



University of Iowa Hospitals and Clinics Underground Parking Ramp | Iowa City, IA

## PARKING STRUCTURE COST OUTLOOK FOR 2021

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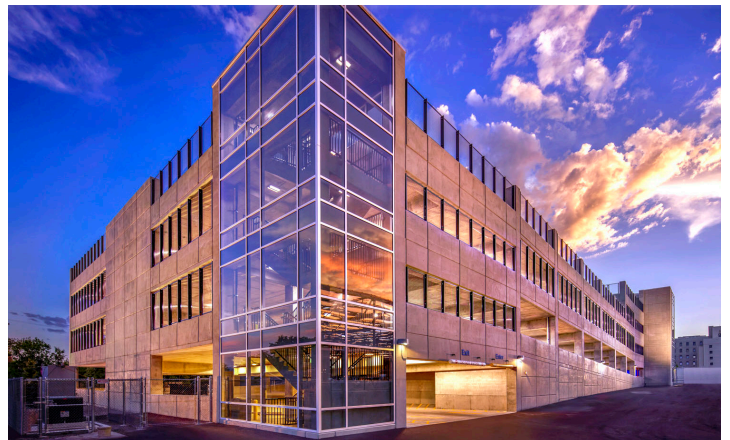
WGI specializes in parking structure planning and design, and for more than 40 years, we maintained a database of construction costs from hundreds of parking facilities of varying sizes and scopes throughout the country. Since 2003, publishing our annual parking structure construction cost report provides an important planning tool for owners, contractors, and design teams.

The disruptions from COVID-19 during 2020-21 created industry-wide uncertainty and challenges for predicting construction costs. Using the best industry sources as a guide, we analyzed the data and prepared our parking structure outlook for the year. For this forecast, we only omit the cost of parking structures that are completely or significantly below grade since their cost is much higher. The cost data is assigned factors based on the time of bidding and location of the parking structure. 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, and 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 the United States.

As of August 2021, our statistical data indicates that the median construction cost for a new parking structure is \$25,700 per space, or \$76.70 per square foot; a 15.8% increase from 2020 when the median cost was \$22,200 per space. The table on the following page lists

the 2021 median parking structure construction costs in various U.S. cities with the lowest cost in Jacksonville, the highest in New York, and Detroit at the national median index of 100.0.

Please note 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, insurance, owner administrative and legal, or other project soft costs. Soft costs are typically about 20% of construction costs but can be higher for owners who allocate their internal costs directly to the project.



Four-level, 326-space, CIP PT parking structure. This garage was designed for future expansion and included glass-enclosed stair towers for optimal passive security. The parking facility provides crucial additional parking for the VA Siera Nevada, Reno, NV campus.



## FOR COMPARISON, A MEDIAN-COST PARKING STRUCTURE TODAY TYPICALLY INCLUDES:

- 8'-6" to 8'-9" wide parking spaces
- Precast concrete superstructure
- Precast concrete façade with a single integral color and basic reveal pattern or basic thinset brick
- One or two elevators and stairs open to the interior, and clad with exterior glass curtain wall
- Standard wayfinding and signage
- Shallow-spread footing foundations
- All above-grade construction
- Open parking structure with natural ventilation; without mechanical ventilation or fire sprinklers
- Minimal or no grade-level commercial space
- Standard parking access and revenue-control system
- Standard energy efficient LED lighting

## OVERALL PARKING STRUCTURE CONSTRUCTION COST WOULD BE HIGHER THAN THE MEDIAN IF IT INCLUDES THESE ENHANCED FEATURES

- 9'-0" wide parking spaces or larger for improved user comfort
- Cast-in-place post-tensioned concrete superstructure for lower maintenance costs
- Architectural façade with adorned precast, brick, metal panels, and other materials
- Stormwater management including on-site retention/detention
- Deep foundations such as caissons or piles
- Below-grade construction
- Enclosed stair towers due to local code requirements
- Enclosed parking structure without natural ventilation where mechanical ventilation, fire sprinklers, and fire-rated stair shafts are required
- Flexibility for future parking/building expansion, or incorporation of roof-level photovoltaic ("solar") panels
- Service life in northern/coastal regions beyond a standard 50 to 60 years
- Grade-level commercial space
- Mixed-use development where the parking is integrated with office, retail, residential, or other uses
- Custom wayfinding and signage system
- ParkSmart® Certification following the Green Business Certification, Inc. (GBCI) program
- Energy efficient LED lighting with occupancy and photocell computer-control system
- Electric vehicle charging stations
- Enhanced parking technology
- License-plate recognition
- Parking-guidance system
- Car-count system with variable-message LED signs
- WiFi and cellular services
- Solar-energy collection
- Building Management System



Building Management Systems are often used to help manage technology.



2021 CONSTRUCTION COST		▲ 15.8% FROM 2020	
City	Index	Cost/Space	Cost/SF
Albuquerque	87.1	\$22,385	\$66.81
Atlanta	89.2	\$22,924	\$68.42
Birmingham	86.4	\$22,205	\$66.27
Boston	114.3	\$29,375	\$87.67
Charlotte	87.0	\$22,359	\$66.73
Chicago	119.5	\$30,712	\$91.66
Cincinnati	89.9	\$23,104	\$68.96
Cleveland	96.0	\$24,672	\$73.64
Denver	91.5	\$23,516	\$70.18
Dallas	86.0	\$22,102	\$65.97
<b>Detroit - Median</b>	<b>100.0</b>	<b>\$25,700</b>	<b>\$76.70</b>
Houston	86.6	\$22,256	\$66.43
Indianapolis	92.3	\$23,721	\$70.80
<b>Jacksonville - Lowest</b>	<b>84.0</b>	<b>\$21,588</b>	<b>\$64.43</b>
Kansas City, MO	99.3	\$25,520	\$76.17
Las Vegas	105.4	\$27,088	\$80.85
Los Angeles	118.8	\$30,532	\$91.12
Miami	85.1	\$21,871	\$65.28
Minneapolis	107.0	\$27,499	\$82.07
Nashville	89.0	\$22,873	\$68.27
New Orleans	85.0	\$21,845	\$65.20
<b>New York - Highest</b>	<b>132.2</b>	<b>\$33,975</b>	<b>\$101.40</b>
Oklahoma City	84.8	\$21,794	\$65.05
Philadelphia	115.8	\$29,761	\$88.82
Phoenix	87.0	\$22,359	\$66.73
Pittsburgh	100.7	\$25,880	\$77.24
Portland, OR	103.2	\$26,522	\$79.16
Richmond	88.8	\$22,822	\$68.11
St. Louis	100.6	\$25,854	\$77.16
Salt Lake City	90.5	\$23,259	\$69.42
San Diego	109.4	\$28,116	\$83.91
San Francisco	129.8	\$33,359	\$99.56
Seattle	106.7	\$27,422	\$81.84
Tampa	84.8	\$21,794	\$65.05
Washington, D.C.	95.5	\$24,544	\$73.25
<b>National Median</b>	<b>100</b>	<b>\$25,700</b>	<b>\$76.70</b>

# PARKING INDUSTRY 2021 CONSTRUCTION ECONOMIC FORECAST



Four-level, 399-space, precast parking structure. This garage is located off the historic courthouse square in the City of Oxford, MS. This garage offers convenient parking for visitors and employees of local businesses, especially during Ole Miss fall football season and Double Decker Festival in the Spring.

Construction in the United States saw unprecedented challenges in 2021 as we emerge from the COVID-19 pandemic. Material and labor shortages are the new normal, resulting in cost increases for both design and construction. Challenges in the construction market prior to the pandemic were headlined by skilled and unskilled labor shortages in the construction trades, tariffs, and international trade relationships. Today, those challenges still exist, are more pronounced, and are now joined by material production, manufacturing, and shipping bottlenecks and the ongoing and often intermittent government restrictions intended to curb the spread of COVID-19. Turner Construction reported price spikes in material costs for lumber, steel, copper, aluminum, PVC, and gypsum although — heading into Q3 — raw material costs appear to be returning to earth.

The global pandemic certainly impacted every asset class in some manner. Urban core office buildings, hotels, education, and the retail sector were all negatively impacted by a decrease in new project starts. Richard Branch, chief economist for Dodge Data & Analytics (“Dodge”) told ENR that, “the dollar value of hotel construction starts fell 46% in 2020, to \$9.7 billion... in 2021 Dodge forecasts an additional 7% decline.”<sup>7</sup> Meanwhile, healthcare, industrial/warehouse, and residential construction all saw increases in activity. After falling 26% in 2020, overall forecasts for commercial construction are mixed, with a consensus that office and hotel construction will remain depressed while other types of commercial buildings will show modest increases over last year. Dodge posits that parking structure starts will increase by 4% during the year, possibly linked to the forecast growth of retail, healthcare, and transportation buildings.

This past March 2021, President Biden signed into law the American Rescue Plan Act (ARPA). Passage of ARPA promoted communities around the country to start developing strategies for how to win and spend American

Rescue Plan Act (ARPA) funding. ARPA provided \$350 billion for state, local, territorial, and tribal governments to address COVID-19-related economic impacts. Building infrastructure is notably eligible for ARPA funding, specifically including construction or enhancement to medical and educational facilities. The Congressional Budget Office projects real GDP growth of 6.7%, but coupled with that, many economic models show inflation of more than 2.5% persisting through 2023.

On the horizon, in the Fall of 2021, are two potential infrastructure bills currently making their way through Congress; potentially totaling over \$4.5 trillion in broadly classified infrastructure spending. Should one or both infrastructure bills become law, we would anticipate an increase in construction costs and labor challenges for construction markets.

Finally, construction starts and spending will be uneven across the country. Speaking to ENR, Jay Bowman of FMI Corp. suggested, we believe correctly, that, “geography will be a defining characteristic of the post-pandemic recovery. Although this always has influence on how recessions and expansions are experienced, it will be much more pronounced [this time].”<sup>1</sup> Geographic differences due to different political policies, that were and continue to be adopted at state and local levels to curb COVID-19 infections, are a significant factor in the recovery of local construction markets.

## COST DRIVERS: Features That Impact the Cost of a Parking Structure



- Cast-in-Place Concrete Construction
- Increased Building Area/Car
- Below-Grade Construction
- Architectural Enhancements
- Deep Foundation System
- Northern Climate Durability Features
- Enhanced Technology
- Sophisticated Parking Management System
- Integration of Solar Panels
- Enhanced Snow and Ice Management System
- EV Charging Stations
- LED Lighting System Premiums - Motion Sensors/Dimming
- Unique Site Conditions
- Stormwater Management
- Forestry Management
- Enclosed Floors/Mechanical Ventilation and Fire Sprinklers
- Bicycle Housing
- Custom Wayfinding
- Flexibility for Future Parking or Building Expansion
- Pedestrian Bridge
- Integration of Mixed Uses
- Enhanced Landscaping / Hardscape

**COST INCREASE FEATURES**

**COST DECREASE FEATURES**

MEDIAN COST

- Pretopped Precast Concrete
- Single Supported Level
- Decreased Building Area/Car
- Eliminate Parking Access Control
- Plain Precast Façade
- Eliminate Glass-Backed Elevators
- Eliminate Exterior Glass Stair Enclosure
- Reduced Durability Features (Regional)
- Eliminate Enclosed Stairs (Regional)
- Asphalt Paving at Grade
- Eliminate Grade-Level Barrier Wall



## SUMMARY

What does this mean for the new parking structure construction and the median construction cost for these facilities in 2021 and near term? The short answer is costs are going up. We believe that nearly all local markets will see an increase in the construction cost of parking facilities over 2020, primarily due to the increase in the cost of manufactured goods and the increasingly acute skilled and unskilled labor shortages, more so than due to an increase in overall demand. Meanwhile, above-average demand will play a significant factor in markets that experienced greater post-pandemic population growth than the already-expected net population growth, and construction will be necessary to accommodate that growth. As previously mentioned, WGI's cost model shows a construction cost increase of 15.8% over last year, but most economic indicators suggest that this trend will not continue at this pace but is expected to increase at a more normal 3% to 5% through 2022 and 2023.

The parking professionals at WGI are happy to assist with the planning and budgeting of your next parking structure. **If you have any questions or would like specific cost information for your area, contact Raymond Smith at Raymond.Smith@WGInc.com and Rob McConnell at Rob.McConnell@WGInc.com. Or call us at 800.FYI.PARK (800.394.7275).**

As a multidisciplinary solutions-providing consulting firm, WGI has 20 offices in seven states, serving an active client base in 30 states, specializing in the following disciplines: parking facility design and engineering, building restoration and structural engineering, mobility planning, transportation engineering, land development/municipal engineering, traffic and transportation engineering, geospatial and land surveying, subsurface utility engineering, landscape architecture, environmental sciences and water resources, architecture, land planning, and MEP engineering. In 2021, ENR ranked WGI #175 — up 12 places — on its list of the Top 500 Design Firms, while at the same time naming WGI its 2021 Design Firm of the Year in the southeast United States.

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# LET'S TALK.

**For more information about this study or to have a conversation with one of our experts, please contact us:**



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