THIRD QUARTER 2019

NORTH AMERICA

QUARTERLY CONSTRUCTION COST REPORT
The Class AA office building, 16 Chestnut, is located at the base of Millennium Bridge near Union Station in Denver, Colorado. 16 Chestnut is 19-stories, with 432,881 rentable square-feet and is equipped with a fitness center and bike storage facility. The project achieved LEED Platinum certification.

During the design of the project, RLB provided cost estimating services for design milestones including Conceptual Design, Schematic Design, and Design Development.
Late this summer, the Business Roundtable released a new statement on the purpose of a corporation. The organization—an association of CEOs of America’s leading and largest companies, including several major AEC firms—has typically promoted the point of view that corporations exist principally to serve their investors. But the new statement marked a significant expansion of that stance, and stirred up a controversy in some circles.

Rather than continuing to focus solely on profitability, the Roundtable’s recent statement takes a position on several social issues. It commits to companies investing in their employees, protecting the environment through sustainable practices, and dealing fairly and ethically with suppliers (all long held RLB values).

The declaration from the Business Roundtable is a clear reflection of how the corporate world is changing, and how the meaning of corporate success has evolved to include the well-being of stakeholders as well as shareholders.

The AEC industries are also continuing to adapt to the evolving realities of the field, from attracting, training, and compensating a new generation of labor and leaders, to managing the role of Big Data and technology. At Rider Levett Bucknall, we’ve long seen the wisdom in pursuing a responsible balance between projects, people, and profit, and are pleased to see more businesses are recognizing that the definition of enrichment extends beyond the bottom line.

Julian Anderson FRICS
President,
North America
According to the U.S. Department of Commerce, construction-put-in-place during June 2019 was estimated at a seasonally adjusted annual rate of $1,287.0 billion, which is $1,287 billion the revised May estimate of $1,303.4 billion, and 1.3% below the June 2018 estimate of $1,314.8 billion.

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

Gross Domestic Product* (GDP)
GDP has increased at an annualized rate of 2.0% during the second quarter. This is a downward trend compared to previous quarters.

Consumer Price Index (CPI)
CPI continues to increase steadily, up from 251.9 in Q2 2018 to 256.1 in Q2 2019.

Architectural Billings Index (ABI)
While ABI is temporarily up from the previous quarter, reporting at 49.1 during the second quarter, it still reports a score below 50, indicating a decrease in billings for that quarter.

Construction Unemployment
As skilled-labor shortages continue to be a challenge, construction unemployment dips to 4.0% during the second quarter.

National Unemployment
National unemployment rates continue to be historically low; reporting at a rate of 3.6% during the second quarter.

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.
While it is expected that construction will face a downturn in the next year or so, this doesn't necessarily mean that the construction market is in trouble; it does mean a slowdown over the next 12-18 months, which may seem like a recession after the frantic pace of the last few 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.

<table>
<thead>
<tr>
<th>INDUSTRIAL</th>
<th>PARKING</th>
<th>RESIDENTIAL</th>
<th>EDUCATION</th>
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<tr>
<td>WAREHOUSE</td>
<td>GROUND</td>
<td>BASEMENT</td>
<td>MULTI-FAMILY</td>
</tr>
<tr>
<td>LOW</td>
<td>LOW</td>
<td>LOW</td>
<td>LOW</td>
</tr>
<tr>
<td>110</td>
<td>190</td>
<td>85</td>
<td>140</td>
</tr>
<tr>
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<td>120</td>
<td>190</td>
<td>90</td>
<td>130</td>
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<tr>
<th>USA</th>
<th>CANADA</th>
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<tr>
<td>Location</td>
<td>LOW</td>
</tr>
<tr>
<td>Boston</td>
<td>325</td>
</tr>
<tr>
<td>Chicago</td>
<td>280</td>
</tr>
<tr>
<td>Denver</td>
<td>220</td>
</tr>
<tr>
<td>Honolulu</td>
<td>290</td>
</tr>
<tr>
<td>Las Vegas</td>
<td>160</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>235</td>
</tr>
<tr>
<td>New York</td>
<td>400</td>
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<tr>
<td>Phoenix</td>
<td>190</td>
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<tr>
<td>Portland</td>
<td>200</td>
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<tr>
<td>San Francisco</td>
<td>320</td>
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<tr>
<td>Seattle</td>
<td>210</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>325</td>
</tr>
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<table>
<thead>
<tr>
<th>Canada</th>
<th>LOW</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>Calgary</td>
<td>215</td>
<td>285</td>
</tr>
<tr>
<td>Toronto</td>
<td>210</td>
<td>280</td>
</tr>
</tbody>
</table>

Average over period

- **2016**
- **2017**
- **2018**
- **2019**


- **Average over period**
## UNITED STATES

### COMPARATIVE COST INDEX

**Comparative Cost Map and Bar Graph Indicate percentage change between July 2018 and July 2019.**

<table>
<thead>
<tr>
<th>City</th>
<th>July 2018</th>
<th>October 2018</th>
<th>January 2019</th>
<th>April 2019</th>
<th>July 2019</th>
<th>Annual % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>21,789</td>
<td>22,086</td>
<td>22,267</td>
<td>22,480</td>
<td>22,741</td>
<td>4.37%</td>
</tr>
<tr>
<td>Chicago</td>
<td>22,055</td>
<td>22,416</td>
<td>22,789</td>
<td>23,269</td>
<td>23,652</td>
<td>7.24%</td>
</tr>
<tr>
<td>Denver</td>
<td>14,819</td>
<td>14,937</td>
<td>15,096</td>
<td>15,253</td>
<td>15,407</td>
<td>3.97%</td>
</tr>
<tr>
<td>Honolulu</td>
<td>24,048</td>
<td>24,520</td>
<td>24,812</td>
<td>25,192</td>
<td>25,609</td>
<td>6.49%</td>
</tr>
<tr>
<td>Las Vegas</td>
<td>14,299</td>
<td>14,503</td>
<td>14,674</td>
<td>14,834</td>
<td>15,023</td>
<td>5.06%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>21,266</td>
<td>21,567</td>
<td>21,792</td>
<td>21,526</td>
<td>21,769</td>
<td>2.37%</td>
</tr>
<tr>
<td>New York</td>
<td>25,628</td>
<td>26,000</td>
<td>26,244</td>
<td>26,524</td>
<td>26,771</td>
<td>4.46%</td>
</tr>
<tr>
<td>Phoenix</td>
<td>14,795</td>
<td>15,013</td>
<td>15,203</td>
<td>15,376</td>
<td>15,578</td>
<td>5.29%</td>
</tr>
<tr>
<td>Portland</td>
<td>16,023</td>
<td>16,315</td>
<td>16,630</td>
<td>16,843</td>
<td>17,023</td>
<td>6.24%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>26,038</td>
<td>26,294</td>
<td>26,844</td>
<td>27,516</td>
<td>28,030</td>
<td>7.65%</td>
</tr>
<tr>
<td>Seattle</td>
<td>17,525</td>
<td>17,810</td>
<td>18,120</td>
<td>18,402</td>
<td>18,690</td>
<td>6.65%</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>20,660</td>
<td>20,987</td>
<td>21,528</td>
<td>21,617</td>
<td>21,846</td>
<td>5.74%</td>
</tr>
</tbody>
</table>

Comparative Cost Map and Bar Graph Indicate percentage change between July 2018 and July 2019.
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.

<table>
<thead>
<tr>
<th>COST INDEX BOSTON</th>
<th>COST INDEX CHICAGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCT 2018</td>
<td>JAN 2019</td>
</tr>
<tr>
<td>1.36%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1.63%</td>
<td>1.67%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COST INDEX DENTON</th>
<th>COST INDEX HONOLULU</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCT 2018</td>
<td>JAN 2019</td>
</tr>
<tr>
<td>0.79%</td>
<td>1.07%</td>
</tr>
<tr>
<td>1.96%</td>
<td>1.99%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COST INDEX LAS VEGAS</th>
<th>COST INDEX LOS ANGELES</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCT 2018</td>
<td>JAN 2019</td>
</tr>
<tr>
<td>1.43%</td>
<td>1.18%</td>
</tr>
<tr>
<td>1.42%</td>
<td>1.04%</td>
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</table>
Our research suggests that between April 1, 2019 and July 1, 2019 the national average increase in construction was approximately 1.31%. Chicago, Honolulu, Phoenix, San Francisco, and Seattle all experienced increases over 1.3% in the quarter. Boston, Denver, Las Vegas, Los Angeles, New York, Portland, and Washington, D.C. experienced relatively modest gains of less than 1.3%. 
Canada’s economy grew 0.9% in the second quarter and is projected to increase for the balance of 2019. Q2 2019 is the strongest growth rate since Q2 2017. The construction market continues to be busy with current work, however there are some projects that have been canceled due to high pricing. This is freeing up trades’ availability which in very isolated cases is starting to show a reduction in some trade pricing. For projects moving forward, the general trend remains, however, of shortages of labor driving trade pricing to its highest-ever levels. There are a number of large infrastructure projects on the market, with Infrastructure Ontario announcing in September their biggest ever pipeline for projects to the tune of $65B, but many smaller public-sector projects are still being postponed, or at the very least, sent for re-design.
KEY CANADIAN STATISTICS

Gross Domestic Product (GDP)
GDP experiences a slight increase; up 0.91% percentage change from the previous quarter.

Consumer Price Index (CPI)
Canada’s CPI grows nominally but steadily, with a variance of 2.46% over the past four quarters.

Housing Starts
Housing starts are up 58.21% from the previous quarter, and up 2.19% from this time last year.

Unemployment
Canada’s unemployment remains relatively steady at 5.7% for the second quarter.

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 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.

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