



DALLAS FORT WORTH TERMINAL A AIRPORT PARKING STRUCTURE

PARKING STRUCTURE COST OUTLOOK FOR 2019

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For many years, WGI (formerly Carl Walker, Inc.) has prepared this annual statistical analysis of parking structure construction costs and new parking structure market forecast. WGI is an ENR Top 500 engineering and consulting firm specializing in Civil Engineering, Creative Services, Environmental Consulting, Geospatial and Land Surveying, Land Design Services, MEP Engineering, Parking Solutions, Smart and Connected Communities, Structural Engineering, Subsurface Utility Engineering (SUE), Traffic Engineering, Transportation Engineering, Transportation Design-Build, Water Resources, and Architecture. The Parking Solutions division of WGI specializes in parking structure design; structural engineering; parking studies; parking operations consulting; and restoration of parking structures, plazas, facades, and other buildings, just as Carl Walker did for 33 years

We maintain a database of completed parking structure projects, developing a methodology to analyze the historical cost information that assists our clients and the industry. Our construction cost database contains hundreds of completed parking structure projects of varying size, scope, and geographic location. For this forecast, we only omit the cost of parking structures completely or significantly below grade, since the cost of such structures is much higher. The cost data is assigned factors based on the time of bidding and parking structure location. The time factor is based on the Building Cost Index (BCI), published by Engineering News-Record (ENR). The location factor is taken from the yearly edition of the RS Means Building Construction Cost Data. Applying these two factors to actual construction cost data adjusts the cost to a current

national basis; from that we determine the national median. The national median can then be re-adjusted to reflect a median construction cost in almost every city in America.

As of March 2019, our statistical data indicates that the median construction cost for a new parking structure is \$21,500 per space and \$64.77 per square foot, increasing 5.1% from March 2018 when the median cost was \$20,450 per space based on our historical database. The table below lists the 2019 median parking structure construction costs in various U.S. cities with the lowest in Miami, the highest in New York City, and Portland, OR the closest to the national average of 100.0.



Three-level parking structure with a solar panel roof and wrapped on three sides by a grocery store, apartments above the grocery, office, and commercial.



It should be noted that the construction cost data does not include costs for items such as land acquisition, architectural and engineering fees, environmental evaluations, materials testing, special inspections, geotechnical borings and recommendations, financing, owner administrative and legal, or other project soft costs. Soft costs are typically about 15% to 20% of construction costs, but can be higher for owners who allocate their internal costs directly to the project.

FOR COMPARISON, A MEDIAN COST PARKING STRUCTURE TODAY TYPICALLY INCLUDES SUCH FEATURES AS

- 8'-6" to 8'-9"- wide parking spaces
- Precast concrete superstructure
- Precast concrete façade with a basic reveal pattern
- Glass-backed elevators and unenclosed stairs clad with exterior glass curtain wall
- Standard wayfinding and signage
- Shallow-spread footing foundations
- All above-grade construction
- Open parking structure with natural ventilation; no mechanical ventilation or fire sprinklers
- Little or no grade-level commercial space
- Basic parking access and revenue-control system
- Energy efficient fluorescent or LED lighting

TODAY'S PARKING STRUCTURE CONSTRUCTION COST WOULD BE HIGHER THAN THE MEDIAN IF IT INCLUDES SUCH ENHANCED FEATURES AS:

- 9'-wide parking spaces for better user comfort
- Lower-maintenance cast-in-place post-tensioned concrete superstructure
- Attractive façade with adorned precast, brick, metal panels, and other materials
- ParkSmart Certification following the Green Business Certification, Inc. (GBCI) program
- Energy efficient LED lighting with occupancy and photocell computer controls
- Custom wayfinding and signage system
- Storm-water management including on-site retention/detention
- Deep foundations such as caissons or piling
- Below-grade construction
- Enclosed stair towers due to local code requirements
- Enclosed parking structure without natural ventilation where mechanical ventilation and fire sprinklers are required
- Grade-level commercial space
- Mixed-use development where the parking is integrated with office, retail, residential, or other uses
- State-of-the-art parking access and revenue control system
 - License-plate recognition
 - Parking-guidance system
 - Count system with variable-message LED signs
 - Pay-on-foot stations
- Wi-Fi and cellular services



3D rendering of six-level mixed-use parking structure with graphic fabric facade currently under construction. The development has two residential buildings, a movie theater, and restaurants all surrounding a central plaza. The basement provides segregated residential parking. There are public restrooms and a police substation, accessed from the plaza, that are integrated with the garage.

2019		▲5%	
CONSTRUCTION COST		FROM 2018	
CITY	INDEX	COST/SPACE	COST/SF
Atlanta	89.0	\$19,133	\$57.65
Baltimore	94.2	\$20,251	\$61.02
Boston	113.9	\$24,486	\$73.78
Charlotte	84.3	\$18,122	\$54.60
Chicago	120.7	\$25,947	\$78.18
Cleveland	95.9	\$20,616	\$62.12
Denver	90.0	\$19,348	\$58.30
Dallas	85.6	\$18,402	\$55.45
Detroit	101.4	\$21,798	\$65.68
Houston	86.6	\$18,617	\$56.09
Indianapolis	92.0	\$19,778	\$59.59
Kansas City, MO	100.5	\$21,605	\$65.10
Los Angeles	112.3	\$24,142	\$72.74
Miami-Lowest	83.7	\$17,993	\$54.21
Minneapolis	106.9	\$22,981	\$69.24
Nashville	86.7	\$18,638	\$56.16
New York-Highest	132.1	\$28,398	\$85.56
Philadelphia	115.2	\$24,765	\$74.62
Phoenix	88.4	\$19,004	\$57.26
Pittsburgh	100.9	\$21,691	\$65.36
Portland, OR-Average	100.3	\$21,562	\$64.97
Richmond	88.9	\$19,111	\$57.58
St. Louis	102.3	\$21,992	\$66.26
San Diego	108.7	\$23,368	\$70.41
San Francisco	128.5	\$27,624	\$83.23
Seattle	106.6	\$22,916	\$69.05
Washington, D.C.	95.3	\$20,487	\$61.73
National Average	100	\$21,500	\$64.77

PARKING INDUSTRY 2019 CONSTRUCTION ECONOMIC FORECAST

"The construction market is enjoying a decade of steady growth, and most (construction firm) senior executives don't see an immediate cause for concern." Likewise, construction of mixed-use and stand-alone parking structures should see a continuation of the strong market as institutional sector construction spending (e.g., city governments, higher education, and healthcare) is predicted to grow 4.8% during 2019 and 2.9% during 2020. Growth in the commercial, office, and retail sectors are predicted to be about 3.5% during 2019, but only 0.6% for 2020 as the market is predicted to slow.

Over the past few years, there was concern that projected economic growth would lead to construction cost escalation and longer construction schedules. This is due to labor shortages in construction trades and related professional positions, and as construction companies increased margins. On top of that, during 2018, new tariffs on steel resulted in a 5% increase in construction materials prices, and a 5% increase in cement prices. However, the Engineering News-Record (ENR) Building Cost Index increased just 2.8% from March 2018 to March 2019, while Turner Construction's Turner Building Cost Index rose 5.85% over the same period. The Consumer Price Index for All Urban Consumers (CPI-U) rose 1.9% for the 12 months ending March 2019, indicating construction inflation reported by both the ENR and Turner indexes exceeded consumer inflation over the same period.



920 space university parking structure with an attractive and colorful aluminum panel and vertical louver facade that complements the Student Services Building. A real time level count parking guidance system helps users find an open space.

The American Institute of Architects' (AIA) chief economist Kermit Baker, PhD, stated that, "many indicators of future work at architectural firms remain positive, with both inquiries into new work and the value of new design contracts continuing to grow, although the pace of growth of design contracts has slowed in recent months." The article also reported that, "the commercial construction sector is not yet overbuilt."

The AIA also compiles a Consensus Construction Forecast based on predictions of seven leading U.S. non-residential construction forecasters. The Consensus Construction Forecast indicates the non-

residential building construction industry is expecting continued growth over the next two years, but with potential slowing in 2020. After hitting the 2018 projections for 4% growth in nonresidential construction, the consensus panel projects about the same for 2019 at 4.4% growth, with a drop to 2.4% for 2020. The office sector is predicting strong growth of 5.1% for 2019, but it drops to just 1.2% for 2020. Healthcare and education sector predictions remain strong with healthcare growth of 4% in 2019 and 3.6% in 2020, while education sector growth is predicted to be the highest of all sectors at 5.5% in 2019 and 4.1% in 2020.²

Turner Construction's Turner Building Cost Index, which tracks construction cost escalation, rose 5.9% during 2018. Its 2018 Fourth Quarter Forecast states that, "The fear of tariffs continues to be the primary cause of uncertainty for contractors nationwide, alongside depleting supplies of skilled labor."³ Additionally, the Turner 2019 First Quarter Forecast indicates a 1.34% cost increase for the quarter and a 5.85% increase over the prior 12 months, stating that, "raw materials have seen some de-escalation since the end of 2018. Fabricated material prices stayed stable in the first quarter of 2019."⁴

Engineering News-Record (ENR) recently reported its first quarter 2019 Construction Industry Confidence Index (CICI) remained at 59 points from the previous quarter ending 2018. However, it decreased from 70 or more points on a scale of 100 over where it was for all but one of the previous seven quarters. There is optimism that 2019 will remain strong despite labor shortages, higher labor rates, and tariff uncertainty but, "of the 205 executives of large construction and design firms responding to the survey, many believe the market will begin to decline sometime in 2020."⁵



290 space mixed use parking structure that replaced an old unsightly municipal garage, providing an enhanced parking experience, a significant architectural improvement, and two large ground floor retail spaces.



SUMMARY

The sustained growth in architectural firm backlogs, reported by the Architectural Billings Index (ABI), is a positive indicator for near-term growth in parking structure construction. In the absence of any major political or economic event, construction activity is forecasted to grow about 4.4% in 2019 and 2.4% in 2020, including growth in the institutional and commercial sectors that traditionally build parking structures.

With the high level of construction activity, skilled construction labor shortages, increases in construction labor rates, and higher steel prices caused by the recent new tariffs, project costs are expected to escalate to a greater level than consumer inflation over the next two years as well as lengthen project schedules. We are already seeing such issues on some of our projects.

The parking professionals at WGI are happy to assist with budgeting your next parking structure. If you have any questions or would like specific cost information for your area, contact Gary Cudney at Gary.Cudney@WGInc.com or Raymond Smith at Raymond.Smith@WGInc.com or call us at 800-FYI-PARK (800-394-7275).

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