

# Waterfront Resilience: Forward Thinking about Nashville's East Bank

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*Imagine East Bank's water plan will create newfound opportunities to celebrate the return of Nashvillians to the Cumberland River. (Perkins Eastman)*

The transition of urban waterfront land from industrial uses to a place for living, recreation, and commerce has been one of the most important and enduring movements of the past 50 years. Since the 1970s, as developments such as Battery Park City in Manhattan introduced a new paradigm for bringing urban—and sometimes urbane—mixed-use neighborhoods to the water's edge, cities around the world from Vancouver, British Columbia, to Washington, D.C., have emulated this model, creating vibrant new urban districts and helping to revitalize downtowns.

In the aftermath of major storm events, such as Hurricane Katrina in 2005, and Superstorm Sandy in 2012, many have questioned the viability— and wisdom—of continuing to build in waterfront areas known to be vulnerable to inundation from coastal or riverine flooding. Projections for rising sea levels and the increased frequency of major precipitation events have only reinforced these concerns. Against this prospect is the fact that “underdeveloped” waterfront properties—especially those near downtown commercial districts—are often home to jobs, represent enormous value, and cannot be simply vacated by fiat.

Furthermore, many urban waterfront areas occupy locations that are critical to the future protection of existing upland neighborhoods. As cities face increasingly vexing issues related to affordability, the need for open space, and urban transportation, the need to address the potential role of waterfronts has never been more apparent.

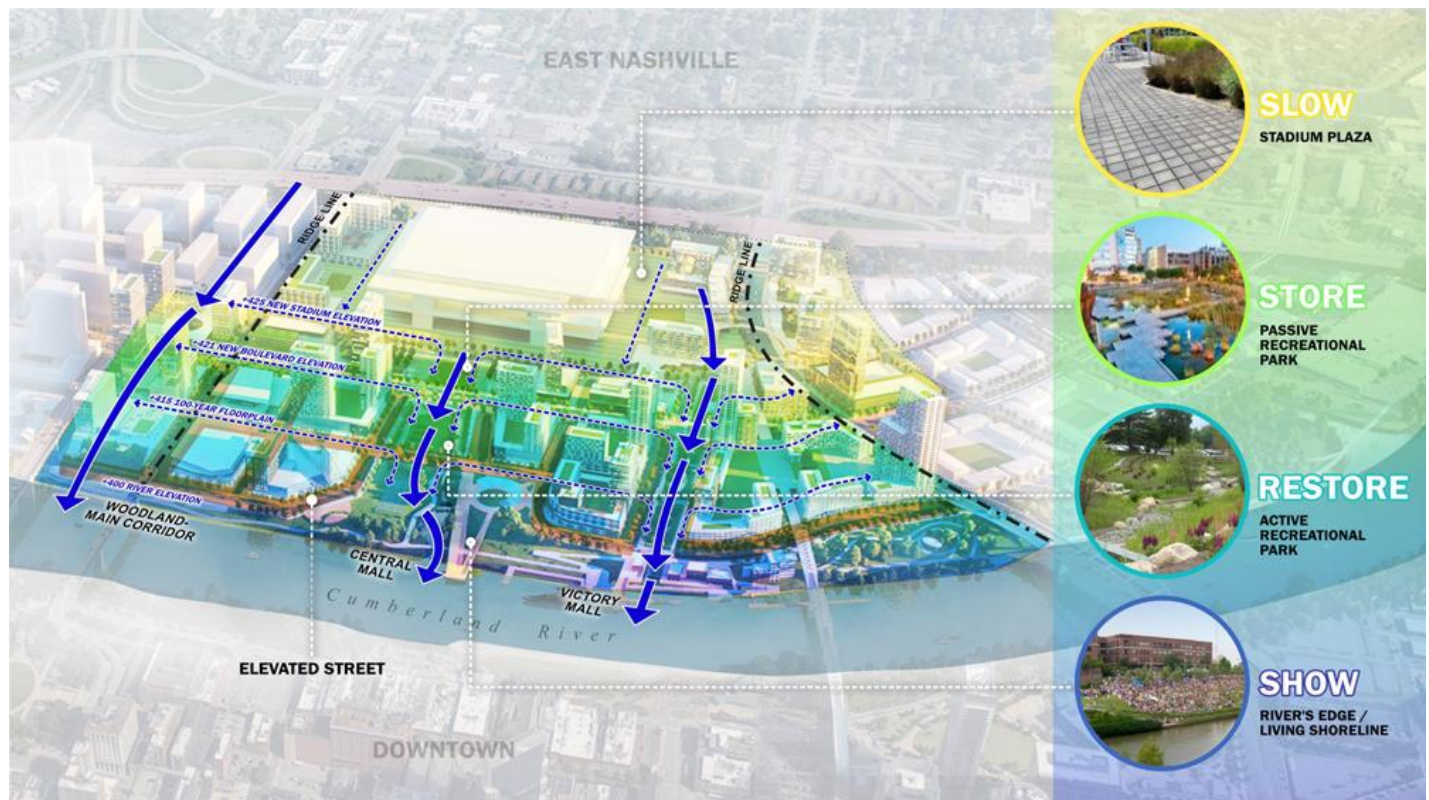
In the past 15 years, cities around the world have been exploring new approaches to address the challenges of building by the waterfront, in a period that has arguably seen the most creative experimentation for urban waterfronts since the '70s. This includes developments like the increasing adoption of green infrastructure, and building new, softer, more naturalized shorelines to stave off storm damage.

For most cities, existing land ownership patterns and infrastructure have meant addressing the resilience and sustainability of waterfront areas on a piecemeal, system-by-system basis. Opportunities to rethink the waterfront in a concerted and holistic manner have been few and far between. The Imagine East Bank Plan, a strategic vision plan adopted last fall by the Metropolitan Government of Nashville, offers a rare opportunity to reimagine how development, land use, transportation, recreation, and resilience can come together to create a more resilient and sustainable urban waterfront.

Nashville has long occupied a special place in American culture. Its arrival as “Music City” has made it a favorite destination for music lovers throughout the world. A more recent downtown building boom has left many longtime Nashvillians reeling. The decision by National Football League’s Houston Oilers to relocate to Nashville in 1997, and announcements by Amazon and Oracle to locate major corporate campuses in the city in 2019 and 2020, respectively, have punctuated the city’s emergence on the national development scene. The COVID-19 pandemic turbocharged this trajectory. According to an analysis of U.S. Census data by Inspection Support Network, Nashville was the fifth-fastest growing large metro area in the country in the period between 2016 and 2021, while NeighborhoodScout.com put Nashville in the top 10 percent nationally for real estate appreciation over the last 10-year period.

These developments have also, however, been accompanied by growing pains, such as a dramatic change in the scale and character of Downtown, loss of open space, and a shortage of affordable housing options. On Christmas 2020, at the height of the pandemic, the Downtown was rocked by the tragic bombing on Second Avenue that left one dead and destroyed one of Downtown’s most historic blocks adjacent to the Cumberland River. In the aftermath of the bombing, a civic conversation on how to rebuild rekindled a longstanding recognition of the presence and potential of the River.

Across the river, on the opposite bank of the Cumberland sits East Bank. With access and visibility to Interstate Highway 24, a colorful history going back to the City’s earliest days, and vast acres of asphalt parking lots and recycling yards, the East Bank has become the focus of enormous development interest. This area has always played a supporting role to the downtown. This has been due in large part to the river’s proclivity for bursting its banks and flooding the areas along its banks.



The Plan leverages passive open space within the riverfront park and Central Park to create a performative open space network. (Perkins Eastman)

In the Spring of 2021, a multidisciplinary team led by Perkins Eastman was selected by the Nashville Metropolitan Planning Commission to develop a community-driven vision plan for a 338-acre (136.8 ha) area of the East Bank opposite Downtown. Under the leadership of the Planning Commission, and building on a robust stakeholder engagement program, Perkins Eastman developed a bold vision for the future of the East Bank based on four principles:

- A walkable street grid that works with existing properties and expands connections to the regional transportation networks;
- A continuous riverfront greenway that would open access to the Cumberland for residents of East Nashville for the first time;
- A one-and-a-half-mile multimodal boulevard featuring a dedicated lane for Bus Rapid Transit that will serve as the transportation spine for the entire East Bank; and
- A comprehensive district-scale strategy for enhancing the resiliency of the flood prone area. which is integrated with the new open space network.

### **An Area Vulnerable to Flooding**

With varied shoreline conditions and significant grade changes at the river's edge over 64 percent of the East Bank sits within the flood plain. Recent flooding in 2020, and the epic floods of May 2010 in Nashville shattered nearly every rainfall record conceivable According to the National Weather Service during the flood of 2010, 13.57 inches (34.5 cm) of rain was measured during a 36-hour period. Nearly 11,000 properties were damaged or destroyed in the flood, causing more than \$2 billion in private property damage. The 2010 storm was the only storm to crest higher than the 100-year storm elevation since the full regulation of the Cumberland River in 1967.

With projections showing the incidence of major precipitation events increasing in frequency and intensity, however, pollution and combined sewer overflows will become an even greater threat to property and water quality of the Cumberland River. It became clear that future development on the East Bank had to be accompanied by a robust strategy for building up the area's resilience.



*The existing parking-dominated landscape will be replaced with a more resilient and equitable neighborhood that connects people to place. (Perkins Eastman)*

### **District Wide Approach**

With the help of Nashville-based HDLA Landscape Architects, Sherwood Design Engineers, and Kimley Horn, Perkins Eastman worked with Metro Water to craft a district-wide approach to resilience that can deal with water in a manner appropriate to the local conditions, and integrate the treatment of water with placemaking, landscape design, and development. Metro's current regulations that require developers to balance cut and fill and construct green infrastructure on each individual property is costly for developers and limits the ability to substantively mitigate the impacts of flooding.

This approach essentially relies on each site to create its own holding basin to slow the progress of water to the river. The parcel-by-parcel approach to green infrastructure is akin to having each landowner build individual bike paths that may or may not link up—but it's all about connecting! A district-wide approach allows green infrastructure to be functionally connected, with water filtered and channeled within the district.

Similarly, applying cut-and-fill requirements on a district-wide basis allows the topography of the larger district to be “sculpted” to allow the river to expand in places where it will do the least damage and for development to be located in areas where it can be elevated out of the floodplain.

The district-level, cut-and-fill approach, combined with strategies to slow, temporarily hold back or store large volumes of runoff, will increase the overall effectiveness of stormwater management efforts while making site-by-site development more affordable. Finally, the plan envisions strategically located “lay back” areas where the river's edge is regraded in a way that not only stabilizes the urbanized bank and reduces erosion and flood elevations, but promotes natural ecology and accessibility.

### **Development Needed to Attract Funds and Attention**

This new approach to redeveloping the waterfront to protect existing upland neighborhoods will require significant infrastructure: for new greener, performative landscapes to replace the acres of pavement that presently blanket the East Bank; to retrofit the urban shoreline to more effectively mitigate storms, and for new grey infrastructure to handle the increased volumes of stormwater that the city will have to deal with in the future. For most cities, this means marshaling significant amounts of public funding.

In the case of Nashville, opening up the Cumberland River and creating opportunities for the City to engage the river will not only help raise Nashvillians' awareness, and appreciation, of the importance of the river to the City. In so doing, it will also help to attract private investment to help fund the new infrastructure to increase the resilience of both the East Bank as well as that of East Nashville. In this time of climate change, *engaging with*, rather than *retreating from* the water will, in many cases, be essential to building urban resilience.

The Plan accordingly envisions several million square feet of new development, organized in four new walkable, mixed-use districts. It sees the East Bank as an opportunity to leverage Downtown's economic success to create opportunity for lower-income neighborhoods to the east, ultimately developing into a mixed-income area that welcomes and employs nearby residents. Imagine East Bank also includes a major cultural presence, a new mixed-use “Mobility Hub,” more than 10 acres (4 ha) of new parks, and most prominently, a new domed football stadium for the Titans, which will be the anchor of a new “stadium village” and the Central Waterfront District.

The Imagine East Bank Plan recommends several strategies to engage the river, including new access to the river and new programming *in*—not just *by*—the river. Throughout the City's history, the Cumberland has served as an important conduit for commerce, with active barge traffic continuing to this day, and into the foreseeable future. More recently, activity on the river has expanded, and kayakers can be seen paddling down the river. In the future, we see the Cumberland River offering a broader wide range of opportunities for recreational, educational, entertainment, leisure as well as visitor-oriented activities on the water.

These activities will, in turn, help draw a broad cross section of Nashvillians and visitors alike to the water, create exciting new possibilities for land-side development, and build a constituency for improved infrastructure for resiliency. Nashville's location on the Cumberland River also sets up the possibility to provide waterborne transportation to local and regional connections, and beyond, such as a “hop-on/hop-off” water taxi system between Downtown and even a larger regional waterborne transportation system operating between Downtown and Opryland, a major attraction several miles upriver.

### **Integrating Resilience Strategy with Placemaking**

The new infrastructure, access, and district-wide approach, also sets the stage for unique placemaking opportunities. A central feature of the new East Bank will be a new riverfront greenway, a long-cherished goal of the city's park advocates. The greenway will be the central thread of a two-mile-long riverfront park connecting the East Bank's various districts. The programming and character of the Greenway will be tailored to each district. Imagine East Bank envisions the design for each of these places being based on the location, topography, and relationship to the river. The range of environments will encompass everything from a new 10-acre (4 ha) Central Park with “performative landscapes” that are designed to flood,

allowing school kids and nature lovers alike a place to observe native riverine flora and fauna, to trails for the city's growing—and vocal contingent of bikers to enjoy, and use, getting to and from the East Bank's future employment and entertainment destinations.

### Need for Leadership and Partnerships

The comprehensive and holistic approach to resiliency embodied in the Imagine East Bank Plan

will involve a host of players, policies, and resources to become a reality. Resilient city-building is a team sport. Transportation and stormwater infrastructure, parks and open space, planning and development, must all work in concert. At the center of it all is the Metropolitan Government of Nashville and Davidson County.

Only the public sector can provide the kind of coordination, linking federal, state, and regional agencies, securing funding, and establishing an “on the ground” regulatory framework that can provide guidance, certainty, and responsiveness to allow local developers to make investment decisions and move ahead with what they do best. Under the leadership of Mayor John Cooper and planning director Lucy Kempf, Nashville has taken the lead in addressing the challenges of equity, climate change, and outdated infrastructure, and writing the next chapter in one of the country's most storied cities.

### More on this topic:

- [Waterfront Redevelopment: European Port Cities Brace for More Storms and Rising Seas](#)
- [In Brief: New Vision Unveiled for Toronto Waterfront](#)
- [ULX: Waterfront Open Spaces](#)
- [Downtown Nashville's New Billion-Dollar Gateway: Nashville Yards](#)

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