



form + function

Winners of the 2015 IPI Awards of Excellence marry beauty and functionality into stunning parking facilities.

By Tracey Bruch, CAPP, and Anderson Moore

LOTS OF PEOPLE DON'T THINK "GORGEOUS" when they think "parking." Members of IPI know they should because the parking lots and garages currently under construction and being renovated are often things of beauty, offering amenities and aesthetics to their communities and often serving as pieces of art unto their own.

The IPI Awards of Excellence showcase the very best in parking design, including both new facilities and those being renovated. It's always a pleasure for our judges to sift through the entries, and always nearly impossible to pick the winners. Amazing parking facilities, it seems, are popping up all over the place, which spells great things for our industry and its customers.

We're pleased to present this year's winners, who received their awards at the 2015 IPI Conference & Expo in Las Vegas this month. It was a great year for parking, as these projects attest, and we can't wait to see what's ahead.



When the Philadelphia Zoo decided to construct a new intermodal transportation center to its popular campus, no vanilla box would do. The final \$24 million project benefits visitors, neighboring properties, and surrounding communities in a way that's stunningly beautiful.

America's oldest zoo attracts more than 1 million visitors every year, and its new Centennial District Intermodal Transportation Center includes 683 parking spaces, a plaza space that connects the garage and sidewalks to the zoo, and a colorful, animal-themed mural that faces Amtrak rail tracks. Designed with the future growth and redevelopment of the surrounding neighborhood in mind, the project serves as a catalyst for revitalization while improving pedestrian safety.

The precast facility includes two-way, 90-degree parking throughout. Zoo patrons and visitors to the

surrounding community can purchase parking tickets online, pay at the zoo box office, or pay via credit card at the entry/exit gates. The facility is located in the north-eastern U.S., making it vulnerable to weather extremes, significant amounts of rain and snow, and exposure to road salt. The design team incorporated a number of provisions to maintain the structure's durability, including high-strength concrete with low-water-to-cement ratios to reduce permeability; corrosion inhibitor admixture in the concrete; and hosebibs to facilitate spring washdowns of road salt carried in during winter.

Inside, a creative wayfinding system of colorful column and wall wraps feature a different animal theme on each level. Security features include cameras at each stair location and glass elevator and stair towers that provide views from the sidewalk and street. A unique design features a pedestrian ramp along the outside of the garage that caters to families with small children and strollers and offers a more convenient path from parking to the sidewalk than elevators or stairs.

Being a zoo property, the new center watches out for birds and includes stair tower glazing that incorporates patterns that keep feathered animals from flying into the glass. At present, the zoo is advocating for a passenger train stop that would re-introduce a service that served the zoo until the 1940s.

CATEGORY I – Best Design of a Parking Facility with Fewer than 800 Spaces

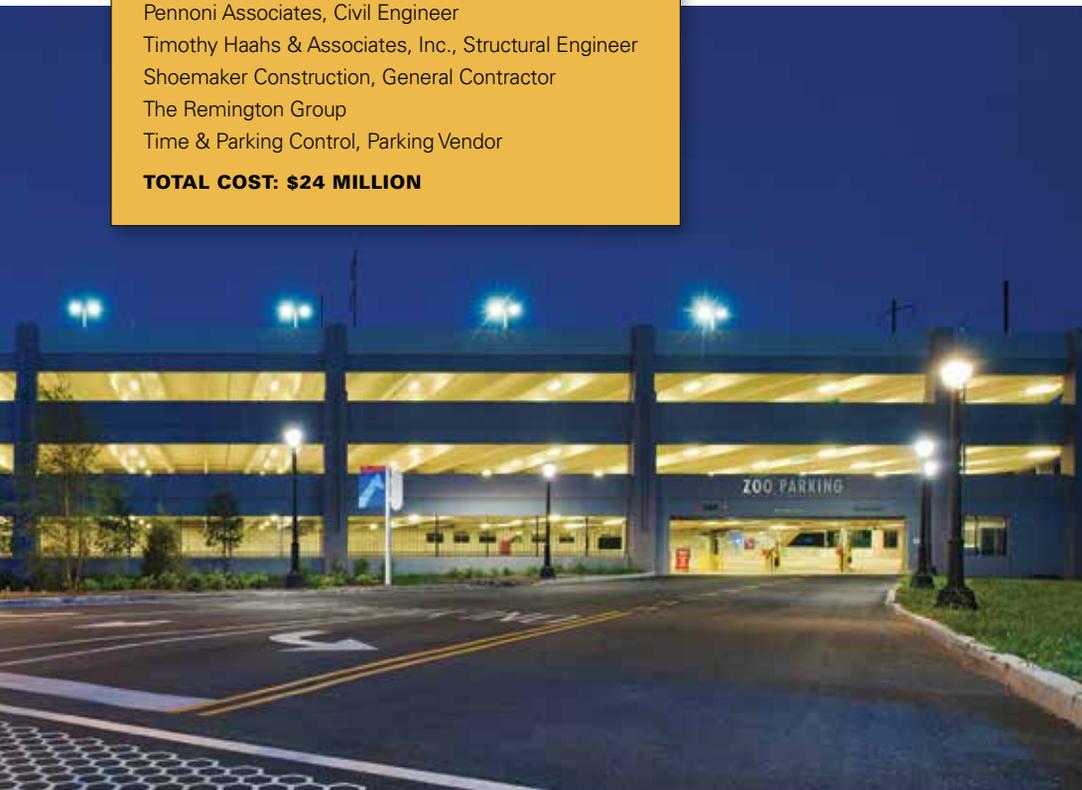
Philadelphia Zoo Centennial District Intermodal Facility

Philadelphia Zoo, Owning Agency
Philadelphia, Pa.

PROJECT PARTICIPANTS:

- SPG3, Architect
- Pennoni Associates, Civil Engineer
- Timothy Haahs & Associates, Inc., Structural Engineer
- Shoemaker Construction, General Contractor
- The Remington Group
- Time & Parking Control, Parking Vendor

TOTAL COST: \$24 MILLION





American River College didn't want its new garage to look like a garage, but instead, hoped it would tie in with its surroundings. It definitely does, blending 1,724 parking spaces with a safe passage of travel for thousands of pedestrians via a path and bridge and a grand stair that's quickly become a campus icon. Garage artwork features college athletic stars in action on large fabric panels that relate the structure to the adjacent athletic center.

This four-bay, five-level structure features accessible parking on all floors, mostly 90-degree-parking, and interior park-on ramps. It also offers low-maintenance features, such as decks that are sloped on all levels for drainage, drought-tolerant plants, and security features that include glass-backed elevators and an interior that's free of shear walls. A roundabout allows a significant amount of traffic to intuitively access the structure along with two other lots, and grading and landscaping guide pedestrians to their destinations. Fluorescent lighting with sensors is used throughout the structure.

Two public plazas, one at the base of the grand stair and another at the entrance to the football stadium, offer natural and vibrant gathering places for students and

CATEGORY II—Best Design of a Parking Facility with 800 or More Spaces

American River College Parking Structure

Los Rios Community College District, Owning Agency
Sacramento, Calif.

PROJECT PARTICIPANTS:

Watry Design, Inc., Architect-of-Record & Structural Engineer

Webcor Builders, Contractor

American River College

Fuhrman Leamy Land Group, Landscape Architect

Sandis, Civil Engineer

GNU, Environmental Graphics & Architectural Signage

ACCO, Mechanical Engineer

Rosendin, Electrical Engineer

TOTAL COST: \$25.9 MILLION

visitors; they also serve as natural wayfinding features. Twelve tennis courts that were displaced by structure construction were reconstructed nearby. Signage outside and inside directs drivers to parking and different destinations outside the garage.

The original design called for a deep precast concrete pile foundation, but the design/build team developed an alternate system of rammed aggregate piers that

saved approximately \$500,000 and three weeks of construction time. Future plans for the structure include 49,400 square feet of photovoltaic panels on the top level.





CATEGORY III – Best Design/Implementation of a Surface Parking Lot

3885 Yonge Street (Jolly Miller)

Green P+
 Toronto Parking Authority, Owner & Project Manager
 Toronto, Ontario Canada

PROJECT PARTICIPANTS:

Councillor Jaye Robinson
 York Mills Valley Association
 Marton Smith Landscape Architect Inc., Landscape Architect
 Mopal Construction, Contractor
 Parks, Forestry and Recreation, City of Toronto

TOTAL COST: \$706,000

Originally opened in 1997 as a 262-space surface parking lot, the Toronto Parking Authority’s (TPA’s) Carpark #414 was recently redeveloped into a 129-space parking facility combined with a new municipal public park. Although the project meant losing some parking spaces, the redevelopment resulted in a net gain of an environmentally rehabilitated public green space while still maintaining an important parking facility.

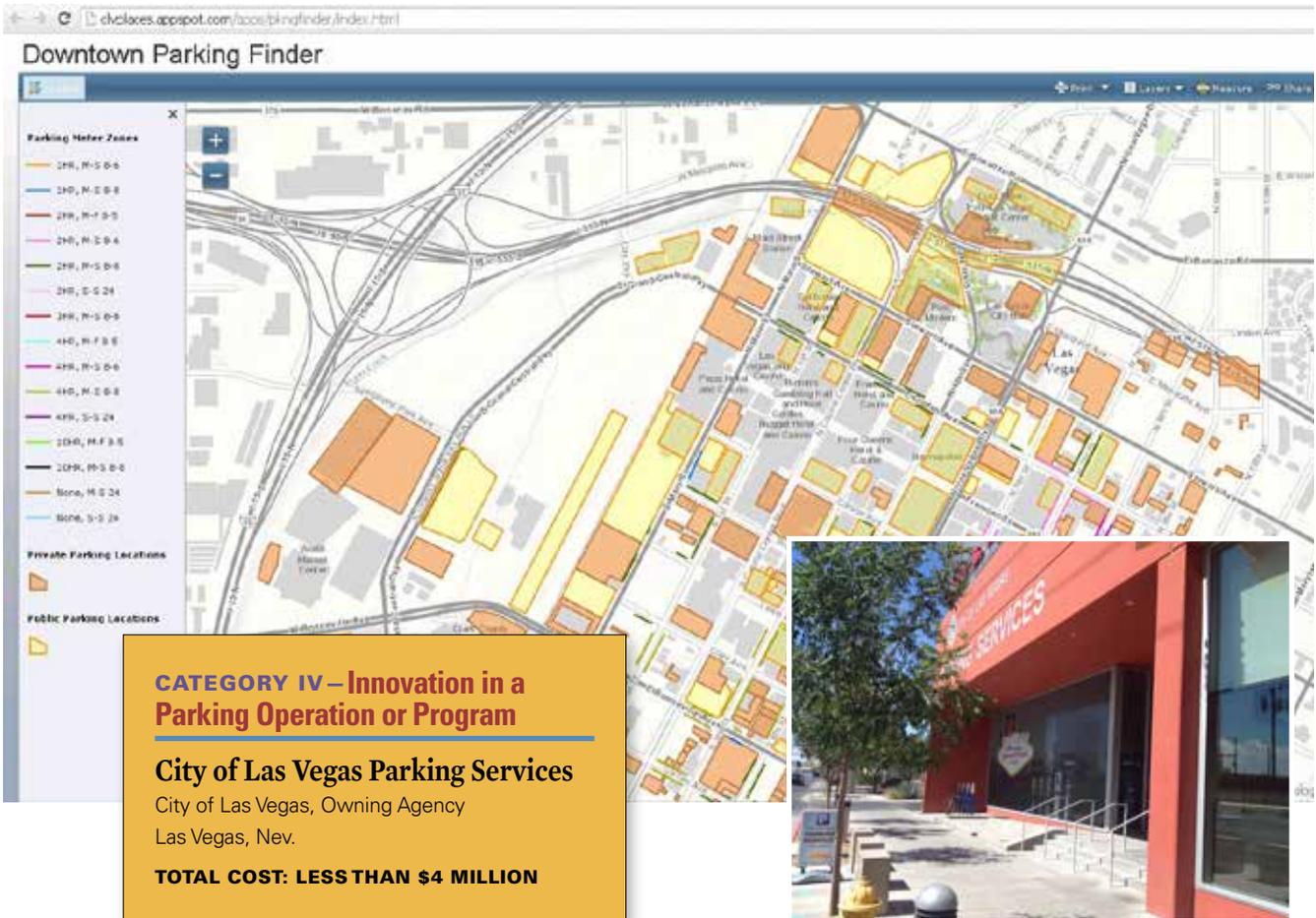
The new Jolly Miller Park, named after the iconic Jolly Miller Tavern, features a miller’s cottage ruin that reflects the milling heritage of Hogg’s Hollow and the cottages that once surrounded the West Don River. Renovation of the parking lot meant environmental, maintenance, and technology upgrades that benefit users and the community.

Two pay-and-display machines with online credit card and cash payment systems were installed, along with a plethora of high-efficiency safety lighting with sensors and electrical panels that can accommodate electric vehicle chargers later on. In addition, the property is regularly patrolled by security personnel. The lot incorporates a continuous loop design with 90-degree spaces and ingress and egress lanes separated by a curbed island.

Central to the redevelopment is the cottage, which consists of a number of seatwalls designed to look like the ruins of a miller’s cottage; it was built with locally sourced stone and reclaimed lumber. The paving and plant material palette visually connects the parkland to the parking facility while canopy trees shade parking and pedestrian areas. All plant materials were chosen for drought and salt tolerance, and native species were used whenever possible.

Non-illuminated signage directs drivers from adjacent streets. A continuous raised pedestrian connection connects the city sidewalk with the park, and accessible trail connections link the park with a municipal trail network.

Surface materials include locally sourced natural flagstone and high-albedo pavers. A bioswale manages stormwater runoff. The tree planting layout was designed to reduce urban heat island effect, and the completed project has been met with praise from the local community.



The City of Las Vegas' Parking Services Division almost didn't exist after a recession hit and a concession RFP was issued that offered up the entire parking system for purchase to the highest bidder in 2010. Today, the parking operation is an essential part of the city's government and is known for its innovative operation, entrepreneurial spirit, and can-do philosophy.

Parking Services transformed from a disjointed operation that used obsolete technology with employees spread out through five different city departments into a well-run organization under the Department of Economic and Urban Development. It is responsible for all existing parking assets, development of new assets, third-party contracts, special event coordination, and private development consulting and negotiation.

All city meters were replaced and upgraded in 2013, and a new online RV permit program was launched that permanently solved a decades-old controversy and eliminated all complaints in that area. Another new program established advance scheduling and offers real-time occupancy of designated food truck spaces using parking meter data and a custom mobile app.

The division now has 13 different integrated pieces of software enabled, including meters, PARCs, citation issuance, license plate recognition, billing, collections, DMV interfaces with three states, and accounting.

On the operations side, the division took a huge risk

by expanding its responsibilities to include staffing and traffic control for events. The city was in danger of defaulting on a 99-year parking agreement guaranteeing The Smith Center for the Performing Arts a minimum of 1,200 parking spaces for every event. It was short by about 100 spaces. The division stepped up and offered to become parking operator until the additional 100 spaces were available. The division staffed more than 150 events in the first year, converting streets into parking lots, reversing traffic flow on public streets to speed up load-in and load-out rates, and directing traffic in both the parking lots and on the streets. Appreciation for these efforts went viral and spread, and the division began filing requests for help on all fronts. Currently, it is the largest third-party parking operator in the Las Vegas Valley.

The division also has what may be the most comprehensive database of parking facilities and data of any municipality. It hand-counted every parking space in the downtown area, down to the spaces striped at gas stations. Each parking facility has information such as owner, use, rates, availability to the public, contact information, etc. The data were converted to a GIS map with several layers and are available to the public, developers, real estate brokers, and others for use in analysis. The division continues to maintain that database to ensure accurate information.



Historic buildings are often repaired to preserve them for future generations. However, not much attention has been paid to renovate and revitalize historic garages to make them part of the next generation.

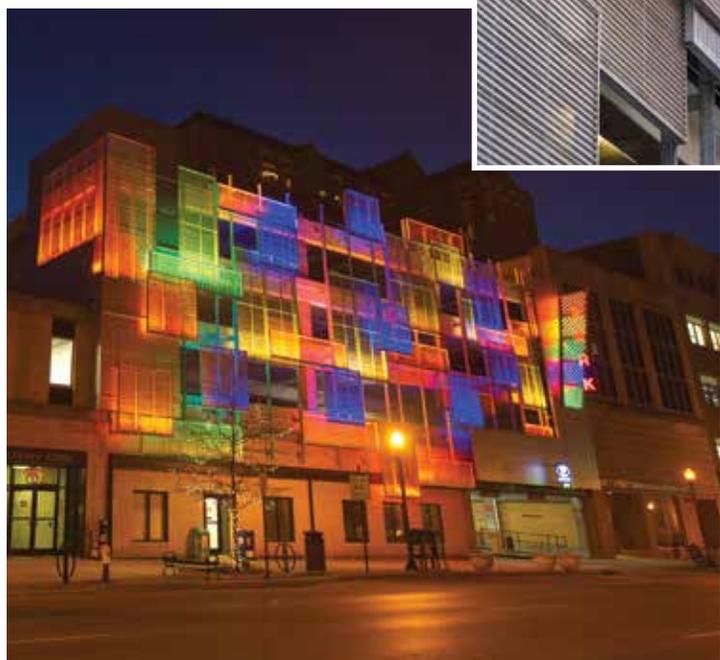
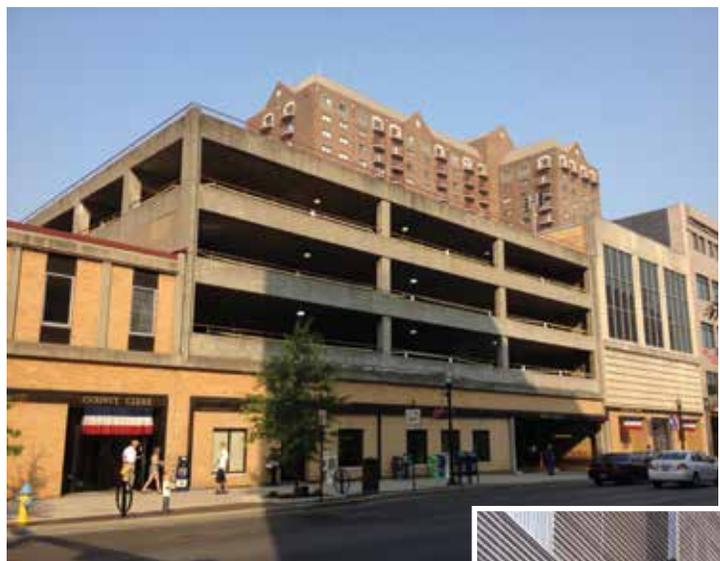
Helix Parking Structure, a 40-year-old structure located between two government buildings in Lexington, Ky., was experiencing serious distress and deterioration. Options included demolishing it, replacing it, or repairing it. An analytical engineering study and subsequent action plan that involved multiple government bodies led to a renovation project that incorporated significant structural and waterproofing repairs, lighting upgrades, signage enhancement, PARCS replacement, and exterior revitalization.

The garage remained open during early repair phases and was closed later on; drivers were directed to temporary parking elsewhere. Constant communication, including weekly production meetings and regular conference calls, kept everyone involved on track with construction quality, project schedule, and work coordination. An engineer conducted routine site visits, and the garage's owner engaged an independent lab for materials testing.

Two repair options were designed for the slab helix ramp, and non-typical repair solutions were designed to repair concrete beams without reducing headroom. New PARCS included the addition of real-time space availability information on LED counters outside garage entrances, and a single exit "choke point" was converted

to three lanes without a cashier booth, taking what was a long queue down to nothing. New signs and graphics significantly enhanced the user experience.

Outside, waterproofing coatings, a stainless steel panel system, and programmable LED lights transformed the garage into a dynamic element of the downtown fabric. Energy-efficient fluorescent lighting with daylight and motion sensors helped improve visibility and resulted in energy savings of nearly 50 percent. ADA spaces were respired in a new layout that created a safer and more friendly user environment. Finally, a major operational upgrade was implementing 24/7 operations, offering more reliable service to customers and a revenue increase.



CATEGORY V – Best Parking Facility Rehabilitation or Restoration

Helix on Main Parking Structure

Lexington & Fayette County Parking Authority,
Owning Agency
Lexington, Ky.

PROJECT PARTICIPANTS:

RAM Construction Services, Restoration General Contractor

Scheidt & Bachmann USA, Parking Vendor

Pohl Rosa Pohl Architecture + Design, Design Architect

Vincent Lighting Systems, Design Consultant

Randy Walker Electric, Contractor

National Lighting Services, Contractor

ProCLAD, Contractor

Image360, Environmental Graphics & Architectural Signage

WALTER P MOORE, Structural Engineer-of-Record

TOTAL COST: \$4 MILLION



CATEGORY VI— Award for New Sustainable Parking & Transportation Facilities Excellence

Parking Garage Enhanced/ Sustainable LED Lighting

Washington Metropolitan Area Transit Authority,
Owning Agency
Washington, D.C.

PROJECT PARTICIPANTS:

Rachel Healy, Washington Metropolitan Area Transit Authority, Principal Sustainability Advisor

TOTAL COST: \$20 MILLION, ENTIRELY FUNDED BY COST SAVINGS FROM SUSTAINABILITY

The Washington Metropolitan Area Transit Authority (WMATA) established targets for reducing energy use per vehicle mile by 15 percent by 2025 and reducing greenhouse gas emissions by 50 percent per vehicle mile by 2025. This project replaced WMATA-owned-and-maintained high-pressure sodium light fixtures with new enhanced energy-efficient LED light fixtures with centralized lighting controls.

In 2014, Metro awarded a performance-based contract that resulted in the replacement of more than 13,000 high-pressure sodium lights in its 24 parking garages; Philips Lighting replaced that lighting with LED options that create a brighter environment, use less electricity, and cost less. They respond to the environment by automatically becoming brighter or dimmer in response to motion or ambient lighting.

This was WMATA's first major initiative toward achieving its goals, and the contract is funded entirely through guaranteed energy savings of 68 percent, or \$1.5 million per year at current energy pricing. WMATA received more than \$20 million in lighting equipment and technology and 10 years of operational maintenance at no cost, through an innovative procurement strategy to fund sustainable projects from project-generated savings.

This project will save WMATA more than 15M KWh in energy per year, reducing carbon emissions by the equivalent of 140 tanker trucks of

gasoline annually. With improved lighting, modernized equipment, routine maintenance, and a nearly 0 percent outage rate, the customer experience has been improved, supporting efforts to improve the transit experience and maximize regional mobility and transit ridership. The project has been instrumental in illustrating how WMATA can control energy and that sustainable investments are a great way to affect the agency's operating costs while reducing exposure to energy cost increases. It has paved the way for more contracts to come, and WMATA has already identified several opportunities to build on its precedent to drive cost savings through sustainability. As an ancillary benefit, the performance of existing security cameras is improving as a result of the higher-quality light.



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Situated in the heart of Oklahoma City’s Arts District, this new 10-story, mixed-use parking facility provides convenience and flexibility to its users throughout the day and night. The garage provides 837 new parking spaces to the downtown and relieves parking pressure for transient and monthly parkers. Its central location provides easy access to many cultural amenities and local businesses.

The garage blends parking with approximately 20,000 square feet of office and retail in a highly pedestrian environment while complementing the architectural character of the Arts District. The garage utilizes a long span, cast-in-place, post-tensioned concrete structure with a minimum number of joints and non-exposed metals. To obtain longer service life, the design team implemented additional corrosion protection measures not normally found in parking structures. The design of these protection systems is based on performance and life cycle cost-benefit analysis and features the use of separation/isolation joints, performance-based concrete, epoxy-coated reinforcement, totally encapsulated extruded mono-strand tendons, a Silane sealer on the parking deck, a traffic-bearing membrane, and a washdown system for each floor.

The building’s design is influenced by neighboring historic buildings in the Arts District, including the City of Oklahoma City Municipal Building, Oklahoma County Courthouse, and the Civic Center Music Hall, which feature art deco architectural details, including vertical ornamental metal grilles. Vertical glass panels on

CATEGORY VII – Award for Architectural Achievement

Oklahoma City Arts District Garage

Central Oklahoma Transportation and Parking Authority, Owning Agency
Oklahoma City, Ok.

PROJECT PARTICIPANTS:

- TAP Architecture, Architect-of-Record & Architect
- DESMAN Associates, Structural Engineer-of-Record
- Zahl-Ford, Structural Engineer
- Cardinal Engineering, Civil Engineer-of-Record
- Alvine Engineering, Mechanical Engineer & Electrical Engineer-of-Record
- Flintco, General Contractor
- TEC, Traffic Engineer

TOTAL COST: \$22.5 MILLION

the garage mimic the significant vertical panels on these three historic buildings. Additionally, the brightly colored laminated glass on these panels pay homage to the iconic art glass sculpture by Dale Chihuly located in the Oklahoma City Museum of Art’s atrium.

The garage features LED lighting for brightness and energy efficiency, creating a safe and welcoming environment for its users. Exterior lighting is used to highlight the unique character of each building material: concrete, metal fabric, granite, and glass.

The brightly colored laminated glass featured in the vertical glass panels of the garage serves as a visual cue to users and helps identify the various parking levels. Design of signage and wayfinding systems throughout the garage, including the elevator lobbies and stair towers, is influenced by the colored glass panels.

The garage features a public art installation (“Discussion about the Weather”) in the pedestrian concourse.

The Arts District Parking Garage is critical to sustaining business growth downtown. Current public and private parking systems are full to the point that existing companies aren’t able to grow and expand their workforces. Furthermore, the parking facility is designed for a future three-story residential building to be added above the garage. The Level 10 parking area is designed to function as nested residential parking after the residential building is added. This new parking garage could be considered an important economic development tool for Downtown Oklahoma City. 