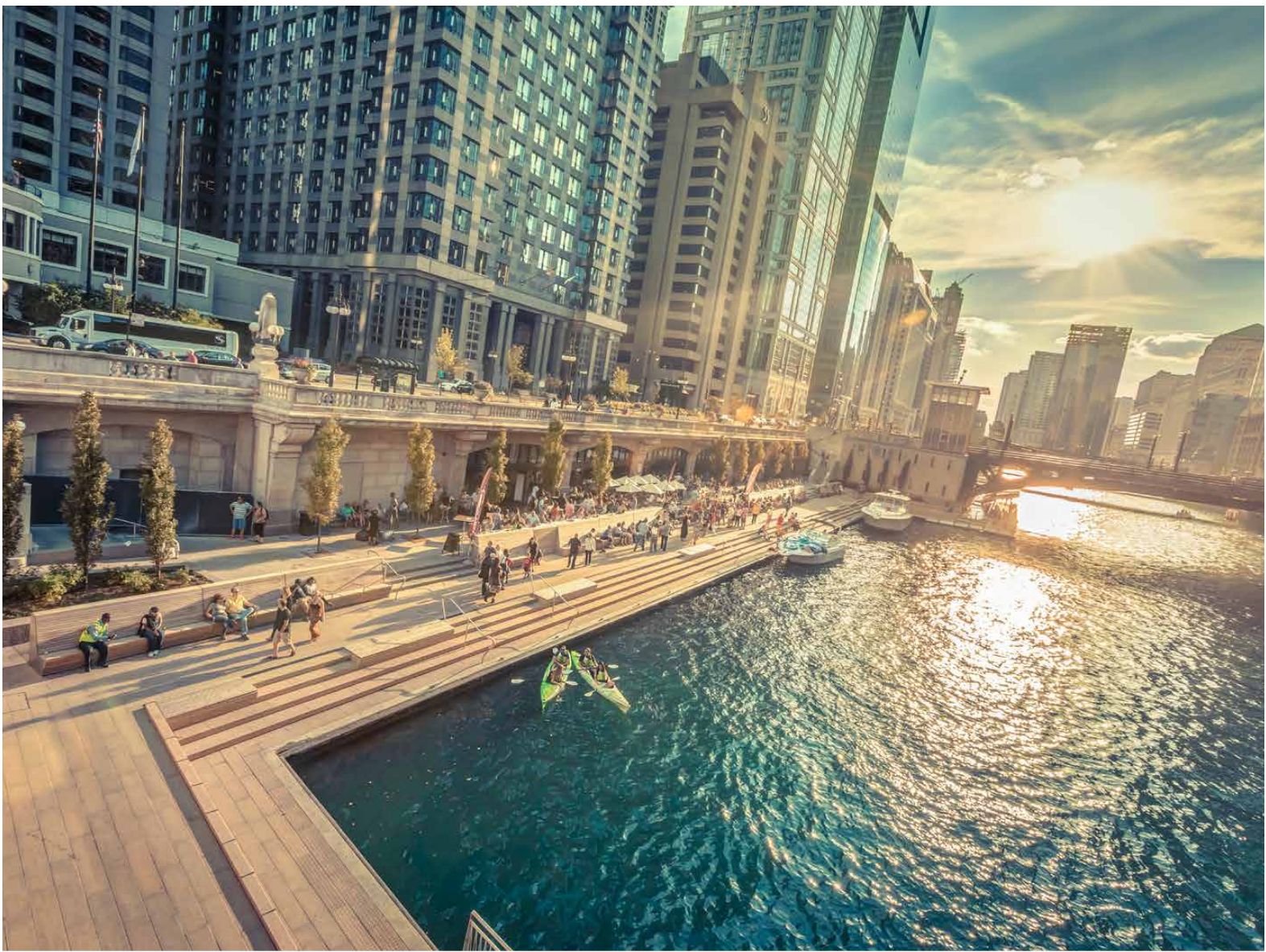




Urban Waterways in Global Cities



FORUM REPORT
JUNE 2017



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MAIRIE DE PARIS 



FOREWORD

As mayors of major cities worldwide consider innovative ways to drive economic opportunity, create new public spaces, and find more environmentally sustainable uses for aging infrastructure, they are increasingly investing in the redevelopment of their urban waterways. We see this transformation not only in our own cities but also when we engage with mayors from Cape Town to Lahore, from Mexico City to Milan. Everyone grapples with individual, unique challenges, but we are all working toward a similar goal: to better utilize waterways in our cities as a tool for returning benefits to the residents.

To share best practices and ideas for tackling the challenges we are all facing, our two cities agreed to cohost the first Mayors' Forum on Urban Waterways in Chicago on March 13, 2017. Seventeen cities from five continents participated in this robust and informative session. We discussed recommendations for how to see strategic urban-development investments through to completion while maximizing local returns that have global implications. The dialogue also provided a platform to reflect on the changing nature of mayoral leadership as we take on new roles as global ambassadors and voices for urban prosperity.

This report, while not for attribution, highlights the breadth of key themes and findings from our discussion. It provides a new framing for the research on urban waterways investments and identifies important considerations to ensure that mixed-use development projects are activated to simultaneously generate direct and indirect economic, environmental, and social benefits for the city as a whole. It also illustrates

how collective action at the local level can contribute to solving pressing challenges at the global level.

We would like to extend our appreciation to the mayors who took the time out of their busy schedules to engage in this dialogue. Our session would not have been as productive without their contributions and diverse experiences. We would also like to thank guest speakers who joined our meeting to brief the group and share their expertise. Anders Bringdal, founder and CEO of SeaBubbles; Jeanne Gang, founding principal of Studio Gang; Bruce Katz, centennial scholar at the Brookings Institution; and Mark Watts, executive director of the C40 Cities Climate Leadership Group, provided invaluable context to our work. We would also like to thank Ivo Daalder, president of the Chicago Council on Global Affairs, for moderating the forum. The Council and World Business Chicago were important partners in collaborating with our teams to organize the forum agenda, logistics, case studies, and final report.

The Urban Waterways Forum was supported by World Business Chicago. This final report was made possible by a generous grant from the Robert R. McCormick Foundation for the Chicago Council on Global Affairs' research on global cities.

We look forward to future collaborations toward a more sustainable, inclusive, and prosperous urban future.

Mayor Rahm Emanuel, City of Chicago
Mayor Anne Hidalgo, City of Paris

June 2017

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EXECUTIVE SUMMARY

Urban waterways are natural centers of gravity for cities around the world. Today, however, many old industrial waterfronts and other neglected urban waterways are ripe for new design, development, and purpose. Mayors worldwide are rethinking how best to harness the unique, underutilized strategic value their rivers, canals, and harbors can present to their cities. Through strategic planning, multisector collaboration, and long-term visions, cities can lead the transformation of neglected waterways into mixed-used assets that address a number of local priorities and play a role in solving major global challenges.

Advancing local priorities in a global context

Cities globally are grappling with similar challenges that waterway urban development projects can help address. When cities pursue projects in the context of global trends, however, the cumulative impact of individual, localized investments can represent an impressively scaled form of global action. Furthermore, projects will draw their fullest value when designed to specifically advance gains in mutually reinforcing ways across their larger urban system rather than in isolated contexts. Cities should plan projects to generate the following mutually reinforcing outcomes through urban waterway investments:

- *Support economic development.* Economic vitality is a lifeline of cities. Urban waterway investments contribute to economic development through private investments, property tax

benefits, increased consumer spending, new job creation, and increased visibility and city competitiveness.

- *Protect the environment.* Cities are on the frontlines of climate change. Urban waterway projects can serve to redevelop brownfield sites, restore ecosystems, maximize public and private reclamation resources, improve resilience, and decrease the city's carbon footprint.
- *Promote equity and social inclusion.* Gentrification, rising costs of living, and segregation are transforming today's cities into hotbeds of inequality. Urban waterway investments can promote inclusion through neighborhood reinvestment, equitable access, diverse offerings, and social interaction and cohesion.
- *Improve public health and recreation.* Increased urbanization and densification is dramatically reducing open and green spaces, which are essential to public health outcomes and community well-being. Redeveloped urban waterways can create open spaces, improve public health, and promote recreation, such as sporting events and active lifestyles.

Delivering successful urban waterway projects

Urban waterfront redevelopment efforts are complex and challenging, but that complexity does not mean they should not be undertaken. Instead, they should be informed by considered analysis, state-of-the-art best practices, and smart policy deployment to ensure successful outcomes. The successful delivery of urban waterway projects requires that cities explicitly consider how best to carry out the following actions in ways that correspond to local needs and context:

- *Understand the ownership arrangements of waterways and adjacent land.* Complex ownership arrangements and jurisdictions affect most urban waterways. Cities can act as brokers exploring innovative ways for diverse stakeholders to collaborate with one another to make waterway projects a reality despite complicated landscapes of ownership and authority.
- *Develop models for long-term project governance and financing.* Long-term time horizons of major projects complicate project governance and financing needs. Accordingly, city leaders should ensure that the project is governed, overseen, and championed by a broad range of stakeholders.
- *Establish a clear paradigm of public benefit.* Urban development projects are rarely uncontroversial. City leaders should outline clear public benefits from the outset to ensure understanding of the project's value and deploy policy tools that promote equity and inclusion.
- *Engage the public in the planning and implementation processes.* Early efforts to engage the public will lead to better and more inclusive overall design and less political conflict.

Changing the conversation around strategic urban-development investments

Any large-scale urban-development investment, regardless of whether it takes shape along a waterway, has the potential to deliver transformative effects and benefits for a city as a whole. But the comprehensive value and impact of these projects—especially those that take shape over long-periods of time as component parts that build on one another—is often not fully understood at the outset of such projects. As a result, the potential value and impact of these projects are not fully communicated to the public, to the private sector, and to other levels of government, generally to the detriment of enthusiasm and financing prospects for any given project. To change the conversation about valuing and investing in strategic urban-development projects and to create a macro enabling environment conducive to those projects, cities need to pursue the following actions:

- *Deploy measurement tools and work with the private sector to understand economic returns.* Routinizing the comprehensive assessment of dollar-for-dollar returns from long-term strategic urban-development projects is a prerequisite for establishing such projects as an asset class to invest in.
- *Establish new collective relationships with diverse investment actors.* Cities can work together to establish new lines of communication and standards of collaboration with nontraditional, institutional investment actors, including sovereign wealth and public pension funds interested in generating stable returns over long periods of time.
- *Embrace new mayoral roles as advocates for urban prosperity.* Mayors are responsible for delivering results for their local populations, a job that increasingly requires them to advocate for the cause of urban prosperity in front of diverse audiences, the private sector, and other levels of government.
- *Coordinate and share best practices with global peers.* When mayors engage with each other to glean best practices that can be applied to local urban challenges, they also encourage a coordinating effect of global urban leadership that drives local action in support of solving critical global challenges. This process is critical to broadening understandings of how strategic urban-development investments can and should be valued.

A photograph of a person with long hair in a ponytail, wearing a teal hoodie and black leggings, jogging away from the camera on a paved waterfront path. The path has white dashed lines and is bordered by a metal railing. In the background, there is a body of water and city lights at dusk. A magenta banner is at the bottom of the image.

INTRODUCTION

Urban waterways—whether rivers, lakes, seas, or oceans—are natural centers of gravity for cities around the world. Cities have been historically built around bodies of water because of their role in sustaining trade and commerce. Yet as transportation and manufacturing have evolved, old industrial waterfronts and other neglected urban waterways are now ripe for new design, development, and purpose. Global city leaders are uniquely poised to define the future identity of urban waterways. Through strategic planning, multisector collaboration, and long-term visions, cities can lead the transformation of neglected waterways into mixed-used assets that address a number of local priorities and play a role in solving major global challenges.

Recognizing the strategic value of urban waterways, mayors worldwide are rethinking how best to harness the opportunities their rivers, canals, and harbors can present to their cities. Some cities concentrate on developing these areas into powerful drivers of economic development that can attract tourists, retailers, restaurants, and new housing. Others commit to preserving public access and open parkland to improve the quality of life, community health, and social fabric for urban residents. Many cities see waterway redevelopment as a tool to serve environmental objectives, including flood-mitigation efforts and sustainability initiatives that move residents away from daily reliance on carbon-emitting vehicles. Each of these approaches, which are not mutually exclusive of one another, present innovative solutions to today's most pressing urban problems, such as economic stagnation, inequality, social exclusion, environmental degradation, and public health.

While projects may ultimately prove successful and pay real dividends for a city overall, urban waterway redevelopment efforts are complicated and challenging. Political considerations often affect a city leader's ability to commit to long-term, expensive projects. Misalignment between local government priorities and the expectations of potential private or institutional investors can prevent a project from getting off the ground in the first place. Confusing layers of waterway ownership and jurisdiction can paralyze collaboration and prevent the formation of diverse stakeholder coalitions. Complications in project management and sustaining project financing create unpredictable hurdles. Poor policy planning can result in negative consequences such as gentrification and population displacement. Ineffective public engagement can lead to backlash, protest, and final projects that do not reflect community values or the city's heritage.

The complexity of urban waterfront redevelopment efforts does not mean that they should not be undertaken. Instead, it means that they need be informed by considered analysis, state-of-the-art best practices, and smart policy deployment.

Learning from the experiences, strategies, challenges, and successes that cities worldwide have had in developing their urban waterways can help ensure greater success for cities locally. Today more than ever, strategic local infrastructure investments need to be considered in both local and global contexts. The highly localized urban problems that such investments seek to address are often directly or indirectly bound up in a two-way dialogue with broad global processes and trends. By activating urban waterways in ways that simultaneously generate economic, environmental, and social benefits, cities will not only serve local priorities but they will also collectively contribute to solving some of today's most pressing global challenges. When cities undertake strategic infrastructure projects with an eye toward sustainably addressing chronic urban challenges as part of a coordinated effort across a network of global counterparts, the cumulative impact of those individual investments can represent an impressively scaled form of global action rooted in local urban priorities.

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ADVANCING LOCAL PRIORITIES IN A GLOBAL CONTEXT

Cities globally are grappling with similar challenges. Economic stagnation, environmental degradation, social exclusion, and poor public health outcomes are chronic challenges of urban life. The degree and nature of such challenges varies with the details of local context, but the general need to invest funds and undertake projects that mitigate the worst effects of these challenges is universal.

Cumulatively, the local and individual challenges of a city are part and parcel of global urban challenges. Collaboration and joint thinking about how best to deploy infrastructure investment and urban-development resources that contribute to solving these collective global urban challenges will be critical to their success. Urban waterways are just one type of strategically important site where innovative investments, multisector collaboration, and visionary leadership can pay dividends for urban development and prosperity. It is important to situate a conversation about urban waterway investments in a global context. By drawing on the diversity of urban experiences, cities will get closer to the considered analysis, state-of-the-art practice, and smart policy deployment necessary to ensure the success of such projects.

While the benefits of an urban waterway redevelopment project may be understood as contributing to discrete thematic categories—economic development, environmental protection, public health,

social equity—more accurately these outcomes should be understood as interrelated benefits that mutually depend on and reinforce one another. Urban development projects interact with the larger urban systems that surround them. In this way, their full public value is amplified when those projects can be designed to specifically advance gains in a number of mutually reinforcing ways across that urban system. Projects that provide enhanced green space and the ecological restoration of waterways have value unto themselves, but they can also be carried out in ways that serve simultaneous goals of raising property values, spurring economic activity, reorienting traffic patterns, and supporting active lifestyles. The City of Paris’ effort to redevelop the banks of the Seine river into a car-free pedestrian zone that will both reduce vehicle traffic *and* increase economic and recreational opportunities along the river is a prime example of how waterway redevelopment projects can deliver returns on multiple fronts (see “City profile: Paris, France”).

Similarly, the City of Chicago’s multi-decade effort to carry out environmental cleanup efforts of the Chicago River—water quality remediation, cessation of industrial traffic, closure of riverside coal-fired power plants—was a critical prerequisite to subsequent Riverwalk investments that have since provided important recreational and social benefits in the form of a newly transformed public space. It also drove both immediate and longer-term economic-development goals in the form of new real-estate development, job creation, increased sales tax receipts, and enhanced global competitiveness (see “City profile: Chicago, United States”). Waterway and other large-scale strategic urban-development projects draw their fullest value not from their ability to deliver discrete and isolated benefits but in their ability to generate benefits across sectors and issue areas.

CITY PROFILE

PARIS

France

The Paris Riverbanks Project has already closed the left bank of the river to vehicle traffic, and it decided to do the same for the right bank in fall 2016. As Mayor of Paris Anne Hidalgo puts it, the decision to close the busy roadways along the banks of the river makes a powerful statement in favor of urban sustainability and a less car-oriented city center. By replacing vehicle traffic with a riverside park and promenade, the city has been able to reduce noise and air pollution, partially decongest

the city center of vehicle traffic, and establish new public green spaces. The effort is billed as a major contribution to both the livability and sustainability of a city that is attempting to become less car dependent in the face of climate change. Because of the contentious nature of the decision to close the roadways along the river’s banks, the city has worked with both immediately affected and more distant parts of the city to communicate the need for a less car-oriented urban fabric. At the same time as it uses high-profile projects like the Seine Riverbanks project to make statements in favor of sustainability, the city is expanding public transportation capacity throughout the metropolitan region and is championing a public-private experiment to pilot a network of electric water taxis that could transform the waterway into a heavily traveled yet highly sustainable transportation thoroughfare.

Support economic development

Economic vitality is the lifeline of cities. Without a strong, dynamic economy, cities will not have the resources to invest in the ingredients that make for bright and prosperous urban futures for all residents. Good schools, safe streets, rewarding jobs, efficient transport, a clean environment, public health, decent housing, balanced budgets, cultural richness, and civic beauty all depend on strong local economies.¹ A city that has lost its economic vitality and fails to attract new investments and business jeopardizes the future of the city overall and the quality of life of its residents. Urban waterway projects can help attract private investments, bolster tax revenues, drive consumer spending, create new jobs, and increase the city's visibility and overall competitiveness.

Private investments. Urban waterways naturally present enormous opportunities for economic development. The desirability and scarcity of waterfront land in cities can create impressive demand for housing and commercial use. While it is difficult to both generalize and pinpoint the “market value” of proximity to water as an aesthetic or recreational amenity, studies suggests that waterways, specifically those that have been the subject of environmental reclamation or decontamination efforts, have the potential to significantly boost surrounding property values.² Take, for example, data that suggests that in the US context, nationwide, waterfront residential properties are nearly double the value of nonwaterfront properties.³ Every waterway and its surrounding context is different and therefore may be subject to different pressures, risks that change the valuation equation, or both. In some contexts, specifically those threatened by sea rise or other climatic instability, proximity to water may ultimately



CITY PROFILE

CHICAGO

United States

The development of the Chicago Riverwalk has been a pillar of the city's efforts to offer new recreational amenities to city residents as well as part of efforts to bolster property markets, both residential and commercial, in the city's center. Over the course of decades, environmental remediation efforts of the river laid the groundwork for redevelopment efforts that have turned the Riverwalk into a high-profile recreational amenity that enhances the desirability of the area and draws visitors from across the city. By creating high-quality public space along the river, the project has helped drive new development of residential and commercial office towers in the area. At a larger level, improvements along the Riverwalk have been important parts of the recruitment effort to get high-profile corporate tenants to move into office space along the Riverwalk and into the city center more generally, providing an economic stimulus to the downtown economy as well as to city-wide and regional economies. Investments in the downtown Riverwalk represent just one component of a 30-year plan that is already underway to revitalize the north and south branches of the river with new parks, bridges, trails, plazas, and community boathouses.



Photo credit: iStock/dk1234

CITY PROFILE

SHANGHAI

China

Local authorities made initial upgrades to the Bund historic waterfront district in Shanghai in the lead up to the 2010 World Expo. The historic area was originally built up as a port, commercial, and banking district at the turn of the 20th century. Private-developer interest eventually motivated city leaders to begin a public reinvestment effort that led to a new public promenade along the river and the underground diversion of a roadway that had previously divided the area from the rest of the city. Developer interest in the district has continued to grow. A new, ambitious plan has emerged with a time horizon through 2020 that hopes to establish the district as a new commercial center, physically counter-balancing Shanghai's already powerful Pudong financial district which sits just across the river from the Bund. The plan calls for 30 new commercial and residential towers and for the historic preservation and conversion of 100 buildings original to the area. The project highlights the substantial follow-on development than can be spurred by early public reinvestment in an area.

pose more risks than rewards. Broadly speaking, an urban waterway can represent a potential catalyst for economic development as a function of its desirability as an aesthetic, environmental, and recreational amenity. City-led investments in the upgrading of key public spaces in Shanghai's historic, waterfront Bund district has spurred dramatic increases in private development interest in the area. The project highlights the way in which modest public expenditures—relative to the size of potential returns—can leverage significant private development in a previously underinvested district of a city (see “City profile: Shanghai, China”).

Tax benefits. The city as a whole benefits from increased public and private investments in a waterfront area as a result of the bolstered tax revenues levied on rising property values. A healthy tax base, which can be supported in part by investing in urban amenities that drive demand for housing in the city center, ensures that city leaders have the financial resources to help provide services and support to *all* residents in the city, regardless of whether they live near a designated waterfront redevelopment area that is the target of public and private investment.⁴

Consumer spending. Increased spending by tourists, residents, and companies in redeveloped urban waterfront areas can contribute significant amounts to the city's public revenue coffers through increased sales tax receipts. Studies suggest that completed waterfront redevelopment efforts are often critical catalyzers for increased economic activity in a specific zone or neighborhood, by some measures accounting for up to 90 percent of new activity.⁵ The commercial and economic activation of a previously underutilized or neglected area can amount to millions of dollars in new revenue for a city.

New jobs. Urban redevelopment projects also generate wide economic benefits for residents across the city by creating direct and indirect jobs, both temporary and permanent. Construction and infrastructure jobs offer important temporary work while bolstering a city's overall construction industry. The commercial and retail jobs spurred by increased economic activity in a revitalized waterfront district represent important long-term employment bases. Similarly, the redevelopment of a waterfront district can drive employment in the hospitality sector as waterfronts become destinations for hotels, restaurants, and other entertainment amenities. When a new waterfront district is envisioned not just as a recreation and leisure site but as a mixed-use destination with substantial office-space facilities, large corporate tenants can act as powerful employment anchors for both the immediate waterfront area and the city as a whole. Innovation districts and other sector-specific firm-clustering efforts can also be incorporated into waterfront district redevelopment efforts in ways that bolster the city and regional employment base.⁶ There are extensive examples of waterfront-district redevelopment projects, both completed and planned, that are being used to spur both short-term and long-term employment opportunities in a variety of configurations to the tune of thousands of jobs in a given area.⁷ Baltimore's early efforts to harness the economic development potential of its waterfront set a standard for what a successful waterfront redevelopment project can hope to accomplish for a city. Today, the economic activity concentrated along the waterfront is an important part of the city's larger regional economy, supporting some 21,000 jobs throughout the metropolitan area (see "City profile: Baltimore, United States").

CITY PROFILE

BALTIMORE

United States

Baltimore's Inner Harbor has been a long-standing example of what strategic waterfront redevelopment investments can accomplish. The original inner-harbor district was redeveloped into a recreation and entertainment destination in the early 1970s. Forty years later, the City of Baltimore, along with a range of community partners, has invested in developing the Harbor 2.0 master plan to guide the ongoing transformation of the inner harbor moving forward. Goals of the new master plan include developing the remaining areas of unutilized land, upgrading existing facilities, and

developing new programming—especially free programming—to extend the ways in which visitors can engage with the waterfront. The inner harbor district supports some 21,000 regional jobs, and upgrades to the harbor are being billed as an investment in the city's future given its strategic value as an economic asset.



Photo credit: Mark Dennis, Office of the Mayor of Baltimore

Increased visibility and competitiveness. Finally, major investments in urban waterways help a city position and brand itself as a world-class destination. Branding has significant implications for the economic development and global competitiveness of cities. It increases tourism, press coverage, and brings conventions to the city. It also attracts global firms with affluent, high-skilled professional workforces who want to visit, live, and work in “high amenity cities.”⁸ Hong Kong’s substantial investments in the West Kowloon Cultural District represent an effort to raise the profile of the city—already a well-established global financial hub—as a global cultural capital to underpin the city’s international reputation and competitiveness (see “City profile: Hong Kong, SAR China”).

CITY PROFILE

HONG KONG

SAR China

The West Kowloon Cultural District in Hong Kong is a major waterfront-development effort that seeks to reposition the city as a hub for arts and culture in the Asia-Pacific Region. The city is already well established as a global financial center but substantial investments in the development of

an entirely new district anchored around prominent cultural facilities—including performing arts centers and museums—represents a bet that the city can establish itself as a global cultural capital. The project is an example of city leaders attempting to maintain Hong Kong’s global competitiveness by broadening its concentration of amenities. The high-profile waterfront location for the project is indicative of the global-facing view that project planners and city authorities have taken with the project, intentionally seeking to establish the district as an international destination that adds a new face to the city’s global reputation.

Photo credit: *iStock/danielvfung*



“Encouraging higher-density and sustainable cities is both a vertical and horizontal endeavor.” —Jeanne Gang, Principal, Studio Gang

Protect the environment

Cities account for some 60 to 80 percent of all global greenhouse-gas emissions and they consume some 75 percent of all natural resources. But cities are also on the front lines of innovation and policy to lead the way in urban sustainability. Protected and restored urban waterways represent important environmental gains in their own right in terms of the ecosystem services that healthy watersheds play a critical role in providing. More broadly however, restored and newly revitalized waterways can serve as central anchor amenities that encourage denser patterns of urban development as an antidote to unsustainable trends of urban sprawl. Similarly, redevelopment of urban waterways and waterfront districts can prioritize new mobility options that discourage car-dependent lifestyles. In this way, waterfronts catalyze sustainability and environmental improvements at multiple scales.

Brownfield redevelopment and higher-density living. Waterfront redevelopment efforts, especially those taking place in post-industrial urban contexts, are often brownfield redevelopment projects. Disused and environmentally degraded properties are reclaimed for a new public or private use. Brownfield redevelopment occurs on previously developed land in contrast to greenfield development which occurs on previously undeveloped land. Brownfield development is often linked to infill development and associated with increased density in urban cores through the “recycling” of properties rather than outward expansion and sprawl.⁹

Density and patterns of sprawl are key predictors of a city’s sustainability performance as a whole because a denser and more compact city will generally have a lower carbon footprint than a less dense and less compact city.¹⁰ The redevelopment of disused or abandoned waterfront sites represents a prime opportunity to encourage higher densities in urban cores through infill development. Initial infill investments can spur a virtuous cycle whereby new amenities are made available in areas where they might not have been previously available. This spurs demand for additional infill development in that zone and results in the availability of more amenities, which only generates more demand. In this way, urban waterfront redevelopment efforts are important anchor amenities, critical for supporting demand for high-density development in city centers. Getting people to live in high density environments requires not just building skyscrapers but also investing in the high-quality public spaces, green areas, and community amenities that are needed to support the levels of quality of life and inclusivity that would make any neighborhood more appealing and livable.

Ecological restoration, livability, and the benefits of ecosystem services. Not only is brownfield land in need of environmental remediation efforts but the waterway itself will likely be in need

of clean-up efforts. The ecological restoration of waterways should be the foundation on which surrounding redevelopment and revitalization efforts are built. No matter how nice the surrounding facilities and amenities might be, if the waterway itself is contaminated and degraded, a waterfront redevelopment effort is unlikely to be a success.

Waterway ecological restoration efforts can yield immediate ecosystem service benefits, specifically water flow and flood mitigation, waste treatment and anti-pollution, and water supply benefits. All of these “green” services can be assigned monetary values as they reduce pressure on city budgets with respect to both day-to-day operating costs and larger capital costs that may be incurred to mitigate or reverse major processes of environmental degradation. Mexico City’s linear park project,

CITY PROFILE

MEXICO CITY

Mexico

The Parque Lineal La Viga, located on the site of a former canal, is an innovative project in eastern Mexico City that combines rainwater storage strategies with the immediate enjoyment of enhanced public space. By collecting the rainwater that falls in the park’s paved area, the project combines water-storage strategies with high-quality public space, creating a new relationship between

urban residents and their water supply. The innovative project recognizes the role that public space has as a strategic layer in the city. The city is hoping to demonstrate how public space can be both beautiful and active while functioning as water-management infrastructure, tackling two issues at once. The project renovates nearly 10,000 square meters of existing green space and adds 6,700 square meters of new green space, contributing to efforts to raise per capita green space in the district. The project can be situated in a larger conversation about local adaptation strategies to climate change as the rainwater-storage components of the park’s design directly contribute to efforts to cope with water scarcity. Similarly, the tree cover and reflecting pools are designed to help cool local temperatures amidst rising incidences of urban heat waves.

Rendition credit: City of Mexico City



for example, is as much a critical ecosystem service provider as it is a neighborhood green-space amenity. In a city that is sinking because of groundwater subsidence, a project that is designed to capture and help replenish groundwater reserves acquires a new urgency in terms of the critical green infrastructure services it provides the immediate neighborhood as well as its larger urban context (see “City profile: Mexico City, Mexico”).

Enhanced waterway ecologies and green infrastructure investments also pay indirect returns by converting into aesthetic and recreational amenities that are likely to drive increases in surrounding property values as a function of environmental desirability. Both national and international case studies confirm this general trend. While increases in property values around restored waterways can be as dramatic as a 15 or 20 percent gain for particularly high-profile projects, even more modest property-value increases of 2 to 4 percent over a large enough area can generate hundreds of millions of dollars in new tax revenues for a city.¹¹ Shenyang has heavily invested in water infrastructure and water-quality upgrades in the city’s central quarter. In an area that previously suffered regularly from substantial flooding, pollution, and water contamination, the upgrades have raised property values and new economic development (see “City profile: Shenyang, China”).

Restored urban ecologies and green infrastructure services often undergird local understandings of urban *livability* and *quality of life*. Both concepts are difficult to concretely value in economic terms, but both reflect the broad desirability of a particular city or area within a city. They are incorporated into the methodologies of global city rankings thus connected to the considerations of city branding



Photo credit: REUTERS/Stringer

CITY PROFILE

SHENYANG

China

The Shenyang Municipal Government has prioritized the comprehensive treatment of its canal river system as a key urban construction project. The goal is to improve the water quality of Hunbei Old Town of Shenyang, to eliminate foul-smelling contamination, and to provide an ecological corridor and green riverside for the citizens of Shenyang. The municipal government has previously undertaken efforts to control the frequency of overflow pollution and to desilt the river, but the problems have not been resolved systematically. Key measures of the project include: controlling pollution sources and intercepting pollution before it makes it to the river, desilting the waterway, and improving the waterside landscape. All three parts of the project have been undertaken comprehensively, significantly enhancing the treatment effects. The implementation of the project will efficiently improve the capacity of the city’s water infrastructure, promote land value and land-use efficiency of the affected areas, and spur economic development in the city. When the project is completed, the newly greened landscape along the rivers will be comprehensively enhanced, and the City Ring Park will provide a high-quality riverside space for exercise, recreation, and entertainment.



Photo credit: iStock/TkKurikawa

CITY PROFILE

SEOUL

South Korea

The Seoul Metropolitan Government completed the Cheonggyecheon River restoration project in 2005, and it has since received widespread acclaim for highlighting the power of ecologically restoring urban waterways.

The project decommissioned and removed a raised highway that previously obscured access to the river. It also invested in efforts to both ecologically restore the waterway and increase public access to the water's edge. The restored 7-mile-long stretch of urban waterway now acts as a linear park that cuts through downtown Seoul. Restoring the waterway to serve as a natural ecological asset in a dense urban environment has proved immensely popular and driven a larger revitalization of the city center's residential property market. Direct environmental returns of the project include enhanced flood control mitigation capacity, a local cooling effect in the immediate area, as well as a reduction in air and noise pollution as a result of traffic being diverted from the area.

and international reputation that undergird global competitiveness. The investment that the Seoul Metropolitan Government made to ecologically restore and “daylight” the Cheonggyecheon River showcases the role that enhanced natural amenities in dense urban environments can play in increasing quality-of-life measures for city residents (see “City profile: Seoul, South Korea”).

Maximized reclamation resources. Both brownfield and waterway environmental reclamation processes are time consuming and costly, often presenting challenges and risks that are considered too great for individual developers to take on by themselves. However, the promise of a concerted waterfront-redevelopment plan and public investment in a waterway's restoration can offer private developers the necessary support and financial incentives to invest in the adjacent brownfield sites they might not have otherwise considered on their own. Investors who might otherwise be hesitant to take on a brownfield restoration project in isolation may recalculate the potential return on investment of a project when it is part of a concerted and public-led waterfront redevelopment effort that has the potential to become larger than the sum of its parts.¹² By leveraging public funds and long-term strategic planning commitments to secure private brownfield redevelopment funding, a city can amplify its ability to decontaminate a greater total area of environmentally degraded land than it would be able to on its own.

Increased resilience. Waterfront-redevelopment efforts also offer opportunities to retool urban-built environments to be more resilient in the face of natural disasters, such as severe flooding or storm surges. By designing environments that work in concert with the waterway, flood events can become more manageable and threats to both life and property can be significantly reduced.

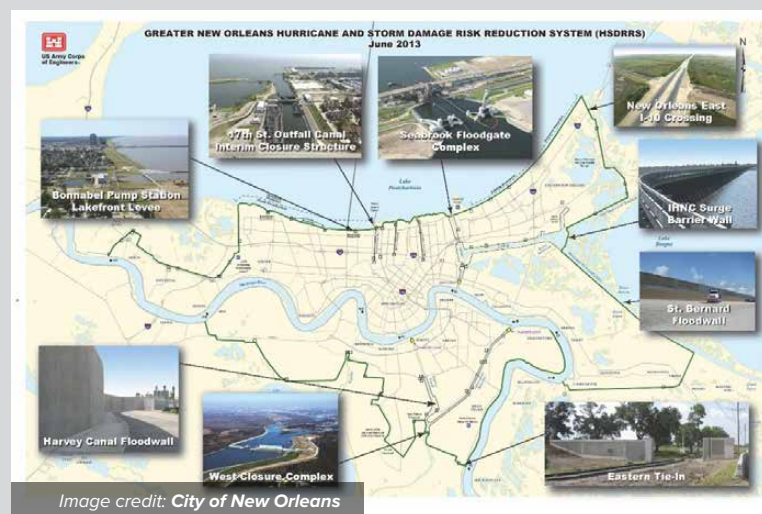
CITY PROFILE

NEW ORLEANS

United States

In 2005, after Hurricane Katrina, the United States Congress fully authorized and funded the **\$14.431 billion greater New Orleans Hurricane and Storm Risk Reduction System (HSDRRS)** for southeast Louisiana. The HSDRRS covers five local districts and consists of 350 miles of levees and floodwalls, 73 nonfederal pumping stations, and four gated outlets. The goal of the project was to design and construct a system that would ensure that the catastrophic damage caused by the major levee breaches in 2005 never happens again. The project reduces the risks associated with 100-year flood storm surges for some of the areas hardest hit by Hurricane Katrina, including New Orleans East, metro New Orleans, Gentilly, the Ninth Ward,

and St. Bernard Parish. Prior to Katrina, the New Orleans area was highly vulnerable to flooding from moderate to large hurricanes and exposed to a very high risk of loss of life and property. Today, the HSDRRS is stronger than it has ever been. The project represents the type of ongoing systemic protections that are needed to protect the Gulf Coast region generally and the New Orleans metropolitan area specifically in an era of rising sea levels and more damaging storms.



This includes restoring wetlands and waterfront open space to be natural erosion and storm-surge barriers. It includes designing parkland, promenades, and public plazas that are specifically meant to flood without sustaining permanent damage.¹³ At a larger level still, urban leaders often need to be concerned about the resilience of their cities in the context of larger regional disaster risks. In the case of New Orleans, Hurricane Katrina highlighted the need for federal action to increase the resilience of the regional watershed and storm water system that protects the city and the surrounding region (see “City profile: New Orleans, United States”).

Decreased carbon footprint. Urban waterways have significant capacity to improve air-quality and reduce greenhouse-gas emissions in a city. Projects can increase cyclist and pedestrian mobility, increase transit access or transit-infrastructure upgrading, traffic rerouting to improve congestion, or the creation of new public green spaces serving as a natural carbon capture tool. Waterfront redevelopment efforts, especially those requiring large infrastructure investments as part of the project, present an opportunity for a city to rethink mobility and access in an entire zone

or district of the city surrounding the waterway. Vehicle access can be restricted, transit access can be upgraded, and backbone infrastructure investments can be made that lock in the physical reorientation of an entire area toward pedestrians and cyclists rather than toward personal vehicle traffic. This type of investment serves to immediately enhance quality of life in the affected district but can also serve a larger role in promoting a city-wide shift away from lifestyles and mobility options that are car-dependent.¹⁴

Promote equity and social inclusion

Gentrification, rising costs of living, and segregation are transforming today's cities into potential hotbeds for inequality. According to the Brookings Institution, US metropolitan areas as well as the large central cities that anchor them tend to be more unequal places than the country as a whole when looking at the ratio of residents earning in the highest- and lowest-income percentiles.¹⁵ Economic inequality can perpetuate racial and economic segregation and concentrated poverty. The number of Americans living in concentrated poverty has nearly doubled since 2000. Promoting equity and inclusion is one of the greatest social, economic, and political challenges of the contemporary urban age. Done right, strategic infrastructure investments to develop new public spaces and to spur economic activity can help. Revitalized urban waterways are a key example of this type of investment.

CITY PROFILE

DETROIT

United States

Throughout most of Detroit's history, the city's riverfront has been a working/industrial riverfront largely inaccessible to the public. The space is now being transformed as a riverfront that will be accessible to all people and spur adjacent economic development that is also inclusive. Cement silos and asphalt parking lots have been removed and replaced with public parks, yet much work remains. Currently, the river and international boundary is one of the largest trade routes in the world through the Ambassador Bridge to Canada. However,

neighborhoods along the river itself have become stagnant or are in decline. The principal motivation for the plan was to provide a guide for Detroit to develop its neighborhoods on the riverfront in ways that reflect the storied past and architectural heritage that are empowering and engaging to its citizens. The vision for the future is to develop an active and engaging riverfront that offers citizens the opportunity to live, work, and play. The project is based on principles of sustainable, responsible, and empowering development.

Rendition credit: City of Detroit



Neighborhood reinvestment. Where investments are made matters. In some cities there may only be one natural waterfront location. In other contexts, where a city might have multiple touchpoints with a waterway, thought should be given to *where* urban waterfront regeneration or development has the greatest potential to both positively impact the immediate areas as well as the city as a whole. Distributed investments in waterfronts that have multiple touchpoints throughout the city can ensure that benefits are felt broadly in different areas of the city and by different communities. City leaders should consider, for example, whether a disinvested waterfront neighborhood might benefit more from a redevelopment effort than another more prosperous waterfront neighborhood. They should also be mindful of populations that might be displaced by any redevelopment. Implementing housing policies, for example, can help ensure affordability for long-time residents. The location of a waterway project can have direct implications both positive and negative for equity and social inclusion. If these implications are considered by project planners and city leaders, urban waterfront redevelopment efforts can minimize negative effects and maximize positive effects, in turn helping to solve broader urban challenges.

The Detroit Waterfront Neighborhoods Plan is a comprehensive waterfront planning effort designed to guide development reinvestment and revitalization in neighborhoods up and down the river and not just at a single high-profile site (see “City profile: Detroit, United States”). In Buenos Aires, the municipality is explicitly targeting investment efforts to support the social

CITY PROFILE

BUENOS AIRES

Argentina

The Treinta y Todos is a slum-upgrading and urban-social-integration project targeting the Barrio 31 neighborhood located near the Buenos Aires Port, an operating commercial port facility. The neighborhood, home to some 45,000 people, is also close to the restored historic port district of Puerto Madero which was the subject of its own waterfront redevelopment project that has drawn international acclaim. While physically close to the economic activity of the industrial port and to the



high-end commercial and neighborhood economic activity of some of the wealthiest districts of Buenos Aires, Barrio 31 is economically, physically, and socially isolated from the urban prosperity that surrounds it. Buenos Aires City Government is undertaking the neighborhood upgrading effort to ensure that residents of Barrio 31 have access to basic social services and infrastructure in an effort to correct for this economic, physical, and social isolation.

and economic integration of a slum community that is located behind the city's current active commercial port. The community is largely isolated from the economically prosperous parts of the city that surround it, including the restored Puerto Madero historic port district that was the subject of its own major waterfront redevelopment effort in the 1980s and 1990s (see "City profile: Buenos Aires, Argentina" on page 19).

Equitable access. Ensuring that the broadest range of people are able to equitably draw benefit from an urban waterway requires maintaining and prioritizing public access to the physical waterway. Restricting access to the waterfront, or discouraging access for some while prioritizing access for others, runs counter to virtually all of the goals that one might hope to achieve with a publicly oriented urban waterfront redevelopment project.¹⁶ Even sites that in statute are fully open to the full public can communicate subtle design cues that limit who feels welcome in the space, thereby limiting equitable accessibility and inclusion. Public accessibility requires an explicit project emphasis that all are welcome in the immediate physical space. This can be achieved through both physical design as well as through the programming and allowable uses that are permitted in that space.

CITY PROFILE

GOTHENBURG

Sweden

The trading port of Gothenburg has relocated out of the city center. Investments in the former port district Frihamnen present a valuable opportunity for redevelopment and expansion of the city center and its surrounding urban core. The project's goal is to unify and heal the center of Gothenburg by creating a variety of residential options and meeting places, based on innovative solutions and with a focus on sustainability—encompassing social, environmental, and financial sustainability. A new bridge over the river as well as shuttles to and from the city center, enhanced public transport options, and an extensive network for biking and walking will help physically link the city together through mobility



solutions. The plan is that by 2040 Frihamnen will be a densely built green area, near the water with a mixture of workplaces, services, housing, parks, and frequent public transport. The project will expand the city center as a way to make the city whole. The city is introducing pilot projects exploring how to tackle the challenge of rising water levels and heavy rainfall while retaining the area's appearance, new concepts for modern mobility and goods transport, new socially mixed housing possibilities, as well as new solutions for engagement and dialogue.

Furthermore, all citizens should be able to arrive at the waterway from elsewhere in the city. Project planners and city leaders should consider public transit, cyclist, and pedestrian access to any given urban waterway site, just as they would with respect to any other major public amenity in their city. Gothenburg's efforts to revitalize its former port district offer key examples of how investments in accessible mobility options can undergird an emphasis on equality and inclusion (see "City profile: Gothenburg, Sweden").

Diverse offerings. Mixed-use design principles that emphasize varied programming can encourage usage of the site by an equally diverse public. If restaurants and commercial shopping opportunities are available, there should also be opportunities to enjoy the development that do not require visitors to spend money. This can include anything from splash fountains and outdoor amphitheaters for free concerts, to the simple inclusion of ample benches, seating, and other areas for public gathering. A waterfront development that is at once a place where people can shop, eat in restaurants, ride their bikes, go fishing, enjoy a picnic, attend a concert, view street performances, launch a kayak, or sell goods at an artisan fair will attract a larger and more diverse public than if the site were dedicated to any one of these individual uses alone.¹⁷

CITY PROFILE

CAPE TOWN

South Africa

The V&A Waterfront is a former industrial dockland. In the mid-1980s it was a largely run-down, derelict dock area that was losing money and was dirty, unsafe, and a "no go" area for the public. The original vision for the project was to "redevelop the historic docklands as a mixed-use area focusing on tourism and residential development with the continued operation of the harbor." It evolved to "Reconnect Capetonians with the Sea" to ensure local engagement with the project. The current vision is to be "The Best Waterfront in the World." Today, the V&A Waterfront is a 123-hectare mixed-use destination and one of Africa's most visited cultural and historical hubs. It is a vibrant, truly multi-use space, made up of retail,



offices, residential units, a marina and heliport, one of Africa's top-ranked business schools, eight museums, and 12 hotels. Today there is more development happening within the V&A than at any time in its 28-year history. While the space remains privately owned, it is intentionally perceived as public space. The V&A Waterfront's growth as a high-impact, mixed-use property ensures its continued role as both a successful regional economic center and as a major generator of jobs, tax revenues, and entrepreneurship.

BERLIN

Germany

City authorities and the public are weighing a proposal to reconnect residents of Berlin to the Spree Canal at a site along the banks of the city's historic Museum Island. The proposal took shape in the late 1990s but has gained substantial public and political momentum in the past several years. The nearly two-kilometer-long Flussbad project calls for the development of terraced canal-side platforms that descend into a public bathing area in the canal. The plan relies on substantial green infrastructure—namely restored river vegetation and floating gardens—being installed upstream at strategic sites throughout the city's canal network to create natural filtration systems that would purify the water to levels suitable for public bathing. The plan would be a major investment in new public-gathering and recreational space in central Berlin that has the capacity to draw residents



Photo credit: iStock.com/ TomasSereda

from neighborhoods across the city. It is part of an effort to “create a city centre for everyone.” Located alongside a UNESCO World Heritage Site, the proposed public terraces and swimming area are envisioned by project designers as a “complementary social component” to an already well-established and important cultural site. A canal-side demonstration platform and public exhibit will be staged throughout 2017 and 2018 as a public-engagement tool that allows residents to learn about the history of public connections to the river in Berlin, to learn about the project, to lodge concerns, and to partially experience what the larger envisioned project could offer. If public opinion and political support dictate that the development moves forward according to plan, it could be completed by 2025.

Social interaction. Waterway projects in major public spaces can increase interaction between differently situated residents. This in turn helps decrease segregation along lines of race and class. While often intangible and hard to measure, the benefits of these types of diverse public interactions in the long term include increased social cohesion and trust. Public spaces can provide symbolically important common ground that can aid in rebuilding social cohesion. The V&A Waterfront in Cape Town, for example, was one of the first major public spaces in post-Apartheid South Africa where people of all racial identities could ostensibly mix freely (see “City profile: Cape Town, South Africa” on page 21). More broadly, such projects can offer centrally located public spaces that draw residents from all parts of a city, acting as a positive force for increased social interaction between its residents. The proposed Flussbad project in Berlin intends to invest in new public gathering and recreation space in the heart of the city alongside some of the city's most important cultural landmarks (see “City profile: Berlin, Germany”). Alternatively, enhanced social interaction can also be achieved through waterfront investments by using waterways—and any accompanying trails, paths, and park systems—to channel residents through and between areas of a city that they might not normally visit by using the waterfront and its banks as a corridor that connects various points of interest located across a city.¹⁸

2

DELIVERING SUCCESSFUL URBAN WATERWAY INVESTMENTS

Improve public health and recreation

Increased urbanization and densification is dramatically reducing open and green spaces in cities around the world. Open spaces are essential to public-health outcomes and community well-being. Urban green spaces provide direct health benefits by providing resident spaces for physical activity, healing, and social interaction. Open natural spaces in urban environments are crucial to countering increased rates of epidemics like obesity, heart disease, and even mental illness. The intentional development of public spaces that encourage active lifestyles—such as urban waterways and their surrounding areas—can convincingly be considered an important form of investment in urban public health.¹⁹

Public health. Linear parks along urban waterways can provide additional green space for areas of the city that might otherwise lack access to it. Waterway and coastal clean-up efforts can clear the way for increased use of the waterway itself for sport and recreation purposes, including canoeing, kayaking, sailing, and swimming. Trail systems along waterways can encourage increased opportunities for walking, jogging, and cycling. All of the active lifestyle benefits associated with waterfront recreation opportunities have the potential to pay cumulative public health dividends for a city as a whole. Memphis' Big River Crossing pedestrian and cycling bridge highlights the type of active-lifestyle mobility patterns that can be encouraged through waterfront investment (see "City profile: Memphis, United States" on page 25).

Sporting events. Revitalized waterways can also open the door for city leaders to attract large-scale amateur or professional sporting events, again reinforcing active urban lifestyles. Urban waterways can offer anchor sites for spectators to watch marathons, triathlons, sailing competitions, rowing events, or outdoor swim meets. It can also potentially serve as the impetus for the physical cleanup efforts of waterways needed to make them appropriate venues for sporting competitions in the first place.

Strategic infrastructure investments in urban waterways present cities with opportunities to improve local quality of life. These investments can also play into larger efforts to take collective action on global urban challenges. But urban waterway redevelopment efforts are complicated projects that are by no means guaranteed to succeed. Several considerations must be taken into account and managed throughout the lengthy and costly process.

Understand complex ownership arrangements and facilitate innovative collaborations

Complex ownership arrangements and jurisdictions are inherent in most urban waterways and adjacent lands. City leaders interested in repurposing urban waterfronts will first have to untangle the web of ownership rights and legal jurisdictions that apply to a given site. Identifying the relevant parties is only a first step, as those relevant parties will also need to be convinced to go through the effort and expense of working with one another to see a project through to completion. City leaders, more so than individual property owners or public agencies with narrowly defined mandates, are often well positioned to act as brokers among various relevant parties in both shaping visions and compelling action. Cities can play a key role in exploring innovative ways for diverse parties to collaborate with one another to make waterway and waterfront projects a reality.

Ownership arrangements are complicated because a site may have multiple landowners, both public and private, who are immediately affected by redevelopment plans. Infrastructure that intersects with or passes through a given site in the form of roads, railways, or bridges further complicates the process. Each of these infrastructures has its own ownership and operating arrangements that affect how projects can or should proceed. Beyond concerns of actual physical ownership there are additional layers of regulatory authority and jurisdiction that are likely to apply, introducing additional state and national agencies into the project stakeholder pool.²⁰ The strategically important nature of waterfront sites and waterways often informs a history of those areas being under the jurisdiction of special authorities, such as a port authority chartered by a state or national government. Even if a special authority does not physically own a given site, different levels of government will often have regulatory authority over how such sites are used, especially if they are environmentally contaminated. Waterways are almost always subject to the jurisdiction of multiple government agencies, especially given their touchpoints with transportation and environmental protection.

These layers of jurisdiction only get more complicated as one considers the way in which waterways, and the activities that take place alongside them, are implicated in the health of national and even international watersheds.

Memphis' Big River Crossing provides an interesting case of how different, relevant parties can be brought together to implement an ambitious project that combines various levels of ownership and regulatory authority. The combined efforts of a United States congressman and a local philanthropist were critical to getting the support and buy-in of a private rail company to develop a pedestrian and cycling bridge alongside an active rail line that would cross a major waterway subject to both state and federal regulation that also happened to represent an interstate border (see "City profile: Memphis, United States"). Projects that span so many levels of ownership and regulatory authority require champions who can both untangle and channel the interests of differently situated relevant parties toward the realization of a shared vision.

Develop innovative models for project governance and financing

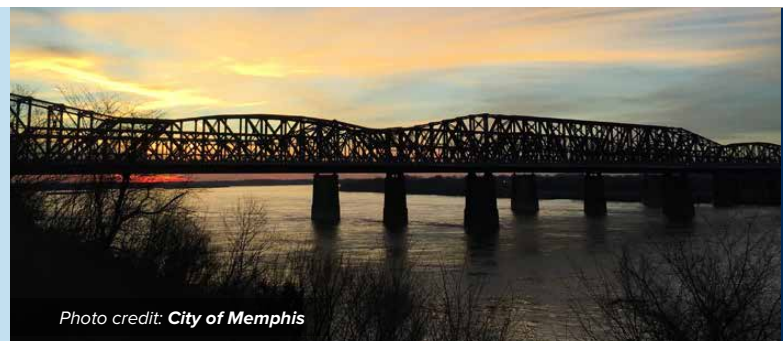
The long-term time horizons of major strategic urban-development projects complicate the project governance and financing needs of such efforts. A visionary mayor interested in initiating a long-term, strategic urban-development project must contend with the reality that his or her predecessor may not be interested in seeing that project through to completion. Election cycles often influence mayors to prioritize short-term, tangible wins over long-term, strategic development efforts. That a project can be completed decades after being initiated makes it imperative that original project champions explicitly consider the long-term staying power of project-governance models from the outset.

CITY PROFILE

MEMPHIS

United States

Big River Crossing, which turned the cantilevered wings of an active rail bridge crossing the Mississippi River into a pedestrian and cycling corridor, represents the culmination of decades of effort to repurpose the structure. The Big River Crossing is part of the Main Street to Main Street Multi-Modal Connector project, a 10-mile project linking downtown Memphis, Tennessee, with downtown West Memphis, Arkansas, via walkable and bikeable streets, pathways, and



trails. The bridge actively promotes the livability and appreciation of recreation and natural assets surrounding it, from the Mississippi River to the Arkansas floodplains. The bridge is also connected by the Delta Regional River Park and Big River Trail. Plans for the Delta Regional River Park include park trails, views of the Mississippi River and the Memphis skyline, outdoor spaces, and a refuge for wildlife.

A key strategy for building a project-governance model that will sustain itself in the face of changing political leadership is to officially incorporate primary partners and stakeholders into the original project-governance model that are not wed to short-term political and electoral cycles in the way that elected city leaders are. These partners and stakeholders can include key nonprofit or nongovernmental organizations, civic institutions, resident's associations, representatives of the private sector, and even other levels of state or national government. In this way, a visionary city leader can lock in the staying power of a long-term strategic urban-development project by ensuring that the project is governed, overseen, and championed by a broad range of stakeholders not beholden to short-term electoral cycles.²¹ In the case of Montreal, city officials have embarked on an ambitious water-quality-improvement project with broad citizen support and the financial backing of other levels of state and national government. The broad nature and expected benefits of the project that will accrue not just to the city but to the regional watershed as a whole was a key factor in being able to build an equally broad base of inter-governmental support for the project (see “City profile: Montreal, Canada”).

The long-term time horizons of urban-waterway-development projects also significantly complicate the financing arrangements needed to see a project through to completion, generally rendering exclusively public or exclusively private financing mechanisms insufficient. If significant profits are

CITY PROFILE

MONTREAL

Canada

In Montreal, city leaders have embarked upon a multimillion-dollar effort to upgrade their water-treatment facilities to ensure that the water quality of the St. Lawrence River, around which the city is built, is usable and safe for all residents.

The city has identified water-quality protection as an issue that affects all city residents, and which is a pre-requisite for ongoing economic and social development. Accordingly, the city is working with state and national partners to invest in state-of-the-art systems of water-treatment management that significantly reduce biological and pharmaceutical contaminants in the waterway. City leadership has



Photo credit: ©Tourisme Montréal, Stéphan Poulin

been able to build a broad coalition of support because of the equally broad nature of the project, which will generate a positive impact across Montreal's urban system in addition to the benefits it will generate for the larger regional watershed system.



Photo credit: iStock/mije_shots

CITY PROFILE

HAMBURG

Germany

Early talks surrounding Hamburg's ambitious HafenCity port district redevelopment effort began in the mid-1990s. The goal of the project has been to substantially expand the city's central core by investing in the redevelopment of a disused port district adjacent to the city's existing city center. Since the project began to take shape in the early 2000s, 62 residential and commercial projects have been completed with an additional 70 under development. By 2030, project planners hope that some 12,000 people will live in the district and that 45,000 people will work in the district. The public-private corporation that oversees the development process as a whole and which has final approval

of individual projects in the development zone has placed strong emphasis on sustainability, mixed-use design principles, and the creative integration of public space. Major anchor institutions in the district include a symphony concert hall, HafenCity University, a new cruise ship terminal, and the headquarters of the German newspaper Der Spiegel. The entire project is a long-term experiment in whether city authorities can lead a public-private development process that will result in a livable urban center that resembles more established central city neighborhoods elsewhere in Hamburg and across Europe. To govern the project, the city established HafenCity Hamburg GmbH, a city-financed but fully independent company that has the authority to sell publicly owned land to private developers. Revenues from these land sales are covering the costs of the substantial public-infrastructure investments that the city is making in the district. The funding model has allowed the project to move forward without requiring substantial federal or European Union funds.

not expected to be generated until late in the life of a project, public subsidies—either directly or indirectly—may be necessary to induce initial private development investment. Public authorities can experiment with a variety of financing tools, including both direct transfers and regulatory reforms, as they attempt to leverage private capital.²² An additional strategy is to phase projects and sequence parts of a project that quickly generate profits to offset other parts of the project that will take longer to generate profits.²³



Rendition credit: City of Dallas

CITY PROFILE

DALLAS

United States

The Trinity River Park Project in Dallas is an initiative that has simultaneous goals of strengthening flood-protection systems, enhancing urban ecological conservation, creating new public green spaces that draw visitors from across the city, and increasing connectivity to parts of the city that were previously largely cut off from the downtown core. By turning a flood-control project into a much larger and ambitious urban parks and connectivity project, Dallas is showcasing the multi-pronged environmental and social power of waterway projects. New trail systems, park facilities, an Audubon center, and additional recreation amenities are transforming the previously unused floodplain into a vast and accessible urban park that preserves significant green space in the heart of the city. Two new iconic bridges designed by Santiago Calatrava span the floodplain and connect the city's downtown core to West Dallas, a community that has historically been physically isolated from the city's center. The new connectivity has spurred increased economic activity in the area and has created new commuting and mobility patterns for residents.

In Hamburg, city authorities established a public corporation to oversee the ambitious HafenCity port district redevelopment effort. Because the independent corporation has the authority to sell city-owned land to private developers through a competitive bidding and proposal process, the proceeds of these land sales allow the project to almost entirely self-finance the public infrastructure investments that are the backbone of the project. As development and land sales are phased, and as land values increase as more development is completed, the project is endowed with a sustainable and robust funding stream for the duration of its multi-decade life span (see “City profile: Hamburg, Germany” on page 27).

For private developers, a key financing barrier for urban waterfront projects is often the steep upfront costs associated with brownfield mitigation and environmental decontamination efforts. These mitigation efforts often need to take place before traditional development of a post-industrial waterfront site can even begin. Local government partners can work with private developers in a number of ways to share costs and leverage funding from other levels of government (state, national, and in some cases international) to support environmental cleanup efforts.²⁴

Public-private financing partnerships are complex working relationships. However, they represent a powerful financing tool that allows cities to leverage private funds for projects that they might not otherwise be able to undertake acting individually as a public authority. Because of the complexity of public-private partnerships, unique project-governance models and institutional arrangements are often necessary to ensure that all relevant stakeholders are adequately represented throughout the development process. Such models can take various shapes—

“Urban waterways have the power to shape our future—economically, environmentally, and recreationally.”
—Rahm Emanuel, Mayor, City of Chicago

from development corporations, to commissions, to advisory boards—but all generally need to be concerned with establishing and pursuing a shared development vision, delineating appropriate roles for both the private and public sector, and providing ongoing support and sustained management of a project throughout the life span of a development process, which in many instances will extend beyond the political administration of any one elected leader.²⁵ The quasi-public but fully independent community-development corporation that authorities in Dallas established to manage the finances and implementation of the Trinity River Park project—an initiative that will continue to take shape over decades—is an example of the type of governance model that can help ensure the staying powering of a given project (see “City profile: Dallas, United States”).

CITY PROFILE

HAIFA

Israel

The Haifa Waterfront Plan proposes to reconnect downtown Haifa to the city’s waterfront from which it has been disconnected since 1929 when British authorities built the old port of Haifa in a location that largely cut off the urban core from the waterfront. The waterfront plan, which is still in its early stages, calls for turning the old port into a waterfront with concert halls, shops, and housing. The project is expected to have a significant economic impact at a nationwide scale resulting from an increase in tourism. Residents of the city will benefit from an improved quality of life as well as from a boost to the local economy. However, the project proposals have proved contentious as local populations are concerned about gentrification pressures that may disrupt the urban fabric of a city that is home to one of the largest concentrations of peacefully collocated Arab and Jewish populations in the Middle East.





Establish a clear paradigm of public benefit

Urban development and regeneration projects are rarely uncontroversial. Projects may face substantial resistance from a variety of constituent groups who are concerned about affordability, environmental protection, social inclusion, or historical preservation, just to name a few. Given that urban regeneration projects usually involve a collaboration between public and private entities, they are prime targets for accusations that public monies and resources are subsidizing private gain. Even in scenarios in which public funds are not directly subsidizing a project, the perceived or real abdication of urban public regulatory control may be interpreted as an undue concession to private interests at the expense of a greater public good. While it may be difficult to avoid controversy and criticism entirely, project planners and city leaders can aggressively outline a paradigm of clear public benefit from the outset to ensure that the broadest possible public understands the project to be a valuable strategic investment that will return public benefits in a variety of ways.

Establishing a clear paradigm of public benefit is not simply about packaging a convincing project narrative. Instead it is about actually balancing the public and private benefits that a project has the potential to generate. Two primary areas of concern for urban-regeneration projects include ensuring direct benefits for low- and middle-income populations, particularly with respect to housing concessions, and ensuring that early public investments and tax inducements designed to leverage private investment are calibrated appropriately to generate revenue returns for both the private sector *and* public tax coffers.

Revitalizing urban waterways can significantly enhance economic activity and urban amenities in a surrounding community or neighborhood. Such projects, however, also run the risk of displacing existing low-income residents and small-business owners, which in turn can create opposition to a project. The case of Haifa's proposed waterfront redevelopment effort is an example of a plan that is projected to generate substantial economic activity for the city as a whole—but that has been perceived by some as a potential driver of gentrification that will push out existing residents of the surrounding area (see "City profile: Haifa, Israel" on page 29).

As an area's property values rise, so too do rents and property tax rates. For low- and middle-income commercial and residential tenants, a dramatic rise in the rent or the property taxes

BUFFALO

United States

Buffalo recognized that a surface parking lot the size of a city block adjacent to the successful mixed-used Canalside district was not the most effective use of this valuable city-owned property. By issuing a request for proposals from

private developers, the City was able to catalyze private mixed-use development of the 1.7-acre Harbor Center site while still securing an ambitious community-benefits agreement that, among other things, ensured prevailing wages for workers, won concessions for women and minority-owned businesses, encouraged site occupancy by locally owned retail and restaurant options, and secured public-space-programming commitments in support of community events. The project supported 1,600 temporary jobs, created 350 permanent jobs, and generates more than \$100,000 in annual property-tax revenue for the city.

they pay (depending on whether they rent or own the space they live and/or work in) can prove unsustainable, ultimately pushing those residents to leave. Most urban-property market analysts and city leaders recognize that the process known as gentrification—a demographic shift toward wealthier residents and a subsequent property market transition toward increased rents and property values—is a sometimes unavoidable market reality that can generate both positive and negative effects. However, if population displacement and social exclusion top the list of potential negative effects of gentrification, it is important to recognize that there are tools at a city's disposal to significantly mitigate the worst effects of gentrification. Choosing to proactively deploy those tools, which include inclusionary zoning policies, housing vouchers, and tax relief programs for legacy low- and middle-income residents, among others, should be considered an important aspect of a city's efforts to establish a clear and explicit public-interest framework for any given strategic, urban-development investment project.²⁶

A project's stated intent of attracting new residential and commercial tenants is directly relevant to that project's orientation to the public interest. Directing development efforts toward creating exclusive residential space for high-income tenants or corporate office space for only high-skilled workers limits who gets to share in the direct housing and job benefits a project may generate. The question is not only how many housing units and jobs a project can generate but also what type and for whom. High-skilled jobs in the professional services and knowledge sectors are important for a city's health, but so too are living-wage-paying jobs in the construction, hospitality, and entertainment sectors.

Similarly, while a healthy ecosystem of large corporate and international firms is critical to a city's economic vitality, small independently owned businesses are equally critical to a city's economy. Any urban strategic investment project surrounding waterway redevelopment efforts should consider the ways that the project is designed to benefit businesses at all scales.

City leaders and project planners can also play a proactive role in ensuring that a project's orientation toward its intended target audience is in the broad public interest. City leaders can experiment with a suite of policy tools like community-benefits agreements that have the power to compel concessions from private developers on questions of affordable housing, living-wage guarantees, or workforce development programs that serve broad public-interest goals of equity

MILAN

Italy

Responding to shifts in the mobility preferences of urban residents—namely greater interest in walkability, public transportation, and car sharing—that have been decades in the making, city leaders in Milan are considering reopening the Navigli canal system that currently flows underneath the city. The centuries-old canal system was originally designed by Leonardo da Vinci but was gradually covered by roadways over the course of the 20th century to accommodate growing numbers of cars in the city center. Interest

in owning a personal vehicle is declining among a new generation of urban residents, and in response the city is betting on a more walkable and less car-dependent future. By returning to its roots as a city connected with the water, the city sees a way to lock in the environmental and sustainability benefits—as well as the quality-of-life and livability benefits—of a less vehicle-oriented city center. Given the scale, cost, and potential impact of the project, authorities want to put the project to a referendum vote by the citizens of Milan to ensure a broad base of public support. The first step in this process is to conduct a comprehensive impact assessment and feasibility study to inform public deliberations about the project and to engage in a robust public-outreach effort to initiate public dialogue and debate about the project.

and social inclusion.²⁷ The community-benefits agreement that the City of Buffalo negotiated as part of the private development of a high-profile site in the city's already well established waterfront district highlights the ways that cities can work to secure substantial benefits for the public (see “City profile: Buffalo, United States” on page 31).

Finally, overly generous or poorly calibrated tax-incentives can wipe out projected public-revenue gains, turning city funds invested in the project into subsidies for private developers rather than investments to generate future returns for public coffers.²⁸ Cities that offer public incentives and tax credits to private developers should be cognizant of striking the right balance between incentives and public economic return.

Engage the public in planning and process

Early efforts to engage broad segments of the public will lead to a better and more inclusive overall design. Encouraging active public participation in the visioning process will more likely result in a project that responds to the actual wants and needs of the populations that it is meant to serve. Rather than speculate about the priorities of the public, a more effective strategy is to engage with broad and diverse publics directly, allowing them to offer input and suggestions in their own voice.²⁹ Public engagement is not simply necessary at the outset of a project but throughout the entire development process. The potential for public fatigue needs to be accounted for, especially for large projects that are slated to take shape over decades.

Early efforts to engage broad segments of the public can also lead to less political conflict surrounding the project overall. Large-scale projects can generate significant public opposition if the costs, goals, and benefits of the project are not communicated to broad publics in a direct



and transparent way. The chances for public opposition only increase when development is taking place on ecologically sensitive areas, including waterfronts. City leaders should be proactive about communicating the proposed direct and indirect benefits of the project and regularly updating the public about progress made toward realizing those benefits.

Specifically, projects that involve a public-private partnership will likely receive additional levels of public and media scrutiny. Opposition from the community may emerge if the public has not been engaged in a frank discussion about the nature of this relationship, including a discussion of the costs and benefits for both sides. More importantly than making residents *feel* that their voices are being heard, is to *actually* hear community feedback and subsequently incorporate that feedback into the project design. This is an especially critical part of the process when trying to ensure that a project remains true to shared community values and that it reflects the surrounding neighborhood's history. Reaching as many project stakeholder groups as early in the development process as possible will help allow for ample time to identify and plan for how to best circumvent potential hurdles.³⁰

In Milan, city authorities recognize that a potential project to reopen the canals of the city center would mean significant cost and disruption to the city and its residents during construction. To ensure broad acceptance of such a major and potentially transformative project, they are encouraging active public debate about the project and ultimately hope to put the canal proposal to a public referendum, giving citizens the ultimate decision-making power (see "City profile: Milan, Italy").

CHANGING THE CONVERSATION AROUND STRATEGIC URBAN- DEVELOPMENT INVESTMENTS

3

Deploy measurement tools and work with the private sector on economic returns

Routinizing the cumulative assessment of dollar-for-dollar returns from long-term strategic urban-development projects is a prerequisite for establishing such projects as an asset class to be invested in. There is no lack of strategic urban-development projects that city leaders would like to take on, and there is no lack of global capital seeking returns. More fruitful collaboration on expansive and transformative development projects relies on the value of such projects being understood, measured, and ultimately demonstrated in a way that can lead to bankable deals with institutional investors seeking long-term and stable returns.

Strategic urban-development projects are systems unto themselves that interact, to positive or negative economic effect, with the larger urban systems that surround them. It is difficult to isolate the value and potential economic return of any discrete component part of a strategic urban-development project that is going to take shape over years. The challenge rather is to value the *cumulative* impact and returns of a project as the sum of its discrete component parts. Significant environmental remediation of a major waterway or substantial upgrades to public infrastructure usually do not constitute bankable deals unto themselves. However, when directly coupling those investments with the potential to dramatically alter the prospects of, or create entirely new, urban

“This is about creating public wealth. That is a term we need to start getting more comfortable using.” —Bruce Katz, Centennial Scholar, the Brookings Institution

property and job markets in a particular part of a city, calculations of bankability and potential economic change.

This simplified breakdown of how projects build value and generate returns cumulatively, rather than discretely, illustrates the need for dialogue between public and private sectors about changing norms regarding how value and potential economic returns are understood and priced. Cooperating city governments and investors should take the lead in experimenting with measurement tools that assess the cumulative value and potential returns of projects in ways that make it easier for all parties involved to get to the necessary levels of risk and reward that would make a deal realistic. This requires a new perspective on the investment implications of urban development projects and calls for the application of a “city lens” to questions of how wealth, value, and economic returns are understood in connection to major investments in urban areas.³¹ These efforts cannot occur in isolation from one another. Such deals depend equally on both their political bankability (for city governments) and their market bankability (for investors).

Establish new collective relationships with diverse investment actors

Cities can work together to establish new lines of communication and standards of collaboration with nontraditional, institutional investment actors including sovereign-wealth and public-pension funds interested in generating stable returns over long periods of time. One strategy for facilitating more bankable deals would be a collective effort on behalf of city governments to establish new working relationships with traditionally untapped investment actors—specifically actors that are interested in longer-term and potentially more holistic returns in ways that commercial banks generally are not.

Mismatched expectations between public- and private-sector partners are often cited as a critical barrier to more successful collaboration. Poor understanding of the cumulative nature of how value and wealth are generated within urban systems is a prime example of mismatched priorities and understandings. This misunderstanding could be rectified through the deployment of new measurement tools, increased communication, and ultimately a shift in norms regarding how value and returns are measured.

Because the question is one of changing operational norms, a network of cities presenting a united argument is likely to be more convincing and ultimately effective than cities acting individually. When cities work together, more data can be cited and more cases can be considered in a consensus-

based support of new norms regarding valuation. With a broader network of both city governments and investor actors committed to finding new ways of getting to “yes” on bankable deals, the likelihood of that process being successful and legitimate increases.

Embrace new mayoral roles as advocates for urban prosperity

Mayors are responsible for delivering results for their local populations, a job which increasingly requires them to advocate for the cause of urban prosperity. Effectively governing major urban areas increasingly means that mayors must engage with other levels of government as demand for resources to support investments in capital-intensive projects often outstrips the taxation capacity of urban governments.³²

Convincing authorities at other levels of government of the value and importance of investing in urban prosperity is a key responsibility of mayors. National leaders may not understand the consequences that policy and funding decisions will have on urban areas or see the linkages between urban prosperity and national prosperity. In an era where national political dynamics are increasingly pitting urban and nonurban interests against one another, it falls to mayors to convincingly make the case that those interests are very often intertwined.

Urban Waterways Forum held in Chicago on March 13, 2017. Photo credit: Brooke Collins



“We are reinventing our roles as mayors. That role is changing. We are not just mayors in our city, we need to be ambassadors. We need to have a vision to share with citizens and the private sector.” —Anne Hidalgo, Mayor, City of Paris

When cities cannot count on the support of authorities at other levels of government, it falls to mayors to be innovative in how they seek out both the funding and financing that their cities need. Again, this often requires that mayors assume an ambassadorial—almost entrepreneurial—role in championing investment in their city specifically and investment in causes that undergird urban prosperity more generally. Pursuing innovative partnerships with the private sector to convince them of the latent value and economic returns that lay in wait in their cities is a key part of this new ambassadorial role.

Coordinate and share urban leadership best practices with global peers

When mayors engage with each other to glean best practices that can be applied to local urban challenges, they also encourage a global urban leadership coordinating effect that drives local action in support of solving critical global challenges. This process is critical to broadening understandings of how strategic investments can and should be valued.

City leaders are often better positioned to experiment with innovative solutions to mitigate the local effects of critical global challenges than other levels of government. This is because of cities’ smaller arenas of action, greater proximity to local populations, and generally more pragmatic governing tendencies. However, these same virtues make local-level innovation and bottom-up problem-solving efforts an easy target for criticism suggesting they have limited impact in the face of truly global problems.³³

Coordinated urban leadership and knowledge-sharing help spread best practices—thereby improving immediate local outcomes—amplifying the broader impacts of local actions when similar efforts are undertaken to positive effect in urban areas globally. General solution strategies that originate in urban areas can quickly scale to an impressive international network of collective city-led action. Mayors that communicate and engage in knowledge-sharing with their global peers are in a position to make their cities hubs in these formal or informal networks of collective urban action. Part of the work of best-practice sharing with global peers includes making sure that mayoral dialogues and meetings seek to address the needs of mayors from a variety of contexts and settings. Lahore is an example of a city with fewer resources than other global cities that is actively undertaking the difficult task of balancing how best to leverage investments in innovative

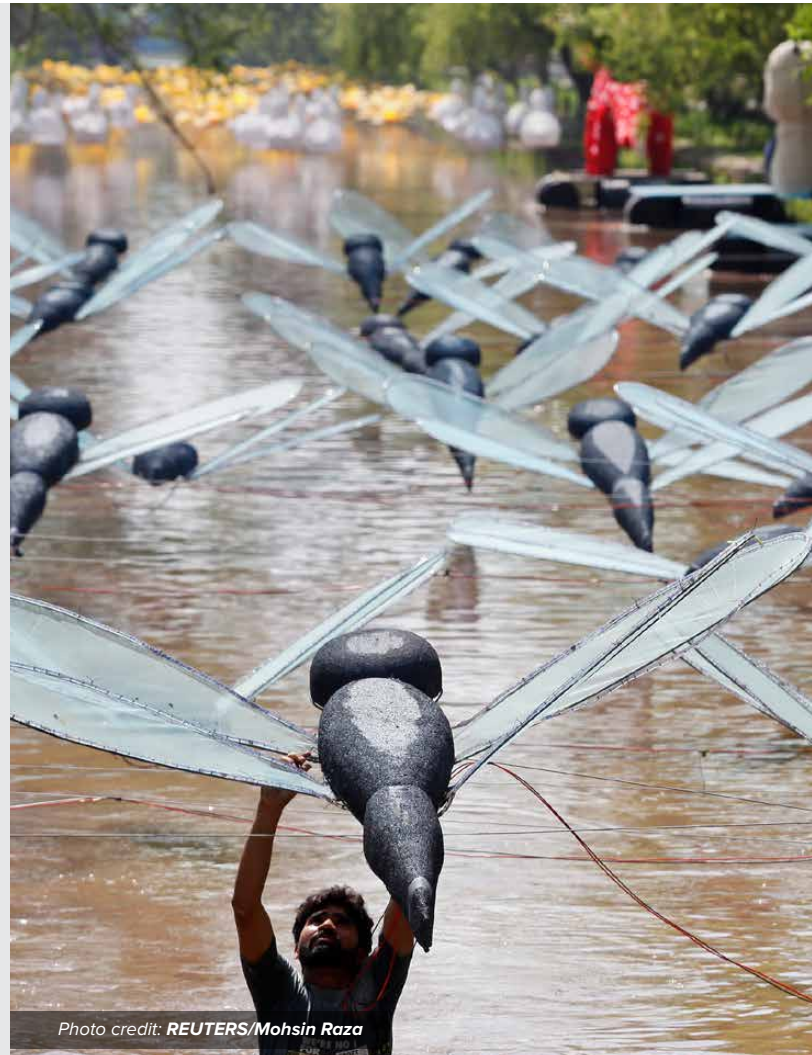
waterfront development while not losing sight that many residents still lack basic services (see “City profile: Lahore, Pakistan”). Global best-practice sharing among urban leaders should address the challenges of many different types of cities with different resource opportunities.

CITY PROFILE

LAHORE

Pakistan

The city of Lahore is endowed with significant waterway assets including a centuries-old canal system that spreads across the city and the Ravi River which borders the western edge of the city. However, any plan to develop these assets for recreation use or as a way to spur economic development has to interact with larger systemic concerns of basic-service provision and social inequality in Lahore. The city administration is actively considering how to pursue urban-waterfront-development projects in a resource-constrained environment while also paying necessary attention to critical basic-service needs such as clean-water supply and upgraded sewer systems. Lahore’s challenges reflect larger trends across major urban areas of the Global South that are grappling with ways to balance such projects and priorities.



“We hope that the potential for waterfront sustainability can be captured across cities. Mayors are right to learn and steal good ideas from each other, to stimulate global progress as a whole, which unfortunately has stalled at other levels.” —Mark Watts, Executive Director, C40 Cities Climate Leadership Group

CONCLUSION

Global cities have the potential to transform urban waterways into new mixed-use, multi-purpose assets that serve a number of local priorities while helping contribute to solving some of the world's most pressing urban challenges. While such projects are often massive, expensive, and complicated, when they are conducted thoughtfully and intentionally, they can simultaneously support economic development, protect the environment, promote equity and inclusion, and improve public health so that *all* residents experience the benefits of these types of strategic investments.

Urban waterfront projects can and should be rooted in local priorities. But as cities the world over consider how best to address the chronic urban challenges that affect their local populations, it is important to situate those challenges and the efforts to address them in a global context. Cities should be striving for the considered analysis, state-of-the-art best practice, and smart policy deployment that will maximize the success of strategic urban-development projects locally. When they do so in conversation with their global counterparts, it provides an opportunity not only for global knowledge-sharing but also amplified collective action on pressing urban issues on a global scale.

A template for understanding the value and impact of urban-waterfront projects in expanded ways has the potential to change the conversation around investing and valuing strategic urban-development projects. This shift in the conversation requires mayors to assume new roles as ambassadors and advocates for investments in urban prosperity. Mayors will need to make convincing arguments about the value of such projects in front of diverse publics, the private sector, and other levels of government. As mayors collectively assume new roles of advocacy for urban causes and coordinate their local project and investment efforts in support of solving global challenges, their power will be amplified. Urban waterway projects represent a prime example of how cities can change norms and standards of collaboration surrounding development investments in ways that have the potential to generate meaningful benefits for all residents of a city. ■

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