NORTH AMERICA

QUARTERLY CONSTRUCTION COST REPORT

FIRST QUARTER 2018

RLB Rider Levett Bucknall

ON THE COVER

GARY K. HERBERGER YOUNG SCHOLARS ACADEMY
GLENDALE, ARIZONA

The ASU Herberger Young Scholars Academy (HYSA) is designed for gifted middle and high school students, with connectivity to the campus community. It is designed to provide an optimum learning environment for the students to work in a variety of methods: individual study, open collaboration, small work groups, and lecture. The primary space is a two story work and performance space with open collaboration, varied study and work areas, and a second floor senior level lounge with views to the mountains. The spaces are agile, multidirectional learning environments. Classrooms are able to be transformed for varied uses within them and expand adjacent exterior learning environments and the central collaboration space.

The school is expressed as a sculpted enclosure, which is open to and connects with exterior learning environment in all directions. The design provides an educational setting where students can learn with intellectual peers, build friendships, pursue extra-curricular activities and contribute to the community.

Rider Levett Bucknall provided cost estimating services to Marlene Imirzian & Associates Architects for this project.

NORTH AMERICA

With the suspected exception of a jump in sales of antacid tablets and enrollment in meditation classes, as of this writing, the federal tariffs proposed for imported steel and aluminum have had few quantifiable effects on the marketplace. That's not to say there wasn't plenty of hue and cry when the administration revealed its policy.

Shortly after the initial announcement, which called to levy surcharges of 25% on foreign steel and 10% on aluminum, several trade and professional organizations weighed in on its possible repercussions. From the American Institute of Architects' statement: "Any move that increases building costs will jeopardize domestic design and the construction industry, which is responsible for billions in U.S. Gross Domestic Product, jobs growth, and job creation." "Higher steel and aluminum prices will make the kind of infrastructure work President Trump supports more expensive, forcing federal, state, and local officials to cut back on projects they can fund. And the likely trade wars these new tariffs prompt will diminish demand for private investment in infrastructure, as well as construction demand for manufacturing, shipping, and distribution facilities," declared the Associated General Contractors of America.

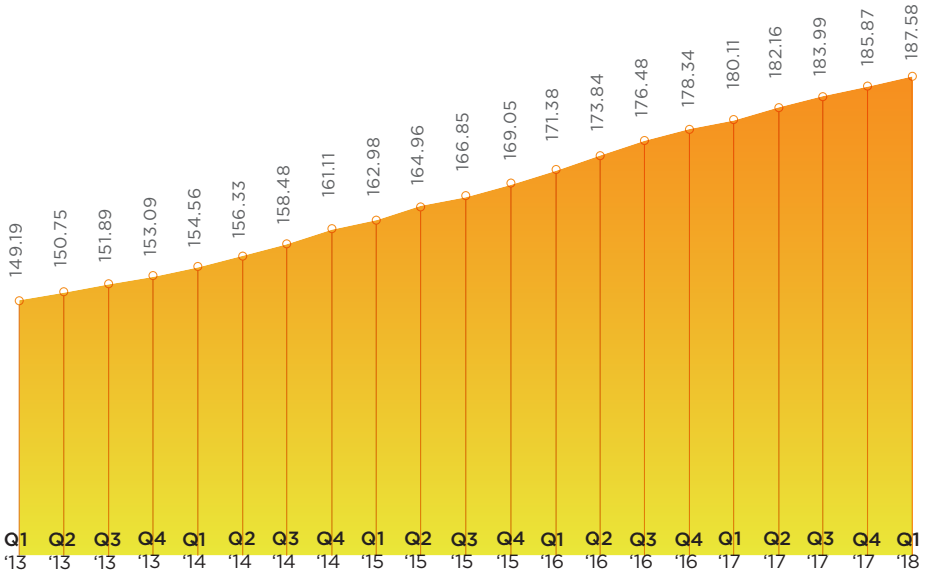
In response to such lobbying, within a week, allowances and exceptions began to creep into the previously blanket decree, moderating its terms, if not its tenor. Material from Canada and Mexico would be exempted, at best which NAFTA is being renegotiated; then temporary exemptions were also granted to Argentina, Australia, Brazil, the European Union, and South Korea. The upshot has been murky, at best, and has resulted in questions that will only be answered over time. How will the practice of transshipping metals—always problematic—be addressed? As similar tariffs imposed in 2002 led to a shortage of steel, will history repeat itself? What will be the effect on construction firms that have fixed-price contracts with suppliers?

Doubtless there will be more developments to come. As this complicated and controversial issue unfolds, be assured that Rider Levett Bucknall is focused on continuing to earn your trust by delivering the most accurate information and advice on construction costs and strategies.

Julian Anderson FRICS
President, North America
Chairman of the Global Board

USA REPORT

NATIONAL CONSTRUCTION COST INDEX



Welcome to the first quarter 2018 issue of the Rider Levett Bucknall Quarterly Cost Report! This issue contains data current to January 1, 2018.

$1,262.8 Billion

According to the U.S. Department of Commerce, construction-put-in-place during January 2018 was estimated at a seasonally adjusted annual rate of $1,262.8 billion, which is

nearly the same

as the revised December 2017 estimate of $1,262.7 billion, and

3.2% above

above the January 2017 estimate of $1,223.5 billion.

The National Construction Cost Index shows the changing cost of construction between January 2013 and January 2018, relative to a base of 100 in April 2001. Index recalibrated as of April 2011.

KEY UNITED STATES STATISTICS

Gross Domestic Product* (GDP)

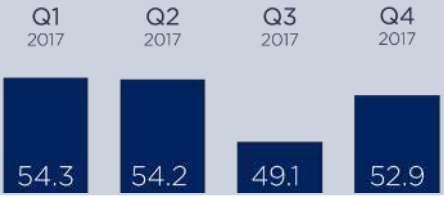
GDP continues to fluctuate into the new year, closing out 2017 at 2.5%, down from 3.3% in the third quarter.

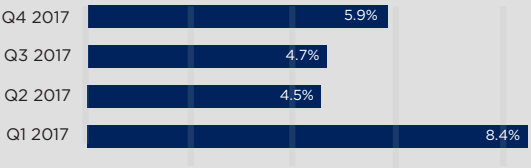
Consumer Price Index (CPI)

CPI experiences little variation throughout the year. Inflation is down 0.86% from first quarter 2017.

Architectural Billings Index (ABI)

Architectural billings recover from their third quarter dip, closing out the year with a score of 52.9.





Construction Unemployment

Experiencing a 2.5% drop in 2017, construction unemployment started out the year at 8.4% and closed it at 5.9%.

National Unemployment

When compared to construction unemployment, national unemployment remains relatively steady throughout 2017; varying from 4.7% to 4.1%

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.

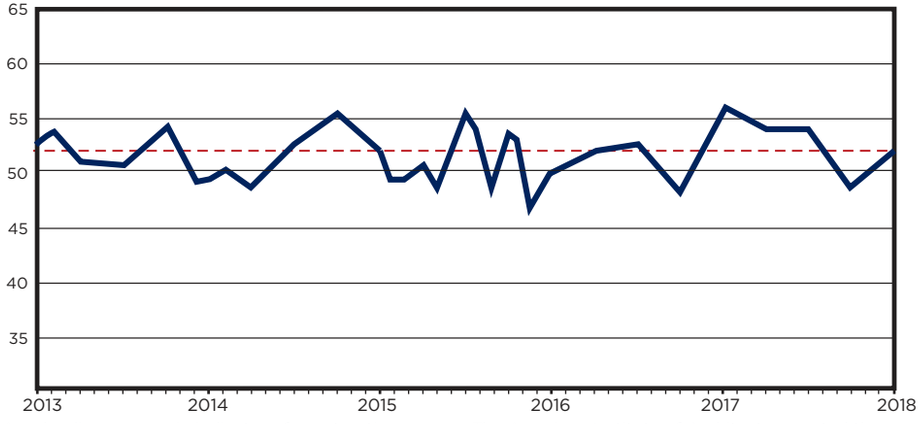
USA REPORT

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				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	
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	300	475	200	300	175	275	125	200	375	550	250	375	400	650	100	175	75	125	90	150	175	300	250	350	280	380	290	405	330	480
Chicago	280	450	175	280	185	280	135	220	390	650	270	390	360	700	110	185	80	125	120	155	160	340	220	420	250	380	300	400	350	600
Denver	165	255	120	185	90	145	80	175	215	325	160	240	380	470	90	150	50	75	90	120	90	200	90	410	250	300	260	315	305	415
Honolulu	285	525	245	400	210	490	175	430	515	740	325	545	475	755	145	225	100	145	140	265	195	440	280	755	340	475	405	605	440	715
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	225	340	165	250	150	330	120	185	355	520	255	330	475	705	110	175	105	125	130	175	185	295	190	335	340	450	360	485	390	555
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	295	405	305	455	330	480
Phoenix	160	275	120	175	120	200	80	140	300	500	150	250	350	500	55	100	45	70	60	110	90	185	100	400	170	250	220	340	300	420
Portland	180	250	130	180	140	240	120	180	230	330	150	240	380	525	90	150	85	105	110	150	150	240	125	280	270	335	285	350	310	440
San Francisco	210	325	190	300	225	350	225	325	400	600	350	500	450	650	140	190	110	145	175	215	320	430	200	400	340	450	315	400	250	375
Seattle	205	250	150	205	135	305	110	155	245	340	225	240	390	540	100	125	95	120	140	165	165	260	170	300	275	320	325	480	315	475
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	280	355	280	380	330	480
CANADA																														
Calgary	235	295	190	285	220	310	110	160	300	450	190	245	550	720	85	145	75	90	75	120	140	215	125	315	185	260	220	310	300	450
Toronto	195	260	174	250	200	250	105	160	300	355	195	260	500	645	115	150	70	90	70	90	130	205	190	330	175	195	200	230	200	295

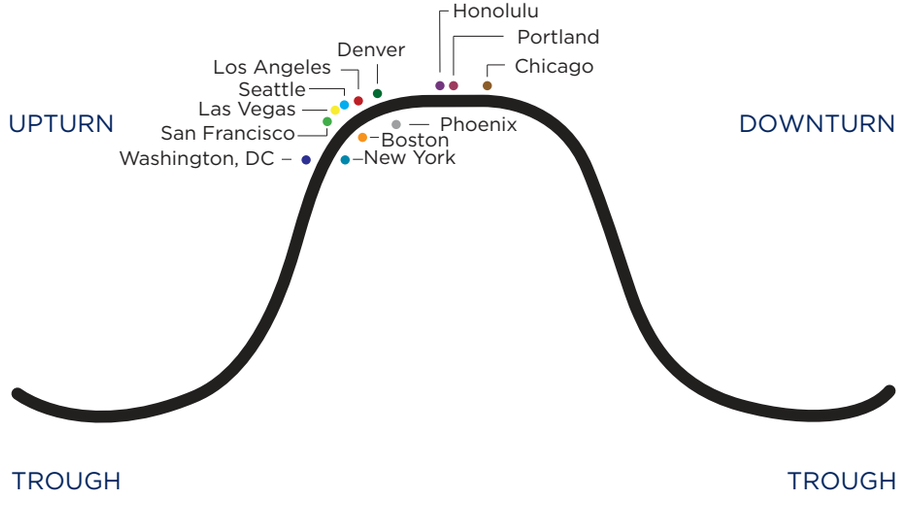
ARCHITECTURAL BILLINGS INDEX



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.

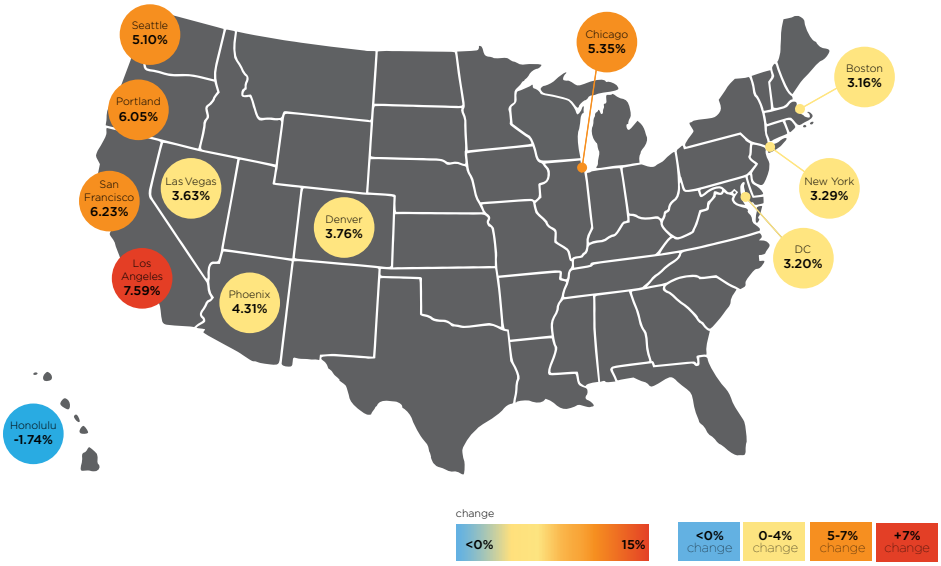
The American Institute of Architects reported the December 2017 ABI score was 52.9, a recovery from the modest dip to 49.1 in September 2017. The end-of-year spike points toward a robust year of billings in 2018.

CONSTRUCTION ACTIVITY CYCLE



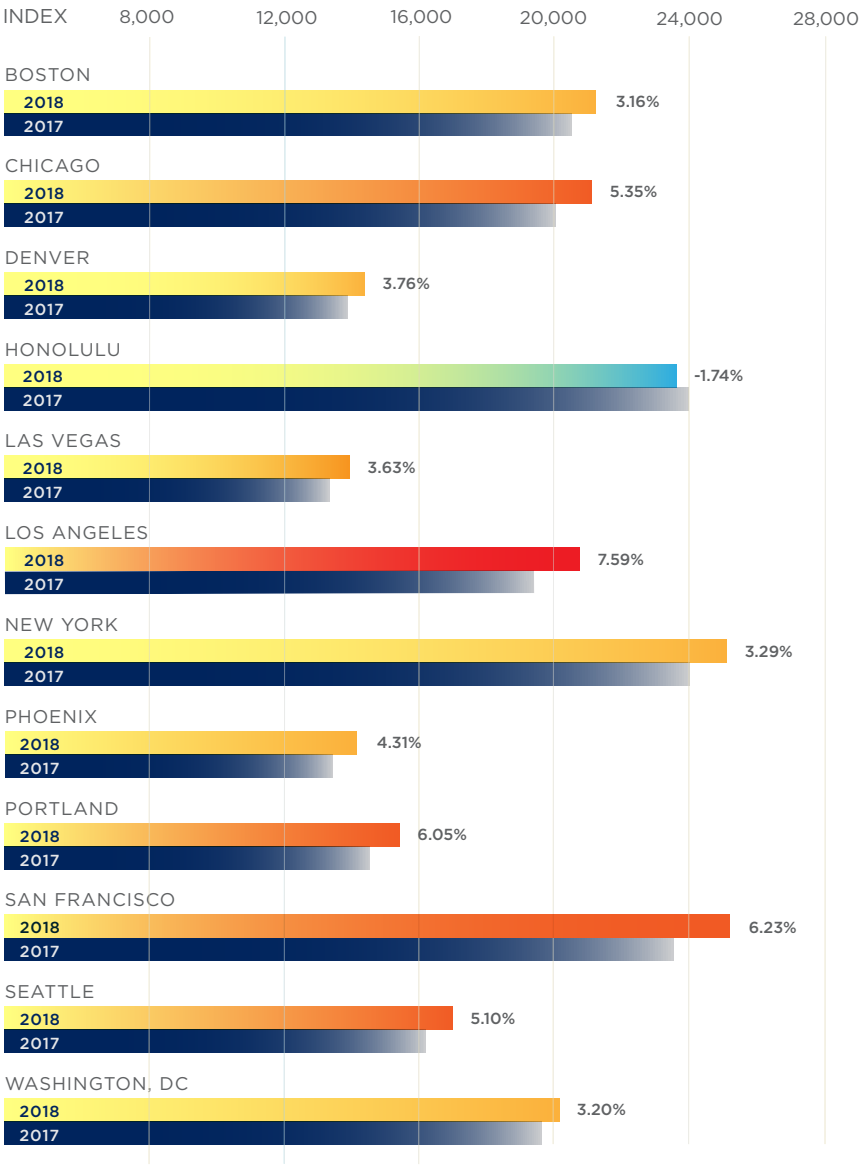
USA REPORT

COMPARATIVE COST INDEX



City	January 2017	April 2017	July 2017	October 2017	January 2018	Annual % Change
Boston	20,671	20,835	20,989	21,176	21,325	3.16%
Chicago	20,103	20,414	20,652	20,905	21,177	5.35%
Denver	13,987	14,097	14,187	14,337	14,513	3.76%
Honolulu	24,082	24,060	24,050	24,058	23,663	-1.74%
Las Vegas	13,435	13,510	13,614	13,777	13,922	3.63%
Los Angeles	19,401	19,997	20,326	20,586	20,874	7.59%
New York	24,303	24,499	24,698	24,927	25,104	3.29%
Phoenix	13,659	13,785	13,900	14,080	14,248	4.31%
Portland	14,638	14,830	15,044	15,302	15,524	6.05%
San Francisco	23,677	24,039	24,546	24,760	25,151	6.23%
Seattle	16,190	16,419	16,654	16,804	17,017	5.10%
Washington, DC	19,586	19,774	19,884	20,054	20,212	3.20%

Comparative Cost Map and Bar Graph Indicate percentage change between January 2017 and January 2018.



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)*.

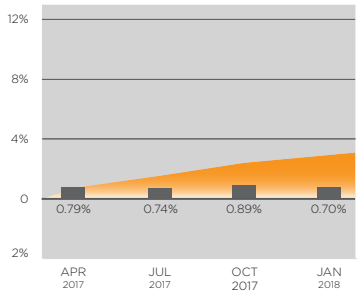
Our Comparative Cost Index tracks the 'true' bid cost of construction, which includes, in addition to costs of labor and materials, general contractor and sub-contractor overhead costs and fees (profit). The index also includes applicable sales/use taxes that 'standard' construction contracts attract.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

USA REPORT

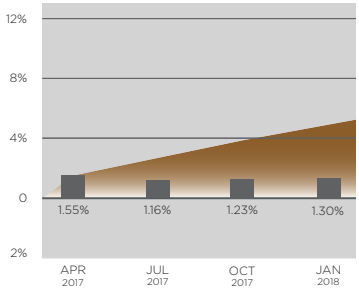
The following escalation charts track changes in the cost of construction each quarter in many of the cities where RLB offices are located. Each chart illustrates the percentage change per period and the cumulative percentage change throughout the charted timeline.

Percentage change per quarter — Cumulative percentage change for the period shown

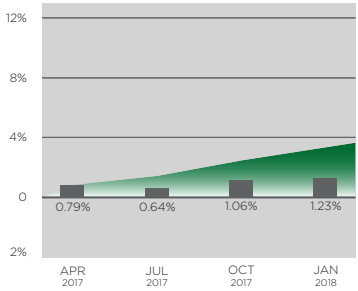
COST INDEX Boston



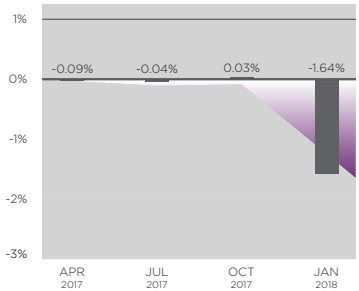
COST INDEX Chicago



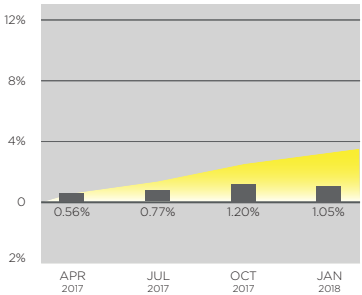
COST INDEX Denver



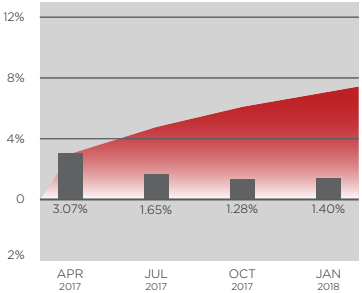
COST INDEX Honolulu



COST INDEX Las Vegas

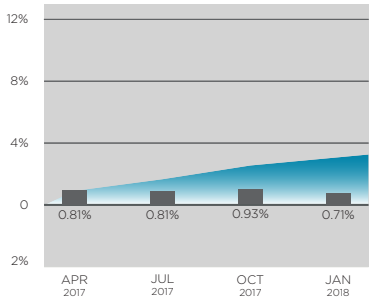


COST INDEX Los Angeles

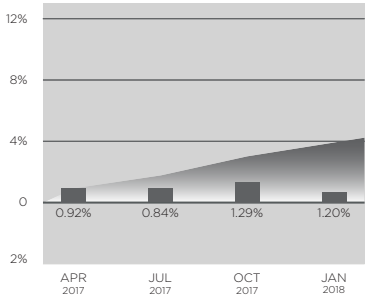


Our research suggests that between January 1, 2017 and December 31, 2017 the national average increase in construction cost was approximately 4.2%. Los Angeles, Portland, and San Francisco experienced the greatest annual increases showing escalation over 6% while Boston, Chicago, Denver, Las Vegas, New York, Phoenix, Seattle, and Washington DC all experienced lower annual increases between 3.2% and 5.4%. Honolulu experienced an annual decrease of approximately 1.7%.

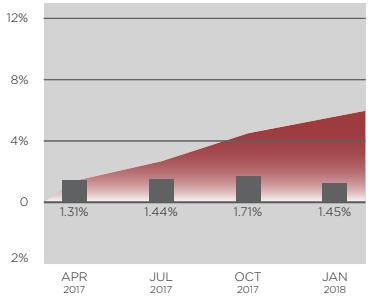
COST INDEX New York



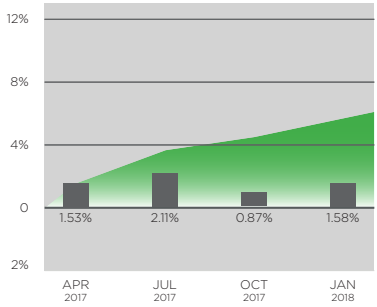
COST INDEX Phoenix



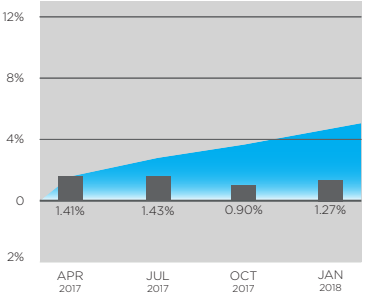
COST INDEX Portland



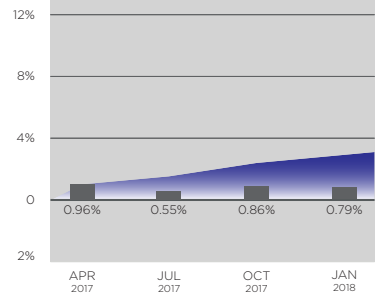
COST INDEX San Francisco



COST INDEX Seattle

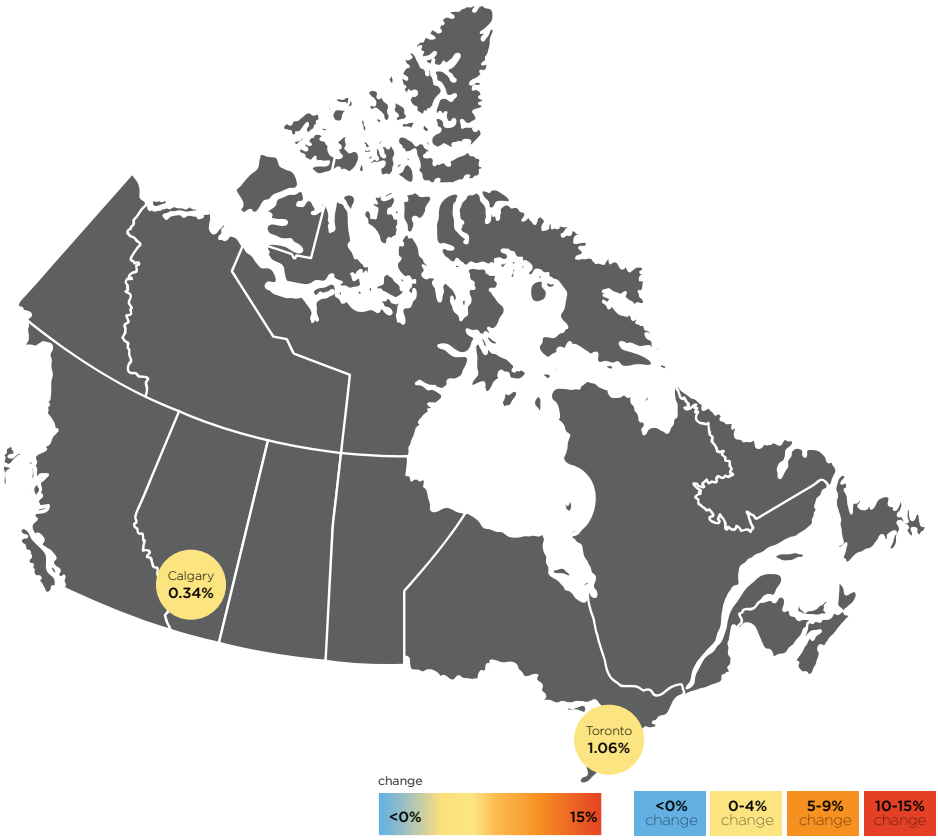


COST INDEX Washington DC



CANADA REPORT

COMPARATIVE COST INDEX

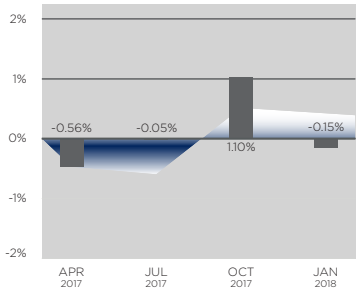


City	January 2017	April 2017	July 2017	October 2017	January 2018	Annual % Change
• Calgary	18,190	18,089	18,080	18,279	18,252	0.34%
• Toronto	18,800	18,664	18,569	18,956	18,999	1.06%

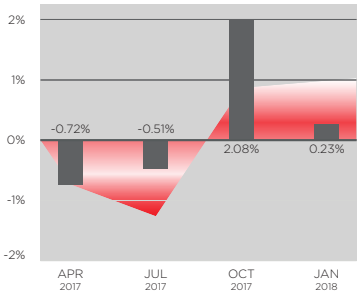
Canada's economy is expected to grow moderately in 2018. Despite economic slack and slower pace in most provinces relative to rapid growth rates in 2017, the provinces of Alberta, British Columbia, Saskatchewan, and Ontario are projected to be well above the 2% growth forecasted for 2018.

The oil sector has been a key player in the Canadian economy and, having weathered the oil price slump over the past couple of years, Canada is poised to have positive economic activities with oil prices forecasted to rise above the $50 range, per barrel, and likely maintain that range throughout the year. This will attract more investment in the oil sector spurring economic growth in Western and Atlantic regions of Canada.

COST INDEX Calgary



COST INDEX Toronto



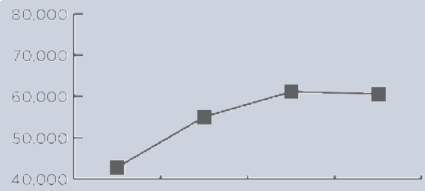
KEY CANADIAN STATISTICS

Gross Domestic Product (GDP)

GDP sees an approximate change of 0.5% over the course of 2017, closing out the year with a 0.49% change from the third quarter.

Consumer Price Index (CPI)

Canada's CPI experienced nominal change throughout 2017, with a variance of less than 1%.



Housing Starts

Housing starts in Canada experienced a 41% increase over the course of 2017, closing out the year with greater than 60,000 housing starts in the fourth quarter.

Unemployment

Canada's unemployment rate sees a 1% drop during 2017; closing out the year at 5.8%, down from 6.7% at the start of the 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. 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.

VOTED #1
COST CONSULTANT
WORLD ARCHITECTURE
MAGAZINE 2016 2017 2018

WA 100 2018 bd

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