

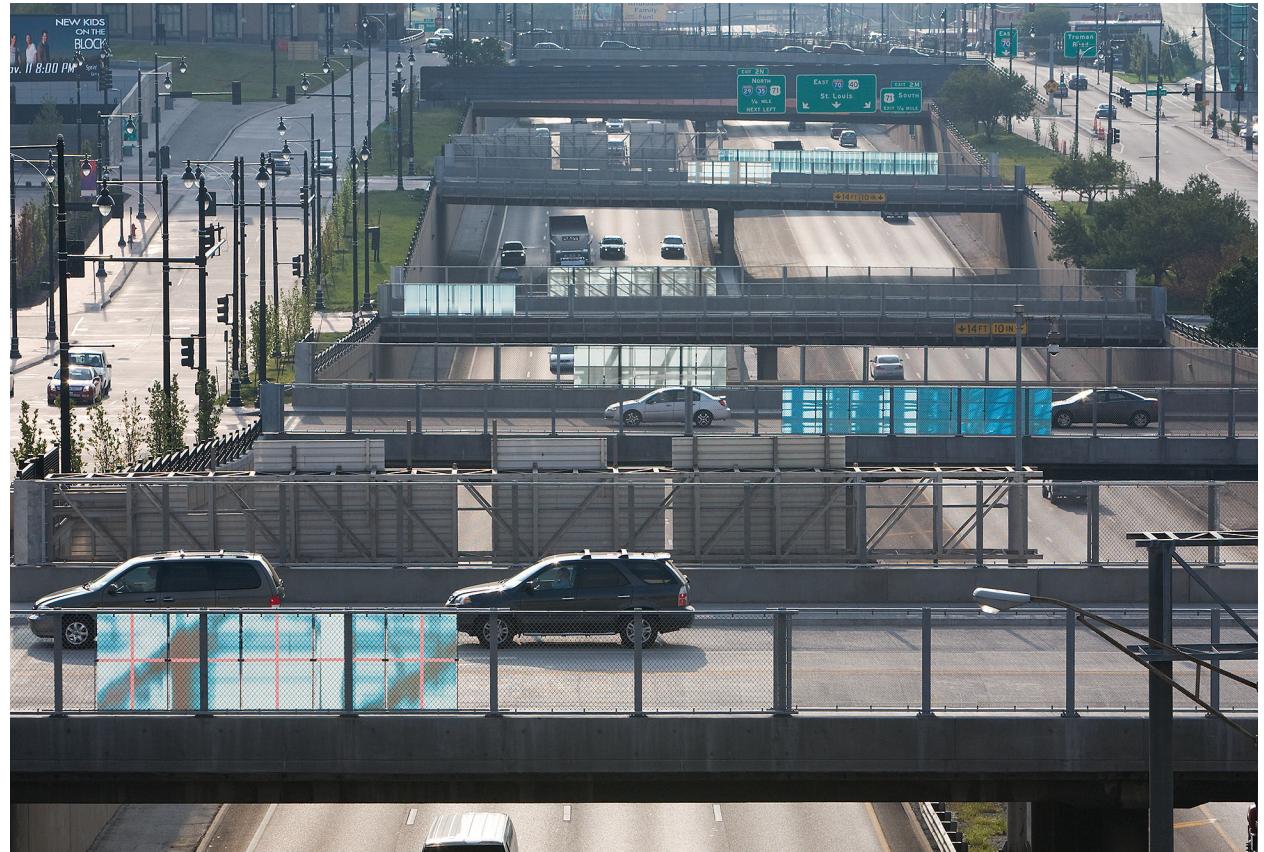
## Unlooping the Loop

David Dowell, *el dorado inc*  
Photographs by Mike Sinclair

### Creating the Loop: A Compressed History

While watching the Big 12 men's basketball semi-finals on television a few weeks ago, I was gratified to see clips of downtown Kansas City, Missouri, filled with people. Amid the busy streets and shiny, occupied buildings, I could just make out the illuminated guardrail panels on a series of bridge rehabilitation projects completed within the past five years. Small things in the overall scheme of the urban landscape but nevertheless real things, these projects suggest a future for civic infrastructure that harnesses non-specialized, *public* participation to bring about positive change.

Like many American cities, the shape and trajectory of Kansas City changed dramatically in the late 1950s. The agent of change was the Federal Highway Act of 1956, a piece of legislation that allocated more than \$25 billion to construct the Dwight D. Eisenhower National System of Interstate and Defense Highways. Vital blocks of homes, businesses, and industrial buildings were rent from downtown Kansas City, and the roads—I-35, I-70, and I-670—that now fully encircle the urban core came to define it. The highways were mostly sunken and a series of twenty-three bridges and two underpasses were constructed to connect downtown to the surrounding neighborhoods. The bridges were designed to new federal standards. Between 1956 and 1970 the same series of bridges were repeated again and again, all over America.

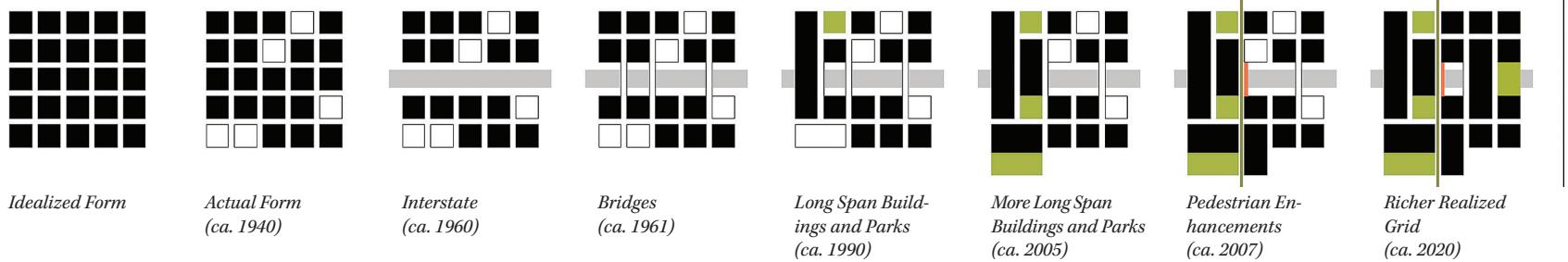


With other forms of transportation giving way to the personal automobile, the bridges were designed with little concern for non-vehicular movement or experience. Most had sidewalks less than three feet wide and guardrails no higher than two feet off the sidewalk deck. Lighting was considered purely a roadway issue, and acoustical pollution was not considered at all. The desire to meet the needs of vehicles adversely affected space beyond the street. Property owners tore down buildings and carved into the ground for

surface parking lots, creating gaps in the urban fabric. The value of the buildings themselves became tied to the availability of parking, resulting in a devaluation of both the structures and the space between them.

Like many American cities, Kansas City enjoyed significant reinvestment in its downtown in the last decade. Public and private entities poured more than \$6 billion into the areas immediately north and south of I-670, and thus were motivated to reconsider the state of public space

and infrastructure around their investments. The physical structure of the downtown highway loop—its single-minded vehicular functionality, the noise and poor air quality, the sheer amount of space it consumes—was rightly identified by both private and public sectors as a detriment to their investments. Plans emerged to shift the priorities of our transportation infrastructure from a singular emphasis on the automobile to accommodate multiple modes—walking, cycling, buses, light rail, and of course, cars.



### Unlooping the Loop: Incremental Opportunism

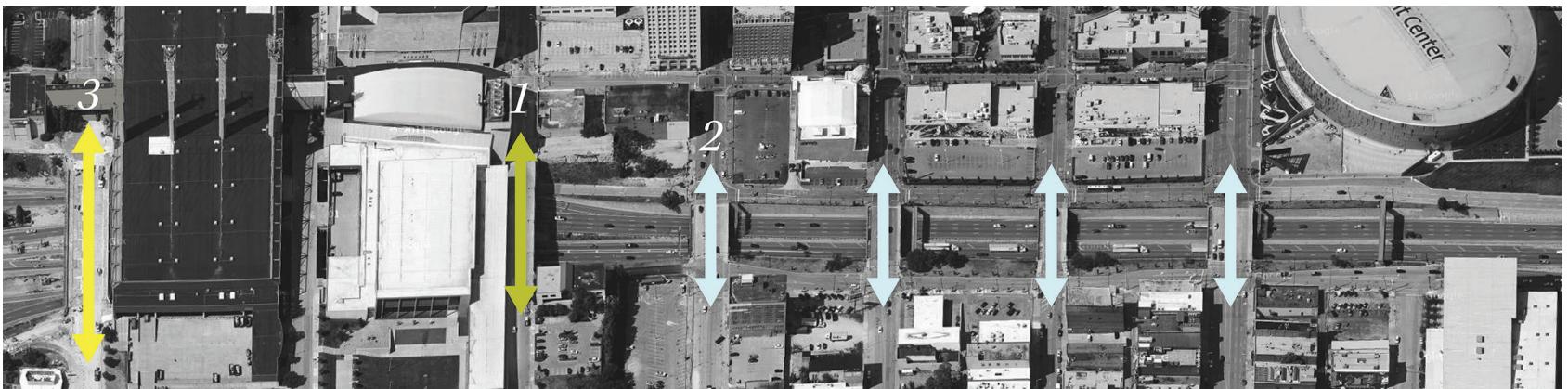
The bridges crossing in and out of downtown were designed for a fifty year lifespan. By early 2001, all twenty-three required replacement or rehabilitation. The 2007 collapse of the I-35W Mississippi River Bridge in Minneapolis (designed in 1961 to federal standards) highlighted the seriousness of the issue. Casual conversations between the Downtown Council's I-670 Bridge Enhancement Task Force, the Crossroads Community Association's Infrastructure Committee, KCMO Public Works, and the Missouri Department of Trans-

portation led to an idea to insert an economical twist in the way that typical bridge projects were run.

With the overhaul of the bridges between the downtown loop and the Crossroads Arts District in mind, the group of stakeholders crafted a design brief that went beyond pure functionality. Their brief focused on walkability and care for the pedestrian experience. It also focused on involving stakeholders, not only in the design process, but also in the selection of the design professionals. Of the twelve bridges in this area (one a major utility bridge), ten were rehabilitated or rebuilt, six of these after a competition-based

design process intended to engage creative professionals who weren't engineers. All were efforts to dignify the investment being made around the I-670 bridge corridor by taking a "more than a standard bridge" approach. The group focused on enacting improvements immediately, at minimal cost, by supplementing work that was already planned or underway. Funding for the supplemental work came from various sources: a not-for-profit, a private foundation, the City of Kansas City, Missouri, and Kansas City Power and Light. Taken as a whole, the effort became known as *Unlooping the Loop*, a phrase coined by Darby Trotter, PhD., during a rather lengthy public meeting,

To illustrate the impact of this unusual cooperative effort, I'll highlight a series of three case studies involving six bridges, implemented between 2006 and 2011. El dorado inc was involved in all six projects due to our experience with civic infrastructure projects, our history of collaboration with a variety of disciplines, and our ability to fabricate our designs in-house. In each of the case studies, we worked with a different primary consultant: an animation graphics design firm, a painter, and a photographer/lighting designer. We also worked with Genesis Structures on two of the projects and with Lankford Consulting Engineers on all three.



An aerial map showing the location of the three interventions: Landscaped Edge (1), Pedestrian Strands (2), and Broadway Overpass (3)

**Case Study #1:**  
*Landscaped Edge*

A modest project—guardrails for the one side of the Wyandotte Bridge over I-670—was announced as a proposal-based competition in 2006. The competition was run through the Kansas City Chapter of the American Institute of Architects and modeled after common public art solicitations and procurement procedures. The focus was on a designer-led process, as opposed to one led by an engineer or artist. Supplemental funding came from Rivertrails, Inc., a not-for-profit devoted to improving access to the Missouri River and to Kansas City's cultural heritage sites located along the river. We were renovating a small building for local animation graphic design firm mk12 when the request for qualifications came out. We were short-listed, and with the help of mk12's short animation illustrating the diurnal dynamic of the guardrail, we won the commission. Our idea was simple: introduce a place-specific landscape on the edge of a bridge, within a hardened, autocratic urban environment.

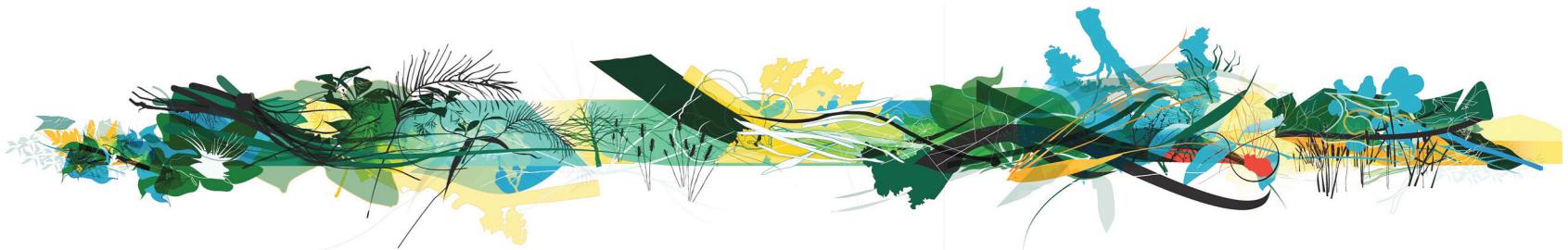
Wyandotte Street connects two important landscapes in downtown

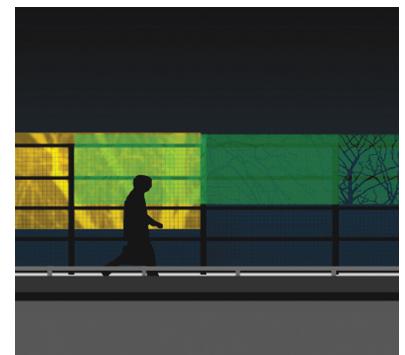
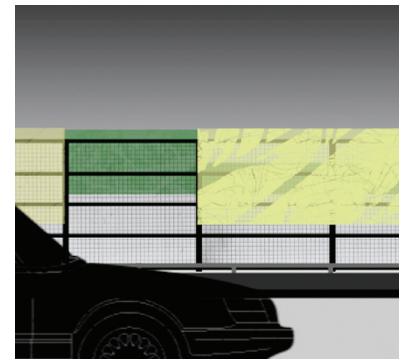


Kansas City: the railroad-owned, Corps-of-Engineers-meets-Mother Nature battleground that is the Missouri riverfront, and the beautiful, if underutilized, Beaux Arts grandeur of Penn Valley Park. Though Wyandotte Street is the designated

pedestrian and recreational corridor between the riverfront and Penn Valley Park, there is no sense of continuity and hardly a hint of landscape in the twenty-odd blocks between them. *Landscaped Edge* sits at the midpoint between the two

destinations, and so we set about designing a bridge that would suggest a novel landscape vocabulary that could one day connect the remarkable topography at the high and low points of downtown Kansas City.





*Above: Animation stills from winning competition proposal*

Early thoughts of actually planting the edge of the bridge proved too heavy and impractical. Instead we abstracted the native Missouri landscape, taking grasses, trees, and bark textures and embedding them within a custom guardrail panel system illuminated from within. This proved both practical from a maintenance perspective and educational point of view, as we were able to introduce floral material not well-suited for urbanized environments. Select panels in the guardrail were left unlandscaped to bring views of the surrounding skyline into the experience.



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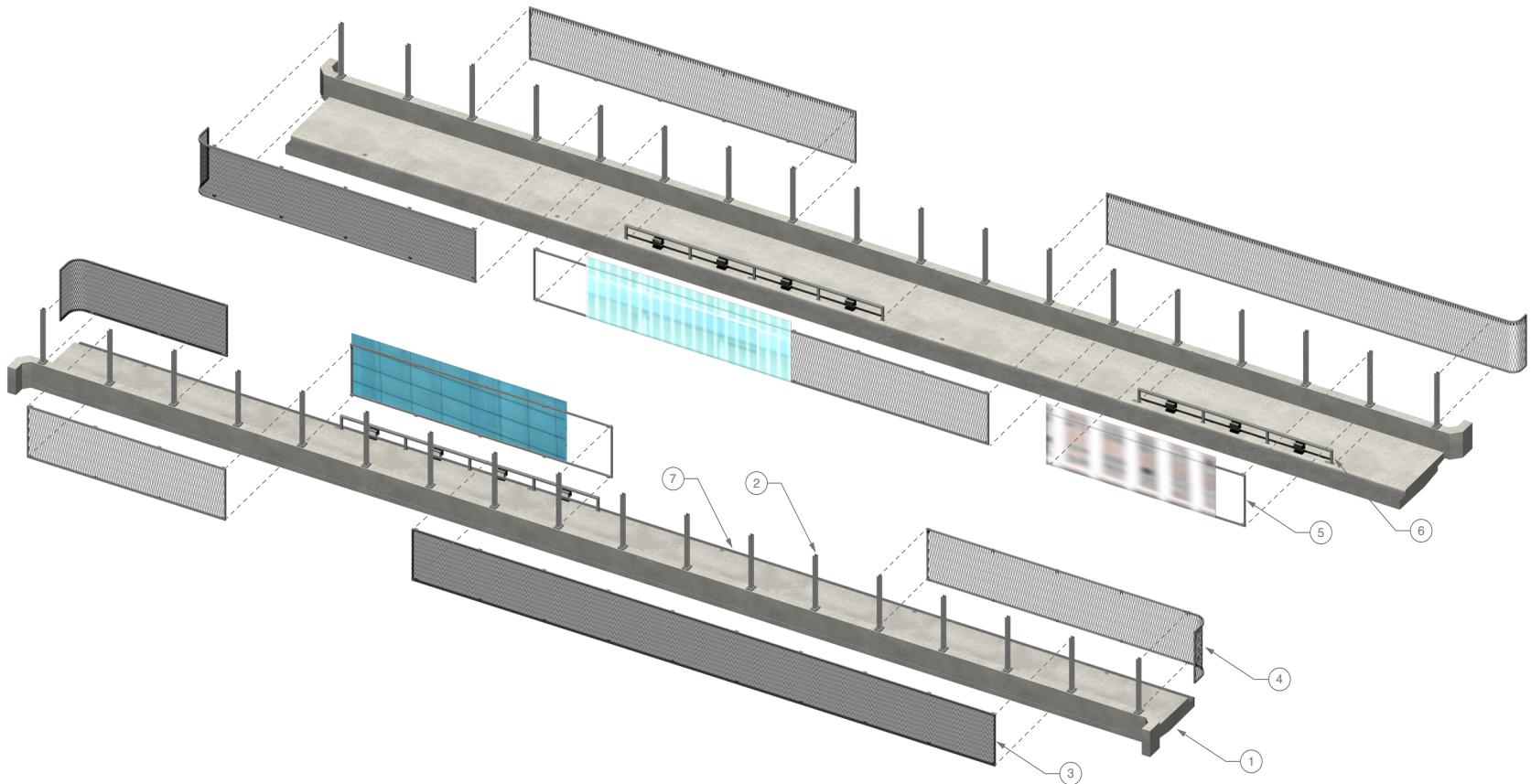
*The pedestrian is engaged as an active participant, casting shadows on the glass panels with embedded photographic abstractions*

## Case Study #2: *Pedestrian Strands*

Emboldened by the success of *Landscaped Edge* and the interest it generated, the second project in 2007 was much more ambitious. The site involved four bridges—Grand, Walnut, Main, and Baltimore. The Gary Dickinson Family Foundation generously funded the project. This time around, the open call was directed towards an artist-led process and the selection committee included city and state officials, public servants, arts professionals, and design professionals. Kansas City-based artist James Woodfill was selected, with el dorado offering operational assistance. Based on our many years of working together, we quickly fell into a form of collaborative short-hand, exploring ideas of layering, rhythms, and pace. *Pedestrian Strands* quickly became a study in

deep observation of “what is.” We developed responses to the environment surrounding the four bridges, to buildings both new and historical, to the patterns of north/south streets moving through the site, to existing signage, and wayfinding. Woodfill’s photographs of this complex environment were processed and sorted into new positions within the four bridges, weaving them back into the thick, chaotic tapestry in which they exist.

HNTB must be acknowledged as a silent but essential partner on both case studies. They designed the actual bridge structures, leaving our respective teams to conceive and fabricate the components that give each bridge its unique character. They entertained our wildest design ideas for many months, all the while ensuring the federal and state design standards were not compromised.



*Exploded axonometric: 1. Existing sidewalk and concrete curb / 2. Steel guardrail post, typical / 3. Steel guardrail frame, Type 'A' mesh, typical / 4. Steel guardrail frame, Type 'B' mesh, typical / 5. Steel guardrail frame, laminated glass with integrated image / 6. Steel frame, flood lighting, typical / 7. Flush mounted electrical junction box, 23'-0" on center*

### Case Study #3: *Broadway Overpass*

Anticipation of the opening of the Kauffman Center for the Performing Arts (PAC) in September 2011 motivated a lot of activity. The City of Kansas City, Missouri, and the Missouri Department of Transportation brokered a deal in 2010 to replace the aging Broadway Overpass in record time—ten months from consultant selection to ribbon cutting—to coincide with the PAC opening ceremony. In addition to wanting a durable, straight-forward bridge, the agencies asked for a pedestrian focus and the inclusion of a non-engineer on the design team. The site is the northern front door for the PAC and the most direct connection to patrons coming from the south on I-35 and from the north on Broadway. A number of engineering firms asked us to partner with them after the success of *Landscaped Edge*,

*Pedestrian Strands*, and our work on other bridge projects. Given the pace of the project and the fact that we had been working for years on the *Troost Bridge Over Brush Creek* with Derek Porter, we decided to team with him again. With no time for interviews, a local engineering firm, GBA, was selected based on their qualifications, enhanced by our bridge experience. Stakeholders included representatives from Downtown Council, Crossroads, Westside, KCMO Parks and Recreation, KCMO Public Works, City Manager's Office, FHWA, and MODOT, as well as owners' representatives from the PAC and contractors building the PAC.

The Broadway Overpass is on the highly-visible western edge of the downtown skyline. We quickly saw an opportunity to add pedestrian-focused infrastructure to the image of the city. Given the low-lying, hori-

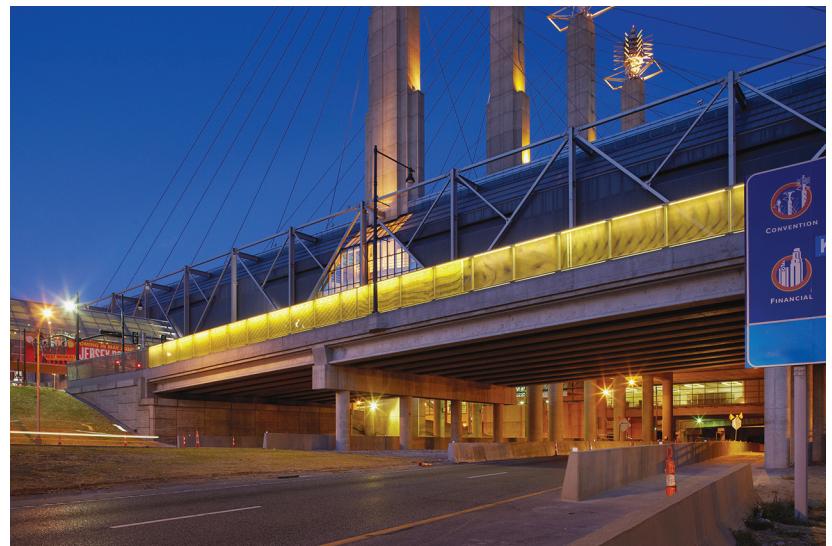
zontal nature of the railing and its more than 350-foot length, we felt that light and color, as opposed to scale and size, were the tools to help us make this contribution.

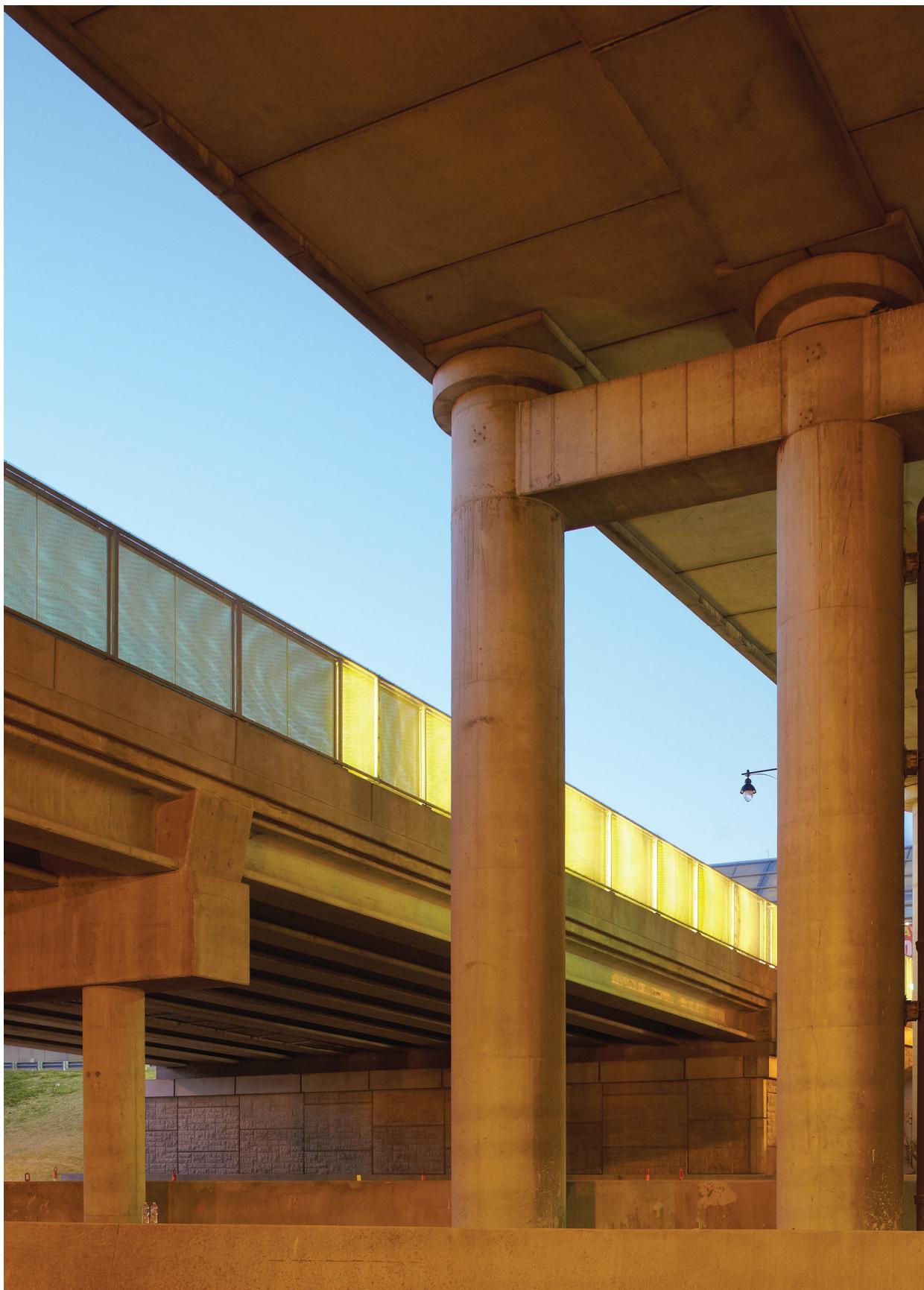
The bridge has two personalities—one vibrant and immediate, the other subtle and poly-sensory. Which personality it displays depends upon the time of day and the way you move around the bridge. With an internal layer of yellow mesh illuminated from within, the western, highway-facing guardrail presents a horizontal slash of bold, vibrating color at night. Some sensory rewards are reserved for those walking on the bridge, like the unexpected sense of space created by three overlapping layers of mesh. Only 12 inches deep, the pedestrian railing takes on a dimensionless quality similar to a cloud. On the northeastern edge, where the sound of westbound traffic reverberates between concrete

retaining walls, the highway surface, and the trade floor of the Kansas City Convention Center above, transparent yellow acoustical panels tamp down the sound into rhythmic spacing defined by your pace of movement. The project was delivered on time and under budget. In addition, all of the stakeholders walked away happy, begging the question: why can't more projects be administered in a similar manner?

### Unlooping the Loop: An Expanded Future

Infrastructure moves are, by their very nature, big moves. They require immense amounts of capital and dedicated, long-term commitment. They take time to conceive, energy to implement, and even more time to reconsider, as the systems can never be timeless. In addition to our highways and bridges, Kansas City





depends on other significant examples of multigenerational infrastructure. Our Parks and Boulevards system was conceived by George Kessler in the late nineteenth century, when automobiles were just beginning to make their mark on the American cityscape. Our combined storm water and sewer system was installed before the Civil War. These are lasting, city-shaping things. We need to build infrastructure that is adaptable and dynamic, to construct systems that are cost effective to implement and maintain, and to complete projects that directly improve our well-being.

*Unlooping the Loop* offers a few valuable ideas. First, we must recognize the numbing effects that go along with the need to create design and operational standards. We should take steps to occasionally challenge these standards, even unhinge them. We should encourage questions, even dumb ones, as these can lead to innovation. Second, we must fold non-specialized, citizen participation into both the process of design and the taking care of infrastructure. Civic infrastructure is complicated and expensive. The only way to fund it is through public investment. The more the average person understands about how the roads, the water, and the electricity that shapes their daily life came to be, the more they will become involved in shaping its future, and the more likely they are to agree to pay taxes for necessary improvements.

Again, infrastructure moves are big moves, and we can only match their audacity by truly embracing experimentation. Let's admit that these are living systems that travel with us through time. Materials age and give out, our expectations change, material sciences and best practices evolve. Inspiration through small, incremental moves is fine. When these small moves add up to enact positive change in our daily lives, they become grand, city-shaping gestures.