FIRST QUARTER 2019

NORTH AMERICA

QUARTERLY CONSTRUCTION COST REPORT







ON THE COVER

UCHEALTH LONGS PEAK HOSPITAL LONGMONT, COLORADO

The UCHealth Longs Peak Hospital is a new, 210,000 SF facility offering state-of-the-art medical treatment in Longmont, Colorado. The 51 inpatient bed facility features a Level III trauma center and emergency department, ICU, operating rooms, birthing center, pharmacy, lab space, and other general services. An attached 12,000 SF utility plant supports hospital operations. The design encompasses UCHealth's long-term vision of expansion and flexibility of facilities that is consistent with other UCHealth hospitals being built throughout Colorado.

As reported by UCHealth, in the first year of operation, Longs Peak had 13,700 visits to the emergency department, 2,450 patients admitted to the hospital, and 670 babies were born. There are over 480 employees at Longs Peak. The facility continues to make a tremendous impact on the community.

Rider Levett Bucknall had an extensive role through the design and construction of the project. UCHealth required RLB's services including early project budgeting, cost planning, design milestone cost estimating, CM/GC GMP proposal reviews, CM/GC change order reviews, and monthly schedule analysis. The construction of the project was completed ahead of schedule in just 14 months.

The project received a Best Project Award in Health Care by ENR and continues to be a prime representation of innovation in healthcare facilities.

NORTH AMERICA

With Big Data playing an increasingly prominent role in the design and construction of buildings and cities, there's cause for both caution and celebration. On one hand, there's concern about job displacement and worker safety. On the other, it's fascinating to contemplate how it will enable new levels of efficiencies in time, money, and materials to optimize outcomes.

We're about to get a ground-up look at how this plays out at scale. Sidewalk Labs, owned by the parent company of Google, Alphabet, is a consortium of urban designers and technologists who are dedicated to exploring how new technologies can solve big urban challenges and improve the quality of life in cities. In 2017, it became a partner in a major development in Toronto, called Quayside, which seeks to revitalize 800 acres of underutilized waterfront land with a slew of fresh thinking about affordable housing, resiliency and flood protection, retail, and transportation systems.

In Toronto, Sidewalk Labs is planning to contribute innovations that are overtly oriented to the built environment, such as canopies that automatically retract in advance of severe weather. But as the architect of the data infrastructure, the applications—and the implications—of Quayside's digital domain are significant beyond the immediate community. To create a place that is enhanced by digital technology and data without giving up the privacy and security that its residents and visitors deserve is a righteous goal, yet there is no clear path to achieving it.

The situation raises questions that span ethical and legal issues. Working towards a resolution, Sidewalk Labs is proposing a framework that governs the gathering and use of data. The company argues that no one has an inherent right to own information harvested from Quayside, and proposes it be under the jurisdiction of an independent civic agency. This organization would review any requests for the info, as well as evaluate applications to compile new data from the development. By declaring responsibility for data integrity and opening up the process to the public, this nascent effort to control the information generated at Quayside strikes a positive balance between protecting privacy and taking full advantage of proprietary data.

At RLB, we know transparency is key to our core services: the effective management of risk in construction projects. As Big Data continues to impact the AEC industries, our methodology may evolve, but our commitment to serving all our clients equitably and honorably will remain constant.



Julian Anderson FRICS President, North America

NATIONAL CONSTRUCTION COST INDEX



Welcome to the first quarter 2019 issue of the Rider Levett Bucknall Quarterly Cost Report! This issue contains data current to January 1, 2019.

\$1,279.6
Billion
According to the U.S. Department of Commerce,
Construction-Put-In-Place during January 2019 was
estimated at a seasonally adjusted annual rate of \$1,279.6
billion, which is

1.3% above	the revised December 2018 estimate of \$1,263.1 billion, and
0.3% above	the January 2018 estimate of \$1,276.3 billion.

The National Construction Cost Index shows the changing cost of construction between January 2014 and January 2019, relative to a base of 100 in April 2001. Index recalibrated as of April 2011.

KEY UNITED STATES STATISTICS



Consumer Price Index (CPI)

CPI experiences little fluctuation throughout the year. Inflation is up 1.91% from this time last year.

Gross Domestic Product* (GDP)

GDP levels out during the fourth quarter, closing out the year at 2.6%; down from the mid-year peak of 4.2%.



Architectural Billings Index (ABI)

Despite the decrease in ABI, the index remains positive, as an index above 50 indicates a robust billing cycle.



National Unemployment

When compared to construction unemployment, national unemployment remains low and steady, varying only 0.3% from this time last year.



Construction Unemployment

Construction unemployment sees a bump of 1% over the past quarter, consistent with cyclical patterns which reflect a slowdown in construction during winter months.



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. Unemployment rates are seasonally adjusted, reported at the end of the 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.

INDICATIVE CONSTRUCTION COSTS

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.

	OFFICES			RETAIL SHOPPING			HOTELS			HOSI	HOSPITAL INDUSTRIAL		PARKING			RESIDENTIAL			EDUCATION											
	PR	ME	SECON	IDARY	CEN	ITER	ST	RIP	5 ST	TAR	3 S	TAR	GEN	ERAL	WARE	HOUSE	GRO	UND	BASE	MENT	MULTI-	FAMILY	SINGLE	-FAMILY	ELEME	NTARY	HIGH S	CHOOL	UNIVE	RSITY
LOCATION	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
USA																														
Boston	325	500	225	325	200	300	150	240	400	580	275	390	425	675	110	190	85	140	100	160	185	315	260	360	320	430	340	450	350	500
Chicago	280	450	175	280	185	290	135	220	400	660	290	410	380	720	110	185	80	125	125	170	165	400	220	420	265	380	300	405	350	600
Denver	200	260	165	200	95	150	80	175	285	370	200	275	390	480	90	150	75	100	100	135	90	200	90	410	250	315	275	330	305	420
Honolulu	285	525	240	395	210	490	175	430	510	735	320	410	470	755	145	230	100	145	140	260	195	440	280	750	335	470	400	605	440	715
Las Vegas	160	295	105	190	115	480	80	145	350	550	150	300	350	455	60	100	50	85	60	150	90	405	100	350	180	315	200	455	275	455
Los Angeles	235	355	175	260	155	340	130	190	375	540	280	360	530	800	120	185	105	125	130	180	210	325	200	360	365	480	385	500	420	590
New York	400	600	300	400	275	425	175	300	400	600	300	400	500	750	115	200	95	175	125	200	200	375	275	400	375	500	400	530	400	600
Phoenix	190	290	140	195	120	200	80	150	350	520	170	250	425	525	60	100	45	70	70	110	90	210	120	450	190	300	250	400	300	450
Portland	200	270	150	200	160	260	150	210	205	295	165	200	405	540	100	160	105	135	120	195	160	250	140	295	290	360	305	365	330	465
San Francisco	280	400	250	350	250	400	240	350	450	630	380	520	460	685	150	200	125	160	220	275	375	520	230	430	350	430	350	460	400	550
Seattle	210	255	145	205	140	310	115	165	275	390	230	240	420	550	100	130	95	115	140	170	165	275	170	290	300	330	390	500	440	480
Washington, D.C.	325	550	225	325	175	300	140	200	400	600	250	390	500	750	120	190	90	130	110	140	200	350	300	400	300	400	325	420	350	500
CANADA																														
Calgary	235	295	190	285	220	310	110	160	400	500	190	245	550	720	85	145	75	90	75	120	140	215	130	320	185	260	220	310	300	450
Toronto	200	260	180	250	225	275	115	150	400	500	195	260	500	650	115	150	70	90	115	150	180	225	190	350	195	210	205	235	205	305

AT-A-GLANCE: CONSTRUCTION COST CHANGE

CONSTRUCTION ACTIVITY CYCLE



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.

8%

6%

4%

2% 0% -2%

-4% -6% -8%

Percentage Change

TROUGH DECLINE

COMPARATIVE COST INDEX



COST AND CHANGE SUMMARY

City	January 2018	April 2018	July 2018	October 2018	January 2019	Annual % Change
• Boston	21,325	21,563	21,789	22,086	22,267	4.42%
Chicago	21,177	21,394	22,055	22,416	22,789	7.61%
• Denver	14,513	14,649	14,819	14,937	15,096	4.02%
• Honolulu	23,663	23,804	24,048	24,520	24,812	4.86%
 Las Vegas 	13,922	14,081	14,299	14,503	14,674	5.41%
• Los Angeles	20,874	21,010	21,266	21,567	21,792	4.40%
New York	25,104	25,387	25,628	26,000	26,244	4.54%
Phoenix	14,248	14,442	14,795	15,013	15,203	6.70%
• Portland	15,524	15,768	16,023	16,315	16,630	7.13%
San Francisco	25,151	25,704	26,038	26,294	26,844	6.73%
Seattle	17,017	17,250	17,525	17,810	18,120	6.48%
• Washington, D.C.	20,212	20,437	20,660	20,987	21,528	6.51%



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 map titled Comparative Cost Index (left, top) and in the Cost and Change Summary (left, bottom).

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.

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.







COST INDEX HONOLULU





1.14%

APR

2018

-2.0%

1.55%

JUL 2018

1.43%

OCT 2018

1.18%

JAN

2019

Our research suggest that between January 1, 2018 and December 31, 2018 the national average increase in construction cost was approximately 5.73%. Chicago, Phoenix, Portland, San Francisco, Seattle, and Washington, D.C. experienced the greatest annual increases, showing escalation above the national average. Boston, Denver, Honolulu, Las Vegas, Los Angeles, and New York all experienced lower annual increases ranging between 4.02% and 5.41%,





COST INDEX PHOENIX



COST INDEX SAN FRANCISCO





CANADA

COMPARATIVE COST INDEX



Canada's economy grew better than expected late in 2018, and is projected at 2% for 2019. There appears to be a tale of two cities, where in Alberta 2019 will be the first year no major greenfield sites are under construction, and the economy continues to lose full time trade positions, whereas in Toronto, there is such a lack of trades available such that construction costs are increasing and schedules are slipping. This trend is expected to last the remainder of the year. The larger projects have also experienced sharp increases in pricing in the last quarter, due in part to USA Tariffs, but also due to lack of tradespeople, and the number of large projects on the market.





KEY CANADIAN STATISTICS



Gross Domestic Product (GDP)

GDP sees an approximate change of 1.6% over the course of 2018, closing out the year with a 0.1% change from the third quarter.



Canada's CPI experienced nominal

Consumer Price Index (CPI)

change throughout 2018, with a variance of less than 1%



Canada's unemployment sees nominal change through 2018, closing out the year at 5.6%

Housing Starts

Housing starts in Canada experienced a 31% increase over the course of 2018, closing out the year with greater than 57.760 housing starts in the fourth quarter.

5.9% 5.6% 5.8% 6.0% Q1 2018 Q2 2018 Q3 2018 Q4 2018

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

Unemployment





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.

VOTED #1 COST CONSULTANT IN WORLD ARCHITECTURE MAGAZINE 2016-2019



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 Cassie Idehara, Catherine Stoupas, Chris Harris, Daniel Junge, Edd Hamzanlui, Emile Ie Roux, Evans Pomegas, George Bergeron, Graham Roy, Grant Owen, James Casey, Joe Pendlebury, Lucy Liu, Maelyn Uyehara, Michael Moynihan, Neil Sinclair, Paul Brussow, Peter Knowles, Philip Mathur, Robin Kankerwal, Scott Macpherson, and Simon James.

© April 2019 by Rider Levett Bucknall Ltd.

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

BOSTON

Phone: +1 617 737 9339 F-mail: BOS@us.rlb.com Grant Owen

CALGARY

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

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 79
E-mail:	ITO@us.rlb.co
Contact:	Kevin Mitchell

HONOLULU

Phone:	+1 808 521 264
E-mail:	HNL@us.rlb.cc
Contact:	Erin Kirihara
	Cassie Idehara

KANSAS

+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:	Philip Mathur
	Brian Lowder

MAUI

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

NEW YORK

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

PHOENIX

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

PORTLAND

+1 503 226 2730 Phone: PDX@us.rlb.com E-mail[.] Graham Roy

SAN FRANCISCO

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

SAN JOSE

+1 650 943 2317 Phone:

SJC@us.rlb.com Joel Brown

SEATTLE

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

ST. LUCIA

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

TORONTO

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

TUCSON

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

WAIKOLOA

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

WASHINGTON, DC

Phone:	+1 240 599 8176
E-mail:	DCA@us.rlb.com
Contact:	Grant Owen

