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# Allegheny Riverfront Park Pittsburgh, Pennsylvania

The narrow concrete embankment between an expressway and a river that floods every year might seem as tough and unforgiving a place for an enjoyable public space as one could imagine. But this is exactly the setting that the city of Pittsburgh and the non-profit Pittsburgh Cultural Trust, working with landscape architects Michael Van Valkenburgh Associates, set out to reclaim.

Since the late 1970s, the trust has been working to revitalize what was once Pittsburgh's red-light district. Its vision for this fourteen-block area at the edge of downtown has been of a cultural district that would include not only new and renovated cultural venues and restaurants, but also residential and office space in new buildings and renovated warehouse space.

The trust has long envisioned pedestrian connections between the new district and the Allegheny River. However, according to Kevin McMahan, the trust's current president, this ran against the grain of Pittsburgh's industrial past. For more than a century, city residents had turned their backs to the river, considering it a utilitarian space at best, certainly not an environmental amenity.

The city also was interested in facilitating a re-engagement between downtown and the river. In fact, a river-edge linkage between downtown parks had first been proposed in 1911 by the landscape firm of Frederick Law Olmsted.

From a physical point of view, the major difficulty to re-establishing a pedestrian connection was that the river's edge had long ago been turned into a split-level transportation corridor, with an arterial boulevard at street level and a four-lane expressway below. Moreover, much of the space that remained between the expressway and the river was used for parking. Together, roadways and parking areas had effectively cut the city off from the river, leaving the water's edge paved over and forgotten.

Jurors were nearly unanimous in their praise for Allegheny Riverfront Park. They cited its aesthetic distinction as well as its success at solving a host of environmental and engineering problems in pursuit of a shared civic vision. Furthermore, they noted, the project not only navigated a maze of state, federal and local regulations, but also integrated the delicate contributions of artists into what is, in essence, a massive work of civil engineering.

## Environmental and Infrastructure Challenge

From the beginning, the designers recognized that the problem Pittsburgh faced was similar to that of other U.S. cities. "Across America, as industry recedes from once active water edges ... , a lifeless divide has developed between cities and their waterfronts. The river's edge has

become an alienated, even hostile environment," they wrote in their award submission.

But while Portland, New York and San Francisco tore down waterfront highways, Pittsburgh followed a different strategy. Matthew Urbanski, of Van Valkenburgh Associates, explained that a key early decision was to accept the site for what it was. This meant resisting the desire to turn back the clock and bury the highway. Instead, the lower level of the park consists of new riparian plantings and a fourteen-foot-wide pedestrian and bicycle path that threads its way dramatically between the highway and the river. At street level, above, the park consists of a broad, semiformal, promenade overlooking the river.

Much of the design is predicated on the need for bold solutions to neutralize the hostile character of the expressway. One problem was finding a way to bring pedestrians across the expressway and down to the riverfront. The answer came in the form of twin 350-foot-long ramps that descend from each side of the Seventh Street Bridge, one of three suspension structures that lead downtown.

According to Urbanski, noise from the expressway once made it impossible to hold a conversation by the river's edge. Now, the ramps not only provide a fully ADA-compliant means of getting people down to the river, but also act effectively as sound walls. Pedestrians are further enticed to descend the ramps by undulating bronze handrails. And artist-designed screens with Virginia Creeper vines provide further shielding from the traffic.

Another difficulty that had to be surmounted was finding a way for the riverfront walk to bypass an existing bridge abutment while avoiding conflicts with the Army Corps of Engineers. The method devised was to cantilever sections of reinforced concrete beyond the existing seawall, satisfying the Corps' prohibition against filling the river. The new path actually sweeps pedestrians and bicyclists out over the water, while leaving room for a narrow strip of earth along the bank in which plantings can be established.

Yet another issue was that the lower level of the park is subject to floods that raise the Allegheny between five and ten feet each spring. Such extreme conditions, which sometimes include rapidly moving ice cakes, presented serious problems when it came to selecting plant materials.

According to Urbanski, the design research involved boat trips up and down the river to determine what survived in similar "inundation zones." Eventually, plants like river birch and silver and red maple, which have the ability

Left: Construction of walkway cantilevered over river.

Photos © Michael Van Valkenburgh Associates, Inc., unless otherwise indicated.

Right: Park site, after construction. Photo © Ed Massery





to sprout back after being broken or crushed, were chosen. To secure such plantings and limit soil erosion, boulders were installed along the walkway. The artists marked the natural cycle of flooding was established by casting a pattern of reeds into the walkway concrete.

Unlike the lower level, which was intended to be “wildly wild,” the upper level provides an elegant built edge to the city. A major challenge here was reconfiguring an existing street, Fort Duquesne Boulevard (which runs above the Tenth Street Bypass), to consolidate space for a broad, semiformal promenade overlooking the river.

The promenade now offers views both out over the river and back toward the city. It is shaded with London plane trees and paved with rough-cut native bluestone—elements that are familiar from their use in public spaces elsewhere in Pittsburgh—and separated from traffic by a curving seat wall.

### Assembling Resources, Extending the Vision

Jurors recognized that this project benefited from a public-private partnership of the highest order. Although the park is owned by the city, the client for the reconstruction work, the Pittsburgh Cultural Trust, is a private nonprofit that has been able to pool additional financial contributions from individuals and foundations.

Creating place out of no-place also involved a complex

engagement at a number of other levels. For example, Urbanski says, while the city owned the roadways and the park, the county owned the bridges, the state owned the highway, and the Army Corps had veto power in issues of river navigation and flooding. Such a tangle of jurisdictions undoubtedly contributed to this important city edge being lost in the first place. Reclaiming it involved a complex negotiation, including not only design review on aesthetic and social issues, but also complex technical consultations with engineers from a variety of agencies.

Altogether, the process of seeing the park through to completion spanned ten years, says McMahon. Throughout, the one constant was the insistence by the trust and its former president, Carol Brown, that the highest level of design be employed.

**Above left:** Aerial view of Allegheny Riverfront in downtown Pittsburgh.

Photo by Marge Beaver.

**Above right:** Workers creating one of the art elements in the park.

**Below left:** Seatwall in upper level of park. Photo by Annie O'Neill.

**Below right:** Boats docking along lower level of park. Photo by Annie O'Neill.

**Opposite:** Existing conditions (above) and proposed amphitheatre (below) for the planned westward extension of the park.

Rendering by Michael McCann



The long-range vision for the park is that it will extend roughly 1,200 feet east and west, to Point State Park at the confluence of the Allegheny and Monongahela Rivers, and to the city's new Convention and Trade Center. At the time of the jurying, the central 1,800-ft. section of the park had been completed.

—David Moffat

**Allegheny Riverfront Park, Pittsburgh, Pa.**

**Client:** The Pittsburgh Cultural Trust

**Owner:** The City of Pittsburgh

**Designers:** Michael Van Valkenburgh Associates, Inc., Landscape Architects (Michael Van Valkenburgh, Laura Solano, Matthew Urbanski, Martin Roura, A. Paul Seck)

**Artists:** Ann Hamilton and Michael Mercil

**Associated consultants:** Ove Arup and Partners (structural engineering), Frederic R. Harris, Inc. (civil engineering), GAI Consultants (geotechnical engineering), Phillip Craul (soils), Accessibility Development Associates (ADA), Inter•Fluve (hydrology), Urban Design Associates (planning).

**Funders:** Vira I. Heinz Endowment, the Commonwealth of Pennsylvania, The Pittsburgh Cultural Trust/Campaign For a Dynamic Downtown, Pittsburgh Water and Sewer Authority.

## Jury Comments

*Mozingo:* Talk about making a silk purse out of a sow's ear. There are two tiers of roadway with 250 feet to the edge of the water, an enormous grade change, all concrete; no remnant habitat that you can work from. And then to have restructured the roadway, dealt with this grade change, gotten people down. And you talk about handicapped access—this is completely accessible. This is significant place-making in an incredibly difficult urban condition.

*Quigley:* It is really sublime.

*Mozingo:* It is also fresh in that most urban restoration projects are much too delicate for the conditions. By structuring both the walkway and the boulders here it actually presents a really tough urban version of restoration.

*Fraker:* And the art has been integral to a whole improvisational collaboration, not stuck on at the end. Even the pre-cast assembly of the walkway means you can use a crane from the road to create a work place from which you can come back and build a garden.

*Mozingo:* And it's flooding every year. There are huge ice floes that keep knocking into these things. They have created a tree-lined promenade in extreme environmental conditions using native plants.

*Calthorpe:* What's interesting is where research had to have been done for this to win public approval. It is both poetic and something that overcomes great obstacles and probably has a great research base as well as a high level of social purpose.

*Mozingo:* I can't imagine how hard it must have been to collaborate. Everyone from the Army Corps of Engineers to local community groups had to have a role in the project. And the designers had to have done research on the ecology to get things to grow. You can't pull this off better on technical issues.

*Brown:* This is one of the projects for which I really wanted to hear more about the research, but I was dragged along by the other jurors, appreciating what must have gone on.

*Fraker:* There was a lot of effort made in understanding how you make a garden in this difficult place. The creative use of the materials to bring in imagery and textures and shading and so on, the weaving of these grasses into the concrete formation, is just extraordinary.

*Rabaim:* Just for the record, I didn't vote on this because I was involved. But it had the most integration I've ever seen between a designer and an artist.

*Fraker:* You can see that. There is a trace in here of the thought, the construction, the materials being made, and so on.