Investing in Urban Infrastructure
The 2017 Rudy Bruner Award for Urban Excellence
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Preface

The 2017 cycle marked the 30th anniversary of the Rudy Bruner Award for Urban Excellence and the presentation of our first award to Pike Place Market in Seattle.

The past three decades have been a period of transformative change for American cities. People and businesses are returning to our urban areas, bringing new energy, ideas, and investment. While this current urban renaissance is exciting and gratifying to those of us interested in urban development, it presents new challenges for our cities.

This renewed interest in cities coincides with rapid economic, environmental, and social changes affecting the way we live, work, and interact with each other. The increased role of technology is reshaping communications, commerce, and education. The reality of climate change is now evident with more severe weather and rising sea levels. Increasing economic and social disparity, particularly in our urban centers, has now become a critical issue for our country.

Yet, as is often the case, challenges can be turned into opportunities. The 2017 medalists are five powerful examples of how urban development can promote equity, resilience, and the regeneration of former industrial sites and communities.

I remain optimistic that there will continue to be innovative solutions for our most pressing urban problems. I hope that the lessons learned from the 2017 medalists and other RBA winners over the years will stimulate dialogue and inspire new ideas to address these challenges.

Simeon Bruner
Founder
Rudy Bruner Award for Urban Excellence
“The Rudy Bruner Award for Urban Excellence can be thought of as a question—an inquiry into the nature of excellence.”

— Lynda H. Schneekloth & Robert G. Shibley

*Placemaking: The Art and Practice of Building Communities*
The 2017 Rudy Bruner Award for Urban Excellence: Introduction

OVERVIEW

The Rudy Bruner Award for Urban Excellence (RBA) is a national design award recognizing transformative urban places that contribute to the economic, environmental, and social vitality of American cities. Each biennial, the RBA honors five winners ranging from large, mixed-use developments to modest yet impactful projects.

Founded in 1985 by architect Simeon Bruner, the RBA was created as a means to explore the subtle and difficult process of creating excellence in the urban environment. We do this by seeking out, celebrating, and sharing the stories of some of America’s most inspiring urban development projects.

Since awarding the first medal to Pike Place Market in Seattle three decades ago, the RBA has recognized and documented 83 projects in 27 states. Varying in scale from a series of neighborhood art installations with a $50,000 budget to a $2 billion downtown mixed-used development, these winners offer insight into the diversity of approaches to urban development and the evolution of American cities.

They also reveal common attributes of projects that contribute to building beautiful, healthy, resilient, and socioeconomically vibrant places: the critical role of leadership and vision, the value of collaborative partnerships, the benefits of engaging and empowering people and communities, the importance of anchoring projects in their own unique place and time, and the power of design to create transformative places.

The RBA is intended to be a resource for anyone interested in learning about urban development and a point of departure for local and national conversations about the role of design in cities. Each award cycle is documented with detailed case studies of the winners and an essay that captures observations and lessons learned from the selection process. All of these are available online at www.rudybruneraward.org. We encourage you to join us in our continuing exploration of urban excellence.
THE RBA PROCESS
Each cycle of the RBA prompts a conversation about urban excellence in America. By design, the conversation begins anew every two years with another call for entries, set of submissions, and Selection Committee charged with choosing five winners.

To be eligible, projects must be urban, built (not just a plan or a program), in operation long enough to demonstrate impact, and located within the contiguous United States. The winners are chosen by a six-member Selection Committee newly comprised each cycle to include a mayor and a participant from a prior RBA winner along with other experts in urban design and planning, development and financing, and community engagement.

The committee meets twice: once to review and discuss all the applications and select five finalists, and again to determine the gold and silver medalists. In between, a team from the Bruner Foundation visits each finalist, spending two to three days touring the site, taking photographs, and interviewing people involved in the project to gather additional information for the committee. These site visits are documented in detail in a report for the committee. One gold medal and four silver medals are then awarded, with the gold medalist receiving a $50,000 cash prize and each silver medalist receiving $10,000.

Once the medalists are determined, the Bruner Foundation works with the winners to plan events that celebrate the projects. Public programming such as tours and panel discussions provide opportunities to highlight the stories of the winners and their impact in the community and spur dialogue about future planning and development.

After the awards are presented, the research and the Selection Committee discussions are integrated into detailed case studies and a summary of lessons learned that are made available online on the RBA website and published as a book.

The RBA process includes in-depth applications and Selection Committee discussions (top), site visits to finalists (middle), and award events.
THE RUDY BRUNER AWARD FOR URBAN EXCELLENCE

Eligibility
Built, urban projects located within the continental United States are eligible to apply.

Selection Committee
A new six-member committee is assembled for each biennial award cycle, including a mayor and a participant from a prior winning project.

APPLICATION
The application provides an understanding of the project’s design, development, and impact, including:
- Project data, overview, and description.
- Perspective forms completed by people involved in the project and community.
- Photographs and other visuals.
- Award use letter (opened after medalists are selected).

SELECTION PROCESS
Winners are determined by the Selection Committee through a three-step selection process:
- Selection Committee reviews and discusses applications and selects five finalists.
- Bruner Foundation conducts site visits to collect additional information.
- Selection Committee reviews and discusses site visit findings and determines the medalists.

AWARD & CASE STUDIES
The winners and their stories are documented and shared through presentations and publications:
- On-site award presentations that showcase and celebrate the winners.
- Events, presentations, and tours that highlight the stories of the winners and their impact.
- Detailed case studies with lessons learned from the medalists.

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- Detailed case studies with lessons learned from the medalists.
THE 2017 RUDY BRUNER AWARD

Each cycle of the RBA yields fresh ideas and perspectives that challenge our assumptions and increase our understanding of how to make great urban places. Individually, projects respond to issues and challenges faced by a particular community in its respective place and time. As a group, they offer us the opportunity to find common threads and develop insight into the continuing evolution of cities and placemaking in the second decade of the twenty-first century.

The 2017 Selection Committee reviewed 48 applications from 34 communities in 22 states distributed across the entire country. Projects ranged in scale from development budgets of $50,000 to more than $492 million.

Many factors contribute to the assessment of applications and projects. A conversation about what constitutes “urban excellence” is an integral part of the process. It begins with the Selection Committee’s first meeting to review and discuss the applicants and carries through to the determination of the medalists and observations about the winners and award cycle.

While the 2017 committee members considered many issues in their assessment of the projects, the following questions emerged as key criteria that guided the selection process:

- Are the project’s goals and intent clear? Does it exhibit a thoughtful process for achieving them?
- Was the process inclusive? Is the project accessible and beneficial to a broad spectrum of the public?
- Has the project achieved broad public support and impact?
- Has the project been catalytic in generating positive change in its surroundings and in urban life?
- Is the project anchored in its physical, social, cultural, and temporal context? Is it true to its place and time?
- Does the project exhibit excellence in design that makes it both functional and visually striking?
- Does the project evoke meaningful responses?

Finally, in selecting the gold medalist, the committee considered the potential impact of the award, both locally and nationally. This included evaluating which project and community would get the most benefit or “lift” from receiving the gold medal, as well as the degree to which the project addressed critical planning and development issues facing communities across the country.

The political context inevitably factored into Selection Committee conversations, influencing its choice of and observations about the winners. This cycle followed a contentious presidential campaign and election along with early indications of substantial changes in federal priorities, including an ambitious but vague proposal for much needed investment in infrastructure along with the likelihood of diminished federal funding supporting urban development and social welfare programs. This led to considerable discussion about the role and importance of government leadership and investment in urban infrastructure, which is described in the Lessons Learned chapter.
**Gold Medal**

SteelStacks Arts & Cultural Campus  
Bethlehem, Pennsylvania

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**Silver Medals**

Bruce C. Bolling Municipal Building  
Boston, Massachusetts

Chicago Riverwalk Phases 2 & 3  
Chicago, Illinois

Iberville Offsite Rehabs Phases I & II  
New Orleans, Louisiana

La Kretz Innovation Campus + Arts District Park  
Los Angeles, California
2017 RUDY BRUNER AWARD

SELECTION COMMITTEE
Titles and positions of committee members were effective as of May 2017.

Knox White, Hon. ASLA
Mayor
City of Greenville
Greenville, South Carolina

M. David Lee, FAIA
President and Managing Partner
Stull and Lee Incorporated
Boston, Massachusetts

Deidre Schmidt
CEO
CommonBond Communities
Minneapolis, Minnesota

Kimberly Driggins
Director of Strategic Planning
City of Detroit Planning and Development Department
Detroit, Michigan

Willett Moss, ASLA, FAAR
Partner
CMG Landscape Architecture
San Francisco, California

Scot Spencer
Associate Director for Advocacy and Influence
Center for Community and Economic Opportunity at The Annie E. Casey Foundation
Baltimore, MD
ABOUT THE AUTHORS
The 2017 RBA selection process was facilitated by Jay Farbstein, who participated in all of the site visits and oversaw—along with RBA Director Anne-Marie Lubenau—development of the site visit reports, winner case studies and lessons learned, and the 2017 publication.

Jay Farbstein, PhD, FAIA is an architect and researcher. He leads a consulting practice in Los Angeles, California that specializes in helping public sector clients develop and document their requirements for building projects as well as in evaluating how well those buildings perform.

Anne-Marie Lubenau, FAIA is the director of the Rudy Bruner Award for Urban Excellence at the Bruner Foundation. She is dedicated to engaging people in the process of design and to increasing understanding of the built environment and its impact on our lives.

Danya Sherman is an independent consultant, researcher, and writer based in Cambridge, Massachusetts. Her work includes creating, contributing to, and leading programs in arts, education, and urban development in collaboration with academic, nonprofit, and public-sector clients.

Robert Shibley, FAIA, FAICP is dean of the School of Architecture and Planning at the University at Buffalo. He founded The Urban Design Project, where he developed an award-winning ensemble of plans for the City of Buffalo.

Richard Wener, PhD is an environmental psychologist and professor in the Department of Technology, Culture, and Society at the Polytechnic School of Engineering of New York University, where he heads the Sustainable Urban Environments program.

Elizabeth Chesla, MA helps individuals and organizations around the globe communicate clearly and effectively in both print and online media. She has over 20 years of experience writing, editing, and teaching English and professional communication.

ABOUT THE BRUNER FOUNDATION
Established in 1963 by Rudy and Martha Bruner, the Bruner Foundation seeks to inspire meaningful social change. Building collaborative partnerships, leveraging resources, and tackling complex social issues are common threads in the foundation’s 50-year history. The foundation has placed priority on assisting neglected and disenfranchised segments of society and has influenced national policy in health care delivery, Holocaust studies, education, and nonprofit evaluation methodologies and increased understanding of the urban built environment.

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Bruner Foundation, Inc.
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Cambridge, MA 02139
617.492.8404
info@brunerfoundation.org
www.brunerfoundation.org
COMPLETE LIST OF MEDALISTS

2017  SteelStacks Arts & Cultural Campus | Bethlehem, PA
       Bruce C. Bolling Municipal Building | Boston, MA
       Chicago Riverwalk Phases 2 & 3 | Chicago, IL
       Iberville Offsite Rehabs I & II | New Orleans, LA
       La Kretz Innovation Campus + Arts District Park | Los Angeles, CA

2015  Miller’s Court | Baltimore, MD
       Falls Park on the Reedy | Greenville, SC
       Grand Rapids Downtown Market | Grand Rapids, MI
       Quixote Village | Olympia, WA
       Uptown District | Cleveland, OH

2013  Inspiration Kitchens – Garfield Park | Chicago, IL
       Congo Street Initiative | Dallas, TX
       Louisville Waterfront Park | Louisville, KY
       The Steel Yard | Providence, RI
       Via Verde—The Green Way | Bronx, NY

2011  The Bridge Homeless Assistance Center | Dallas, TX
       Civic Space Park | Phoenix, AZ
       Gary Comer Youth Center & College Prep | Chicago, IL
       The Santa Fe Rail Yard Redevelopment | Santa Fe, NM

2009  Inner-City Arts | Los Angeles, CA
       Hunts Point Riverside Park | Bronx, NY
       Millennium Park | Chicago, IL
       St. Joseph Rebuild | New Orleans, LA
       The Community Chalkboard & Podium | Charlottesville, VA

2007  Children’s Museum of Pittsburgh | Pittsburgh, PA
       Artists for Humanity Epicenter | Boston, MA
       Crossroads Project & Marsupial Bridge | Milwaukee, WI
       High Point Redevelopment Project | Seattle, WA
       LA Design Center | Los Angeles, CA
       Columbus Circle Public Plaza | New York, NY

2005  Portland Streetcar Project | Portland, OR
       Lower Town Artist Relocation Program | Paducah, KY
       Heidelberg Project | Detroit, MI
       Fruitvale Village | Oakland, CA
       Downtown Silver Spring | Silver Spring, MD

2003  Camino Nuevo Charter Academy | Los Angeles, CA
       Bridgemarket | New York, NY
       Colorado Court | Santa Monica, CA
       Red Hook Community Justice Center | Brooklyn, NY
       Providence River Relocation | Providence, RI

2001  Village of Arts & Humanities | Philadelphia, PA
       Swan’s Market Place | Oakland, CA
       South Platte River Greenway | Denver, CO
       New Jersey Performing Arts Center | Newark, NJ
       Lower East Side Tenement Museum | New York, NY

1999  Yerba Buena Gardens | San Francisco, CA
       ARTScorps LA | Los Angeles, CA
       National AIDS Memorial Grove | San Francisco, CA
       Parkside Preservation | Philadelphia, PA
       Portland Public Market | Portland, ME

1997  The Times Square | New York, NY
       Cleveland Historic Warehouse District | Cleveland, OH
       Project Row Houses | Houston, TX
       Center in the Square | Roanoke, VA
       Hisonen Hin-ru | Oakland, CA

1995  Maya Angelou Community Initiative | Portland, OR
       Campus Circle | Milwaukee, WI
       Dudley Street Neighborhood Initiative | Boston, MA
       Greenpoint Manufacturing & Design Center | Brooklyn, NY
       Harlem Meer | New York City, NY
       Lowelltown | Saint Paul, MN

1993  Harbor Point | Boston, MA
       New Community Corporation | Newark, NJ
       Bettis-Longworth Historic District | Cincinnati, OH
       Beyond Homelessness | San Francisco, CA
       The Park at Post Office Square | Boston, MA

1991  Greenmarket | New York, NY
       Brooklyn-Queens Greensway | Brooklyn/Queens, NY
       Ocean Drive Improvement Project | Miami Beach, FL
       Roslindale Village Main Street | Boston, MA
       West Clinton Action Plan | Portland, OR

1989  Tenant Interim Lease Program | New York, NY
       Portland Downtown Plan | Portland, OR
       Southwest Corridor Project | Boston, MA
       Stowe Recreation Path | Stowe, VT
       Radial Reuse Project | Lincoln, NE
       Cabrillo Village | Saticoy, CA

1987  Pike Place Market | Seattle, WA
       Casa Rita | South Bronx, NY
       Quality Hill | Kansas City, MO
       Fairmount Health Center | Philadelphia, PA
       St. Francis Square | San Francisco, CA
Together the 83 RBA winners reflect a diversity of scale and approaches and the evolution of cities and urban development in America.
“Make no little plans; they have no magic to stir men’s blood and probably themselves will not be realized. Make big plans; aim high in hope and work.”

—Daniel Burhnam
INVESTING IN URBAN INFRASTRUCTURE: THE ROLE OF GOVERNMENT LEADERSHIP

This chapter synthesizes the lessons learned from the 2017 Rudy Bruner Award for Urban Excellence (RBA) cycle. Gleaned from extensive Selection Committee deliberations and countless conversations and observations during our site visits and development of the case studies, this chapter is intended, like those from past award cycles, to provide insight into the complex and difficult process of creating excellent urban places.

Collectively, these reflections reveal the evolution of urban development in America and highlight several recurring themes among RBA winners over the past 30 years: the value of vision and leadership, the impact of collaborative partnerships, the importance of engaging and empowering people and communities, the need to anchor projects in place, and the power of design. The 2017 medalists also underscore the essential role of visionary government leadership and strategic public investment in urban infrastructure, especially as cities navigate dramatic economic, environmental, and social changes in the twenty-first century.

Urban Infrastructure in the Twenty-first Century

The 2017 cycle of the RBA took place in an environment of intense political turmoil following the 2016 presidential election. While politics, per se, were not the focus of the Selection Committee’s discussions, the members’ sensitivity to the potential impacts of the new administration’s priorities and policies on urban affairs was unmistakable.

Infrastructure was a “hot” topic in 2017 as the new administration contemplated a massive infrastructure investment program which, at the time of writing, had not been implemented or received much legislative consideration. Such investment, however, is badly needed and long overdue. The Infrastructure Report Card (infrastructure-reportcard.org) produced by the American Society of Civil Engineers (ASCE) assesses US infrastructure conditions and needs every four years. In its 2017 report, ASCE gave America’s infrastructure a D+, commenting that “deteriorating infrastructure is impeding our ability to compete in the thriving global economy, and...
improvements are necessary to ensure our country is built for the future.” As the Selection Committee considered the role of infrastructure in our cities, members agreed upon a more comprehensive definition of “urban infrastructure” that goes far beyond bridges, roads, transportation, dams, and utility systems, important as they are, to include arts and cultural facilities, business and manufacturing facilities, educational institutions, housing, municipal buildings and services, and parks and public spaces. Combined, these form the very fabric of our communities and are essential to building and sustaining equitable, healthy, and socioeconomically vibrant cities.

In their choices and remarks about the medalists, the committee members sought to highlight the vital role of government leadership and investment in urban infrastructure as a means of addressing the critical issues facing American cities. In marked contrast to 30 years ago when the RBA was founded and many cities were struggling with population loss and disinvestment, today’s urban renaissance has brought increased attention, opportunities, and investment to cities. However, it also has coincided with and contributed to new challenges, including climate change, rapidly evolving technology, growing economic and social disparity, and aging and deteriorating infrastructure that is inadequate for current—let alone future—needs. Cities are grappling with these and other challenges as federal support for urban programs is diminishing, requiring creative and innovative solutions and financing to tackle big issues. Fortunately, in the midst of increasing bureaucratic dysfunction and paralysis in Washington, DC, leadership from local governments and civic organizations offers inspiration and hope.

The five 2017 RBA medalists provide powerful examples of how local leadership and investment in urban infrastructure build and strengthen communities, catalyze economic development, and inspire civic pride. This is amply demonstrated by their accomplishments: the transformation of a former industrial plant into an arts and entertainment district, a new mixed-use municipal building housing public school headquarters, the reclamation of underutilized riverfront for a new park, the rehabilitation of historic houses into affordable housing, and the creation of cleantech incubator. Through these accomplishments and the steps taken to achieve
Lessons Learned

them, the medalists highlight the role of aspiration and ambition in tackling big issues and projects, the importance of engaging people and embracing communities in the process of creating inclusive places that bring us together, and the benefit of restoring and renewing the places and communities we value.

Civic Vision

At their best, city governments can function as powerful visionaries and stewards of the urban environment, investing in and maintaining public realm and infrastructure improvements for the public good. Often this happens in partnership with local businesses and civic organizations that engage the community and help to advance and implement the vision. When done well, this attracts additional investment via increased population and business, often yielding a substantial return on investment.

American cities have a long history of sponsoring and implementing ambitious and bold visions for the future. The City Beautiful movement of the late 1800s and early 1900s powerfully influenced the development of cities like Buffalo, Chicago, and Washington, DC, through plans developed by the likes of Daniel Burnham and Frederick Law Olmstead. Burnham’s 1909 Plan of Chicago was pivotal in defining the city’s pattern of growth and identity as an architectural destination and continues to inform and influence new development, including the Chicago Riverwalk. Falls Park on the Reedy (2015 RBA Silver Medalist) in Greenville, South Carolina is the realization of a vital new civic amenity anchored by the river in a manner first envisioned in a plan commissioned by the city in 1907.

Forward-looking visions were the basis for each of this cycle’s winning projects. Such initiatives are often born during periods of significant social and economic change, such as at the dawn of the twentieth century and our present time. Two of the 2017 winners, SteelStacks Arts & Cultural Campus and the Bruce C. Bolling Municipal Building—a new civic commons and municipal facility, respectively—were expressly envisioned as “twenty-first century” places. The developers of Chicago Riverwalk Phase 2 & 3, Iberville Offsite Rehabs I & II, and La Kretz Innovation Campus + Arts District Park incorporated contemporary architecture practices and...
technologies that support ecological health, environmental sustainability, and the innovation economy to reimagine and transform empty riverfront arcades, abandoned and dilapidated housing, and vacant warehouses into modern places for recreation, living, and business development.

Each of the five 2017 medalists also helps to advance a broader civic agenda. SteelStacks is one of the first steps in an extensive, ongoing collaborative effort by the Bethlehem community to redevelop the site of the former steel mill that long dominated the city’s economy and skyline. The Bolling Building is part of the City of Boston’s concerted effort to reinvest in its neighborhoods and create a new, inclusive model for municipal development. Chicago Riverwalk not only fulfilled an element of Burnham’s 1909 plan but supports the City of Chicago’s "Building on Burnham" and the Metropolitan Planning Council’s Our Great Rivers initiatives to use the rivers to connect and enhance the communities along their banks. La Kretz Innovation Campus + Arts District Park is the City of Los Angeles’ investment in infrastructure that showcases and positions the city as a cleantech leader and promotes innovation in that industry. Iberville contributes to the continued rebuilding of New Orleans in the aftermath of Hurricane Katrina while helping to maintain the city’s architectural, cultural, and economic diversity.

Each medalist also demonstrates extraordinary aspiration to create a new kind of place that had never existed before. In Bethlehem, local leaders, inspired by a visit to the Ruhr Valley in Germany, set out to redevelop a historic steel plant into a cultural campus and catalyst for community revitalization. The City of Boston took a property with substantial historic and community significance that had languished for years and created a contemporary municipal facility that integrates historic building facades with new community space while taking advantage of adjacency to a regional transportation hub. The City of Chicago expanded on Burnham’s vision to reclaim its riverfront for public access, ecological restoration, and economic benefit. In New Orleans, Redmellon Restoration & Development saw the potential to preserve historic housing while integrating sustainable design features and renting the units to low-income residents, an all-too-rare combination supporting a population that does not usually benefit from these resources. The City of Los Angeles, under two mayors, envisioned La Kretz as the anchor for a proposed “Cleantech Corridor” that would transform a four-mile swath of underutilized warehouses immediately east of downtown into a hub for cleantech companies supporting the city’s emerging green economy.

Local Government Leadership

Each of the 2017 medalists could only have been realized by a commitment of substantial government leadership and financial support, often spanning multiple mayoral administrations and incorporating multiple agendas. In addition to the support of elected leaders, each project had the full support of key city staff and agencies, which helped to provide continuity across administrations.

- SteelStacks was spearheaded by the Redevelopment Authority of the City of Bethlehem and realized over two successive mayoral administrations.

- In many ways, Boston’s Bolling Building is Mayor Thomas Menino’s legacy project, reflecting his commitment to turning around a neighborhood he had represented on the city council, although he passed away before it could be completed. The building also bears the stamp of his successor, Mayor Martin Walsh, who not only recognized the importance of the project and saw it through its completion, but also expanded the vision to include the Roxbury Innovation Center, a commitment to leasing retail space to locally owned businesses, and continued engagement with the community to address concerns about displacement resulting from new development.

- Riverwalk was developed by City of Chicago and also spanned two mayoral administrations. Planning was initiated under Mayor Richard M. Daley while the project was implemented under Mayor Rahm Emanuel, who used his federal government connections to find funding.
La Kretz Innovation Campus + Arts District Park was a joint initiative between the City of Los Angeles and its Department of Water and Power (LADWP), the nation’s largest public utility. It was initiated by Mayor Antonio Villaraigosa as part of his environmental and employment programs and implemented under Mayor Eric Garcetti. Civic leadership extended to the Community Redevelopment Agency (CRA-LA); however, when that agency was dissolved as part of a statewide shake-up, LADWP stepped in to assume the lead, with the support of the mayor and the area’s city council representative. Without this coordinated support, the project most likely would have been abandoned.

Although initiated by a private developer, Iberville could not have happened without support from the City of New Orleans, the Housing Authority of New Orleans, and the New Orleans Redevelopment Authority.

**Public Investment and Leveraging of Private Funds**

All of the winning projects were made possible by tapping into a combination of local, state, and federal funding sources, many of which encourage or rely on mobilizing private investment. For each project, assembling the financing required navigating the challenges of what were in some cases unfamiliar systems with complex requirements, as well as leveraging personal connections and relationships for assistance and expertise to secure private financing and local matching funds.

Steeltacks was funded using Tax Increment Financing, state and county sources (Pennsylvania Revitalization Capital Assistance Program grant funds), New Market Tax Credits, and shared gaming revenue from the casino.

La Kretz, which lost a key funding source during development due to dissolution of a state-wide program, was financed with grants from the US Departments of Commerce, Energy, and HUD and City of Los Angeles bonds and grants. Public funding including LADWP was supplemented by an in-kind contribution from a private donor.

The City of Chicago tapped local, state, and federal funds including Transportation Infrastructure Finance and Innovation Act financing, a highly innovative use of funds typically used for roads and other types of transportation projects rather than a pedestrian pathway along a navigable river.

The City of Boston used federal New Market Tax Credits for the first time to help finance the development of the Bolling Building, one of the first municipal buildings funded through the national program.

Iberville was largely funded using Low Income Housing Tax Credits that complemented and leveraged existing federal investment in the community via HUD’s HOPE VI and Choice Neighborhoods programs. Additional support was provided by rental subsidies from HUD and the City of New Orleans and Prudential’s Investment Impact Unit. The developer also chose to meet Secretary of the Interior’s Standards for Historic Rehabilitation in order to qualify for historic tax credit financing, although this source wasn’t utilized until a subsequent phase.

**Civic Aspiration and Ambition**

Excellent projects are born from the aspiration to achieve something of significance combined with sufficient ambition and commitment to see them through, generally over extended periods of time while encountering and overcoming many obstacles. Leadership must provide not only bold vision but also follow-through and perseverance to see projects into implementation. In four of the projects—Steeltacks, the Bolling Building, Chicago Riverwalk, and La Kretz—this leadership and vision came from local governmental entities in partnership with community organizations. For Iberville, the developer took the lead, enlisting the support of governmental agencies, without which the project would not have been possible.

Steeltacks, the Selection Committee noted, illustrates “the importance of seeing something positive come out of loss,” offering a valuable model for other older industrial cities and rust belt communities.
- The Bolling Building offers a “great example of civic leadership” and reinforces the notion that “strategic public action can stimulate private development” in a neighborhood that had suffered greatly from neglect and disinvestment and multiple failed attempts at redevelopment.

- Chicago’s Riverwalk is “ambitious and bold…a marvelous example of a civic project” that demonstrates the city’s “continued commitment to the tradition of civic investment in the public realm and excellence in infrastructure.”

- Recognized as one of the premier cleantech programs in the world, La Kretz supports development of the cleantech industry, helping to promote and build the twenty-first century economy and illustrating a “different way for a city to participate in economic development.”

- Iberville’s attention to excellence in design, preservation, and sustainability offers a model to “push the conversation in other cities” and “re-imagine the future of public housing.”

Engaging and Embracing Community

These outstanding projects created places that foster interaction, community building, and civic pride. They are inclusive, providing opportunities for people to come together and interact with each other, and they enhance quality of life by offering access to affordable housing, arts and culture, the innovation economy, municipal services, and natural resources and recreation. Indeed, four of the medalists—SteelStacks, Bolling Building, Chicago Riverwalk, and La Kretz—created significant new public gathering spaces. The design of each project reflects its unique history, culture, and aspirations, making meaningful connections to the community’s past, present, and future. Projects that succeed in doing this are, in turn, embraced and valued by the community.

- SteelStacks created a new civic commons with a tremendous entertainment and cultural draw in a place once inaccessible to all but those who worked at the mill. The project embraces the history of
the city and the mill, celebrating and honoring the site’s industrial heritage and sharing the stories of the steelworkers through interpretative features and programs, and offers thousands of arts and performance events that attract local and regional audiences.

- The Bolling Building offers a “place to go rather than a place to go through.” By incorporating community gathering space and dramatically improving access to services by putting “Boston Public Schools in the heart of the neighborhood,” the building brings “centralized public functions out into the community.”

- Chicago’s Riverwalk restores access to the river and shifts the center of gravity of downtown, creating a “symbol of the re-emergence of place” while building on Burnham’s planning legacy and the city’s bold architectural heritage. Its multiple activity “rooms” attract a diversity of users.

- La Kretz brings together cleantech innovators, entrepreneurs, and university research centers from around the city and the region in a supportive “village” that includes an advanced prototyping center. The addition of Arts District Park provides much-needed open space in the heart of the neighborhood.

- Iberville preserves New Orleans’ unique cultural and socio-economic diversity by restoring historic homes for low-income residents, those most threatened by displacement from the renewed interest and investment in the city.

- La Kretz’s cleantech incubator and Bolling’s Roxbury Innovation Center both seek to increase diversity by providing access to the innovation economy for people who have traditionally been marginalized.

**Restoring and Renewing Places and Communities**
The RBA regularly recognizes projects that renew places and communities by restoring and revitalizing otherwise degraded, deteriorated, or overlooked buildings and sites. These projects draw upon the unique embodied energy
of each place—its rich cultural and social narrative and architectural heritage—while improving, enhancing, and positioning it for continued and/or new uses. This may follow the loss of a valuable asset such as the key industry and major economic engine in Bethlehem, the slow deterioration of a neighborhood center like Boston’s Dudley Square, or a major disaster such as Hurricane Katrina in New Orleans. It can also result from the desire to realize the untapped potential of an underutilized asset such as the Chicago riverfront or Los Angeles’ warehouse district. In either case, these projects, when born out of respect for and celebration of the cultural and physical fabric of the community and focused on current and future opportunities and needs, can serve as a catalyst for positive change and development. Each of the 2017 medalists manages to achieve this delicate balance.

- SteelStacks preserved and repurposed striking, large-scale remnants of Bethlehem’s industrial history, demonstrating to members of the devastated community that their lives and work matter while creating a spectacular venue for contemporary art and performance.

- The Bolling Building “restored the center of the community that once was a beacon and an icon” but had fallen into a very long stretch of decline and disinvestment. The design respectfully integrates the facade of a neighborhood landmark and two adjacent buildings into a contemporary facility.

- Chicago’s Riverwalk builds on the legacy of Burnham’s Plan of Chicago and reclaims the riverfront, illustrating the city’s continued commitment to investment in public infrastructure and transforming the riverfront into a magnet for residents and tourists.

- Iberville demonstrates the “value of historic preservation as an economic development tool,” renovating “abandoned and blighted buildings while preserving historic charm and delivering them specifically to low-income people.”

- La Kretz symbolizes the City of Los Angeles’ efforts to position itself as a cleantech leader and sustainable urban center. Drawing upon its manufacturing legacy and repurposing old warehouse buildings, the campus incubates new businesses and technologies that contribute to the city’s future.

CREATING AND SUSTAINING URBAN EXCELLENCE

All over America, cities are investing in urban infrastructure, many examples of which have garnered the Rudy Bruner Award over the past 30 years. While the 2017 winners vary in approach and scale, they share a commitment to tackling the big urban challenges of our time: affordable housing, community regeneration, socioeconomic equity, climate change and environmental sustainability, reclamation of industrial and waterfront land, and adapting to changes in technology. Regardless of their focus, the projects also demonstrate the critical role of public leadership and investment in fostering hope and change. They illustrate how visionary leaders can inspire, engage, and empower their communities to imagine and realize projects that reflect their aspirations and collective potential.

While federal leadership and investment in urban development will be critical to the future of our cities, it is not enough on its own. As Simeon Bruner observed in his preface to the inaugural publication of the RBA, “A city’s vitality cannot depend on one person’s vision of urban development. Real vigor requires the continuing infusion of fresh ideas”—ideas like those embodied in these projects.
Case Studies
Transformation of a former steel plant into a mixed-use cultural and entertainment district
SteelStacks Arts & Cultural Campus transformed the most historic section of a former steel mill into a mixed-use cultural and entertainment district in Bethlehem, Pennsylvania. The mill’s iconic blast furnaces now anchor a civic commons that honors the city’s steelmaking legacy and symbolizes the rebirth of a region devastated by its closure.

The 9.5-acre SteelStacks campus occupies the western portion of the sprawling Bethlehem Steel Company site. Established as the Saucona Iron Company in 1857, it ultimately stretched more than four miles along the Lehigh River. The 1,760-acre mill long dominated the community physically and economically, employing 31,000 people in Bethlehem alone at its height and supplying steel for such storied structures as the Chrysler and Empire State Buildings, the Golden Gate and Verrazano-Narrows Bridges, and World War II battleships.

After steelmaking operations ceased in 1995, Bethlehem Steel initiated brownfield remediation and planning for redevelopment of the site. The master plan, created in partnership with the community, incorporated an industrial park on 1,600 acres and a proposed mixed-use district including

Submitted by: Bethlehem Redevelopment Authority
Completed: 2016
Total Development Cost: $93.5 million
housing, museums, and retail on the remaining portion, which contained the majority of the mill’s historic structures.

The idea for an arts and entertainment district was inspired by civic leader visits to repurposed industrial sites in Germany. The resulting campus plan, designed by WRT of Philadelphia and developed by a consortium led by the Bethlehem Redevelopment Authority, was envisioned as a “twenty-first century town square,” a free outdoor public plaza intended to both reference the past and suggest the future. The space is defined by the blast furnaces and the Levitt Pavilion outdoor performance area as well as the Bethlehem Visitor Center, the ArtsQuest Center, the PPL Public Media Center at PBS39, and the Hoover-Mason Trestle Park.

The visitor center, located in the 1863 Stock House, presents the history of the site and steelmaking in the Lehigh Valley. Just outside the center, stairs lead up to the 46-foot-high Hoover-Mason Trestle. Constructed in 1907 to enhance steel production and reopened as an elevated pedestrian walkway in 2015, the trestle offers close-up views of the blast furnaces and panoramic views of surrounding structures and nearby neighborhoods. Interpretive signage and an interactive website and mobile app provide additional insight into the site’s history and heritage. Across the street, the new ArtsQuest Center and PBS39 buildings offer broadcasting, education, event, and performance venues.

Funding for the $93.5 million development came from a variety of public and private sources. A 20-year Tax Increment Financing District and revenue generated by the Sands Casino Resort, located to the east of the SteelStacks campus, created the municipal capacity to implement the project.

Long off-limits to all except those who worked there, the former mill has become a local and regional destination. SteelStacks hosts 1.5 million visitors annually, offering events including free outdoor concerts and ArtsQuest’s annual Musikfest. The campus is sparking nearby investment as well, including the new Lehigh Valley Charter High School for the Arts and the National Museum of Industrial History. As Kassie Hilgert, ArtsQuest president and CEO, observed, “With Bethlehem’s major industry closing 20 years ago, this city could have gone in an entirely different direction; however, thanks to incredible leadership and vision, it continues to reinvent itself, and the city’s future is incredibly bright.”

Historic blast furnaces (opposite and above) anchor the SteelStacks campus.

“STEELSTACKS ARTS & CULTURAL CAMPUS PRESERVES THE REMNANTS OF INDUSTRIAL HISTORY, DEMONSTRATING TO PEOPLE THAT THEIR LIVES AND WORK MATTER.”

— 2017 Selection Committee
Project at a Glance

- A 9.5-acre arts and cultural campus within a 126-acre district on a former 1,760-acre steel mill site.
- Venues for a wide variety of performances, classes, and other events and attractions that draw 1.5 million visitors per year.
- An elevated pedestrian walkway and park featuring close-up views of the blast furnaces and offering cultural, historical, and industrial interpretation of the site; flexible outdoor public spaces; and performance venues in a mix of new and historic buildings.
- Preservation of five 20-story blast furnaces that form part of the northern border of the district and serve as an iconic backdrop for performance venues, arts and cultural activities, and public programming.
- Home to arts and cultural organizations and programs including Arts-Quest, PBS39, the Bethlehem Visitor Center, and the Levitt Pavilion SteelStacks.
- New arts and cultural programs intended to make the region more competitive in attracting talent to support local workforce needs.

Project Goals

- Create a welcoming, well-designed, public arts and cultural campus for the neighborhood, city, and region.
- Preserve, restore, and adaptively reuse the historic fabric of the former steel mill site.
- Use the site to tell the story of steelmaking and steelworkers in Bethlehem.
- Serve as a catalyst for the development of the larger 126-acre brownfield district.
- Develop the project in a transparent and inclusive way to assure a shared vision.
Moravians found the mission community of Bethlehem along the banks of Monocacy Creek.

Bessemer converters are installed and the first steel is produced.

The elevated Hoover-Mason Trestle begins operation.

The mill employs 31,000 people, an all-time high.

Bethlehem Steel begins to diversify its manufacturing activities.

Foreign steel is imported to the US at below-market prices.

Saucon Iron Company is founded. It begins operations as Bethlehem Iron Company in 1863.

Bethlehem Iron Company is reorganized as Bethlehem Steel.

Bethlehem Steel becomes the nation’s second largest steel manufacturer.

Steelworkers stage a four-day strike at the plant.

US steel industry loses 370,000 jobs, representing 70% of the industry’s total 1974 workforce.

Facing increasing competition, Bethlehem Steel lays off workers; a second round follows in 1983.

ArtsQuest is established and hosts the first Musikfest, a nine-day summer music festival.
1994
Bethlehem Steel begins to develop a proposed 150-acre museum, entertainment, and tourism district.

1995
Pennsylvania passes Land Recycling and Environmental Remediation Standards Act known as "Act 2."

1996
Industrial Redevelopment (IR) zoning is approved for a 126-acre mixed-use site.

1999
The City of Bethlehem, Bethlehem Area School District, and County of Northampton establish a tax increment finance (TIF) district.

2001
Bethlehem Steel Corporation files for bankruptcy; two years later, it is dissolved and its assets sold.

2002
ArtsQuest leaders visit repurposed steel mills and coal mines in Germany, inspiring the idea of creating an "arts park" on the grounds of the former plant.

2005
A private investor group, BethWorks Now, purchases the 126-acre district in the former mill site.

2006
Las Vegas Sands Corporation is awarded a Category 2 Slot License by the Pennsylvania Gaming Control Board. IR zoning is amended to allow for casino gaming.

2009
Sands Casino Resort Bethlehem opens.

2011
APRIL: ArtsQuest Center at SteelStacks campus opens.
JULY: Levitt Pavilion SteelStacks opens.
AUGUST: PBS39 moves into new building.

2012
Bethlehem Visitor Center opens in the 1863 Stock House.

2015
The Hoover-Mason Trestle elevated pedestrian walkway and park opens.

2016
The National Museum of Industrial History opens in the 1913 Electrical Repair Shop.
Points of Interest

1. SteelStacks Arts & Cultural Campus
2. Sands Casino Resort
3. Bethlehem Commerce Center
4. National Museum of Industrial History
5. Lehigh Valley Charter High School for the Arts
6. Lehigh University
7. South Bethlehem Greenway
Project Description

INTRODUCTION

SteelStacks Arts and Cultural Campus (SteelStacks) in the South Side of Bethlehem, Pennsylvania, is the product of over two decades of planning and development facilitated by well-crafted alliances between state, regional, and city political leaders: Bethlehem Steel Corporation; Sands Casino and Resort (Sands) interests; and nonprofit arts and culture institutions. The overall site can be thought of as a large, linear outdoor room bordered by the ArtsQuest Center and PPL Public Media Center at PBS39 on the south side of First Street; the Visitors Center, Hoover-Mason Trestle (HMT) and linear park with the blast furnaces to the north; and the Levitt Pavilion and plazas fronting the ArtsQuest and PBS39 buildings in the middle. A large parking and event space is to the immediate west of the site.

The 9.5-acre campus hosts 1.5 million visitors who attend a wide variety of presentations and performances each year. The preserved blast furnaces form a striking backdrop for many of those performances, and interpretative exhibits on the HMT and at the Bethlehem Visitor Center in the adjacent 1863 Stock House offer insight into the history of steelmaking and the surrounding community.

The success of the campus is the result of a public and private sector commitment to both interpret and celebrate the region’s industrial heritage. It demonstrates how the city found ways to use its culture of arts and entertainment to assert its strength in tough times. The project reclaims brownfields left in the wake of Bethlehem Steel’s bankruptcy and shows how investments in the planning and design for a new public realm and arts and cultural venues are helping to revitalize adjacent neighborhoods and the economy of the City of Bethlehem and the Lehigh Valley region.

CONTEXT

Lehigh Valley

The rise and fall of Bethlehem Steel from its founding as Saucona Iron Company in 1857 to its closing in 1995 and bankruptcy in 2003 establish the context for SteelStacks, which is 90 miles from New York City and just 60 miles from Philadelphia. The Lehigh Valley forms the larger regional context, spanning Lehigh and Northampton counties in eastern Pennsylvania.

The strategic geography of the region includes its proximity to mines for anthracite, coals of lesser density, iron ore, timber, and other natural resources shipped first on the Lehigh Coal & Navigation Company’s Lehigh Canal and later on railroads. The region was well positioned to take a leadership role in the US Industrial Revolution, given its proximity to East Coast markets and Atlantic shipping, as well as the natural resources needed to make steel, including Western Pennsylvania coal and iron ore from the Bethlehem Steel mines in Reading, Pennsylvania, and other sites southwest of Bethlehem. These local resources led to the growth and subsequent stability of the region the Federal Reserve Bank of Philadelphia refers to as the “Shadow of Philadelphia.”

The 2010 US Census counted the population of the region at 821,623, making it the third largest metropolitan statistical area (MSA) in Pennsylvania, behind Philadelphia and Pittsburgh. The MSA includes Carbon, Lehigh, and Northampton counties in Pennsylvania as well as Warren County in New Jersey. All of the counties in the MSA have grown every decade since 1970, making it the 64th most populated MSA in the nation. The largely stable population in the MSA is not remarkable; many so-called
rust belt communities likewise experienced significant out-migration to their suburbs in the aftermath of the collapse of their economies. But in this MSA, many of the cities also grew. In 1950, Allentown, Bethlehem’s largest neighbor, had a population of 106,757, and by the 2010 census, it had increased to 118,000. Bethlehem’s population grew 13% over the same time period, from 66,340 to 74,982.

Bethlehem
Bethlehem’s resilience and prosperity are rooted deep in its founding by the Moravians on Christmas Eve, 1741, and perhaps deeper still in the Moravian experience of persecution during the Czech reformation a hundred years before Martin Luther’s campaign. The Moravian Church was originally known since 1457 as the Unitas Fratrum (Unity of Brethren). It was this same Moravian Church that formed a permanent presence in Pennsylvania in the communities of Bethlehem and Nazareth. A young John Wesley, the founder of the Methodist Church, recounts a perilous journey across the Atlantic where he traveled with “six and twenty” Moravian settlers from Gravesend, England, to the new world in 1735. Biographer Robert Southey reports that Wesley “admired the impassable tranquility to which the Moravians had attained.” Wesley witnessed this tranquility in the face of the many near-death experiences and general misery they experienced on their journey. It is perhaps not surprising, then, that the rise and fall of Bethlehem Steel were met with a similar tranquility in an area rooted in this Moravian sensibility.

Even more significant to Bethlehem’s resilience is a culture that values well-educated citizens. Moravian College was founded in 1742 with a belief that every human soul was a potential candidate for salvation; therefore, every human being ought to be educated. It is the sixth-oldest college in the United States. Music is one of the college’s major programs, rooted in the early traditions of worship that have contributed to a community-wide affection for musical performances. Lehigh University was founded in Bethlehem in 1865 by Asa Packer, a carpenter and farmer who went on to build the Lehigh Valley Railroad. Packer endowed the university, then subsidized costs to allow free tuition for 20 years. The city’s tradition of philanthropy and public support for educational opportunity continues today; 90% of Bethlehem’s...
residents have a high school degree or higher, topping the national average of 87% and well over neighboring cities of Allentown (78%) and Philadelphia (83%), according to CivicDashboards data.

It is difficult to know how much of this level of education is grounded in tradition and how much should be attributed to decades of well-educated people moving into the region due to the economics of steel, the quality of life in the region, and the expansion of opportunity in the mills. In any case, the result is a well-educated public.

Bethlehem’s first public waterworks, constructed in 1762, demonstrated an excellence in manufacturing rooted in the same Moravian heritage. The early settlers took great pride in craft and carpentry in their preindustrial lifestyle. This culture made the site all the more desirable for the original Saucona Iron Company in the mid-nineteenth century and helped lay the foundation for the role the city would play in the coming Industrial Revolution.

In a 2016 speech devoted to the 275th anniversary of the founding of the community, Bethlehem Mayor Robert Donchez highlighted the city’s recovery from the loss of Bethlehem Steel. He reminded his audience that Bethlehem is one of only 12 cities in Pennsylvania with a population of over 40,000 people in a state with over 13 million residents. Of those 12 cities, Donchez noted, Bethlehem ranks first in median household income, has the lowest percentage of residents living below poverty level, ranks first in residential property value (higher even than the statewide average), and has the lowest residential property vacancy rate.

The city ranks third behind Pittsburgh and Philadelphia for residents between the ages of 25-34 with a college degree (39%), with the highest percentage of residents in that age group in the labor force and the lowest unemployment rate. Since 1980, eight of the 12 cities lost residents; Bethlehem’s population grew, in large part due to the immigration of Latinos, especially to the South Side. Indeed, in 2016, Bethlehem’s population was 76% White, 24% Latino or Hispanic, and 6% Black.
Bethlehem is a city doing well economically by most accounts but with some of the problems experienced by many rust belt cities such as high levels of poverty. In 2016, just under 20% of the residents (19.2%) lived below the poverty line in a state where the average was 17%. Nearly a third (29.8%) of those residents below the poverty line were Black, with another 25.9% of those below the poverty line Hispanic or Latino.

The South Side
The South Side was historically the second commercial district for the City of Bethlehem, with the original being in the Moravian section of town on the north side. The South Side was home to the working families of Bethlehem Steel and, as such, has declined in the wake of the disinvestment and ultimate collapse of the company. The five census tracts neighboring SteelStacks that comprise the South Side are the poorest in the city. At the Donegan Elementary School on East 4th Street, for example, within walking distance of the campus, 92% of students qualify for the federal free lunch program. It is an area of high unemployment and low median income.

Physical constraints in the South Side identified in 2012 redevelopment plans for the areas bordering the SteelStacks campus include understated and unattractive entryways that don’t project an adequate welcome or identity, insufficient parking, several poorly maintained buildings, and streets that are not pedestrian friendly with sidewalks in disrepair. Southside Vision 2014, produced by the nonprofit Community Action Development Corporation of Bethlehem working with the City of Bethlehem, gives additional emphasis to these issues in its plan to address aging housing stock, the lack of gateway features, street lighting, youth opportunities, and open space as well as inadequate commercial districts and insufficient parking. Between 2001 and 2014, public funding to work on these problems totaled just over $2 million, leveraging about $6 million more in private investment. Lehigh University has added to this effort by better integrating its campus masterplan with the South Side community through new student housing options and by encouraging local businesses to leverage about $20 million in untapped local and university retail and services potential.

Bethlehem Steel occupied about 20% of the 19.39-square-mile city, including about 50% of the city’s South Side, stretching along four miles of the Lehigh River. Since deindustrialization, Bethlehem’s economy has diversified significantly, yielding a $45,631 median income and engaging multiple market sectors in the city and region to include an increasingly robust Lehigh Valley Industrial Park system. Key sectors listed by the mayor in his 2016 speech included manufacturing, technology, transportation and warehousing, hospitality, finance, insurance, real estate, healthcare, education, and arts and entertainment.

Bethlehem Steel
Bethlehem Steel was originally founded in 1857 as the Saucona Iron Company, changing its name to the Bethlehem Iron Company in 1863. Just 10 years later, the installation of the innovative Bessemer converters enabled the production of steel. In 1899, the company became the Bethlehem Steel Corporation. The rise and fall of Bethlehem Steel and a city working through the loss of its major industry is an essential component of the SteelStacks story.

Residents of many post-industrial cities like Bethlehem—including Buffalo, New York; Detroit; and Pittsburgh—experienced stress, anger, and grief as they lost jobs and pensions in the wake of dramatic economic restructuring. Bethlehem was no different, except, perhaps, in that there was an extraordinary pride in what had been built by the “arsenal of democracy” and the steel manufactured for the Golden Gate Bridge in San Francisco, the Chrysler Building in New York, and the Hoover Dam at Lake Mead, Nevada, to name a few.

A number of factors led to Bethlehem Steel’s rapid growth. Steel for munitions and vehicles was needed during World War I, and the 1907 installation of the elevated Hoover-Mason Trestle (HMT) conveyance, named for the New York engineering firm that designed it, increased production efficiency. By 1916, the plant was the nation’s number two steel producer (US Steel was number one). The company continued to expand, establishing its world headquarters in Bethlehem as it acquired other steel-producing plants across the country. It rode out the Great
Depression and increased production during the ramp-up to World War II, employing 31,000 people by 1943.

Along the way there were some serious challenges; perhaps the most significant is also a point of pride in steelworker history. In 1941, there was a four-day strike calling attention to conditions in the plant, which significantly improved in the years that followed. While the issues leading up to the strike had been in play for decades, the spark that lit the fuse was when the Steel Worker’s Organizing Committee (SWOC) protested the process of union representative elections on March 25, 1941. Two thousand workers walked off the job, overturned 50 cars, and were eventually met with intervention by the governor, which included the shutdown of bars and liquor stores as well as 125 state troopers being dispatched to the scene. The SWOC had led a 1937 nationwide strike when “big steel,” the US Steel Corporation empire (about twice the size of Bethlehem Steel), signed a contract with an independent union while “small steel,” like the entire Bethlehem Steel enterprise in 1937, stayed with company unions. That strike in 1937 led Bethlehem Steel to hire security guards armed with tear gas, shotguns, and machine guns as well as people to spy on union organizers. It also led to a filing with the newly formed National Labor Relations Board (NLRB) by the local SWOC, charging the company with intimidation tactics against those workers who wished to join a union. Two years later, the NLRB ordered Bethlehem Steel to break up the company union, ultimately leading the workers to form agreements with the United Steelworkers of America.

In the second half of the century, competition from foreign steel producers with more modern manufacturing systems began to take its toll as Bethlehem Steel started to diversify, but not to modernize, its plants. Between 1974 and 2000, US steel manufacturing employment loss nationwide totaled 370,000 jobs or 70% of all those employed by the industry. Within this period of decline, during the 1980s, foreign steel was imported at below-market cost. Workers who were eligible retired and took their pensions; some were forced to move to other Bethlehem Steel sites to get in the remaining years needed to qualify for a pension; others just moved on. In
ultimately failed as well. Plant closures occurred in parallel with efforts to sell and to expand into new markets as the company began to invest in more research. In the end, it was too little too late.

**PROJECT HISTORY AND LEADERSHIP**

SteelStacks’ history weaves together threads from four distinct narratives: the Bethlehem Steel story; the community’s history of innovation in arts and culture; a legacy of responsible risk-taking by city leaders and admin-
The place, still in the making, includes the Sands and SteelStacks campuses connected by the HMT Park, which serves as an armature for presentation venues and a locus for interpretation of the steel manufacturing and steelworkers’ stories. The trestle cohesively ties together the Levitt Pavilion, a visitor center, and a public realm significantly enhanced by the ArtsQuest and PBS39 buildings. All of this contributes in dramatic ways to the quality of life in Bethlehem, the reuse of the 1,760-acre brownfield, and the emerging revitalization of Bethlehem’s South Side neighborhood. Each of the organizations and individuals involved were essential to the realization of the project, each element built on what came before it, and all participants stayed open to the possibilities and uncertainties that followed. Their vision for the SteelStacks campus was constantly adjusting to the unpredictable dynamics of contingent real estate transactions, public processes, and state and local politics.

Because there are a number of entities with similar names, it will be helpful to define them here. The master plan initially created by Bethlehem Steel, and now largely realized, divided the entire 1,760-acre site into two development zones: a 1,610-acre parcel named the Bethlehem Commerce Center, an industrial park with an intermodal transportation focus, and Bethlehem Works Redevelopment Area (BWRA), a 150-acre education and entertainment venue located where the plant’s most historic structures sit. Currently, BethWorks refers to the 126-acre district purchased by local investors who later entered into a development partnership with Sands to form BethWorks Casino Gaming LLC and BethWorks Retail LLC. This allows us to track the reduction from a 150-acre BWRA education
and entertainment site where casinos were not permitted when developers conceived the first plan to one that is 126 acres and now contains both the 9.5-acre SteelStacks campus and the remaining 116.5-acres including the Sands campus and the properties BethWorks Retail LLC intends to redevelop.

The prevailing tactic employed by many of the organizations cooperating in the development of SteelStacks was to use arts and cultural venues as a driver for economic development. The local arts leadership saw this development process as a way to build social capital through arts and cultural venues while developing Bethlehem’s brand. This work included a focus on the history of steel manufacturing and went well beyond that to include the possibility of a mix of uses and venues like the Sands enterprise with casino, hotel, retail mall, restaurants, and performance venues of its own.

Incorporating all of this on the 126-acre site without overpowering its history required careful master planning and design. The pressure to bring this history forward was certainly local but also national, as following the completion of the Bethlehem Steel bankruptcy proceedings, the site made the 2004 National Trust for Historic Preservation list of threatened properties.

**Vision**

Planning for the site began with Bethlehem Steel forecasting its closing in the early 1990s. In 1992, Curtis “Hank” Barnette, formerly the company’s chief counsel, became chairman after the company had survived a cash flow crisis that almost ended in bankruptcy and then experienced five years of consecutive losses ending in 1991. ArtsQuest founder Jeff Parks recounts interviews with Barnette where the chairman demonstrated that he understood very well what the implications would be for the city if Bethlehem Steel closed. Parks asserts that Barnette approached the pending changes in the company he directed by respecting a company mandate to be a good corporate citizen to the city that hosted it. That meant planning for the closeout and reuse of the 1,760-acre site that would address brownfield issues, zoning constraints to redevelopment, and infrastructure needs and include a plan to sell the real estate to responsible buyers. It also meant attending to other assets including the company headquarters, the Homer Research Laboratories (once the largest steel testing facility in the world), and over 20 other properties on the city’s tax rolls. Managing the transition involved understanding and navigating complexities of land-use policy and legal and real estate transactions that required the resources and leadership Barnette provided.

Barnette’s approach involved four parallel tracks of action: (1) relief from the onerous conditions attached to transferring liability associated with the sale of brownfield sites; (2) a robust vision for how the former steel plant lands could be reused and create significant employment opportunities, recouping some of the job loss from the plant closing; (3) rezoning that would allow for new uses emerging with the vision; and (4) a vehicle to finance redevelopment. All four proved to be challenging but had an enormous impact on the overall success of both SteelStacks and the related Bethlehem Works development and reflect the depth of Bethlehem Steel’s and Barnette’s commitment to Bethlehem and the company’s legacy.

Without enlightened legislation enabling the sale and reuse of what was then the largest brownfield in the United States, the Bethlehem Steel site would have been unsalable because of the liabilities that transfer to new owners. Barnette believed that failure in this effort would result in the parcel only being cleaned up to a certain extent, perhaps planted with grass, and surrounded by a tall fence prohibiting access. This was the fate of many brownfields in the US until Bethlehem Steel, working with then Pennsylvania Governor Tom Ridge, developed the Land Recycling and Environmental Remediation Standards Act or Pennsylvania Act 2. Approved in 1995, Act 2 provided the legal framework, incentives for remediation, and funding for studies that allowed Bethlehem Steel to create and fulfill a two-part vision that became the foundation for the redevelopment of the site. Act 2’s success led to its receipt of the Ford Foundation’s award for Innovations in American Government in 1997.

**Planning**

Prior to Act 2, in June of 1994, Barnette and Bethlehem Steel began working with former Disney “Imagineers” and a consultant, Ralph Schwartz, who
was also an advisor to the nonprofit Historic Bethlehem. This team proposed a “high-tech theme park with high-quality museology.” By June of 1995, the Disney organization had agreed to take on the project, which included two components. Part one was to use the BWRA’s 150 acres as a museum, entertainment, and tourism district. At this stage, part one also included a 275,000-square-foot structure that it was hoped would become a Smithsonian Institute affiliate to be called the National Museum of Industrial History. Part two became the Bethlehem Commerce Park, involving the rest of the former plant site. It was originally envisioned as at least two large industrial parks. Bethlehem Steel officials report that the Disney organization pulled out when it saw it wouldn’t get a return on its money in the first five years (Bethlehem Steel estimated the group would not see returns until 12 years into operation). And, as it turned out, it would be years until the museum would be realized in a more modest version. While SteelStacks and its context of the surrounding Bethlehem Steel lands today are very different from this early planning vision, it remains grounded in the mix of education and entertainment that was rooted in this early work led by Bethlehem Steel.

Both parts of the 1994 proposal also included a clear understanding of the regional transportation access and infrastructure needed to support the planned uses. The realignment and completion of I-78 in the 1980s improved access to New York City and was seen as an important benefit. Bethlehem Steel sought to complement this advantage as it lobbied the state to redesign neighboring Route 412 into a four-lane boulevard that would eventually provide direct access to the casino, the Bethlehem Commerce Center, and the SteelStacks site.

**Zoning**

Barnette also addressed the need to rezone the property, working with his legal team to craft special zoning that would enable Bethlehem Steel to take advantage of Act 2 and implement the emerging vision. Here the grief and anger of the community became evident and the lack of trust in the company created difficult hurdles. It was a time of leadership transition for many local institutions, and there was less company presence in the civic organizations and governance structures than in the past. Still, the remaining contingent of the old guard made it possible to pass a broad, mixed-use, Industrial Redevelopment (IR) zoning option with few constraints, even over the objections of angry citizens who felt that the city was giving up control over what would happen on the site. Others were more inclined to believe the vision could actually become a reality more or less as outlined by Bethlehem Steel. The two negative votes, cast April 2, 1996, in a five-for-and two-against decision by the Bethlehem City Council, came from future mayors Don Cunningham and Robert Donchez. Eight years later, following the 2004 gaming legislation in the state, the original zoning required a revision that would enable the casino use. This move, in turn, allowed revenues from the casino to contribute to a tax increment financing proposal that would facilitate redevelopment of the full site. Both Cunningham and Donchez supported this zoning change.

**Tax Increment Financing**

Barnette retired as chairman of Bethlehem Steel in April of 2000, just prior to the 2001 bankruptcy filing, but not before working with Tony Hanna, the city’s director of community and economic development at the time, to negotiate an agreement for the Bethlehem Works Tax Increment
<table>
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<th>YEAR*</th>
<th>TITLE</th>
<th>AUTHOR/SPONSOR/PARTNERS</th>
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<td>1995 - 1996</td>
<td>Bethlehem Works</td>
<td>Bethlehem Steel</td>
<td>Bob Weis Design Island Associates and David Scott Parker, Architects with Ralph Schwartz</td>
<td>1760 acres</td>
<td>Provides a foundation for the redevelopment of the site and rezoning. Includes the planning for a smaller district (described below) and the foundation for the initial Industrial Redevelopment zoning passed in 1999.</td>
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<tr>
<td>1995 - 1996</td>
<td>Bethlehem Works Redevelopment Area (BWRA)</td>
<td>Bethlehem Steel</td>
<td>Bob Weis Design Island Associates and David Scott Parker, Architects with Ralph Schwartz</td>
<td>150 acres</td>
<td>Introduces the idea that a section of the entire Bethlehem Steel site should become an entertainment and education venue and includes the possibility of a Smithsonian Institute venue for the National Museum of Industrial History.</td>
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<tr>
<td>2002</td>
<td>City Plan/South Side</td>
<td>City of Bethlehem</td>
<td>Sasaki Associates</td>
<td>n/a</td>
<td>Forecasts an arts and cultural venue for the SteelStacks site.</td>
</tr>
<tr>
<td>2002</td>
<td>SteelStacks</td>
<td>ArtsQuest/Jeef Parks</td>
<td>n/a</td>
<td>30 acres</td>
<td>Proposes campus siting for ArtsQuest and PBS39.</td>
</tr>
<tr>
<td>2003 - 2005</td>
<td>BethWorks</td>
<td>BethWorks Now</td>
<td>With support from HOK Architects Inc. and RTKL Associates</td>
<td>126 acres</td>
<td>Derived from the 1995/6 BWRA Bethlehem Steel proposal; builds upon the 2002 SteelStacks proposal by ArtsQuest.</td>
</tr>
<tr>
<td>2005 - 2007</td>
<td>SteelStacks Master Plan</td>
<td>Bethlehem Redevelopment Authority</td>
<td>WRT Design</td>
<td>9.5 acres</td>
<td>Includes the final open space system, siting the Levitt Pavilion, audience area, and Hoover-Mason Trestle with plazas for ArtsQuest, PBS39, and the Bethlehem Visitor Center.</td>
</tr>
<tr>
<td>2011 - 2012</td>
<td>Lehigh University Master Plan</td>
<td>Lehigh University</td>
<td>Beyer Blinder Belle Architects and Planners and Grain Collective, Landscape Architecture/Urban Design</td>
<td>n/a</td>
<td>Campus plan proposing housing and enhanced retail; supports encouraging more spending on the South Side.</td>
</tr>
<tr>
<td>2011 - 2014</td>
<td>Vision 2040</td>
<td>HUD Sustainable Communities Grant</td>
<td>Lehigh University and Project for Public Spaces</td>
<td>n/a</td>
<td>Open space network plan and Eastern Gateway plus a focus on housing, open space, a commercial district, youth services, and capacity building for community organizations.</td>
</tr>
</tbody>
</table>

*Approximate dates
Financing District (TIF). The agreement established a low initial property value so that any development would increase the tax payments, creating a fund to invest in the infrastructure improvements required to achieve the Bethlehem Steel vision. The initial drafts of the agreement called for a TIF lasting 10 years, but doing the math and controlling for some of the unpredictable timelines for development led the team to recommend a 20-year term. The TIF agreement called for specific publicly-funded infrastructure investments intended to attract developers, such as extending the city street grid, adding water and sewer lines, and expanding Route 412 into a four-lane boulevard. It did not originally envision a casino resort on the property, but it did help make one feasible.

The initial investments represented a very big risk for a city that was already seeing the slide of Bethlehem Steel into bankruptcy; however, it was also one of the more important ingredients in the success of both SteelStacks and the Sands Casino Resort. Adding 10 more years to the TIF later that same year was also critical as it enabled the casino contributions to the municipalities supporting SteelStacks in the last decade of the TIF.

Clearly Barnette took Bethlehem Steel’s commitment to the city and region seriously. He remains involved to this day as part of the leadership for the emergent National Museum of Industrial History and speaks with pride about the foundation he laid to help reduce the stress in the community caused by the closing of the plant.

Arts and Cultural Campus
Bethlehem Steel’s bankruptcy, filed in 2001 and concluded in 2003 with the sale of the property to International Steel Group (ISG), introduced a great deal of uncertainty about the capacity to deliver on the ambitious vision, zoning, and TIF work initiated by the company. ArtsQuest founder Jeffrey Parks, with investors like Mike Perrucci and other colleagues interested in the adaptive re-use of historic property, began working with ISG to acquire the site.

The Perrucci group ultimately bought the property and created a modified plan for a 30-acre arts campus, scaled back from the 150 BWRA acres that were part of Barnette’s vision but still without expectation of a casino. The plan involved dozens of Bethlehem arts and cultural organizations, and ultimately, as Sands began to express interest in a casino resort, the work of ArtsQuest and investors yielded 52 letters of support for Sands in its bid for the gaming license. This contributed to the initial ideas for repurposing a portion of the former steel plant by the Sands organization. As partners with less financial capacity or tolerance for risk dropped out, and as the casino absorbed much of the adjacent land, the proposal shrank to the 9.5-acre SteelStacks campus that we see today.

ArtsQuest leadership and the City of Bethlehem felt that returning to the roots of successful cultural and arts activity in the community—and building on them—was more realistic than both the original Disney experience proposed by Bethlehem Steel and the Smithsonian Institute’s proposal to bring an ambitious 275,000-square-foot industrial history museum to the site. Both of those earlier efforts were stalled even after almost a decade of successful work by Barnette and his team to lay their foundation.

Parks has played a large role in the cultural life of Bethlehem as the founder of ArtsQuest, a community-based nonprofit providing arts, cultural, and educational programming and hosting Musikfest, an annual summer music festival. The Bethlehem Musikfest Association was established in 1984, and the first Musikfest was held that same year, drawing 180,000 people to the free event. Parks became full-time CEO of Musikfest in 1993. Later that same year, the organization borrowed another festival idea from Germany: Christkindlmarkt, an annual event held weekends throughout the Christmas season with an outdoor market offering craft wares and “Gluhwein,” a traditional hot beverage consisting of mulled red wine.

Parks saw potential in departing from the Disney and Smithsonian visions and creating a more authentic, rooted-in-Bethlehem home for arts and culture. A survey conducted by ArtsQuest following the Perrucci team’s acquisition of the site focused on the idea of an “art park” but also sought support for an approach that would pave the way for a Sands Casino Resort.
Earlier proposals for the Disney approach without a casino resort had also resulted in two rounds of intense discussions. All of this led to framing a potential project for consideration without, as of yet, full ownership in the property identified as the location of the proposed art park.

Parks believed in drawing on precedents and sought out experiences in other places around the world featuring festivals, industrial ruins, and specifically German traditions. He toured multiple sites with colleagues interested in the art park idea. These included a transformative visit to the Emscher Landscape Park in Germany’s Ruhr Valley and to the Old Ironworks in Völklingen in the Saar Valley near the French border. These sites used their industrial heritage for both historical interpretation and performance art, including concerts in the mouth of blast furnaces with elegant lighting to reveal the scale and detail of the technology, attracting tourists from around the world. But even with the conviction that they had the right precedent and a new name—SteelStacks, inspired by the stacks of blast furnaces—the group still did not have site control. That would have to wait for the complex transactions that followed Bethlehem Steel’s bankruptcy when the entire 1,760-acre site was acquired by ISG for $1.5 billion.

ISG worked with Jeff Feather, the Lehigh Valley Industrial Park (LVIP) board chair, to facilitate the sale of 450 acres of former Bethlehem Steel property to Majestic Realty for the first of several transactions that did not involve the 9.5 acres of the future SteelStacks. Conditions of the initial sale to Majestic required LVIP to manage the Act 2 clearance on the 450 acres, construct a new intermodal (rail to freight) service, and build a road (Commerce Center Boulevard). In all this entailed $33 million in public investment with $13 million funneled from Northampton County to the City of Bethlehem and the remaining $20 million from the state coffers. Ultimately, 1,100 acres of the former steel plant were conveyed to LVIP in June of 2004. Following the sale of the first lot from LVIP to US Cold Storage, part of the Bethlehem Steel property was back on city and regional tax rolls and housing a business that employed people.

John B. Callahan was already well-versed in the art park concept when he was elected mayor in November of 2003. He also did a pilgrimage to the
Ruhr Valley early in his term and was likewise especially impressed with the Emscher Landscape Park and Völklingen’s Old Ironworks, two public parks (the latter a UNESCO World Heritage Site) incorporating historic iron and steel production facilities. This trip and a Mayors’ Institute on City Design session, where Charleston Mayor Joe Riley reinforced the importance of industrial heritage, helped to set the stage for the final act that enabled the development of SteelStacks.

Sands Casino and Resort
Parks writes in the draft of his book *Stronger than Steel* that “Casinos in the Quaker State” legislation allowing slots gaming in July of 2004 led to “Las Vegas Sands coming to the Christmas City” and to very unlikely partnerships between Sands and nonprofits, municipalities at the city and county level, and the state. The casino was not part of the vision of Bethlehem Steel, the art community, or the city. No one saw it coming. But Parks had seen a precedent for it on a trip he took in 2000 to Melbourne, Australia, where he visited the South Bank Promenade, home to the Australian Broadcasting Company headquarters, a performing arts center, restaurants, shops, apartments, and condominiums anchored by a large hotel and casino—all on the grounds of a former industrial site.
In 2003, Michael Perrucci stepped away from his successful law practice in New Jersey, taking up residence in Bethlehem. Perrucci had been following the Bethlehem Steel bankruptcy and understood that the ISG acquisition of Bethlehem Steel was motivated by still-functioning plant operations. He also understood that ISG was forced to take the entire property in order to get what still worked and was interested in selling off the surplus. This led Perrucci to organize a group of investors he named “BethWorks Now” that began to explore ways to acquire other Bethlehem Steel property to assure a productive reuse. After the initial surprise of the slots legislation and the potential for one of two casinos licensed by the state to be located in the Lehigh Valley, Perrucci and his partners started a campaign, developing relations with the Sands organization, preparing for community debate on gaming, and working with public sector stakeholders. In their outreach, they discovered the ambitious 30-acre scope evolving through the efforts of ArtsQuest and others. Working with Parks and ArtsQuest, they eventually reduced the scope to the current 9.5-acre location and program for SteelStacks.

Then the team needed to address the competition among cities in the Lehigh Valley vying for the casino designation as well as make persuasive proposals to Bethlehem’s citizens, its mayor and city council, and the Pennsylvania Gaming Control Board. BethWorks Now joined with Sands to form two entities: Sands BethWorks Gaming for the casino and Sands BethWorks Retail for the non-casino component of the Sands resort. This enabled Sands to include SteelStacks and a partnership with ArtsQuest in its proposal to the gaming commission and to make commitments to preservation, including the agreement to maintain the five blast furnaces. Then Bethlehem, Allentown, Easton, and their associated county governments and school districts agreed on an approach to gaming revenue sharing. All of this took just enough heat out of the discussion to assure success.

In December 2006, Sands won approval for a stand-alone casino license. Between its opening in 2009 and 2017, the company reported paying $1.34 billion in total gaming taxes, including $136.8 million to local county, city, and school board recipients, and another $72.43 million in property taxes, $43 million in federal payroll taxes, and $7.1 million in state payroll taxes.

COMMUNITY PARTNERS
Several very visible leaders and community partners made SteelStacks a reality. An important part of the project history is clearly centered on the BethWorks Now team with Perrucci and the long history of Parks as founder of Musikfest and ArtsQuest. The role of Barnette as the chairman of Bethlehem Steel from 1986 until just prior to the bankruptcy filing in 2001 is also critical as he steered the transition of the overall site. And the project would not have been possible without the full engagement of Sands Casino. The unlikely story of SteelStacks hinges on a bankrupt steel organization and massive casino gaming enterprise teaming up with an investor group, a nonprofit cultural institution, and the local PBS station to create a highly successful arts and cultural campus.

Tony Hanna, a self-made planner who spent the first decade of the century as Bethlehem’s director of economic development and since 2010 has been executive director of the Bethlehem Redevelopment Authority (BRA), has also been a strong voice and strategist throughout the process. Hanna was educated as a civil engineer focused on environmental sciences and
resources at Lehigh University, and he taught there as an adjunct faculty member in the College of Business and Economics. In an article by Nicole Radzievich in Bethlehem’s daily paper The Morning Call about Hanna’s transition from economic developer to the BRA, she praised him for guiding the city through two recessions, the closing of Bethlehem Steel, and the arrival of the Sands casino development. Hanna has been at the table for almost two decades working throughout the process of developing and operating key elements of the SteelStacks campus. Prior to his positions with the city and the BRA, Hanna was a private developer and directed the affairs of the Historic Bethlehem Partnership. He has worked closely now with four mayors from 1999 to date.

The SteelStacks leadership and partnership story is about collectively taking strategic risks. The TIF was approved prior to gaming being on the horizon, but the city took on commitments for financing public infrastructure on the Bethlehem Works site and approved a zoning change for the former steel plant site, knowing that it would not likely generate enough revenue to support its investments and there were no guarantees that the brownfield would or could be substantially reused. In addition, a second zoning variance allowed gaming as a permitted use in Bethlehem, a controversial concept in a place sometimes referred to as the “the Christmas City” (a term adopted by the city’s chamber of commerce in 1937). Some early critics of the proposal considered it alien to traditional Moravian values and worried that the leadership of both the advocates for what became SteelStacks and for casino gaming were literally gambling with the Christmas City’s culture and future.

There was likewise no small amount of risk to ArtsQuest itself as it supported the casino, relied on casino sponsorship for Musikfest, and worked with Sands at all levels of government to establish the conditions for the success of the casino and resort enterprise. Still others viewed fundraising for ArtsQuest and the campus by Parks as a waste of money. Parks describes a particularly graphic lawn sign with a real toilet that had the seat up with a message inviting “donations for Jeff Parks.” ArtsQuest had been raising money for a new facility since 2008 when the recession hit, and it is a testament to the strength of its community support that it reached the $26 million mark for its new building in 2009, just prior to the start of construction. While Parks was characterized by some members of the community as a bulldozer, he was also praised as a visionary who brought many partners to the table.

Part of the fundraising for the new ArtsQuest Center involved the refinancing of one of the first arts facilities to open in Bethlehem’s South Side community, ArtsQuest’s Banana Factory. This well-established facility delivering solid programs to the South Side was refinanced to raise $3.5 million for the new ArtsQuest Center to be built in SteelStacks.

The transfer of property by Sands BethWorks to the BRA and to both PBS39 and ArtsQuest was also risky. A dust-up involving approval of the transfer of land occurred when it was made public that the transfer included a deed restriction by Sands that forbid any mention on the land of unions or the difficult labor-management disputes that would be seen as offensive by “any reasonable casino owner.” While this provision still stands today, it was approved by the mayor and city council at the time with their full understanding that it would not (and could not) be enforced because it is unconstitutional. They allowed it to stand because they did not want to disrupt the land transfer and were willing to risk court involvement should they ever be pressed to enforce it. The risk, of course, is that court interpretations of free speech are not always predictable, and there was considerable pressure from citizen protesters, who had discovered the wording in the deal just three weeks prior to a council vote. It is instructive to note that Sands CEO Sheldon Adelson took culinary workers all the way to the Supreme Court for picketing on the sidewalk that he said he owned. He lost that case.

These risks were tempered by solid planning, strategic engagement of constituencies, and cooperation—especially among regional players in the effort to bring gaming to Bethlehem, providing the partners with the TIF and tax revenues needed to make the SteelStacks campus a reality. The TIF has five more years to run and there is talk of allocating a share of the proceeds for a maintenance endowment for SteelStacks. The risks were also mitigated by the prospect of a very large brownfield
left empty and abandoned with a decaying steel mill in the heart of Bethlehem’s South Side.

An open workshop-based collaboration among several groups also helped counter the risks shared by, and build trust among, the various SteelStacks partners and kept the dialogue open about possibilities for the site. The South Side Initiative of Lehigh University and the nonprofit Heritage Partners both hosted community forums on the development of SteelStacks and planning for the South Side neighborhood. Workshops on the South Side vision begun in 2001 and led by Sasaki Associates focused on improving the South Side community in the hope that the Bethlehem Steel site would be redeveloped. PBS39 and ArtsQuest partnered to share and coordinate programming in side-by-side facilities across from the blast furnaces even when the technology requirements of public television seemed to preclude their sharing the same building. The cooperation among citizens, anchor institutions, and city government was strong throughout the process.

**DESIGN AND DEVELOPMENT**

Respect for SteelStacks’ origin story and the growth and eventual decline of Bethlehem Steel was a primary programmatic imperative guiding all of the planning and design on the campus. It became an explicit intention to respect and showcase the historic site in the new campus program. The early visions for the site by Bethlehem Steel that imagined a potential Disney theme park were ultimately replaced by a less heroic approach to architecture and landscape that was steeped in respect for the industrial archeology and cultural history of the site.

The two areas of redevelopment (Sands and SteelStacks) were connected by a new road, the reconstructed First Street and, later, the 1,650-foot Hoover-Mason Trestle (HMT). After the initial street infrastructure was completed, the first projects to occupy the SteelStacks campus were the two new buildings housing ArtsQuest and PBS39. These structures were planned prior to the master planning, and they established early design principles that drew upon previous planning work by Bethlehem Steel and ArtsQuest that separated the arts campus from the industrial park and eventually the casino.

The Philadelphia-based firm Wallace Roberts and Todd (WRT) planned and designed the new HMT elevated pedestrian walkway, the Levitt Pavilion, parking that would also support very large festival or performance events, and the public realm of SteelStacks. They spoke of their work as a kind of dance between design, management, finance, and stakeholder coordination with multiple construction managers and interested parties working through brutal winters. There were many public meetings that led to what the team described as a “charrette syndrome,” where participants with different points of view expressed their aspirations for the site. Historic Bethlehem Partnership alone organized three public meetings engaging over 20 local and regional heritage organizations. The South Side Initiative of Lehigh University sought to inspire democratic discussion and university-community collaboration, organizing multiple classes and community programs that also generated food for thought for the consultant team. ArtsQuest partner organizations had already learned from collaboration on the Banana Factory and performing arts center and used that to inform the master
plan. For the WRT design team, it became a question of how to edit the broad and divergent range of issues revealed in the ground-up discussion: “How do we get to the essence and curate the site with a light touch?”

Tony Hanna and his team at the BRA encouraged those working on SteelStacks to see the site as an extension of a living neighborhood from which they had previously been denied access. Until the mill closed in 1995, the entire enterprise was walled off from the community and separated residents from the river. The extension of the city street grid into new roads and walkways within the campus was an important initial step. Satellite and bus parking was needed. New homes, restaurants, and pedestrian access would add life to the context of SteelStacks.

A South Side plan produced by Sasaki in 2001 for the city inspired SteelStacks’ infrastructure, including pedestrian connections to and through the former mill site and adding a greenway along former rail lines. Work by city agencies and the Community Action Development Corporation of Bethlehem with the Project for Public Spaces on South Side Vision 2014 emphasized a greenway and walkable neighborhoods. Initial planning and design drew on a largely top-down process by Bethlehem Steel and later by Sands Casino, supported by design firms HOK and RTKL dating back to 1997. This early work also called on the city to bring the neighborhood grid into the site and to provide for a dynamic mix of uses including entertainment and the National Museum of Industrial History, together with a viable mix of other commercial and industrial park uses.

In the initial infrastructure constructed by the city, artifacts of industrial production were used to line the streets. But the WRT team wanted to avoid treating the artifacts as disembodied elements. Rather, they sought to interpret them in context, recognizing that steelmaking was in the relationships among processes, and they wanted to tell that story in light of the people who made it possible. They hoped to find subtle ways to embed interpretation without attracting too much attention while at the same time creating a space that visitors found powerful under any condition, quiet or crowded, a place that humbled visitors with its history even as they enjoyed active social and cultural programming. It was an ambitious goal.

The WRT team worked to create an unfinished, even simple aesthetic, one that needed to feel like a work in progress, always inviting the next iteration or interpretation. They believed that the town square as a general concept could be the biggest threat to place making because it offers a single vision in lieu of the potential to be an organic framework that sets the tone and inspires future direction. They wanted nothing extra, choosing instead to keep buildings, lighting, and street furniture as unobtrusive as possible.

**ArtsQuest Center**

The ArtsQuest Center is a simple 67,000-square-foot building designed by Joseph Biondo, principal and lead architect at the local firm Spillman Farmer Architects. The structure’s four-story glass façade faces the Levitt Pavilion and historic blast furnaces (the Stacks). Biondo says that his design intent was to go “toe-to-toe” with the blast furnaces. For a Bethlehem native, that was taking on a lot. As became clear in the design development, “toe-to-toe” was simultaneously an aspirational statement to keep from being lost in the presence of the massive blast furnaces and an intent to respect their importance to the entire concept of SteelStacks and the history of the site. The glass façade provides views from all floors of the spectacular backdrop.

Biondo’s design is a rectangular box that contains offices; a restaurant; and special event, performance, and exhibition venues bringing year-round activity to the site. There is a two-screen cinema and a large area for live performances with a second-floor loft that hosts visual art displays. A soundproofed room accommodates more intimate music, dance, and spoken word programs. A small café/bar called The Mike and Ike Bistro is also part of the first floor. The third and fourth floors offer cabaret-style performance venues, seating about 450 people or 1,000 in standing-room-only events, with no fixed seating or proscenium stage, enabling a great deal of flexibility in their use. WRT designed the landscape of the plaza, including the ArtsQuest Center outdoor patio and the public realm between the facility and the Levitt Pavilion.
The SteelStacks campus is centered on the twenty-first-century town square and anchored by the historic blast furnace.
A WALK ON THE TRESTLE

The historic Hoover-Mason Trestle has been converted into a park which provides an armature for the campus.

The Hoover Mason Trestle was both the literal and metaphorical backbone of the Bethlehem Steel plant. Transporting the raw materials used to produce steel in the blast furnaces, the Trestle carried the weight of a complex system of parts. Materials carried in the rail cars were released into large bins below the tracks, where they were weighed, then lifted into the blast furnaces, an elaborate process of interaction between tectonic parts.

The historic Hoover-Mason Trestle has been converted into a park which provides an armature for the campus.
The ArtsQuest Center features a four-story glass façade facing the plaza.

The ArtsQuest facility also features a Steel Tribute Wall, described on the ArtsQuest website as “the perfect venue (at the base of the blast furnaces) to permanently list the names of employees who gave their time, talent and heart to the Bethlehem Steel Corporation, the City of Bethlehem and the entire nation.” The wall is glass over blond wood with the employee names framing a photograph of a single steelworker. On Father’s Day each year, there is a ceremonial reading of the names that celebrate as many as five generations of families who worked in the mill.

ArtsQuest also enriched the overall experience of the SteelStacks public realm by hosting a public art competition sponsored in part by the National Endowment for the Arts. The program called for a fire sculpture for the site. Elena Columbo, an artist from Scranton, Pennsylvania, won the competition. She created a 72-foot-long Corten steel arc with a 37-foot-long flame on its top as a reference to the fire-based blast furnaces celebrated on the site. The arc, known as The Bridge, extends from its base in the plaza in front of the ArtsQuest Center over Founders Way toward the blast furnaces. The names of the most famous projects constructed with Bethlehem Steel are inscribed at the base of the sculpture.

PPL Public Media Center at PBS39
PBS39 is the Lehigh Valley’s public broadcasting station, though it reaches a worldwide audience of 12 million people via satellite. It provides national and local programming with an emphasis on geographic, ethnic, and age diversity. The station offers regular opportunities for about 500 students a year to record programs and works with literacy volunteers and emerging leaders in the community.

The new headquarters for PBS39 carries the tagline “Convening the Community” and includes space for 33 full-time staff, one studio with 150 audience seats, and a similarly sized, fully-equipped studio available to rent. It replaces a facility that was over 40 years old and in a location that rendered the organization invisible to the community. With its new location at SteelStacks, PBS39 moved to an almost center-stage position as part of an international destination offering state-of-the-art facilities where free workshops and community meetings of all kinds can be held.
station has hosted programs with the United Way, the Orchid Club, the NAACP, the Boy Scouts, Lafayette College, Lehigh University, Northampton County high schools, the Lehigh Valley Dual Language Charter School, and dozens of others, many with a specific focus on the changing demographics in the South Side of Bethlehem.

The two-story, 29,000-square-foot, $14 million building, designed by the architecture and engineering firm URS (now AECOM), works well with its ArtsQuest neighbor in both form and simplicity even while being half its size. It does not compete for attention with the blast furnaces. Like its neighbor, it also has large glass areas in its façade facing the stacks, First Street, and the Levitt Pavilion. Additional seating and performance areas fill the space between its building and the street.

**Levitt Pavilion**

The program for the Levitt Pavilion, designed by WRT, called for the ability to host 50 free family-friendly concerts a year with lawn seating for 2,500 attendees. It needed to avoid obstructing the blast furnaces behind it and to provide ample support for back-of-house and green room functions. In addition to the performance aspects of the pavilion, WRT was tasked with designing the public realm connecting the ArtsQuest and PBS39 buildings facing the blast furnaces, the Bethlehem Visitor Center in the renovated historic Stock House, and the HMT.

The charge given by the BRA was to place this pavilion in a “21st century plaza.” They used this phrase to free the planners from conventional ideas of a plaza or town square and to invent a place that would work for contemporary events and tie in with the HMT and blast furnace geometries. The plan had to “shoehorn” in the audience space between the fixed elements of the blast furnaces and HMT to the north and the ArtsQuest and PBS39 buildings to the south. The design team believed these fixed features required First Street, the new road to the south of the furnaces, to curve farther away from them in order to accommodate the pavilion, 2,500 people, and vistas of the furnaces while maintaining connectivity to the neighboring street grid. The suggestion of moving a road that was brand new may have been vexing to Hanna, but the concept presented a solid.
solution to a lot of problems and ultimately won the day. Given the curved area for the audience and pavilion, the WRT design team led by Antonio Fiol-Silva set about fitting the program of performance, green room, bathroom, concession, and equipment facilities to one side of, rather than more traditionally behind, the stage.

The pavilion’s asymmetrical canopy challenges the rhythm and geometry of the five blast furnaces and the rectangular forms of the two new structures on the other side of the street. The canopy is constructed of 240 metal panels with ¼-inch perforations with staggered centers on 11-gauge steel. It is 37 feet tall and projects 35 feet over the stage but does not interrupt the datum line of the trestle behind it. The green room, bathrooms, and concession areas are all low and stage right in what appears to be a large truck—including its cab and front tires—in deference to the Mack Truck sponsorship that helped finance the pavilion. Construction cost $7.5 million.

The whole pavilion, with its clean lines and metal skin, was designed to pay its respects to fabrication. It is no wonder that the trade magazine *Metal Architecture* gave it a 2012 design award. The perforations, depending on lighting and the viewer’s position, render the skin translucent or opaque, and from certain angles, the outline of the furnaces behind the canopy is visible. The American Institute of Architects also gave the pavilion a national small projects award in 2015.

Bethlehem Visitor Center

USA Architects received the commission to design the reuse of the historic 1863 Stock House, the oldest remaining building on the site. Their design for the rubble masonry structure required adaptive use of the building while retaining key historical features and details and providing the needed programmatic flexibility, including adding a full second floor inside a building that never had one.

The program for the $6.5 million, 14,000-square-foot building is simple. It includes a visitor center on the ground floor that opens to a plaza and offers ample restroom facilities to support the large events that take place
at SteelStacks. Visitors have the usual opportunity to browse brochures on area attractions but can also learn from electronic displays with information on the history of the area and map-based data on where to eat, play, or stay. The second floor houses administrative offices for ArtsQuest employees, rented to the nonprofit in exchange for its administration of the visitor center. All of this is produced in accordance with the National Park Service Secretary of the Interior’s Standards for Historic Rehabilitation.

**Hoover-Mason Trestle**

The most recent structure added to the campus, the HMT is an elevated pedestrian walkway that stretches above the SteelStacks plaza and Levitt Pavilion along the path where 90 tons of ore a day were delivered on a dual-gauge rail system to the blast furnaces where they were then heated to over 3,000 degrees Fahrenheit to make the pig iron ready for steel production. The WRT-designed walkway honors steelmaking history by following the original track line, interrupting it only to offer better viewing angles of the stacks and the surroundings, create opportunities to screen mechanical equipment, and provide space for interpretative plaques.

The simplicity of the design elements avoids distracting visitors from the furnaces and surrounds. Sidewalk downlights on the plaza below leading to the trestle elevator or stairs, for example, are non-ornamental galvanized frames that can also hold banners or signs announcing events on the plaza. The elevator itself was originally designed to be transparent, but during the value engineering process, the design team switched to metal, believing it made the solution stronger and more consistent with the place. There was also a lot of discussion of the broad, angular staircase and walkway leading to and along the trestle. Should they be painted or left as bare metal? Ultimately the designers went with bare metal, allowing the weathering to increase its visual consistency with the context. Its simplicity makes for a more striking entrance to the HMT, especially when lit at night.

Precast, canted planters were placed on the trestle to suggest the bins that delivered their payload to the furnace. The design team retained the consulting services of Patrick Cullina with PC Horticultural Design, who
began with an exploration of the ruderal landscape that grew during the period following the abandonment of the blast furnaces and HMT. These pioneer plant species, some exotic and some indigenous, were inventoried, and policies were established to preserve them in place when possible or transplant them to the planters.

Perhaps the most dramatic element of the HMT is the lighting, inspired by a similar approach used on blast furnaces in the Ruhr. Programmable LEDs (sometimes in bright red and blue) illuminate the furnaces and emphasize their size, allowing viewers to experience their full scale and power at night. The lighting also animates the plaza and trestle, frames the experience of performances in the Levitt Pavilion, and reinforces the views from the ArtsQuest and PBS39 buildings.

The HMT plays a critical role in one of the goals of SteelStacks: to chronicle “the story of a towering industrial monument and the community that grew around it.” The narrative of steelmaking and the story of the steelworkers in the community is captured by the visitor center and the HMT. The Bethlehem Heritage Coalition, a group of local historical organizations tasked by the city with developing an interpretative strategy for the trestle, recommended addressing all of the following themes:
- the technology;
- the steelworker’s work life, culture of the plant, and relation of the site to national, regional and global events;
- relations between the plant, the city, and the region;
- the story of the ongoing transformation of the site.

These themes were further developed in conversations with former steelworkers and from the publications of the Steelworkers Archives now housed in the mall adjacent to the Sands Casino. The mission of the organization, according to its website, “is to preserve the history of our steelworkers, their rich heritage and diverse cultures, their struggles and accomplishments.” Ultimately, the themes were incorporated into an award-winning web-based platform produced by the digital media consultant Bluecadet. The platform offers a guided tour, complete with videos showing the plant in action. The digital tour is supplemented by 25 stations along the trestle that also display metal plaques with text and photos covering topics such as “Visions for an Iron Rail Mill,” which includes a quote from Robert Sayre when he was chief engineer of the Lehigh Valley Railroad and was forming Bethlehem Iron in 1863. Sayre, writing to Ironmaster John Fritz, said, “The establishment of a good mill at this place, producing a first-rate quality of rails, will establish your reputation in a section of the country that is destined to be, in my opinion, the most populous and wealthy in this or any other state... I predict a growth for it that will surprise its most sanguine citizens.”

**ACTIVITIES AND PROGRAMS**

Perhaps the best measure of site activation is the listing of almost 5,000 ArtsQuest activities and events on the campus in 2016 alone. The festivals listed in Table 2 involve a March through December array, sometimes sharing venues with several sites across the city of Bethlehem. These activities include:
- A high school jazz showcase competition bringing in 20 bands from the region. Last year’s winner opened for a name act in the concert series and was subsequently invited to perform at the New Orleans Jazz and Heritage Festival.
- The TD Bank-sponsored Community Stage with 100 free performances by local and regional artists.
- The free family-based Saturday morning arts program Peas & Qs (music, art and storytelling) and Step Outdoors festival offerings for urban hiking, fishing, and observation tours of the Peregrine falcons nesting on the site.
- The Levitt Pavilion program (over 50 performances a year), which draws 80,000 patrons annually.

Two examples serve to illustrate the evolution of activities and programs based on changing demographics on the South Side. This community used to be home to many western and eastern European settlers who came to work at Bethlehem Steel. Today it is home to a large contingent of Latin Americans, leading SteelStacks to offer a three-day, free “Sabor” ("taste") festival each June, as well as a January festival called the Three Kings Day Celebration. In addition, according to ArtsQuest, 2014’s inaugural FIFA
<table>
<thead>
<tr>
<th>MUSIC PROGRAMS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Musikfest</td>
<td>472</td>
</tr>
<tr>
<td>Creativity Commons/Town Square</td>
<td>117</td>
</tr>
<tr>
<td>Musikfest Café concerts</td>
<td>91</td>
</tr>
<tr>
<td>Christkindlmarkt</td>
<td>64</td>
</tr>
<tr>
<td>Levitt Pavilion</td>
<td>52</td>
</tr>
<tr>
<td>Peas &amp; Qs</td>
<td>47</td>
</tr>
<tr>
<td>Oktoberfest</td>
<td>38</td>
</tr>
<tr>
<td>Blues Fest</td>
<td>23</td>
</tr>
<tr>
<td>Patriotic holidays</td>
<td>17</td>
</tr>
<tr>
<td>Peepsfest</td>
<td>17</td>
</tr>
<tr>
<td>Sabor</td>
<td>14</td>
</tr>
<tr>
<td>Blast Furnace Room</td>
<td>13</td>
</tr>
<tr>
<td>Yuengling Summer Concert Series</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL EVENTS</strong></td>
<td><strong>968</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VISUAL ARTS PROGRAMS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SteelStacks classes and workshops</td>
<td>26</td>
</tr>
<tr>
<td>SteelStacks exhibits</td>
<td>6</td>
</tr>
<tr>
<td>Banana Factory classes and workshops</td>
<td>1281</td>
</tr>
<tr>
<td><strong>VISUAL ARTS ACTIVITIES AT EVENTS (FREE)</strong></td>
<td><strong>1313</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VISUAL ARTS ACTIVITIES AT EVENTS (FREE)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SouthSide Arts Festival</td>
<td>4</td>
</tr>
<tr>
<td>Musikfest</td>
<td>30</td>
</tr>
<tr>
<td>First Fridays</td>
<td>11</td>
</tr>
<tr>
<td>First Friday art activities</td>
<td>22</td>
</tr>
<tr>
<td><strong>TOTAL EVENTS</strong></td>
<td><strong>67</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUTREACH PROGRAM SESSIONS (FREE)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B-Smart</td>
<td>88</td>
</tr>
<tr>
<td>Faces of the SouthSide</td>
<td>32</td>
</tr>
<tr>
<td>Visual Literacy</td>
<td>15</td>
</tr>
<tr>
<td>Holy Infancy</td>
<td>50</td>
</tr>
<tr>
<td>ArtSmart</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL EVENTS</strong></td>
<td><strong>193</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER LARGE EVENTS (NOT INCLUDED ABOVE)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Kings</td>
<td></td>
</tr>
<tr>
<td>Souper Bowl</td>
<td></td>
</tr>
<tr>
<td>GS Cookie Crunch</td>
<td></td>
</tr>
<tr>
<td>Grilled Cheese</td>
<td></td>
</tr>
<tr>
<td>Easter Brunch</td>
<td></td>
</tr>
<tr>
<td>Mother’s Day Brunch</td>
<td></td>
</tr>
<tr>
<td>Border Brawl</td>
<td></td>
</tr>
<tr>
<td>Glass Blast</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL EVENTS</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

| TOTAL EVENTS                              | **4914**|
World Cup SoccerFest and Viewing Party brought over 35,000 soccer fans from all across the city to SteelStacks to view the games. This demonstration of the city’s passion for soccer attracted a league team—the Bethlehem Steel—to the city.

Like casinos everywhere, Sands also has a set of performance venues as well as several restaurant options, a hotel, and retail mall. Casino staff report eight million visitors a year, the majority coming from within a 100-mile radius. This is well above the original estimate of five million when the Casino opened. The hotel is holding at the county average of 75% occupancy, though Sands did not share statistics on the success of the retail mall. With the addition of table games to slots, the profitability of the casino has swelled.

FINANCING

SteelStacks Capital Costs

The total estimated cost for the SteelStacks Arts and Cultural Campus was $93.5 million. This was allocated, in round numbers, as follows: $45 million to the Bethlehem Redevelopment Authority (BRA), $34 million to ArtsQuest for its building and $14 million to PBS39 for its building.

Actual costs for the PPL Public Media Center at PBS39 came in $3 million higher, bringing its total to $17 million. The ArtsQuest Center, by contrast, came in almost $4 million lower at $30 million. The net increase came to about $700,000, making the total cost for the campus approximately $94.2 million. In terms of the city’s share, the Sands Casino Resort contributed a total of over $69 million to the city between 2010 and 2016, which more than repaid the $45 million contributed by BRA to the project.

The SteelStacks campus is not income-generating, although event fees, grants, sponsorships, and philanthropy cover its operating expenses. All campus tenants and activities are nonprofit.

PBS39 and ArtsQuest report receiving a total of $12.74 million in Pennsylvania Redevelopment Assistance Capital Program (RACP) grant funds towards the $48.5 million capital improvements by ArtsQuest and PBS39.
In addition, the $45 million in other improvements and public spaces and buildings were financed through TIF funds by the BRA. This $93.5 million investment also includes the Visitor Center, Levitt Pavilion, and HMT, as well as public plazas, roads, and other related infrastructure.

Altogether, the total cost of the HMT and lighting was $16 million. Another phase of the HMT is planned that will link the blast furnaces with the Sands campus, completing the armature that connects Sands and SteelStacks.

The listing of ArtsQuest sources and uses reveals $30.2 million received from the Northampton County hotel tax, HUD block grant funds, proceeds from refinancing other assets including the Banana Factory, donations, and a bridge loan, plus $7.6 million from the RACP. The PBS39 building sources include $17.1 million from the TIF, the Commonwealth of Pennsylvania, Northampton County, private funds, foundations, a bridge loan, and New Market Tax Credits.

All of the land for the 9.5-acre campus was donated to the city by the Sands BethWorks partners except for the footprints of the ArtsQuest and PBS39 buildings, which were donated directly to the respective nonprofits.

Sands has expressed a desire to sell the Sands Casino Resort and all its property in Bethlehem, introducing some uncertainty and making future planning and financing for the Sands holdings more unpredictable. That said, all indications are that Sands has been a beneficial addition to Bethlehem, its neighboring cities, and the Commonwealth of Pennsylvania.

Planning to create a maintenance endowment for the SteelStacks campus has begun. The property transfer agreement with Sands assures continued maintenance for the blast furnaces, although no data from Sands are available that speak to how much is currently being spent on their maintenance or what will be required in the future. An independent assessment has been done by The Stone House Group for the BRA using rules of thumb, but the complex relationships between partners has not been fully negotiated. The operating budgets for the ArtsQuest Center and SteelStacks reveal healthy cash flows for both with modest surpluses to carry forward.

<table>
<thead>
<tr>
<th>TABLE 3: STEELSTACKS CAPITAL COST SUMMARY*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BETHLEHEM REDEVELOPMENT AUTHORITY INVESTMENT</strong></td>
</tr>
<tr>
<td>Streets, utilities, parking, and related infrastructure</td>
</tr>
<tr>
<td>Open space (plazas, parks, amphitheater lawn, etc.)</td>
</tr>
<tr>
<td>Bethlehem Visitor Center</td>
</tr>
<tr>
<td>Levitt Pavilion</td>
</tr>
<tr>
<td>Hoover-Mason Trestle (includes blast furnace lighting)</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
</tr>
<tr>
<td><strong>INSTITUTIONAL INVESTMENT</strong></td>
</tr>
<tr>
<td>ArtsQuest Center</td>
</tr>
<tr>
<td>PPL Public Media Center at PBS39</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

*Estimates as of January 2016.
## Table 4: Artsquest Center and PPL Center for Public Media at PBS39 Development Sources and Uses

<table>
<thead>
<tr>
<th>PPL Center for Public Media at PBS39 Sources</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PA Redevelopment Assistance Capital Program</td>
<td>$5,125,000</td>
</tr>
<tr>
<td>New Market Tax Credits</td>
<td>$3,530,000</td>
</tr>
<tr>
<td>Leadership campaign</td>
<td>$2,015,863</td>
</tr>
<tr>
<td>Bridge loan</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>PA Neighborhood Assistance Program</td>
<td>$1,700,000</td>
</tr>
<tr>
<td>Northampton County</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Endowment</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Pennsylvania earmarks</td>
<td>$250,000</td>
</tr>
<tr>
<td>Foundations</td>
<td>$215,000</td>
</tr>
<tr>
<td>Private funds</td>
<td>$161,000</td>
</tr>
<tr>
<td>Board campaign</td>
<td>$50,500</td>
</tr>
<tr>
<td>Rider pool</td>
<td>$1,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$17,048,363</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTSQUEST Sources</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PA Redevelopment Assistance Capital Program</td>
<td>$7,625,000</td>
</tr>
<tr>
<td>New Market Tax Credits</td>
<td>$7,098,000</td>
</tr>
<tr>
<td>Bridge loan</td>
<td>$4,000,000</td>
</tr>
<tr>
<td>Cash</td>
<td>$3,890,000</td>
</tr>
<tr>
<td>Banana Factory refinancing proceeds</td>
<td>$3,500,000</td>
</tr>
<tr>
<td>Balance of Capital Campaign and Pennsylvania</td>
<td>$2,886,000</td>
</tr>
<tr>
<td>Redevelopment Assistance Capital Program</td>
<td></td>
</tr>
<tr>
<td>Northampton County Hotel Tax</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>US HUD Community Development Block Grant</td>
<td>$245,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$30,244,000</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PPL Center for Public Media at PBS39 Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and engineering</td>
</tr>
<tr>
<td>Construction and landscaping</td>
</tr>
<tr>
<td>Integrator and equipment</td>
</tr>
<tr>
<td>Other soft costs</td>
</tr>
<tr>
<td>Interest on bridge loan and related Tax</td>
</tr>
<tr>
<td>Increment Financing expenditures</td>
</tr>
<tr>
<td>Equipment and furnishings</td>
</tr>
<tr>
<td>Other, including New Market Tax Credits</td>
</tr>
<tr>
<td>Construction management</td>
</tr>
<tr>
<td>Contingency</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTSQUEST Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Equipment and furnishings</td>
</tr>
<tr>
<td>Design and engineering</td>
</tr>
<tr>
<td>Other soft costs</td>
</tr>
<tr>
<td>Construction management</td>
</tr>
<tr>
<td>Demolition</td>
</tr>
<tr>
<td>Sculpture/public art</td>
</tr>
<tr>
<td>Other hard costs for site improvements</td>
</tr>
<tr>
<td>Underground utilities</td>
</tr>
<tr>
<td>Land acquisition</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

*Estimates as of January 2016*
## TABLE 5: ARTSQUEST AND FRIENDS OF THE LEVITT PAVILION 2016 OPERATING BUDGETS

<table>
<thead>
<tr>
<th>FRIENDS OF THE LEVITT PAVILION</th>
<th>ARTSQUEST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REVENUE</strong></td>
<td><strong>REVENUE</strong></td>
</tr>
<tr>
<td>Board contributions</td>
<td>Musikfest Café</td>
</tr>
<tr>
<td>Levitt Foundation</td>
<td>Visual arts</td>
</tr>
<tr>
<td>Sponsorships</td>
<td>Cinema</td>
</tr>
<tr>
<td>Grants</td>
<td>Creativity Commons/Town Square</td>
</tr>
<tr>
<td>PA Neighborhood Assistance Program</td>
<td>Comedy</td>
</tr>
<tr>
<td>Special events</td>
<td>Education and outreach</td>
</tr>
<tr>
<td>Earned (tickets, merchandise, commissions)</td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>EXPENSES</strong></td>
<td><strong>EXPENSES</strong></td>
</tr>
<tr>
<td>Programs</td>
<td>Visual arts</td>
</tr>
<tr>
<td>Support services (including personnel)</td>
<td>Musikfest Café</td>
</tr>
<tr>
<td>Capital improvements</td>
<td>Cinema</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Creativity Commons/Town Square</td>
</tr>
<tr>
<td></td>
<td>Comedy</td>
</tr>
<tr>
<td></td>
<td>Education and outreach</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>Net Loss</strong></td>
<td><strong>Net Profit</strong></td>
</tr>
<tr>
<td>($4,606)</td>
<td></td>
</tr>
</tbody>
</table>
This puts the burden on the BRA to maintain the rest of the site. Hanna calculates that an endowment of about $2 million could generate about $100,000/year, but Hanna and the consultants agree that will not be enough. His plan is to supplement the funds with organizational efforts around a “Friends of the HMT” or other grant or support funding.

PROJECT EVALUATION

The story of SteelStacks began long before it was even imagined as a project. Individuals with long memories and a deep understanding of the culture of their city leveraged the community’s powerful attachment to its steel-making legacy to establish Bethlehem as a destination for tourism. And the continuity of the leadership in the community over decades in the public, private, and nonprofit sectors pulled these threads together to make an active and vital place of arts and cultural performance and education for its citizens and tourists. There was no small amount of luck in this project, given that much of the capital to finance it arrived late in the process and from an unexpected source, the Sands Casino and Resort. And finally, place making is not about design that overpowers a site and its context. In this community and place, it is a more precise and even humble set of gestures that pay their respects to the larger place being made.

IMPACT

The impact of this project can be felt throughout the Lehigh Valley, measured in pride, economic development, and the initiation of the reclamation of the South Side of Bethlehem. More broadly, the project provides a precedent for brownfield reclamation, historic preservation, and interpretation, having been removed from the National Trust’s most endangered list.

The project is supported by a relatively simple and non-heroic architecture and site design that allows the historic fabric to stand out. However, in execution, there was nothing simple about the project. It was the product of extraordinary alliances among city, county, and state governments at just the right time in just the right way in an environment of risk to reputations, tricky politics of development, and deeply rooted cultural norms uncomfortable with gambling or anything that might be seen to denigrate the history and legacy of the city and its steelworkers.
Pride

One word often used when describing the impact of SteelStacks is “pride.” Bethlehem has become the third largest tourism destination in Pennsylvania behind Philadelphia and Pittsburgh. There is a palpable sense among all sectors of the community that they have done the right thing regarding their 125 years as a steel town while at the same time finding ways to diversify the city’s economy and put people to work.

Evidence of long-standing attachment to the site can be found in the Steelworkers Archives, interpretations of the life of the steelworkers on the HMT, and in a recent book of interviews prepared by a former steelworker and chair of the Steelworker Archives, Frank Behum. The annual reading of the names of steelworkers by ArtsQuest at the Steel Tribute Wall brings generations of families to SteelStacks every Father’s Day.

Bethlehem Steel was among the most vertically-integrated companies in the world. It owned ships, mines, railroads, and the mills that made the steel. The company touched the lives of hundreds of thousands of people through the course of well over two centuries, and SteelStacks is a pilgrimage site for former steelworkers and their families.

The long list of design awards already in the SteelStacks portfolio as well as an extensive array of publications on different aspects of the project are another source of pride. The project has established itself as a significant precedent for the reuse of large brownfield sites, the creation of urban arts and cultural venues, and the preservation of industrial heritage.

There was contention about the inclusion of a casino. Putting aside the fact that the project wouldn’t have been possible without the TIF and fee revenues, the casino and resort hotel campus is a distinct entity separated from the arts and cultural campus but joined physically through First Street. This connection will be strengthened by the future extension of the HMT. It is not clear that casino clientele are central to the popularity of SteelStacks, though they have been observed in the plaza and on the HMT. That said, it seems likely that the casino may gain some benefit from SteelStacks patrons who also visit the casino. The Moravian community and leadership find the casino offensive, and the choice to bring a casino to Christmas City has created a divide in the otherwise cohesive culture of Bethlehem. But the culturally-inclusive success of SteelStacks appears to have mollified some of the opposition. To a very large extent, all informants from the community—including representatives from the city, arts and cultural organizations, former steelworkers, educational institutions, and the businesses community—expressed enthusiasm for the project.

Economic Returns

In the draft of his book, Jeff Parks suggests that sometimes it is the not-for-profit enterprises that test the viability of place making of all kinds. If they succeed, people follow. He draws on the narrative of the “creative class” offered by urban theorist Richard Florida in his book The Rise of the Creative Class, and the longstanding success of Musikfest and ArtsQuest are evidence of the wisdom of building on the city’s cultural venues. ArtsQuest, with Musikfest and Christkindlmarkt, demonstrated an ability to draw significant crowds to Bethlehem long before SteelStacks, highlighting its ability to offer arts programming in the community year-round, and provided confidence that the investment would ultimately provide a good return.

SteelStacks reports that in 2016, visitors to their programs and campus came from all 50 states, the District of Columbia, and 26 countries. That year, the overall direct economic impact of the programs, excluding Musikfest, measured with InPlan analysis software, approached $60 million, with Musikfest adding over $50 million more. SteelStacks was also a significant venue for Musikfest. Christkindlmarkt generated about $4 million, while programs at the Banana Factory added about $3.5 million. These include estimates of the money spent by patrons in the broader community, not just direct revenue to the venues. The Levitt Pavilion reports about $400,000 in direct annual operating expenses. Comparable numbers from the rest of the venues at SteelStacks reveal over $20 million in annual revenues and expenditures.

Sands employs 2,500 people and claims an additional 4,000 to 8,000 jobs created as secondary impacts of its employment, with many of those at the Lehigh Valley Industrial Park and elsewhere, such as the retail mall.
Reasonably, others see the jobs at the industrial park as independent of Sands and the park as catalyst for job growth.

There was little data available on the success of the retail mall at the casino, but the fact that there are an estimated eight million annual visitors to the casino mostly from within 100 miles suggests that the area is not yet saturated for gaming and retail. That estimate is well over Sands’ projected estimate of five million visitors in 2009. The level of taxes and fees paid by the casino and resort hotel also imply a successful commercial venture.

ArtsQuest alone received over six billion impressions in Internet and print media in 2016, equating to $22 million in brand development for the organization and the city. Discover Lehigh Valley, the agency in charge of tourism promotion, described the prior lack of consistent nighttime entertainment as an obstacle to tourism. The combination of SteelStacks and Sands has helped significantly to fill that gap with the mix of high-quality free and ticketed events.

SteelStacks has a Facebook page with over 125,000 followers. Discover Lehigh Valley is active with East Coast media, attending trade shows and observing how well the festivals draw people to Bethlehem. This creates a repeat-visitor dynamic as first-time visitors discover other venues to explore.

Another significant measure of SteelStack’s success is that the hotel occupancies in Northampton County have grown 15% from 2012 through 2014, from 65% occupancy to over 75%.

Revitalizing Bethlehem and the South Side

In 2016, Money Magazine described Bethlehem as number one on its “Best Places to Retire” list among northeastern US cities. Both SteelStacks and Musikfest were cited as factors in the award, along with income tax breaks for seniors, low state sales and income taxes, and quality of healthcare. *Forbes* gave similar recognition in 2017, citing SteelStacks and Musikfest and placing Bethlehem nationally in the top 25 in places to retire. In 2008, already forecasting the success of SteelStacks, CNN Money named the city in the top 100 best places to live and launch a new business. All recognize the importance of Bethlehem being a university town.

SteelStacks’ 2014 SoccerFest and Viewing Party for the 2014 FIFA World Cup tournament brought up to 10,000 fans per match and inspired the minor league soccer team owned by the Philadelphia Union to move from Harrisburg to Bethlehem. The team, now named the Bethlehem Steel Football Club, has its new home field at Lehigh’s Goodman Stadium.

In the decade before SteelStacks, Historic Bethlehem listed about 20 sites it included on tours, none of which were in the South Side. Development of the 126 acres of BethWorks added 35 historic structures, including the HMT, which has significantly enriched the ability to tell the Bethlehem Steel story. While the South Side of Bethlehem surrounding SteelStacks remains a work in progress, there is continued interest and new development largely attributable to the fulfilled promise of SteelStacks.

Following Bethlehem Steel’s closure, the South Side was perceived to be unsafe and in decline, but with the evolution of SteelStacks, that cloud has been lifted and the community is seeing reinvestment. While crime was high in the 1990s and settled down in the decades after, perceptions lingered and levels of investment stayed flat until people began to believe SteelStacks would become a reality.

Early support for both SteelStacks and Sands was demonstrated by Northampton Community College, which decided in the 1990s to locate adjacent to the forthcoming arts and cultural campus and offer workforce training on hospitality. As plans evolved, the college received a $1.2 million Economic Development Agency grant for hospitality training and seed money for a fabrication shop, which it has opened to the public. It is also significant that the Charter High School for the Arts relocated within walking distance of SteelStacks and offers a 400-seat auditorium as an additional venue for programming on the arts campus.

Other successes outside of SteelStacks but influenced by Bethlehem Steel efforts to transition the entire expanse of abandoned property include the
Majestic site, which was the first parcel to be sold after the Bethlehem Steel bankruptcy and was among the first to bring new jobs to the former steel plant site. Off-campus developments are also significant. For example, B. Braun Medical Devices moved to Bethlehem from Southern California, in part attracted to the quality of life and culture, bringing 2,000 jobs. The Sands Casino itself was attracted, in part, by the already-robust tourism industry and saw the promise of further growth.

The City of Bethlehem’s 2002 plan for the South Side was already envisioning an arts and cultural venue on what is now the SteelStacks site. Since then, there have been modest investments in new apartments, small businesses, restaurants, home renovations, street lighting and public safety projects. These investments are bolstering a steadily improving open space network called for in subsequent plans commissioned by the city from the New York firm Project for Public Spaces. The network includes a skate park, the rails-to-trails Bethlehem Greenway, a greenway playground, Yosko spray park, and Parham Park installations. Other examples of projects inspired by the promise of the SteelStacks and Sands campuses include the opening of St. Stanislaus Artist Housing Development; the new Social Still micro-distillery and restaurant, the first project completed as part of the Bethlehem Revitalization and Improvement Zone; and the opening of the Lehigh Valley Charter High School for the Arts within walking distance of SteelStacks. City interventions have led to the expenditure of over $6 million for the Bethlehem Greenway, additional funding of over $2 million for Southside Vision 2014 projects, and over $265 million in combined federal, state, and local public investment in South Bethlehem since 2006.

Lehigh University has also turned its attention to the South Side through the creation of the South Side Initiative academic programs as well as its focus on student housing, South Side revitalization, and off-campus investment leveraging Lehigh assets. The university’s work includes housing for 300 new beds and the renovation of another 250 beds of existing housing on the South Side. The university has also measured about $20 million a year spent regionally by students, faculty, and staff and suggests that much of it could be redirected to the South Side if the neighborhood were to offer increased opportunities.
Planning for the National Museum of Industrial History, initiated by Bethlehem Steel, finally led to a formal Smithsonian Institution affiliation, and since 2016, the museum has occupied the first floor of the 1913 Electric Repair Shop adjacent to the SteelStacks campus. It has about 13,000 square feet of exhibition space with plans to occupy the second floor in the future. Museum leadership suggests that the maturity of SteelStacks has contributed to its confidence in the future of this enterprise.

**Impact on Professional Practice and Policy**
Bethlehem Steel was once one of the National Trust for Historic Preservation's most endangered sites and was the largest single-owner brownfield in the US. The agreements surrounding the development of SteelStacks offer a new precedent for preservation practice, as does the potential for a casino resort to anchor large-scale brownfield transformation. The US Environmental Protection Agency has described the Pennsylvania Act 2 brownfield legislation facilitated by Bethlehem Steel as a national model. Recognition as a best practice by the Ford Foundation’s Innovations in Government program adds further weight to the significance of Act 2 and its influence on future practice in government. In the case of Bethlehem Steel, a number of public benefits accrued from the casino that complement traditional sources, enabling faster and more economically, socially, and culturally viable transformations of both the brownfield and host neighborhoods.

The commitment to preserve as many as 34 historic structures on the site along with all five blast furnaces has created a set of cultural interpretations and use possibilities that goes well beyond what has been done in Pittsburgh and other communities with large brownfields. SteelStacks offers an impressive precedent in the symbiotic relationships among arts and cultural programming, historic interpretation, and preservation that are revitalizing the economy, creating new jobs, and energizing tourism.

**OBSERVATIONS AND LESSONS LEARNED**

**Risk Taking**
This is a project where people risked failure to achieve success. Who would have predicted the success of Jeffrey Parks’ Musikfest in its early days in the mid-1980s—that a mid-sized town would attract thousands of visitors for weekends of mostly free music? Or that Parks would preside over 13 years of steady growth of the programs at the Banana Factory in the South Side, to the point where its refinanced equity could contribute significant capital to the new ArtsQuest headquarters? Both of these projects were brought to life by nonprofit boards with no visible means of support, but a firm belief in the potential success of their vision.

Another kind of risk was taken when the city pursued a TIF district on the Bethlehem Steel site prior to the arrival of casino gaming. The administration was also investing public funds in industrial park infrastructure (roads, sewer, and water) for “hoped-for returns” without the certainty those returns would be realized. No market report suggested they would recoup their investments. There was, however, a history of success with bold moves in the world of art and music in the city. Parks and his colleagues in the city administration saw how to take that legacy to a whole new level with SteelStacks.

Perhaps the biggest risk was embracing the casino and resort when they became a possibility. Hanna and the leadership team in the investment group had to win over a reluctant community and demonstrate that this could happen without doing harm to the very traditional culture that made Musikfest and the Banana Factory, for example, as special as they were.

Yet all these risks have paid off substantially in terms of their own success and their contribution to turning around what could have become a moribund former steel town.

**Continuity of Leadership**
The continuity of Parks’ decades of leadership in arts and music, coupled with Hanna’s decades of leadership both in City Hall and with the BRA in planning and economic development, along with the leadership of Bethlehem
SteelStacks Arts & Cultural Campus

Steel's Hank Barnette, created the kind of long-term institutional memory and staying power that guided the development of SteelStacks. All three remain active and vital partners in the ongoing evolution of the site, and all recognize that any project this complex requires the embrace of a wide range of partners and the coordination of related visions that span decades.

**Luck Is Riding the Tide of Circumstance and Opportunity**

The narrative provided here makes it clear that something was likely to happen on or near the SteelStacks site. What it actually became, however, would not have been possible were it not for the arrival of Sands generating significant capital through the TIF and in taxes and fees, enabling city support for SteelStacks investments. The leadership team anticipated the bankruptcy sale; saw the potential of new gaming licenses becoming available; and did the institutional, government, and community engagement work needed to prepare the citizens of Bethlehem to accept the good luck this represented.

**Quality Architecture and Place Making are Sometimes in the Background**

“Design matters” is a truism that seems almost trite, but really good design requires creatively identifying and then solving the right problems. Sometimes that means a strong, clear, and powerful statement to help create identity, build culture, and advance the art. These are often the buildings that gain a lot of attention. SteelStacks, by contrast, is appropriately designed to feature the blast furnaces and make visitors feel that the place is about them and that their experience is central to the place. Care was taken by the WRT team as well as URS and Spillman and Farmer to understake the form of the new structures and site features and facilitate the experience of place and performance. Metaphorically, they sought not to be the museum whose architecture competes with the art. Rather, they not-so-simply made the right place for it.

**MEETING PROJECT GOALS**

**GOAL: Create a welcoming, well-designed, public arts and cultural campus for the neighborhood, city, and region.**

Modest architecture and a creative bend in the otherwise rectilinear street grid connecting the steel plant to the neighborhood have established a large but intimate public area framed by the five historic blast furnaces and the new ArtsQuest and PBS39 buildings. The program is simple in concept, creating a linear open space network including a large parking lot, plazas, the outdoor performance venue, and gateway sculpture. In 2016, programming by ArtsQuest alone offered a total of 968 music performances, of which only 211 required paid admission. Visual arts programs included 23 workshops and three exhibitions that were all free, as were 67 visual arts activities at events and 193 outreach programs. There were 19 very large events all open to the public where, in several cases, food or beverage charges were applied. There is a visitor center, ample parking, and public transportation. All told, it is a very open and public place.

**GOAL: Preserve, restore, and adaptively reuse the historic built fabric of the former steel mill site.**

The blast furnaces are preserved and maintained by Sands through an agreement that will transfer if there is new ownership. The Stock House has been converted into a visitor center, and other historic mill buildings around the SteelStacks campus are being or are hoped to be restored. The plans produced by WRT forecast additional preservation and mixed use, but those proposals appear to be waiting for the market to catch up with the ambitiousness of the vision for financing and next steps in preservation. There is a lot more to do, but there appears to be the energy and focus to take on additional buildings as programs and resources emerge. To the credit of the design and planning teams, the project feels whole as a place even as it is unfinished.

**GOAL: Use the site to tell the story of steelmaking and steelworkers in Bethlehem.**

The interpretative plaques on the HMT elevated walkway and related website and app are award-winning devices used both informally and through scheduled docent-led tours offered by former steelworkers who are stewards of the Steelworkers Archive. The addition of the National Museum of Industrial History, which plans to double its size, adds to the educational and storytelling opportunities on the site.
GOAL: Serve as a catalyst for the development of the larger 126-acre brownfield district.
The project is part of a larger set of catalysts that invite arts and cultural programming to Bethlehem as well as new employment opportunities to the site. The TIF has, so far, successfully financed the public infrastructure throughout much of the 126-acre district, and Sands has completed the resort hotel and retail mall components of its program.

The aspiration to complete the HMT by connecting it to the casino and resort are on hold pending the outcome of considerations for the sale of the Sands campus. The BRA reports that development of the rest of the historic stock of buildings is moving slowly with a few significant projects being viewed as almost ready to go, most prominently including the Graham, Burnham and Company Bethlehem Steel headquarters building originally built in 1916 with additions by McKim Mead and White Architects in 1951. The BRA envisions a conversion to residential apartments with some mixed-use retail and commercial space.

GOAL: Develop the project in a transparent and inclusive way to assure a shared vision.
The planning for SteelStacks has been very inclusive in a bottoms-up way with multiple opportunities for engagement by stakeholders of every stripe in the big-picture infrastructure and public-realm work as well as with each of the individual projects.

SELECTION COMMITTEE DISCUSSION
Many factors contributed to the selection of SteelStacks Arts & Cultural Campus as the 2017 Rudy Bruner Award Gold Medalist. The Selection Committee acknowledged that it is an unusual and compelling project—a "place to go see" that members were eager to visit and experience firsthand. They noted that it offers an instructive and powerful story about the role of vision in successful contextual placemaking. The developers undertook an enormously complex and difficult challenge in redeveloping the mill site and succeeded in transforming it from a symbol of tremendous loss into a contemporary community amenity while highlighting its history and economic and social legacy.

With its success, SteelStacks offers inspiration for cities struggling to repurpose former industrial sites while acknowledging the people who helped to build them. The committee noted the prevalence of post-industrial buildings and sites across the country, especially in the Rust Belt, and the restorative effect that a project like SteelStacks can have on its community. Another factor in SteelStacks’ elevation to Gold Medalist was the degree of difficulty and "lift" required to realize the unusual project given its complexity and financing, especially for a small city like Bethlehem. The committee was impressed by the effort on the part of community leaders to visit and learn from German examples and their ability to figure out how to make it happen in the United States, including overcoming liability concerns about potential risks to visitors at an industrial site.

The committee praised SteelStacks for its role in saving and repurposing remnants of industrial heritage to tell its story and those of the people who worked there. The project preserves the monumental scale and historic presence of the mill in the community while integrating contemporary uses...
THE PROJECT PRESERVES THE MONUMENTAL SCALE AND HISTORIC PRESENCE OF THE MILL IN THE COMMUNITY WHILE INTEGRATING CONTEMPORARY USES AND TECHNOLOGIES.

and technologies. The committee commended the use of innovative components such as the dramatic lighting of the blast furnaces as a backdrop for the new campus and digital interpretive tools. The website and app tell the story of steelmaking and the community and complement signage and tours. The committee also appreciated the way the blast furnaces, important industrial relics that long dominated the city skyline, were transformed into positive attributes, forming a dramatic backdrop for performances. There was considerable discussion about the challenge of maintaining the blast furnaces over time, especially the “frozen in time” look that makes them so hauntingly appealing.

Although a key consideration in the selection of SteelStacks as the Gold Medalist was its ability to inspire other post-industrial communities, the committee acknowledged that the project was unique in many ways and would be difficult to replicate. These include the very factors that made the project possible: funding from the casino as well as the sense of stewardship of Bethlehem Steel’s CEO that led to participation in the creation of brownfields legislation in Pennsylvania, together with rezoning and preliminary planning that facilitated redevelopment of the abandoned and contaminated mill site. Even so, the committee agreed that sharing its story was important so that other communities would benefit from “seeing something positive come out of loss.”

RELATED RBA WINNERS

While many RBA winners employ creative arts and cultural programming to support economic development and enhance quality of life, few take on the task within the challenging context of redeveloping a former brownfield or industrial site. Like SteelStacks, the following projects transformed abandoned industrial land into new public spaces, using the arts to attract residents and visitors and spur economic development.

THE STEEL YARD in Providence, Rhode Island (2013 Silver Medalist) is the renovation of a historic steel fabrication facility into a campus for arts education, job training, and small-scale manufacturing. The design incorporates extensive environmental remediation while maintaining the site’s distinctive gritty, “urban wild” character and offering space for classes, industrial arts, and community gatherings.

SANTA FE RAILYARD REDEVELOPMENT in Santa Fe, New Mexico (2011 Silver Medalist) is the redevelopment of a historic rail yard that integrates commuter rail; parkland; a public market; and art, commercial, and live/work space. A collaboration between the city and community activists and nonprofit organizations, the project celebrates local history and culture while retaining the site’s rugged industrial look.

LOUISVILLE WATERFRONT PARK in Louisville, Kentucky (2013 Silver Medalist) is the redevelopment of former industrial land along the Ohio River into an 85-acre park that’s become a gateway and gathering space for the city. Developed with significant input from the community, the park offers a variety of linked open spaces with public art and amenities along with concerts, festivals, and special events.

Other RBA winners that redeveloped former industrial sites into places for creative and public use include Brooklyn Bridge Park (2011 Silver Medalist), Cleveland Historic Warehouse District (1997 Silver Medalist), and Greenpoint Manufacturing & Design Center in Brooklyn (1995 Silver Medalist).

More information about these and other RBA winners can be found at www.rudybruneraward.org.
Resources
This case study was compiled from information gathered from the project application; an extensive site visit by Jay Farbstein, Robert Shibley (lead author), and Anne-Marie Lubenau in March 2017; and research and interviews conducted during those processes and throughout the writing and editing of this report. Titles and positions of interviewees and URLs listed below were effective as of the site visit unless otherwise noted.

INTERVIEWS
City of Bethlehem
John Callahan, former Mayor of Bethlehem
Robert J. Donchez, Mayor
Tony Hanna, Executive Director, Bethlehem Redevelopment Authority
Darlene Heller, Director, Bureau of Planning and Zoning
Alicia Miller Karner, Director, Community and Economic Development

SteelStacks Campus
Julie Benjamin, Vice President of Community Partnerships, ArtsQuest
Kassie Hilgert, President and CEO, ArtsQuest
Jeffrey Parks, Executive Director, ArtsQuest Foundation (former President and CEO of ArtsQuest)
Tim Fallon, President and CEO, PBS39
Michael Stershic, President, Discover Lehigh Valley (Bethlehem Visitor Center)
Amy Hollander, President and CEO, National Museum of Industrial History
Julia Corwin, Executive Director of Brand Marketing, Sands Resort Casino Bethlehem
Kathy McCraken, Vice President of Casino Marketing, Sands Resort Casino
Curtis "Hank" Barnette, Chairman Emeritus, Bethlehem Steel Corporation

Project Consultants
Karen Blanchard, Principal, SITIO (formerly with WRT)
Ignacio Bunster-Ossa, Vice President, AECOM (formerly with WRT)
Antonio Fiol-Silva, Founding Principal, SITIO (formerly with WRT)
Keiko Tsuruta Cramer, Principal and Landscape Architect, WRT
Lawrence B. Eighmy, Managing Principal, Stone House Group
Darl Rastorfer, Owner, Darl Rastorfer Communications

History
Frank Behum Sr., President, Bethlehem Steelworkers Archives
Pete Brekus, Bethlehem Steelworkers Archives
Julia Maserjian, Lehigh Digital History Project Manager, Bethlehem Heritage Coalition
Charlene Donchez Mowers, President, Historic Bethlehem Museums and Historic Sites

Community
Mary Foltz, Associate Professor, Lehigh University
Seth Moglen, Director and Associate Professor, Lehigh University
South Side Initiative
Diane LaBelle, Charter High School for the Arts
Paul Pierpoint, Northampton Community College
Edwin Kay, Bethlehem resident

REFERENCES


SteelStacks. “Activities at SteelStacks-Bethlehem, PA Slideshow.” August 1, 2014.


Stoelker, Tom. “A Real Blast: Bethlehem Steel’s furnaces are silenced. L’Observatoire International lights them up again.” *Landscape Architecture Magazine*. May 2014.


Wallace Roberts and Todd and ArtsQuest. “SteelStacks Site History and Planning Background.” October 26, 2011.

OTHER AWARDS
The project has been recognized with other design and construction awards including the following:

**SteelStacks**
- 2017 American Society of Landscape Architects PA-DE Award of Excellence
- 2016 Architects Newspaper Best of Design Award in Architectural Lighting
- 2014 Urban Land Institute Philadelphia Willard G. Rouse III Award for Excellence
- 2014 Urban Land Institute Global Award of Excellence

**Hoover-Mason Trestle**
- 2017 American Alliance of Museums MUSE Award Bronze Award, Mobile Applications
- 2016 Urban Land Institute Philadelphia Willard G. Rouse III Award for Excellence
- 2016 Engineering News Record Best of the Best Landscape/Urban Development
- 2016 W3 Awards Best in Show, Website Category
- 2016 PRINT East Coast Regional Design Award
- 2016 Pixel Awards Best Responsive Design Finalist
- 2015 Mid-Atlantic Construction Management Association of America Project of the Year Award
- 2015 AIA Philadelphia Merit Award
- 2015 AIA Pennsylvania Merit Award
- 2015 Lehigh Valley Planning Commission Award, Environmental or Revitalization Project or Initiative
- 2015 Engineering News Record Mid-Atlantic Region Best Project, Landscape/Hardscape/Urban Development
- 2015 Architizer A+ Award Finalist
- 2014 AIA Pennsylvania Citation of Merit

**The Levitt Pavilion**
- 2015 AIA National Small Project Award
- 2013 Architizer A+ Award, Special Mention
- 2013 American Council of Engineering Excellence of Massachusetts Silver Award
- 2012 Metal Architecture Design Award, Judges Award
- 2012 Greater Lehigh Valley Chamber of Commerce Award for New Construction
- 2011 AIA Philadelphia Merit Award
- 2011 AIA Tri-State NJ, NY, PA Honor Award
- 2011 AIA Pennsylvania Citation of Merit
- 2011 Engineering News Record Best Small Project Award

**ArtsQuest Center**
- 2013 Architizer A+ Award, Urban Transformation
- 2012 AIA Pennsylvania Silver Medal Award

**Bethlehem Visitors Center**
- 2013 Preservation Pennsylvania Historic Preservation Award
- 2012 Masonry Construction Masonry Construction Project of the Year Award
Bruce C. Bolling Municipal Building
Boston, Massachusetts

A community-oriented, mixed-use development integrating public school headquarters, transit, meeting space, and local retail
The Bruce C. Bolling Municipal Building is a mixed-use structure integrating the Boston Public Schools headquarters, community meeting space, retail, and transit. More than just an office building, it illustrates the power of public investment to foster neighborhood renewal and civic pride.

Located at the geographic center of Boston in Roxbury’s Dudley Square, the building is directly adjacent to one of the region’s largest transit stations. This once-vibrant commercial hub, known as the “Gateway to Boston” and the center of African American culture in the city, declined in the 1960s as residents and businesses began moving to the suburbs and a series of urban renewal projects reconfigured the neighborhood. Developed by the City of Boston, the $124 million civic complex was the vision of the late Mayor Thomas Menino, who vowed that it “would be a catalyst for continued redevelopment, bringing more people and economic life to historic Dudley Square.”

Designed by Sasaki of Watertown, Massachusetts and the Dutch architectural firm Mecanoo, the 215,000-square-foot development thoughtfully weaves together contemporary construction and materials with the facades.

Submitted by: City of Boston
Completed: 2015
Total Development Cost: $124 million
of three historic structures including the landmark Ferdinand Furniture store. The building houses the Boston Public Schools’ newly consolidated and relocated administrative offices as well as the Roxbury Innovation Center, which aims to provide “an on-ramp to Boston’s thriving innovation economy” through programs that promote local entrepreneurship and economic development. The first two floors, including the spacious lobby, are open to the public. Locally owned businesses and restaurants serving office workers and residents occupy ground-floor retail spaces, enlivening the streetscape. Community meeting spaces feature a rooftop terrace with views of the neighborhood and downtown Boston, and the LEED Gold certified facility incorporates state-of-the-art, open collaborative work space that has become the new standard for municipal offices.

The development and programming of the Bolling Building was informed by community input spearheaded by the Dudley Vision Advisory Task Force, a committee of local business owners and residents who met regularly to ensure the building would benefit the surrounding neighborhood. Advocacy groups worked with the development and construction teams to help ensure that local and minority populations benefitted from the job opportunities the project provided.

The project complements other municipal investments in Dudley Square, including a new police station, a redesigned library, and street and sidewalk improvements, together spurring private investment in mixed-use, residential, retail, and office development. While many are glad to see development returning to Roxbury, others fear that without neighborhood-wide policies to protect residents with lower incomes, commercial, cultural, and residential displacement will occur.

Still, given its civic orientation, the Bolling Building has become a symbol of new neighborhood investment and civic pride in Boston, bringing 500 public school system employees to Roxbury on a daily basis. As the operators of Dudley Dough, one of the locally owned restaurants on Bolling’s ground floor, observed: “With the building at the heart of Dudley, its activation during the day and night has sparked a light that had long since gone. Now, with events happening on different levels and spaces at the same time, it is a hub of activity and a symbol of community health.”
Project at a Glance

- A new mixed-use municipal development in the heart of Boston, focused on education and community and symbolic of the city’s efforts to revitalize a disinvested but culturally and historically significant area.
- Two floors of flexible, publicly accessible space, flanked by five retail spaces, the majority of which are owned and operated by local residents; space for a new neighborhood-focused technology and business incubator; and four spaces that community organizations can rent, including a roof deck with views of the city.
- New centralized headquarters for the Boston Public Schools District with offices for 500 employees, upgraded technology support for the district, and meeting rooms for community councils and leaders.
- Design that incorporates three historic building facades and new artisan-brick construction to form an integrated six-story building adjacent to one of the region’s busiest transit stations.

Project Goals

- Revitalize Dudley Square by investing in its built environment, economy, and culture.
- Consolidate and improve the working conditions of Boston Public School employees and its services to constituents.
- Attract new businesses and development to the neighborhood.
- Encourage collaboration between local residents and businesses and city government.
- Design a twenty-first century municipal facility with state-of-the-art technology and a healthy work environment.
- Demonstrate sustainable, economical, and efficient use of government funds.
- Retain and integrate historic building facades.
Chronology

1630
The town of Roxbury is founded.

1868
Roxbury is annexed by the City of Boston.

1900

1901
The Ferdinand Furniture store opens and an elevated train line (known as the Orange Line) and terminal are constructed in Dudley Square.

1920s - 1940s
Dudley Square becomes a thriving commercial district known as “Boston’s second Main Street.”

1960s
Major urban renewal projects displace nearly one third of the Roxbury population.

1970s
Ferdinand Furniture closes. The building remains vacant.

1971
A proposed highway, which would have created a six-lane highway through Dudley Square, is abandoned due to organized campaigns to preserve Dudley Square.

1980s
The elevated Orange Line is dismantled and relocated to the Southwest Corridor.

1993
Thomas Menino is elected to his first term as mayor.

1999
The State of Massachusetts considers moving its Department of Public Health to Dudley Square.

2000

2004
JANUARY: Boston Planning and Development Agency (BPDA) completes Roxbury Strategic Master Plan (RSMP) and announces the creation of the RSMP Oversight Committee (RSMPOC).

DECEMBER: Menino pledges to relocate city agencies to Dudley Square and appoints members to the RSMPOC.

2006
Mayor Menino presents plan for Dudley Square at NEA Mayors’ Institute on City Design.
2007
The BPDA acquires the Ferdinand Building site as part of its Dudley Vision Project, which includes rebuilding the neighborhood police station and upgrading the Dudley Branch of the Boston Public Library.

The city appoints 20 people to the Dudley Vision Task Force, a subcommittee of the RSMPOC, to work on the Dudley Vision Project.

2008
MAY: The City of Boston announces a design competition for the Ferdinand site.

JULY: The design team of Mecanoo and Sasaki is selected.

FALL: The project goes on hold following the Great Recession.

2009
Consultant Chris Gordon completes real estate portfolio analysis and recommends that Boston Public Schools administrative offices be consolidated and moved to Dudley Square.

2010
MARCH: Mayor Menino announces that the Ferdinand Building site will be under construction within a year.

JUNE: The City of Boston releases a Request for Qualifications for an Owner’s Project Manager.

2011
MARCH: Mayor Menino announces he will not to run for a sixth term.

NOVEMBER: The City of Boston releases a Request for Qualifications for an Owner’s Project Manager.

2012
MARCH: Shawmut Design and Construction is selected as Construction Manager at Risk for the project.

MARCH: Construction begins.

JUNE: BPDA announces results of the Dudley Retail and Consumer Survey of local retail purchasing behavior and preferences.

2013
MARCH: Mayor Menino announces he will not to run for a sixth term.

NOVEMBER: Martin Walsh is elected mayor.

DECEMBER: An RFP is issued for ground-floor retail.

2014
The operator for the Roxbury Innovation Center is selected.

2015
The Bruce C. Bolling Municipal Building opens to the public in April.
INTRODUCTION
The Bruce C. Bolling Municipal Building, named for Boston’s first African American city council member, is a large mixed-use municipal complex developed by the City of Boston. The building houses the headquarters of the Boston Public Schools, provides space for community gathering, and was developed to support the revitalization of a neighborhood that experienced decades of disinvestment. A symbolic statement of support for the Dudley Square neighborhood and legacy project for the late Mayor Thomas Menino, the project began in earnest in 2011 after multiple failed attempts at developing the site and was completed in 2015 under Mayor Martin Walsh.

The Bolling Building is the largest municipal office structure developed by the City of Boston in 50 years. It broke new ground for the city in its approach to community engagement, design, development, financing, and construction and introduced a new city standard for open-office design. Developed by the local firm Sasaki and the Dutch firm Mecanoo, the design integrates historic building facades and new construction to create a mixed-use building oriented to pedestrian traffic and public transit. The building program is guided in part by the goal of creating a twenty-first century civic anchor for the revitalization of Dudley Square.
CONTEXT

The City of Boston

Boston is one of America’s oldest and most historic cities and covers 48 square miles. According to the 2010 US Census with 2015 estimates, its population of 667,000 was 45.3% White (not Hispanic or Latino), 25.4% African American, 19% Hispanic or Latino of any race, and 9% Asian. Boston is known for being a city of neighborhoods as well as for a history of racial and ethnic exclusion that resulted in a highly segregated city of unequal opportunity. According to the Boston Foundation’s The Greater Boston Housing Report Card 2016, about 25% of the population, or 163,000 families, are living in poverty (when adjusted for cost of living), while another 26.3% of families have incomes over $150,000. “City and Metropolitan Inequality on the Rise, Driven by Declining Incomes,” a study by Holmes and Berube for the Brookings Institution, ranked Boston first among cities with the highest level of income inequality in 2014 (Boston fell to seventh when Brookings updated the study with 2016 data). This inequality is also marked by racial divides—the Federal Reserve Bank of Boston’s report The Color of Wealth in Boston found that White households in Boston have a median wealth of $247,500, compared to $8 for African Americans.

Boston has experienced significant population and economic growth since the Great Recession of 2008. Its population grew 8% from 2010 to 2015, double the rate of other jurisdictions in Massachusetts. Much of that growth is within the city’s immigrant population as well as from in-migration of suburban residents and others from around the country and world who are responding to job opportunities and seeking lifestyles in denser, transit-served neighborhoods, reversing trends of the previous decades. As a response to increased pressure on the housing market, Mayor Walsh has pledged a goal of building 53,000 new units by 2030.

Roxbury

Now a neighborhood of Boston, Roxbury was originally settled in 1630 as a farming community. According to the Roxbury Crossing Historic Trust, it was one of the first towns settled as part of the Massachusetts Bay Colony and remained a separate town until it was annexed by the City of Boston in 1868.

Demographically, Roxbury’s history is similar to that of many working-class neighborhoods in American cities. After its initial settlement and throughout the nineteenth century, Roxbury was home to mainly English, German, and Irish immigrants and their descendants. As Boston grew and became more urbanized in the twentieth century, the neighborhood diversified and became home to a growing Jewish population.

Through the first half of the twentieth century, the Great Migration of African Americans from the south to the north increased the racial mix of Roxbury and Boston as a whole, and White flight to the suburbs began. In 1940, Boston’s population was 96.7% White; by 1980, that number had dropped to 67.9%. Conversely, in 1940, Boston’s African American population numbered 23,000; by 1980, that number had jumped to 120,000, concentrated mainly in Roxbury and the nearby Mattapan and Dorchester neighborhoods.

Dudley Square

Dudley Square, located in Lower Roxbury, is considered the historic heart of Roxbury and the center of Boston’s African American community and culture. It was a thriving commercial corridor in the early twentieth century, a place where transit, retail, and nightlife came together. The area experienced disinvestment over the past four decades, in part due to discriminatory lending practices, redlining, and the dismantling of public transit infrastructure in the neighborhood. A series of redevelopment efforts, the most impactful of which were a proposed highway and two controversial urban renewal programs, changed the neighborhood dramatically in the second half of the twentieth century. Through these efforts, hundreds of units of housing that were considered substandard were torn down, thousands of residents were displaced, hundreds of new units of subsidized housing were built, and large parcels of land were transferred to city ownership. As is the case for many neighborhoods that share a similar demographic profile and history around the country, the area is now starting to see development interest again, and the City of Boston is working to encourage private development on the many publicly-owned sites. As Erick Trickey writes in Next City’s August 2017 article “Fixing a Highway-Shaped Hole in the Heart of Black Boston,” many are hopeful that
this new development will positively impact the neighborhood—and many others are worried about the potential for gentrification and displacement.

The Bolling Building site has long been associated with the Ferdinand Furniture store, a five-story limestone and yellow brick Renaissance Revival style structure constructed in 1901 that for many decades housed New England’s largest furniture store. By the 1920s, Dudley Square was known as “the other downtown” or “Boston’s second Main Street,” and the Ferdinand Building was surrounded by other commercial development, including the adjacent Curtis and Waterman Buildings, hotels, silent movie theatres, and a bowling alley. In 1901, an elevated rail line—known as the Orange Line—was constructed, connecting local residents with downtown Boston and terminating in what became known as Dudley Station. The tracks ran adjacent to the Ferdinand Building and the station itself was located on the second floor, directly across from the Curtis and Waterman Buildings.

The pressure to get development “right” in Dudley Square stems from the importance of the neighborhood to Boston’s African American population, a history of racial segregation, policies that concentrated lower-income residents in the area, and the controversial urban renewal projects in the 1960s and 1970s. When Malcolm X visited Boston, he stayed with his sister, who was living in Dudley Square, and the neighborhood was the site of Black Panther demonstrations and other racial justice protests. When Dr. Martin Luther King Jr. came to town, he preached at the Twelfth Baptist Church just two blocks from the Bolling Building. Urban renewal, along with clearance of a swath of land through the neighborhood for a highway that was proposed but never built, destroyed much of the neighborhood’s housing and community gathering spaces, displacing many residents and leaving many parcels of undeveloped, vacant, city-owned land. The legacy of these efforts, which significantly changed the face of Roxbury, includes a lingering mistrust of large-scale planning efforts along with fears of displacement of existing neighborhood residents, businesses, and organizations caused by gentrification of the area.

An elevated transit line that terminated on the site once linked Dudley Square with downtown Boston.
Two of the city’s largest public housing communities were built in the neighborhood in the 1940s and 1950s. The Orchard Park Housing Development, one block from the Bolling Building, is a 16-acre, 350-unit three-story brick “superblock” development built in 1941 for very low-income families. By the 1980s, the development had such a bad reputation for crime and violence that many of the units were vacant. The Boston Housing Authority, with support from US Department of Housing and Urban Development (HUD) Hope VI funding, demolished and rebuilt the development, which now contains 331 units for individuals and families in six income categories. The Whittier Street Apartments, a 200-unit development that opened in 1953 located within a few blocks of the Bolling Building site, is currently being redeveloped with funds from the HUD Choice Neighborhoods Initiative as part of the Whittier Neighborhood Transformation Plan. The plan also includes upgrading current housing and developing new, scattered-site mixed-income housing throughout the neighborhood.

Public housing development in Boston was concentrated in this neighborhood, where property values were lower, in large part a result of a federal policy that has become known as redlining. Beginning in 1935, the Federal Housing Administration created maps for cities across America, indicating where they would underwrite lending. Roxbury, along with other neighborhoods with high concentrations of African Americans, were labeled “red” and considered to be high risk.

Two urban renewal projects in the 1960s changed the neighborhood significantly. The designation of 502 acres (including Dudley Square) as the Washington Park Urban Renewal Area, which at the time was 71% African American, led to the relocation of 7,000 residents, nearly one-third the population of Roxbury. Most of the displaced were low-income African Americans. Of the displaced, 1,275 families and hundreds of individuals were eligible for public housing, but only 200 replacement units designated for the elderly were built. The Dudley Street Baptist Church, Rivoli Theatre, an opera house, and many other buildings were razed, and in their place the Dudley Branch of the Boston Public Library, a neighborhood police station, a courthouse, and a Boys and Girls Club were built (all of which remain today). Also included in the Washington Park plan was a

Urban renewal in the 1960s and 1970s displaced residents and businesses.

The process destroyed many buildings in the community, leaving large parcels of vacant land.
partnership between a federal and city-sponsored agency that helped middle- and upper-class African American families purchase homes in Dudley Square, which, combined with the redlining practices of the FHA that made it difficult for African Americans to secure loans for homes in other neighborhoods, reinforced racial segregation. The 103-acre Campus High Urban Renewal area, designated in 1966, displaced an additional 160 families to make way for the creation of Madison Park Technical High School, designed by noted architect Marcel Breuer.

In response to these city-led redevelopment efforts, Roxbury and Dudley Square became home to some of the city’s most active and engaged citizens. In the 1970s, an inner belt highway project was proposed that would have cut Roxbury in half. Community-led protests resulted in abandonment of the highway project and repurposing of the allocated funds for construction of a public transit corridor and linear park on the land, now known as the Southwest Corridor (a 1989 RBA Silver Medalist). While a coalition of Jamaica Plain and Roxbury residents fought together against the highway, the development of the Southwest Corridor led to the dismantling and relocation of the Orange Line—one of the city’s five subway lines—from Washington Street to the Southwest Corridor in the 1980s, making access to downtown more difficult for Roxbury residents and reducing pedestrian activity in Dudley Square.

During this time, neighborhood residents also began to organize around environmental justice issues. Illegal trash transfer stations had been operating in the area due to the low property values and lack of enforcement. Eventually a neighborhood group formed to clean up these stations and later created a community land trust that became known as Dudley Streets Neighborhood Initiative (a 1995 RBA Silver Medalist).

The economic demographics of Dudley Square diverge significantly from those of Boston as a whole. Numbers released by the Boston Planning and Development Agency (BPDA) in 2017 indicate that 28% of Boston households make over $100,000 compared to only 7% in Dudley Square. Meanwhile, 31% of households in Dudley Square earn less than $10,000, while Boston as a whole averages 12%. Roxbury’s unemployment rate, at 6.6%, is nearly double that of Boston’s at 3.9%.

In 2004, the Boston Redevelopment Authority (now the BPDA) released the Roxbury Strategic Master Plan, created through three years of collaboration with community members, resident groups, and city officials. The goals of the plan included:

- enhancing civic and cultural life in the neighborhood;
- promoting diverse and sustainable economic growth with jobs for local residents;
- ensuring safe, efficient public and private transportation;
- expanding and improving housing options for a variety of socioeconomic and age groups;
- creating a safe, comfortable, and lively public realm that reflects the diversity of local residents; and
- increasing community participation and empowerment through increased accountability of government, institutions, and businesses.
The plan also created a governance structure, the Roxbury Strategic Master Plan Oversight Committee (RSMPOC), made up of 15 mayoral appointees. The RSMPOC has since provided input on proposed development in the community, including the Bolling Building, and oversees several subcommittees (including the Dudley Vision Task Force) that advise on particular issues.

**PROJECT HISTORY AND LEADERSHIP**

The Bolling Building came to be thanks to the leadership of many, including the two mayors whose terms its development spanned, as well as the collaboration of dozens of public, private, and civic entities. Many of those involved in the project commented on the high level of collaboration and partnership between normally siloed city agencies, private companies, and community members.

The project is the culmination of decades of effort to find a way to develop the site. In the late 1990s, the State of Massachusetts considered moving its Department of Public Health to Dudley Square as part of a deal the city negotiated with Governors William Weld and Paul Cellucci. When Governor Mitt Romney came into office in 2002, he cancelled that plan after his administration conducted an economic feasibility study indicating that the move was not financially advisable. According to one person involved in initial studies for the building, the unions representing the Department of Public Health also raised concerns about moving its staff to the neighborhood due to perceived safety concerns, which may have contributed to Romney’s decision.

In 2006, Menino—a 2003 Rudy Bruner Award Selection Committee member—attended the Mayor’s Institute on City Design, a program hosted by the National Endowment of the Arts that brings together mayors and urban experts from around the country to discuss potential projects and elevate the quality of urban design. He shared his vision for creating a new municipal building in Dudley Square, and the resulting discussion buoyed his excitement for doing the project in an innovative way.

In 2007, the city began exploring the potential of moving a city department to the Ferdinand building site. The BPDA bought the property and demolished one building. That same year, the city announced the creation of the Dudley Vision Project, overseen by a 20-member task force and managed by the Property and Construction Management Department, now known as Public Facilities Department. The goals of the project were to develop a municipal building on the Ferdinand site, redevelop the Dudley neighborhood B-2 Police Station, and upgrade the Dudley Branch of the Boston Public Library.

In May 2008, the city announced a design competition for a municipal building on the Ferdinand site. Five teams were selected, including Sasaki and Mecanoo, and they presented their ideas to community members in Roxbury in June. After the economic downturn that year, the city’s Budget Management Office put the project on hold due to capital funding shortages.

Still eager to move forward with the plan, the mayor hired Chris Gordon, an experienced developer and capital projects manager, to be his advisor on the project. Gordon studied the financial feasibility of moving an agency to Dudley Square. The city wanted the agency to have at least 500 employees to bring foot traffic to the neighborhood and to support a retail customer base. After considering several options, including moving the Department of Neighborhood Development or the Department of Health and Human Services to the site, relocating Boston Public Schools (BPS) was determined to be the best option, for several reasons. At the time, the agency was spread out across multiple buildings, so moving would consolidate it and bring it closer to its constituents. Additionally, Gordon’s analysis indicated that selling the building where the majority of BPS staff were located, 26 Court Street in Boston’s Downtown Crossing, would yield the most revenue, and the Public Facilities Department was supportive because 26 Court Street was in need of significant investment for deferred maintenance.

BPS officials were hesitant to move, even given the difficulties experienced in their Court Street space. The building, referred to as “Central” by BPS employees and teachers, is 11 stories tall and located downtown in Government Center, wedged between two 40-story buildings. It receives minimal
The head of the Budget Management Office at the time did not agree that capital finances should be spent for the Ferdinand site project, in part because BPS faced $600 million in deferred maintenance for its school buildings. Gordon, Kairos Shen (then chief planner for the BPDA), and Jim Kennedy from the Alternative Finance Unit of the Office of Budget Management laid out a proposed financing plan. By that point, the head of that office had left and the new director agreed to the plan. The financing plan evolved and eventually combined municipal funds from the sale of bonds with private loans financed by New Market Tax Credits (NMTC), a federal financing tool that had not been used before by the city. (Additional NMTC financing that came later in the process made some design and expansion decisions financially viable.) The city moved forward by first hiring the design firm Gensler to conduct a feasibility study and then releasing a Request for Qualifications (RFQ) in 2011 for the owner’s project manager to assist with the project, at that time expected to be a 138,000-square-foot development budgeted at $75 million.

Mayor Thomas Menino

The Bolling Building represents what some believe to be Menino’s legacy project. For much of his 20-year tenure, Menino wanted to make an impact in Dudley Square and bring economic rejuvenation to the neighborhood. Despite several failed attempts to develop a project in Dudley Square in the past, he pushed through hurdle after hurdle to make the project happen. In March 2011, without notice to his staff, Menino announced in his annual address to the Chamber of Commerce that construction would start on the project within the year. The city was not used to developing projects so quickly, especially large, mixed-use facilities. According to Shen, the BPDA and the Mayor’s Office pushed the Public Facilities Department to do things differently. This included incorporating retail despite the department’s concerns about developing retail in a publicly-financed building, involving a high degree of community engagement in the design, engaging Boston Landmark’s Design Review process, utilizing a new Construction Manager at Risk project delivery system, and developing a series of nuanced community development goals and a vision for a public building. The guiding principles, as articulated in the 2011 RFQ for design services, were
developed by the administration with input from the Dudley Vision Task Force and the BPDA team. The guiding principles included being accessible and relevant, collaborative and inclusive, efficient and adaptable, sustainable and economical, and iconic and inspirational.

The building was completed one year following Menino’s death in 2014. Before he passed away, he left instructions for his funeral procession to pass through Dudley Square, a gesture that demonstrates how important the project was to him.

City of Boston

The Public Facilities Department is the agency statutorily tasked with managing the development of city-owned buildings, while the BPDA is charged with planning and development of private sector real estate. Both have the authority to acquire property through eminent domain. Seeking an innovative and expeditious process and outcome, Menino requested that the BPDA, Public Facilities Department, and his office work together on this project. According to Shen, who was the director of planning for the BPDA through the development of the Bolling Building, the project’s success was due in part to this unusual governance system.

Staff members at the city’s Office of Budget Management and Public Facilities Department, including project managers Maureen Anderson and Tom Leahy, were also crucial in implementing the vision for the building. Facilities staff collaborated closely with the BPDA and the Dudley Vision Task Force throughout the project and created new procurement documents that facilitated the city’s first use of a Construction Manager at Risk (CMR). Jim Kennedy from the Office of Budget Management, with major assistance from Roger Mann of the BPDA, worked to finalize the addition of NMTC financing to the sources supporting the project budget.

Mayor Martin Walsh

Walsh became mayor in 2014, and his administration finished the construction of the building. To support Walsh’s progressive priorities, the administration revised the program to include the Roxbury Innovation Center. This was an important change, keeping with the building’s themes of education and neighborhood impact, to ensure that Boston’s growing technology economy—seen as an exclusive industry—would benefit low-income communities of color. In addition, the Walsh administration agreed to continue subsidizing the local retail spaces as part of a broader program to help local minority- and women-owned businesses succeed despite rising rents and taxes.

Dudley Vision Task Force

Community input and engagement took place within a formalized structure that the city created to ensure that local businesses, institutions, and residents had a seat at the table in the Bolling Building’s development. The Dudley Vision Task Force was convened in 2008 as a subcommittee of the RSMPOC and coordinated by Dana Whiteside of the BPDA. The 20-person task force, co-chaired by Ronn Gary Jr., proprietor of Tropical Foods (a locally owned grocery store), and Catherine Hardaway, executive director of Central Boston Elder Services, met bi-weekly during the design and development process, and all public notices were posted online. Additionally, the project included a website, Dudleyvision.org, that posted project updates and presentations. According to several people who participated in the process, very few concerns were raised that were not addressed. For a neighborhood as highly engaged in planning and politics as Roxbury, having so little negative pushback for a building and development of this size indicates that this process was very effective.

DESIGN AND DEVELOPMENT

Design Team

Given the priority status of the project, there were many aspects of the Bolling Building’s development, design, and construction process that differed substantially from the city’s standard practices.

The design team was selected in two steps. The first phase, in 2008, conducted by the Public Facilities Department in collaboration with the BPDA, entailed an invited design competition. This RFQ, referred to as the “purple book” for its distinctive purple cover, described Menino’s priorities for the building, the history of Roxbury, and the intention to create jobs for residents and incorporate community feedback into the
design process. Five teams were selected and asked to present their design ideas to the Dudley Vision Task Force in open public meetings.

The Sasaki and Mecanoo team was selected to design the project. Francine Houben, architect and creative director of Mecanoo, presented a vision accompanied by a hand-drawn illustration titled “Ferdinand Village: The Social Heart of Roxbury.” She described a new building integrated into the neighborhood, an idea informed by time spent visiting and talking with local people. Houben taught at the Harvard Graduate School of Design in 2006-7 and became familiar with Boston, and she recognized the urban renewal efforts in Roxbury as similar to those she had worked on in Rotterdam early in her career. She became excited about the building’s promise after speaking with residents about the strong sense of place and community memory connected to the area and used the word “jazzy” to evoke the way residents described Dudley Square’s vibrant cultural scene in its heyday. She sought to bring this jazziness back to the area through a building program that focused on accessibility, neighborhood integration, and support for community activities as well as the detailing of the proposed brickwork. According to Shen, the team’s first presentation began with a video of community residents speaking about what they wanted to see on the site. This established trust that Mecanoo would actively listen to and engage with the community.

Later that year, however, the Great Recession and associated decline in availability of capital financing forced the city to delay the project indefinitely, and the selection of Sasaki and Mecanoo was voided. By 2011, the economy showed signs of rebounding, and the city was in a better financial position to take on additional debt capacity. In March, Menino announced at the Chamber of Commerce that groundbreaking on the Ferdinand site would happen within a year, and in June an RFQ for the owner’s project manager was released. This RFQ included an executive summary of the “purple book” and required applicants to demonstrate that they had experience with the CMR approach. Seeking to expand the pool of professional talent, the BPDA actively reached out beyond the metropolitan Boston region, attracting a large group of international and local design firms.

Finalists in this phase included three teams: the Sasaki and Mecanoo team, with Mecanoo being the design architect and Sasaki the architect of record; Leers Weinzapfel, a local, women-owned firm in Boston; and Stull and Lee Inc., a local, African American-led firm. Many expected that either Leers Weinzapfel or Stull and Lee would be selected, given the fact that both were well known and the community preferences for minority- and women-owned local businesses.

The 2011 Sasaki and Mecanoo proposal included specific design elements that emphasized features the community had articulated as priorities. These included transparency, community access, and a distinctive but locally resonant design. The selection committee appreciated the proposal to create an integrated, multi-use “village” rather than an isolated, single-purpose building. The Sasaki and Mecanoo proposal also stood out because of the team’s experience integrating community-based artwork and its proposal for an improved pedestrian experience with larger sidewalks around the building and better access to the bus terminal.

The Sasaki and Mecanoo team was selected again. The selection was announced in the summer of 2011, and the project began shortly thereafter. During schematic design, the team’s analysis showed that a larger building footprint that would develop the entire block would more successfully accomplish the project goals. This led to the city acquiring two additional properties, the Curtis and Waterman Buildings, in November 2011, through eminent domain and relocating the existing twelve tenants.

The expanded project was approved in 2012 with a budget of $115 million. There was no public pushback to the expansion in scope.

Design
The Bolling Building is a 215,000-square-foot mixed-used facility. It is adjacent to the Dudley Bus Terminal, one of the busiest public transit stations in the region. The new six-story structure sits on a triangular lot and incorporates the facades of the Ferdinand, Curtis, and Waterman Buildings. It has two main entrances: one on Washington Street and another that opens onto a wide plaza that connects to the Dudley Bus Terminal.
The majority of the ground-floor retail spaces are accessible from the large interior lobby, and all have their own sidewalk entrances.

The Sasaki and Mecanoo team expressed the intent to "bring back the urban block"—that is, to provide a cohesive pedestrian experience with wider sidewalks and ground-level retail. The design emphasized connectivity with the local neighborhood as well as Boston as a whole by providing access to the adjacent bus station directly from the main entrance.

Another important aspect of the design is the open office plan, which the design team recommended for BPS office space as a way to improve communication and incorporate contemporary office planning practices. The building at 26 Court Street was similar to other Boston agency offices, which typically place private offices on the exterior, preventing natural light from penetrating to the interior, and offer few spaces for collaboration. In contrast, the offices at Bolling emphasize openness to promote collaboration, with most shared spaces and open workstations adjacent.
to windows and the few private offices and meeting rooms relegated to the interior. This maximizes access to natural light and provides a flexible work environment. The Court Street headquarters also lacked public engagement spaces. The school committee meeting room was limited in size and sightlines were blocked by columns.

To help convince the city and BPS employees that open offices were preferable for the new space, the project team arranged for a mock-up of sample work spaces to be installed at City Hall and asked employees to provide feedback and express preferences. Several BPS employees recalled this process as an opportunity to have the building tailored to their needs.

The designers endeavored to integrate new construction with the historic building facades, referencing historic Boston brick architecture by using masonry, but with a contemporary approach. The intricate brickwork, which incorporates three different types of brick (artisan, wire cut, and regular), showcases the craftsmanship of the bricklayers (highlighted in “Boston Bricks with a Dutch Touch,” a video Mecanoo made about the process).

**Basement**
The basement contains storage, twelve parking spaces for BPS leaders, and a small wellness and exercise facility for BPS employees.

**First and Second Floors**
The first two floors of the Bolling Building are entirely public. The first floor contains a large lobby with flexible seating, six retail spaces of varying sizes, and a grand staircase leading to the second floor. In early 2017, Gallery EyeCare store and ophthalmologist, the Dudley Café, Dudley Dough, Tasty Burger, and Final Touch, a retail clothing store, occupied five of those spaces. Tenant selection for the sixth retail space was underway in late 2017, based on criteria that are consistent with the original RSMPOC vision for that space: a business that offers family-friendly entertainment, enhances the community with a dynamic storefront, and provides space for cultural activities. The first floor also has a security desk, where visitors to BPS offices and those using the community meeting space on the sixth floor are required to check in.
The second floor contains the Roxbury Innovation Center and community meeting spaces, the School Committee Room, and the BPS Welcome Center, where families new to Boston can register their children for school and bus service. The second floor also includes a reception desk for parents and families, several areas for open seating and working, and public restrooms.

**Third, Fourth, and Fifth Floors**

Open offices and shared meeting rooms for several BPS departments make up the majority of the third, fourth, and fifth floors. Each floor contains an open, full kitchen; flexible breakout rooms and lounges; and a few private offices.

BPS’s new data center is housed on the third floor. It includes a technology help desk, where teachers and other staff can come for help with technology issues. According to the department’s staff, the upgrade in space and equipment has improved their ability to provide technological support for the entire district.

**Sixth Floor**

Additional BPS departments are on the sixth floor along with a roof deck and community meeting space that is rented out to the public for a minimal fee that can be waived for community groups. The meeting space includes a display detailing the history of the Ferdinand, Curtis, and Waterman Buildings in text and images.

**Sustainable Design**

The Bolling Building was awarded LEED Gold certification, scoring 66 of 109 possible points on the LEED 2009 scorecard. Major sustainability features include brownfield redevelopment, development density, open space and green roof, and construction materials such as recycled flooring and paneling and other domestically sourced materials. For alternative transportation access, in addition to being located adjacent to a major bus terminal, the building includes shower, changing, and parking facilities for bike commuters.
The mixed-use structure includes ground floor retail, Boston Public Schools headquarters, and community meeting space.
Construction
The Bolling Building was the largest project taken on by the City of Boston in decades and was under pressure to be completed quickly. These two factors were significant considerations when it came time to select a contractor. Given the time and budget constraints, the City of Boston elected to approach the project with a CMR. This process (referred to as Chapter 149A in Massachusetts) allows the construction manager to be selected based on qualifications in addition to cost, be responsible for meeting a defined budget, and be brought on board during the design phase to assist in identifying issues of buildability and potential cost overruns and to suggest alternative approaches. The CMR then obtains bids for each trade, which can be evaluated based on best value, not just lowest price, and the client can agree to adjust the budget if necessary or to find compensatory reductions in other areas.

The normal process, known as design-bid-build, requires the city to select the contractor on the basis of lowest bid after design is 100% complete. It is a more adversarial process and can compromise quality, since the contractor is incentivized to cut corners, which is obviously not in the interest of the client.

The CMR process also allows construction to begin before design is completed, as compared to design-bid-build, which prescribes a linear process of design completion, a subsequent bid, followed by actual construction. A CMR process thus ensures that there will be collaboration between designers and contractors, making the entire process much more team-driven and efficient.

Although CMR has become common practice, the Bolling Building was the first time the city used the process. The Public Facilities Department staff were concerned about the approach because while many projects see substantial benefit from having a construction manager on board during design, moving forward on design and construction simultaneously requires a much higher level of communication, a time-sensitive schedule, and coordination around budget and phasing decisions. To complete this process, the city had to generate new contracts for all its bids. The city is now using these contracts and what it learned in this process for other municipal buildings being built through the CMR process.

Ten proposals for CMR were received. Shawmut Design and Construction was selected for its experience with complex urban projects, including the recently completed Isabella Stewart Gardner Museum expansion. The selection team included several community members.

Local Hiring
The Dudley Vision Task Force and RSMPoC focused on making sure that the investment made in the neighborhood benefitted residents as much as possible. Shawmut, with guidance from the city, sought to reach the goals established by the Boston Residents Jobs Policy. While there are no contractually required targets, it is requested that contractors do their best to achieve these goals. This policy, set out in a 1985 Mayor’s Executive Order and filed by then city councilor and building namesake Bruce C. Bolling, established the following goals for total worker hours in each trade for all public projects and private projects over 100,000 square feet: at least 50% must go to Boston residents, 25% to minorities, and 10% to women. The policy was amended in January of 2017 (following several years of activism by the Boston Jobs Coalition), increasing the percentages to at least 51%, 40%, and 12% respectively for all public projects and private projects over 50,000 square feet. These numbers are closer to the standards requested by the RSMPoC, which asks for 50%, 51%, and 15% respectively. According to Shawmut, the actual numbers achieved for the Bolling Building’s construction were 41% Boston residents, 44.9% minority, and 6.1% female workers.

Shawmut took several steps to achieve these goals. After early indications that numbers would not reach the Boston Residents Jobs Policy goals, the Boston Jobs Coalition advocacy group requested biweekly meetings with Shawmut to make suggestions and monitor activity. At the onset of the project, Shawmut hired a full-time community liaison, offered Occupational Safety and Health Act training to the public as a professional development opportunity, and invested in a pre-apprenticeship program in collaboration with nearby Madison Park Technical High School. The community liaison
had an accessible, walk-in office where locals could reach him and weekly check-ins with leadership at Shawmut. If it looked like numbers related to the above were flagging, Shawmut’s CEO would get involved. These programs, along with a heightened level of coordination, resulted in relatively high numbers of minorities, women, and local residents hired for positions in construction. Even though goals for Boston residents and women were not reached, the numbers reached for the Bolling Building are among the highest in the City of Boston, according to the Public Facilities Department and Shawmut (no public data was available).

Shawmut worked with the Massachusetts Association of Minority Contractors to identify and source local minority-owned subcontractors. The company contracted directly with three local minority-owned subcontractors and worked closely with one of them to bolster its operations in order to take on a larger-than-usual job. Advocates from community-based organizations the Boston Jobs Coalition and Reclaim Roxbury would have liked to have seen a higher number of minority-owned firms given their availability in the region.

**Historic Preservation**

It was vital to community leaders that the new development reflect Dudley Square’s history. Residents shared stories at community meetings and were particularly passionate about the Ferdinand Building and its cultural significance.

The Ferdinand, Curtis, and Waterman Buildings were not individually landmarked structures, but the site is included in the 1985 National Register Historic District bounded by Warren, Dudley, and Washington Streets. The development’s design included a design review process with the Boston Landmarks Commission, as agreed to in the city’s Memorandum of Agreement with the Massachusetts Historical Commission. The project was also required to go through the Article 85 process, an element of the Boston Zoning Code that requires a delay in demolishing a building with historical significance so that options for reuse can be fully considered before any demolition occurs. Historic Boston, an organization that rehabilitates historic buildings and redeveloped an old firehouse in the neighborhood.
for its own offices, participated in community meetings and served on the selection committee for retail vendors. The design team also worked closely with the Boston Preservation Alliance and the Massachusetts Historical Commission.

The design and construction teams included historical consultants. Boston Conservation Associates, led by Andrea Gilmore, provided direction on the best methods for preserving the three Ferdinand, Curtis, and Waterman Building facades. The Bolling Building incorporates several other details that reference the site’s history and significance, including a historical display on the sixth floor. The building’s exterior windows are painted “Ferdinand blue,” a color that community members described as important to the site’s identity. In addition, four tracks of linear fluorescent lights are visible from the exterior and throughout the interior of the second floor of the building. These lights refer to and visually simulate the path where the elevated tracks of the Orange Line ran before they were dismantled.

**Public Art**

The Boston Art Commission and the BPS hosted a citywide art competition to select three pieces of permanent public art for the building. The first piece, Meejin Yoon’s installation _Crisscross Signal Spire_, is displayed in the exterior plaza adjacent to Dudley Station. A series of braided tubes, it takes inspiration from clock towers and church spires and reflects the location as a place of convergence. The second piece, installed in the School Committee Room, is a large mural designed by Dorchester resident Clarita Stephens, who was a senior at the Jeremiah C. Burke High School at the time. Her design, called _Intricate_, combines abstract colors and shapes to cover an 11-foot by 81-foot acoustic panel. This piece, on display in the front corner of the building, is highly visible through the windows, especially at night, to those walking or driving by. The third piece, which depicts the musical vitality of the neighborhood, is a wall enamel titled _Roxbury Rhapsody_ by local artist Napoleon Jones-Henderson.

At a later date, a fourth public art piece was added to the building: a collection of mosaic panels created by BPS schoolchildren and overseen by
teacher and artist Debra Manley. The mosaic depicts a journey through all of Boston’s neighborhoods. It was moved from Boston City Hall’s lobby to the Bolling Building’s second floor, outside the School Committee Room.

**ACTIVITIES AND PROGRAMS**

*Management and Operations*

As of early 2017, building management is overseen by the city’s Property Management Department, which contracts out daily functions to NAI Hunneman, a local building management company. Hunneman’s responsibilities include hiring and managing security and management staff.

*Retail Vendors*

From the beginning of the process, the Dudley Vision Task Force made clear that selection of retail tenants had to prioritize locally owned small businesses. It was also important to the task force that businesses stay open after office hours so that the neighborhood residents would have more options for evening activities and meals. The task force completed a retail survey to understand local needs, and a criterion of “community participation” was included in the RFP that was released in December 2013. The Dudley Main Streets Revitalization Corporation, one of the city’s nonprofit commercial redevelopment partners, emphasized the need for a variety of healthy and affordable food options in a neighborhood that had seven pizzerias, four Chinese restaurants, and not much else.

Proposals were received from multinational chains including Starbucks, Subway, and Burger King as well as local Boston vendors including Bon Me, Haley House, and Tasty Burger. Vendors were selected by a committee including members of the Dudley Vision Task Force.

Vendors in early 2017 included:

- **Dudley Café**, a new for-profit enterprise owned and operated by Solmon and Rokeya Chowdhury, residents of Roxbury and owners of several restaurants throughout the Boston region. Dudley Café emphasizes a commitment to the local economy in its operations. All suppliers are locally based and employees are local hires, mainly from Dudley and Roxbury. In addition, the café has a baking and job

Dudley Café offers a full-service menu with locally sourced food.

Dudley Dough provides free meeting space and pizza to a local math tutoring program.
training internship program in partnership with nearby Madison Park Technical High School. Dudley Café offers a full menu, serves beer and wine, and is open for three meals per day during weekdays and brunch on weekends.

- Dudley Dough, the second café developed and managed by neighborhood nonprofit Haley House Bakery Café (its first location is down the street from the Bolling Building). Haley House is a 12-year-old community organization and is cherished by neighborhood residents for its social impact and value as a community gathering space. The organization started 50 years ago as a soup kitchen run by volunteers in the then-struggling South End neighborhood. The current Haley House Bakery Café in Roxbury runs a transitional employment program for men and women returning to the labor force after incarceration. Luther Pinckney, a restaurant industry veteran and neighborhood resident, runs Dudley Dough, which focuses on paying a living wage (which started at $12.50 per hour when it opened in 2015) and plans to engage in profit-sharing with its employees when the enterprise turns a profit. In addition, Dudley Dough provides free space and pizza every week to a local math tutoring program called PieRSquared, which offers Boston students from around the city free math help in a casual environment, conveniently located near transit. Dudley Dough also features vegetables grown at the Haley House garden. The café serves beer and wine in addition to the pizza- and salad-focused menu.

- Gallery EyeCare, a storefront and full-service ophthalmology office run by Dr. Lesa Dennis-Mahamed, OD, who grew up in Roxbury and Dorchester and worked as an ophthalmologist for 20 years before opening Gallery EyeCare. She opened the store after participating in a business-planning course run by the Center for Women and Enterprise and was chosen as a finalist in the program’s pitch contest. It is the only eyeglasses store in the neighborhood and offers products at a range of price points as well as eyeglass chains made by local artisans. The store also includes a rotating gallery that features local artwork, giving the shop its name. The gallery, Dennis-Mahamed told the local newspaper the Bay State Banner, is “about appreciating the gift of sight.”

- Final Touch, a family-run clothing store that sells women’s accessories and clothing. It is owned and operated by Catherine Hardaway with her husband and their son. The first Final Touch opened in 2005 in the Boston neighborhood of Mattapan. The store seeks to help women of all sizes and economic brackets feel at ease and walk out “feeling fabulous,” said Hardaway in a 2016 Bay State Banner article.

- Tasty Burger, a family-run Boston chain that opened its first shop in a neighborhood near Boston’s Fenway Park in 2011. Tasty Burger describes itself as committed to serving high-quality fast food at reasonable prices.

The City of Boston helped these businesses avoid losses by spending over $100,000 on the fit-out of the retail spaces, which is usually a barrier for small businesses. The sixth storefront, a 7,700-square-foot space, had not been able to attract a tenant co-terminus with the leasing of the other five first-floor commercial spaces, with expensive upfront fit-out costs cited as a major factor by potential tenants. The city released a new RFP in August 2017 and selected a potential tenant aware of the necessary upfront investment. Residents continue to support the idea of a family-friendly full-service restaurant that might also offer entertainment, such as live music; neither of these are available in the neighborhood at this time.

Roxbury Innovation Center
The Roxbury Innovation Center was not part of the original plan for the building. After Mayor Walsh was elected, it was added to address the administration’s focus on growing the innovation and technology economy in an inclusive way that benefits a greater spectrum of Boston residents. The selection committee chose the Venture Café, founder of successful business incubators in Cambridge and Boston, to operate the center and SkyLab, a local start-up, to assist with programming in the building’s community space. The center, the Venture Café, and the city’s Property
The Roxbury Innovation Center Fab Lab workshop offers classes in computer-aided design and digital fabrication.

The center’s meeting space is available at subsidized rates to local community groups.

Management Department now share responsibility for scheduling and programming the building’s community spaces, and SkyLab is no longer involved. Venture Café has successfully operated the Roxbury Innovation Center for two years with sponsorship support from Microsoft, the Boston Foundation, Verizon, Comcast, Haworth, the Massachusetts Technology Collaborative, and the Fab Foundation. The center provides programming in six main areas:

- the Fab Lab fabrication workshop, which offers classes and activities for youth and adults in computer-aided design, digital fabrication, and product design;
- Café Nights monthly gatherings for local small business owners and entrepreneurs;
- Office Hours, drop-in hours for members of the public to meet with and get free advice from business lawyers, venture capitalists, and Small Business Administration officials;
- Learn Lab Workshops that offer free courses in Microsoft Excel, PowerPoint, and other products and services in partnership with Microsoft New England;
- subsidized rental space that is available to community groups that meet mission-driven criteria; and
- market-rate event rentals, which help the center underwrite its programming.

Boston Public Schools Services

BPS occupies the majority of the building. In addition to staff workspace, BPS has several public-facing offices in the building. The Welcome Center, located on the second floor, is a drop-in center for new Boston families to register their children, place them in a school, and arrange bus transportation. Before the Bolling Building was built, families had to go to three or more offices dispersed around the city to accomplish this registration process.

BPS also has several spaces specifically for community and teacher engagement. The School Committee Room on the second floor accommodates monthly meetings of BPS’s governance body. BPS also holds its all-principals meetings in this room as well as gatherings of the Citywide School Council, a body of community members and parents that gives BPS input.
Additionally, BPS has an information technology service desk and flexible, open, wi-fi served work spaces for teachers and other visitors to the building.

**Community Events**
One of the major features of the Bolling Building is public meeting and event space. In addition to public meetings, the rooms on the second and sixth floors and the lobby itself are available for public use. A scheduling coordinator at the building manages the active outreach and response to organizations requesting use of the community space. During the first two years of the building’s operations, there were 738 non-BPS event requests. Requests are rejected only if the space is not available or if the request does not align with community use guidelines.

**FINANCING**
The Bolling Building represents a flagship investment for the City of Boston that required significant political will as well as innovative financing. The city created a unique public-private development and ownership structure that utilized, among other sources, New Markets Tax Credit (NMTC) financing, a federal program established in 2000 as a vehicle to bring private capital investment to low-income communities. The Bolling Building cost $124 million to build with total development cost averaging $580 per square foot, of which $480 per square foot was for hard construction.

**Development**
In 2011, the Bolling Building was budgeted at a capital cost of $115 million, then increased to $119 million in 2012 when the decision was made to enlarge the building footprint. When the final construction bids came in higher than expected, as the construction market began heating up in Boston, the budget was finalized at $124 million.

In order to reduce the impact on the city budget, which provided much of the capital, other sources of funding were sought. With assistance from Andrea Daskalakis of the Massachusetts Housing Investment Corporation, Jim Kennedy from the Office of Budget Management’s Alternative Finance Unit secured additional funds through the NMTC program.
In order to access NMTC financing, the city created two nonprofit corporations: Dudley Square Realty Corporation and the Ferdinand Building Development Corporation. Dudley Square Realty Corporation is the owner, developer, and a Qualified Active Low-Income Business, a requirement for NMTC financing. Ferdinand Building Development Corporation is the leverage lender. The city granted $29.3 million in government-issued bond proceeds to the Ferdinand Building Development Corporation, which, in turn, loaned the monies to two funds in the NMTC transaction. The $29.3 million from the city leveraged commitments from Bank of America, the primary investor, and four Community Development Entities which were allocated NMTC credits. These included Massachusetts Housing Investment Corporation, Banc of America, Building America, and the Community Builders. The Dudley Square Realty and Ferdinand Building Development Corporations will operate for a seven-year investment period from 2012 to 2019, after which, provided terms are met, ownership of the land and structure will transfer to the City of Boston and the corporations will be

### TABLE 1: DEVELOPMENT SOURCES AND USES

<table>
<thead>
<tr>
<th>SOURCES</th>
<th>USES</th>
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<tbody>
<tr>
<td>City of Boston grants to Dudley Square</td>
<td>Construction</td>
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<td>Realty Corporation</td>
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<td>City of Boston grant to Ferdinand Building</td>
<td>Design and project management</td>
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<tr>
<td>Development Corporation</td>
<td>Acquisition</td>
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<tr>
<td>Massachusetts Housing Investment Corporation</td>
<td>Transaction costs</td>
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<td>Banc of America</td>
<td>Construction interest</td>
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<td>Building America</td>
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<td>The Community Builders</td>
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### TABLE 2: 2017 OPERATING BUDGET

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<th>REVENUE</th>
<th>EXPENSES*</th>
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<tr>
<td>Rent - Boston Public Schools space</td>
<td>Portion of third-party building management fees**</td>
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<tr>
<td>Rent - commercial spaces</td>
<td>Environmental monitoring</td>
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<tr>
<td>Interest</td>
<td>Interest</td>
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<td>Interest from leveraged loans</td>
<td>Payment in lieu of taxes for commercial space</td>
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<tr>
<td>Total</td>
<td>Misc. operating expenses (tax and legal fees, etc.)</td>
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<tr>
<td></td>
<td>Lender fees</td>
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<tr>
<td></td>
<td>Total</td>
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*Expenses do not include utilities, which are paid by Boston Public Schools.

**Remainder of management fees are covered by the city’s General Funds.
dissolved. According to Jim Kennedy, "the NMTC financing allowed the city to reduce its project borrowing by $8.5 million...allowing the city to maintain the size and quality of the building when there were budget constraints."

The $124 million development represents more than one-third of the typical Public Facilities Department’s total annual capital budget of about $400 million. In 2011, the Office of Budget Management was hesitant to invest such a significant sum on a new building, especially given the estimated $600 million needed in deferred maintenance of aging school buildings. Some expressed the opinion that the Menino administration did not adequately invest in school buildings. Under Mayor Walsh, BPS is now in the midst of Build BPS, a large capital plan announced in 2017 that calls for investing $1 billion in school buildings over the next ten years. This doubled the budget from $50 million annually during the Menino administration. While this still is not enough to cover all costs for necessary building upgrades and new school building construction, it is seen as a significant improvement, according to the BPS Capital and Facilities Management Executive Director Carleton Jones.

Operating Costs and Retail Subsidies
The Bolling Building is owned and managed by the Ferdinand Building Development and Dudley Square Realty Corporations. A portion of the building’s operating costs is covered by rental income from the City of Boston for the BPS space and income from retail vendors, along with interest income from the leveraged loans. The remaining operating costs, including third-party management, utilities, and custodial costs, are covered by the City of Boston’s General Fund via the Property Management Department and BPS. Income in excess of expenses is allocated to a capital reserve fund.

The five retail vendors pay a subsidized rent of between $13 to $19 per square foot. An appraisal required by the NMTC investor concluded market rent for the neighborhood was approximately $24 per square foot. Rather than opting for national chains that might have offered to pay market rate, the city was motivated to encourage local small businesses to succeed in this space. The Roxbury Innovation Center pays as rent 20% of the fees it collects from others who use its meeting rooms, often at subsidized rates. Beginning in FY2018, third-party building manager costs will begin shifting to the city’s Property Management Department and be funded from the city’s General Fund.

PROJECT EVALUATION
The Bolling Building demonstrates how an innovative approach to public investment, when guided by neighborhood stakeholders, can provide significant benefits to the community and city. It is viewed very positively by those who use it including the BPS and the constituents it serves, the Roxbury Innovation Center, and the retail operators and their customers, as well as civic leaders, community organizations, and neighborhood residents. Converting a prominent vacant building in the heart of Dudley Square into a new BPS headquarters drawing 500 employees a day and providing a community hub for events and gathering has been transformative for the neighborhood. The project has succeeded in bringing back a vibrant street life, and many say that it is attracting new investment interest to Dudley Square. As one person put it, "turning the lights back on” changed the perception of the community both internally and externally by replacing blight with new civic development.

However, the increased pace of development in Dudley Square has led to worry that it will result in displacement of existing residents and businesses and dramatic change in the social and physical character of the very community the building was intended to benefit.

IMPACT
Creating a Community Hub
The Bolling Building has become a center for cultural and local economic life in Dudley Square. In addition to the programming organized by the Roxbury Innovation Center, the retail tenants, and BPS, over 420 community-organized events have taken place there, and it has become a go-to space for gatherings by prominent minority-led efforts such as Ujima Boston, Black Market, and more. Much of this is possible thanks to the City of Boston’s deference to neighborhood leaders for guidance on tenants and programming, as well as retail subsidies that support local minority- and women-owned businesses.
The building has become such a successful community hub in part due to its design, which integrates accessibility to public transit, permeability to the street, and interior public open space. The project diverged from typical municipal development in several important ways: from the choice of architectural team that included an international architect, to the team’s proactive efforts to meet the Boston Residents Jobs Policy, to the use of the CMR process, and more. These thoughtful choices created a building that is sensitive to and beneficial for a neighborhood accustomed to past destructive planning and development efforts.

**Inspiring Investment**

Another measure of success of the building, given the project’s stated goal of jumpstarting neighborhood development, is the number of projects planned and built and dollars invested. As of early 2017, that story was still unfolding. While private investment in Dudley Square has been slower than some might like and there are numerous vacant lots and underutilized buildings, there are several projects on the horizon that will add thousands of square feet of development to the neighborhood. Several interviewees noted that, given the overall housing market pressure in the Boston region, Dudley Square could soon become a rapidly gentrifying neighborhood and, at a May 2017 RSMPOC meeting, dozens of community members expressed fear that this was already beginning to happen.

**Avoiding Displacement**

While many are excited to see investment return to Dudley, not all residents see city-led development efforts as positive. Concerns about the forced displacement of long-term residents, businesses, and cultural institutions abound, especially given the history of the neighborhood and the pressure on Boston’s real estate market. The RSMPOC is actively engaged in the Plan Dudley process and is requesting that the BPDA make protecting its residents against displacement caused by gentrification the highest priority, though it is unclear what mixture of policies and development is required to accomplish this goal. Whether this can be achieved remains to be seen, and the issue of potential unintended consequences of all this development must be raised. While some recent and planned projects may serve existing residents with a small percentage of affordable units, the preponderance,
including those developed on city-owned land, will be market rate. Together with the hotel and very large quantities of retail space, it is likely that they will draw a lot of new, higher-income residents, which will further change the character of the neighborhood.

Kairos Shen, chief planner for the BDPA until 2015, suggests that a more comprehensive plan for Dudley Square in line with the values that guided the Bolling Building, particularly for the large number of city-owned parcels in the neighborhood, would provide the city the opportunity to fully guide development that reflects residents’ needs. The Reclaim Roxbury group, which is led by a team of volunteer neighborhood organizers, was founded in 2015 to bring the community together to advocate for better community engagement processes that can help guide development. A 2015 report by MIT Department of Urban Studies and Planning students in collaboration with Reclaim Roxbury found that previous neighborhood-led organizing efforts formed to keep the city accountable to residents’ visions for the neighborhood were disbanded when the BPDA formed the RSMPOC. The report recommended that the BPDA take a stronger stance to protect residents against displacement and create more effective community engagement processes.

Displacement concerns also stem from the barriers that local minority-owned firms and individuals face in the design, development, and construction industries, leading residents to fear that new development will not create jobs that might allow them to earn enough income to afford increasing rents. The development of the Bolling Building shows that through advocacy and coordination, the Boston Residents Jobs Policy numbers can be met, though additional work is needed to increase the number of minority-owned subcontractors. Fears also stem from demographic shifts; a recent study of census data by Northeastern Students Against Institutional Discrimination found that the African-American population in and around Dudley Square declined from 94% in 1960 to 41% in 2010.

**OBSERVATIONS AND LESSONS LEARNED**

**Visionary Mayoral Leadership**

The leadership and vision of Mayor Menino were the guiding forces behind the Bolling Building, and many consider it the flagship achievement of his legacy. While many viewed Menino as a top-down mayor, others observed that his intention was to positively impact Dudley Square specifically in an effort to make amends for past negative impacts and disinvestment.

Mayor Walsh, who came into office in 2014, incorporated his administration’s vision into the project, adding the Roxbury Innovation Center to the building’s plan in an effort to expand the booming technology workforce to benefit diverse Dudley Square residents. The city, under the leadership of Chief of Economic Development John Barros, continues to support the maintenance and operations of the building per Mayor Walsh and the Dudley Square Advisory Task Force’s vision and is working to secure a tenant for the sixth and final retail space.

**The Power of Personal and Professional Connections**

The city’s cultural and political context influenced several important aspects of the Bolling Building’s design, development, and use. Sometimes referred to as a “small town, big city,” Boston is known for its personal, sometimes exclusive network of power brokers. For example, Jim Kennedy was able to find financing for the NMTC share of the construction budget thanks to making a connection with Massachusetts Housing Investment Corporation, a private investor and lender specializing in affordable housing and community development throughout New England. BPDA’s contact for the City of Boston, Dana Whiteside, had been working with the RSMPOC for years, giving him insight into community priorities even before planning began. One of the current building managers, employed by the city-contracted firm Hunneman, was hired after he stopped into the Shawmut Community Liaison’s office. Stories like these contribute to the sense that the Bolling Building is uniquely infused with Boston’s “small town” character and reflect the commitment of the city and contractor to engage the community.
Anchoring the Community

The Bolling Building responds to the physical, social, historical, and economic conditions of Dudley Square. From the beginning of its development process, neighborhood residents’ connection to the African-American cultural history and the legacy of previous urban development efforts in Dudley Square guided the goals, process, and design decisions behind the building. Considerations of public access and connectivity with surrounding uses dictated the physical form, massing, and program of the building. The new building integrates the facades of three existing buildings, including the historic Ferdinand Building, with contemporary design, creating a new, highly visible public gathering and cultural space at the center of the neighborhood.

Investing in the Neighborhood

The City of Boston made an investment in not only a physical building but also in the support and growth of neighborhood enterprises. Gallery EyeCare, Dudley Dough, Dudley Café, and Final Touch all benefitted from subsidized retail space and a location that brings them new customers and serves the community. Dozens of local organizations benefit from the well-designed, subsidized local meeting and event space. The Roxbury Innovation Center is building youth capacity in technology and connecting Roxbury residents to the technology economy. And lastly, the creation of a new, indoor “public square” adjacent to transit provides social connectivity and is improving the pedestrian experience by reintroducing ground-floor retail.

Catalyzing Economic Growth

From its inception, the project was intended to contribute to the revitalization of Dudley Square beyond the direct subsidies and investment of the Bolling Building itself. There are mixed opinions about whether this neighborhood revitalization is happening as quickly as some would like. Most residents and interviewees believe that the pace of development in Dudley Square has quickened since the Bolling Building opened, though there are varied responses about that development given concerns that it may negatively impact existing residents and businesses. The neighborhood is still viewed as somewhat risky for speculative investment, perhaps a result of its racial demographics and the fact that 73% of its households
live in income-restricted affordable housing, with many of those residents earning less than $20,000 per year. However, the BPDA indicates that the recently approved projects, many of which are on city-owned parcels, will bring 1,130 new households online, nearly doubling the number of units in the neighborhood. Many of these are market-rate units, causing significant concern about potential future displacement of lower-income residents.

Creating an Aspirational Civic Building
The Bolling Building provides an example of the power and value of the public sector setting the bar high in its investment in municipal infrastructure. The project could easily have been just another standard office building with an unremarkable design and functional program; a private, inward-looking lobby; and city agency offices. Instead, the city established an ambitious programmatic and aesthetic vision, raising the stakes for the quality of the outcome and attracting interest from international architecture firms. The Sasaki and Mecanoo team found creative ways to integrate this program, as well as the history and culture of the community, into the building design. The amount of care and attention to the design and development sent a powerful message to the community that Dudley Square is important to the City of Boston.

Engaging the Community
Community engagement was central to the development of the Bolling Building, and the community’s goals were incorporated into the building program. The development team worked alongside neighborhood residents at each step, utilizing residents’ knowledge and connection to place to guide decisions. The Sasaki and Mecanoo team had already begun to engage the community as they crafted their presentation to the architect selection committee—that is, before they were even hired. After hearing from locals about the special place Dudley Square used to be and the history of failed planning efforts, the design team understood that their proposal needed to speak to residents’ aspirations and memories. After their selection, they regularly updated the Dudley Vision Task Force, ensuring that community goals were considered along the way. Additionally, thanks to partnerships with advocacy groups, the close attention paid to the Boston Residents
Jobs Policy ensured that neighborhood residents benefited from local employment opportunities.

**Working within an Accelerated Schedule**

The Bolling Building was completed within a very tight time frame, and interviewees noted several things that they would do differently if they were to begin again. Many said that they wished they had had more time to develop the building. From the announcement in 2011, there was a great deal to accomplish in order to begin construction in one year and complete the building as quickly as possible. While this led to the city’s first use of the CMR contracting process and a cross-departmental governance structure, several interviewees noted that with more time, they may have been able to move through the new process more smoothly and with more ability to consider options. Even so, there were few criticisms of the outcome.

**Leasing Retail Space**

While the retail food operations have been successful in attracting customers, including BPS employees, neighborhood residents, and visitors, the businesses have struggled to stay solvent in their locations. Restaurant owners indicated that business was not as strong in the evening as during the day. Although the Dudley bus station is crowded and busy, proximity to it has proved less significant than expected; unlike Back Bay Station, the wait times for buses here are relatively brief. According to business operators, their customer base is growing, albeit slowly, and retail margins have been thin since opening. Dudley Café is supposed to become profitable by its third year of operation. The still-vacant retail space was also the subject of some reflection, as the city has recently renewed its effort to find an operator that can afford the fit-out. In addition, one tenant noted that there is no “back of house” space to support the restaurant operations, including an area for trash pickup, loading dock, and storage. This means that deliveries must take place inconveniently from the sidewalk and through the front door. Boston Economic Development Director John Barros indicated that these lessons are helping the city learn about what small businesses need as they revisit citywide policies and programs.
Managing Public Access
The building’s public meeting spaces, including the ground-floor lobby, are valued community amenities. They are used for formal and informal meetings by BPS, city departments and agencies, neighborhood organizations, residents, and students. Managing access has involved a bit of a learning curve. Several interviewees noted that they wished the public restrooms were located on the first floor so that people didn’t have to go so far into the building to access them and, more importantly, that they be located adjacent to the security desk for better control.

MEETING PROJECT GOALS
GOAL: Revitalize Dudley Square by investing in its built environment, economy, and culture.
By bringing in 500 employees, providing subsidized retail space for local businesses, and ensuring that construction and retail supported local residents and businesses, the Bolling Building has contributed directly to the Dudley Square and Roxbury economy. With its substantial public areas and subsidized meeting spaces, it also offers indirect support for local organizations and groups that often struggled to find useful, accessible meeting space and safe places to informally gather. The design itself helps to cohere the otherwise difficult-to-navigate streetscape of the square, providing easy access to Dudley Station, wider sidewalks, and a free and open space to gather.

GOAL: Attract new businesses and development to the neighborhood.
The City of Boston’s neighborhood revitalization plan for Dudley Square describes the Bolling Building as a major anchor investment in the neighborhood. The city jumpstarted and likely accelerated development in a neighborhood that had been largely lacking private investment and development for decades, and it did so in a way that supported local businesses, created public space, boosted cultural and community connections, and improved service delivery for BPS.

Following the success of the Bolling Building, the City of Boston is actively pursuing several new public-private redevelopments and encouraging private investment in Dudley Square. Since 2004, developments in the area have been financed by investments totaling $814,235,322 and have added 2,480,257 square feet, including 1,823 new market-rate residential units and 379 affordable residential units. These projects have also created 1,665 construction jobs, 1,415 other jobs, and induced or indirectly created 888 additional jobs.

Projects include:
- Tropical Foods: The relocation and expansion of an existing locally owned and operated grocery store, which includes 66,000 square feet for the grocery store and 30 new residential units (21 of which are designated for those making below 60% of the area median income). Construction is complete.
- Melnea Hotel and Residences: A 1.3-acre mixed-use development on city-owned land that incorporates a 78,000-square-foot hotel, 50 residential units (six of which are guaranteed affordable), and 8,000 square feet of retail. This project was approved in June 2013 and construction is now underway.
- Bartlett Place: A new 323-unit residential building that is under construction after the BPDA approved the proposal in September 2013. The building will contain 39,000 square feet of retail space and 323 residential units (60 of which will be affordable units).
- Whittier Choice: A $44 million Choice Neighborhood initiative that will demolish the existing 200-unit public housing development and create 387 new units (200 of which will be subsidized affordable through the Boston Housing Authority) in several buildings along Tremont Street, build active ground-level retail and community spaces, and add open space.
- Tremont Crossing: A large mixed-use development on a city-owned site across from Whittier Choice, approved by the BPDA in March 2017, the project will include 728 residential units (103 of which will be affordable), 405,808 square feet of retail space, 108,000 square feet of office space, and a museum for the National Center of Afro-American Artists.
In addition, the city has made other investments in public facilities and recently announced several other private developments in the pipeline, including a proposed 25-story mixed-use tower across the street from the Bolling Building and Dearborn 6 to 12 STEM Early College Academy, a $75 million school project located on 36 Winthrop Street two blocks from the Bolling Building that will open September 2018. It is the City of Boston’s first STEM school designed for project-based learning. The Dudley Branch of the Boston Public Library is also beginning a $12.8 million dollar renovation and will reopen the end of the year 2019.

GOAL: Design a twenty-first century municipal facility with state-of-the-art technology and a healthy work environment.

The identification of the Bolling Building as a mayoral priority incentivized many innovative approaches and processes that have begun to permeate the city’s design and construction process. After its successful use of the CMR contracting procedure, the city is now utilizing this efficient process for other projects. In addition, the city is has now adopted the open office plans that it pioneered in the Bolling Building when it builds or renovates other municipal offices.

GOAL: Encourage collaboration between local residents and businesses and city government.

The city engaged in an unusually open and collaborative design and construction process with neighborhood residents. Members of the Dudley Vision Task Force met biweekly during the design, development, and construction. This process could be a model for future city-led projects, though members of advocacy and community groups feel that this engagement could still improve.

GOAL: Consolidate and improve the working conditions of Boston Public Schools employees and its services to constituents.

Relocating BPS to Dudley Square has brought this important city service closer to its constituency. The majority of families enrolled in BPS live in Roxbury and Dorchester, and parents and families no longer have to travel to multiple locations to complete necessary paperwork. Internally, BPS staff now have a state-of-the-art green building, which has improved workplace satisfaction and the ability of departments to collaborate and break siloed barriers. Externally, residents and parents now have a visible, open public forum and space to actively engage with BPS. Prior to the Bolling Building, the School Committee met in a dark room at 26 Court Street. Now it meets regularly in the second floor School Committee Room, a double-height space at the corner of the building featuring large windows, state-of-the-art multi media and public art. As one parent noted, “the Bolling Building is a real forum for democracy.”

GOAL: Demonstrate sustainable, economical, and efficient use of government funds.

The Bolling Building is LEED Gold certified, and its light-filled, open office interiors with a rooftop garden create a welcoming and healthy working and gathering environment. While the city may have anticipated criticism about the building’s development costs, the overwhelming response has been positive. This is due in part to the city’s ability to leverage development investments to accomplish many interrelated goals for the neighborhood: support minority- and women-owned local businesses, provide formal and informal community gathering spaces, support the school district, provide workforce development opportunities in construction and technology, and more. Community advocates suggest that the city could have improved its subcontracting workforce percentages with local and minority-owned firms, ensuring that new construction benefits local residents of color.

GOAL: Retain and integrate historic building facades.

The building successfully integrated the historic facades of the Ferdinand, Curtis, and Waterman Buildings. It also incorporated other historical details, such as lighting that references where the elevated train line used to pass through the building and a historical display on the publicly accessible sixth floor. These efforts were important to residents, whose families remember the vibrant past of the neighborhood. They were also significant to historic preservation groups in the city.
More than $800 million in public-private development has been made in the area surrounding the Bolling Building.
SELECTION COMMITTEE DISCUSSION

The Selection Committee recognized the Bolling Building as a “wonderful urban project that contributes to the public realm and community” and commended it as “a great example of civic leadership that succeeds on many levels.”

The Bolling Building illustrates the role of public leadership and investment. The committee noted the significance of the city making an investment that helps to improve the community, especially in a strong real estate market like Boston. Members praised the decision to place the headquarters of an essential public service—Boston Public Schools—in a central location in the heart of a neighborhood with great transit, thereby increasing access to services for families and teachers. While the development and financing of the project was challenging, the committee observed that having a single public entity (the City of Boston) take the lead helped to simplify the task.

The committee praised the sensitive and thoughtful approach to the building’s design, its respect for the existing context, and the city’s commitment to community engagement throughout the development process. The building is accessible and inclusive, well organized and designed, and utilized by a wide demographic.

The committee also appreciated the attention to design excellence—unusual for a government building—as well as the focus on attracting local entrepreneurs for ground-floor commercial spaces and helping local residents by providing access to those businesses, to public meeting spaces, and to the Roxbury Innovation Center. As a result, the ground-floor lobby has become a popular place for people in the area to gather—a valuable “third place,” as urban sociologist Ray Oldenburg refers to such spaces, something committee members familiar with Dudley Square noted is rare in this neighborhood.

The Bolling Building has had a restorative effect on a community that has experienced significant decline and disinvestment. It revived the center of Dudley Square, once known as Boston’s second downtown, offering an inspiring beacon and icon for the community. The project leverages other
THE COMMITTEE COMMENDED THE ATTENTION TO DESIGN EXCELLENCE, OBSERVING THAT IT IS UNCOMMON IN GOVERNMENT BUILDINGS.

investment in the area, including the Whittier Choice Neighborhood Transformation Plan funded by the HUD Choice Neighborhoods Initiative program and the $14.7 million Boston Public Library renovation. The project also takes advantage of its adjacency to the Dudley Station transit hub, offering amenities for the 30,000 people that pass through the station each day. As David Lee observed, with the Bolling Building, Dudley Square “is becoming a place to go rather than a place to go through.”

Although the project does much to mitigate and leverage economic change, there were questions as to whether the project would, in the end, create economic development to benefit local residents, how much it would contribute to gentrification and displacement, and whether there were adequate systems in place to preserve affordability for existing residents.

RELATED RBA WINNERS

Public leadership and strong public-private partnerships are essential in creating community-oriented, mixed-use developments, especially those with ambitious agendas like the Bolling Building. The following RBA winners also used collaborative partnerships to engage local stakeholders and produce development that spurred new investment while benefiting and strengthening the existing community.

**YERBA BUENA GARDENS** in San Francisco (1999 Gold Medalist) is a downtown community integrating arts and culture, economic development, and social justice. A strong coalition of self-governing stakeholder organizations guided creation of the 87-acre development which includes museums, children’s facilities, a convention center, public gardens, hotels, offices, retail, and residential units.

**DOWNTOWN SILVER SPRING** in Silver Spring, Maryland (2005 Silver Medalist) is a transit-oriented development integrating entertainment, housing, office, retail, and public spaces. Envisioned as a model for Maryland Smart Growth policies, the project revitalized an existing urban center and historic Art Deco building with a combination of new entertainment, office, residential, retail, and public spaces.

**SWAN’S MARKETPLACE** in Oakland, California (2001 Silver Medalist) is a multi-cultural community gathering place with housing, commercial, and arts-based spaces. The city-initiated project targeted a neglected area near public transit, rehabilitating eight blighted buildings, relocating vendors from a historic market, and adding offices, low- and moderate-income residential units, and a Museum of Children’s Art.

Other RBA winners that offer examples of public-private partnerships that undertook mixed-use developments with bold urban agendas include Santa Fe Railyard in Santa Fe, New Mexico (2011 Silver Medalist); Civic Space Park in Phoenix (2011 Silver Medalist); and Pike Place Market in Seattle (1987 Gold Medalist).

More information about these and other RBA winners can be found at www.rudybruneraward.org.
Resources
This case study was compiled from information gathered from the project application; an extensive site visit in April 2017 by Simeon Bruner, Jay Farbstein, Anne-Marie Lubenau, and Danya Sherman (lead author); and research and interviews conducted during these processes and throughout the writing and editing of this report. Titles and positions of interviewees and URLs listed below were effective as of the site visit unless otherwise noted.

INTERVIEWS
Project Team
Maureen Anderson, Senior Project Manager, City of Boston Public Facilities Department City of Boston
John Barros, Chief of Economic Development, City of Boston
Chris Carroll, Managing Director, PMA Consultants
Chris Gordon, Lecturer, MIT Center for Real Estate and Harvard Business School
Andrew Grace, Director of Strategic Planning & Economic Development, Boston Planning & Development Agency
Francine Houben, Principal, Mecanoo
Tim Hurdelbrink, Shawmut Design and Construction
Carleton Jones, Executive Director, Boston Public Schools Capital Planning & Facilities
Tom Leahy, Assistant Director, City of Boston Public Facilities Department
Meredith McCarthy, Architect, Sasaki
Peter O’Sullivan, Director of Asset Management, City of Boston Property Management Department
Mark Racine, Chief Information Officer, Boston Public Schools
Kairos Shen, Visiting Lecturer, MIT Center for Real Estate (formerly Chief Planner with the Boston Redevelopment Authority)
Victor Vizgaitis, Principal, Sasaki
Mike Weber, Vice President, NAI Hunneman
Dana Whiteside, Deputy Director for Community Economic Development, Boston Planning & Development Agency

Financing
Andrea Daskalakis, Chief Investment Officer, Massachusetts Housing Investment Corporation
James Kennedy, Alternative Finance Unit, City of Boston Office of Budget Management

Tenants
Bing Broderick, Proprietor, Dudley Dough
Alessandra Brown, Director, Roxbury Innovation Center
Solmon Chowdhury, Proprietor, Dudley Café
Luther Pinckney, Proprietor, Dudley Dough

Community
Kathy Kottaridis, Executive Director, Historic Boston Incorporated
Theodore C. Landsmark, Board of Directors, Boston Planning & Development Agency, and Director, Kitty and Michael Dukakis Center for Urban and Regional Policy, Northeastern University
Henry Moss, Principal, Bruner/Cott Architects
Joyce Stanley, Executive Director, Dudley Main Streets
Chuck Turner, Boston Jobs Coalition and former City Councilor, City of Boston
Armani White, Co-chair Reclaim Roxbury
Kathy Wissink, Director of Technology Community Engagement, Microsoft Boston
Margaret Minor Wood, Project Director, Pinck & Co., Inc.

REFERENCES


Northeastern Students Against Institutional Displacement. "De-Mystifying Gentrification." Provided to author by Joe Tache. Accessed August 2017. https://docs.google.com/presentation/d/1AdMF2Ew0VTC_W42wcr1nt-oCiizQ0gYhTY-d3aTegYk/edit#slide=id.g1b45f22baa_0_231.


"Request for Qualifications for Owner’s Project Management Services." City of Boston. June 8, 2011.


OTHER AWARDS
The project has been recognized with other design and construction awards including the following:

2015 Brick in Architecture Award, Best in Class, Municipal/Government
2015 The Chicago Athenaeum Museum of Architecture and Design American Architecture Award
2015 CoreNet Global New England Award of Excellence, Best New Construction
2015 Engineering News-Record New England Best Project Award
2015 International Facilities Management Association Boston Award, Best Practices: Large Project
2015 Preservation Massachusetts, Mayor Thomas M. Menino Award
2015 Union of Bricklayers and Allied Craftworkers Craft Award, Most Innovative Use of Masonry
2015 World Architecture News Award Civic Buildings Shortlist
2016 Boston Preservation Alliance Preservation Achievement Award and Fan Favorite
2016 Boston Society of Architects Harleston Parker Medal, People’s Choice Award
2016 Construction Management Association of America, Northeast Chapter, Project Achievement Award
2016 New England Congress for New Urbanism Award
2016 The Plan Award, Office
2017 Boston Society of Architects Honor Award, Design Excellence
Chicago Riverwalk Phase 2 & 3
Chicago, Illinois

Reclaimed waterfront that transforms the river into Chicago’s next great recreational park
The Chicago Riverwalk Phases 2 & 3 is the transformation of a series of barren concrete arcades along the Chicago River into a series of vibrant waterfront public spaces. First envisioned as part of Daniel Burnham's 1909 *Plan of Chicago* and completed in 2016 by the City of Chicago, the Riverwalk is part of Mayor Rahm Emanuel’s *Building on Burnham* initiative to invest in natural and recreational opportunities for neighborhoods across the city. Located in the heart of downtown Chicago just northwest of Millennium Park (2009 RBA Silver Medalist), the Riverwalk is now referred to as the city’s “second waterfront” and has become a popular place to walk, jog, bike, dine, and view Chicago’s world-renowned architecture.

The design of the Riverwalk’s 3.5-acre Phases 2 and 3 was a collaboration between Sasaki from Watertown, Massachusetts, and Chicago-based Ross Barney Architects, who also designed Phase 1, completed in 2009. Together, the three phases provide continuous pedestrian access along the south bank of the Chicago River from the confluence of its north and south branches to Michigan Avenue, where the trail continues on to Lake Michigan. The Riverwalk was created within a narrow 25-foot build-out area between...
Lower Wacker Drive and the river, negotiating complex marine and urban conditions including discontinuous access, fixed infrastructure, flooding, and substantial vertical grade changes. The design offers an experience of both continuity and variety. Reflective under-bridge passages link six distinct “rooms” between the bridges that cross the river every block, and each room—Marina Plaza, The Cove, River Theater, Water Plaza, The Jetty, and a sixth room at the western end awaiting development while options for its evolution are explored—offers a different way to experience the river.

The park integrates a variety of amenities including boat docking, kayak access, fishing piers, floating wetlands, restaurants, and water features, along with plenty of seating and access to Upper Wacker Drive. Local vendors offer food and beverages overlooking the water, along with boat rentals and water taxi transportation. Friends of the Chicago River and the Chicago Architecture Foundation provide educational programming and tours highlighting the city’s architecture and the river’s ecology.

The $114.5 million project received innovative financing through a federal Transportation Infrastructure Finance Innovation Act (TIFIA) loan which will be paid back over 35 years with revenue from vendor contracts.

The Riverwalk is one of a series of recent additions to Chicago’s recreational network, which includes The 606 trail and park system and Maggie Daley Park adjacent to Millennium Park. It’s also part of broader planning initiatives including the Metropolitan Planning Council’s (MPC) Our Great Rivers vision and the Urban River Edges Ideas Lab, a partnership between the City of Chicago and MPC, which is engaging leading architectural firms in developing concepts for additional riverfront development.

Open since 2016, the Riverwalk has quickly become a source of pride for Chicagoans and a popular destination for office workers, residents, and tourists, and revenues have exceeded projections for food and beverage vendors. It is also creating a new cachet for riverfront addresses where current and proposed projects include a 51-story Bank of America tower and a $27 million Apple store. According to Mayor Emanuel, “We’re in the beginning stages of rediscovering the Chicago River.”
Project at a Glance

- A new 3.5-acre outdoor public space that reorients downtown Chicago to the river where it was founded, creating a second waterfront on previously underleveraged real estate.
- A linear park for walking, biking, jogging, sitting, dining, and connecting to the river.
- A place for visitors, workers, and residents to escape the urban bustle while enjoying the city’s skyline and amenities.
- An east-west pedestrian, bike, and water transit corridor through downtown built around existing bridge infrastructure.
- An opportunity to educate visitors about river ecology while helping restore healthy aquatic life.
- An innovative financing plan that makes construction and maintenance self-supporting.
- A “coming together place” that has attracted new retail and high-rise housing and office construction.

Project Goals

- Reclaim the Chicago River for the ecological, recreational, and economic benefit of the city.
- Create diverse programming opportunities that respond to different portions of the river, exploring urban river typologies and integrating restaurants, boating, water features, floating wetlands, and ample seating.
- Enhance the downtown Chicago experience by giving visitors and residents an accessible riverfront destination for outdoor recreation and leisure in the heart of the city.
- Creatively adapt underutilized waterfront infrastructure into a highly integrated, sustainable, flood-resilient downtown amenity.
- Provide critical new linkages to the city’s existing open space system and allow seamless pedestrian movement along the river from the city’s core to the lakefront.
- Offer a continuous car-free environment that connects a series of distinct community spaces at the river’s edge.
Chronology

1770
Early settler Jean Baptiste Point du Sable builds his house on the northeast side of Chicago River near its mouth at Lake Michigan.

1803
Fort Dearborn is built on the south bank of the main stem of the river.
Thirty years later, the town of Chicago is incorporated.

1800
Fort Dearborn is built on the south bank of the main stem of the river.

1900
Chicago River flow is reversed so that sewage and industrial pollution does not affect drinking water pumped from Lake Michigan.

1909
Burnham and Bennett’s Plan of Chicago is published. It includes proposals for a multi-level roadway along the river as well as a river promenade.

1926
South Water Street Market is relocated from the riverfront to create a multi-level grand boulevard along the riverbank per the 1909 Plan of Chicago. Wacker Drive quickly becomes a heavily used arterial carrying up to 60,000 vehicles daily.

1979
Friends of the Chicago River is established to support restoration and maintenance of water quality and aquatic life in the river.

1990s
A series of studies, plans, and guidelines are generated addressing ways to bring pedestrian access and real estate development to the banks of the river.

1998
The City of Chicago, working with Skidmore, Owings and Merrill, develops a path from the mouth of the Chicago River at Lake Shore Drive to Michigan Avenue.

1992
Chicago Riverwalk Feasibility Study is completed.

1998
The City of Chicago, working with Skidmore, Owings and Merrill, develops a path from the mouth of the Chicago River at Lake Shore Drive to Michigan Avenue.

2001 - 2002
The east-west section of Wacker Drive is redesigned and reconstruction begins between Michigan Avenue and Randolph Street, including moving westbound lanes 50 feet south to create space for a plaza at river level.
2001
Ross Barney Architects begins collaborating with the Chicago Department of Transportation, Collins Engineering, and Jacobs/Ryan Associates on Phase 1 of Riverwalk.

Chicago’s Department of Transportation submits a plan to the US Department of Transportation that includes building an extension into the river for the walkway.

2002
Chicago Park District completes a Chicago River Master Plan that includes a riverwalk along the main stem of the Chicago River.

2005
The first segment of Riverwalk Phase 1 is completed between Michigan Avenue and Wabash Street, including the Vietnam Veterans Memorial Plaza.

2009
The second segment of Riverwalk Phase 1 is completed, from Wabash Street to State Street, including the McCormick Bridgehouse Museum.

2011
Sasaki and Ross Barney Architects are awarded a contract to design Phases 2 and 3 of Riverwalk.

2013
The City of Chicago is approved for a Transportation Infrastructure Finance and Innovation Act loan of $98,660,000 for construction of Phases 2 and 3.

2014
Construction of Phase 2 begins.

2015
Construction of the first three “rooms” of Phase 2 is completed.

2016
Construction of the final three rooms of Phase 3 is completed and open for summer.

2017
RFP for the new vendors for 2018 season receives 25 submissions.

The official opening is held on May 20.
POINTS OF INTEREST

1. Chicago Riverwalk Phases II & III
2. Chicago Riverwalk Phase I
3. McCormick Bridgehouse & Chicago River Museum
4. Millennium Park
5. Merchandise Mart
6. Marina Towers
7. Wrigley Building
8. Navy Pier
9. New Apple Store
10. Wolf Point
INTRODUCTION
The Chicago Riverwalk is designed to return access to the Chicago River to its populace after many decades of industrial and waste water use rendered it polluted, unsightly, and often unpleasant to be near. With industry along the river largely gone and waste significantly reduced, the river is again approachable, and the Riverwalk has taken advantage of that to bring people back to the water for recreation and transit.

The Riverwalk is a $114.5 million project that expanded existing arcades and a narrow pathway between Wacker Drive and the water by building out 25 feet into the river to create, for the first time, a continuous walkway along the length of the main stem of the Chicago River. Phase 1 of the Riverwalk, completed in 2009, created a walkway along the easternmost section from Michigan Avenue to State Street. Phases 2 and 3 complete the Riverwalk with six additional blocks extending to the confluence where the main stem of the river joins the north and south branches. In so doing, it provides a path and waterway that connects the lakeshore to the heart of downtown and the West Loop, with plans to extend the path along the north and south branches to many other neighborhoods.

More promenade than park, the Riverwalk is located 20 feet below surface streets, providing the ability to escape urban bustle and noise while still embracing the city through spectacular views of the Chicago skyline. The design offers an experience of both continuity and variety. Within the unbroken flow of the walkway and consistent use of materials, the six blocks of Phases 2 and 3 are laid out as six distinct “rooms,” each defined by the bridges at either end and a unique design supporting its particular intended use. The sixth segment, at the western end near the river confluence, is defined mostly by temporary features, as its ultimate uses are still to be determined. The Riverwalk experience combines water amenities (docks, boating, fishing, and wetlands) and educational programming (provided by the Chicago Architectural Foundation) with restaurants, bars, and the opportunity to take an unimpeded stroll through the Chicago Loop.

CONTEXT
Chicago
The area in and around what is now Chicago had long been inhabited by a number of native tribes including the Algonquin, Mascouten, Miami, Sauk, Fox, and Potawatomi. The Chicago River is one of a series of rivers that is part of what is known as the Chicago Portage, an area that was important to the native tribes and later to European trappers and traders who first arrived in the 1670s. This portage connects the Great Lakes to the Mississippi Valley along the area of a continental divide within which water drains east to the Great Lakes or west to the Mississippi basin. This geographical feature made Chicago an important trading site and led to its growth as European explorers recognized that cutting a short canal there could connect Lake Michigan and the Chicago River to tributaries leading to the Mississippi, creating a water route all the way to the Gulf of Mexico. One hundred years after these explorers visited the area, Jean Baptiste Point du Sable founded his farm, the area’s first permanent European settlement, on the north bank of the Chicago River near its mouth at Lake Michigan. Fort Dearborn was built on the south side of the Chicago River as a US outpost in 1803.

The settlement of Chicago was incorporated in 1833 after being surveyed and mapped by order of the Illinois legislature in 1829. The Illinois and
Michigan Canal opened in 1848, connecting Lake Michigan to the Mississippi River, and shortly thereafter Chicago became the major rail hub of the Midwest. The city grew rapidly as an economic center, and the river served as an important source of water for industrial processes and animals in the stockyards and as a sewer where industrial and animal wastes were dumped.

The city’s growth was perhaps too rapid for its infrastructure, which led to serious health and sanitary issues that were addressed by major civil engineering efforts. In 1856, the city’s streets (and in some cases buildings) were elevated five feet to accommodate new sewer lines, which flowed into the river and contributed to fouling its waters. At the turn of the twentieth century, after many years of trying, the flow of the Chicago River was successfully reversed to eliminate the intrusion of sewage into Lake Michigan, protecting the source of Chicago’s drinking water.

The direction of Chicago’s development and growth was changed drastically by the Great Fire of 1871, which spread over several thousand acres and destroyed over 17,000 buildings, leaving more than 100,000 people homeless. Despite the devastation, in many ways the fire opened possibilities for a better city. In its wake, Chicago developed some of the strongest building and fire codes and one of the best-trained fire departments in the country, and it initiated planning for a dramatically different city.

The third largest city in the United States, Chicago has a population of 2.7 million people (over 9 million people in the broader metropolitan area) with a broad mix of racial, ethnic, and religious groups. The Riverwalk is in the heart of Chicago’s downtown, known as “the Loop” for the area enclosed by the elevated train tracks of the city’s mass transit system. The Loop contains government buildings, a range of commercial and retail spaces, arts and entertainment venues, dining, and, more recently, high-rise and high-end residential buildings.

**The Plan of Chicago**

In 1893, Chicago hosted the World’s Columbian Exposition with Daniel Burnham as its chief planner and Charles Wacker as fair director. The fairgrounds, through its layout and buildings, presented an American adaptation of European Beaux Arts design and helped launch the City Beautiful movement in the United States. It also inspired Chicago’s leading businessmen and property owners, through the Commercial Club of Chicago (of which Wacker was a member), to create the Chicago Plan Commission, with Wacker as its head. Burnham was hired to develop the plan, based on the belief that thoughtful and comprehensive planning would make a better and more prosperous city.

Completed in 1909, the *Plan of Chicago* described a Beaux Arts style city with large parks and broad boulevards to keep people, goods, and services flowing. It included plans for a lakefront with 30 continuous miles of public access that would be protected forever from commercial development. The plan also proposed a double-deck bridge over Michigan Avenue merging into a multilevel drive along the Chicago River; a Parisian-like boulevard at the surface level would connect to the new bridges over the river, and fast freight and traffic would flow below with direct access to the basements of commercial buildings. Drawings in the Burnham plan, as it was popularly known, also included a promenade along the river where people could stroll, see, and be seen. The riverfront would be efficient for transportation and beautiful, lined with soaring skyscrapers. The Burnham plan was, to no small degree, a real estate development proposal through which a prized and beautiful riverfront would create significant new value for the property along its banks.

**Wacker Drive**

The plan was adopted in 1910, but it was not until 1924 that construction began on the new multilevel roadway, now named Wacker Drive. The plan included using assessments based on future real estate value to fund the development, which necessitated building new and bigger structures alongside the river.

Lower Wacker Drive was brightened by daylight that came through concrete arcades formed by chamfered columns with brackets and volutes, giving the impression of classical architecture. The river border at grade was created by a balustrade with regularly spaced pedestals. Historian A. D. Finstein commented that “Wacker Drive was not just an on-grade riverfront
cut-through. Rather, it offered a three-dimensional framework for transportation and architecture that specifically rejected past incarnations of both.” It quickly became a major artery for traffic going to and through downtown Chicago while the polluted river was essentially something to be passed over and ignored by most citizens, save for the traditional St. Patrick’s Day event for which a special dye was added to turn it green. Commercial shipping vessels continued to dock alongside the Wacker Drive. Over time, the original arcades were closed off to provide temporary amenities along the riverfront, but there was still little to do at the water’s edge. Burnham’s vision of the city’s relationship with the river was not fully realized until the completion of Riverwalk more than 100 years after the plan was adopted.

**The Chicago River**

In the last 30 years, the river’s water quality has significantly improved. In the post-industrial economy, many of the waste-producing businesses and industries have moved or closed. The last two coal-fired plants were shut down in 2012. Storm water overflows regularly caused raw sewage to pour into the river, and in the mid-twentieth century, this occurred an average of every three days. Water management improvements following the 1972 Federal Clean Water Act led to a decline of such pollution. Massive new tunnels are being built to hold storm water overflows, and when the last such tunnel is finished in a few years, officials say it will be the end of sewage leaking into the river. Whereas the Friends of the Chicago River counted only seven species of fish in the river when the organization was founded in 1979, the most recent count found more than 70, an indicator of a cleaner and more habitable river.

**LEADERSHIP AND COMMUNITY PARTNERS**

The leadership that led to development of the Riverwalk came from city government and partnerships with nonprofit organizations, in particular the Friends of the Chicago River (FOCR) and the Chicago Loop Alliance. Mayors Richard M. Daley (1989-2011) and Rahm Emanuel (2011-present) both took an active interest in supporting, promoting, and securing funding for the project. At their behest, numerous city agencies—including the Chicago Department of Transportation (CDOT), the Chicago Park District,
FOCR was founded in 1979 by Robert Cassidy after an outpouring of positive response to “Our Friendless River,” an article he wrote for Chicago Magazine to protest deterioration of the river. The article recounted a canoe tour of the river and noted that even though water is a magnet for people and some developers were beginning to build along the river, serious development wouldn’t happen until the water was cleaned up. FOCR has since been involved in planning and staging events aimed at increasing interest in and educating visitors about the river, including building a “fish hotel” (submerged islands attached to the south bank of the river with vegetation that provides shelter and attracts insects the fish eat) off the south bank to demonstrate that aquatic life persisted in spite of the pollution.

Founded in 2005 from the merger of two downtown business associations, the Chicago Loop Alliance represents for-profit and nonprofit entities and has the Chicago River as the north and west boundaries of its catchment area. According to the alliance, it “develops, supports and promotes artistic, cultural and public events that benefit businesses, individuals and stakeholders” and has been involved in numerous planning activities related to capital improvements in the central core of the city. Its members have been among the primary supporters of the Riverwalk and stand to benefit from its success in bringing more people downtown.

In 2016, Mayor Emanuel released the Building on Burnham plan, which outlines a series of projects intended to leverage the impact of recent park building in Chicago—including the Riverwalk, Millennium Park, Maggie Daley Park and The 606 (an elevated and surface linear park that connects several neighborhoods and is named after Chicago’s zip code)—and work toward the vision of “a city in a garden.” The plan proposes adding a number of neighborhood parks connected to schools and adding to bicycle amenities with new trails and pedestrian bridges. The plan also proposes a new rails-to-trails program along the Chicago River in the Pilsen and Little Village neighborhoods and extending the Riverwalk to the South Loop between Harrison and Congress Streets.

Building on Burnham also connects to the “Our Great Rivers” project initiated by the Metropolitan Planning Council and FOCR. The project aims to make the Chicago, Calumet, and Des Plaines Rivers places that are “inviting, productive and living” by 2040.

DESIGN AND DEVELOPMENT
The notion of creating a pedestrian walk along the Chicago River—taking what had been a barrier and making it a “zipper” to bring places and people together, as local architecture critic Blair Kamin described it—was something that had been on the city’s wish list for a generation as a way to create what was hoped would become Chicago’s “second coast.” The concept was proposed in the 1909 Burnham plan in a more limited fashion and was the focus in whole or part of broader development plans in 12 planning documents prepared for the city between 1992 and 2009. These ranged
It was never clear, however, exactly what this new linear public space would be or how the city would pay for it, although both Mayors Richard J. Daley (1955-1976) and Richard M. Daley had expressed interest in making the river useable again for recreation. Initial planning and development by Mayor Richard M. Daley on Phase 1, coordinated in conjunction with the reconstruction of Wacker Drive, provided the opportunity to present newly-elected Mayor Emanuel with plans to implement Phases 2 and 3, which Emanuel quickly championed. The most immediate precursor to the Riverwalk was developed in 1998 when the city engaged the architecture firm of Skidmore, Owings & Merrill to design a path from the mouth of the Chicago River at Lake Shore Drive to Michigan Avenue. This Riverwalk Gateway, made of steel and cast concrete, connects to the existing 18.5-mile lakefront bicycle path. The portion that runs under Lake Shore Drive was enhanced with lighting and murals depicting the history of Chicago.

Efforts to realize the full vision of the Riverwalk took advantage of the need to reconstruct and reinforce the multilevel Wacker Drive. In spite of repairs during the 1970s, the upper and lower decks of the structure were showing the wear of 75 years of heavy use, frequent de-icing with salt in freeze-thaw cycles, and years of deferred maintenance. Mayor Richard M. Daley created a Tax Increment Financing (TIF) district to fund reconstruction of Wacker Drive, and work started in 2001 on the east-west portion, which runs parallel to the main stem of the river. By the time these repairs began, there was agreement among city agencies about the benefits of creating a river walk, which became linked to the Wacker Drive reconstruction.

Developing a river walk, as suggested by the various plans of the 1990s, was not possible without adding to the narrow strip of land between the river and the walls and arcades of Lower Wacker Drive. In 2001, Ross Barney Architects began collaborating with CDOT, Collins Engineering, and Jacobs/Ryan Associates on initial segments of the Riverwalk (later to
be called Phase 1). They were hesitant to propose building out into the river because it is a navigable waterway under Coast Guard and Army Corps of Engineers jurisdiction, and any attempt to intervene in the channel would trigger review and require permission from federal agencies. Initially, they considered creating a floating platform for the walkway that, as a temporary structure, would require less stringent review. This idea was dropped, however, when their analysis found that it would be difficult and expensive to create seamless and ADA accessible connections between such floating structures and the land due to dramatic fluctuations of the water level. In addition, a Coast Guard survey determined that river traffic would not be significantly impeded by a limited incursion, making it feasible to build out into the river.

In 2001, therefore, CDOT submitted a plan to the US Department of Transportation’s Volpe National Transportation Center, requesting permission to extend the river bank 25 feet into the river between Wabash and Franklin Streets. Permission was granted by an act of Congress as a modification of the River and Harbors Act of 1899. The modification allowed building up to 50 feet into the river where it was wider at the confluence, 25 feet along the rest of the main stem, but only 20 feet at the bridges, whose abutments already restricted the navigable width.

The initial steps toward implementing this plan were included in the restoration of the east-west section of Wacker Drive. The east- and westbound lanes between Wabash and State Streets, which separated as they curved...
around a Vietnam War Memorial, were brought together by moving the westbound lanes 50 feet to the south. This created space to move the memorial from the hard-to-reach “glorified traffic island” down to an easier-to-reach spot at Wabash Plaza, on the river level at the foot of the stairs leading from Wabash Street.

The space created by this shift of the streets established the foundation for the first segment of Phase 1 of the Riverwalk, designed by Chicago-based Ross Barney Architects and Collins Engineering, who had also developed the plan for Wabash Plaza. This segment, completed in 2005, included the plaza and the memorial, which features a plaque with names of local service men and women who died in the war; a waterfall; a fountain with 14 water jets; and engraved granite pavers from the city’s original memorial. The relocation of the memorial below street level was at first resisted by veterans’ groups because of the negative view they and most Chicagoans had about being on the river (“You’re moving us to the basement!”), but it has since been embraced as a success and has become heavily used. The second segment of Phase 1, the block between Michigan Avenue and Wabash Street, included the McCormick Bridge House Museum and was completed in 2009.

In 2011, a request for proposals was issued for the design of Phases 2 and 3 of the Riverwalk, from State Street to Lake Street. The project was awarded to Sasaki, a Boston-based firm with considerable experience in open space planning and marine engineering, in association with Ross Barney Architects. Early in the design process, after visiting river walks in other cities including San Antonio, the clear feeling emerged among members of the design team that this project had to be authentic to Chicago—a densely urban city—and take advantage of the views of the distinctive buildings that defined the downtown. Moreover, the city needed, as Mayor Emanuel said, “a coming together place.”

There was not a great deal of formal community engagement during the development of Phases 2 and 3 because of the number of existing plans, the extensive community work related to them in previous years, and the relative clarity about the direction the design should take. Much of the concept for the Riverwalk had already been described and agreed upon in terms of programming and activating the space, some of which was addressed in Phase 1. Because the river and development along its banks touched so many jurisdictions and agencies, there were many meetings with representatives from city agencies including CDOT, 2FM, Parks, and DCASE; FOCR; the Coast Guard and Army Corps of Engineers; and the Mayor’s Office. Most of the meetings took place with Michelle Woods of CDOT (and later 2FM), who served as point person. Although there were no public charrettes during this phase, there were presentations open to the public at the Chicago Architecture Foundation, trips with tour guides and on boats, and many meetings in which the designers served as ambassadors for the project.

Existing Conditions and Challenges

The primary task for the designers of Phases 2 and 3 was to create a unique plan for each of the remaining six east-west blocks of river frontage and to address the significant engineering challenges and costs their develop-
The Riverwalk presented an intriguing but tight and challenging site: a small interstitial space, 20 feet below street level, running along the outer wall of a heavily-trafficked underground roadway. It offered just a narrow strip of land between the highway arcade wall and the water, at the time too high above the river for passersby to safely touch it or for anyone falling in to have a way to climb out. Moreover, the path along the river was discontinuous. Each city block of the riverfront ended at the base of a bridge abutment, where the next north-south street crossed the river. Anyone trying to traverse multiple blocks along the river would have the walk interrupted every block by the physically demanding experience of having to climb the original stairways to Upper Wacker Drive, cross the street, and go down stairs again to the lower level. In addition to searching for solutions that achieved continuity, the design team studied shade, sun, and wind conditions on the river and in surrounding neighborhoods to better understand and mitigate the conditions pedestrians would experience on the Riverwalk.

Among the challenges for the design were the significant changes in grade of 17 feet from street to dock and 22 feet to typical river level for passage under bridges, as well as regular river level fluctuations and occasional flooding up to seven feet above normal level. There was also the need to provide safe havens on each block for river traffic requiring rest stops or emergency pull-over. Further, because of Chicago’s combined sewer system, sewage and storm water may overflow into the river after heavy storms, causing unsanitary and foul-smelling conditions that would be unacceptable to most visitors.

The site also presented difficulties for construction. There was little space on the street or on the lower level for construction staging, access for delivery of material and equipment, or removal of debris from demolition. The solution was to make use of the river itself, much as it had been in its industrial past, using barges for staging, delivery, carting, and as construction platforms.

The bed and subsurface of the slow-moving waterway posed the biggest problem for construction. Digging into and through the riverbed for...
Foundations and footings meant identifying, precisely locating, and avoiding the many different services and utilities that crossed under the river including electrical cables; gas and water mains; building chiller pipes; bridge power cables; sewer outfalls; and active and inactive Chicago Transit Authority, freight, and trolley tunnels. Planners and engineers were acutely aware of an accidental breach of an abandoned tunnel during a bridge repair project in 1992 that sent hundreds of millions of gallons of water pouring into the basements of Loop buildings. Debris such as sunken cars also posed potential problems for drilling piers. In addition to using existing maps, divers spent many hours on the river bottom sounding and probing for locations of these elements in order to avoid such accidents.

Winter also brings many hazards for construction projects in Chicago. Digging the foundation was delayed for several weeks in the winter of 2014-15 because of the severe weather that froze the river over.

**Design Concepts**

The key organizing concept for the design was to make use of the natural division of city blocks that run from one bridge to the next, creating a series of individually defined “rooms”—as the design team called them—connected by a continuous path. The approach was similar in Phase 1 (“when you are down there, they almost feel like rooms,” said one of the designers). The novel aspect for Phases 2 and 3 was for each room to showcase a different aspect of the urban river-based experience. Along the way, people encounter a variety of experiences including dockside eating and drinking; views of the river traffic, other users, and the city’s architecture; river ecology education; and opportunities to boat, fish, kayak, and play in a children’s fountain. While each room is defined by its unique layout, furniture, vendors, and relationship to the water’s edge, they are unified by a consistent vocabulary of materials.

The passages under each bridge were critical to making the walkway continuous, but these dark narrow spaces were tricky for designers to negotiate and posed several technical and permitting issues. The walkways...
had to be “bent” around the bridge base structures and mechanisms (all are bascule bridges, using counterweights so they can be raised for passing ships). For this to work, foundations had to be extended into the river to the maximum extent allowed: 20 feet under the bridges and 25 feet elsewhere. Additionally, people passing under the bridges had to be protected from debris falling through the perforated bridge decks. The solution was to provide a stainless-steel canopy above the walkway under every bridge. A prototype had been constructed in Phase 1, but the new design team modified it to have more visual impact. Kamin calls the canopies “spectacular” and the designers’ “best stroke” as they “create a mirror effect, brilliantly reflecting the waters of the river, the people beneath it, even boats going by. Instead of under-bridge fear, you get under-bridge delight.” The mirror quality and the way it reflects the surroundings is somewhat reminiscent of the Cloud Gate sculpture in Millennium Park.

The concept for Phases 2 and 3 of the Riverwalk was initially presented to newly-elected Mayor Rahm Emanuel in 2011 as a preliminary design plan. Emanuel quickly endorsed the proposal and was able to identify sources and secure federal financing for its construction.

The design concept addresses a series of dichotomies for the Riverwalk, including as a place to:

- escape the city’s bustle and noise and embrace its essential urban character, particularly as experienced in its spectacular views of downtown architecture;
- provide continuity of experience, keeping materials, colors, and textures consistent throughout the linear park, as well as diversity, with changes in specific features, furniture, vendors, and program for each area between bridges;
- offer a connection to Burnham’s original plan, the historical Beaux Arts elements of Wacker Drive, and the striking steel of the bridges through kinds and color of materials, while also providing change by creating new spaces along the river that are distinctly modern in design.
There were risks involved in the design of the Riverwalk. Could the public’s long-standing perception of the river as unattractive and unusable be turned around? Could people be given unimpeded access to walk along or dangle their feet in the river, omitting railings in many areas, and still be safe? To accomplish this, the public agencies had to overcome understandable pressures to reduce potential liability in favor of the designers’ vision. These risks appear to have been successfully overcome.

The “Rooms”

The six rooms in Phases 2 and 3 correspond to the six blocks along the river from State Street to Lake Street. They are described below moving from east to west.

**Marina Plaza** (State Street to Dearborn Street), across the river from Marina Towers, connects the new blocks to the Vietnam Memorial of Phase 1 farther east. It includes a promenade, gathering space, drinking and dining (City Winery), seating, and boat docks. Marina Plaza is one of the two dining locations along the Riverwalk, with an upper dining terrace and built-in bar which forms the edge of the high-backed teak benches facing the river. The pathway runs through the lower level, which has a seating wall leading down to the river’s edge. The straight edge at the bottom of the seating wall runs the entire length of the block and provides a space where people can sit and boats can dock.

**The Cove** (Dearborn Street to Clark Street) provides space for human-powered craft including kayaks and canoes to launch, maneuver, and dock. It includes broad concrete benches on the dock and offers an enclosed, protected area for the small boats to stop. There are concrete box planters at either end.

**The River Theater** (Clark Street to LaSalle Street) provides a broad expanse of steps serving as theater seating, crossed on a long diagonal by a gradual ramp (1:20 grade so as not to require a railing) from street level to the river pathway. The steps are dotted with a dozen trees that appear to emerge from the concrete steps, but whose roots are buried in six feet of soil below. The new trees provide some summer shade and will provide more as they grow. LED lighting is built in under the stair ledges. A landing along the long dock serves as a water taxi stop.

**Water Plaza** (LaSalle Street to Wells Street) brings water into the space as a children’s play area with a zero-depth fountain on a plaza raised about four feet above the pathway. Water from the fountain runs continuously under the railing and over the edge down to the pathway level, forming a water wall and creating a mist for cooling in the hottest weather. The water wall runs all year round and is meant to provide an ice feature in the winter (although it did not freeze in the mild winter of 2016-17).

**The Jetty** (Wells Street to Franklin Street) is dedicated to education and ecological experimentation, inspired by the “fish hotel” that attracted and provided habitat for river species before the Riverwalk was built. In contrast to the straight edges of docks in the other rooms, here the pathway leads to seven piers jutting into the water, some at irregular angles, providing a varied visual experience and multiple opportunities to stand at the water’s edge and fish or enjoy the scenery. Along the balance of the dock there are floating wetlands and water gardens for vegetation and fish habitat, planted with a number of water-tolerant species, including sedges (grass-like perennials), irises, cardinal flowers, swamp milk weed, and others.

The space is intended to serve as an outdoor river life classroom and embodies a philosophy that sustainability addresses more than just human needs in the environment. Working with fish ecologists and the FOCR, designers included habitats that support aquatic life in this room, including a habitat curtain (a gridded column of nylon ropes hanging down into the water and attached to steel mesh screens to provide an artificial filamentous substrate for colonizing sessile organisms such as barnacles), pole “hulas” (nylon ropes where algae grow), and caisson-mounted “lunkers” (perforated steel cylinders that offer a place where fish are protected from the current and can hide from predators).

**The Riverbank** (Franklin Street to Lake Street) runs west from the last bridge and continues around to the confluence of the main stem with the north and south branches of the river. It is the least well-defined of the
The rooms (left, top to bottom and right, top to bottom): Marina Plaza, the Cove, River Theater, Water Plaza, the Jetty, and the Riverbank.
rooms and is essentially being land-banked until plans are completed for its future development. It has a permanent ramp connecting it to Upper Wacker Drive, but the balance of the development is provisional, with inexpensive concrete pathways and a large lawn that will be replaced when a development option is selected. Among the proposals are to use it as an outdoor sculpture and art park, to keep it wild and vegetative as a landing place for birds on the north-south flyway, or to build a restaurant to provide additional income for maintenance and debt service.

**Sustainability**
Sustainable aspects of the design of the Riverwalk include LED lighting; materials such as reclaimed teak; features that support water quality and the health of aquatic vegetation and fish; education about local ecological issues; and features that contribute to resilience in the face of regular flooding, including materials that can be cleaned of debris with a quick power wash after a flood. Paving that incorporates irrigation using reclaimed stormwater and provides space for generous volumes of soil contribute to maintaining the long-term health and viability of trees planted along the Riverwalk.

**Materials**
The consistency of materials used in all the segments contributes to the continuity of the experience for pedestrians and is intended to reflect both the appearance of nearby skyscrapers and the original Burnham design of Wacker Drive. The project’s unifying material palate is inspired by the Beaux-Arts bridge house architecture and the striking steel superstructure of the bascule bridges. These include cut granite in the upper spaces, precast concrete planks for the walkway, and rough precast and stainless steel grating for the flood-prone edges. The upper section matches the limestone and granite of the Wacker Drive Viaduct and bridge houses. Reclaimed teak is used for seating. All the rooms have at least some vegetation, such as shade trees, shrubs, ornamental grasses, or inundation-tolerant plantings nearer to the docks to soften the spaces, as well as a lawn on the Riverbank that may be replaced once that room’s final concept is determined. The materials were chosen and detailed for easy maintenance and cleaning after flooding.

**Engineering**
The biggest engineering challenge of the project, according to the designers and builders, was constructing on soil made up of “a layer of river muck up to 10 feet deep over soft to very stiff clays” with “negligible internal stability” requiring deep foundations. Support for the walkway was provided by tieback walls with a structural slab supported on deep concrete caissons. Matthew Hellenberger, project engineer for Alfred Benesch and Company, noted in a February 2016 *Civil Engineering* article that the sections between bridges “are supported by a structural slab that spans from a row of ‘H’ piles on the land side to a sheet pile wall along the river.” The strength of the foundations for the walkway at the base of bridges was determined in part by Coast Guard guidelines that required that it to be able to withstand impact from large barges traveling at 30 miles per hour. Oswaldo Chaves, the CDOT engineer who served as project manager for the Riverwalk, explained in the same article that this was achieved by a series of caissons six to eight feet in diameter dug into the riverbed to depths of over 70 feet, “capped with a reinforced, precast-concrete tub that is 10 feet wide by four feet deep.”
In addition to the stringent Coast Guard requirements and technical issues, working on a busy, navigable waterway created significant logistical challenges. One of these included floating in a crane mounted on a barge. Its height, even when lowered, required special opening of the bridges to allow it to be put in place and moved between the “rooms.”

**ACTIVITIES AND PROGRAMS**

There has been a conscious effort by those who manage the schedule for the Riverwalk, including 2FM, the Park Districts, and DCASE, not to over-program it. It is, after all, located in the heart of downtown Chicago, within easy reach of theaters, restaurants, and shopping, and does not require much beyond the views and river-related activities to attract large crowds of downtown workers, residents, and tourists. People, river, skyline, and vendors are seen as significant programming on their own. The planned events that do take place on the Riverwalk are often for educational or fund-raising purposes, special festivities, or part of attempts to broaden use into cooler weather seasons.

**Vendors**

Vendors are a major part of the Riverwalk activities and add significant value. Their services, such as food, drink, and boating, provide reasons to repeatedly return to the Riverwalk and add to its busy and welcoming atmosphere. They also generate revenue for the city to repay the federal loans that financed the project.

Tiny Tapp and City Winery, two of the five food and drink vendors, appear to be doing very well. Both have other outlets in Chicago (which satisfied the city’s objective of fostering local businesses), and both are earning more money on Riverwalk than at their other sites, in spite of the smaller facilities and shorter operating season. They seem to be mutually reinforcing: City Winery said that its business doubled after Tiny Tapp opened.

Tiny Tapp’s owners, when interviewed for the original Request for Proposal process, estimated that they might be able to generate $400,000 in annual receipts on the Riverwalk but were asked if they could handle $1 million in business—clearly Michelle Woods, who was project manager, had larger
goals in mind. They, in fact, earned $1.3 million in the first 90 days they were open in 2016, even though operations were not always easy at first. For instance, they operated without Internet and gas in the kitchen through the first season. Sales in 2017 were expected to be higher.

City Winery opened earlier, in 2015. It spent $200,000 to fit-out the facility and earned $1.5 million in its first year. After adding $200,000 in further improvements, the restaurant and music venue earned $3 million in its second year.

Both have done significant hiring—City Winery had 80 staff for 2017—and both work with the city on high school-based culinary job training and employment programs. Both have leases that are about to run out and have submitted proposals for the next round of leasing, but neither are assured of continuing operation.

Other vendors who use the space and attract visitors include:

**Boat-related**
- Urban Kayaks – rentals
- Chicago Water Taxi and Wendella Sightseeing Boats
- Chicago Electric Boat Company – small boat rentals
- Friends of the Chicago River canoe excursions
- Mercury, Chicago’s Skyline Cruiseline & Chicago’s First Lady Cruises including the Chicago Architecture Foundation River Cruise
- Downtown Docks – rental of dock space

**Food and drink**
- City Winery
- Tiny Tapp Restaurant
- O’Brien’s Restaurant
- Island Party Hut
- Cyrano Cafe on the Riverwalk

**Activities on the Riverwalk**
The Chicago Architectural Foundation, in addition to its architectural boat tours, runs free weekly “Riverwalk Talks” at the River Theater during the summer.
The Friends of the Chicago River also run a series of events and programs along the Riverwalk, including:

- The Big Fish Ball, an annual fundraising dance, now in its twelfth year;
- Friends’ Summer Cruise benefiting the McCormick Bridgehouse Museum;
- Chicago River Evening Paddle summer river canoe ride.

In addition, the FOCR has organized the Chicago River Schools Network, which provides training and assistance to school teachers for the study of the river, its history, and ecology.

The May 20, 2017 season opening day festivities attracted large crowds in spite of poor weather, with several dozen events from 9:00 a.m. to the closing fireworks, including free river cruises, walking tours, face painting, kayaking, music, and a “Fish Parade.”

Use of the Riverwalk is very high during warmer weather, when it is filled with crowds moving along the walkway or sitting on steps, benches, and docks. The city is attempting to broaden use of the Riverwalk beyond spring and summer. In October 2016, the city presented a Riverwalk Fall Festival with activities including pumpkin carving and a bounce house. Several vendors, such as the Island Party Hut and Wheel Fun Rentals, were selected in part because of their intention to offer activities into fall and winter. In 2016, the Island Party Hut’s tree farm was open until December 21. City Winery installed heated, plastic-domed seating spaces to keep its season running into cooler months.

The activities are still evolving; 2017 was the first summer when the full Riverwalk was open to the public. While current vendors have two-year leases, reflecting the uncertainty of a new retail environment, the most recent request for proposals for vendors identified two kinds of leases for an anticipated 14 sites: anchor tenants will get ten-year leases while “pop-up” tenants will get three-year leases with one-year renewal options. Twenty-five responses, all from local business, were received, and operations are expected to begin in the 2018 season.
FINANCING

While the relatively modest funding needed for Phase 1 was drawn from local sources, the more significant $114.5 million development cost of Phases 2 and 3 required external sources and was largely found in the innovative use of loans through the federal Transportation Infrastructure Finance Innovation Act (TIFIA) program. The Riverwalk’s long-term financial sustainability comes from its ability to fund debt service and maintenance (after the loan is paid off) through revenue generated by on-site vendors.

Construction

Construction of the Riverwalk was considered the final phase of the larger Wacker Drive Reconstruction Project, which, in total, involved spending more than $600 million over a 10-year span. Reconstruction of the east-west span of Wacker Drive was completed in 2002, and the rebuilding of the upper and lower levels of the section was completed in 2012.

Phase 1 of the Riverwalk from Lake Shore Drive to State Street was completed in 2009. Phases 2 and 3 of the Riverwalk were largely completed and opened in 2016, with remaining construction of Phase 3 completed in 2017. As of early 2018, the City of Chicago was still in the process of closing out the project financing.

Funding for Phases 2 and 3 came from seven sources. The largest source of the funding came from a TIFIA loan from the US Department of Transportation. TIFIA loans are intended to provide “credit assistance for qualified projects of regional and national significance.” They are meant for significant transportation infrastructure projects with broad public benefit where private financing may not be available. Many people associated with the project felt that the use of this funding was among its most innovative aspects. The Riverwalk was not a typical use of TIFIA funds, in part because of the kind of project (a pedestrian walkway instead of a highway or bridge) and also because of the way the loan structure assumes that debt service would be repaid through revenue. This includes income from businesses operating on and in support of the Riverwalk, including water tour boats, retail (eating and drinking establishments, kayak rentals, etc.), and proposed
way-finding kiosk advertising. City officials who spent years on Riverwalk plans credit Mayor Emanuel’s personal relationship with Secretary of Transportation Ray LaHood for opening discussions that led to this funding, which was approved in August 2013.

The City of Chicago committed to the use of its Motor Fuel Tax as a backstop if business revenues are insufficient to cover debt service. However, as of May 2017, revenues exceeded expectations, so it appears unlikely that fuel tax funds will need to be tapped.

Other development sources included State of Illinois funds (a State Only Chicago Commitment or SOCC); City of Chicago funds; Wacker Drive Reconstruction funding, a federal earmark from the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users; a National Fish and Wildlife Foundation grant; and a local match for the TIFIA grant.

Estimated construction costs for Phase 3 were cut by $9.8 million to keep them within the available funds. These cuts included eliminating an elevator and reducing improvements in the sixth room, leaving its final design for a later date.

**Operating Costs and Income**

Operating costs and income for the fully operational site are not yet available since, as of early 2017, vendor operations were still scaling up and there has not yet been a full season of maintenance for the entire park. Estimates of likely revenue from vendors were based on previous experience, such as years of revenue from boat tours ($6 to $8 million per season) and estimates for the value of spaces to be leased. This included 25,000 to 36,000 square feet of indoor space at $12 to $16 per square foot, plus kiosk advertising. Retail vendors pay a fixed rent plus 13% of gross receipts, which is said to be competitive with rental rates in nearby buildings.

The Riverwalk financial plan projected revenue of $1.38 million in 2014, rising to $3.27 million in 2017 and, over the life of the TIFIA loan, to $12.51 million in 2048. Actual revenues for 2015 were almost $50,000 higher than projections, reflecting strong performance by the first Riverwalk vendors.

### TABLE 1: DEVELOPMENT SOURCES AND USES

<table>
<thead>
<tr>
<th>SOURCES</th>
<th>USES</th>
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<tbody>
<tr>
<td>US Department of Transportation - Transportation Infrastructure Finance and Innovation Act loan*</td>
<td>Construction</td>
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<tr>
<td>Illinois State Only Chicago Commitment</td>
<td>Construction management</td>
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<tr>
<td>City of Chicago</td>
<td>Design and engineering</td>
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<tr>
<td>Wacker Drive reconstruction project funding*</td>
<td>Mitigation</td>
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<tr>
<td>Federal earmark - Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users</td>
<td>Total</td>
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<tr>
<td>Federal Fish and Wildlife Foundation grant</td>
<td>*Allocated funding.</td>
</tr>
<tr>
<td>Local match for federal earmark</td>
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</tbody>
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| Total | $136,865 |
| $119,579 |

The TIFIA debt service reserve requirement totals $6,572,682 and will be fully funded no later than December 31, 2019 in accordance with the provisions of the loan agreement. This helps the city assure its ability to make the required loan payments if revenue falls short.
PROJECT EVALUATION
The striking success of Riverwalk is both completely obvious and something of a surprise. It is obvious in that it has been a concept in the public realm since Burnham’s 1909 plan and the subject of a great deal of serious planning and consideration over the past 20 years. The ability to use this waterway to connect the lakeshore to the West Loop, once seen on paper, seemed like something that should be actualized. Moreover, the main stem of the Chicago River lies in the center of the thriving commercial heart of a major city, surrounded by the architecture for which Chicago is famous.

That it took so long to recapture the river might be surprising. Yet the river had been far from Chicagoans’ collective consciousness, and its success can be measured by the enthusiasm with which this new linear public space has been greeted by residents, tourists, and the real estate market. This enthusiasm is seen in the striking success of the vendors

The Riverwalk’s design reflects the bold architectural and engineering legacy of Chicago.

The Riverwalk is attracting new development, including a $27 million Apple store (under construction).
along the Riverwalk, many of whose revenues far exceeded initial expectations. The Riverwalk reflects the way the city views itself in terms of its pride, its ambition, and its history of planning, architecture and public works. This effort was, as is frequently noted, “no small plan.” The City of Chicago used innovative financing, significant engineering efforts demanded by a difficult site, and thoughtful design to create an important new amenity in the heart of its downtown.

**IMPACT**

**Development**

Downtown Chicago has been experiencing a building boom and is the fastest-growing neighborhood in the city for large office and residential towers, particularly in the area on or near the river. While there are no definitive studies relating this boom to the Riverwalk, older buildings along the water are being reoriented toward the river, and new buildings are connecting to the river and the Riverwalk as an amenity. At the start of 2017, 23 buildings with more than 8,000 new rental units were under construction downtown, up 150% from 2005. In the past year, construction started on several new buildings at Wolf’s Point (at the river confluence) and along Wacker Drive, including the recently announced Bank of America Tower. Smaller, but no less important, is the new $27 million Apple store on the north bank of the river.

**Ecology**

The Riverwalk is both the result of and a contributor to the cleanup of the Chicago River. While the Riverwalk itself did not lead to the cleanup of the river, thinking about possible uses of and development along the river increased interest in improving water quality, and gradual improvements made the Riverwalk possible. The Riverwalk’s popularity has created a demand for further improving the river ecology among a new constituency made up of the many residents who are coming to see recreational use of the water as a right and developers looking to build upon the river’s attraction. The Riverwalk’s features, such as the fish hotel and water-tolerant plantings, help support a healthy river ecology and are resilient to climate-driven events like the fall 2017 flood.
User Experience

Mayor Emanuel noted that Chicago needed “a coming together place.” The Riverwalk serves people who work and live downtown as a place for food, drink, or respite; for visiting the museum or war memorial; for taking a stroll; and as a convenient shortcut along an east-west corridor by foot or water taxi, connecting workers to the nearby Ogilvie commuter rail station. With an array of walks, piers, docks, bars, food service, and water flora and fauna, it provides space that lets people be with a group or remain anonymous individuals as part of the larger urban crowd.

Down the stairs below street level, the city’s atmosphere changes. The sound of traffic diminishes and the river comes into full focus with the walkway ending at river’s edge. With the Chicago skyline above and the river at their feet, visitors can choose from a variety of riverside experiences. The scene changes in each block or “room” from restaurants and bars to a marina, an outdoor theater, a children’s water park, and a fishing dock.

OBSERVATIONS AND LESSONS LEARNED

Innovative Financing

While mayors and planners had been considering the potential of the river for pedestrian access and development for decades, there was no obvious funding source, especially in an era of reduced expectations for major government infrastructure spending. The needed repair of Wacker Drive helped give impetus to this project, but available funds were only sufficient for planning and initial development.

The use of TIFIA funding was significant in several respects. This was an unusual and inventive use of this kind of loan and had several distinct advantages, even though it has to be paid back over 30 years. First, as a long-term loan, it avoided the political entanglements likely in a local, state, or federal budgeting process. As structured, the loan places no demands on city funds needed for other uses unless revenue generated on site falls short of debt service requirements, at which point the City of Chicago would draw on its Motor Fuel Tax. To the degree that debt service is paid
from revenue (income from all Riverwalk sources, including tour boats, concessions, and fees, are dedicated to repayment of the loan), capital costs are covered by the project’s success. Revenues over and above projections also go toward loan repayment. Once the loan is completely repaid, these fees will be available for maintenance of the park.

**Authentic and Contextual Design**
As realized, the design of the Riverwalk is uniquely Chicagoan, connecting and relating visually to Wacker Drive and the bridges through use of materials such as limestone and granite. It is both a viewing platform for the city and river and a place to engage with river functions and ecology. The planning team visited river walks in other cities, most notably San Antonio, where they were impressed by the river walk’s success but felt it was Disneyesque. They wanted to create something that was integral to Chicago and its river and ultimately determined that the site itself, with its historic bridges and distinctive surroundings, had sufficient drawing power and that they didn’t need to add novel attractions. Rather, making it accessible, taking advantage of the spectacular views of downtown buildings, and connecting people more intimately to the river and activity along it would be sufficient. It appears that they were correct.

**Let the Place Be the Program**
Places that are or have been considered to be out of the way, unsafe, or unattractive often need inventive programming to draw people to them. Riverwalk planners and managers, however, realized that the inherent qualities of the site could generate its own attraction. The connection to the river, the views of skyline and river activity, the functions allocated to each “room,” and the other people who are drawn there to walk, jog, bike, or people-watch are enough to attract workers, residents, and tourists.

**Seasonality, Sustainability, and Resilience**
Weather conditions in Chicago can be extreme, and the Riverwalk, which is open during all four seasons, is designed to accept and respond to a variety of weather conditions and events. Design elements along the walk are zoned vertically, with more fragile ones placed above the seven-foot flood line while areas at the water’s edge are meant to experience and recover quickly from flooding, even when it carries noxious waste. The design team chose materials that can be cleaned by power washing after a flood, like the one that happened just a few days after the Riverwalk opened in 2015. One of the restaurants provides heated domes to allow service in colder weather, and the water wall in the Water Plaza is designed to become a shimmering wall of ice when temperatures dip below freezing.

The landscape architects made use of continuous planting trenches, which allow trees and shrubs to share a larger soil volume, as well as rainwater collectors for irrigation to support healthy and sustainable vegetation. Many of the plants are natives, including river birches, perennial and ornamental grasses, and other emergent and ephemeral plants. Inundation-tolerant plants are used in the lower levels near the bank, where splash and overflow are common.

**Continuity and Variety in Design**
One gift provided by the Riverwalk is the creation of a continuous walking experience along eight blocks of the Chicago River and linking the older portion east of Michigan Avenue. The result is a 1.25-mile-long path to the lake front with consistent materials, colors, and connection to the river and streetscape above, with changing themes and activities along the way. The achievement of variety within an overall unified experience contributes to holding people’s interest and attention, making it feel like one place with a place for everyone.

**Technical Ingenuity**
Design, project management, and construction for this highly constrained site were challenging. The project team showed ingenuity in finding ways to lay out this variety of spaces along the river and in developing techniques to put them in place.

**MEETING PROJECT GOALS**
**GOAL: Reclaim the Chicago River for the ecological, recreational, and economic benefit of the city.**
The success of the Riverwalk in bringing people to the river’s edge has gone hand-in-hand with cleaning the once highly polluted water of the
Chicago River. These new river users have expanded the constituency promoting further water-quality improvement. The Riverwalk uses its location to demonstrate and educate users about the history, current use, and ecology of the river, with installations that support aquatic life and fishing and boating in a variety of ways. Its popularity as a new route and venue for walking, jogging, biking, eating, drinking, and people-watching is striking, and it has very quickly become a prime location for development. The new Apple store on the north shore of the river may be the most iconic addition, but it is far from the biggest, as new high-rise residential and office towers multiply. These buildings face the river and older ones are being reoriented to embrace a river they had previously shunned.

**GOAL:** Create diverse programming opportunities that respond to different portions of the river, exploring urban river typologies and integrating restaurants, boating, water features, floating wetlands, and ample seating.

The Riverwalk hosts a variety of planned events from an opening day festival to weekly summer lectures, but the city has been careful not to over-program. Although the space is new, it appears to be successful in attracting users without heavy programming. The restaurants and bars have tripled or quadrupled expected gross receipts. The RFP for 2018 vendors greatly increased the number of retail locations and received responses from 25 local operators. Seating also appears to be heavily used. The floating wetlands are a work in progress, with maintenance staff learning how to deal with the impact of waves that wash out soil and deposit garbage floating in from the river. These features are expected to be part of efforts to involve school programs in environmental research, such as with the FOCR’s Chicago River Schools Network.

**GOAL:** Enhance the downtown Chicago experience by giving visitors and residents an accessible riverfront destination for outdoor recreation and leisure in the heart of the city.

Tourists and locals alike use the Riverwalk, especially on weekends, in all kinds of weather, riding tour boats and walking or biking along the path. It provides a rare free place to stop and sit while experiencing Downtown Chicago and functions as an attraction in and of itself. Workers and

Revenues at waterfront restaurants and bars have exceeded projections.

The waterside promenade is used in all kinds of weather for transit and recreation.
residents use the space as a backyard, transit corridor, and relaxation and gathering space.

**GOAL:** Creatively adapt underutilized waterfront infrastructure into a highly integrated, sustainable, flood-resilient downtown amenity.
Abandoned arcades and a narrow path have become a series of interesting, varied, and highly popular public spaces. Its sustainable design addresses the river ecology while being resilient to the vagaries of Chicago weather. The design offers continuity in the use of materials and flow of the walkway under each bridge yet varies visually and functionally in how each room uses the riverfront. The project is widely seen as having been catalytic in expanding the real estate market, which appears to be booming along the Riverwalk corridor with many large new office, retail, and residential buildings apparently taking advantage of this new amenity, which converted a foul-smelling, unsightly, and underdeveloped piece of downtown into a highly attractive public open space.

**GOAL:** Provide critical new linkages to the city’s existing open space system and allow seamless pedestrian movement along the river from the city’s core to the lakefront.
The linkages have been created to facilitate movement between the lakeshore and the river and along the east-west corridor through the Loop, including the Ogilvie commuter station. Additional links are planned that will connect this project to other destinations, such as the new 606 park. Mayor Emanuel and the planners foresee the connections extending all along the north and south branches of the river with pedestrian access and water transport that will link many neighborhoods to downtown.

**GOAL:** Offer a continuous car-free environment that connects a series of distinct community spaces at the river’s edge.
The Riverwalk is below the street grid, giving users respite from the noise, sight, and fumes of vehicular traffic. It provides a walkway at river level that is continuous and visually harmonious while also offering a series of distinctively different “rooms” that keep the walk interesting. Residents and tourists have been streaming to the site, attracted by the river, views, and amenities. Access is enhanced by ramps and an elevator as well as the continuity among the sections. Downtown workers and residents use it as a way to get to and around downtown, which has become Chicago’s fastest growing residential neighborhood.

**SELECTION COMMITTEE DISCUSSION**
The Selection Committee praised Chicago Riverwalk as a “marvelous example of a civic project that builds upon Chicago’s culture of planning and tradition of civic investment in excellence in architecture and urban infrastructure.” It repositions the river as the city’s second waterfront in the heart of downtown, linking the north and south sides of the river and offering a democratic and inclusive place that draws a diversity of people—downtown residents and workers, suburbanites, tourists, and kids—to the site.

The committee commended the City of Chicago for its ambitious vision and efforts to complete a project with an “off-the-charts level of complexity,” noting that projects of such scale and quality are “something that the Windy City does.” They highlighted the innovative use of TIFIA funding for public realm improvements as an important model for other cities. The committee observed that with its attention to revenue generation and river ecology, Chicago Riverwalk succeeds in not only realizing the early twentieth century Burnham vision for the river but also in integrating such twenty-first century placemaking practices as environmental and economic sustainability.

The committee reflected on Chicago’s culture and history of investment in civic spaces and how they fit into a broader, city-wide economic investment strategy. The committee was encouraged by the idea of the Riverwalk being the first step in a broader vision for the river as a connector between downtown and neighborhoods. They raised concerns, however, about the tradeoff between big downtown projects like the Riverwalk and Millennium Park (2009 RBA Silver Medalist) and neighborhood investments that focus on making a big impact in a smaller area. They felt it was important for the city to maintain its commitment to equity and diversity by continuing to include programming options that are inexpensive or free to ensure that the waterfront is appealing and accessible to all.
WITH ITS ATTENTION TO REVENUE GENERATION AND RIVER ECOLOGY, CHICAGO RIVERWALK NOT ONLY REALIZES THE EARLY TWENTIETH CENTURY BURNHAM VISION FOR THE RIVER BUT ALSO INTEGRATES TWENTY-FIRST CENTURY PLACE-MAKING PRACTICES, INCLUDING ENVIRONMENTAL AND ECONOMIC SUSTAINABILITY.

FALLS PARK ON THE REEDY in Greenville, South Carolina (2015 Silver Medalist) is the reclamation of a forgotten waterfall and river valley running through its heart into an urban oasis and centerpiece for the city. A striking pedestrian bridge offers views of the falls and a network of winding trails interspersed with open lawns and wooded valleys that connect the city with the river and surrounding neighborhoods.

BROOKLYN BRIDGE PARK in Brooklyn, New York (2011 Silver Medalist) is a new 85-acre environmentally sustainable park on former industrial land along the East River. Amenities include basketball courts, playgrounds, lawns and soccer fields, a greenway for walking and biking, and free classes, concerts, and movies. Pebbled beaches, a salt marsh, and boating ramp draw people to the water.

PROVIDENCE RIVER RELOCATION in Providence, Rhode Island (2003 Silver Medalist) is a large-scale urban infrastructure project that dramatically reshaped the center of the city and its relationship with the waterfront. Made possible with federal transportation funding, the project moved rivers, a highway, and a railroad to create a new riverfront park and gathering space in the heart of downtown.

RELATED RBA WINNERS

Most older major American cities were founded on bodies of water that provided transportation, food, work, and power. Over time, industry and pollution led many to turn their backs on the water and expand in other directions. Like Chicago, cities of all sizes are now reclaiming and redeveloping waterfront land with projects that create valuable recreational and signature gathering spaces in the heart of their communities.

FALLS PARK ON THE REEDY

BROOKLYN BRIDGE PARK

PROVIDENCE RIVER RELOCATION

Other winners that address riverfront access and development include: Louisville Waterfront Park in Louisville, Kentucky (2013 Silver Medalist); Hunts Point Riverside Park in Brooklyn (2009 Silver Medalist); and South Platte River Greenway in Denver (2001 Silver Medalist).

More information about these and other RBA winners can be found at www.rudybruneraward.org.
Resources
This case study was compiled from information gathered from the project application; an extensive site visit in May 2017 by Simeon Bruner, Jay Farbstein, Anne-Marie Lubenau, and Richard Wener (lead author); and research and interviews conducted during these processes and throughout the writing and editing of this report. Titles and positions of interviewees and URLs listed below were effective as of the site visit unless otherwise noted.

**INTERVIEWS**
**City of Chicago**
Rahm Emmanuel, Mayor  
Carole Brown, Chief Financial Officer  
Dan Burke, Deputy Commissioner / Chief Engineer, CDOT  
Oswaldo Chaves, Project Manager, CDOT  
Michael Claffey, Director of Public Affairs, CDOT  
Mark Kelly, Commissioner, Department of Cultural Affairs and  
David Reynolds, Commissioner, Department of Fleet and  
Facility Management  
Rebekah Scheinfeld, Commissioner, CDOT  
Kris Sorich, MLA, ASLA, Senior Landscaper, CDOT  
Michelle Woods, Project Manager, 2FMDesign and  
Engineering Team

**Design and Engineering Consultants**
Carol Ross Barney, FAIA, Lead Design Architect, Ross Barney Architects  
Kevin Becker, PE, Project Manager, Walsh Construction  
Gina Ford, FASLA, PLA, Design Principal, Sasaki  
Dan Gross, PE, Construction Manager, Alfred Benesch & Company  
Kurt J. Naus, PE, SE, Project Manager, Alfred Benesch & Company  
James Nutter, PE, Project Manager, Alfred Benesch & Company  
Terry Warriner Ryan, FASLA, PLA, Landscape Architect, Jacobs/  
Ryan Associates

**Local Organizations**
David Broz, AIA, LEED AP, Past Chairman of the Board Chicago  
Loop Alliance  
Margaret Frisbie, Executive Director, Friends of the Chicago River  
Laura Jones, Associate Director, Chicago Loop Alliance  
Blair Kamin, Architecture Critic, Chicago Tribune

**Retail and Business Operators**
Colleen Flaherty, Owner/Operator, Tiny Tapp  
Nathan Holgate, Regional Director of Operations and  
General Manager, City Winery  
Mark William Johnson, Owner/Operator, Tiny Tapp  
Melanie Mapes, Director of Marketing, Chicago’s First Lady Cruises  
Constance Rajala, Co-Director, Chicago Architecture Foundation  
River Cruise  
Ron Silvia, President, Chicago Electric Boat Company;  
Owner, Downtown Docks  
Brooke Webster, General Manager, City Winery  
Thomas Carmichael, Co-Director, Chicago Architecture Foundation  
River Cruise  
Ellen Shubart, Tour Director, Chicago Architecture Foundation  
Riverwalk West Tour

**REFERENCES**
Finstein, A. D. ‘From ‘Cesspool’ to ‘The Greatest Improvement of Its  
Kind’: Wacker Drive and the Recasting of the Chicago Riverfront,  


OTHER AWARDS
The project has been recognized with other design and construction awards including the following:

2016  American Institute of Architects, Chicago Chapter, Design Excellence Award, Phase 2

2016  Chicago Athenaeum American Architecture Award, Urban Planning/Landscape Architecture Category

2016  Chicago Building Congress Merit Awards, Honor Award for Infrastructure Construction, Phase 2

2016  Chicago River Blue Awards, Silver Ribbon, Phase 2

2016  Friends of the Chicago River, Blue Ribbon Award

2016  American Society of Landscape Architecture Illinois Chapter, Presidential Award, Phases 2 and 3

2016  Illuminating Engineering Society International Illumination Design Award of Excellence, Outdoor Lighting Design, Phase 2

2016  International Downtown Association, Pinnacle Award: Public Space Category, Phase 2

2016  The Architect’s Newspaper, Best of Design Awards for Urban Design, Phase 2

2016  The Waterfront Center Excellence on the Waterfront Awards, Honor Award: Park/Walkway/Recreational Category, Phase 2

2017  Architectural Lighting Light & Architecture Design Awards, Outstanding Achievement in Exterior Lighting


2017  Chicago Urban Land Institute Vision Award, Program Category

2017  Fast Company Innovation by Design Awards, Finalist: Spaces, Places, and Cities Category, Phase 2

2017  International Association of Lighting Designers International Lighting Design Awards, Award of Merit

2017  World Landscape Architecture, Award of Excellence for Built Design, Phases 2 and 3

2017-18  Urban Land Institute’s Global Awards for Excellence

2018  American Institute of Architects, Architecture Award

2018  American Institute of Architects, Regional & Urban Design Award
The rehabilitation of 26 scattered-site historic houses into 46 homes for low-income families
Iberville Offsite Rehabs I & II is the renovation of 26 scattered-site historic houses into 46 homes for low-income and formerly homeless families. Located just north of the French Quarter in New Orleans’ Tremé and Seventh Ward neighborhoods, the vacant and blighted one- and two-family homes were carefully rehabilitated to preserve each building’s unique architectural character while providing modern amenities and energy-saving features for new residents.

Designed by Kronberg Wall Architects of Atlanta, the houses were renovated in accordance with the National Park Service Secretary of the Interior’s Standards for Rehabilitation as well as Enterprise Green Community Criteria. The residences incorporate original design details such as wood brackets, floorboards, mantels, molding, shutters, siding, and windows as well as new features including solar panels and energy-efficient appliances and heating and cooling systems.

The project was developed by Redmellon Restoration & Development, a small New Orleans-based, mission-driven for-profit developer in partnership with the City of New Orleans, Enterprise Community Partners, the

Overview

Submitted by: Kronberg Wall Architects
Completed: 2014
Total Development Cost: $12.1 million
Housing Authority of New Orleans, the New Orleans Redevelopment Authority, and the New Orleans Women & Children’s Shelter. Completed in 2014, the $12.1 million development was financed primarily with Low-Income Housing Tax Credits.

Iberville Offsite Rehabs is part of a broader US Department of Housing and Urban Development (HUD) Choice Neighborhoods Iberville Tremé Transformation Plan that includes redevelopment of the nearby Lafitte and Iberville public housing complexes into new mixed-income communities.

Other recent investment in the area includes the new 2.6-mile Lafitte Greenway, the North Rampart Street/St. Claude Avenue streetcar line, and Bell Artspace Campus, which transformed a historic school campus into affordable live/work space for low- to moderate-income artists and creative and cultural workers. Private funds are being invested as well, leading to rapidly increasing property values and rents in the area.

Iberville both supports preservation and provides much-needed affordable housing in the heart of a rapidly gentrifying community. Funded in part by a 15-year rental subsidy from the Housing Authority of New Orleans, residents pay from nothing to $360 per month depending on their household incomes, and affordability is guaranteed for 35 years via legal restrictions that transfer to future property owners.

The Iberville project succeeds on multiple levels, preserving the distinctive architecture and rich cultural and economic diversity of the community, as well as providing an example of affordable, scattered-site housing development. Construction is now underway on the 30 additional units that comprise Phase III. Brenda Breaux, executive director of the New Orleans Redevelopment Authority, says the Iberville initiative demonstrates the value of infill development, “stitching the urban fabric back together to create occupancy where vacant housing once stood and leveraging our agency’s limited resources with a larger pool of public and private resources to accomplish sensitive neighborhood restoration.”

“IBERVILLE OFFSITE REHABs ILLUSTRATES THE VALUE OF SCATTERED-SITE HISTORIC PRESERVATION AS AN ECONOMIC DEVELOPMENT TOOL.”
— 2017 Selection Committee

The Iberville homes (opposite) preserve architectural character and affordability in New Orleans’ historic Seventh Ward and Tremé (above).
**Project at a Glance**

- The rehabilitation of 26 blighted historic houses in New Orleans’ Tremé and Seventh Ward neighborhoods into 46 affordable, energy-efficient homes for low-income families.
- An off-site component of a broader $663 million HUD Choice Neighborhoods Initiative-funded Iberville Tremé Transformation Plan that includes redevelopment of a former public housing project and investment in the surrounding community.
- A demonstration of how environmental sustainability can be achieved while meeting the National Park Service US Secretary of the Interior’s Standards for Historic Rehabilitation and utilizing low-income housing tax credit financing.
- The preservation of affordable housing, distinctive architecture, and economic and social diversity in a rapidly gentrifying neighborhood long considered the home of New Orleans culture and music.
- An illustration of how investment in scattered-site historic rehabilitation contributes to neighborhood revitalization.

**Project Goals**

- Provide housing for families displaced by Hurricane Katrina, including formerly homeless women and children.
- Renovate existing, blighted homes within historic neighborhoods where gentrification displaces low-income residents.
- Broaden the appeal and relevance of historic preservation beyond the affluent.
- Demonstrate that environmental sustainability and ADA accessibility can be successfully integrated with national historic rehabilitation standards.
Chronology

1718
French explorers found the colony of “La Nouvelle Orleans” on land inhabited by the Chitimacha Tribe.

1790s
Claude Tremé acquires and subdivides plantation lands for housing development in what becomes known as “Faubourg Tremé” or Tremé.

1812
Louisiana becomes a state and Tremé is incorporated into New Orleans.

1941-42
Iberville and Lafitte public housing complexes open.

1960
City population peaks at 627,525; White residents leave the city for surrounding suburbs over the next two decades.

1998
Neal Morris founds Redmellon Restoration & Development.

2002
HUD takes over Housing Authority of New Orleans (HANO) after years of mismanagement, returning it to local control in 2014.

2005
AUGUST 29: Hurricane Katrina strikes the City of New Orleans, causing massive flooding, damaging 134,000 homes, and displacing more than half the population.

1700  1800  1900  2000
2006
HANO announces it will demolish four of its largest public housing complexes.
Enterprise Community Partners and HANO are selected to lead redevelopment of Lafitte public housing into a new, low-density, mixed-income community known as Faubourg Lafitte.

2006
HANO announces it will demolish four of its largest public housing complexes.

2011
HANO and the City of New Orleans are awarded a $30.5 million HUD Choice Neighborhoods Initiative grant to revitalize the Iberville-Tremé neighborhood.

2010
HUD Choice Neighborhoods Initiative is established.

2012
Neal and Anne Morris make a donation to the New Orleans Women & Children’s Shelter, initiating a relationship that leads to the shelter joining the Iberville Offsite Rehabs partnership.

2013
Redevelopment of the Iberville public housing project into a new mixed-income community begins, scheduled to be completed in 2018.
Construction begins on Iberville Offsite Rehabs Phases I & II and is completed in 2016.

2015
Construction begins on 30 units in 16 buildings for Phase III with scheduled completion in 2017.
INTRODUCTION

Iberville Offsite Rehabs I & II is the rehabilitation of 26 scattered-site historic houses into 46 affordable units for low-income families in New Orleans’ Tremé and Seventh Ward neighborhoods. The first two of three phases that will eventually total 76 units, it is the product of a local, socially-conscious developer who used his development experience, legal training, and passion for preservation to address the need for affordable housing and stem displacement of existing lower-income residents in New Orleans’ gentrifying districts. Named for one of the city’s first public housing developments, the Iberville project integrates environmentally sustainable design with historic architecture and demonstrates the valuable contribution of infill in revitalizing neighborhoods and preserving socio-economic diversity.

CONTEXT

New Orleans

Located near the mouth of the Mississippi River, New Orleans is one of the most unique cities in America. Founded nearly 300 years ago, the city’s distinct architecture and culture have remained remarkably intact, attracting tourists from around the world.
New Orleans was established by French explorers who founded the colony of “La Nouvelle Orleans” in 1718 on land inhabited by the Chitimacha Tribe. The center of the city, now known as the French Quarter, was laid out in 1722 and largely rebuilt after the Great Fire of 1788. New Orleans became part of the United States with the Louisiana Purchase in 1803, and the city became the capital of the new state of Louisiana in 1812.

For much of its history, New Orleans—also known as NOLA and the Big Easy—has been a commercial center, serving as a major port of trade and center of industry. Today tourism is a significant economic generator, with the city attracting more than 10 million visitors annually.

Culture
New Orleans is well known for its distinctive culture including its cuisine, festivals, parades, and music. Tremé, the neighborhood mostly closely associated with the city’s culture, is New Orleans’s oldest racially and economically mixed neighborhood and is considered the home of the city’s treasured traditions including jazz music, social league pleasure clubs, and festive second line parades that take place on Sunday afternoons throughout the year. The city is also distinguished by its architecture and has one of the largest historic housing stocks in the United States; nearly 40% of the houses were built before 1950, and approximately one-third are covered by historic regulations.

Iberville Tremé
The Iberville project is located in an area referred to as Iberville-Tremé, which includes the Tremé-Lafitte and Seventh Ward neighborhoods. The area is roughly bounded by Rampart Street, St. Bernard Avenue, Broad Street, and Tulane Avenue and is bisected by Esplanade Avenue, a grand boulevard.

Just north of the French Quarter, Tremé-Lafitte or “Tremé” was initially the site of large plantation tracts granted to wealthy French patrons. In the 1790s, Claude Tremé acquired land for housing development and, over time, it was subdivided into progressively smaller lots for speculation. The land was settled by free people of color and immigrants including refugees from Haiti, infusing the area with ethnic Creole culture. Tremé evolved as a working-class neighborhood for dockworkers, small merchants, and tradespeople. It is one of the oldest African-American communities in the country and remains one of the most socio-economically diverse sections of the city.

Houses in the neighborhood date from the 1830s and include early Creole cottages and townhouses, late nineteenth-century shotgun houses, and early twentieth-century bungalows. Most are modest, one-story wood frame structures constructed of termite-resistant cypress. Smaller houses are set closely together on narrow lots with grander, three-story houses on larger lots along Esplanade Avenue. The majority are located within the Esplanade Ridge National Historic District, which was established in 1980, and two locally designated Historic District Landmarks Commission districts, Esplanade Ridge (1979) and Tremé (1998). The national historic district was created in response to the loss of historic fabric in the 1960s and 1970s from the construction of the elevated I-10 Claiborne Expressway.

Demographics
New Orleans’s population peaked in 1960 at 627,525, then began to slowly decline as White residents left for the growing suburbs in the 1960s and 1970s. By 2005, just before Hurricane Katrina, the population was 484,674. After falling to an estimated 230,172 in July 2006, it is growing again. According to US Census Bureau estimates, the 2016 the population was 391,495.

Currently a ‘majority minority’ city, the number of Black residents in New Orleans is declining, falling 34% since 2000. In 2016, 60% of residents were Black, 32% White, 5% Hispanic, and 3% Asian. The change in demographics is more pronounced in Tremé. According to The Data Center, an independent data reporting and analysis agency serving Southeast Louisiana, between 2000 and 2010, the population of the neighborhood shrank from 8,853 to 4,155, losing more than 1,500 households. At the same time, the percentage of Black residents dropped from 92% to 75%, while the percentage of White residents increased from just under 5% to more than 17%.
The 2016 median household income in New Orleans was approximately $36,792 (compared to $56,516 nationally) and has remained essentially unchanged since 2000 when adjusted for inflation. The 2015 median income in Tremé was even lower at $27,096, relatively unchanged since 2000. While salaries have remained stagnant, the cost of housing has increased dramatically. According to a 2015 HousingNOLA report, home prices increased 54% since Hurricane Katrina and rents increased 50%. The average home value in New Orleans in 2015 was $183,700 (compared to $360,600 nationally) and the median rent was $765.

HousingNOLA also reported that 28% of city residents lived in poverty in 2015 (compared to 15% nationally) and 55% are considered “rent-burdened” (compared to 48% nationally), meaning they pay 50% or more of their monthly income on rent and utilities. A 2014 Point in Time UNITY survey found that 2,337 people were homeless, including 252 families with children. As the HousingNOLA report noted, “the City does not have the resources to meet the demand for affordable housing for its service workers, musicians, culture bearers, and its most vulnerable populations.”

Hurricane Katrina

On August 29, 2005, Hurricane Katrina struck New Orleans, devastating the city. The storm and levee failures flooded more than 80% of the city, damaging 134,000 homes—70% of occupied housing—and displacing more than half of the population at the time. Over the next ten years, according to Forbes, more than $160 billion in federal recovery funds was directed to the broader Gulf region including the rebuilding of New Orleans. Even so, the overall number of housing units declined from 215,091 pre-Katrina to 191,310, and the need for affordable housing has increased as rents and home values have risen over the past ten years. The lack of high-quality affordable housing has become particularly acute for persons and families earning less than the median household income.

More than ten years after Hurricane Katrina, New Orleans still suffers from crushing poverty, a lack of affordable housing, poorly performing schools, and continued family displacement. A 2014 Bloomberg report ranked New Orleans second in the country for income inequality. Most of the burden is...
borne by people of color and the poor, many of whom work in the service industry where already low wages have stagnated. As one person at the New Orleans Office of Community Development observed, “the people that make New Orleans unique are finding it more difficult to live here, especially in ‘communities of opportunity’ which have quality housing, transit access, small business opportunities, schools, and amenities.”

Planning and Development in New Orleans
According to reports from locals, the absence of accountability and lack of coordination between city and state agencies has made it difficult to access funding for and complete development projects in New Orleans, despite the influx of recovery funds. Local and state government agencies, including the Louisiana Housing Corporation, were not equipped to handle the volume of money that poured in, leading to mismanagement, corruption, and lack of confidence in the system.

Management and coordination among city agencies is reportedly improving. There have been recent changes in leadership at the city’s Office of Community Development, the Housing Authority of New Orleans (HANO), and the New Orleans Redevelopment Authority (NORA), and the city is reportedly a better partner now—more effective, progressive, and equitable.

In early 2014, HousingNOLA—a collaboration of local businesses, nonprofits, government agencies, and residents led by the Greater New Orleans Alliance—was established to focus on the affordable housing crisis. Meanwhile, the city government has been making investments in streetcar lines, public facilities, and utility infrastructure.

The Need for Affordable Housing
As the city rebuilds, home prices and rents are rising faster than incomes. A number of factors are driving up rental and sales prices. Locals cite the “Brooklyn to Bywater express”—in-migration of higher income households from other cities attracted to New Orleans’ unique architecture and culture and relatively low cost of living—as well as second homebuyers, out-of-town investors, and expansion of Airbnb short-term rentals as main causes.

In 2015, HousingNOLA developed a 10-year Strategy and Implementation Plan to guide the creation of equitable, sustainable, and affordable homes. The initiative identified five goals: to preserve and expand the supply of affordable housing, prevent future displacement, enforce and promote fair housing policies, encourage sustainable design, and increase accessibility, especially for those with special needs. The report identified Tremé-Lafitte as one of the areas experiencing the most significant increases in household income and home prices and rents and suggested that the high number of historic properties increases the potential for displacement of low-income residents.

Public Housing
According to the Times-Picayune, New Orleans was the first city in the country to construct public housing under the United States Housing Act of 1937, which provided subsidies to local housing agencies to improve living conditions for low-income families. The first two of what would become known as the “Big Six” projects, Iberville and Lafitte, were constructed in the 1940s in the Tremé-Lafitte neighborhood. At the time, New Orleans was a largely segregated city, and projects were developed in pairs, with one for Blacks and the other for Whites. The Lafitte public housing complex opened in 1941 on 27.5 acres in the center of Tremé-Lafitte with 896 homes in 78 large brick buildings available to Black families. In 1942, Iberville opened less than a mile away, offering 858 units on ten blocks for White families. Over time, the condition of public housing in New Orleans, as elsewhere in America, deteriorated. By the 1970s, according to the Faubourg Lafitte Impact Case Study prepared by Enterprise Community Partners, “most of the city’s housing stock had failed to meet ‘basic living standards.’” By the 1990s, HANO began redeveloping its public housing into new mixed-income communities with funds from the US Department of Housing and Urban Development (HUD) HOPE VI program. After Hurricane Katrina, HUD and HANO decided not to repair and reopen its four largest public housing complexes, including Iberville and Lafitte, opting instead to use disaster recovery funding for redevelopment of the sites.

In 2006, Enterprise Community Partners and HANO were selected to redevelop the Lafitte project, creating 535 units in a new, low-density
mixed-income community known as Faubourg Lafitte. The new community, completed in 2011, is a partnership between Enterprise, L&M Development, and local nonprofit housing developer Providence Community Housing.

**HUD Choice Neighborhoods Initiative Transformation Plan**

The Choice Neighborhoods Initiative, a successor to the HOPE VI program, was established in 2010 to “support locally driven strategies to address struggling neighborhoods with distressed public housing through a comprehensive approach to neighborhood transformation.” In 2011, New Orleans was one of five cities that received implementation grants in the inaugural round of the program along with Boston, Chicago, San Francisco, and Seattle. The City of New Orleans and HANO were awarded a $30.5 million Choice Neighborhoods Initiative grant to redevelop the Iberville public housing complex into a mixed-income community and to support the revitalization of the surrounding neighborhood.

The Iberville-Tremé Transformation Plan, developed by the City of New Orleans and HANO, encompasses a 300-square-block trapezoid-shaped area bounded by Rampart Street, Tulane Avenue, Broad Street, and St. Bernard Avenue. The goals of the estimated $663 million plan include strategic investments to reknit the former public housing complex into the surrounding community; to increase economic opportunities; and to improve public education, health, and safety. The goals also incorporate reusing vacant, publicly owned houses; targeting housing for the elderly, homeless, and disabled; and complementing other major developments such as the Lafitte Greenway, the North Rampart Street/St. Claude Avenue streetcar line, and the University Medical Center.

A major component of the plan is the creation of 2,400 new housing units, including one-for-one replacement of 821 units in the former Iberville public housing development with approximately 700 onsite units. The project is being developed in partnership with HRI Properties and McCormack Baron Salazar. Construction began in 2013 with scheduled completion in 2018.

Fulfilling the one-to-one replacement commitment required the construction of an additional 121 units of offsite housing in the community. The
three phases of the Iberville Offsite Rehabs project contribute a total of 76 units to meeting this goal.

PROJECT HISTORY AND LEADERSHIP

Iberville was developed by Redmellon Restoration & Development in partnership with HANO and the New Orleans Women & Children’s Shelter, with support from the City of New Orleans, Enterprise Community Partners, NORA, and Prudential Financial Inc. Social Based Investment Group.

Redmellon Restoration & Development

Redmellon Restoration & Development is a small, mission-driven, for-profit real estate development company headquartered in New Orleans. The company was founded in 1998 by Neal Morris, a lawyer originally from Augusta, Georgia. By early 2017, Redmellon had completed 12 projects in addition to Iberville and owned and managed 274 units. It had three management staff plus three maintenance personnel.

Morris began his career working for a developer in Atlanta doing mostly market-rate housing and historic rehabilitation projects. His first New Orleans project was a 411-unit affordable housing development that he purchased with two other partners. Unable to rely on the police to address drug dealing near the site, Morris and his partners hired private security and partnered with local nonprofits to help tenants with financial counseling and social services. The process of managing the property and working with the urban poor opened his eyes to the opportunities and challenges of affordable housing and planted the seed for future work.

Morris began to shift his focus to scattered-site development after Hurricane Katrina. As he purchased vacant blighted homes from the City of New Orleans, he realized that individual scattered-site rehabs would not have enough impact without greater scale and concentration, and he sought to redevelop 30 to 40 units at a time with financing from federal Low-Income Housing Tax Credits.

According to Morris, he approached HANO with the proposal for Iberville, knowing that it would fall within the boundaries of the Iberville-Tremé.
Transformation Plan and be eligible for federal project-based Section 8 replacement vouchers for affordable housing rental units that meet certain quality standards. This strategy would enable Redmellon to access rental subsidies and provide an opportunity to help HANO meet the one-to-one replacement requirement for the Iberville redevelopment.

City of New Orleans
The City of New Orleans provided political support for the project, helped with acquisition of the properties, and offered 15-year rental subsidies for the homes via HANO. Other city agencies also participated, including the New Orleans Office of Community Development and NORA.

Housing Authority of New Orleans
The Housing Authority of New Orleans was a development partner. After years of mismanagement and corruption (resulting in criminal convictions for several employees), HANO went into receivership in 2002 and was managed by HUD’s Washington, DC, office until being returned to local control in 2014. In 2017, HANO managed over 4,000 housing units (2,391 of which are public housing) in nine large-scale housing communities and 85 scattered-site properties throughout the city and served approximately 17,000 households through its Section 8 rental-assistance program.

New Orleans Redevelopment Authority
The New Orleans Redevelopment Authority provided sites for development at discounted prices in exchange for Redmellon’s commitment to making the redeveloped properties available for low-income households. NORA also wrote letters of support to the Louisiana Housing Corporation, which provided the Low-Income Housing Tax Credits for the project.

New Orleans Women and Children’s Shelter
Founded in 2007 and funded by the city’s Office of Community Development, the New Orleans Women & Children’s Shelter provides transitional housing and wraparound support services to homeless women and children. In the ten years since its founding, the organization has helped more than 1,400 women and children transition from the street to safe, affordable housing.

According to the organization’s founder, Dan Silverman, the shelter’s relationship with Redmellon began in 2012 when it received a donation from Neal and Anne Morris. Silverman followed up with Neal Morris, seeking his help with finding ways to fund the shelter’s work, including transitioning its residents into permanent housing. Later, as Redmellon was in the process of developing the Iberville project, Morris proposed that the units house women and families from the shelter.

The initial plan was to use Section 8 certificates to do so, but HANO had a backlog of people waiting for housing, which meant that it would be a long time before women and families from the shelter would be served. Instead, Morris proposed two separate but linked initiatives to help address the issue. First, the shelter, along with HANO, became a development partner in Iberville. This arrangement enabled Redmellon to access Low-Income Housing Tax Credits. Second, the shelter received part of the developer’s fee, which it applied to the development of a new facility. Thus, Redmellon

Neal Morris (center) applied his passion and experience with affordable housing and historic rehabilitation to the Iberville Rehab project.
was able to help shelter residents obtain housing, but not necessarily within the Iberville Rehabs.

**Enterprise Community Partners**

Enterprise Community Investment, a subsidiary of Enterprise Community Partners, syndicated the Low-Income Housing Tax Credits for the project. Enterprise began working in the Gulf Coast and New Orleans following Hurricane Katrina, investing nearly $380 million in Louisiana and Mississippi to support development of affordable housing. The organization receives HUD funding to provide technical assistance to cities and syndicates low-income tax credits. Iberville Offsite Rehabs I & II was one of 22 investments Enterprise had made in the Gulf Coast region as of early 2017, as was the Faubourg Lafitte development.

**Prudential Financial Inc. Impact Investment Group**

Prudential Financial Inc. Impact Investment Group has a long history of supporting innovative models for affordable housing and investing in underserved communities. The company provided a predevelopment loan for land acquisition that enabled Redmellon to acquire properties and hold them over a three-year period (prior to the development financing closing) without requiring prohibitively expensive property insurance until funding for rehabilitation was secured. Morris was introduced to Prudential via a connection he made during a 2009/10 Harvard Loeb Fellowship, a one-year independent study program for emerging leaders in urban design and development.

**DESIGN AND DEVELOPMENT**

Iberville Offsite Rehabs I & II includes 26 properties, most of which are duplexes, yielding a total of 46 units. The project was completed in two phases with each phase comprising 13 properties. Phase III, still in construction in early 2017, includes 16 buildings housing an additional 30 units, bringing the total to 76.

The properties were assembled over a two-year period by Redmellon. Morris used detailed, place-based data from a geographic information system (GIS) to map the city and target census tracks and areas eligible for development subsidies. These areas included Enterprise Zones where economic incentives encourage investment that benefits local residents utilizing Low-Income Housing Tax Credit application points, National Register Historic Districts where structures would be eligible for historic tax credits, and NORA-owned properties.

In a neighborhood characterized by an eclectic mix of house styles, with properties in varying states of repair, the Iberville homes are distinguished by their carefully restored facades and brightly painted front doors. Designed by Kronberg Wall Architects of Atlanta, the homes were sensitively rehabilitated to preserve each building’s unique architectural character while incorporating modern amenities and energy-saving features. The rehabilitation included deconstructing and reconstructing exterior and interior walls as needed to remove rot and install insulation; reconfiguring interior spaces; and installing new electrical, heating and cooling, and plumbing systems.

Most of the homes are single-story, one- and two-family narrow shotgun-style cottages; a few are two-story. Completed units range in size from studios to three bedrooms, with one- and two-bedroom units constituting the majority. Eight of the units are Uniform Federal Accessibility Standards accessible, meeting funding requirements of a minimum of 15% accessibility. The accessible units are geographically dispersed and located in houses on larger properties that offered room for constructing entry ramps. Two additional units include upgrades to accommodate a resident with vision or hearing impairments.

**Preservation**

Located within the Esplanade Ridge and Mid-City National Register Historic Districts and City of New Orleans Tremé Historic District, the houses date from the 1870s to the 1920s. Each property is individually eligible to be listed on the National Register of Historic Places.

The rehabilitation maintained the unique historic interior and exterior features of each property and complied with the National Park Service (NPS) Secretary of the Interior’s Standards for Historic Rehabilitation.
Historic features including brackets, mantels, and windows were salvaged, while hardwood floors were removed, consolidated, and replaced. Because of the nature of the architecture and narrow lots, more attention and money was spent on the primary street facades than on the sides and rear of the houses. All of the houses received final approval (determined to be “certified rehabilitations”) by NPS in the first half of 2015.

**Sustainability**

All of the homes were renovated to Enterprise Green Communities standards for sustainable rehabilitation and include energy-saving features. According to a HousingNOLA report, the increased use of air conditioning in the hot and humid climate contributes to Louisiana’s rank as third in residential energy consumption nationwide. Electric bills are the highest in the nation, with the typical New Orleans household spending 44% or more of its income than the national average on electricity. Heating, ventilation, and air conditioning use makes up more than half the typical energy bill.

The Iberville units include energy-efficient appliances, thermostatic controls that automatically switch off HVAC if a window or door is left open too long, and interior storm windows. Each unit has its own electric meter and photovoltaic solar system with panels mounted on the sides and rear of the building or, in some cases, on separate shed-like structures so they are not visible from the street. According to the NPS, it is unusual for photovoltaic systems to be installed on historic properties.

Redmellon obtained approval from the NPS to use spray foam insulation in the roofs and walls, though the agency has been hesitant to permit its use in historic rehabilitations because it is not removable and in humid climates might cause damage from mold. For the Iberville project, the NPS agreed to permit its use as a case study given that the houses were modest and mostly in very poor condition with little remaining interior historic fabric. Removable barriers were wrapped around historic framing before the insulation was added to reduce the likelihood that the new material would bond to the wood and compromise the integrity of the structure. According to NPS, it is too soon to evaluate the outcome; the agency will
ask Redmellon or the state preservation office to assess the performance in the future.

Construction
According to Morris, the form of the construction contract and relationship with the contractor were critical to the project’s success. It was important to hire a contractor familiar with the challenges of renovation with whom he and Kronberg Wall Architects could work to address the unknowns that inevitably arise in renovation work. The project was completed by J.W. Drennan LLC, a local company that does a mix of high-end construction, renovation, and affordable housing. Participants cited a spirit of mutual trust and flexibility between the owner, architect, and contractor.

There was a separate construction contract for each of the phases. Each contract included a “no-change order” provision, meaning that no change orders were allowed without a change in the scope of work. This meant the money usually set aside as a contingency for change orders was included in the contract, and the contractor therefore had an incentive to come up with cost-effective solutions for issues that emerged, balancing unexpected cost savings against unexpected overruns. A separate schedule of values was provided for each property, and the construction retainage (a portion of the contractor’s payment that is withheld until the project is completed) was released when each property was completed.

ACTIVITIES AND PROGRAMS
Leasing and Management
The Iberville houses are leased and managed by a Redmellon team responsible for all of the company’s properties. The team includes a manager, assistant manager, office assistant, and three maintenance staff. HANO manages applications and refers potential tenants to Redmellon. Priority is given first to those displaced by Hurricane Katrina, second to those on the citywide waiting list of low-income people in need of housing, and third to the project’s own waiting list. Although the initial plan was to provide permanent housing for women and families from the New Orleans Women & Children’s Shelter, HANO’s extensive waiting list has precluded this to date, although there is hope it may be possible once the backlog is eliminated.
Tenants are mostly single mothers, whose ages range from about 19 to the late 40s, and their children. In early 2017, there were also several single male tenants. Although some residents work, many receive Social Security disability benefits and some are on welfare. Eight of the units are reserved as permanent supportive housing for people with very low incomes and disabilities through a program with the Louisiana Housing Corporation.

According to the property manager, Redmellon staff "go above and beyond for residents." They conduct an initial meeting with each tenant to identify needs and provide relevant referrals to services offered by the New Orleans Women & Children’s Shelter, Volunteers of America, Total Community Action, and other organizations for various types of assistance. Many new tenants arrive with few possessions, so Redmellon stores furniture that is abandoned when units turn over and provides it to those who are in need.

Each new tenant receives a packet with a guide to maintaining the home, including instructions for using appliances (although staff often need to show tenants how to operate appliances, the programmable thermostat, and energy-saving features); contact information for reporting maintenance problems; emergency procedures; and guidelines for preventing pest infestations. The packet also includes “Your House, Your Life, Your Story,” a brief history of the neighborhood and the tenant’s house, with information about who built and originally lived in it.

According to management staff, turnover has been minimal. Tenants who leave tend to do so after they receive Section 8 vouchers. Evictions are mostly the result of failure to pay rent, although in most cases the threat of eviction resolves the issue. At this point, Redmellon’s biggest challenge has been filling the units, as HANO has been slow to refer potential tenants. Units are inspected quarterly by Redmellon to confirm that building code, safety, and liability requirements are met and to identify any maintenance and management issues that need attention.
FINANCING

Development
The $12.1 million project was financed in two phases, using separate ownership structures for each, but with Enterprise assuming majority ownership of both. This arrangement enabled Redmellon to access Low-Income Housing Tax Credits (LIHTC), the primary source of funding for the project.

In both phases, Enterprise owns 99.9% of the properties. In Phase I, the remaining .01% is owned 49% by Redmellon and 51% by HANO. In Phase II, the remaining .01% is owned 49% by Redmellon and 51% by the New Orleans Women & Children’s Shelter. The developer fee was shared between Redmellon, HANO, and the shelter with HANO receiving 51% in Phase I and the shelter receiving 51% in Phase II; Redmellon received the balance, 49%, in both phases. Redmellon, HANO, and the shelter have the option to purchase Enterprise’s share of ownership at the conclusion of the LIHTC 15-year compliance period.

The more than $2 million in soft costs—especially the over $800,000 in reserves—is high, partly due to the complexity of scattered-site infill and the lack of economies of scale associated with scattered-site, multi-unit development, as well as the accounting, legal, and transaction costs associated with meeting requirements for LIHTCs.

Prudential’s Investment Impact Unit provided a predevelopment loan that enabled Redmellon to acquire properties prior to development and hold them without property insurance until additional funding for rehabilitation was secured. The $1.75 million loan had an effective interest rate of 9% over six years (only 5% due payable in monthly installments, with the remaining 4% accrued).

Enterprise Community Investment, a subsidiary of Enterprise Community Partners, syndicated the LIHTCs provided by the Louisiana Housing Corporation and purchased by Morgan Stanley. According to Michelle Whetten, market leader for the company’s Gulf Coast market, scattered-site deals can be more challenging to underwrite, but they had confidence in Redmellon after working with the company on a project in another New Orleans neighborhood.

Although all of the properties were determined to be “certified rehabilitations” of historic buildings by NPS, the federal historic tax credits were not utilized for Phases I and II as they were not needed. However, according to Morris, it was important to demonstrate that the project would have been eligible for historic tax credits so that Redmellon could use that financing tool in future projects, as it did in Phase III.

Operating
Annual operating expenses were budgeted at $336,000 in 2017. One of largest ongoing expenses is property insurance, averaging $200 per month per unit.

The majority of rental income, nearly 89%, comes from subsidies, with the remainder made up of individual tenant rents. Tenants pay from $0 to $360 per month, determined by income, with most tenants paying nothing; project-based rental subsidies paid directly to Redmellon make up the difference. Market-rate rents for comparable units in the neighborhood range from $750 to $1,300 per month. HUD and the City of New Orleans provided an upfront commitment for a 15-year rental subsidy. Affordability is secured for 35 years via legal restrictions that transfer to future owners.

PROJECT EVALUATION

Overall, people in the neighborhood and the city interviewed about the Iberville project were very enthusiastic and supportive, citing the importance of preserving the architecture and socio-economic diversity that residents of New Orleans value and that contribute to the city’s distinctive identity. In that regard, the Iberville project has succeeded on multiple levels. It increased the supply of affordable housing, helping to maintain the cultural and economic diversity of the city, especially in the face of rising property values and rents and the influx of higher-income residents in neighborhoods like Tremé. It rehabilitated historic houses, preserving the architectural character of the neighborhood while incorporating sustainable building measures to increase energy efficiency and reduce
### TABLE 1: DEVELOPMENT SOURCES AND USES

<table>
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<tr>
<th>SOURCES</th>
<th>Amount</th>
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</thead>
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<tr>
<td>Low Income Housing Tax Credit proceeds</td>
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<tr>
<td>Deferred developer fee</td>
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<tr>
<td>Redmellon Development LLC loan</td>
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<td>Managing member equity</td>
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<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>USES</th>
<th>Amount</th>
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<td>Construction</td>
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<tr>
<td>Developer fees</td>
<td></td>
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<tr>
<td>Housing Authority of New Orleans</td>
<td>$487,863</td>
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<tr>
<td>New Orleans Women &amp; Children’s Shelter</td>
<td>$485,117</td>
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<td>Redmellon</td>
<td>$934,824</td>
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<tr>
<td>Site acquisition</td>
<td>$802,243</td>
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<td>Reserves</td>
<td>$821,370</td>
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<td>Architectural fee</td>
<td>$399,243</td>
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<td>Insurance and taxes</td>
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<td>Other development costs</td>
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<td>Construction period interest</td>
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<td>Title and recording</td>
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<td>Closing costs and legal fees</td>
<td>$151,080</td>
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<tr>
<td>Finance costs and loan fees</td>
<td>$117,087</td>
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<tr>
<td>Survey and engineering</td>
<td>$98,726</td>
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<td>Louisiana Housing Finance Agency and tax credit fees</td>
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<td>Syndication costs</td>
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<td>Environment / market study / appraisal</td>
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<td>Project accounting</td>
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<td><strong>Total</strong></td>
<td><strong>$12,131,996</strong></td>
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### TABLE 2: 2017 OPERATING BUDGET

<table>
<thead>
<tr>
<th>REVENUE</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental subsidies (HUD and City of New Orleans)</td>
<td>$393,756</td>
</tr>
<tr>
<td>Gross tenant rents</td>
<td>$68,460</td>
</tr>
<tr>
<td>Other income (late charges, damages, security deposits)</td>
<td>$6,960</td>
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<tr>
<td>Bad debts / write-offs</td>
<td>($2,040)</td>
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<tr>
<td>Vacancy</td>
<td>($16,428)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$450,708</strong></td>
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</table>

<table>
<thead>
<tr>
<th>EXPENSES</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes and insurance</td>
<td>$126,451</td>
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<tr>
<td>Administration and property management</td>
<td>$104,716</td>
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<tr>
<td>Maintenance</td>
<td>$101,887</td>
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<tr>
<td>Utilities</td>
<td>$2,784</td>
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<td><strong>Total</strong></td>
<td><strong>$335,838</strong></td>
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</table>

### TABLE 3: UNIT MIX AND RENTAL RATES

<table>
<thead>
<tr>
<th>UNIT TYPE</th>
<th>NO.</th>
<th>TENANT RENT</th>
<th>SUBSIDY</th>
<th>TOTAL RENT</th>
<th>MARKET RENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>3</td>
<td>$0-$91</td>
<td>$486-$577</td>
<td>$577</td>
<td>$750</td>
</tr>
<tr>
<td>1BR</td>
<td>10</td>
<td>$0-$222</td>
<td>$486-$690</td>
<td>$690</td>
<td>$900</td>
</tr>
<tr>
<td>2BR</td>
<td>24</td>
<td>$0-$360</td>
<td>$471-$850</td>
<td>$850</td>
<td>$1,100</td>
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<tr>
<td>3BR</td>
<td>9</td>
<td>$0-$225</td>
<td>$847-$1072</td>
<td>$1,072</td>
<td>$1,300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
operating costs, features not often found in low-income housing. Although scattered-site, affordable housing developments using low-income and historic tax credit financing and integrating sustainable design are not in and of themselves innovative, they remain rare and had not previously been done in New Orleans. Regardless, Iberville illustrates the value of the approach in stitching together and enhancing the physical and socio-economic fabric of communities, offering a compelling model for other cities, especially those not familiar with these practices.

**IMPACT**

*Mitigating displacement through the development of affordable housing*

Research by HousingNOLA indicates that property values are rising in Tremé and elsewhere in New Orleans as new, higher-earning residents and out-of-town investors seek historic properties in close-in neighborhoods. As a result, long-term low-income residents are threatened by displacement. The 2015 *Times-Picayune* article “Where will working poor live in future New Orleans if gentrification continues?” cites research from the New Orleans Fair Housing Action Center showing that several neighborhoods, including Tremé, “are not affordable for their historically working-class residents.” As HousingNOLA and the Fair Action Housing Center suggest, one approach to mitigating displacement is through investment in affordable housing and economic development initiatives in neighborhoods where the market is changing.

The Iberville project preserves the affordability of 46 housing units (76 including Phase III) for 35 years. It also complements other public-private investments including the Iberville-Tremé Transformation Plan and the Bell Arts Campus, the conversion of a historic school complex into affordable live/work space for low- to moderate-income artists and cultural workers by Providence Community Housing and Minneapolis-based Artspace.

*Spurring investment in the community*

Private investment is also occurring. In early 2017, many of the streets in the neighborhood were filled with construction vehicles and dumpsters, and renovated buildings are a prime commodity. For example, next to one of the Iberville Phase III houses on N. Galvez Street, two side-by-side
shotgun cottages that recently had been converted into a single family four-bedroom home with upscale finishes was on the market for $439,000.

The Redmellon team pointed out additional homes in the neighborhood being renovated by private developers. It is difficult to ascertain how much of this new investment is the result of the Iberville project, the Choice Neighborhoods Initiative, and/or broader market forces in New Orleans. Still, according to Andreas Hablutzel, an architect and neighborhood resident who purchased and renovated the N. Galvez property for resale, the Iberville homes offer visible indicators that the community is improving, encouraging private, market-rate investment.

**OBSERVATIONS AND LESSONS LEARNED**

A visionary, socially conscious and tenacious developer

Neal Morris used his development and legal experience, passion for architecture, and social conscience to tackle the challenges of scattered-site infill development and preservation of affordable housing in one of New Orleans' most culturally significant neighborhoods.

Many people commented on Morris’ patience and persistence and his ability to “herd cats” and navigate the challenges of working with multiple agencies in a “difficult-to-get-things-done city.” Brenda Breaux, executive director of NORA, observed that Morris “is relentless in his commitment and work effort,” and Ellen Lee, director of the New Orleans Office of Community Development, offered that her agency had “confidence he will deliver.” While Morris will be compensated for his efforts, there are undoubtedly easier ways to make money.

Several interviewees, including Councilwoman Stacy Head, indicated that they would like to see Redmellon working in other city neighborhoods, including the Lower Ninth Ward. In the meantime, as a result of the Iberville partnership, Prudential invited Redmellon to work in downtown Newark, New Jersey, where the company’s home office is located. Redmellon is planning to convert a five-story office building into a mixed-use project with 48 residential units there.
Creative financing and collaborative partnerships
Morris’s ability to navigate the complexities of local government, numerous state and federal agencies, financing tools, and regulations to access resources was critical to the success of the project. He was able to coordinate the requirements, resources, and schedules of multiple agencies and use personal connections to make a challenging scattered-site infill housing project possible. Morris persisted where another developer might well have given up.

Morris’s approach was innovative and collaborative. He realized that HANO needed his project to provide off-site units to fulfill the one-for-one replacement requirement for the Iberville redevelopment. In return, Redmellon was able to secure HANO’s support for its tax credit application and rental subsidies for the units. NORA provided access to city-owned, tax-adjudicated properties. The Prudential predevelopment loan enabled Redmellon to take the time to be thoughtful and strategic in assembling property over a period of three years. The partnership with the shelter enabled Redmellon to support a nonprofit agency in the community.

Demonstrating the value of scattered-site affordable housing
People in New Orleans value its architecture and appreciate the preservation of historic homes, especially for affordable housing. Even so, most developers, especially larger companies, are reluctant to take on scattered-site projects as the time and effort required to assemble financing for multiple properties, coordinate many small construction projects, and manage scattered properties is significant and challenging. Yet, scattered-site affordable housing development is not new to New Orleans. Providence Community Housing has been developing and operating affordable rentals throughout greater New Orleans since 2006, including the relocation and rehabilitation of historic homes.

Several people commented on the significance of Iberville as an affordable infill project in an area where property values are rising, noting that Redmellon could have spent the same time and money to develop market rate rentals or flip the houses (though not with the same financing). Others commented on the attention given to preservation and the substantial return on investment for the neighborhood. It did more than rehabilitate once-blighted and vacant buildings and return them to active use in Tremé. It preserved and made them available to people who might not otherwise have been able to live in a “neighborhood of opportunity”—a place with access to amenities, employment, and services that contribute to a high quality of life and support residents’ economic, physical, and social well-being.

Integrating historic preservation and sustainable design
The Iberville homes incorporate energy-saving features such as solar panels and spray foam insulation not often found in either low-income housing or historic rehabilitation projects. This required substantial passion and dedication on the part of the design and development team to secure the necessary funding and approvals and created a valuable model for future development in New Orleans and elsewhere.

Creating a replicable model
Although Redmellon created a recipe that worked at that time for that neighborhood, it is unclear whether it can be replicated. According to Morris, part of what made the Iberville project unique was the preservation opportunity. Redmellon was able to purchase houses within the Choice Neighborhood Initiative project boundaries that would qualify for historic tax credits at a very low cost and access funding to rehabilitate them for affordable housing. Now that property values in the neighborhood have increased, the numbers no longer work. Redmellon did not end up using the historic tax credits for Phases I and II but did for Phase III.

Public agencies and nonprofits have suggested the model could be adapted to other neighborhoods in the city, such as the Lower Ninth Ward. Morris is skeptical, believing those communities lack the characteristics—such as historic architecture, proximity to public transportation, and other amenities—that enabled Iberville to succeed. Could the project be replicated in another city? Some people familiar with the project who had worked in other cities thought so, suggesting it could work in low-density neighborhoods with inexpensive historic housing stock in cities like Atlanta, Baltimore, and Detroit. Even so, it is difficult to find places where properties are available at a reasonable cost, as well as a dedicated developer willing
to spend time and effort assembling and curating such a small-scale scattered-site development.

**MEETING PROJECT GOALS**

**GOAL: Provide housing for families displaced by Hurricane Katrina, including formerly homeless women and children.**

It is not clear whether any tenants are refugees from Hurricane Katrina, although it is likely that at least some have been affected by continuing ramifications of the storm, including the shortage of affordable housing. Although many of the residents were said to be formerly homeless women and children (no formal data was available), Redmellon had not yet succeeded in placing families directly from the New Orleans Women & Children’s Shelter, even with the opening of HANO’s wait list for Section 8 vouchers. This is due in large part to the significant backlog of people waiting for housing, which reportedly numbers in the thousands. Morris was optimistic that the passage of the 2016 national Housing Opportunity Through Modernization Act, which provides public housing authorities more leeway in the use of project-based vouchers, will allow Redmellon to begin accepting applications from shelter residents.

**GOAL: Renovate existing, blighted homes within historic neighborhoods where gentrification displaces low-income residents.**

Iberville converted blighted, vacant houses into affordable rental homes for low-income families, preserving the architecture and socio-economic diversity of the historic Tremé community. While the project may have countered the effects of gentrification by helping maintain the socio-economic diversity of the neighborhood, it may, paradoxically, have also contributed to the conditions of improvement that encourage further gentrification.

**GOAL: Broaden the appeal and relevance of historic preservation beyond the affluent.**

Redmellon rehabilitated historic houses into affordable homes in a rapidly gentrifying neighborhood. The developer’s commitment to excellence in design, preservation, and construction is visible in the renovated homes. As a result, the homes stand out along the streets of Iberville-Tremé for their architectural detail, historical character, and quality, in strong contrast to the typical design of subsidized housing. In making carefully restored homes available to low-income families, Redmellon succeeded in not only preserving the architecture but also the socioeconomic diversity of the community.

**GOAL: Demonstrate that environmental sustainability and ADA accessibility can be successfully integrated with national historic rehabilitation standards.**

According to the architects, the homes meet Enterprise Green Communities Standards, incorporating energy-saving features such as photovoltaic solar panels and spray foam insulation while meeting the NPS Secretary of the Interior’s Standards for Historic Rehabilitation. Eight units meet Uniform Federal Accessibility Standards, and two are audio-visual accessible to accommodate vision- or hearing-impaired residents.

**SELECTION COMMITTEE DISCUSSION**

The Selection Committee recognized Iberville Offsite Rehabs for illustrating the value of scattered-site historic preservation as an economic development tool by renovating abandoned and blighted houses and delivering them to low-income residents. While the integration of affordable housing, historic preservation, and scattered-site development is not new, the committee agreed that Iberville Offsite Rehabs offers a powerful illustration of its impact, especially in a city continuing to recover from the devastation of Hurricane Katrina.

The committee praised the overall beauty and quality of the project, as well as the developer’s commitment to navigating the challenges of financing a low-income housing project, ensuring historic preservation, and incorporating sustainability in the renovations. The houses stand out because they are attractive and rich in architectural detail and because they look nothing at all like standard subsidized housing. As such, they offer an inspiring alternative to the traditional approach to public housing as new, large-scale, multi-family developments. Maintaining the modest houses also makes sense from an environmental standpoint, helping to reduce construction and energy costs.
There was excitement about the potential for Iberville Offsite Rehabs to help “push the conversation” about using historic rehabilitation for affordable housing, especially in other cities with an abundance of underutilized, older housing stock like Baltimore, Detroit, and Newark, New Jersey that don’t have a strong neighborhood preservation ethos. Even so, the committee urged caution in promoting it as a model for replication, recognizing that it was a “passion project” that required a determined developer with an experienced team and significant effort to navigate and overcome multiple obstacles and compromises (such as not being able to provide permanent housing as desired for the New Orleans Women & Children’s Shelter). There was also concern that the relatively high operating costs and simple financing (three sources) might not be feasible for other developers.

The committee praised the overall beauty and quality of the project, as well as the developer’s commitment to juggling the challenges of low-income housing financing, preservation, and sustainability.

**RELATED RBA WINNERS**

While many RBA winners address affordable housing and homelessness, few take on the added challenges of knitting together small-scale neighborhood development, historic preservation, and green building technology like Iberville. The following winners offer creative approaches that not only preserve and enhance the architecture of existing buildings but also the culture and social fabric of the surrounding communities.

**PROJECT ROW HOUSES** in Houston (1997 Silver Medalist) repurposed 22 abandoned, historic shotgun-style houses in one of the city’s oldest African-American neighborhoods for supportive housing, art, and community services. Founded by artists and activists, the project uses art as a catalyst for neighborhood revitalization, education, and community engagement while providing housing for mothers with children.

**PARKSIDE PRESERVATION** in Philadelphia (1999 Silver Medalist) is the historic rehabilitation of Victorian mansions in a predominantly African-American community into low- and moderate-income housing. Financed with low-income and historic tax credits, the project provides supportive housing for women with children, adults with AIDS/HIV, the mentally ill, the physically disabled, and the elderly.

**CONGO STREET INITIATIVE** in Dallas (2013 Silver Medalist) is the reconstruction of five owner-occupied 1920s homes and construction of a sixth along a one-block-long “green street.” The LEED-certified homes incorporate solar power and thermal systems and expanded living space with a contemporary design aesthetic while preserving small building footprints, porches, and original materials.

Other winners that address affordable housing and preservation include Lower Town Artist Relocation Program in Paducah, Kentucky (2005 Silver Medalist) and West Clinton Action Plan in Portland, Oregon (1991 Silver Medalist).

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

This case study was compiled from information gathered from the project application; an extensive site visit in March 2017 by Simeon Bruner, Jay Farbstein, and Anne-Marie Lubenau (lead author); and research and interviews conducted during these processes and throughout the writing and editing of this report. Titles and positions of interviewees and URLs listed below were effective as of the site visit unless otherwise noted.

INTERVIEWS
Redmellon Restoration & Development
Neal Morris, Principal
Nicholas Bruno, Project Manager
Taikai Bush-Williams, Property Manager

Public Agencies
Desiree Andrepont, Senior Project Manager, The Community Builders (former Director of Real Estate, Planning, and Development for Housing Authority of New Orleans)
Brenda Breaux, Executive Director, New Orleans Redevelopment Authority
Stacy Head, New Orleans City Council, Councilmember at Large
Brian Lawler, Special Counsel, Jones Walker LLP (former Director of Housing Policy and Community Development, City of New Orleans, 2011-2014)
Ellen Lee, Director, New Orleans Office of Community Development
Tyra Johnson Brown, Director of Planning and Resource Development, New Orleans Office of Community Development

Design and Construction
Eric Kronberg, AIA, LEED LP, Principal, Kronberg Wall Architecture and Development
Jon Drennan, President, J.W. Drennan LLC
Karley Frankic, Independent Preservation Consultant
Anne Grimmer, Architectural Historian, Technical Preservation Services, National Park Service

Development Partners
Michelle Whetten, VP and Market Leader, Gulf Coast Market, Enterprise Community Partners, Inc.
Dan Silverman, President, New Orleans Women & Children’s Shelter
Dawn Bradley-Fletcher, Executive Director, New Orleans Women & Children’s Shelter
Reuben Teague, Prudential Financial Inc. Social Impact Investment Group

Community
Andreas Hablutzel, resident and developer of properties in the community
Terri North, President and CEO, Providence Community Housing
Andreanecia Morris, Executive Director, HousingNOLA
Pat O’Brien, resident and owner of several rental properties in the community
Casius Pealer, Favrot Professor of Practice & Director, Master of Sustainable Real Estate Development, Tulane University School of Architecture
Jeff Schwartz, Executive Director, Broad Community Connections
Glynda Smith, Iberville Offsite Rehabs resident

REFERENCES
“10 Years After Katrina, Has New Orleans Been Rebuilt, Or Just Gentrified?” Al Jazeera. August 26, 2015. https://www.youtube.com/watch?v=QW3tV4C8IGM.


OTHER AWARDS
The project has been recognized with other design and construction awards including the following:

2014 National Trust/HUD Secretary’s Award for Excellence in Historic Preservation
2015 Congress for New Urbanism Charter Awards Grand Prize
2016 Southface Fulcrum Award
2016 World Habitat Awards Finalist
La Kretz Innovation Campus + Arts District Park
Los Angeles, California
Cleantech incubator, public utility sustainable energy education center, and neighborhood park
The La Kretz Innovation Campus (LKIC) and Arts District Park is a cleantech incubator and education center alongside a new neighborhood park east of downtown Los Angeles. Completed in 2016, the $50.2 million project is the product of an unusual public-private collaboration between city agencies, a consortium of local research universities and businesses, and the Los Angeles Department of Water and Power (LADWP)—the project’s lead developer and the largest publicly-owned utility in the country. Funding was provided by numerous public and private sources including federal Community Development Block Grants and New Market Tax Credits, LADWP, and philanthropist Morton La Kretz.

Located in the vibrant downtown Arts District within the city’s proposed Cleantech Corridor, LKIC is part of a broader vision to promote innovation, technology, and a culture of sustainability along with reinvestment, job creation, and workforce development. Designed by John Friedman Alice Kimm Architects (designers of 2007 RBA Silver Medalist LA Design

The open and inviting warehouse space in La Kretz Innovation Campus (opposite) fosters creativity and collaboration.

Overview

Submitted by: John Friedman Alice Kimm Architects
Completed: 2016
Total Development Cost: $50.2 million
LA KRETZ INNOVATION CAMPUS + ARTS DISTRICT PARK

“LA KRETZ INNOVATION CAMPUS + ARTS DISTRICT PARK IS AN INNOVATIVE WAY FOR A CITY TO PARTICIPATE IN ECONOMIC DEVELOPMENT.”
— 2017 Selection Committee

Center), the three-acre project is intended to foster creativity and a sense of community among tenants and to be a catalyst for the development of cleantech industries in the neighborhood. The sustainable development (LEED Platinum certification pending) is a 61,000-square-foot renovated warehouse incorporating state-of-the-art technologies such as a 175-kilowatt photovoltaic solar canopy and fast-charging electric vehicle stations in the parking lot, a microgrid power system, bio-swales, and the city’s first public grey water filtration and recycling system.

The adjacent half-acre Arts District Park—the first public park in the neighborhood—is a green oasis created in partnership with the architects, community, and the City of Los Angeles. Used by LKIC workers and local residents, it offers sitting areas, a children’s playground, and a shade structure for gatherings and performances.

The building houses three complementary components: the Los Angeles Cleantech Incubator (LACI), LACI’s Advanced Prototyping Center, and LADWP’s Customer Engagement and Sustainable Living Labs. LACI, the anchor tenant, is a nonprofit business hub that provides flexible and affordable work spaces along with coaching, mentoring, and access to professional networks and sources of capital for cleantech start-up companies developing products or services that advance sustainable and efficient use of resources.

Since its launch in 2011, LACI has nurtured and advanced well over 50 companies that, in turn, have raised over $200 million in private investment and created more than 1,200 local jobs. LADWP’s Customer Engagement and Sustainable Living Labs feature hands-on educational exhibits illustrating innovative energy- and resource-saving products. The Advanced Prototyping Center supports the development of new technologies and products by incubator tenants and local businesses, providing tools such as 3-D printing, laser cutting, electronics, robotics, and chemistry labs as well as technical support.

The open and inviting warehouse interior incorporates the original building’s exposed brick walls and wood bowstring trusses along with new skylights, solar tubes, faceted walls, glass partitions, and artwork. A network of interior streets connects flexible, open workspaces, meeting rooms, and gathering areas that encourage interaction and collaboration. LACI offers weekly educational tours and provides event spaces free of charge to the local community as well as paid public memberships to the prototyping center.

LKIC is one of several major public investments in the city’s Arts District area, including the new downtown regional connector subway and its Little Tokyo/Arts District Station, the Los Angeles River Revitalization, and the Sixth Street Bridge Viaduct Replacement Project. Together, they are redefining the identity of Los Angeles.

As Kelli Bernard, former LADWP director of economic development and deputy mayor for economic development under Eric Garcetti observed, LKIC “is more than a building; it is home to a community of innovators, community leaders, entrepreneurs, nonprofits, and more. It has become a space of creativity and invention.”
Project at a Glance

- A cleantech incubator and demonstration facility intended to promote the city’s green economy.
- A 61,000-square-foot renovated warehouse complex incorporating state-of-the-art green building technology and housing three synergetic components:
  - **Los Angeles Cleantech Incubator**, a nonprofit business hub that provides work space, coaching, mentoring, and access to professional networks and sources of capital for cleantech start-up companies.
  - **LADWP’s Customer Engagement and Sustainable Living Labs**, featuring educational and interactive exhibits illustrating innovative, energy-saving products.
  - **The Advanced Prototyping Center**, supporting the development and testing of new products by incubator tenants and other subscribers.
- Located in the vibrant downtown Arts District, an area being reclaimed from mostly derelict or underutilized industrial buildings.
- The adjacent Arts District Park, which brings much-needed green space to the District.

Project Goals

- Support job creation, workforce development, and reinvestment in downtown Los Angeles.
- Advance the city wide mandate to move toward sustainability by incubating cleantech companies and encouraging innovation in cleantech and related sectors.
- Help small businesses and entrepreneurs build profitable ventures that contribute to the local economy.
- Promote cultural and urban preservation and revitalization of the downtown Arts District.
- Incorporate community and stakeholder participation.
Chronology

1800

1781
A group of families from Mexico establishes a settlement that becomes known as Los Angeles.

1800

1850
Los Angeles is incorporated as a municipality.

1850

1880s-1920s
The area between downtown and the rail yards develops as a manufacturing and warehousing zone.

1880s-1920s

1900

1876-1905
Los Angeles evolves into a transportation center as the western terminus of three major transcontinental railroads.

1900

1950s-1960s
Manufacturing plants move to outlying areas, leading to vacancy and blight.

1950s-1960s

1900

1970s
Artists begin to move in and rehabilitate former warehouses.

1970s

2000

1994
The City of Los Angeles formally designates the area as the ‘Arts District’.

1994

2000

2008
Mayor Antonio Villaraigosa launches Solar LA, committing the Los Angeles Department of Water and Power (LADWP) to the development of 1.3 gigawatts of solar energy by 2020.

2008

2009
LADWP general manager and Mayor Vill araigosa sign the Cleantech LA Memorandum of Understanding.

2009

2017
Villaraigosa recommends reprioritization of LADWP resources and capabilities to encourage economic development through investment in clean technology.
2010
The Los Angeles City Council authorizes up to $3 million in Community Development Block Grant (CDGB) funds to support the development of what becomes known as La Kretz Innovation Campus (LKIC) + Arts District Park (together, La Kretz).
LADWP Board authorizes the first steps in the creation of LKIC, including acquisition of the site and hiring of John Friedman Alice Kimm Architects (JFAK).
JFAK facilitates five community meetings to gather input to inform the design of the park.

2011
The Community Redevelopment Agency (CRA) of the City of Los Angeles approves $1 million to assist with the implementation of the incubator business plan.
Los Angeles Cleantech Incubator (LACI) opens a temporary facility one block from the new site.
The consulting firm BCD releases an Economic Impact Report for La Kretz, projecting substantial positive economic impact on jobs and revenue.

2012
FEBRUARY: Governor Jerry Brown disbands CRAs statewide. LADWP and the City of Los Angeles step in to take over its functions (leadership and funding).
MARCH: City approves $850,000 in CDBG funds to support the development of LKIC.
OCTOBER: LACI receives a $250,000 challenge grant from the Broad Foundation.
DECEMBER: LADWP moves forward with funding, design, and construction.

2013
MAY: LADWP approves accessing New Market Tax Credits and construction begins in June.
AUGUST: LADWP leases the property to LKIC.

2014
Contracts are modified to complete design and build-out of LADWP’s Customer Engagement Center.

2015
AUGUST: LADWP approves lease and management agreement with LACI for the campus.
NOVEMBER: LACI moves into its offices. Vice President Joe Biden visits campus and leads a roundtable on cleantech development.

2016
LADWP opens its Customer Engagement and Sustainable Living Labs in April, and the official grand opening for the La Kretz campus is held in October, with the Arts District Park opening later that month.
**Project Description**

**INTRODUCTION**

La Kretz Innovation Campus (LKIC) and Arts District Park (together, “La Kretz”) brings a cleantech incubator and education center and a much-needed neighborhood park to the east of downtown Los Angeles. The Los Angeles Department of Water and Power (LADWP), the largest publicly-owned utility in the country, led a public-private collaboration of city agencies and a consortium of local research universities and businesses in the development of the $50.2 million project. Rooted in the city’s vision of positioning itself as a leader in sustainability, La Kretz supports cleantech start-ups and sustainable living education in a highly collaborative and interactive campus set in a renovated Arts District warehouse.

**CONTEXT**

*Los Angeles*

Founded in 1781 by a group of families from Mexico, Los Angeles was incorporated in 1850. By the turn of the twentieth century, transcontinental railroads connected Los Angeles to the rest of the country, allowing the city to become a center of manufacturing for aerospace, garment, and many other industries. The temperate climate attracted the movie industry, which could shoot films year-round. Warehouses and factories were concentrated near the railroad yards, which were located east of downtown. By the 1960s, as industries moved out of the original core, the manufacturing district fell into serious decline.
Today, Los Angeles is a major metropolitan area. The city has grown to a population of almost four million in a metropolitan statistical area of over 13 million. The city is “majority minority”—just under half of its population is Latino, just over 10% is Asian, and just under 10% is Black. Almost 40% are foreign-born, most of them from Latin America with another large group from Asia and sizable populations from many other regions of the world. Households in the city are poorer than in Los Angeles County or the rest of California, with over 20% living below the poverty line. A 2017 report from UCLA’s Anderson School of Business found that LA is the nation’s most unaffordable housing market, and many households spend more than half of their income on rent.

The Los Angeles region has the largest manufacturing base (measured by number of jobs) in the country. Major sectors include transportation equipment, apparel, fabricated metal products, computers, and electronics. In terms of its architectural legacy, Los Angeles attracted or elevated many important practitioners of early and mid-century modern design, such as Charles and Ray Eames, A. Quincy Jones, Pierre Koenig, and John Lautner and features contemporary projects by nationally and internationally recognized architects. Frank Gehry, probably the most noted American architect, is based in Los Angeles.

The Arts District

Just east of downtown, the Arts District is bordered by Little Tokyo to the north, Skid Row to the west, railroad tracks and the Los Angeles River farther to the east, and a newer manufacturing district to the south. The area is dense, with a higher floor-area ratio than would generally be allowed today and consists of a mix of industrial buildings ranging from one- to two-stories to over six stories in height.

In 1980, following the takeover of a number of derelict industrial and warehouse buildings by artists in the 1970s, and in order to legalize these ad-hoc and often unsafe residences, the City of Los Angeles created an “Artist in Residence” zoning ordinance. In 1994, following submission of a petition by a local community leader, the city officially designated the area as the Arts District. In 1999, under the leadership of Mayor Antonio Villaraigosa, the city passed its Adaptive Reuse Ordinance, which relaxed zoning codes for the conversion of pre-1974 commercial and industrial buildings into residential uses for non-artists. This spurred another significant wave of development in the Arts District and shone a spotlight on the neighborhood as a creative and unique place to live. Booming now and attracting many residents who want to live near downtown, the district has seen very substantial development.

Along with the Arts District, and as a key part of his plan for economic development and job creation, Mayor Villaraigosa wished to encourage a rebirth and repositioning of manufacturing, emphasizing clean and green technologies. Several initiatives were being developed, one of which was to create a “Cleantech Corridor.” Given its proximity to downtown, with major financial institutions that could be of assistance to start-ups and its stock of obsolete warehouses and manufacturing buildings, the southerly portion of the Arts District was identified as a promising location to include in the Cleantech Corridor, which would extend to the north and south of the district. An actual corridor has not materialized physically (though LACI still refers to itself as being part of it), but the cleantech industry and Arts District are thriving.

Arts District Park, connected to the Innovation Campus, provides much-needed open space in this area, which previously lacked a park. Immediately across the street from the park to the north is Urth Caffé, a local fixture that draws many people to the district. Some choose to take their food to the park to eat.

Like artists in many other cities such as Saint Paul, Minnesota and New York City, Los Angeles’ artists were drawn to the large spaces and cheap rents of the underutilized warehouses east of downtown. Many have painted large-scale murals on the sides of buildings, which contributes substantially to the creative atmosphere. Like artists in other cities, LA’s artists were pioneers who soon drew galleries, restaurants, and more middle-class residents to the district. Another pioneer was the Southern California Institute of Architecture (SCI-Arc), which renovated a very long warehouse opposite the rail yards. Developers quickly took an interest
and have followed suit with major projects, including a large mixed-use complex with 438 apartments known as One Santa Fe on the old rail yards across from SCI-Arc designed by Michael Maltzan Architecture (architect of 2009 RBA Gold Medalist Inner City Arts, located less than a mile away from La Kretz). Immediately across the street from LKIC is a large adaptive reuse condo project called the Barker Block, and there are many others, both built and planned. Most of the early projects entailed adaptive reuse of multi-story industrial and warehouse buildings into lofts, including the National Biscuit Company lofts, which features Church and State, one of the first of many high-end restaurants in the area, on the ground floor.

While the recession that started in 2008 slowed things down for several years, development has recently accelerated, with some major private mixed-use developments in the pipeline. Perhaps indicative of where the Arts District appears to be headed is a proposal for a 2.8 million-square-foot project called 6AM, designed by the Swiss architects Herzog and de Meuron and developed by a group affiliated with Michael Dell. This project, which includes two 700+ foot mixed-use towers, is unlike anything else in this low-to-mid-rise area and is only a couple of blocks south of LKIC. The first of three phases is planned to start in 2018 with final completion anticipated by 2035. If it materializes, the significant scale of the project would change the face of the Arts District.

To complement these private developments, the city is in the process of replacing the Sixth Street Bridge, a very long viaduct over the main railroad tracks and the Los Angeles River, with a new bridge also designed by Maltzan. Under construction in early 2017, the project area starts about two blocks from La Kretz and extends toward the east all the way to Boyle Heights, with a variety of open space amenities and facilities. The Los Angeles River, long a neglected and concrete-lined drainage channel, is now being reclaimed and naturalized and is the subject of a master plan being prepared by Frank Gehry, who is building on the work of other design teams including one led by Mia Lehrer (2015 RBA Selection Committee member).
Cleantech
Most incubators focus on high-tech (using information technology to develop new apps) or standard business development. By contrast, clean technology—“cleantech”—specializes in processes, products, and services that reduce environmental impacts through energy efficiency, use of sustainable resources, reduction of waste, and environmental protection and enhancement. Examples include recycling, renewable energy, green transportation, utilizing waste products, and developing information technology apps to support these functions.

PROJECT HISTORY AND LEADERSHIP
The La Kretz Innovation Campus and Arts District Park grew out of an initiative by Mayor Antonio Villaraigosa who, in late 2008, launched Solar LA, committing LADWP to the development of 1.3 gigawatts of solar energy production by 2020. Solar LA was represented as a major opportunity to turn environmental solutions into economic opportunities for Los Angeles by investing in and stimulating the local economy. LADWP estimated that the Solar LA plan would create 200 to 400 jobs for every 10 megawatts of solar power, which could bring from 25,000 to 50,000 jobs in fields such as research and development, manufacturing, installation, maintenance, and repair.

The region’s major research and technology universities, together with leading business groups, played an important role in the development of a “cleantech-oriented” incubator. In response to the availability of state and federal funding in 2008 and 2009, and at the urging of the mayor, a coalition came together to sign the “Cleantech LA Memorandum of Understanding,” committing its support for “joint research and development, deployment, and commercialization of technologies that provide solutions to the city’s and the world’s environmental issues while creating jobs for Angelenos.” Signatories included Mayor Villaraigosa, LADWP, the University of California Los Angeles (UCLA), the University of Southern California (USC), California Institute of Technology (Caltech), the Jet Propulsion Laboratory, the Los Angeles Business Council, the Los Angeles County Economic Development Corporation, the Los Angeles Chamber of Commerce, the Central City Association, and the Community Redevelopment Agency of the City of Los Angeles (CRA/LA). The memorandum included collaboration on developing the following:
- the Los Angeles Cleantech Corridor
- the LADWP Clean Technology Research Center (now LKIC)
- basic academic science and engineering research that drives innovation and contributes to economic competitiveness through knowledge creation, higher education, and technology transfer
- applied water, energy, and climate change research, testing, and deployment.

The coalition, led by LADWP, obtained a grant of $120 million from the US Department of Energy for smart grid development, and though funding came and went, the coalition stayed together and contributed to the development of LKIC, which members saw as both a vehicle to accelerate the commercialization of their research ideas and a source of jobs for the region.

Later in 2009, Mayor Villaraigosa recommended reprioritization of LADWP resources and capabilities to encourage economic development through investment in clean technology. LADWP’s board approved economic development strategies to allow:
- a low-interest loan fund for small business expansion;
- additional staff to help attract businesses to LA to create green jobs for products LADWP requires;
- preference for local manufacturers of solar panels and other clean-tech products purchased by LADWP;
- determination of LADWP’s research and development needs with the notion of using the utility’s demonstrations, platform, and purchasing power to attract businesses to LA; and
- support for the creation of LADWP’s CleanTechnology Development Center (now LKIC) as the initial step in launching the Cleantech Corridor.

Over the course of 2010, several steps moved the project forward. LADWP acquired the site for the campus, and the CRA/LA, in charge of project management, hired John Friedman Alice Kimm Architects (JFAK) to develop the design. In addition, the mayor and city council authorized up to
$3 million in Community Development Block Grant (CDBG) funds to pay for public and tenant improvements at LKIC. Meanwhile, LADWP’s board authorized the first step in the creation of its Clean Technology Research Center. Finally, the CRA/LA released a business plan for the future Los Angeles Cleantech Incubator (LACI), which provided the basis for justifying and beginning operations.

In 2011, the CRA/LA board approved a contract for $1 million to assist with the implementation of the LACI business plan and solicited proposals for a management team, hiring Fred Walti and Neal Anderson to run LACI. Both were entrepreneurs with extensive experience in running incubators (while Walti left in 2017, Anderson continues to serve on LACI’s senior management team). Later that year, a temporary facility for LACI was leased in a former bus garage a block from the new site. The temporary quarters enabled LACI to begin incubating cleantech start-ups, years in
advance of LKIC’s opening. In addition, BCD, a consulting firm, released an economic impact report for the project which showed that, by its fifth year, LACI was projected to generate 1,680 new jobs (600 direct jobs and 1,080 indirect and induced jobs), and LACI companies were projected to generate $82.5 million in sales, thus projecting a significant contribution to city revenues via sales and business taxes and $45 million in employee salaries.

In 2012, the project faced a crisis when the CRA/LA (and all such agencies statewide) were officially disbanded by Governor Jerry Brown in response to state budget shortfalls, and the tax increment revenues generated by CRA/LA developments, traditionally kept locally, were redirected to the state treasury. However, LADWP stepped in and took over management of the development process. Also that year, the city approved $850,000 in CDBG funds to support the development of LKIC, and LACI received a $250,000 challenge grant from the Broad Foundation. Toward the end of the year, the LADWP board authorized a number of steps in preparation for construction of LKIC. They included:

- an MOU between LADWP and the Department of Public Works’ Bureau of Engineering for construction-related services;
- authorization to accept project funding from the US Department of Commerce Economic Development Administration, the successor agency to the CRA/LA, and Community Development Block Grants;
- authorization to seek US Treasury New Market Tax Credits; and
- an architectural services contract with JFAK.

LKIC is located in what was slated to be the city’s Cleantech Corridor in Downtown LA. This corridor would have been a four-mile long strip between the Los Angeles River and Alameda Street, with LKIC and a projected Clean tech Manufacturing Center serving as cornerstone projects. The plan was to use a portfolio of local, state, and federal financing incentives to attract companies to this area. While LKIC survived the demise of the CRA/LA, the 20-acre site of the proposed Cleantech Manufacturing Center did not.

In 2013, LADWP approved the steps needed to enable access to New Market Tax Credits. To meet US Treasury regulations, LADWP leased the property to LKIC, a city-formed nonprofit public benefit corporation. In June of that year, construction on the campus began, and the ground-breaking ceremony drew over 700 attendees. The Arts District Park, by contrast, was in limbo: a hoped-for state funding grant fell through due to the dismantling of the CRA/LA, which had sponsored the grant application for park funding. However, City Councilmember Jose Huizar, who represented the area, stepped in and secured city funds for the park, allowing it to move toward realization. LADWP, which owned the site, leased it to the city’s Recreation and Parks Department, and, in 2014, a new design process was undertaken, this time under the leadership of the city’s Bureau of Engineering, whose Architectural Services Division is charged with most public park design. Construction began in early 2016.

As construction on the main facility continued in 2014, the design and construction contracts were modified to reflect LADWP’s decision to fit out about 15,000 square feet for its Customer Engagement Center.
In August 2015, the LADWP board approved a 20-year lease and management agreement with LACI for LKIC, with an option to extend the term for up to 10 years. LADWP agreed to charge $1 per year for rent plus 50% of any net rental revenue over $1,500,000. In November, LACI started moving into its offices, and LADWP finalized plans for its Customer Engagement Center, workshops and labs. Vice President Joe Biden visited the campus and led a roundtable on cleantech development.

In April of 2016, LADWP opened its renamed Customer Engagement and Sustainable Living Labs, and the official grand opening for the campus took place in October. The Arts District Park opened in November.

Leadership
Like most successful projects, La Kretz has many parties who are proud to claim authorship and many who contributed in important ways. Especially important in the early phases of the project were a number of influential individuals who had powerful ties across the city departments and agencies that needed to be engaged. These included two mayors and their staffs, the CRA/LA, and LADWP—in fact, several of the important leaders moved among these entities, partly because of the demise of the CRA/LA at a crucial moment for the project.

The City of Los Angeles and the CRA/LA
Key contributors to the early phases (2007 and 2008) included the City of Los Angeles, whose mayor at the time, Antonio Villaraigosa, with the cooperation of the city council, was committed to improving the area to the east of downtown and to using clean technology to spur economic growth. At vital junctures, the City of Los Angeles provided funding for the project. The principal city agency devoted to the urban aspects of the vision was the CRA/LA, which could condemn, acquire, and sell land and provide funding support. It was committed to the creation, and then the improvement, of the Arts District, which was targeted as the preferred location for the Cleantech Corridor, largely because, at the time, there was a significant amount of underutilized warehouse and industrial space in the area. However, the CRA/LA was disbanded at a critical time for the project. The mayor’s office and city council stepped in to provide alternative intermediate funding sources, and LADWP took over management and ownership of the project. Crucial support for the project continued under Mayor Eric Garcetti, who shared many of Villaraigosa’s values.

It is important to note that there was a lot of coordination and fluidity among top leaders in these agencies, especially following the dissolution of CRA/LA. As top managers and executives moved among the CRA/LA, city government, and LADWP, they continued their support for the project.

For example, Sharron Gi, the CRA/LA’s project manager for the central industrial area and Arts District when the project began, became a consultant to LADWP. Steve Andrews was chief of strategic planning for the CRA/LA and later moved to the mayor’s office when the CRA/LA was dissolved. Both were strong supporters of LKIC, and their continued involvement was essential to the project moving forward.

LADWP
Another key player in LKIC’s development and continuing operation is LADWP, the nation’s largest municipal utility. John Chen served as its director of economic development from 1999 to 2008 and continued to contribute to the project after he took on other responsibilities. At LADWP, Chen was an important voice of progress in this arena, looking for initiatives that would help the agency implement forward-thinking and even out-of-the-box programs while meeting its mandates to deliver clean energy and water to its customers more efficiently and effectively. Chen played a central role in initially getting LADWP to commit to the project and later to take over management of the development process after the CRA/LA was disbanded. Kelli Bernard, formerly of Mayor Villaraigosa’s office, succeeded Chen as director of economic development before becoming deputy mayor under Mayor Garcetti; she provided strong support for the project from start to finish.

Morton La Kretz
One important factor in helping Chen convince LADWP’s board to go forward with the purchase of the LKIC site was a $3 million donation that substantially lowered the effective purchase price. The donation was made
to LADWP by the La Kretz Foundation, headed by Morton La Kretz, who made his fortune in Los Angeles real estate. La Kretz was well known for supporting local environmental, clean technology, and sustainability initiatives including Tree People and helped to build and fund environmental science institutes at the California State University Los Angeles, UCLA, and the University of California at Santa Barbara. This project fit well into the foundation’s mission, and it devised a unique way of funding LKIC by donating another building to LADWP, allowing it to divert other funds to this project.

The Bureau of Engineering and John Friedman Alice Kimm Architects
As the project moved toward design and construction, LADWP contracted with the city’s Bureau of Engineering (BOE), part of the Department of Public Works, to manage the construction process. The BOE was responsible for hiring the design team of John Friedman Alice Kimm Architects and provided the lead designer for the park, Rick Fisher. Fisher worked closely with Alice Kimm, who initiated the concept of including the park when the firm was interviewed and whose participation was requested by the community in 2014 when the park portion finally moved forward. Laura Velkei, founder of the Arts District Community Council, helped to organize initial community involvement and generated attendance of 40 to 50 people per planning meeting. She found the process very inclusive and is satisfied that the result meets the needs expressed by the community, so much so that, when funding was threatened, she pressed the city council to step in, which it did.

LACI Managers
The other key players with a continuing role in operations are the managers of LACI: Fred Walti, its former president and CEO; Neal Anderson, its COO; and Ben Stapleton, its chief partnerships officer. This group has deep experience both as entrepreneurs in their own right and as consultants to leading incubators including Idea Lab, which is associated with Caltech, and another one associated with Stanford University. They advised the CRA/LA on identifying potential companies that might locate in the planned Cleantech Corridor, which was at that time to be anchored by a very large, vacant industrial building known as the Crown Coach Works, south of the current site. In 2011, through a competitive process, the CRA/LA hired Walti, Anderson, and Stapleton to run the incubator, which began in leased space until LKIC was completed. In the interim, they were instrumental in working with the architects and city agencies in the design and programming of LACI.

DESIGN AND DEVELOPMENT
Site Selection
LADWP selected and acquired the site in part because it is across the street from one of its substations in the core of the Arts District. Urth Caffé, a well-known local landmark, is across the street to the north and the Barker Block lofts are to the east. Bounded by South Hewitt Street to the east, Palmetto Street to the south, and Colyton Street to the west, the site is surrounded by a mix of live/work lofts, restaurants, bars, coffee houses, and art galleries, with industrial uses still active to the west and further south.

At the time of the purchase, the site consisted of a 61,000-square-foot warehouse divided into eight separate units, plus about an acre of parking at the south end and a half-acre empty lot at the north end, which is now the Arts District Park. The warehouses were arrayed as two sets of four on either side of a demising wall; one set fronted on Hewitt Street and the other on Colyton Street. All the warehouses were constructed of masonry walls and wooden bowstring truss roofs.

At the time of acquisition, it had not been determined if the warehouses would be renovated to accommodate the new campus or if they would be demolished to make way for a new building. While the buildings were in decent shape, it was a question of weighing costs and benefits that could only be determined following design studies and cost estimates.

Architect Selection
Later in 2010, the CRA/LA issued a request for qualifications to pre-qualified design firms, interviewing three teams in December. The client interview panel consisted of representatives of the key agencies, including the CRA/LA, LADWP, and the city as well as industry experts. The firms were invited
to present their qualifications and ideas about how they might approach the project, including their vision of the opportunities it presented. JFAK showed three options that they had to largely invent, since they were not provided with a detailed program by the client, in part because the group that would later manage LACI had not yet been selected. All three options included a park; JFAK recognized the need for the open space since its offices are in the Arts District. One option proposed a new three-story building for the cleantech functions and converted the warehouses into retail space, which would generate revenue. A second option used the warehouses for LKIC, introducing courtyards and a pedestrian street through the middle of the complex with utilities running under it that lab space could plug into. This option was reported to have garnered a lot of interest from the interviewers. Option three was more integrated with the park, this time featuring an outdoor “street” running from south to north all the way through the center of the building. JFAK did not recommend any of the options, rather using them to illustrate their design process with the intent of stimulating the interest of the interviewers. This appears to have been an effective strategy, since JFAK was selected over very strong competition.

Program
In 2011, after Fred Walti and Neal Anderson were on board, JFAK worked with LACI management to develop the building program. The approach entailed simultaneously developing the program and floor plans, which evolved as the team thought through what was needed to support operations for the foreseeable future. While the plan started with a preponderance of enclosed offices, it evolved away from that toward mainly open workstations with some lockable offices to allow tenants to protect intellectual property. Meeting and training facilities were then added. Goals that guided the incubator design were based on the factors believed to support start-up success and clean technology:

- flexibility
- interactive space to catalyze creativity
- space for learning
- sustainability
- “clever but affordable design.”
Looking back, Walti expressed both satisfaction and a degree of surprise at how well LACI was able to target its needs and how well the resulting design supports its mission and operations.

The requirements for the Advanced Prototyping Center and the LADWP Customer Engagement and Sustainable Living Labs were developed later. For the time being, space was reserved for them on the west side of the building to enable access from Colyton Street, which offered better loading conditions. The approximate initial allocation of the overall space is 50% LACI, 25% LADWP Customer Engagement and Sustainable Living Labs, and 25% Advanced Prototyping Center. Later in 2011, LADWP assigned Terry Brungard, manager for renewable resources and emerging technologies in its Efficiency Solutions Engineering Group, to the project and provided more specific program requirements for the labs. The requirements for the Advanced Prototyping Center were driven by LACI leaders who realized that the start-ups would benefit greatly from a “maker space” where they could produce and test prototypes of their products.

**Building Design**

Initially, the developers considered the option of constructing a new building rather than redeveloping the existing warehouse. Some thought it would be less expensive and allow for the design of more suitable space. But others believed that reuse was a more appropriately green strategy that would also contribute to the desired image, with exposed brick walls and wood trusses, as well as provide great flexibility and adaptability.

The brick structures did, however, pose several challenges. These included achieving seismic strengthening, circulation connectivity, and access to natural light, as well as keeping the wood trusses and ceilings exposed to view, given fire codes that required them to be covered. Bracing against seismic forces was accomplished through insertion of steel moment frames that also support walls where shear panels and columns were removed. Enclosed spaces were located against the brick demising walls, leaving central spaces open. The layout of circulation paths started with existing corridors and openings in brick walls, with some additional openings added to create the desired pattern of “streets.” Natural light from existing large windows along South Hewitt Street was enhanced with skylights and solar tubes. Finally, in order to keep the wood ceiling and trusses exposed, it was necessary to remove the roofing and add insulation and plywood sheathing on the exterior, a costly solution but judged to be worth it for its contribution to image and aesthetics. Overall, the cost of the project was still considerably less than that of building a new facility of comparable size.

Several options were explored for the site plan, including entering the building directly off of Hewitt Street. However, it was decided to follow the pre-existing plan, retaining and redesigning the surface parking lot on the southern end of the site, now covered with photovoltaic panels and augmented with electric vehicle charging stations, and enter the building through the south wall that faces the parking lot. Interior circulation is provided by a loop off the principal corridor, or “main street,” that runs from the entry, with its living/green wall, toward the north, past the main meeting spaces and culminating at a break area and a door to the park. The central event space is essentially a roofed courtyard with stepped seating.
The interior is organized as a village with a series of open offices and wide corridors to promote a sense of community.
The design preserves existing brick walls and wood trusses while integrating new green features that enhance sustainability.
where larger meetings and presentations take place almost every day. Anyone walking past can pause to take in the event.

Furnishings for open offices are flexible, with desks that are not only moveable but actually on wheels. Reports are that the flexibility is highly utilized, with layouts changing frequently in response to the growth, shrinkage, or change of occupants. Most importantly, the openness and connectivity are valued by the occupants for the way they reinforce communications and networking. Several tenants stressed the essential characteristic of the design as being the way it supports the community of companies, which some referred to as an “ecosystem” or “village.” Another added that “it has become a space of creativity and invention.”

LADWP spaces are to the west of the main corridor, with an entrance to the customer service area directly off the main entry lobby, and feature a new demonstration “Case Study Home” inspired by the original Case Study House movement that emerged in the 1940s in Los Angeles and that promoted innovative home design and engineering. The prototyping center is to the north of the service area with access from LADWP offices as well as from the LACI area.

Some interviewees stressed the uniqueness of LKIC as an incubator dedicated specifically to cleantech, compared to others that just foster start-ups or technology in general. Many or most of the tenants are or will be making physical products, and the ability to create and test them is essential to their and LKIC’s success; hence, the inclusion of the Advanced Prototyping Center, which started operations in early 2017. It includes a variety of specialized workshops and testing labs with highly specialized and technologically advanced tools and machinery. One lab is equipped to support chemical and biological testing with fume hoods and lab benches. Others specialize in cutting and shaping as well as 3-D printing.

In terms of image, LACI in particular and LKIC overall were designed to be open, creative workspaces, with green features such as light tubes, a smart energy grid, and a living wall that is immediately visible upon entering the building. To help convince the clients of the importance of good design,
the architects presented a slide show that included a widely-published mid-century modern Joseph Eichler case study house where Steve Jobs grew up, connecting quality design with innovation.

Because of funding constraints, the design team had to finish working drawings within a tight schedule, by the end of June 2012. The construction budget was not fixed at the time JFAK was hired. Rather, the firm’s cost estimate of approximately $23 million, including fixtures but not furnishings, became the budget. This did not include the fit-out of the LADWP space or the prototyping center, neither of which had been adequately defined at that time. LADWP would later fund the furnishings and hire Cinnabar, a design-build company that typically works with museums and cultural institutions, to fit out its spaces and design its first exhibits and permanent wall graphics.

The Arts District Park
The Arts District Park is a welcome addition to the project and the neighborhood, providing a green oasis in a landscape otherwise dominated by hard surfaces. It occupies about a half-acre on the northeast corner of the site and consists of four main elements: an informal grass and landscaped area closest to the corner providing seating, eating, and dog-walking spaces, with careful attention to protecting plantings; a children’s playground with climbing structures and other equipment at the southeast; a picnic/meeting area at the southwest, closest to LKIC; and a shade structure that can serve as a band shell or performance venue at the northwest corner, which also provides a locus for community gatherings.

Interestingly, the park was not proposed by the city or LADWP. Rather, JFAK suggested inclusion of a park at the time of its initial selection interview, utilizing a corner of the site that was not needed for LACI or LADWP functions and would be easily accessible to the community. Because their office is in the neighborhood, the architects were well aware of the lack of green space in the Arts District. Although the area had been developed for industrial uses, which do not require recreational open space, there were growing numbers of people living there as warehouse space was converted into loft apartments and condos. The notion was well received by the surrounding community and the agencies involved in the development of LKIC.

Originally, the park was to have been funded by the CRA/LA as part of its overall responsibility for redeveloping the area. The CRA/LA organized community outreach, including a survey and five community meetings, and hired MIG, a planning firm that specializes in organizing community input. MIG conducted the survey and facilitated and documented the meetings on wall-sized posters. One meeting was held at SCI-Arc and another at the Barker Block across the street from the site; others also took place in the neighborhood. The community is reported to have been very vocal with a rather clear vision of what residents wanted, including organic shapes that would be soft and informal in contrast to the hard, rectilinear industrial surroundings. They also wanted community art; the solution is a “rotating” mural consisting of panels mounted on a brick wall that bounds the park to the west, painted by successive artists selected by a community group called Art Share.

The CRA/LA submitted an application in 2011 for state funding for the park; however, the application was rejected because all CRAs statewide were in the process of being disbanded. This put the park in jeopardy since it could not be funded as part of the main LKIC project. However, in 2013, under pressure from local residents, the City of Los Angeles stepped in and won the support of the local councilperson, Jose Huizar, who earmarked developer fees for the park, which was appropriately considered to be public infrastructure. The city designated the Department of Recreation and Parks to manage the park, and the city’s BOE was put in charge of design, bidding, and construction, as it was for the balance of the development of LKIC. Rick Fisher, from the BOE Architecture Division, led the effort, working cooperatively with JFAK, who assisted pro bono and was primarily responsible for designing the shade structure.

Early concepts evolved with community input. The children’s playground was an initial proposal that some community members wanted but others questioned, arguing that the small population of children did not justify it. Despite those concerns, it appears to be well used.
A major controversy concerned the Department of Recreation and Parks requirement that the park be enclosed by a tall fence. Strong arguments were made both for and against the fence. On the one hand, easy access to the community and a sense of openness were valued. On the other, there were concerns about safety (securely containing children within the park during the day), cleanliness (keeping dog walkers out at night, as the municipal code requires that parks be accessible for dogs), and occupation by homeless people, who were more visible in the area at that time than they were in 2017. Some argued that these problems would be avoided because the adjacent Barker Block residential development, which overlooks the park, would provide “eyes on the street.” In the end, Recreation and Parks prevailed and attempts were made in detailing the fence to make it difficult to climb while also appearing more residential and visually permeable, with questionable success. The fencing consists of square posts holding a rectangular metal mesh. Though visually permeable, the fencing does not enhance the feeling of openness or connectivity. In addition, the keypad system recently adopted by Recreation and Parks for its gates has a forbidding appearance; many potential users of the park do not bother to try the gates during operational hours, as one look at the keypad makes them assume that the gates are locked.

Another interesting challenge involved the shade structure, which the Department of Building and Safety, the permitting agency, decided to treat as a building, despite the fact that it has no walls, doors, or windows. It was also rather complicated to build, given its irregular shapes and Teflon fabric covering.

Fisher, the landscape architect, proudly pointed to what he perceives as the park’s successes. They include layers of habitability accommodating varied types of users, times of day, and scales of activity and its high quality of construction, thanks to a contractor who was able to execute the sophisticated concrete forms and other design features. The park also incorporates the city’s first public grey water recycling system with an underground storage tank and a filtration system linked to bio-swales integrated into the park’s design that provides water for the landscaping. In addition to the park includes landscaped areas, a children’s playground, and seating areas.
the activities it supports, the park provides a green oasis in what is otherwise a hard urban landscape.

ACTIVITIES AND PROGRAMS

LKIC’s three interrelated parts—the business incubator (LACI), the LADWP’s Customer Engagement and Sustainable Living Labs, and the Advanced Prototyping Center—each serve particular yet interrelated functions.

LACI

LACI’s mission is no less than to build a green economy for the City of Los Angeles. It does so by offering collaborative work space and a variety of programs to support cleantech entrepreneurs and businesses. The incubator space is home to a mix of cleantech businesses and related nonprofits. LACI offers several tiers of supportive services to portfolio companies, tenants, and members.

LACI programs are targeted toward cleantech entrepreneurs including start-ups and evolving businesses looking for help with product development, meeting a customer need, finding financing, management, and marketing. Integral to LACI’s support system are their Executives in Residence, of which there were six in early 2017. Each executive supports five or six companies, meeting with them weekly, while the companies present a quarterly status report to a panel of the executives and LACI’s top managers. There are also volunteers and interns, some of whom are hired on a permanent basis by the businesses. In total, LACI has the equivalent of about 35 full-time staff.

In appealing to companies who might wish to be part of the incubator, LACI takes into account several considerations. They define “cleantech” broadly as products or services that advance sustainable or efficient use of resources. The categories of products include new materials, agricultural technology, air quality, the built environment, energy generation, infrastructure and storage, information technology, mobility, waste, and water. Companies working in these areas are organized into “clusters” that bring together those with similar or related interests. The clusters typically group pairs of focal areas such as built environment and transportation, agriculture and waste, and energy and water. With about 200 members each, the clusters meet once per quarter to exchange ideas and discuss mutual concerns and possible solutions.

LACI is looking for companies with vision—great ideas that push current boundaries, innovative and even disruptive technologies, and business initiatives that will have big environmental, social, and economic impact. LACI can be particularly helpful to companies in their early development but supports them through all stages, ranging from “genesis” (haven’t formed a company yet) through “growth” and finally “expansion.” Companies must apply for admission to the incubator, but fewer than one out of about eight make the cut. For those that are accepted, expectations for commitment and effort are high, and one expectation is that they create local green jobs. Senior-level advisors help guide them through the process to commercialization and hold them accountable along the way. LACI also helps with introductions to venture capitalists when companies are at the fundraising stage.
In addition to the mentoring provided by Executives in Residence, there is also a roster of presentations, often held in the open courtyard/event space so anyone can attend, and trainings on specific subjects. The cost for tenants or members to host events on campus is moderate, and event space is often free for portfolio companies. Internet service, printing, and mailboxes are included with LACI membership.

**LACI’s Tenants and Portfolio Companies**

Tenants on campus include “portfolio companies” that receive considerable support services (about 30% have dedicated space at LKIC), tenants that rent space but are not in the portfolio, and partners that contribute to the community and participate in programming.

LACI’s rigorous process of selecting the companies it hopes to foster is based on an assessment of their potential and the likelihood of their success. LACI practices outreach by attending outside events and inviting potential members to attend events at LACI, generating a pipeline of companies that want to join. The vetting process starts with a 30-question online application and submission of a business plan. Businesses that look promising are then reviewed and evaluated by LACI management staff and advisors. This is followed by interviews. If accepted, one of LACI’s Executives in Residence is assigned to mentor the company.

LACI receives 20 to 30 applications per month and selects only about 12%. To be accepted, a company must be a start-up (less than five years old), typically with less than $5 million in revenue and fewer than 50 employees. Most tenant companies are younger and smaller than these limits. LACI is also concerned about what the company will offer to the community, and its anticipated contribution is documented in a letter of agreement and in annual impact reports.

LACI now negotiates a modest equity interest in each venture, generally ranging from about 2% to 5%, depending on how far along the venture is and its likelihood of success. Income from significant liquidity events generated by portfolio companies going public or being bought out is contributed to the endowment.

In return for rent and membership fees, LACI provides a variety of support, including mentoring, review of plans and products, and assistance with marketing, networking, training, and introductions to potential investors. In early 2017, there were 40 portfolio companies employing about 500 staff. Only about 30% occupy space at LKIC, and not all tenants are portfolio companies; some just rent available space in the building.

LACI intends to maintain a portfolio of approximately 50 companies with an anticipated turnover of about 10 per year. Its strategy for spreading its influence is to open centers in other locations. It now has extension facilities at the California State University at Northridge in the San Fernando Valley, at the Port of Los Angeles with a focus on clean shipping, and in Menlo Park in the heart of Silicon Valley. It is also expanding its reach globally through its Network for Global Innovation (NGIN) with 18 members in nine countries. The notion of NGIN is reciprocal: US companies can be connected to international markets, and international companies to LACI and US markets. The initiative is linked to the mayor’s Department of International Trade.

Tenants may occupy assigned space or use flexible workstations on a first-come, first-served basis. Some spaces can be reserved for certain dates or times. Rent is $500 per month for an assigned workstation and $250 for the use of an unassigned desk. Often, a company will rent a mix of the two types. There are about 230 desks at the facility.

Tenants interviewed in early 2017 included two nonprofits—the Los Angeles office of the US Green Building Council (USGBC), responsible for the LEED rating system, and CicLAvia, which organizes citywide bicycle events that raise environmental awareness—and three start-ups: the Verdical Group, green building consultants; Pick My Solar, which offers homeowners comparison shopping among solar installers; and Repurpose, which manufactures and sells compostable tableware (cups, plates, and cutlery) made from plant-based materials. The last two are LACI portfolio companies.

The tenants were uniformly enthusiastic about LACI and the value of being located there. For the USGBC, having its meetings at LKIC exposes
participants to a myriad of green technologies and to companies who might consult to them. Verdical Group networks extensively with other tenants and appreciates the stimulation of the open, flexible work environment. Pick My Solar found LACI’s support invaluable to building its services and company, particularly the weekly meetings with advisors, networking, validation of its work, and help with marketing, branding, and fundraising, calling LACI “everything a start-up needs.” LACI also connected the company to investors who provided 80% of its capital and to customers who accounted for about 60% of its first 100 sales. For Repurpose, LACI’s assistance in raising capital was essential to the company’s survival and success.

In terms of the future, LACI is dedicated to strategic planning and evaluating its performance in light of its goals. LACI plans to continue to grow the number of high-quality cleantech start-ups in its portfolio and to increase the number of metrics it tracks for self-evaluation.

**Diversity and Inclusion**

LACI devotes considerable attention to improving diversity and inclusion—of its staff, within its companies, and in the cleantech industry in general. It has two staff dedicated to this function: Director of Community Engagement Estelle Reyes and Executive in Residence for Diversity Tracy Gray, as well as an advisory council that reflects the mix of people it hopes to attract.

LACI makes the case that diverse companies have been shown to be more successful because they are more innovative and more in touch with diverse customer bases—and believes that creating and maintaining diversity is the right thing to do. The LACI Diversity Manifesto states, “We empower entrepreneurs through access to high-impact resources to create innovative solutions for a just transition towards a sustainable and equitable future.” Its Diversity and Inclusion Initiative “is focused on building a more inclusive ecosystem that integrates women, people of color, and the economically disadvantaged into the cleantech and sustainability sector, and the entrepreneurial ecosystem more broadly.”

LACI also aims to increase diversity among its own staff and in its portfolio companies. In terms of gender, the goal is to reflect the overall regional
workforce at 51% female; in late 2016, LACI was 39% female, and the portfolio companies were 34% female. In terms of ethnicity, the goal is to become more representative of Latino and African American populations, two groups that are underrepresented, and less Asian and White, which are overrepresented.

The key to evaluating LACI’s success in this area is to measure the actual composition of LACI and company employees and compare them to the composition of the general regional workforce. To that end, LACI periodically surveys its companies and publishes the results. LACI has also articulated measurable goals to improve diversity. One is to increase the number of portfolio company founders who are women from 16% to 20% and people of color from 14% to 23%, following a national benchmark for high-tech incubators.

LACI has received $250,000 in grants to support increased diversity, including one specifically targeted toward encouraging more participation by women. One initiative included a workshop on unconscious bias and self-sabotaging behavior.

LACI offers other programs that encourage inclusion. It reaches out to STEM (science, technology, engineering, and math) students who are invited to take advantage of LACI’s resources, including the prototyping machines, for projects and to participate in job training. There are also typically about 20 college student interns, whom LACI refers to as its “talent pipeline,” engaged at any time.

Other specific strategies to improve the representation and working conditions for women and minority-owned small businesses include expanding recruitment networks and finding partners in the community who can help identify pipelines for these companies, creating diverse selection committees and fair processes, intentionally designing programs for women and minority entrepreneurs, and creating an inclusive culture. As part of its workforce development efforts, LACI insists on a commitment from all its companies to offer openings to low- and moderate-income job seekers.

Advanced Prototyping Center

The Advanced Prototyping Center, owned by LADWP and managed by LACI, is an element of the building program that was not in the original plans but was recognized by LACI as being critical to the development of clean technology start-ups. Because cleantech involves mainly tangible products, support for designing, building, testing, certifying, and moving toward manufacturing the products was deemed an essential component. The center includes a digital prototyping lab, 3-D printing shop, biochemistry lab, core lab, electronics lab, machine shop, industrial sewing shop, and welding shop with leading-edge equipment, software, and tools—much of which was donated or purchased with a grant from the US Economic Development Administration. The fact that LADWP’s Efficiency Solutions Engineering (ESE) Group is co-located makes engineers and scientists available to help test the prototypes and judge their applicability and readiness for market. While the facility is most accessible to the LACI start-ups located on site, memberships are available, ranging in cost from $250 for individuals to $1,000 per month for corporations. Training is also available from experienced technicians and advisors.

LADWP Customer Engagement and Sustainable Living Labs

This set of functions, while targeted for location at LKIC, was not fully defined until construction was well underway and Terry Brungard, manager of the ESE Group, was assigned to the labs. There are two main components: (1) elements intended for direct customer involvement aimed at raising awareness of how energy and resource efficiency can be improved and featuring a variety of displays and interactive components, including the Case Study Home and lighting and plumbing labs; and (2) offices, workstations, and labs that support the ESE Group. LADWP feels strongly that LKIC is the perfect location for these functions and supports the synergy achieved through co-location with LACI and the Advanced Prototyping Center. Brungard expressed it as fitting into the “virtuous cycle for emerging technology development and deployment,” a cycle that consists of:

- emerging technology research and development (technology incubation)
- commercialization (business incubation)
- market adoption (utility incentives)
- evaluation, measurement, and verification.

The ESE Group engineers help the LACI businesses with product development, testing, marketing, and incentives, allowing them to utilize their labs and providing input from LADWP customers. This location also supports LADWP’s objective of helping develop and implement emerging technologies. Like many utilities, LADWP incentivizes customers to invest in technologies that save energy and water because reducing demand reduces the requirement to bring new capacity on line, a goal expressed by the slogan ‘negawatts instead of megawatts.’ To embody and illustrate these objectives, Brungard also suggested and helped implement many green features for the building as a whole, including its grey water recycling system and the electric microgrid.

The Customer Engagement and Sustainable Living Labs, by contrast, managed by LADWP’s Customer Service Division, feature interactive exhibits for LADWP customers to learn about their water and power utility, LADWP’s services, and what LADWP is doing to ensure a sustainable future for the City of Los Angeles. The water and energy efficiency exhibits were scheduled to be open to the public for self-guided as well as prearranged guided tours by summer 2018.

The Case Study Home features a variety of smart appliances, such as a refrigerator with an internal video camera that shows what’s inside without having to open the door and appliances that can respond to peak demand periods by turning themselves off. Future plans include rotating displays, installation of waterless urinals, and more explanatory materials for elements like the microgrid.

In addition to LADWP’s customer engagement labs, which are open to the public, LACI provides regularly scheduled tours of the facility and invites the public to the events that are held there.

LACI offers regularly scheduled tours of the facility.

LACI offers programs and events that support tenants and promote diversity and inclusion.
The $50.2 million development of LKIC was funded from a variety of sources. LADWP, which owns the site and facility, provided about 42% of the capital funding while other governmental and private entities provided the remaining 58%. Those most responsible for setting up the financing described it as particularly complex and challenging compared to other projects. One major challenge resulted from losing the CRA/LA at a crucial moment, which affected the overall project budget and removed park funding entirely. Another challenge was posed by the utilization of New Market Tax Credits, with which the city had no experience and which required creating a separate nonprofit entity since governmental agencies do not qualify. Applying for the US Department of Commerce Economic Development Administration grant was also said to have been very complex. The project was still short of funds when successive mayors made available city-controlled federal Qualified Energy Conservation Bonds as well as a Community Development Block Grant (CDBG), which together made up the necessary funds.

The La Kretz Foundation donated a building in Hollywood that LADWP could either sell or use for a planned customer service center in that area. While not a direct cash contribution to the purchase of the LKIC site, it allowed the project supporters within LADWP to argue that, in effect, it lowered the cost of purchase by freeing up $3 million that would otherwise have had to be expended elsewhere. This “sweetened the deal” for LADWP, which holds the title to the LKIC facility, and helped frame the value argument for a new, untried, and untested investment by the public utility. In return for the donation, LKIC is, obviously, named for the donor. While the donation was indirect, the table showing development costs counts it as a contribution to the project, which was its intent.

Operating Budget
LACI’s 2016 annual operating budget was close to $4 million. Its revenue came from many sources, including rent charged for office space, fees for membership and for the use of event and meeting spaces, sponsorships, donations, and services. The latter included LADWP’s payment to LACI for operating the facility, which amounted to $760,220 in 2016. Up to the
## TABLE 1: DEVELOPMENT SOURCES AND USES

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time of writing, the city has provided funds from CDBG sources totaling about $1.1 million every year, about 2% of the city’s total CDBG allocation, and the amount was increased for 2017. LACI expects to continue to receive these funds as long as the program exists. Its major expenses include staffing, services, and operations. Facility costs are very low since the building was paid for, there is no debt service, and LADWP leases it to LACI for $1 per year; in addition, the building is very energy efficient, so utility costs are low. All these factors contribute to the core strategy of keeping the costs of occupancy for start-up companies as low as possible.

LADWP’s contribution for building operations covers janitorial services, gardening, maintenance, wi-fi, monitoring the grey water system, and operating the prototyping center and training facilities. LADWP pays directly for its operation of the Customer Engagement and Sustainable Living Labs. The Arts District Park is maintained by the city’s Department of Recreation and Parks and does not have a defined budget.

**PROJECT EVALUATION**

LKIC is a unique project, combining a green tech incubator with a prototyping center, a public utility’s Customer Engagement and Sustainable Living Labs, and a public park that serves an emerging neighborhood. While one might judge the success of each element separately, their synergy and interactions also need to be taken into account. LACI is a very successful incubator by industry standards. Its impact, while impressive, has not yet “gone to scale” such that it would create—or substantively contribute to—the transformation of the local economy to one that is much more dominantly green, as recent mayors have envisioned. Still, LKIC presents some impressive accomplishments and offers some insightful lessons for future projects. Among these are the importance of strength and continuity of leadership, the potential for good design to contribute to and reinforce an organization’s mission, and the ways in which diversity and inclusion can improve bottom-line outcomes. And the project continues to evolve. As LACI Chief Partnerships Officer Ben Stapleton commented after an Urban Land Institute panel on the project that was held at La Kretz in October 2017: “Please come back and visit. This building has a lot of its story left to be written.”

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**TABLE 2: LACI 2016 OPERATING BUDGET**

<table>
<thead>
<tr>
<th>REVENUE</th>
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<tbody>
<tr>
<td>Grants</td>
<td>$1,631,000</td>
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<tr>
<td>Rent/usage</td>
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<tr>
<td>Services</td>
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<td>Membership</td>
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<td>Sponsorship</td>
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<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

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<td>Contract services</td>
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<td>Operations</td>
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<td>Facilities and equipment</td>
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<td>Telecommunications</td>
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<td>Travel expenses</td>
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<td>Marketing and advertising</td>
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<td>Special events</td>
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<td>Meals and meetings</td>
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<tr>
<td>Other</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>$3,819,000</td>
</tr>
</tbody>
</table>

**Net Profit** $43,000
IMPACT

Success

LACI, which tracks various metrics of its performance, appears to be a considerable success. In barely six years of operation, LACI has assisted or is assisting 72 companies that have raised over $159 million in capital, earned $220 million in revenue, and created 1,700 direct or indirect jobs (the estimate includes those related to sales at a standard multiplier of job creation). These count only permanent jobs, not temporary ones such as those related to construction. LACI projects its current overall impact at about $379 million in economic value.

LACI’s annual report for 2016, titled Just Impact, defines its impact as follows: “Impact as we frame it reflects economic, environmental and social measures. We call it Just Impact ... just in that our aim is to be inclusive, fair and equitable; just in that it is a momentary reflection of data-driven industry measurements; and just in that it is only the beginning.” The study reports a number of impressive comparisons between 2015 and 2016. LACI companies reported 318 full-time equivalent employees in 2016 compared to 162 in 2015, almost doubling, while its companies raised $132 million compared to $80 million in capital, a 64% increase. Considering social indicators, the number of women employed rose 117% and minority employment rose 195%. LACI also estimates the environmental impact contributions of its companies. In 2016, they contributed 77% more greenhouse gas reduction compared to 2015, generated 218% more electric power, saved 589% more water, and avoided 45% more solid waste.

Growth

LACI has grown beyond LKIC with branches in three other locations, including Menlo Park in the heart of Silicon Valley; at California State University Northridge in the San Fernando Valley, which produces a very large number of engineering graduates; and at the Port of Los Angeles. LACI’s reach has become international through its Network for Global Innovation (NGIN), with 18 members in nine countries providing access to international markets for its companies.
Recognition
According to information on its website and in its 2016 Impact Statement, LACI is now recognized as one of the premier cleantech commercialization programs in the world. In 2015, it was ranked as the number three “Top University-Associated Business Incubators in the World” (out of 1,200) by UBI Global and one of the two “High Impact Incubators in North America.” LACI was selected by the US Department of Energy as one of its three national incubators and chosen by the California Energy Commission (CEC) to establish a Los Angeles Regional Energy Innovation Cluster through a $5 million CEC grant. Ten Obama administration cabinet officials visited the campus, including Vice President Biden.

Diversity and Inclusion
LACI is also applying considerable effort and achieving success in increasing diversity and inclusion in a field that is dominated by White and, to some extent, Asian males. It has hired dedicated diversity staff, required its companies to have inclusive hiring practices, tracked outcomes, reached out to minorities and women at all levels (executives, entrepreneurs, and staff), and mounted programs to assist them in achieving employment and success in the field. While these goals are laudable in any location, they are perceived as being particularly important in a multicultural city like Los Angeles.

Impact on the Arts District
In addition to bringing new businesses and jobs to the campus and the surrounding area, LKIC’s main contribution to the Arts District is the provision of its only community open space. While the Arts District appears to be thriving and even “hot,” its margins still contain underutilized, older warehouses and manufacturing facilities. Formerly home to the city’s industrial base, that aspect of economic activity was and still is said to be eroding. LACI is working to create cleantech jobs, and some of its companies are said to be leasing manufacturing space in the area, at least in part in order to stay connected to LACI.

Advanced Prototyping Center
While not included in the original vision, the prototyping center came to be viewed as essential by LACI management. Though at the time of the site visit it was just becoming operational, many interviewees spoke to the unique capability it provides for start-ups to fabricate and test their products as they evolve. This is seen as a unique and essential feature of LKIC.

LADWP Customer Engagement and Sustainable Living Labs
While data are not available that would quantify the impact of the labs, partly because they were just becoming operational in early 2017, its intentions are laudable and the means it employs to demonstrate and communicate energy- and resource-efficient technologies appear likely to be effective. Co-location of LADWP’s Efficiency Solutions Engineering Group is a great asset to LACI and vice versa, since the group’s engineers help the companies with product design, testing, and refinement, as well as representing a potentially very substantial customer base for their products; in return, the companies feed promising and needed innovations to the utility.

Arts District Park
As the only green space in the community, the park can claim a number of positive impacts. First, its planning process was effective in identifying and documenting neighborhood needs. The park as realized incorporates the identified higher-priority items including a children’s playground, performance space, pet-friendly facilities, informal seating and relaxing areas, and safety. It also meets the Department of Recreation and Parks objectives for security and limited maintenance costs, though the fence and the lock on the gate do not enhance its sense of openness and connectivity to the surroundings. In addition, the park is well used by local residents, workers, and LKIC staff and visitors. It is very attractively designed and provides an organic, green oasis in an otherwise hard and rectilinear neighborhood. Perhaps it could have been better integrated with the interior work spaces.

OBSERVATIONS AND LESSONS LEARNED
Continuity of Political and Staff Support Leads to Resilience
The project spanned two mayoral administrations, those of Mayors Villaraigosa and Garcetti, with remarkable continuity of political support. Villaraigosa had the initial vision, and Garcetti continued the commitment to sustainability, economic growth, and the redevelopment of the districts
adjacent to the downtown core, using the innovative notion of becoming a cleantech leader to reposition Los Angeles’ economy. The project was severely threatened when its original sponsor, the CRA/LA, was dissolved, but LADWP stepped in and took over leadership. The transition was greatly helped by the continuity of senior staff, many of whom moved among the agencies. This, along with the fact that the project was universally viewed as potentially being of great value to the city, gave it the resilience it needed to survive—and then to thrive.

The Power of Synergy
LKIC represents a unique type of synergy among the city government, a major public utility, local research universities, and entrepreneurs, and particularly in the way its three components complement and reinforce one another.

- LACI, the incubator, provides space and, more critically, support from veteran innovators who share their experience with the start-ups, which also benefit from co-location with others who are working in similar or parallel areas and can stimulate and help each other.

- LADWP uses the innovation campus to develop and test new water- and energy-saving and environment-protecting technologies and then demonstrates them to its customers. LADWP provides potential clients for the tech start-ups; it is also a savvy evaluator of how well the new products work and how they might be improved, which is invaluable to the start-ups as they move concepts and designs toward implementation. The fact that a major public utility stepped forward to lead such a project to fruition may also serve to inspire other utilities to venture into similar projects.

- The Advanced Prototyping Center provides the tools and expertise that enable the startups to produce testable versions of the products and technologies they have imagined and designed as well as laboratories for actual testing in cooperation with LADWP engineers.

Outstanding Leadership and a Model Incubator at LACI—A Smart Organization that Runs a Model Incubator
LACI exhibits all the hallmarks of a smart and mission-driven organization. It devotes a great deal of thought and effort to how it selects companies to incubate and how to support them. It is a model for how to run an incubator, especially a cleantech one. This grows from LACI’s outstanding leaders who are deeply experienced, thoughtful, and successful innovators in their own right. The leadership team has developed and implemented a powerfully supportive system, from the selection criteria for start-ups and mentoring from other successful innovators to benchmarks that measure progress, consequences if those benchmarks aren’t met, and a track record of measurable success including jobs created, products sold, capital raised, and economic impact.

Good Design Supports and Expresses the Mission and Sustainability
Building design is appropriate, supportive, and expressive of the project’s mission. A carefully repurposed warehouse, the conversion provides fixed as well as flexible spaces, support facilities, and an appropriately contemporary, stimulating, and innovative image. Fitting for a cleantech incubator, the design is expected to achieve LEED Platinum certification (with the goal of becoming net-zero) through such features as reuse of the existing building, a solar electric microgrid, abundant natural light, water saving and grey water recycling, electric vehicle charging, energy-efficient air handling units, and many other features.

In the Right Location
LKIC is central to the city’s principal research and technological universities, government offices, businesses, and transportation. It was envisioned as the locus of the Cleantech Corridor, although, as of 2017, only LKIC had been realized and the larger concept, while referenced on LACI’s website, has lost its primary public underwriting entity with the demise of the CRA/LA. While the Arts District itself is under increasing pressure for higher-end housing, restaurant, gallery, and retail uses, there are still underutilized warehouses and manufacturing buildings for start-ups to expand into within the greater industrial corridors of the region.
Green Space
The park, which is very pleasant, provides a welcome amenity for the campus and fills a very important need for the surrounding community, which was starved for open space. It also links the two together in a positive way.

MEETING PROJECT GOALS
GOAL: Support job creation, workforce development, and reinvestment in downtown Los Angeles.
It appears that this goal is being realized in substantial ways, with over 1,200 jobs created and a strong commitment to workforce development through internships and the fostering of entrepreneurial enterprises.

GOAL: Advance the city-wide mandate to move toward sustainability by incubating cleantech companies and encouraging innovation in cleantech and related sectors.
LACI can claim that its companies are at the forefront of innovation in clean technologies, with new and effective products, some of which are patented, and that its programs and structure are contributing to their success.

GOAL: Help small businesses and entrepreneurs build profitable ventures that contribute to the local economy.
Again, this is the essence of what LACI and LKIC are accomplishing through the nurturing services and environment they provide.

GOAL: Promote cultural and urban preservation and revitalization of the downtown Arts District.
LKIC contributes substantially to the Arts District, principally through providing the only park in the area, through the rehabilitation of the
underutilized warehouse that is now its home, and by bringing additional dynamic businesses to the area.

**GOAL: Incorporate community and stakeholder participation.**

This goal has been fully achieved. The various stakeholders for the city and its agencies, as well as LADWP and LACI, were fully engaged in planning the campus. Even though the concept for the park was initially put forward by the architects, it was enthusiastically embraced—and ultimately demanded—by the community, which participated in five workshops and provided substantial input that was respected by the designers. Community activists also provided the necessary pressure that resulted in the local council district office allocating funding for the park’s design and construction.

**SELECTION COMMITTEE DISCUSSION**

The Selection Committee praised La Kretz Innovation Campus + Arts District Park as an example of a public project that embodies the City of Los Angeles’s efforts to position itself as a cleantech leader and sustainable urban center. They noted the importance of having buy-in from two mayors and a strong business model. With Los Angeles Department of Power and Water taking the lead, it illustrates an innovative way for a city to participate in economic development. It also offers a model for reconciling the often conflicting goals of people, planet, and profit, showing a path to doing well by doing good.

The committee appreciated the project’s attention to programming and design, including the incorporation of LADPW services into the campus and intention to provide access to the twenty-first century economy via the Customer Engagement and Sustainable Living Labs and the Advanced Prototyping Center. They complimented the way the design fosters interaction, creativity, and a sense of community by bringing together people who are working toward similar goals.

Los Angeles’s efforts to position itself as a cleantech leader and sustainable urban center. They noted the importance of having buy-in from two mayors and a strong business model. With Los Angeles Department of Power and Water taking the lead, it illustrates an innovative way for a city to participate in economic development. It also offers a model for reconciling the often conflicting goals of people, planet, and profit, showing a path to doing well by doing good.

The committee recognized the Arts District Park as an important community amenity that was not part of the original project mandate and appreciated its value, especially in an evolving neighborhood where public parks were non-existent. They were disappointed, however, that it was not better integrated with the building and the surrounding neighborhood, observing that the gate and fence seemed to discourage access. Visual and program-
ming connections between the building and park would have increased the project’s sense of accessibility and inclusiveness, enhancing its connection to the surrounding neighborhood and contributing to the campus’s identity as a community hub.

The committee felt that the project was nicely done, but noted that similar projects have been completed in other places. While they agreed that the cleantech focus helps to distinguish La Kretz from other innovation centers, the original concept that the project would be part of a broader, cluster-driven economic initiative—the Cleantech Corridor—rather than a one-off building would have been more compelling. Although there is considerable energy and momentum within the campus, it has not had a ripple effect on the adjoining community. Instead, market forces related to the Arts District’s success appear to be taking over.

RELATED RBA WINNERS

Over the years a number of RBA winners have addressed entrepreneurship and workforce development. Many, like La Kretz, target a specific sector, such as arts and design or food service, or a specific audience, such as entrepreneurs, youth, or adults reentering the workforce after homelessness or incarceration. Whatever its particular focus, each project embodies a broader vision of empowering residents and inspiring social and economic change in its community.

**INSPIRATION KITCHENS—GARFIELD PARK** in Chicago (2013 Gold Medalist) is a restaurant and food service training facility offering healthy and affordable meals. The renovated warehouse has become a popular gathering spot while the award-winning food service training program provides life-changing opportunity and counseling services for people struggling with poverty and homelessness.

**THE STEEL YARD** in Providence, Rhode Island (2013 Silver Medalist) is the redevelopment of a historic steel fabrication facility into a campus for arts education, job training, and small-scale manufacturing. The campus has become a hub for creative activity, offering classes, fabrication space, and events that bring together a variety of people from across the community.

**ARTISTS FOR HUMANITY EPICENTER** in Boston (2007 Silver Medalist) empowers underserved youth with paid art apprenticeships that build confidence, creativity, and workforce readiness skills. The 23,000 square-foot LEED Platinum-certified center is a full-service art and design business employing over 250 teens annually in creative and visual arts apprenticeships.

Other related RBA winners include The Bruce C. Bolling Municipal Building in Boston (2017 Silver Medalist), which also includes a business and technology incubator, and Greenpoint Manufacturing and Design Center in Brooklyn, NY (1995 Silver Medalist).

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

This case study was compiled from information gathered from the project application; an extensive site visit in February 2017 by Simeon Bruner, Jay Farbstein (lead author), and Anne-Marie Lubenau; and research and interviews conducted during these processes and throughout the writing and editing of this book. Titles and positions of interviewees and URLs listed below were effective as of the site visit unless otherwise noted.

INTERVIEWS

City Agencies
Steve Andrews, Senior Policy Advisor, Mayor’s Office (formerly Chief of Strategic Planning for the CRA/LA, then Senior Manager of Development for the Mayor’s Office)
Sharon Gi, Senior Planning & Development Manager, Kamehameha Schools (formerly Assistant Project Manager, Downtown Region for the CRA/LA, then independent consultant to LADWP)
Alex Paxton, then Project Manager, CRA/LA
Rick Fisher, Landscape Architect, City of LA, Bureau of Engineering, Architectural Division

LADWP
John Chen, Executive Director, Customer Service (formerly Director of Economic Development from 1999 to 2008)
Kelli Bernard, CEO, AECOM Los Angeles (formerly Director of Economic Development for LADPW (after Chen) then Deputy Mayor of Economic Development for the City of Los Angeles)
Terry Brungard, Manager, Efficiency Solutions Engineering Group

Private Funder
Linda Duttenhaver La Kretz, COO, La Kretz Foundation

Design
John Friedman, Principal, John Friedman Alice Kimm Architects
Alice Kimm, Principal, John Friedman Alice Kimm Architects

LACI
Fred Walti II, President and CEO
Neal Anderson, COO
Ben Stapleton, Director of Operations
Estelle Reyes, Director of Community Engagement
Mike Swords, VP Government Relations (formerly VP Partnerships)
Laurie Peters, Communications Director

LACI Tenants and Portfolio Companies
Dominique Hargreaves, USGBC
Drew Shula, Verdical Group
Max Aram, Pick My Solar
Romel Pasqual, CicLAvia
Lauren Gropper, Repurpose

Community
Laura Velkei, Arts District Community Council LA (founder)

REFERENCES


MIG. "Community Questionnaire Results for CRA/LA, City of Los Angeles Arts District Park." June 22, 2011.


**OTHER AWARDS**

The project has been recognized with other design and construction awards including the following:

2014 Los Angeles Sustainability Collaborative Start-up of the Year
2016 AIA/LA COTE LA Award, Citation
2016 Interior Design Best of Year Honoree
2016 Engineering News-Record California Best Regional Projects, Award of Merit: Green Project
2016 Southern California Development Forum Design Award, Civic Category
2017 Los Angeles and Mexico City Sustainable Real Estate Award
2017 Los Angeles Downtown News Downtowners of Distinction Award
2017 Rudy Bruner Award for Urban Excellence

The Rudy Bruner Award for Urban Excellence is a national design award recognizing transformative urban places that contribute to the social, economic, and environmental vitality of American cities. Every biennial award cycle is documented in detailed case studies about the winners and an essay summarizing observations and lessons learned from the process and discussions leading to and about their selection.

Investing in Urban Infrastructure: The 2017 Rudy Bruner Award for Urban Excellence presents the five 2017 Rudy Bruner Award winners. They include the transformation of a former steel plant into a mixed-used cultural and entertainment district in Bethlehem, Pennsylvania; a community-oriented, mixed-use development integrating public school headquarters, transit, meeting space, and local retail in Boston, Massachusetts; reclaimed waterfront that transforms the Chicago River into the city’s next great civic park in Chicago, Illinois; the rehabilitation of 26 scattered-site historic houses into 46 homes for low-income families in New Orleans, Louisiana; and a cleantech incubator and education center developed by the local utility plus a neighborhood park in Los Angeles, California. Together they illustrate the critical role of government leadership and investment in the urban fabric of our cities and the importance of building healthy, resilient, and socioeconomically vibrant communities.

Since 1987, the Rudy Bruner Award for Urban Excellence has recognized and documented 83 projects in 27 states. They provide insight into urban development and the evolution of American cities and offer ideas and inspiration, lessons to learn, and food for thought for students, practitioners, and civic leaders.

Gold Medal
SteelStacks Arts & Cultural Campus
Bethlehem, PA

Silver Medals
Bruce C. Bolling Municipal Building
Boston, MA
Chicago Riverwalk Phases 2 & 3
Chicago, IL
Iberville Offsite Rehabs Phases I & II
New Orleans, LA
La Kretz Innovation Campus + Arts District Park
Los Angeles, CA

For more information about the Rudy Bruner Award, including case studies about past winners, please visit us online at www.rudybruneraward.org.