



NORTH AMERICA

QUARTERLY CONSTRUCTION COST REPORT

FOURTH QUARTER 2017



ON THE COVER

AC HOTEL TUCSON BY MARRIOTT TUCSON, AZ

The AC Hotel Tucson by Marriott is the first hotel built in Downtown Tucson, AZ in over 40 years. The project includes an 8-story building with hotel lobby and new commercial space on the 1st floor, a 200-space parking garage on floors 2-5, and a 136-room boutique hotel on floors 6-8.

RLB provided Project Management and Cost Management services. This urban site posed a number design and construction challenges in which RLB worked with the Owner and Design-Build Team to resolve proactively. With AC being a new Marriott brand, RLB has helped streamline the incorporation of the brand's design requirements, and has exercised expertise in project controls to hold Owner expectations regarding schedule and budget.

NORTH AMERICA

As we welcome 2018, we're pleased to bring you the latest edition of the Rider Levett Bucknall Quarterly Construction Cost Report.

Largely based on the rapid completion of projects and the continued availability of favorable-term financing which fuels development, the industry outlook through the end of this year remains positive. But there are a few hurdles, particularly on the horizon, on which we are keeping a watchful eye.

The serious and widespread damage inflicted by the 2017 hurricanes in Texas and the Caribbean, along with the record-setting wildfires throughout California (and, subsequently, the mudslides just north of Los Angeles) exacerbated the still-tight labor market in the United States.

An underlying factor is compounding the shortage. If the construction labor force is generally unable to afford living in the places where their services are most in demand, employers will eventually increase wages to attract workers—but at this point in time, this has not yet been fully realized.

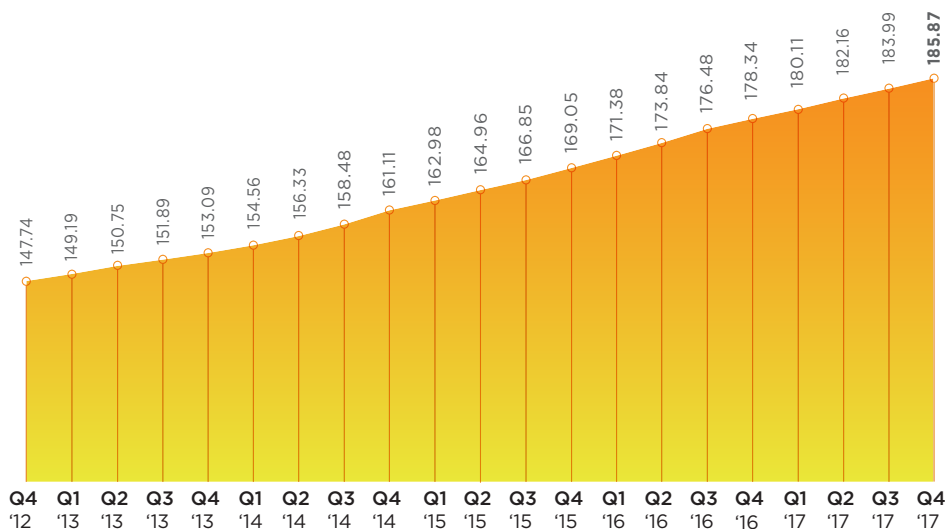
Additionally, slow processing of insurance claims and federal emergency relief funds have not only prolonged the recovery process, but, as on-the-ground conditions deteriorate over time, the costs of undertaking repairs creep upward. Coupled with steep and expected increases in the price of construction-materials staples such as gypsum board, lumber and plywood, and PVC products, the rebuilding looks to be drawn out and costly.

Surveys show that long-term industry confidence is slipping, for reasons that are largely rooted in Washington D.C. The long-promised infrastructure initiative seems to have slipped off the federal agenda, and may be headed to the individual states to implement. Legislation on immigration and resident aliens, while not yet law, threatens to destabilize and/or reduce the construction workforce at a time when the need for labor is peaking.



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

NATIONAL CONSTRUCTION COST INDEX



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

**\$1,241.5
Billion**

According to the U.S. Department of Commerce, construction-put-in-place during October 2017 was estimated at a seasonally adjusted annual rate of \$1,241.5 billion, which is

**1.4%
above**

the revised September estimate of \$1,224.6 billion, and

**2.9%
above**

above the October 2016 estimate of \$1,206.6 billion.

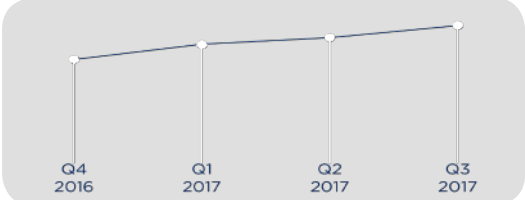
The National Construction Cost Index shows the changing cost of construction between October 2012 and October 2017, relative to a base of 100 in April 2001. Index recalibrated as of April 2011.

KEY UNITED STATES STATISTICS

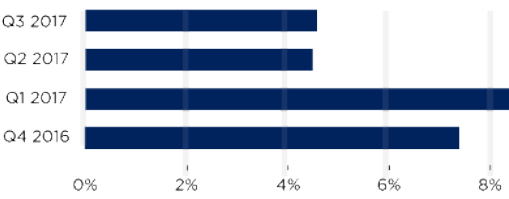


Gross Domestic Product* (GDP)
GDP recovers from a dip in Q1, and was sitting at 3.3% during Q3.

Consumer Price Index (CPI)
CPI experiences a nominal but steady increase. Inflation has grown 2.2% from this time last year.

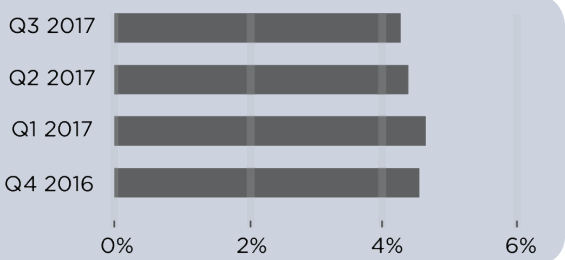


Architectural Billings Index (ABI)
ABI experiences its first dip since this time last year. It is yet to be determined if this dip is in response to impacts from recent hurricanes or from other factors.



Construction Unemployment
Construction unemployment evens out after a drop during the second quarter, currently at 4.7%.

National Unemployment
National unemployment experiences nominal variance 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. 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

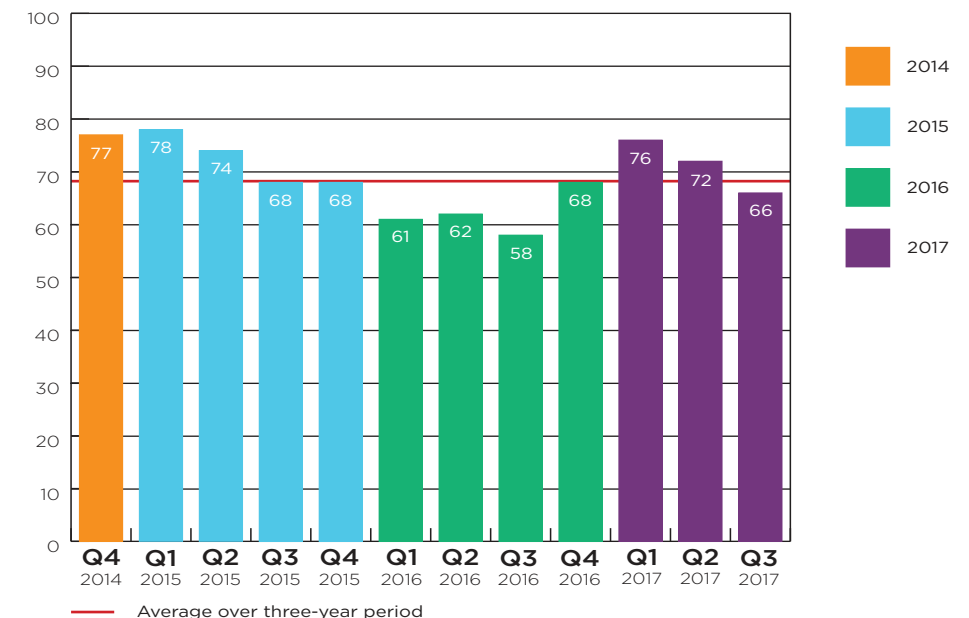
The data in the chart below represents estimates of current building costs in each respective market. Costs may vary as a consequence of factors such as site conditions, climatic conditions, standards of specification, market conditions, etc. Values of U.S. locations represent hard construction costs 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 |
| 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 | 75 | 140 | 215 | 325 | 155 | 190 | 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 | 190 | 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 |

CONSTRUCTION INDUSTRY CONFIDENCE INDEX

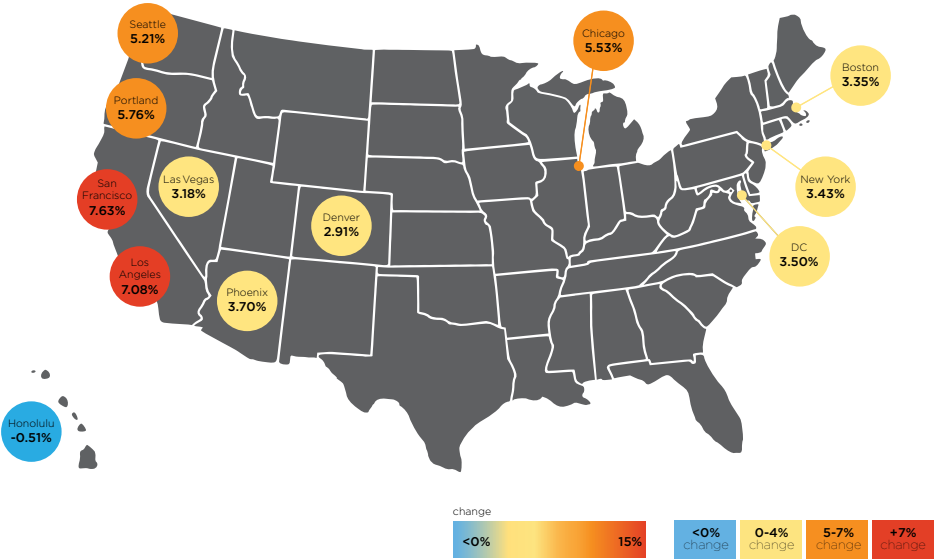
The North American construction market continues to recover from the crash in 2009; and is now the third-longest market recovery period in U.S. history. ENR's Construction Industry Confidence Index (CICI), launched in 2009, is a survey of different types of firms (Design Professionals, General Contractors and Subcontractors) and represents their overall view of the current and future construction market. The index is 66 in the third quarter of 2017, reflecting a drop of six points since the previous quarter. Despite the drop, industry confidence remains high, as an index above 50 reflects sentiment for market growth.

While it is expected that construction will continue to prosper through the end of 2018, long-term market concerns are what have led to a downturn in industry confidence.



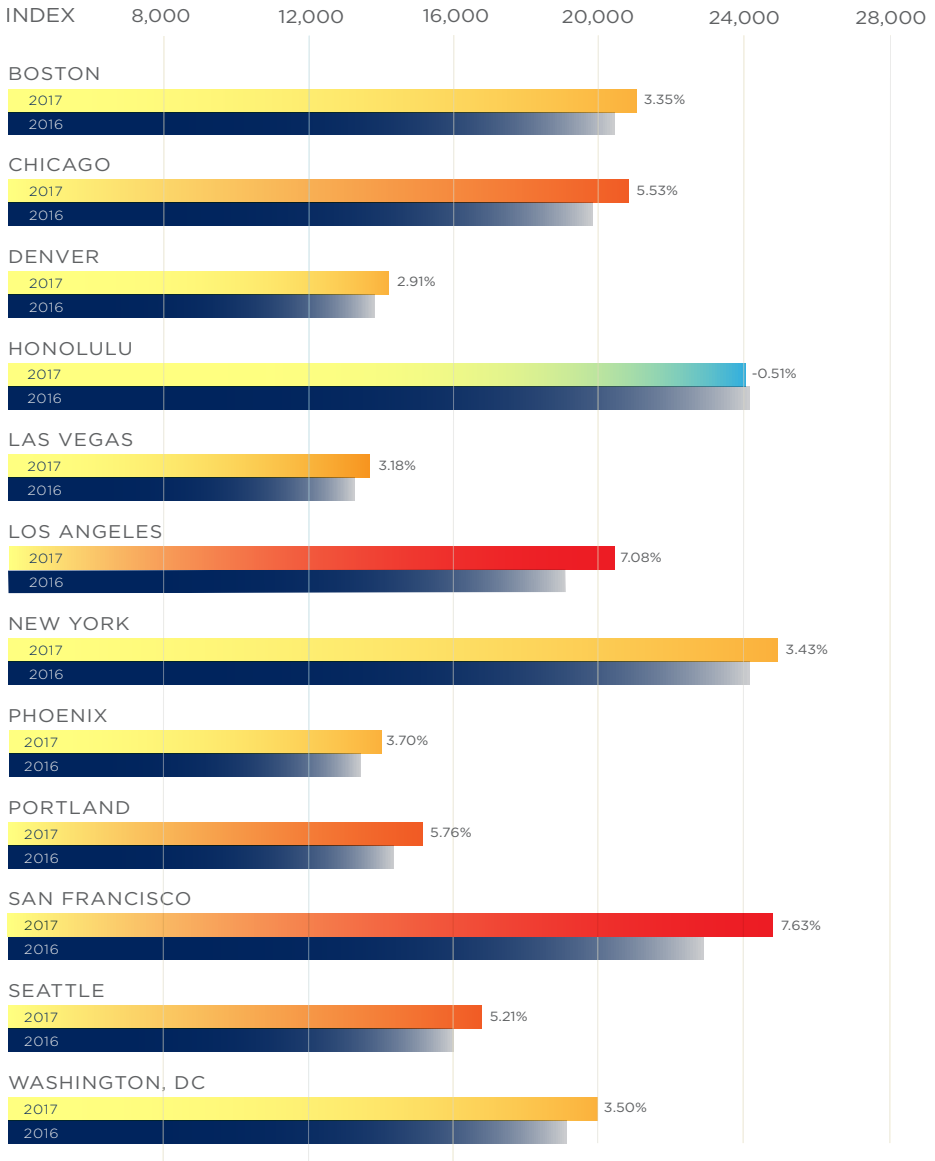
Source: 2017 3Q Engineering News Record Confidence Survey

COMPARATIVE COST INDEX



| City | October 2016 | January 2017 | April 2017 | July 2017 | October 2017 | Annual % Change |
|----------------------------|--------------|--------------|------------|-----------|--------------|-----------------|
| <div></div> Boston | 20,489 | 20,671 | 20,835 | 20,989 | 21,176 | 3.35% |
| <div></div> Chicago | 19,809 | 20,103 | 20,414 | 20,652 | 20,905 | 5.53% |
| <div></div> Denver | 13,932 | 13,987 | 14,097 | 14,187 | 14,337 | 2.91% |
| <div></div> Honolulu | 24,181 | 24,082 | 24,060 | 24,050 | 24,058 | -0.51% |
| <div></div> Las Vegas | 13,342 | 13,435 | 13,510 | 13,614 | 13,766 | 3.18% |
| <div></div> Los Angeles | 19,225 | 19,401 | 19,997 | 20,326 | 20,586 | 7.08% |
| <div></div> New York | 24,101 | 24,303 | 24,499 | 24,698 | 24,927 | 3.43% |
| <div></div> Phoenix | 13,578 | 13,659 | 13,785 | 13,900 | 14,080 | 3.70% |
| <div></div> Portland | 14,469 | 14,638 | 14,830 | 15,044 | 15,302 | 5.76% |
| <div></div> San Francisco | 23,005 | 23,677 | 24,039 | 24,546 | 24,760 | 7.63% |
| <div></div> Seattle | 15,972 | 16,190 | 16,419 | 16,654 | 16,804 | 5.21% |
| <div></div> Washington, DC | 19,376 | 19,586 | 19,774 | 19,884 | 20,054 | 3.50% |


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



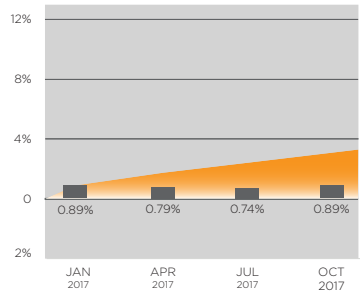
Each quarter we look at the comparative cost of construction in 12 US cities, indexing them to show how costs are changing in each city in particular, and against the costs in the other 11 locations. You will be able to find this information in the graph titled *Comparative Cost Index (above)* and in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

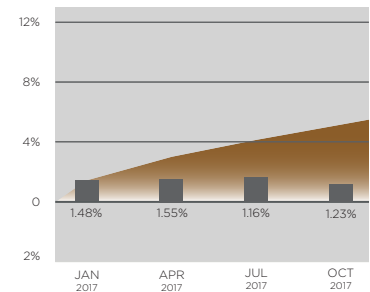
The following escalation charts track changes in the cost of construction each quarter in many of the cities where RLB offices are located. Each chart illustrates the percentage change per period and the cumulative percentage change throughout the charted timeline.

 Percentage change per quarter  Cumulative percentage change for the period shown

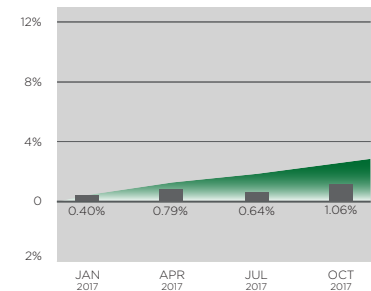
COST INDEX Boston



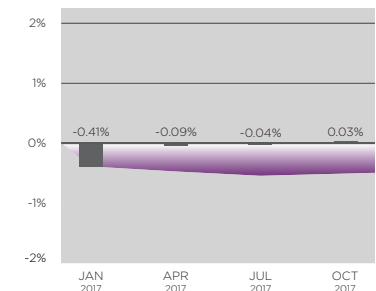
COST INDEX Chicago



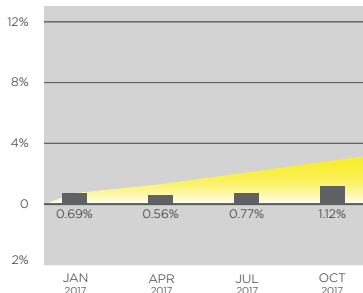
COST INDEX Denver



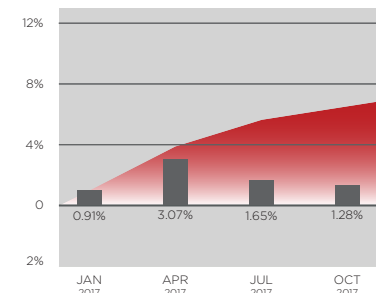
COST INDEX Honolulu



COST INDEX Las Vegas

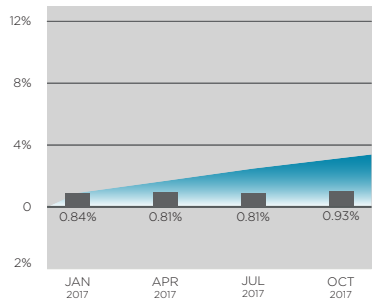


COST INDEX Los Angeles

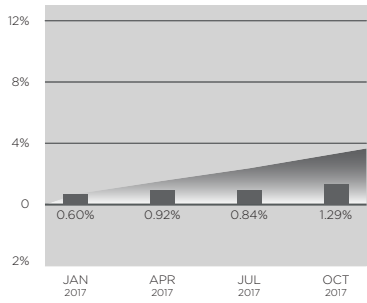


Our research suggests that between July 1, 2017 and October 1, 2017 the national average increase in construction cost was approximately 1.0%. Several locations saw increases over 1%, including Chicago, Denver, Las Vegas, Los Angeles, Phoenix, and Portland. However, Boston, Honolulu, New York, San Francisco, Seattle, and Washington DC all experienced increases less than 1%.

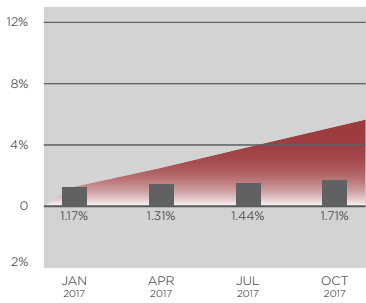
COST INDEX New York



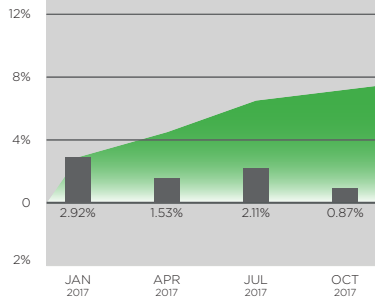
COST INDEX Phoenix



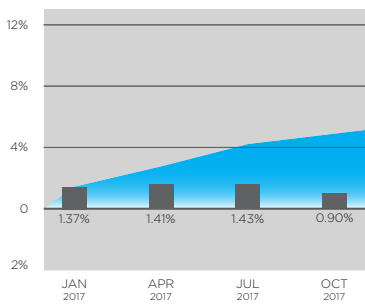
COST INDEX Portland



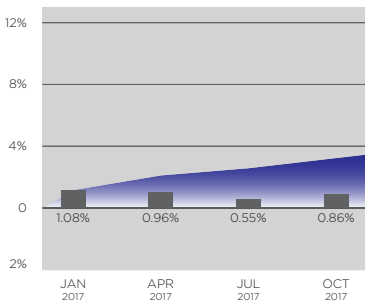
COST INDEX San Francisco



COST INDEX Seattle

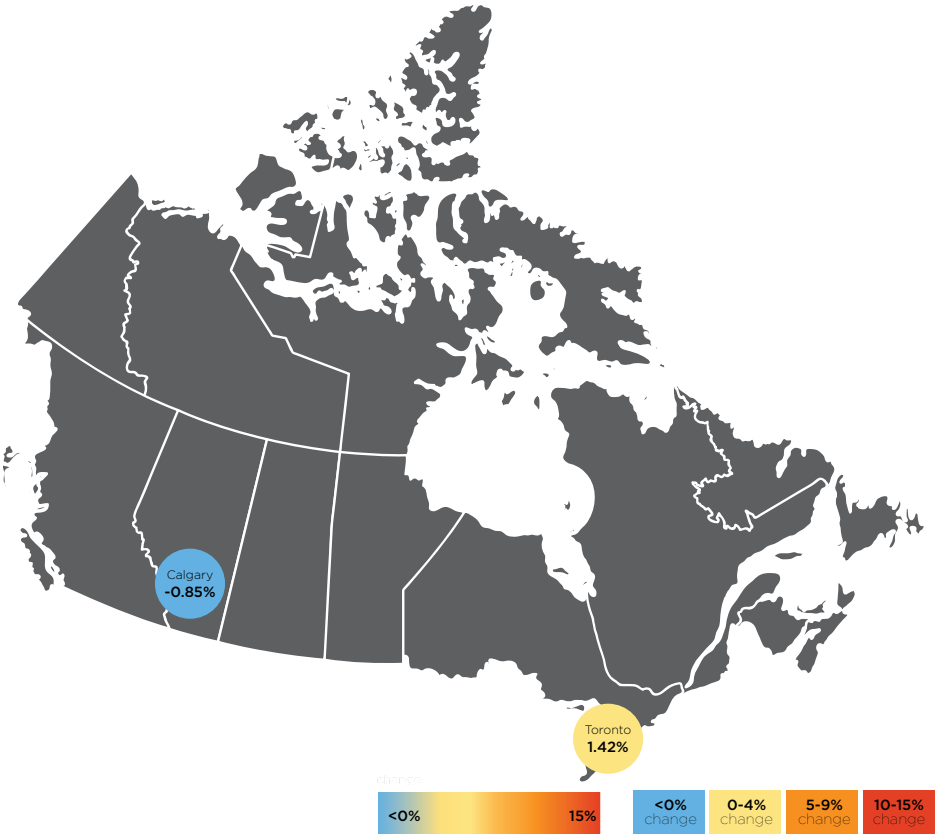


COST INDEX Washington DC





COMPARATIVE COST INDEX



| City | October 2016 | January 2017 | April 2017 | July 2017 | October 2017 | Annual % Change |
|-----------|--------------|--------------|------------|-----------|--------------|-----------------|
| • Calgary | 18,435 | 18,190 | 18,089 | 18,080 | 18,279 | -0.85% |
| • Toronto | 18,690 | 18,800 | 18,664 | 18,569 | 18,956 | 1.42% |

Nationally, construction activities gained some momentum as the value of building permits rose 3.5% in the first month of Q4 2017 (October). Main contributor to this rise relate to higher construction intentions for building component in Quebec and Ontario, as well as factories and plants in Alberta. Seasonally adjusted year-to-date value of permits increased 1% for the same period in 2016. Commercial and industrial building component push the non-residential sector higher in Ontario municipalities and Quebec. Other active sectors include multi-family dwellings in Quebec with 78% of permit value coming from the census metropolitan area (CMA) of Montreal. During October 2017, multiple high-value permits for apartment condominiums in Montreal CMA accounted for Quebec’s provincial increase..

KEY CANADIAN STATISTICS

Gross Domestic Product

Experiencing a 0.42% change from last quarter, GDP shows minimal fluctuation, indicating a nominal 3.32% variance from this time last year.



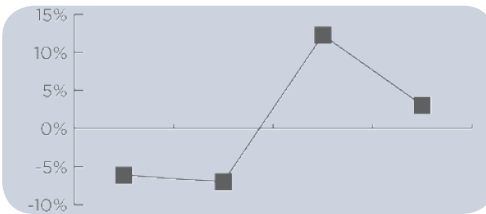
Consumer Price Index

Canada's Consumer Price Index grows steadily every quarter, with a variance of 1.47% from this time last year.



Value of Building Permits

The seasonally adjusted value of building permits continues to fluctuate quarter-to-quarter. Permits have increased 1% from the same period in 2016.



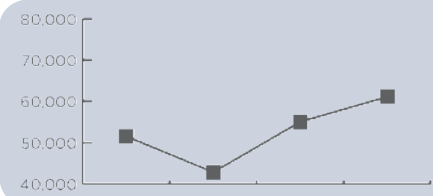
Unemployment

Canada's unemployment continues to decrease steady, down 0.8% from this time last year.



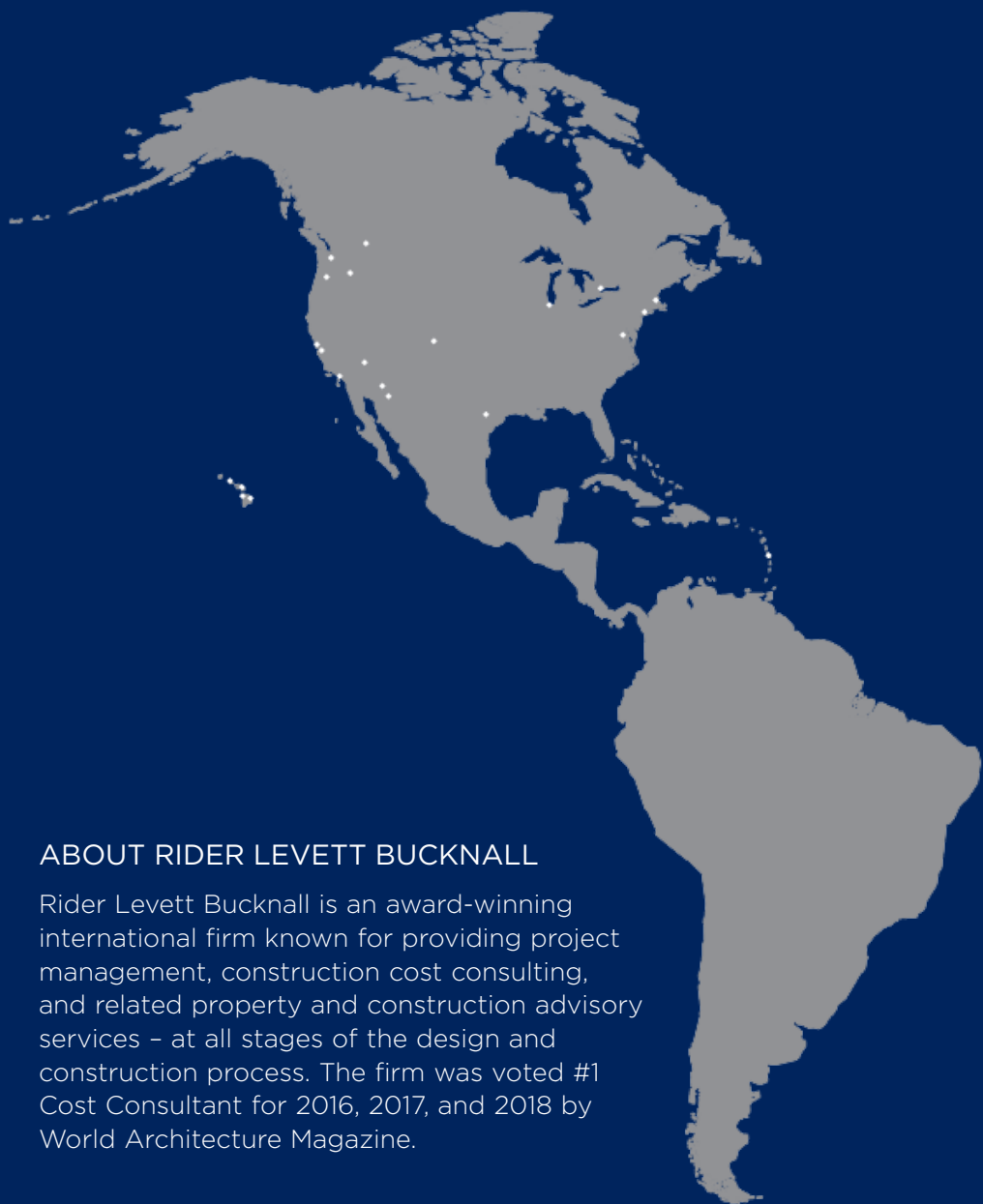
Housing Starts

Housing Starts are up 42% from Q1 2017; 11.43% higher than 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. 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 for 2016, 2017, and 2018 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.

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