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Buffalo Bayou Park

Houston, Texas

A resilient new public green space that
reclaims Houston's historic bayou



Overview

Submitted by: SWA Group

Completed: 2015

Total Development Cost: \$74.8 million

For most of the twentieth century, Houston turned its back on its primary waterway and most significant natural resource: the bayou on which it was founded. As the city grew and concerns about flooding escalated, Buffalo Bayou and its surrounding watershed network, relegated to drainage, became overgrown and largely forgotten.

In 2010, the Kinder Foundation approached Buffalo Bayou Partnership—a nonprofit dedicated to improvements along the waterway—with a \$30 million catalyst gift to redevelop a 2.3-mile long portion of the bayou into a new civic green space. Completed in 2015, and with a total length of about two and a half miles, Buffalo Bayou Park offers a five-mile network of pedestrian and bike paths that run on both sides of the bayou, along with four pedestrian bridges that connect to a growing trail system and link downtown and adjoining neighborhoods.

The renovated park includes visitor centers offering boat and bicycle rentals, a cafe, a skateboard park, a dog park, and event/performance venues. Public art is interspersed throughout the site along with meadows and woodlands

“Buffalo Bayou Park demonstrates how resilient public infrastructure can beautify cities and help them adapt to the threats of climate change.”

—2019 Selection Committee

featuring native plants and ecology. An 87,500-square-foot underground water cistern, dating from 1926, now serves as an art installation venue. Prior to the park’s development, amenities were limited to a very poorly maintained asphalt footpath and a series of isolated works of art that were barely accessible to park users. Because of heavy undergrowth of invasive plants, it was not possible to reach the bayou or even see it in many locations.

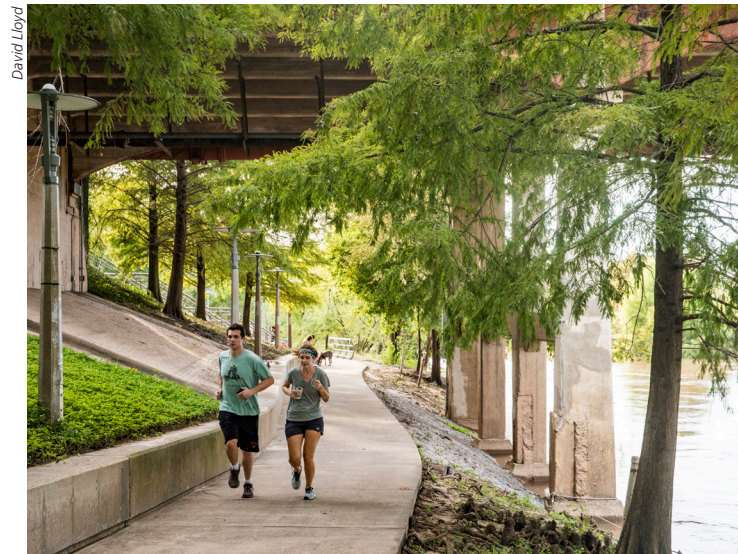
The park’s infrastructure is designed to withstand regular flooding and minimize the impact on its structures, paths, and amenities. After 2017’s Hurricane Harvey dropped up to 50 inches of rain on the city and flood height in the Bayou reached a record 41.4 feet at the park’s west end at Shepherd Drive, the venue’s hike and bike trails were rapidly cleared and returned to use in a few weeks.

Hosting a variety of interpretive programs and tours along with large community events all year long, the park draws residents and visitors alike for outdoor recreation and activities. Each evening at sunset, for example, people gather to watch up to 200,000 Mexican free-tailed bats emerge from their colony beneath the Waugh Drive Bridge.

Owned by the City of Houston, the park is maintained by the Buffalo Bayou Partnership with support from an annual \$2.4 million maintenance commitment from the Downtown Tax Increment Reinvestment Zone #3. The park has been a catalyst for new development as well as new thinking about open space in the city. In 2012, Houston voters passed a citywide bond initiative including \$100 million in park bond funds to support Bayou Greenways 2020,

which will transform more than 3,000 additional acres of underused land along many bayous into public green space.

“This renovation,” said Jamie Gonzales from the Nature Conservancy, “has made Buffalo Bayou Park the city’s most beloved green space in the minds of many Houstonians and has reconnected the city to the bayou that gave birth to our community.”



The resilient green space includes an extensive trail network along the bayou.



Project at a Glance

- A 160-acre urban green space along Buffalo Bayou, the city's major and most historic waterway.
- A community space that reconnects Houstonians to the bayou, nature, and each other and supports recreational and other activities, in part by connecting to a growing bike and pedestrian trail system that extends beyond the park and adding four pedestrian bridges across the bayou.
- A design that balances hydraulic, ecological, and user requirements to produce a resilient environment already proven to withstand the destructive forces of three major floods.
- A series of gardens, event venues, public art installations, and special activity areas, including a large lawn at Eleanor Tinsley Park for major events such as concerts and festivals, a skateboarding park, a dog park, and a children's play area.
- The Water Works, a flexible performance lawn, multi-use plaza, and visitor center built atop the Cistern, a repurposed historic city water storage facility converted to an 87,500-square-foot underground installation art venue.
- The product of a unique public-private partnership involving the Buffalo Bayou Partnership, the Kinder Foundation, and city and county government agencies, governed by a legal agreement that details responsibilities and ensures funding for ongoing maintenance and operations.

Project Goals

- Restoration: to restore the derelict bayou, which had become an overgrown nuisance harboring multiple homeless encampments.
- Access: to provide access to the bayou and opportunities for recreation and experiencing the unique ecological character of the site.
- Inclusion: to serve a broad cross section of Houstonians.
- Resilience: to provide a precedent for resilient open-space design, planning, and operations in climate-sensitive and flood-prone coastal areas.
- Identity: to reposition Houston as a city that promotes healthy lifestyles and embraces its unique physical relationship to the bayou system.

Chronology

1883

The Allen brothers found Houston along the banks of Buffalo Bayou. They lay out a town at the confluence of the Buffalo and White Oak Bayous, the most upstream location where boats from Galveston, Texas, and the Gulf of Mexico can turn and dock.

1935–1937

An extreme flooding event submerges downtown Houston under five feet of water and leads to the creation of the Harris County Flood Control District (HCFCD).

1950s

Additional portions of the bayou are straightened in the area that is now the park, and the HCFCD plans to line the channel with concrete. Congressman George H. W. Bush is convinced by local conservationists to reject federal funds for the project.

1986

The Buffalo Bayou Partnership (BBP) is founded under Central Houston, Inc. A task force report outlines recommendations for the preservation and improvement of the bayou.

1995

The first BBP executive director is hired.

1900

1912–1913

Arthur Coleman Comey's planning report for the Houston Park Commission contains the first proposal for improvements to Buffalo Bayou and other bayous.

1938

Federal funds are appropriated to dam the Buffalo Bayou's tributaries and straighten portions of the bayou channel. The funds are channeled through the HCFCD. These efforts replace Comey's park plans.

1966

Conservationist Terry Hershey forms the Buffalo Bayou Preservation Association (BBPA) to protect the bayou.

1989

Sesquicentennial Park Phase I and the downtown Sesquicentennial Park to University of Houston-Downtown trail are completed.

1997

Allen's Landing Phase I is completed.

1998

Sesquicentennial Park Phase II is completed.

2002

A 20-year master plan by the Thompson Design Group/EcoPlan is prepared for the BBP, City of Houston, Harris County, and HCFCD.

2010

May: Kinder Foundation-BBP Letter of Intent is finalized, resulting in a gift of \$30 million for Buffalo Bayou Park.

2012

January: Construction, Operating and Maintenance Agreement is approved by the parties, including an updated master plan, "owner's manual," and real estate transactions. Bond referendum for Bayou Greenway funding is approved by voters.

July: Construction begins on the first of five phases, focusing on major bridges and connecting trails.

2014

February: Phase I is completed.

2017

August: Hurricane Harvey hits Houston and dumps an estimated 21 trillion gallons of water (up to 50 inches in four days) on the city. Many parts of the park reopen within a week.

The second referendum for park funding is approved by voters.

2000

2001

BBP land acquisition program begins; Allen's Landing Phase II completed.

2007

Sabine Promenade is completed, BBP's most ambitious project to date. Designed by SWA Group, its qualities were recognized by the Kinder Foundation and provided the template for initial concepts for the park's development.

2011

February: Park master plan and tri-party agreement for the design phase are approved.

March: Rosemont Bridge and connector trails open.

April: An agreement is executed with SWA Group for park design.

October: The Texas Department of Transportation begins construction on segments of the hike and bike trails and one of the pedestrian bridges.

2013

March: Phase II construction begins on site work and landscaping.

August: Phase III construction begins on architectural projects and Water Works (not including the Cistern).

2015

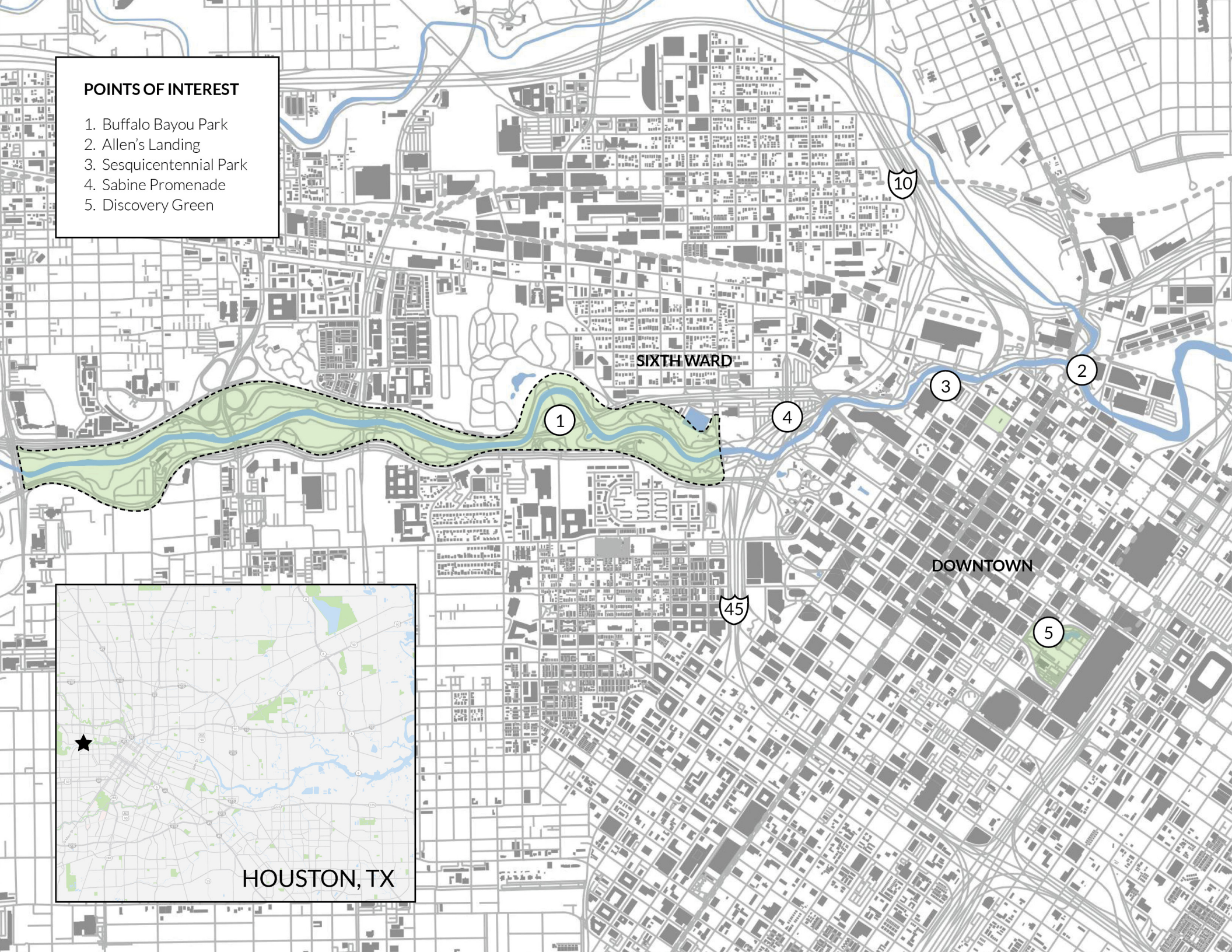
May: Cistern construction begins.

October: Grand opening. BBP begins operating and maintaining the park.

November: Cistern is completed.

POINTS OF INTEREST

1. Buffalo Bayou Park
2. Allen's Landing
3. Sesquicentennial Park
4. Sabine Promenade
5. Discovery Green



SIXTH WARD

DOWNTOWN

HOUSTON, TX

Project Description

INTRODUCTION

Buffalo Bayou Park is the remarkable transformation of a derelict urban drainage channel and waterway that had become so overgrown it attracted homeless encampments, contributing to the sense of disorder and lack of safety in the area. Now, it is a 160-acre linear park serving downtown Houston and its surrounding communities. The project required vision, coordination, and cooperation among a variety of formerly unrelated entities including the City of Houston, one of its tax increment districts, the Harris County Flood Control District (HCFCD), private philanthropists, and the Buffalo Bayou Partnership (BBP), a nonprofit organization. Unusually for such a broad public-private venture, and at the insistence of the Kinder Foundation, which wanted to be sure its investment would be protected, this arrangement was formalized in a partnership agreement that clarifies roles and responsibilities and ensures ongoing funding for park operations and maintenance.

The park supports widely varied activities, from cycling, walking, and jogging along its five miles of trails to informal picnics, large scheduled events such as concerts and festivals, arts programs, skateboarding, and a dog park.

The bayou, a main drainage channel leading to the Port of Houston and, eventually, the Gulf of Mexico, had been neglected for years despite its important role in controlling flooding over a large area of Houston. Reclamation of the bayou offered the opportunity to greatly improve its ability to handle flood waters and protect surrounding neighborhoods. Virtually the entire park is within a flood zone, hence the involvement of the HCFCD, which contributed substantially to the project for water-course improvement and realignment, factors central to its mission. This entailed detailed studies of the “fluvial geomorphology”—the interaction of flood waters and the river course and banks—for some areas of the bayou. The banks were then widened, the waterway was returned to a more meandering course, and flood benches (flat shelves) were created along the banks where sediment could be deposited and more easily removed.

Hurricane Harvey, the wettest storm ever to hit the continental United States, tested these flood management strategies in 2017, just after the park was completed, by dumping 50 inches, or an estimated 21 trillion gallons, of water on some areas of the Houston region and raising water levels above what had been the anticipated 500-year flood level. In part due to weeks of high water released from the watershed’s overloaded upstream dams, the very high level of flooding caused some trees to drown and erosion along the lower banks in certain areas. Two years later, Tropical Storm Imelda dumped 43 inches, making it the fifth wettest storm. Park design performed very much as anticipated, demonstrating its resilience and facilitating cleanup such that it reopened very quickly.

The neighborhoods that surround the park are highly varied socio-economically, ranging from historically Black communities with substantial public housing to some of the most affluent parts of Houston. It is reported (and appears) that park users reflect this diversity. There are concerns about gentrification in the areas adjacent to the park that have become even more desirable given their proximity to its amenities. BBP intends to address some of these concerns in the next phase of the park’s expansion along the bayou. Buffalo Bayou East, which was in the planning stages in early 2019, will link Eastside neighborhoods with the bayou and downtown.

Buffalo Bayou Partnership



The City of Houston was founded at the confluence of the White Oak and Buffalo Bayous.

CONTEXT

Houston

Houston was founded in the 1830s by two real estate promoters, the Allen brothers, who were seeking a town site with connectivity to Galveston Bay. This immediately followed the Texas Revolution, in which Texas gained independence from Mexico. In 1836, the Allens bought over 2,000 acres in the vicinity of the confluence of the White Oak and Buffalo Bayous. This was the farthest place upriver from Galveston where full-size steamships could turn around and dock. The first one, the *Laura*, arrived in January 1837, docking at what is now Allen's Landing.

The landing was officially designated as a port in 1870 by an act of Congress, and two years later the first funds were appropriated for ship channel improvements, opening the way for Houston to participate more fully in, and

eventually take leadership of, the petroleum industry in the region. A new deep-water port was created downstream in the early 1900s to serve the growing volume of international cargo between Houston and the Gulf of Mexico. The historic port is no longer active except for pontoon boats that offer tourist cruises and dock close to the BBP's offices.

The city itself was named for Sam Houston, elected the first president of the Republic of Texas in 1836, and was incorporated that same year. Houston grew rapidly and had strong civic leadership, including a chamber of commerce founded in 1840, whose members were not afraid of planning. They conceived of parks, a civic center, a university, and a symphony.

Yet, while not without parks, the city is generally less well provided with green space than might be expected, a situation that has been the case for

at least 100 years and likely the result of its very low tax base and historic resistance to increasing taxes. Former mayor Louis Welch, who served from 1964–1973, was even quoted as saying, “Houston doesn’t need parks, they have big backyards.”

More recently, there is evidence that this is changing, perhaps in part as a result of Buffalo Bayou Park and other recent parks and their perceived value to the public. There are also demographic and employment changes that resulted from the rapid expansion over the past couple of decades of petroleum and other industries that employ large numbers of well-educated, upwardly mobile, and younger populations, resulting in a desire by the corporate and business sectors to make the city more appealing from a lifestyle perspective.

Demographics

In 2019, Houston, the fourth largest city in the United States, was named the most diverse city in the nation by Wallethub, based on the cultural, economic, household, religious, and socioeconomic diversity of 501 cities. The City of Houston and surrounding metropolitan area are extremely prosperous, ranking second in the United States, according to *Rising Together*, a 2017 report by the Mayor Task Force on Equity. At the same time, the Houston metro area ranked only 33rd in per capita income and ranks high in income disparity (first among the 10 largest US metropolitan areas according to a 2012 Pew Research Center report).

In 2017, the population of the City of Houston was estimated at about 2.3 million, with about 43% Hispanic, 30% White (non-Hispanic), and 23% Black.¹ The demographics of the area within a 30-minute bicycle ride of Buffalo Bayou Park are much the same. The catchment area is 39% Hispanic, 34% White (non-Hispanic), and 20% Black—slightly more White, but not very much. However, the six census tracts immediately bordering the park

¹ Unless otherwise noted, references to race, ethnicity, and nationality throughout this case study reflect the terminology used by the source. In instances where there is no direct source, we have attempted to use the most inclusive, accurate, and appropriate language possible.



Buffalo Bayou Partnership

The confluence served as a port for steamships that traveled upriver from Galveston Bay.



Today, the area is known as Allen's Landing and was redeveloped into a park in 1997.

and within a 10- to 15-minute walk are much whiter, ranging from 34% to 71% White and averaging about 51%.

In terms of income, Houston overall has a per capita rate of \$21,587. According to data from the 2000 census, the tracts that immediately border Buffalo Bayou Park and are within a 10- to 15-minute walk range in per capita income from \$10,113 in the Near Northside to \$85,052 in River Oaks, skewing somewhat higher than the city as a whole.

Despite its relative prosperity, Houston's city services are surprisingly poorly funded and, as a result, many public improvement projects are supported by local philanthropies in association with tax increment finance and management districts. All of these factors contributed to Buffalo Bayou Park's genesis and its intensive level of use by residents and employees of downtown businesses. They also affected the form of its public-private partnership.

Flood Control and the Bayou

Buffalo Bayou, the centerpiece of the park, is the most important drainage channel in Houston. The city, and the bayou itself, are subject to flooding due to very flat terrain, high levels of precipitation including hurricanes, and development, especially outside the city limits that were largely uncontrolled with regard to rain water detention until about 1986, when the HCFCD and local jurisdictions changed policies to require on-site storm water detention and other measures to reduce runoff. Much of the runoff that accounts for flooding in Houston, including on the Buffalo Bayou, comes from dam releases upstream. The extreme flooding of the bayou from Hurricane Harvey was a direct result of these releases and flooding in watersheds below the dams.

The Houston area has an extensive network of infrastructure to manage drainage and flood control. According to the history of the HCFCD:

For more than 150 years, the people of Harris County have had a complex relationship with their bayous, cherishing them one moment but battling them the next ... The county suffered through 16 major floods from 1836 to 1936, some of which crested at more than 40 feet, turning bridges into toothpicks and Downtown Houston streets

into raging rivers ... After the tremendously destructive floods of 1929 and 1935, however, citizens clamored for solutions Losses more than doubled in 1935, when seven people were killed and the Port of Houston was crippled for months—its docks submerged, its channel clogged with tons of mud and wreckage, its railroad tracks uprooted. Twenty-five blocks of the Downtown business district were inundated, as well as 100 residential blocks.

The HCFCD was created in 1937 by the state legislature to address these problems and served as the local partner for the Army Corps of Engineers. The HCFCD identified two primary options for dealing with flood water—move it or store it—and in the early period of its work, the preferred alternative to damming streams was thought to be channelization: straightening, widening, and deepening streambanks, and sometimes lining them with concrete, to speed the water's flow. By 1950, the HCFCD had channelized 1,260 miles of streams and bayous.

As metropolitan Houston developed, raw land was built on, streets were paved and lined with curbs and gutters, and storm sewers were installed, further speeding the flow of water to the bayous. Much development took place in natural flood plains and low areas, with little or no attention to the potential impact of these issues, exacerbating downstream flooding.

By 1966, the HCFCD and the City of Houston had created the first of 11 comprehensive master drainage plans covering the area's major watersheds. The plans established uniform drainage criteria, identified existing and possible future improvements, and defined right-of-way requirements, contributing greatly to the coordinated development of watershed drainage. In 1973, stormwater management tools and design standards were added to the master drainage plan, and in the 1980s, Harris County adopted policies on flood control improvements and drainage criteria that included requirements for storm water detention (in essence, ponds that hold excess storm water runoff until peak flows pass and then release it slowly).

Despite the HCFCD's efforts, the Buffalo Bayou became overgrown, reducing its ability to carry water and exacerbating flooding during major storms. The

HCFCDD's attempts to clear banks of their overgrowth were not always popular, to say the least. Two miles of Buffalo Bayou (the Allen Parkway area where Buffalo Bayou Park is now) were cleared in 1957, sparking outrage at the removal of trees along the banks and leading to the founding of the Bayou Preservation Association (BPA) in 1966 by a group of residents led by local conservationist Terry Hershey. The BPA was at the time devoted to watershed oversight and information dissemination.

During the 1970s, the BPA orchestrated the formation of the Harris County Flood Control Task Force, a collaborative effort that led to a report outlining recommendations for preservation and improvement of the bayou. The organization is still active and contributing to the protection and restoration of all the Houston area bayous. This group was a precursor of the Buffalo Bayou Partnership (BBP), which was founded in 1986 under the auspices of Central Houston, Inc., a downtown civic organization.

Park Planning

Houston has a long history of thinking about what to do with its parks and bayous. Over 100 years ago, the city hired Arthur Coleman Comey, who prepared his 1913 report *Houston: Tentative Plans for Its Development* for the Houston Park Commission. While the report focused on open space, Comey presented comprehensive proposals for transportation, land use, and civic facilities and made the case that "the backbone of a park system for Houston will naturally be its bayou." Some quotations from the plan are reproduced here to show how close it was, in many ways, to the park concept as realized, including the justification for doing the project in the first place. For example, Comey documents Houston's extreme shortage of park space, noting that Houston had only one-sixth the park acreage per person of other "progressive" cities: "Comparative statistics of twenty progressive cities ... show the relatively large population per acre of parks in Houston, there being 685 people per acre as compared with an average of 110 in these other cities. Park maintenance per capita is also low, being twelve cents as compared with an average of forty-four cents."

Comey's proposed plan includes economic justification in terms of the increase in the value of bordering properties:

The bayous are natural parks already. Tree-growth and grass are good even in populous sections; the valleys include the only scenery with slopes, while occasional narrow bends furnish level playfields. A relatively small acreage in park grounds embraces complete landscape units without obtrusion of the city, as the view from within the valley includes the immediate slopes and trees on the crest only. The long, narrow strips along the bayous will serve many communities; continuous walks can be laid out in naturalistic landscape; parkway drives along the banks of the bayou are capable of unusually park-like treatment; and long park frontages for pleasant homes will be provided. The effect on land values and tax returns is equally beneficial, as bayous have little value under private control, and depreciate surrounding property through their poor development, but as parks, they greatly enhance the value of their frontage and the neighborhood in general.

Sesquicentennial Park was initiated in 1986 and completed in 1998 under the auspices of the BBP and Central Houston, Inc. The nine-acre park, established to commemorate the 150-year anniversary of the founding of Houston, flanks Buffalo Bayou as it flows past the Wortham Theater Center in the heart of Houston's Theater District, featuring striking art installations visible from the bayou. A new trail connected the park to the University of Houston's downtown campus. In 1995, the BBP hired its first executive director, and in 1997, the organization completed the first phase of the revitalization of Allen's Landing, covering the portion of the bayou and its banks closest to the center of downtown Houston and the site of the original harbor. Named for Houston's founders, Allen's Landing has a variety of areas for passive activity, and boats still moor there and on- and off-load passengers, mainly for tours of the portion of the bayou that flows through the park.

It appears that Comey's plan is in the throes of being realized, both through the work of the BBP and via a much larger effort called Bayou Greenways 2020. The goal of Bayou Greenways 2020 is to create a continuous park system along Houston's major waterways, transforming more than 3,000 acres along 150 miles of bayous into linear parks and adding more than 80 new miles of hike-and-bike trails to create a trail system twice that length. Bayou Greenways 2020 is a public-private partnership between the Houston

Thompson Design Group



In 2002, the Buffalo Bayou Partnership created a 20-year master plan and vision for a park.

Parks Board and the Houston Parks and Recreation Department in close collaboration with the HCFCD.

The cost to complete Bayou Greenways 2020 will be \$220 million. Funding has come from a \$50 million pledge from the Kinder Foundation and a major bond referendum passed in 2012, thanks in part to the “Parks by You!” campaign. Houston voters overwhelmingly approved the bond referendum providing \$166 million in parks funding, \$100 million of which is set aside for Bayou Greenways 2020. Houston Parks Board is responsible for raising the remaining \$120 million from private funds, federal and state grants, and other sources. It is within a few million dollars of reaching that goal.

PROJECT HISTORY

By 2001, BBP had begun its land acquisition program for the park, and in 2002, *Buffalo Bayou and Beyond: Visions, Strategies, Actions for the 21st Century*, a 20-year master plan, was developed by the Thompson Design Group/EcoPlan for a consortium consisting of the BBP, the City of Houston, Harris County, and the HCFCD, indicating the level of cooperation and coordination that continued through the eventual development of the park. The plan established a 20-year vision that included a series of linear parks along the bayou. It identified three main goals for the West Sector, which covers the park as it is today: initiate incremental park improvements, improve bayou access, and encourage compatible bayou-front development. The plan also called for a reduction in the traffic capacity of the adjacent Allen Parkway. While there appears to be much more wetland area on smaller creeks and waterways that feed the channel and many missing features compared to the actual plan, a number of features of the concept design were eventually incorporated into the actual park plan 10 years later.

In 2010, the Kinder Foundation (a Houston philanthropy known for its support of parks) approached BBP with an offer to fund substantial infrastructure improvements needed at the proposed Buffalo Bayou Park. At the time, the 160-acre stretch along the bayou was an overgrown, neglected area with no amenities and little infrastructure beyond some sidewalks and a few trails. A letter of intent was agreed to, resulting in a gift of \$30 million for Buffalo Bayou Park. The letter covers the area that represents the actual park, from

Sabine Street at the east (where the repurposed Cistern and Waterworks are located) upstream to Shepherd Drive at the west, where the park ends just past Lost Lake.

The grant included funds for planning and design, and that same year the landscape architecture, urban design, and planning firm SWA Group was engaged to develop a more detailed master plan showing how to realize the vision articulated in the 2002 plan. Scott McCready, landscape architect at SWA, had worked on various bayou projects. In addition, SWA’s CEO, Kevin Shanley, had advocated for improvements to the bayou and related parklands and became so involved that he came to be known as “Mr. Bayou.” As expressed by Nancy and Rich Kinder, founders of the Kinder Foundation, SWA also had valuable staff expertise and was already working on areas of the park, including Sabine Promenade, completed in 2007. The firm was apparently the obvious choice, and no formal request for proposal or selection process took place.

By February 2011, the SWA plan was approved, and a tri-party agreement for the design phase was negotiated and finalized, paving the way to move forward with the design. The project was put on a fast-track, phased basis, and by July 2011, the city and the Texas Department of Transportation began construction on the long-planned main trail (which continues beyond the park in both directions). Soon after, the Rosemont Bridge and connector trails were constructed, since their funding came separately from Memorial Heights Tax Increment Reinvestment Zone (TIRZ) funds.

While this previously planned but long-delayed construction had started the year before, it wasn’t until January 2012 that a construction, operating, and maintenance agreement covering all proposed park improvements was finally approved by all parties. The agreement spells out each entity’s responsibilities and includes the updated SWA master plan (*Buffalo Bayou Park Master Plan Update—Shepherd to Sabine*), an “owners’ manual,” and documentation of the real estate transactions that clarified and unified ownership of the park.

In July 2012, Phase I construction began on major bridges and approach trails, and, in March 2013, Phase II construction began on site work and

landscape. By August of that year, Phase III construction began on architectural projects including the Water Works (but not the Cistern).

In February 2014, Phase I of the park was completed, and in May 2015, construction began on the Cistern, which was completed in November 2015, a month after the park's grand opening. At that point, the BBP began operating and maintaining the park.

LEADERSHIP AND COMMUNITY PARTNERS

This complex project required vision and ongoing cooperation among a variety of entities. These include the Houston Parks and Recreation Department, which owns the underlying property; the Downtown Redevelopment Authority, which contributes to its maintenance; the HCFCD, which contributed to improving the water course; a nonprofit organization, the Buffalo Bayou Partnership (BBP), which raises funds, oversees activities, and operates and maintains the park; and the Kinder Foundation, which approached the BBP in 2010 to serve as "catalyst funder" with a grant of \$30 million, amounting to nearly half the total cost and stimulating other contributions. Key players included these parties and the individuals who led each entity.

The Buffalo Bayou Partnership (BBP) had a substantial history of working to improve the bayou. Building on concerns that were championed by its predecessor, the Bayou Preservation Association, the BBP was founded in 1986 to work with Central Houston, Inc. to develop Sesquicentennial Park along the bayou at the edge of downtown. The BBP focuses on the 10 square miles of Buffalo Bayou from Shepherd Drive to the East End and onto the Port of Houston Turning Basin. The BBP became increasingly organized over the years, hiring its first executive director in 1995 and completing the development of Allen's Landing, just east of Sesquicentennial Park and immediately adjacent to downtown, in 1997.

For 25 years, BBP President Anne Olsen has provided tenacious leadership and continuity to the partnership. Her background in public relations and fundraising left her well prepared and connected to Houston's civic, political, and philanthropic organizations. The BBP itself is directly connected to all

the other parties through reciprocal board memberships. For example, the BBP's board lists the heads of most major Houston and Harris County political, business, educational, and cultural organizations. The BBP was responsible for managing the planning and design of the park and currently oversees its operations and maintenance. Guy Hagstette served as project manager for the park (under contract to BBP) and is now vice president for parks and civic space for the Kinder Foundation while also serving on the BBP board of directors. His leadership was facilitated by his background in architecture and urban design as well as his strong connections to city planning and park agencies.

The Kinder Foundation played a key role not only in providing the majority of funding for construction but offering the money at an early moment when it served to catalyze the project. This was consistent with the foundation's philanthropic focus on investment in Houston and particularly its open spaces, having previously supported Discovery Green, a downtown park converted from parking lots and developed with world-class planning and design consultants and very substantial public input organized by the Project for Public Spaces. In at least one way, Discovery Green is a model for the first phases of recent park development in Houston. That is where philanthropic organizations, including the Brown Foundation and Kinder Foundation, approached the city with an opportunity for which they then provided substantial private funding. Rich and especially Nancy Kinder were actively involved in decision-making about Buffalo Bayou Park and insisted on a formal agreement among the parties as a condition of funding.

The City of Houston, which owns all of the real estate underlying the park, was represented largely by members of its Parks and Recreation Department, including Joe Turner, who had a passion for maintenance that allowed him to provide better-than-expected services on a low budget (maintenance was ultimately delegated to the BBP). The Downtown Redevelopment Authority and the Downtown Management District (essentially a business improvement district) were also active in representing city and business interests. It is worth noting that these organizations are all led by Bob Eury, who founded the BBP in 1985. The latter three entities are also "affiliated" with each other by virtue of overlapping directorates, including leaders who serve on two or more of the entities' boards of directors.

Given the importance of hydrology and the role of the bayou as a drainage channel, the HCFCD was also an essential member of the group, providing funding and guidance for channel improvements.

SWA Group and Page also made important contributions as designers of the landscape improvements and buildings. SWA Group is a landscape architecture, urban design, and planning firm with eight offices worldwide that acted as prime consultant, providing planning and design improvements within the park. Larry Speck, an architect with Page, a multidisciplinary architecture and engineering firm which subcontracted to SWA, designed the buildings in the park.

Formal Agreements

Unusually for a project like this, the arrangement among the key players was formalized in a series of agreements that clarify roles and responsibilities and ensure ongoing funding for park operations and maintenance.

The first was the letter of intent (LOI) between the Kinder Foundation and the BBP in May 2010. Under this agreement, in order for the BBP to receive the Kinder grant, a number of conditions had to be satisfied, as did certain intentions that were expressed but not binding. Among the factors covered in the LOI were funding for (and required completion of) a master plan by the BBP; a required engineering study by the county for channel reconfiguration, completion of that work, and ongoing maintenance of the channel; city delegation of maintenance to the BBP with a long-term funding commitment; city construction of certain trails and the Rosemont Bridge (using funds from the Memorial Heights TIRZ), and many other items. Funding provided by the Kinder Foundation was to be used for additional trails beyond those being built by the city, trail lighting, irrigation work, basic landscaping and contouring, benches, and trash receptacles. The LOI also addressed other agreements, including the construction, operating, and maintenance agreement (COMA) and its development standards and owners' manual.

The second, interim agreement was the tri-party development agreement of 2011 which needed to be completed by the end of that year in order to meet the terms of the Kinder grant. The foundation's "Performance Challenge

Grant" of \$30 million to the BBP required that the City of Houston, the HCFCD (which spent \$5,000,000 on channel work), and the BBP enter into a long-term public-private partnership to enable them to meet their performance obligations to develop, construct, and operate the project. The tri-party agreement covered the development phase and included a commitment to negotiate in good faith the long-term agreement. Although the agreement was not signed by the Kinder Foundation, it made Nancy Kinder the chair of the steering committee.

The third and final agreement was the COMA, entered into by the City of Houston, the Downtown TIRZ #3, the HCFCD, and the BBP. A condition of Kinder Foundation financing for construction, it was finalized in January 2012 and covered the obligations and responsibilities of the parties during construction (including which entity would be carrying out which activities), how operations and maintenance will be managed and paid for, indemnifications and insurance requirements, and means of dispute resolution. Since master planning had been completed, a summary of the plan was attached along with an "owners' manual" for the park which defined standards for development, operations, and maintenance. The duration of the agreement had to work around the city's statutory limitations on the length of the contract it could enter into, which was 30 years for matters related to real estate. Thus, if renewed twice, it could potentially last a total of 90 years.

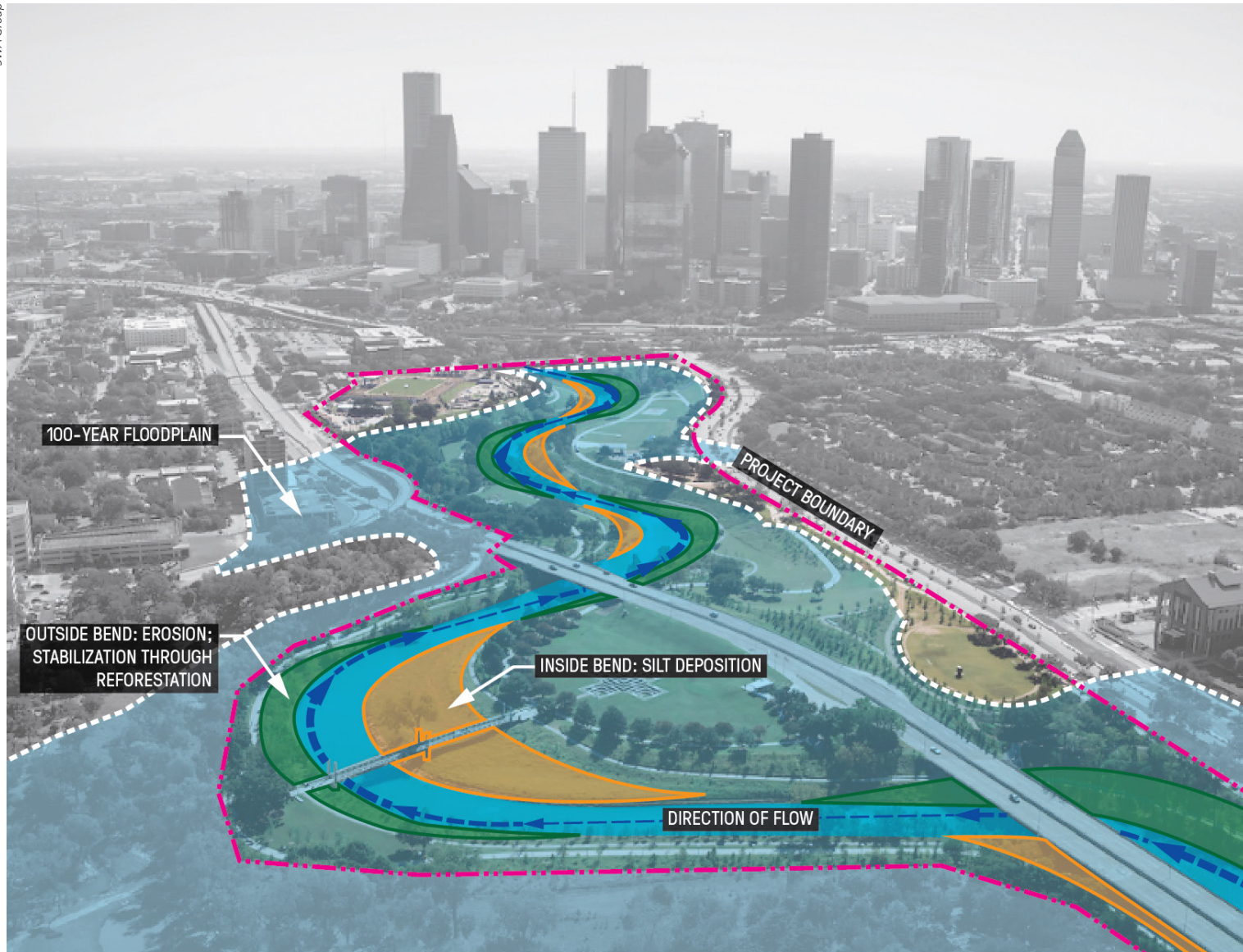
DESIGN AND DEVELOPMENT

Overall Planning Concepts

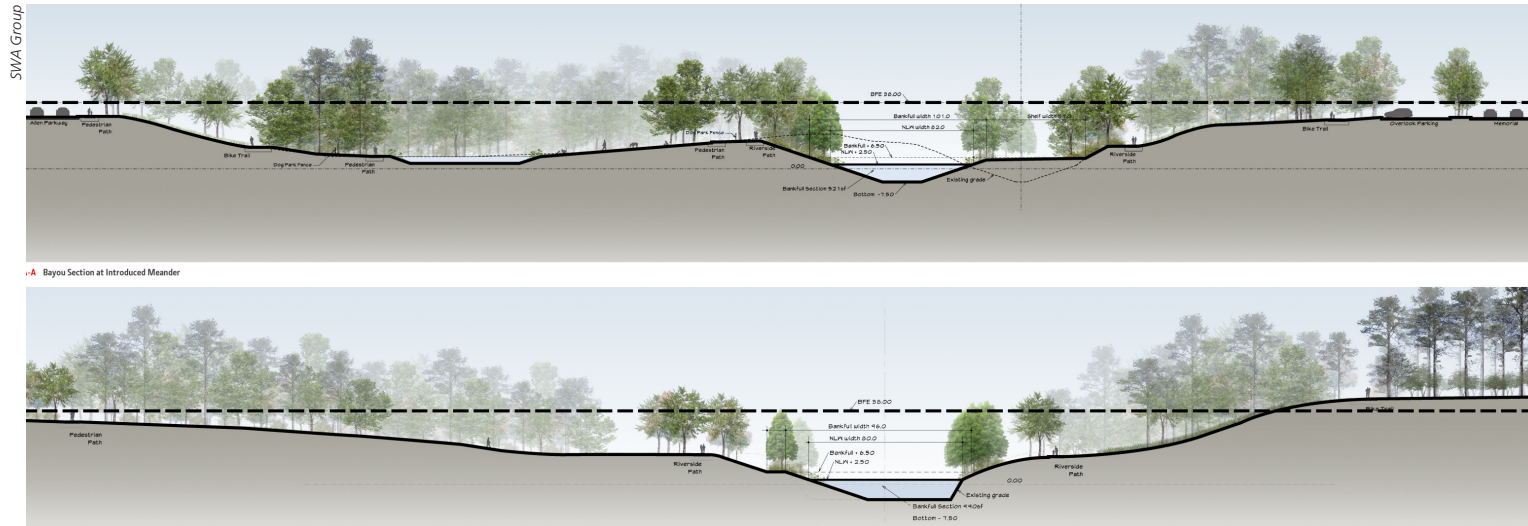
Buffalo Bayou Park follows the waterway of this historically and hydrologically important bayou. Everything about the park focuses on the bayou and its banks.

While tame and attractive during much of the year, when the rains are intense, the bayou must carry increasing amounts of runoff, draining a large area of metropolitan Houston and becoming a raging and destructive torrent. Critical to understanding the behavior of the drainage channel is the cross section through the bayou, from bank to bank. It is this section that determines the maximum volume of water that can flow through the channel before it overflows onto adjacent roads and neighborhoods.

SWA Group



Planning took into consideration predicted 100-year flood levels and places for silt to gather.



Lower areas flanking the bayou were broadened and landscaped.

In planning for the park, hydrology was a key factor, and consultants who specialize in fluvial geomorphology—the shape of river courses—were engaged. First, efforts were made to increase the cross-sectional area, generally by broadening the lower sections flanking the watercourse. This also allowed for the creation of relatively flat, low “shelves” where the voluminous silt carried in flood water could be deposited (new park facilities are located on higher elevations to avoid having to clean around them). These shelves also make it easier to remove the silt, which can be accessed by trucks for removal. This proved crucial to the rapid recovery of the park following the catastrophic event of Hurricane Harvey in 2017, just two years after the park was completed, which “dumped more than 60 inches of rain over four days on metropolitan Houston,” according to the National Oceanic and Atmospheric Administration. The park was largely operational within a week of the water receding, though some silt deposits had yet to have been removed in spring 2019.

In addition to widening the bayou and providing flat shelves, the water course itself was realigned, increasing its effective length by making it more

meandering. This restored it to a configuration closer to its natural state, as it was before it had been straightened by the Army Corps of Engineers.

New improvements for park use, such as visitor centers, pavilions, seating, restrooms, fences, signage and lighting standards, pedestrian bridges, and buildings are generally located at the upper reaches of the banks, out of predicted 100-year storm flood levels (though these ratings and levels are being reconsidered based on recent events). All such improvements are designed to withstand the horizontal force of flood waters and potential erosion around their foundations, which were deepened and strengthened at an added cost estimated at about 15% over standard construction. Care was taken that all designed elements, especially the larger features like bridges and buildings, would be “quiet” and not call attention to themselves as objects in the landscape, but rather complement and even blend in with it. Buildings such as the visitor center and the facilities at Lost Lake are generally simple structures with regular, rectangular volumes and simple detailing. Glass is used to reflect the surroundings,

especially on the elevations that face the park itself (versus the street or a parking lot).

Very important features of the park's design are the continuous paths that run along the entire length of the park and beyond and on both sides of the bayou. There are separate paths for pedestrians and runners, paved in asphalt for greater comfort and safety and generally located closer to the water, and for bikes, which are paved in concrete, wider, and located closer to the top of the banks. While vehicles including bikes are not allowed on the pedestrian paths, anyone can use the bike path. These paths are very well used, particularly before and after work hours and on weekends.

Also very important is the approach to landscaping and planting. In planning the landscaped areas of the park, several different types of zones were identified: riparian edges, rambles, woodlands, lawns and groves, meadows and prairies, and perennial gardens. One goal of the plantings was to return the park to a state closer to its natural ecology so that Houstonians could experience nature—not just green or open space—within the city. The amount of turf grass was limited and reduced from pre-existing levels, and more emphasis was placed on meadows, prairie grasses and wild flowers, and wooded areas with mostly native trees. In some areas, this meant restoring sections that were overgrown to allow trees to grow larger. There are limited exceptions to these principles at the more "civilized" periphery, where some annuals and non-native plantings are allowed.

Lighting is provided along the paths so that they can safely be used after dark, and the vehicular and pedestrian bridges that cross the park have interesting blue lighting on their undersides. The latter was designed to echo the lunar cycle, becoming brighter and whiter as the moon becomes fuller and bluer during its dark phases. "Orbs" on over 450 trail lights also shift from white to blue, reinforcing the effect. The computer-controlled system was designed by artist Stephen Korns with Hervé Descottes of L'Observatoire International. Despite being installed above anticipated flood levels, it has been subject to damage when water rose beyond them. In early 2019, it was being reprogrammed and plans were being developed to better protect it from wet conditions. The BBP also plans to eventually extend this lighting



Continuous trails line both sides of the bayou.



There are separate, paved trails for pedestrians and cyclists.

system all the way to the Turning Basin at the eastern end of the next phase (Buffalo Bayou East).

A consistent wayfinding signage program is employed throughout the park, including the names of attractions, directions, and rules. There are maps at 24 locations in the park.

A Walk through the Park

The eastern edge of the park, closest to downtown, is one of the most developed areas. It begins with the Buffalo Bayou Park Cistern at the Water Works, historically an enormous enclosed water reservoir that once supplied the drinking water for the city using pumped ground water (no longer feasible due to its impact on subsidence). Built in 1926 and abandoned for decades, this structure consists of a vast space of 87,500 square feet supported by 25-foot-tall columns. It was converted into an art space that hosts changing installations curated by the BBP, which also conducts guided tours of the Cistern focusing on its history and architecture. At the time of the site visit, the second of the Cistern's installations was on view. *Spatial Chromointerference*, by the late artist Carlos Cruz-Diez, used multiple programmed projectors to shine a very complex and changing pattern of overlapping colors and geometric shapes onto the surfaces and columns of the Cistern, converting it to a magical—and sometimes somewhat disorienting—space.

The roof of the Cistern supports a large flat area called the Brown Foundation Lawn as well as the Hobby Family Pavilion with a stage used for events. During the site visit, the Water Works hosted a Palestinian festival, with booths set up on the periphery of the lawn. It appeared to be well attended, despite poor weather. There is also a shaded terrace that protects guests from the elements with a spectacular view of downtown Houston.

Adjacent to the Water Works is a visitors center that features an information desk, restrooms, and bike rental station. Next to it is a skateboard park with highly articulated features for performing stunts. Helmets are required for all skaters and provided at no charge, and lessons for beginners are available. There is also a play area with limited equipment, oriented toward young children.



Gravel footpaths provide access to wooded rambles.



Colorful "lunar lighting" illuminates the trails and bridges after dark.

Jeff Lyon, courtesy Buffalo Bayou Partnership

SVA Group



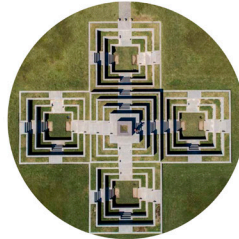
Rosemont Pedestrian Bridge

The Rosemont Bridge draws visitors out over the bayou along a continuous ramped surface that provides universal accessibility. The 12-foot wide bridge is supported by more than 600 feet of corten steel trusses.



Johnny Steele Dog Park

(14) The two-acre dog park includes a pond, shade structures, dog washing areas, benches, and drinking fountains complete with spigots for dogs.



Police Officers' Memorial

(19) Late Texas artist Jesús Bautista Morales' Memorial commemorates the 113 Houston Police Department officers whose lives were lost in the line of duty.



Nature Play Area

(28) The Nature Play Area features include: a boulder rock scramble, a rolling lawn, a stream and waterfall, climbing logs and stones, a 33-foot slide and a tri-level tree house/boat deck with climbing net.



The Water Works

(27) The Water Works is a major destination and park entry point including a grassy plateau framing stunning views of downtown, a pavilion popular for events, and a Visitor Center housing restrooms, food trucks and a bike rental facility.



The Cistern

(29) The 1926 Cistern was one of the City of Houston's first underground drinking-water reservoirs. The 87,500-square-foot expanse includes 25-foot tall concrete columns set row upon row, hovering over two inches of water.



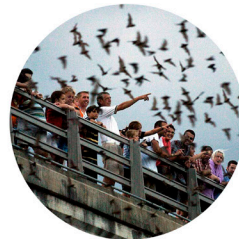
Lost Lake // Dunlavy

(6) Lost Lake is on the site of a former pond that was lost in the 1970s when its dam across a natural ravine broke. The pond was restored and is situated near a visitor center housing restrooms; paddle craft rentals; The Dunlavy, a private event space; and The Kitchen at The Dunlavy.



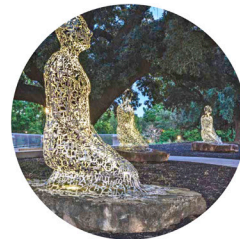
Jackson Hill Ped Bridge

(8) Soaring a dramatic 40 feet above the bayou, this 345-foot-long pedestrian bridge near Jackson Hill Street connects with the existing bridge over Memorial Drive, providing access to Allen Parkway.



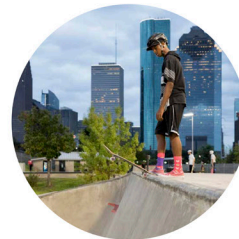
Waugh Bridge Bat Colony

(10) Every evening at sunset, more than 250,000 Mexican free-tailed bats emerge from crevices found in the Waugh Drive Bridge. These creatures are non-migratory and call the bayou home year-round.



Juame Plensa's Tolerance

(15) At the base of the Rosemont Bridge on Allen Parkway and Montrose are Plensa's Tolerance sculptures. The human figures representing the world's seven continents are composed of stainless steel alphabet letters from many languages.



Lee & Joe Jamail Skate Park

The Lee & Joe Jamail Skatepark is a 30,000-square-foot in-ground facility overlooking Buffalo Bayou. The park was two cradles and a kidney pool for skaters.



Eleanor Tinsley Park

(23) One of Houston's most popular outdoor spaces for recreation and relaxation, the gently sloping park with a dramatic backdrop of the Houston skyline hosts many of Houston's festivals and events.

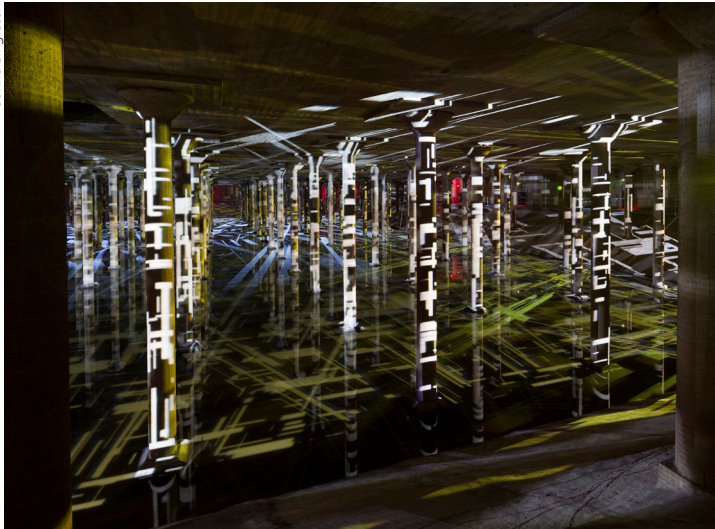
The 2.5-mile-long park is lined with a variety of amenities and public art.

David Lloyd



The Water Works includes a visitor center, sheltered pavilion, and restrooms.

Jonnu Singleton



A 1926 water cistern has been converted into an art space.

As visitors wander through the park, they pass a small number of shelters with picnic tables and other areas with concrete seats. Such installations were limited due to the high costs of construction. Barbeques and fire pits, typical infrastructure for picnics and park parties, are not provided due to the challenges and costs of servicing them, removing the trash, and protecting them from flood waters. Scattered along the length of the park are groves and meadows that have been planted or restored to a more natural condition. There are at least nine meadows and seven groves or woodlands, all planted with native species. Public toilets, however, are only provided where larger, permanent structures are located at the ends of the park.

Visitors also pass over or under four new pedestrian bridges that connect neighborhoods on the two sides of the bayou and improve pedestrian access to various features of the park. Three of them were designed at the same time and have an intentionally lightweight structural design so that the park's green space is largely visible through them.

Progressing toward the west, visitors come to Eleanor Tinsley Park. This was originally just a large area of turf but has been improved with a pavilion and amphitheater with power and lighting for events. It now supports large gatherings for concerts and similar activities and is capable of accommodating as many as 10,000 people.

A little farther west is a large, flat grass area at street level dedicated to permanent and temporary art installations. The former is *Spindle*, a substantial Henry Moore sculpture. In May 2019, there was a temporary, traveling installation entitled *New Monuments for Cities*, consisting of a dozen or more vertical pillars, each with an image addressing contemporary urban issues.

Just down the hill from this area is the Houston Police Officers Memorial constructed in 1991 and consisting of a symmetrical pyramid reminiscent of a small-scale Mayan temple, with marble plaques and a water feature. Guarded at all times by volunteers from the Houston Police Department, it names 113 law enforcement officers killed in the line of duty.



Pavilions offer places for picnics and informal gatherings.



Pedestrian bridges provide access across the bayou.

After proceeding along a stretch of mostly natural settings, visitors find a pre-existing but recently improved dog park with a pond and other features that seem to be well used and much enjoyed by its canine guests.

Then visitors come to the Waugh Bridge, the underside of which hosts a very large colony of Mexican free-tail bats that nest in the crevices between the bridge's concrete planks. The site visit team was able to view the bats swarm at dusk from a pontoon boat on the bayou below the bridge, observing perhaps tens of thousands of bats fly off to feed (the colony is estimated at over 200,000). The nightly swarms attract substantial numbers of visitors, including herons and hawks attempting to catch the bats. Park planners preserved trees in the vicinity of the bridge specifically to give cover to the bats and provided a bat observation deck for people watching. Construction in the vicinity was avoided during the bat mating season so as not to disturb them.

Most of the features described after the Water Works are on the south (downtown) side of the park, along the Allen Parkway. The roadway was modified to reduce the volume of traffic in part by realigning and reducing the number of lanes and converting the lane(s) along the edge of the park to parking spaces for visitors who come from too far away to walk, jog, or bike to the park. A bike lane connecting to Discovery Green was also added as well as crosswalks. A suggestion of the original Comey design report, these measures to reduce and slow the traffic improves pedestrian access and makes it safer and more enjoyable to be in the park.

Finally, near the western edge of the park is Lost Lake, so named because the original lake was destroyed in the 1970s when its dam across a ravine collapsed. The lake was restored and a new building constructed above it that houses a visitor center, The Dunlavy café, and private event space that is leased out. In keeping with the other main structures in the park, it is located just above the anticipated flood level and has a simple, regular geometry of concrete pillars with abundant glass that provides views of the trees and park from the inside while reflecting the same to visitors from the outside.



Features include the Houston Police Officers Memorial.



The nightly swarm of bats at the Waugh Bridge draws visitors.

Art in the Park

Art is one of the focal features of the park, and BBP is committed to providing a mix of high-quality permanent and temporary art pieces. The first two permanent pieces listed below pre-dated the BBP's interventions and were respected and maintained. The permanent pieces include:

- *Large Spindle Piece* (1969) by Henry Moore: cast in bronze, relocated from Tranquility Park
- *The Dandelion* (1978): part of the Gus Wortham Fountain in the eponymous Wortham Grove, just west of the dog park
- *Shady Grove* (2002) by Tim Bailey: Cor-Ten steel; located in Eleanor Tinsley Park and dedicated to victims of crime
- *Open Channel Flow* (2009) by Matthew Geller: near the skate park
- *Tolerance* (2011) by Jaume Plensa: near the Rosemont Bridge; resembles transparent Buddhas that are lit up at dusk
- *Portrait of Houston: It Wasn't a Dream, It Was a Flood* (2014) by John Runnels: a 20-foot stainless steel canoe sculpture at the Crosby Outfall entrance to the park; 10 other canoes are at other bayou access points
- *Down Periscope* (2015) by Donald Lipski: an installation that provides views down into the Cistern
- *Monumental Moments* (2015) by Anthony Thompson Shumate: a series of six four-foot-tall sculptures expressing one-word thoughts (explore, pause, reflect, listen, emerge, and observe) in various areas along the asphalt footpaths
- *Lunar Cycle Lighting* (2006) by L'Observatoire International and artist Stephen Korn: Buffalo Bayou's signature lighting, integrated into trails and railings and under bridges, transitions from white to blue as the moon waxes and wanes.

Then there are areas devoted to rotating, temporary installations. The Cistern is dedicated to art installations, some of which focus on sound, taking advantage of the very long, almost cathedral-like reverberation time in the space; others focus on light, which can be projected within the semi-darkness onto the surfaces and columns within the space.

Other Buffalo Bayou Park areas can be used for public art displays. The spring of 2019 featured a major temporary installation called *New Monuments for*



Jonnu Singleton

Public art includes a series of sculptures expressing one-word thoughts.



David Lloyd

Jaume Plensa designed a series of illuminated sculptures titled Tolerance.

New Cities, the inaugural project of the High Line Network Joint Art Initiative, a new partnership among industrial reuse projects in North America. The BBP is a member of the initiative, and Houston served as the launch site for this exhibition, which featured contributions from all the participating cities including Austin, Texas; Chicago; Toronto, Ontario; and New York. Each participating site invited five local artists to create proposals in the form of posters that respond to the evolving nature of monuments in our country today. The works were meant to stimulate discussion about what it means to honor a person, an idea, or a moment in time. The resulting 25 artworks were installed in a manner specific to their site in each city. At Buffalo Bayou Park, BBP installed a series of vertical, rectangular “steles” or pillars mounted on the grass.

Planning, Design, and Community Engagement

In many ways, this project demonstrated a high level of engagement and collaboration among the agencies and entities that were responsible for the park. One could imagine that with so many entities involved (city agencies, foundations, park advocates, flood control district, etc.), each with a somewhat different perspective, that the project might have been pulled in a variety of incompatible directions. However, that does not appear to have happened. Rather, the entities and their leaders are reported to have cooperated well. And the fact that a series of clear and enforceable agreements had been hammered out, however challenging that may have been, apparently laid the groundwork for a successful collaboration under the leadership on Anne Olson of the BBP and Guy Hagstette as project manager.

With regard to community engagement, the BBP took the lead in organizing community information and input sessions and events designed to introduce the project—and the park itself—to the public. There were at least six input sessions held in the summer and fall of 2010. These included sessions with neighborhoods and special interest groups that were concerned with various aspects of the park or its use. The neighborhood groups gave the opportunity for diverse demographic interests to be represented. The groups also included the following organizations dedicated to cycling, running, preservation, livability, and ecology:

- Bicycle Advisory Group
- Houston Area Roadrunners Association
- Fourth Ward Livable Centers Study
- Federal Reserve (a neighboring office)
- Super-Neighborhood 22
- Bayou Preservation Association
- Trees for Houston
- Neartown Association

From a review of the minutes from some of these meetings, it is clear that many suggestions and requests made by the community were responded to and incorporated in the plan. These include such things as added parking at key entry points, asphaltting of the running trail (rather than concrete), provision of bike racks so cyclists could lock their bikes, better access to the water at various locations, improvements to kayak “put in/take out” locations, and enhancement of neighborhood access. In particular, residents south of Allen Parkway asked for safer and more frequent crossing points. This presented some challenges as it had to be implemented by the city, which made improvements including a crosswalk and reductions in traffic on the parkway, though it took five years. A dedicated cycle lane, the first in downtown Houston, has also been created, connecting Buffalo Bayou Park to Discovery Green. Requested items with cost or liability implications were studied and ways were found to make at least some of them work within the budget. Others, such as climbing rocks, were rejected as too dangerous.

In addition, once the park opened, the community was invited to events to introduce them to the facilities and get them engaged in its use. Examples include the “Picnic in the Park” and “Brunch on the Bayou” as well as many others.

As the BBP entered into the expansion project toward the east, leaders recognized that the surrounding neighborhoods were more diverse and complex and that a greater level of engagement, and even community development work, would be needed. The engagement plan was correspondingly expanded to include interaction with even more community

Jonnu Singleton



Allen Parkway was narrowed to create parking for park visitors.

William Tatham



The changes also helped to slow traffic and improve pedestrian access.



David Lloyd
Lost Lake houses another visitor center, The Dunlavy café, and private event space.



Jonnu Singleton
Revenue from the popular Dunlavy café supports park operations.

groups, including hosting major meetings, convening smaller focus groups, and attending community festivals and other events. More than 8,000 bilingual postcards were mailed to targeted zip codes for the community meetings, and social media was heavily used to promote the project. Among other things, this led to the inclusion of more family picnic areas and the mixed-income housing project known as Lockwood South.

Operations and Maintenance

The BBP was delegated responsibility for most operations and maintenance of Buffalo Bayou Park in the formal agreement among the parties, largely because the city parks department is underfunded and subject to further budget cuts. This arrangement transfers TIRZ revenues directly to the BBP for a 30-year period. The BBP has its own maintenance staff, supplemented by contractors and seasonal workers who beef up the BBP's crews when flood cleanup is required. The HCFCD assumed responsibility for bank stability and silt removal on flood benches while the city continues to oversee major events, the exercise of free speech, and public safety.

Wisely, the BBP commissioned the *Maintenance Plan for Buffalo Bayou Park Post-Schematic Design*, which was prepared by ETM Associates of Highland Park, New Jersey, in March 2012, giving plenty of time to establish budgets and implementation strategies. The city also required this plan and its budget to justify its commitment of maintenance funding. Operations include scheduling and managing events, managing volunteers, interfacing with park users, and the like. There is an operations manager with four field supervisors. Maintenance is carried out by a crew of 15 plus 10 to 20 temporary summer and contract staff, divided into four teams—three with responsibility for different park zones and one for weekend maintenance—as well as substantial volunteer support. Maintenance appears to be effective overall, though there are still lingering effects of Hurricane Harvey, with some silt still to be removed, and of 2019 winter storms, with banks in need of repair or restoration. The BBP has learned from its operating experience that it was more effective to contract out jobs like mowing so that more highly trained staff could do weeding and repairs.

Next Steps

Buffalo Bayou Park can be viewed as the second stage in the redevelopment of the bayou with the involvement of the BBP. The first stage was bookended by Sesquicentennial Park and Sabine Promenade just to the east and closer to downtown. Slightly farther downstream is the currently planned third stage of Buffalo Bayou's redevelopment, the East Sector extension, and there are very interesting similarities and differences compared to the main portion of Buffalo Bayou Park. The East Sector passes through a very different set of neighborhoods and past very different uses compared to Buffalo Bayou Park. The bayou itself becomes broader and carries more water, having been joined by the White Oak Bayou just above the portion of the channel that is navigable at Allen's Landing. The flanking uses are more industrial, including four abandoned concrete gravel silos, and the neighborhoods are more diverse. According to city-data.com, the Fifth Ward, on the north bank of the bayou toward the west end of the expansion area, is comprised mostly of Black residents and is growing more rapidly than the balance of the city. The Second Ward, or East End, on the south bank is predominantly Hispanic, and both of these neighborhoods are mostly low-to-moderate income residents.

To acknowledge and respond to these geographic and demographic differences, the BBP broadened its community engagement and outreach and articulated a number of objectives or strategies that are specifically targeted toward the surrounding communities. These include preserving the gritty, industrial character of the area; ensuring affordability for long-time residents; engaging local artists; celebrating local culture; developing locally owned and operated businesses; and creating paths and trails that extend north and south from the park into surrounding neighborhoods.

The resulting *Buffalo Bayou East Master Plan*, developed in 2018 by a team led by HR&A Advisors (economic development consultants) and Michael Van Valkenburgh Associates (landscape architects) with input from the community, provides a gateway to the bayou trail network. It incorporates a variety of community and recreational amenities including a cultural events and boating center with gravel silos repurposed as temporary art installations and an abandoned wastewater treatment plant transformed into botanical water gardens.

One of the BBP's most powerful strategies for addressing equity is to become the developer of affordable housing in the East Sector. The project, called Lockwood South, is a proposed mixed-income development with 51% of the housing being affordable. It also features four acres of open space, including public waterfront parkland and "green fingers" linking upland communities to the bayou. Site planning incorporates resilient design features, such as elevated parcels and over four acres of stormwater detention, with the goal of making the project a model for future development along the bayou.

ACTIVITIES AND PROGRAMS

The BBP has a full-time staff member plus an assistant with responsibility for organizing and coordinating activities, events, and programs. Endeavors range from walking tours with naturalists to pontoon boat cruises.

Informal Activities

More than some urban parks and appropriate to its linear nature, Buffalo Bayou Park was intended to, and does, support walking, running, and biking. The separation of pedestrian and bike traffic, the popularity of these activities among the park users, and the proximity to high-density employment and housing all contribute to strong utilization of the paths and trails, including by some for the commute to and from work. Visitors do not have to own a bike in order to cycle along the trails, as rentals are offered in front of the Cistern. They can also launch kayaks at certain locations where there is good street access.

Other informal activities include picnics and relaxation on the many lawns and the occasional pavilions and picnic areas. As stated above, barbecues are not provided due to the challenges of flood protection and trash generation, though they would have been appreciated by some park users, as expressed in planning outreach meetings.

Planned and Scheduled Activities

There are two main venues for larger-scale events: the Hobby Family Pavilion above the Water Works and Eleanor Tinsley Park. Larger-scale events in 2018 included the following:



Cyclists use the trails for recreation and commuting.



The park offers kayak rentals and boat tours along the bayou.

- New Moon Walk
- Poet-Trees installation
- Dinner at The Dunlavy (café at Lost Lake)
- Buffalo Bayou in Bloom (event hosted by The Currents, the BBP's young professionals group)
- Bayou City Music Series
- Volunteer Appreciation Brunch

Consultants had suggested that park revenue would benefit from such events and from the inclusion of a café at Lost Lake, given the park's proximity to downtown and to neighborhoods where residents had disposable income. It turned out to be a sound recommendation as The Dunlavy generates substantial revenue for the park.

In addition, there are recurring activities—some of which are free—that occur at varying frequencies, from almost daily to quarterly:

- Park tours that give an overview of the park or focus on its ecology or art works
- Cistern tours that focus on its history and art installations
- Boat rides
- Bat watching (happens almost every evening and can be either planned or informal)
- Wellness walks
- Art on Wheels tours
- Sunrise yoga classes
- Volunteer opportunities such as tree planting, weeding, etc.

Visitor Utilization and Demographics

Given its location bordering downtown and a variety of neighborhoods, while also serving all of metropolitan Houston, it is interesting to observe the demographic composition of visitors. Casual observation and commentary by park officials suggest that the park succeeds in serving a broad and representative cross-section of Houstonians.

In terms of sheer numbers, hike and bike counter information from Friday, September 30, 2016 to Monday, October 10, 2016 shows that levels of



The Eleanor Tinsley Park hosts large events.

utilization vary by location, from a low of 705 at the far west edge of the park to a high of 18,490 near the Police Memorial toward the center of the park. Seven locations counted over 10,000 users.

A 2017 in-person demographic study of over 1,000 Houston BCycle (the city's bicycle share program) users at Buffalo Bayou's Sabine Bridge and Hermann Park showed the following results regarding ridership:

- Gender: 55% female, 45% male
- Age: 42% 18-25 years, 34% 26-35 years, 13% 36-45 years, and 11% 45+ years
- Ethnicity: 44% Hispanic, 30% Caucasian, 15% Black, 8% Asian
- Annual income: 25% <\$30K, 22% <\$50K, 24% <\$80K, 17% >\$80K, 12% preferred not to answer

While representing users of two parks, the survey results reinforce the notion that park visitors are generally representative of Houston's population as a whole.

Safety and Security

Prior to the transformation of Buffalo Bayou Park, the area provided a secluded location for homeless encampments. The largely empty green space also allowed for drug dealing and the attendant crime and threats to safety and comfort for general visitors, who are reported to have steered clear of the area. In developing the park, the city's Homeland Security division placed 36 surveillance cameras in the park. Private security officers also patrol the park from early morning through the evening (but not all night). Park staff report to police if they observe suspicious, disruptive, or unlawful behavior.

Reported perceptions are that the park is a relatively safe place, and crime statistics from the Houston Police Department do show some shifts in the number and pattern of arrests from 2014 to 2018. But the overall impact is a bit unclear. Most of the crime, as shown on a map provided by the police of crimes within 200 feet of the park, occurred on the south side of the park along Allen Parkway.

While robberies were reduced by half, assaults stayed about the same. Burglaries were reduced substantially, though thefts stayed the same, the exception being thefts from vehicles, which saw a very large jump, causing most of the actual increase in total crime reports (and possibly resulting from having more vehicles parked in the area, providing targets for such crime). Vandalism also increased, but drug violations decreased. One possible explanation is that there is much more attention being paid to the area and many more visitors, so reports of incidences may have increased more than the actual number of incidences, at least for things such as vandalism and theft from autos.

FINANCING

Park development was primarily funded from foundation and other grants and fundraising efforts. The single largest grant came early on from the Kinder Foundation and catalyzed fundraising from other sources, including foundations, businesses, and individuals. Of the grand total of almost \$75 million in development costs, over two-thirds came from private sources and less than one-third from various public contributions, (see Table 1).

TABLE 1: 2019 DEVELOPMENT BUDGET

SOURCES

Through Buffalo Bayou Partnership (BBP)		
Kinder Foundation		\$30,000,000
Other grants and fundraising		\$23,595,000
Harris County Flood Control District		\$5,000,000
Private grants for the Cistern		\$1,550,000
Partner reimbursements		\$582,000
Less BBP administrative fee		(\$904,000)
	Subtotal	\$59,823,000
Other sources of public funding (approximate totals)		
Tax Increment Reinvestment Zone 5		\$6,000,000
Texas Department of Transportation/ City of Houston		\$6,000,000
City of Houston Public Works		\$3,000,000
	Subtotal	\$15,000,000
	Total	\$74,823,000

USES/EXPENDITURES

Construction		
General site work		\$26,594,000
Buildings and Water Works area		\$13,878,000
Major bridges and approach trails		\$5,095,000
Channel conveyance restoration		\$5,000,000
Cistern		\$1,710,000
	Subtotal	\$52,277,000

USES/EXPENDITURES continued

Consultants		
Master plan and design (SWA)		\$5,050,000
Specialty engineers		\$335,000
Construction phase		\$327,000
Operations		\$106,000
Other technical consultants		\$271,000
	Subtotal	\$6,089,000
Project management		
Project management		\$377,000
Project management		\$240,000
Legal		\$166,000
Public relations and communications		\$90,000
Other BBP costs		\$164,000
	Subtotal	\$873,000
Other public improvements		
Rosemont Bridge and trails		\$6,000,000
Main trails		\$6,000,000
Public works infrastructure		\$3,000,000
	Subtotal	\$15,000,000
Art (less Donald Lipski work, funded by City of Houston)		\$211,000
Furniture, fixtures, equipment, and other related costs		\$209,000
Riparian plant allowance		\$164,000
	Total	\$74,823,000

TABLE 2: 2019 OPERATING BUDGET

REVENUE

Foundations	\$25,000
Earned Income	
Operating and maintenance	\$2,361,000
Rent	\$182,800
Permits and fees	\$145,000
Other	\$5,000
Total	\$2,718,800

EXPENSES

Operations	
Contract maintenance and repair	\$210,000
Landscape maintenance	\$105,000
Flood clean-up	\$85,000
Site feature maintenance	\$75,000
Plant replacement	\$70,000
Waste disposal	\$17,000
Inspections (reservoir and bridges)	\$2,000
Art maintenance	\$2,000
Pest, bird, and graffiti control	\$2,000
Potable water and sewer charges	\$1,500
Subtotal	\$569,500

EXPENSES continued

Fixed Expenses	
Personnel	\$1,450,750
Insurance	\$123,200
Accounting	\$21,000
Equipment rental/office	\$12,100
Fuel (boats and equipment)	\$15,000
Miscellaneous fees	\$8,000
Telephone	\$1,500
Subtotal	\$1,631,550
Discretionary Expenses	
Contract labor, equipment, supplies and utilities	\$382,100
Total	\$2,583,150
NET INCOME	\$135,650



The sculpture Portrait of Houston: It Wasn't a Dream, It Was a Flood marks a park entrance off Allen Parkway.

In terms of where the funds were expended, about \$67 million went to infrastructure, buildings, and park and water course improvements (“hard” costs). Another \$600,000 or so went to art, furnishings, and riparian plants. Approximately \$6 million (or less than 10%) went to “soft” costs such as design, engineering, and construction managers.

Buffalo Bayou Partnership Operating Budget

The BBP’s budget is mostly about operating and maintaining the park, though it has other overhead and expenses that include planning and implementation of future phases of Buffalo Bayou.

Buffalo Bayou Park’s total Income in 2019 was projected to be approximately \$2.7 million. Income is derived from the TIRZ #3 for park operations and maintenance, as well as rent of facilities, park permits, and fees and donations (see Table 2).

Projected 2019 expenses total slightly less than income at about \$2.58 million, resulting in a small surplus. The largest category of expenses, at about \$1.6 million, is “fixed” and consists mainly of staff salaries and benefits as well as insurance. Park operations account for almost \$600,000 and discretionary expenses make up the balance. Excess revenue goes into a maintenance reserve to help cover cleanup after the next flood (see Table 2).

PROJECT EVALUATION

Buffalo Bayou Park represents a major achievement for Houston: the restoration of its principal waterway and the creation of a spectacular public open space amenity on the edge of downtown. One measure of its importance to the city is that photos of downtown are now generally taken with the park in the foreground, framing the skyline and tall buildings in the background.

People from all economic and ethnic backgrounds flock to the park, walking, biking, picnicking, attending events, or using its various more developed venues. Still subject to flooding, the park has proven to be resilient, surviving the floods with limited damage that allows it to bounce back quickly.

It appears that the park has had a broad and deep impact, helping to change Houstonians' attitudes about the value of open space and public amenities—including a willingness to vote for bond measures to pay for them.

IMPACT

The park appears to be highly successful in terms of its level of usage and appreciation by residents. It is having a positive impact on its immediate surroundings and, more importantly perhaps, beyond, as it expands to the east and becomes part of a much larger network of open spaces. Even more importantly, if subtler and harder to measure, it seems to be part of a transformation in how residents and agencies think about the park and bayous, recognizing the public realm as a contributor to improved quality of life through recreation and respect for the environment. Houston appears to be more receptive to planning and even funding public improvements, though it seems to remain highly resistant to tax increases (other than one-time bond issues).

Development

There are a number of major developments planned to flank the park. The Aga Kahn Center is planning a major Islamic religious and teaching center across Allen Parkway on a parcel it owns. Another much more ambitious plan is for Regent Square, a high-end multiuse project also fronting Allen Parkway and the bayou—a fact it features prominently in its marketing brochure along with its adjacency to River Oaks, a very wealthy neighborhood on its other flank. This massive project features 1,500 rental units, 300,000 square feet of retail, and 200,000 square feet of offices.

A project that had broken ground the fall of 2019 is The Allen, along Allen Parkway next to the Federal Reserve Building, which will be a mixed-use development featuring a luxury hotel, condominiums, retail, and state-of-the-art office buildings.

Property Values and Gentrification

As predicted in the 1913 Comey report based on experience even from that time, turning a derelict bayou into an attractive recreational magnet was bound to increase property values. While it is impossible to disentangle the



Buffalo Bayou Park transformed a neglected waterway into a public amenity.



The resilient park is designed to absorb floodwater.



The park is part of a growing network of public open space.



William Tatham

The popular green space draws people from across the city.

park's effect from the general increasing attractiveness of downtown Houston with its growing white-collar employment and amenities, the park has undoubtedly contributed, and Regent Square is a clear indicator of gentrification. On the other hand, looking at household income, residents abutting the park were already higher earners than the balance of Houston, so the park's contribution could be considered limited.

There is some question about the degree of gentrification that areas of the Fifth Ward are or will be experiencing as the next phases of the park are completed and whether Lockwood South will contribute to or counter that trend. The BBP, along with the Fifth Ward Community Development Corporation and Greater East End Management District, was one of the sponsors of a Livable Centers study that looked very carefully at tying together existing neighborhoods and new projects such as Lockwood South and linking them to the bayou. The plan for the East Sector of the park endeavors to address the study's recommendations.

Security and Safety

It was reported by BBP executives and in a brief discussion with two Houston Police Department officers in the area that crime in and around the bayou and park has been substantially reduced, a perception echoed by park users. In part, this is the result of the displacement of the homeless encampments following park development. Those particular encampments had issues with drug possession and sales and attendant crimes. However, as noted in Activities and Programs, crime has not actually decreased; rather, its composition has changed, and the number of less serious crimes has actually gone up substantially, reflecting the sheer number of users and increased attention to and reporting of crimes.

Ecology

Park restoration has not only respected native groves and meadows but has preserved and expanded them. Areas of turf grass have been reduced and native plantings have been expanded, including tree species, grasses, and wildflowers. This has had an observable effect on the proliferation of native animal species resulting from the improved habitat. Visitors are informed about these characteristics through guided tours.

OBSERVATIONS AND LESSONS LEARNED

Changing Attitudes about Open Space, Lifestyle, and Planning

In some ways, the park is emblematic of the changing attitudes and image of Houston—including its self-image. Some claimed that Buffalo Bayou Park has been a game changer in showing the public the value of shared outdoor space for recreation, culture, and support for community events. It is the third in a series of city parks, all sponsored (or perhaps catalyzed) in part by major grants from the Kinder Foundation, with other private support. And perhaps most indicatively, the public has “voted with its feet” to fund very substantial bonds for other park and trail projects, clearly indicating their support. The passage of park funding bonds in 2012 and 2017 was notable. The 2017 park bond includes \$104,000,000 for:

the conservation, improvement, acquisition, construction and equipment of neighborhood parks, recreational facilities and bayous, including such green spaces along all bayous to create an integrated system of bayou walking, running and bicycle trails to enhance, preserve and protect the health of citizens, water quality, natural habitat and native wildlife and the levying of taxes sufficient for the payment thereof and interest thereon.

In addition to parks and open space, it seems that Houston—a city that eschews zoning—may be changing its attitude toward planning at both community and agency levels. City and county agencies have also partnered, in formal arrangements, to make Buffalo Bayou Park happen and apparently have since been more willing to actively engage in planning and regulation (for example, requiring runoff prevention and control in new developments).

Responsiveness to Neighbors and Surroundings

The BBP made considerable effort to reach out to interest groups and neighborhoods adjoining the bayou and responded appropriately to many concerns and requests. As it moves toward the East Sector, a much more diverse and heterogeneous part of the city, it is redoubling its community outreach efforts, applying lessons learned about planning and design along the waterway and expanding its interventions to include affordable housing, collaboration with community groups, and innovative approaches to industrial archeology and reinvention. Approximately 700 people attended five major East End and

Fifth Ward community meetings, for example; 30 selected community leaders attended a meeting to learn about the upcoming planning process; and 20 neighborhood residents, business owners, and government representatives were part of a stakeholder committee. As with the West Sector, responses to their inputs were documented and top priorities were published. They include, for example, lighting and public safety call boxes, the inclusion of local artwork, children’s play areas, sports fields, and connectivity to specific cross streets.

Improving Resilience

While the changes to the bayou’s fluvial geomorphology have apparently improved the flow of flood waters, these changes cannot prevent the inundation and flooding caused by major and increasingly severe storms, like Hurricane Harvey. On the other hand, even with Harvey, the park is reported to have reopened within about a week of the end of the storm, at least for the upper-level trails and facilities. The widened “shelves” along the channel banks did indeed collect a huge volume of silt (20 times more than any other recent major flood, and there have been two others since the park opened) and made its removal easier. Fixed park improvements did, in fact, resist the force of the flood waters with little or no damage to light standards, signage, benches, and the like. New structures including the pavilion at Eleanor Tinsley Park and the visitor center and event space at Lost Lake were placed just above the flood level and were spared damage. Some plantings had to be replaced, but more established trees survived. The verdict, then, is that the design strategies employed in the park did result in a high level of resilience. Where features didn’t work as well in the major floods—like the larger pond at the dog park—modifications have been made.

The Value of Cooperative Agreements

The three agreements between key parties involved in the development and operation of the park that govern its execution and ongoing maintenance—the 2010 letter of intent; the 2011 tri-party agreement; and the 2012 construction, operations, and maintenance agreement (COMA)—were central to the success of the project. The tough negotiations by the Kinder Foundation prior to and at the start of construction included an insistence on both clearly defined performance standards for maintenance and a standards review committee that regularly assures compliance. The COMA made it clear



Nancy and Rich Kinder (above left) provided crucial funding through their foundation.



Critical expertise was provided by (left to right) Larry Speck, Scott McCready, Guy Hagstette, and Ann Olsen.

that the foundation’s philanthropy was contingent on the agreement. The committee structure also legislated a process governing compliance with the standards of care, with the flexibility to adjust standards as circumstances change. Among other things, these governance procedures involved the full and balanced representation of all parties to the agreement. Finally, and perhaps most significantly, the agreement established a system that binds the parties to renewal on 30-year terms based on performance reviews, with the option to renew for a total of 90 years, in excess of the more typical legal framework of a 20-, or in the case of Houston, 30-year term.

Guy Hagstette, who has been engaged from the beginning in a variety of roles, provided interesting commentary on the “portability” of the agreements, saying that while they provide a template for other projects in Houston, they would probably have to be redone in other cities that have different institutions and cultures or operate under different state laws. He also shared that the foundation had learned from this agreement and addressed certain limitations on administrative fees and the maintenance reserve in subsequent master agreements for park projects. The lesson here is to attend to the performance outcomes of the agreements (including detailed standards, governance, and governance processes) while knowing that each municipality will likely have to respond to different contexts.

MEETING PROJECT GOALS

GOAL: Restoration—to restore the derelict bayou, which had become an overgrown nuisance harboring multiple homeless encampments.

The park includes a reconfigured and restored bayou, likely to a level it had never achieved at least since the decades-long mass suburbanization of the Houston region and the great increase in flooding that followed. With the cleanup and restoration, the homeless population relocated to other areas of Houston.

GOAL: Access—to provide access to the bayou and opportunities for recreation and experiencing the unique ecological character of the site.

The park can be reached by numerous means and points of access to its various features, facilitated by parking areas, connections to walkways,



SWA Group, Maribel Amador

Areas of the park are designed to collect silt from floodwaters.



SWA Group, David Lloyd

The resilient design allows faster cleanup and restoration of use after storms.

bike paths, and other means of transportation. More importantly, it opens up major leisure, recreational, historical, and cultural opportunities to a large sector of Houston residents and visitors. Having restored the native ecology, tours and interpretive signage (soon to be expanded) help visitors understand both riparian and prairie habitats. Great sensitivity was paid to preserving a major bat colony and making it accessible to visitors (human and avian alike).

GOAL: Inclusion—to serve a broad cross section of Houstonians.

Maps showing the income levels in surrounding neighborhoods provide a valuable tool in assessing the extent to which inclusion is provided by proximity; demographics of park users provide another measure. While the zones on the map are not a perfect reflection, they do suggest substantial levels of diversity. Entry points to the park indicate approximately similar levels of access from the southern and northeastern neighborhoods (the historic Fourth and Sixth Wards) and the northern, newly established Rice Military community and western, more affluent River Oaks neighborhood.

GOAL: Resilience—to provide a precedent for resilient open-space design, planning, and operations in climate-sensitive and flood-prone coastal areas.

As described in the “Observations” section above, the park has been successful in meeting the challenges of and limiting the damage done by what appear to be regularly recurring record-breaking hurricanes and tropical storms such as Harvey and Imelda.

GOAL: Identity—to reposition Houston as a city that promotes healthy lifestyles and embraces its unique physical relationship to the bayou system.

While it is difficult for this study to assess these kinds of changes, it was reported that they are taking place. Clearly, the park is well used by a wide demographic of walkers, joggers, cyclists, and others enjoying the amenities it offers.



The park improved access to the bayou, open space, and outdoor recreation.

David Lloyd



The popular amenity is increasing interest in healthy lifestyles and the bayous.

SELECTION COMMITTEE DISCUSSION

The Selection Committee recognized Buffalo Bayou Park as a remarkable project that illustrates how resilient infrastructure can be done beautifully, which is especially notable in Houston, a place not known for urban planning and parks. They agreed that the park conveys the importance of addressing climate change through infrastructure and green space in cities, providing a valuable model for Houston and other cities across America.

The committee appreciated the use of the bayou to manage storm water and introduce new amenities and features that enhance its use as public space and connect it with adjacent neighborhoods. They noted how the pedestrian trails, bridges, and boat put-ins help to further connect adjoining communities with the park, each other, and downtown, providing new transportation links and reducing dependence on automobiles. The success of Buffalo Bayou Park as part of the ambitious Bayou Greenways 2020 vision exemplifies an expansive, systems-thinking approach to planning and development in Houston.

While the committee agreed that Buffalo Bayou Park is an extraordinary achievement, especially in Houston, they did not find the design itself particularly innovative, considering much of it to be rather conventional. The committee suggested the park could expand its educational and interpretive programming on environmental issues, especially in connection with Hurricane Harvey and its impact. They also wondered to what extent the park has and can influence local policies and practices, especially upriver to reduce runoff into the bayou.

The Selection Committee observed that data about user demographics and the park's impact on traffic, stormwater runoff, and pollution, as well as tax revenue for the city, was not clear. They were also concerned about the apparent lack of deep community engagement in the planning process, worrying that the place risks becoming a "rich people's park." The question triggered a discussion about the relationship between parks and gentrification. The committee was pleased to learn that Buffalo Bayou Partnership had plans to develop affordable housing as part of the next phases of work.

“The park conveys the importance of addressing climate change through infrastructure and green space in urban areas, providing a valuable model for cities across America.”

The committee recognized the amount of resources required to make Buffalo Bayou Park possible and suggested that there is significant support within the community for such work in Houston. While the project is large, the committee observed that it is interwoven with small-scale interventions that can be replicated and adapted in other places.



Buffalo Bayou Park offers a valuable model for how cities can adapt to climate change with resilient public infrastructure.

Jenny Singleton

RELATED RBA WINNERS

The redevelopment of land adjacent to urban waterways has been addressed by many RBA medalists. While the opportunity to reclaim waterfront land for new uses has generally been at the forefront, expanding public use and recreational amenities has grown in importance, along with addressing ecology, resiliency, and ongoing operating costs.



BROOKLYN BRIDGE PARK in Brooklyn (2011 Silver Medalist) converted former industrial land along the East River into a new ecologically and economically sustainable park. A memorandum of understanding established at the time of its development required that funding for maintenance and operating come from revenue-producing development and uses.



SOUTH PLATTE RIVER GREENWAY in Denver (2003 Silver Medalist) reclaimed 67 miles of riverfront for recreation and development. The project introduced a continuous walking and biking path linking existing parks and neighborhoods with downtown and opportunities for boating while restoring native ecology and wildlife habitat and fostering new investment along the river.



CHICAGO RIVERWALK PHASES 2 & 3 in Chicago (2017 Silver Medalist) transformed underutilized infrastructure in the heart of the city into a new civic space. The new flood-resilient space offers waterside amenities including floating wetland gardens and vendors that offer food and boat rentals and generate revenue to pay for development of the park.

Other related winners involving redevelopment of land along urban rivers include Falls Park on the Reedy in Greenville, South Carolina (2015 Silver Medalist); Louisville Waterfront Park in Louisville, Kentucky (2013 Silver Medalist); and Hunts Point Riverside Park in Bronx, New York (2009 Silver Medalist).

More information about these and other RBA winners can be found at www.rudybruneraward.org.

Resources

This report was compiled from information gathered from the project application; an extensive site visit by Simeon Bruner, Robert Shibley, Anne-Marie Lubenau, and Jay Farbstein (lead author) in April 2019; and research and interviews conducted during those processes and throughout the writing of this report. Titles and positions of interviewees and URLs listed below were effective as of the site visit unless otherwise noted.

INTERVIEWS

Artists

- **John Runnels**, Artist, *Portrait of Houston: It Wasn't a Dream, It Was a Flood* (permanent art installation), MotherDogStudios
- **Geraldina Wise**, Artist, BBP Public Art Committee Co-Chair

Buffalo Bayou Park Project Leaders

- **Guy Hagstette**, Vice President of Parks and Civic Projects, Kinder Foundation, and Project Manager for Buffalo Bayou Park, Buffalo Bayou Partnership
- **Cary Hirschstein**, Partner, HR&A Advisors, Inc.
- **Scott McCready**, Principal, SWA Group
- **Anne Olson**, President, Buffalo Bayou Partnership
- **Larry Speck**, Senior Principal, Page (designed the buildings in the park)

City and County Agencies

- **Bob Eury**, President, Central Houston and Executive Director, Downtown Redevelopment Authority
- **Mike Talbott**, former Executive Director, Harris County Flood Control District
- **Joe Turner**, former Director, Houston Parks and Recreation Department

Community Groups

- **Zion Ashley Escobar**, Executive Director of the Fourth Ward Conservancy and Senior Project Manager, Sherwood Engineers

- **Faisal Momin**, Honorary Secretary, Aga Khan Council for the Southwestern United States
- **Henry Morris**, Development and Communications, Houston BCycle
- **Jane Cahill West**, 6th Ward resident, Representative of the Super Neighborhood Alliance, Washington Avenue Coalition, Memorial Park Super Neighborhood (SN22)
- **Jessica Wiggins**, Advocacy Director, BikeHouston

Ecology

- **Jaime González**, Houston Urban Conservation Programs Manager, The Nature Conservancy
- **Alisa Kline**, Texas Master Naturalist

Philanthropists/Donors

- **Nancy Kinder**, President and CEO, Kinder Foundation
- **Rich Kinder**, Co-Founder Kinder Morgan, Chairman of the Kinder Foundation

Programming

- **Laura Conley**, Founder, Urban Paths
- **Lulu Han**, Co-Chair, The Currents
- **Trudi Smith**, Director of Public Relations and Events, Buffalo Bayou Partnership

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OTHER AWARDS

Buffalo Bayou Park

2018

- *TripSavvy* 2018 Editors' Choice Award for Best Urban Parks

2017

- American Society of Landscape Architects (ASLA) Texas Chapter Honor Award, Design Realized
- Houston-Galveston Area Council On-the-Ground Project Over \$500,000
- Society of American Registered Architects Design Awards of Honor
- Urban Land Institute Development of Distinction Award, Urban Open Space
- Urban Land Institute Global Excellence Award

2016

- American Institute of Architects (AIA) Houston Design Award, Architecture Under 50,000 square feet (park architecture)
- *Architect's Newspaper* Best of Design Award, Civic Institution Category
- *Houston Business Journal* Landmark Award, Community Impact
- Keep Houston Beautiful Mayor's Proud Partner Award
- *PaperCity* Houston Design Award, Epic Award for Public Green Space
- Public Relations Society of America Gold Award, Events and Observances
- Trees for Houston Arbor Award
- The Waterfront Center Excellence on the Waterfront Award

2015

- ASLA Texas Chapter Award of Excellence in Planning and Analysis

2013

- *Houston Press* Best of Houston Award, Best Place to Canoe
- The National Society of the Daughters of the American Revolution Historic Preservation Recognition Award

2012

- AIA Houston Civic Vision Award
- American Planning Association Great Places in America, Public Spaces

2011

- The Garden Club of America, Zone IX, Zone Civic Improvements Commendation
- Houston-Galveston Area Council Parks and Natural Areas Award, Planning Process, Special Recognition

Buffalo Bayou Park Cistern

2017

- AIA Austin Design Award, Renovation/Restoration
- CODAWorx CODA Award
- Public Relations Society of America Houston Grand Excalibur Award
- Texas Society of Architects Design Award

2016

- AIA Houston Design Award, Renovation/Restoration
- American Marketing Association, Venues and Parks, Marketer of the Year
- *Architect's Newspaper* Best of Design Award, Adaptive Reuse Category
- *Interior Design Magazine*, Best of Year Award
- International Interior Design Association, Chapter Award
- Society of American Registered Architects, Rehab and Remodeling

This is an excerpt of:

Changing the Narrative

The 2019 Rudy Bruner Award for Urban Excellence



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BRUNER
AWARD**
FOR URBAN EXCELLENCE

BRUNER FOUNDATION, INC.

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