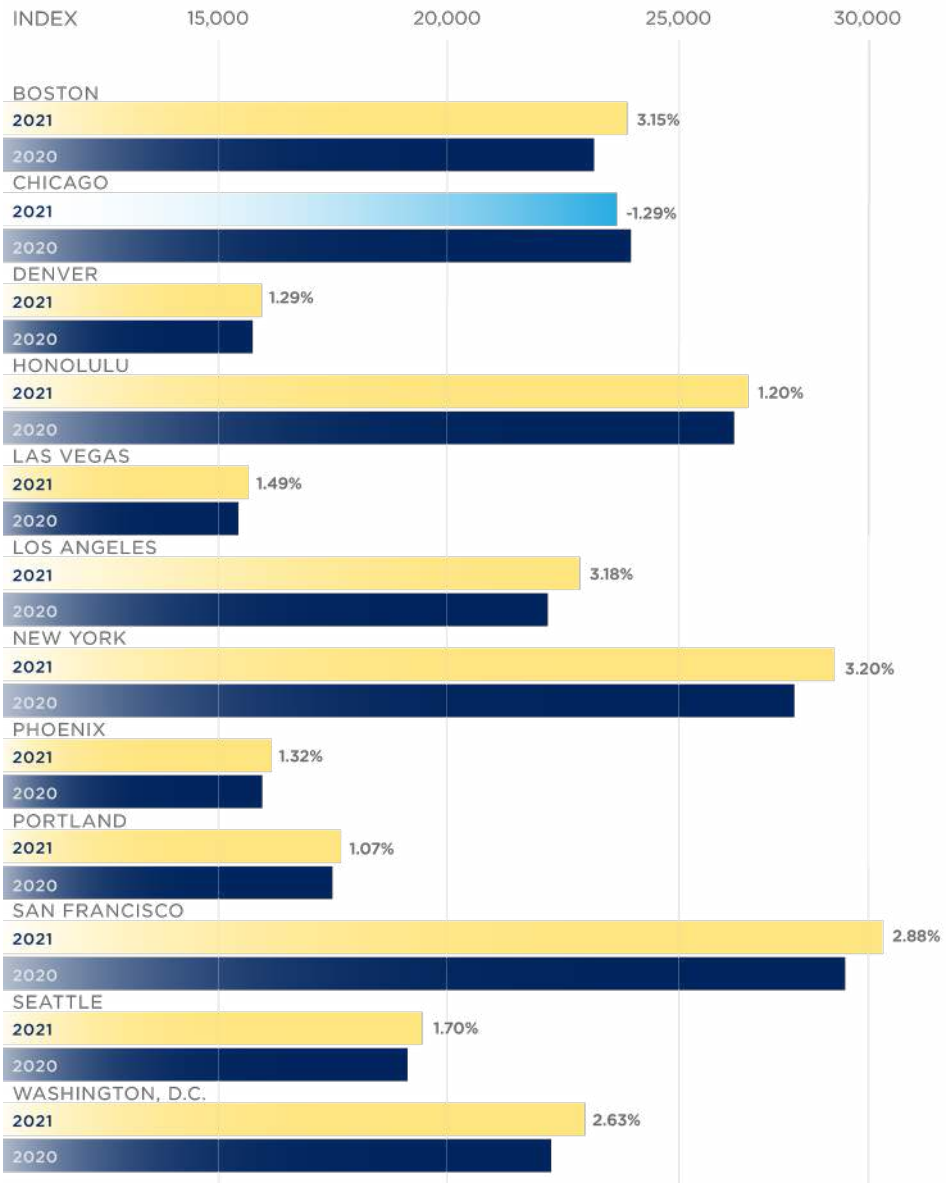
UNITED STATES

COMPARATIVE COST INDEX



City	January 2020	April 2020	July 2020	October 2020	January 2021	Annual % Change
Boston	23,241	23,534	23,677	23,773	23,974	3.15%
Chicago	24,055	23,596	23,340	23,518	23,745	-1.29%
Denver	15,711	15,804	15,835	15,864	15,914	1.29%
Honolulu	26,331	26,333	26,333	26,325	26,647	1.20%
Las Vegas	15,394	15,459	15,480	15,480	15,623	1.49%
Los Angeles	22,221	22,706	22,835	22,781	22,928	3.18%
New York	27,658	27,734	28,008	28,112	28,542	3.20%
Phoenix	15,922	16,004	16,008	15,979	16,133	1.32%
Portland	17,472	17,357	17,397	17,539	17,658	1.07%
San Francisco	28,781	29,040	29,230	29,423	29,611	2.88%
Seattle	19,127	19,318	19,342	19,367	19,452	1.70%
Washington, DC	22,450	22,518	22,389	22,418	23,040	2.63%

Comparative Cost Map and Bar Graph Indicate percentage change between January 2020 to January 2021.



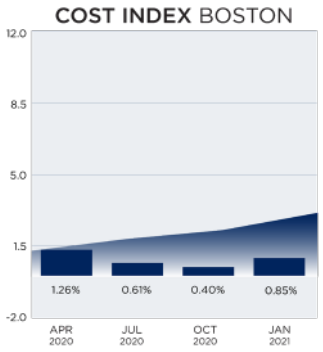
Each quarter we look at the comparative cost of construction in 12 US cities, indexing them to show how costs are changing in each city in particular, and against the costs in the other 11 locations. You will be able to find this information in the graph titled Comparative Cost Index (above) and in the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

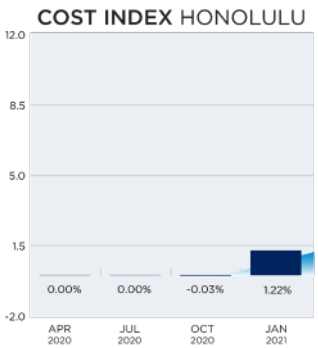
Our Comparative Cost Index tracks the 'true' bid cost of construction, which includes, in addition to costs of labor and materials, general contractor and sub-contractor overhead costs and fees (profit). The index also includes applicable sales/use taxes that 'standard' construction contracts attract. 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.

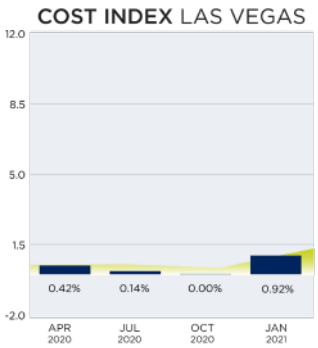
UNITED STATES

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

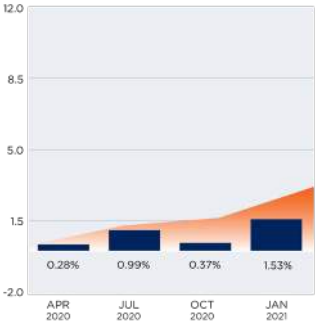




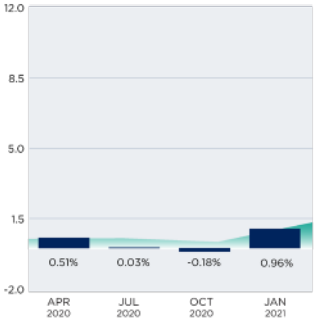


Our research suggests that between January 1, 2020 and December 31, 2020, the national average increase in construction cost was approximately 1.82%. Boston, Los Angeles, New York, San Francisco, and Washington, D.C. experienced the greatest annual increases, showing escalation above the national average. Denver, Honolulu, Las Vegas, Phoenix, Portland, and Seattle experienced lower annual increases, ranging from 1.07% (Portland) to 1.70% (Seattle). Chicago is the only city that experienced a year-over-year decrease of -1.29%.

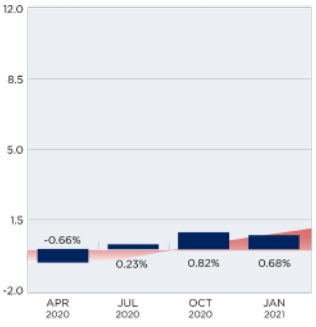
COST INDEX NEW YORK



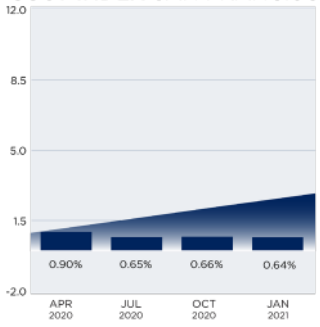
COST INDEX PHOENIX



COST INDEX PORTLAND

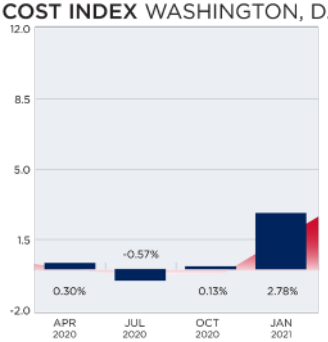


COST INDEX SAN FRANCISCO



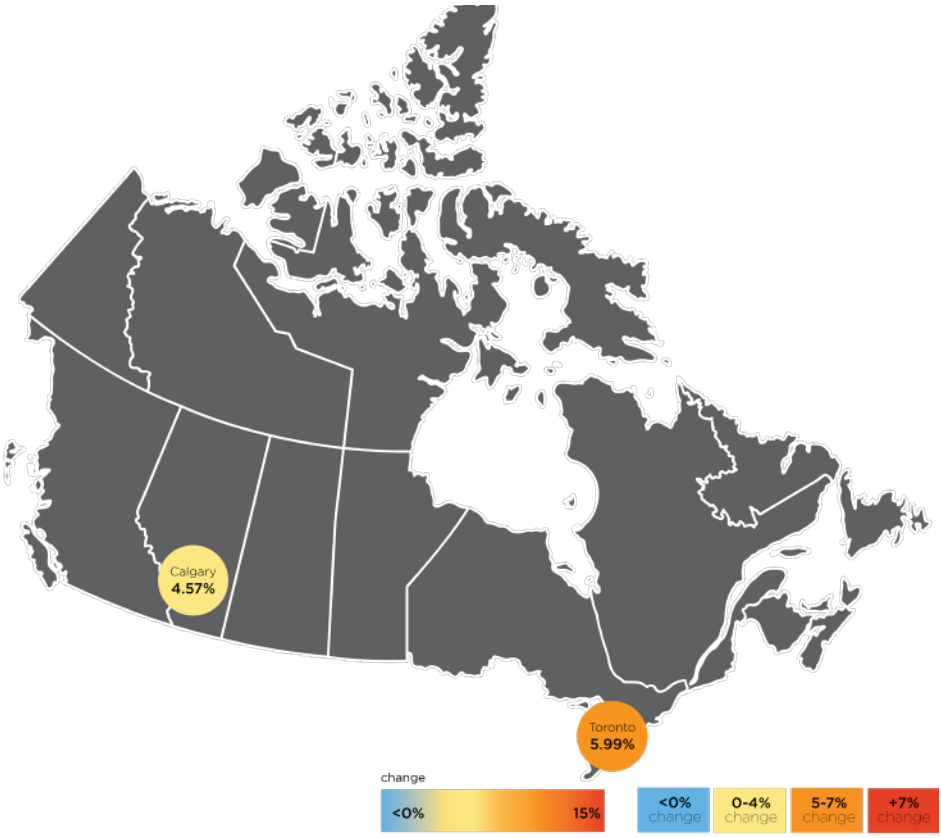
COST INDEX SEATTLE

COST INDEX WASHINGTON, D.C.



CANADA

COMPARATIVE COST INDEX

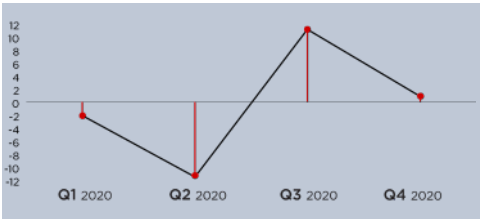


City	January 2020	April 2020	July 2020	October 2020	January 2021	Annual % Change
• Calgary	19,587	19,685	19,646	19,985	20,483	4.57%
• Toronto	23,653	23,595	23,873	24,409	25,069	5.99%

The Toronto market remains busy due to strong demand in the residential sector and ongoing infrastructure projects, especially transit. All levels of government have announced robust infrastructure spending plans as the city begins to emerge from the pandemic. However, skilled labour shortages continue to be a challenge.

The Calgary economy will continue to see growth in infrastructure construction projects as the province recovers from COVID-19 hardships of 2020. The expected growth in Calgary's economy is expected to be around 3% to 4% in 2021, as more dollars will be flowing from federal and provincial budgets in 2021.

KEY CANADIAN STATISTICS

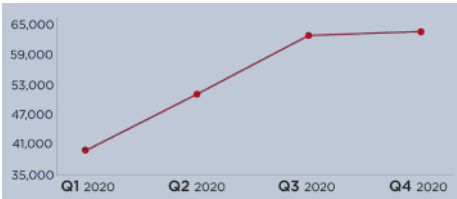


Gross Domestic Product (GDP)

Akin to the U.S., Canada's GDP appears to have recovered from the rates of Q2 and Q3 (in response to COVID-19); reporting a similar rate to this time last year.

Consumer Price Index (CPI)

Canada's CPI experienced minimal change throughout 2020, with a variance of less than 1%.

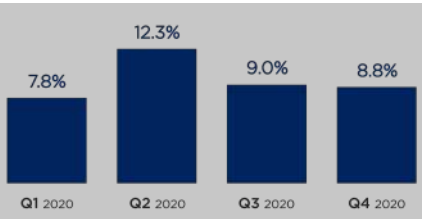


Housing Starts

Housing starts saw a 60% increase over the course of 2020, closing out the year with greater than 63K housing starts in Q4.

Unemployment

Canadian unemployment closes out the year at 8.8%.



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.

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