



# NORTH AMERICA

## QUARTERLY CONSTRUCTION COST REPORT

**FIRST QUARTER 2017**



## ON THE COVER

### UNIVERSITY OF IOWA STEAD FAMILY CHILDREN'S HOSPITAL IOWA CITY, IOWA

The University of Iowa Stead Family Children's Hospital project is a 14-story (two below grade), 507,000 square foot tower designed to unify the existing children's hospital patient care services spread throughout the 3.8 million square-foot campus. This will improve the health and well-being of children and their families by integrating imaging, treatment, surgical, and patient care rooms in a single facility, 100 percent dedicated to children's care. The new, kid-friendly, children's hospital is the heart of a comprehensive pediatric system that has been designed to minimize stress, encourage hope, provide comfort, and promote healing. The building's oval shape and 170 floor-to-ceiling windows provide a 360-degree panoramic view of the University of Iowa and the surrounding countryside. The programming and interior design work was supported by Stanley Beamon & Sears from Atlanta and ZGF Architects LLP from Portland, with Heery International Inc. of Iowa City serving as the architect of record. The exterior design was provided by the award winning British architectural firm Foster & Partners.

Rider Levett Bucknall (RLB) provided Construction Liaison services for Transition and Activation Planning, Building Load and Occupancy to The Carter Group. RLB's role includes acting as the liaison between the construction of the Tower and the technology and equipment that allow for the most modern children's patient care possible.

# NORTH AMERICA

On the occasion of our fifteenth year publishing our Quarterly Construction Cost Report, I reflect on the undulation our construction industry has experienced. Boom, near-bust, and everything in between, we have chronicled the economic trends impacting the construction industry in urban centers from coast to coast.

To mark this milestone, we have made a few changes to our report. First, we are expanding the markets we cover, adding two major Canadian cities to the list. In Calgary, RLB has specialized in mechanical, electrical, and plumbing cost management services since 1996. Our firm's roots in Toronto go back to 1969; there, we have worked with all levels of government on major infrastructure projects, including subways, railways, bridges and roads, and water treatment facilities.

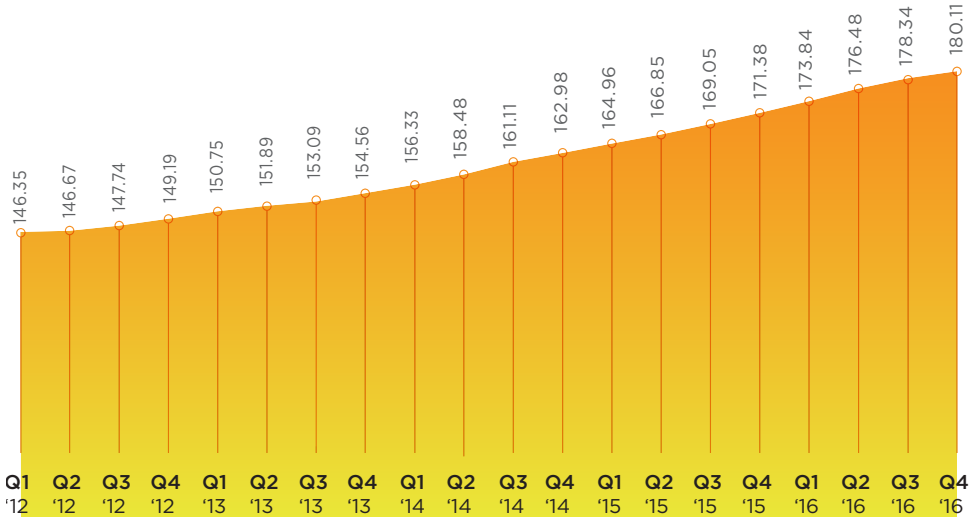
Second, we have adopted a new format for the report. While still featuring the full range of comprehensive data and details you expect from RLB, we have enhanced the graphic design, with more charts and graphs making it easier to glean key information from the content.

Looking ahead, we are monitoring the current U.S. administration's initiatives and waiting to see how several of them will impact construction activities. A broad-stroke federal budget proposal has called to cut the Department of Transportation's spending by 13%, raising questions about the plan to overhaul the country's infrastructure. Nonetheless, barring some external shock to the economy, we continue to expect a generally positive year for the construction industry.



**Julian Anderson** FRICS  
President

# NATIONAL CONSTRUCTION COST INDEX



Welcome to the first 2017 issue of the Rider Levett Bucknall Quarterly Cost Report! This issue contains data current to January 1, 2017.

**\$1,180.3  
Billion**

According to the U.S. Department of Commerce, construction-put-in-place during January 2017 was estimated at a seasonally adjusted annual rate of \$1,180.3 billion, which is

**1%  
below**

the revised December estimate of \$1,192.2 billion, and

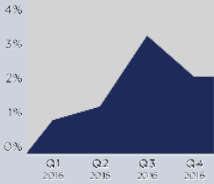
**3.1%  
above**

above the January 2016 estimate of \$1,144.9 billion.

The National Construction Cost Index shows the changing cost of construction between January 2012 and January 2017, relative to a base of 100 in April 2001. Index recalibrated as of April 2011.



# KEY UNITED STATES STATISTICS



## Gross Domestic Product\* (GDP)

Throughout 2016, GDP fluctuated from quarter to quarter, closing out the year at 1.9%, down from 3.2% in the third quarter.

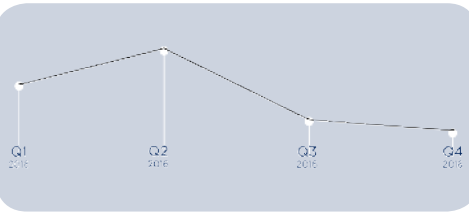
## Consumer Price Index (CPI)

CPI reflected a 1.22% change during the first half of 2016, but remained steady in the latter half of the year.



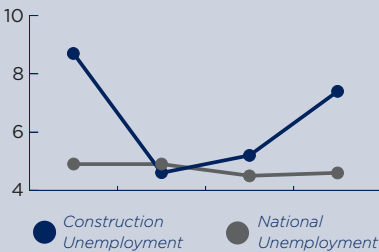
## Inflation

A CPI of 241.4 during the fourth quarter of 2016 indicates no change in inflation since the third quarter, but a 1.39% change since the first quarter.



## Architectural Billings Index (ABI)

Architecture firms reported a strong finish to 2016, with an ABI of 55.9, the highest reported growth of the year.



## Unemployment

National unemployment remained relatively steady throughout 2016, varying from 4.5% to 5.1% throughout 2016. In comparison, national construction unemployment experienced greater changes from quarter to quarter, closing out the year at 7.4%.

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.

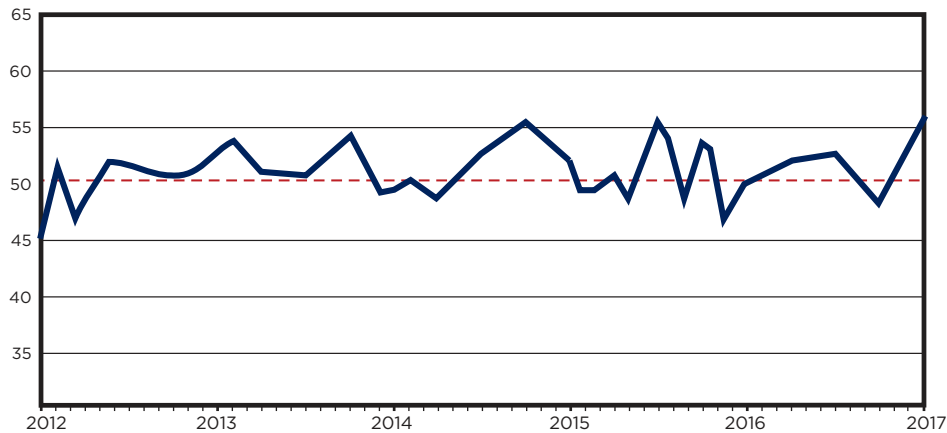
\* Adjustments made to GDP based on amended changes from the Bureau of Economic Analysis.  
Sources: U.S. Bureau of Labor Statistics, Bureau of Economic Analysis, American Institute of Architects.

## 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.

LOCATION	OFFICES				RETAIL SHOPPING				HOTELS				HOSPITAL		INDUSTRIAL		PARKING				RESIDENTIAL				EDUCATION						
	PRIME		SECONDARY		CENTER		STRIP		5 STAR		3 STAR		GENERAL		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	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
<b>USA</b>																															
Boston	300	475	200	300	175	275	125	200	375	550	250	375	400	650	100	175	75	125	90	150	175	300	250	350	275	375	285	400	325	475	
Chicago	270	450	165	280	185	280	120	220	390	650	265	380	360	630	110	180	80	125	90	140	160	320	220	420	250	380	300	380	345	480	
Denver	160	255	115	175	90	145	70	135	200	310	150	185	370	455	90	150	50	70	90	120	85	190	90	400	245	300	260	310	285	400	
Honolulu	285	530	245	400	210	495	175	435	515	745	325	545	475	760	145	225	100	145	140	265	195	445	280	760	340	475	405	610	445	720	
Las Vegas	140	295	105	190	115	480	65	145	350	500	150	300	285	455	50	100	50	85	60	150	70	405	90	350	180	315	200	455	235	455	
Los Angeles	215	325	150	230	135	305	110	175	330	495	220	305	450	690	105	175	100	120	120	165	170	275	165	335	335	445	355	480	370	530	
New York	375	575	300	400	275	425	175	300	400	600	300	400	475	700	115	200	95	175	125	200	200	375	275	400	290	400	300	450	325	475	
Phoenix	160	275	110	175	110	170	80	140	300	475	150	250	300	450	55	100	45	70	60	110	90	185	100	400	170	250	200	300	250	400	
Portland	180	250	130	180	140	240	120	180	190	275	150	190	380	525	90	150	85	105	110	150	150	240	125	280	235	295	250	310	280	400	
San Francisco	200	350	180	275	195	325	225	325	300	500	250	350	400	525	140	190	100	130	165	190	280	425	200	400	320	400	300	375	250	375	
Seattle	200	245	135	195	135	305	110	155	230	325	215	230	370	525	95	125	85	100	120	155	145	250	155	270	240	295	265	460	310	460	
Washington	275	425	200	300	150	275	125	175	350	525	250	350	400	650	90	150	70	125	80	125	175	300	250	350	275	350	275	375	325	475	
<b>CANADA</b>																															
Calgary	235	295	190	285	220	310	110	160	300	450	190	245	550	720	75	120	75	95	85	145	140	215	125	315	185	260	220	310	300	450	
Toronto	195	260	170	250	200	250	105	160	300	355	195	260	500	645	70	90	70	90	115	150	130	205	190	330	170	195	200	230	200	295	

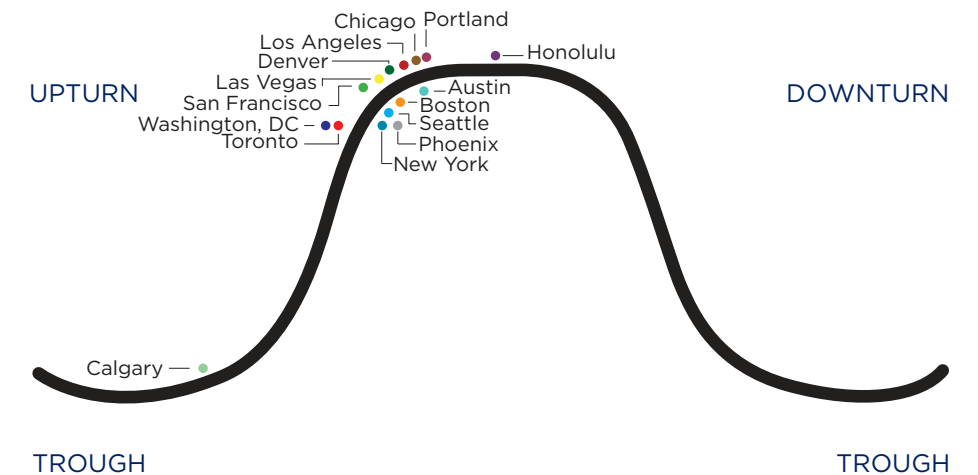
## ARCHITECTURAL BILLINGS INDEX



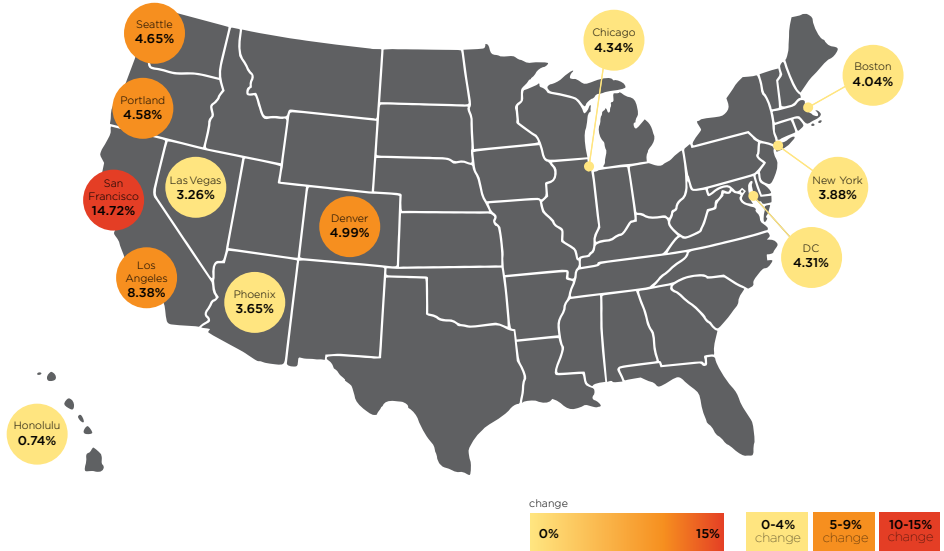
As a leading economic indicator of construction activity, the Architectural Billings Index (ABI) reflects the approximate nine to twelve month lag time between architecture billings and construction spending.

The American Institute of Architects reported the December 2016 ABI score was 55.9 which is up from the September 2016 score of 48.4. This reflected an unanticipated, and short lived, end of year spike in billings by architects.

## CONSTRUCTION ACTIVITY CYCLE

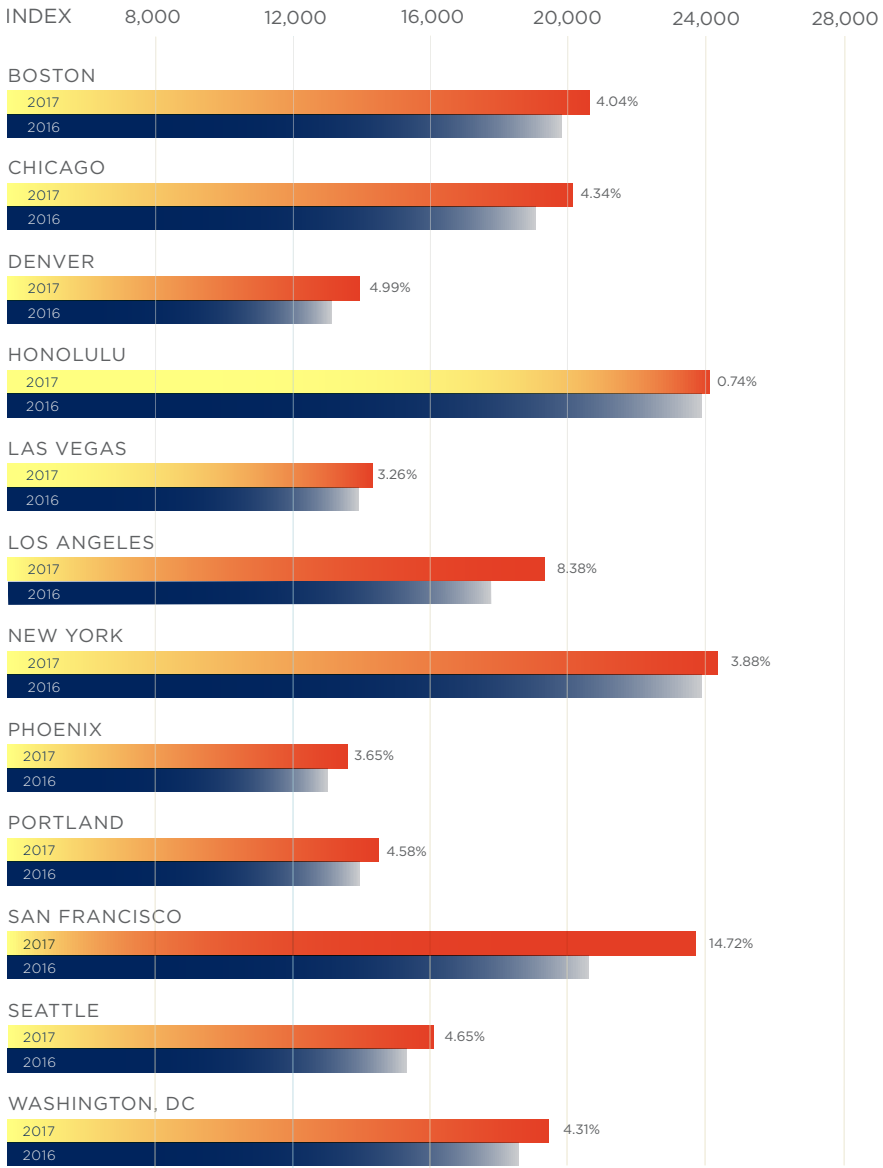


## COMPARATIVE COST INDEX



City	January 2016	April 2016	July 2016	October 2016	January 2017	% Change
• Boston	19,868	20,076	20,257	20,489	20,671	4.04%
• Chicago	19,266	19,388	19,547	19,809	20,103	4.34%
• Denver	13,321	13,466	13,660	13,932	13,987	4.99%
• Honolulu	23,906	24,122	24,338	24,181	24,082	0.74%
• Las Vegas	13,011	13,155	13,251	13,342	13,435	3.26%
• Los Angeles	17,901	18,332	19,041	19,225	19,401	8.38%
• New York	23,395	23,617	23,837	24,101	24,303	3.88%
• Phoenix	13,178	13,318	13,481	13,578	13,659	3.65%
• Portland	13,997	14,162	14,287	14,469	14,638	4.58%
• San Francisco	20,639	21,659	22,625	23,005	23,677	14.72%
• Seattle	15,470	15,613	15,774	15,972	16,190	4.65%
• Washington, DC	18,777	18,961	19,163	19,376	19,586	4.31%

Comparative Cost Map and Bar Graph Indicate percentage change between January 2016 and January 2017.




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)*.

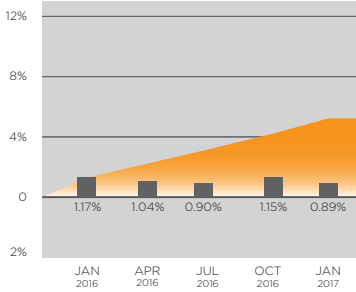
Our Comparative Cost Index tracks the 'true' bid cost of construction, which includes, in addition to costs of labor and materials, general contractor and sub-contractor overhead costs and fees (profit). The index also includes applicable sales/use taxes that 'standard' construction contracts attract.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



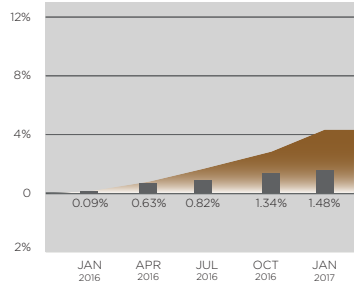
The following escalation charts track changes in the cost of construction each quarter in many of the cities where RLB offices are located. Each chart illustrates the percentage change per period and the cumulative percentage change throughout the charted timeline.

 Percentage change per quarter  Cumulative percentage change for the period shown

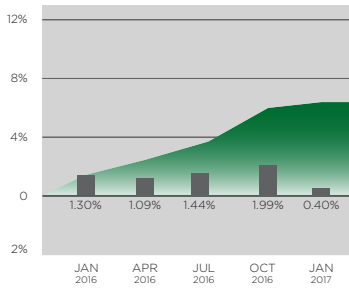
## COST INDEX Boston



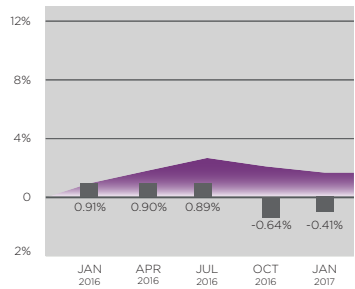
## COST INDEX Chicago



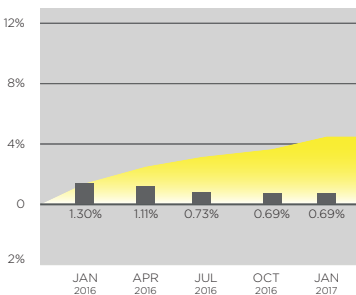
## COST INDEX Denver



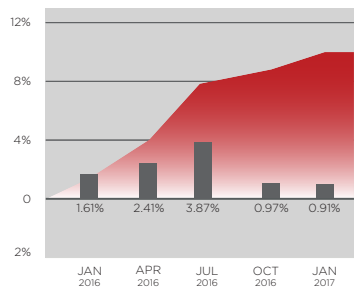
## COST INDEX Honolulu



## COST INDEX Las Vegas

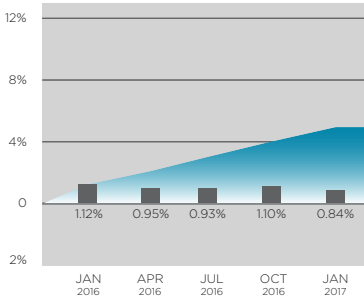


## COST INDEX Los Angeles

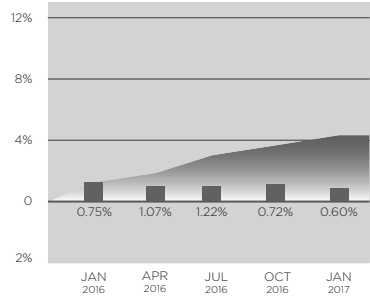


Our research suggests that between January 1, 2016 and December 31, 2016 the national average increase in construction cost was approximately 5.1%. Los Angeles and San Francisco experienced the greatest annual increases showing escalation over 8% while Boston, Chicago, Denver, New York, Phoenix, Portland, San Seattle and Washington DC experienced more modest annual increases around between 3.3% and 5.0%. Honolulu experienced a significantly lower annual increase below 1.0%.

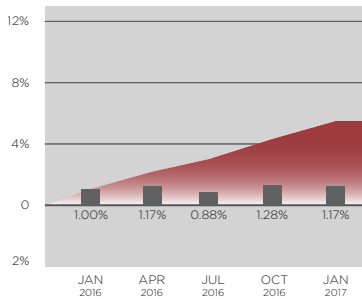
COST INDEX New York



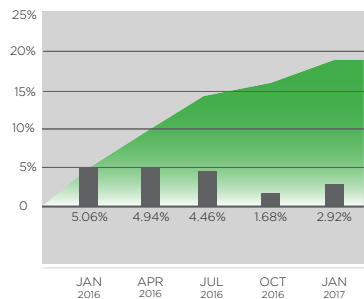
COST INDEX Phoenix



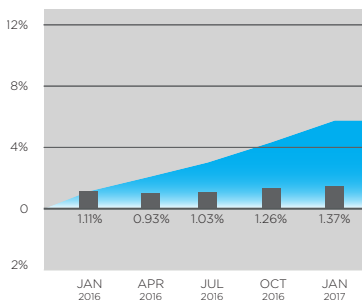
COST INDEX Portland



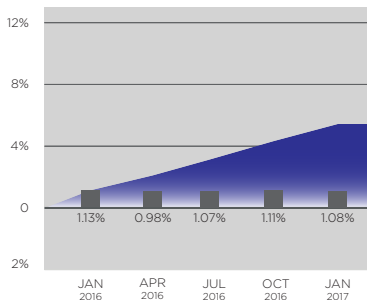
COST INDEX San Francisco



COST INDEX Seattle

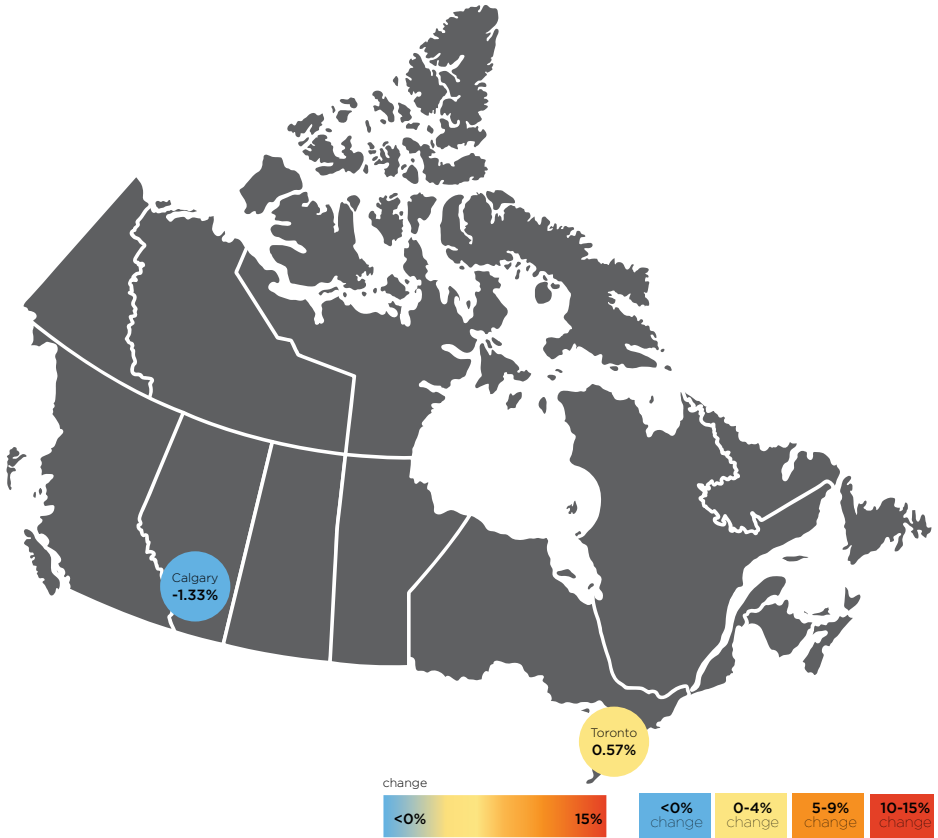


COST INDEX Washington DC





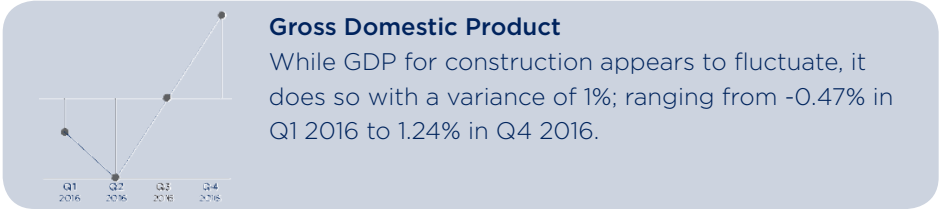
## COMPARATIVE COST INDEX



City	October 2016	January 2017	% Change
• Calgary	18,435	18,190	-1.33%
• Toronto	18,690	18,800	0.57%

The Calgary construction market has been impacted by the oil price decline driving lower employment across all construction sectors. However, the provincial and municipal governments have announced increased capital spending in response to the economic downturn. The City of Calgary plans to increase infrastructure spending in 2017 by about 30% over the previous year and intends to continue that trend in 2018. The City Council recently approved \$1.8 billion in their capital budget for 2017 representing a projected growth of \$200 million over 2016 capital budget.

# 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. The firm was voted #1 Cost Consultant in 2016 and 2017 by World Architecture Magazine.

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 Evans Pomegas, Grant Owen, Edd Hamzanlui, Paul Brussow, Maelyn Uyehara, Cassie Idehara, Simon James, Philip Mathur, Scott Macpherson, Graham Roy, Daniel Junge, George Bergeron, Peter Knowles, Catherine Stoupas, Joe Pendlebury, and Edward Traore.

© April 2017 by Rider Levett Bucknall Ltd.

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

### AUSTIN

Phone: +1 512 704 3026  
E-mail: AUS@us.rlb.com  
Contact: Ruben Rodriguez

### BARBADOS

Phone: +1 246 256 0704  
E-mail: erwin.benjamin@bb.rlb.com  
Contact: Erwin Benjamin

### BOSTON

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

### CALGARY

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

### CAYMAN ISLANDS

Phone: +1 345 946 6063  
E-mail: martyn.bould@ky.rlb.com  
Contact: Martyn Bould

### CHICAGO

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

### DENVER

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

### GUAM

Phone: +1 671 473 9054  
E-mail: GUM@us.rlb.com  
Contact: Emile le Roux

### HILO

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

### HONOLULU

Phone: +1 808 521 2641  
E-mail: HNL@us.rlb.com  
Contact: Tony Smith  
Paul Brussow  
Maelyn Uyehara

### LAS VEGAS

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

### LOS ANGELES

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

### MAUI

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

### NEW YORK

Phone: +1 212 952 1300  
E-mail: EWR@us.rlb.com  
Contact: Grant Owen

### PHOENIX

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

### PORTLAND

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

### SAN FRANCISCO

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

### SAN JOSE

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

### SEATTLE

Phone: +1 206 223 2055  
E-mail: SEA@us.rlb.com  
Contact: Graham Roy

### ST. LUCIA

Phone: +1 758 452 2125  
E-mail: mark.williamson@lc.rlb.com  
Contact: Mark Williamson

### TORONTO

Phone: +1 905 631 8210  
E-mail: YYZ@us.rlb.com  
Contact: Joe Pendlebury

### TUCSON

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

### WAIKOLOA

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

### WASHINGTON, DC

Phone: +1 202 457 1450  
E-mail: DCA@us.rlb.com  
Contact: Grant Owen





UNIVERSITY OF IOWA

STEAD FAMILY

rlb.com