EXECUTIVE SUMMARY

The Harlem River BOA Step 2 report explores the potential for reviving a nearly five mile stretch of the Harlem River waterfront on the Bronx side of the river, bringing it back into a healthy functioning relationship with the community ecologically, socially and economically. The BOA Step 2 process has reaffirmed the community vision for a dynamic district of waterfront parks connected to one another, tied into the greater Greenway system and linked into the urban mesh of the city. Communities within the Context Area and region stand to benefit from access to recreational destinations along the Harlem River and from cleaner water, air and soils and better overall environmental quality. The Step 2 process has confirmed the appropriateness and general feasibility of a predominantly recreational, environmentally rich waterfront district along the Harlem River, a goal that is already on its way to becoming a reality.

Community Vision and Goals expressed in Section 1: The community vision that was clearly and powerfully summarized in the 2007 Harlem River BOA Step 1 report, "*Harlem River Waterfront: Linking River's Renaissance to its Upland Neighborhoods*" still resonates with the Harlem River BOA Steering Committee and with community participants eight years later.

> *The overarching vision for the Bronx waterfront of the Harlem River is a contiguous waterfront park. This is a fundamental consensus embraced by several generations of city and state agencies, elected officials, and their constituents. It has been outlined in some 25 plans that have been developed, refined, and reissued, all with public participation over the same number of years. It is understood today that this means future development of the waterfront itself must be primarily recreational.*[1]

The goals of the Harlem River BOA are grounded in visioning work that has been done in over 25 plans in a period of over 25 years. The fundamental goals are have been reiterated and reconfirmed in the BOA process, both in Step 1 and Step 2:

- *The value of the Harlem River and its Bronx shoreline is as a coherent scenic and recreational resource, which is best achieved with a continuous esplanade or greenway.*
- *The Harlem River's many bridges should be utilized to connect the Manhattan and Bronx waterfront parks and neighborhoods. The most important is the pedestrian High Bridge.*
- *Upland communities must be connected to the public waterfront, physically and visually.*
- *Any new developments near the waterfront – whether they generate jobs, revenue or housing opportunities -- should draw people to the waterfront.*
- *The natural shoreline habitat should be restored where possible, with the principal goal of restoring its ecological function and the secondary goal of restoring its recreational functions (e.g. fishing and swimming)*[2]

As **Section 1: Project Description and Boundary** notes, the Bronx Council for Environmental Quality (BCEQ) and NYC Parks have led this second phase of the Harlem River BOA process. New York State's Department of State Brownfield Opportunity Area (BOA) grant program has made this study possible.

The Harlem River BOA Project Area encompasses a narrow swath of land on the Bronx side of the Harlem River, extending from West 149th Street in the South Bronx northward along the waterfront and curving to the west where the Harlem River tidal strait meets the Hudson River. The Central Focus Area consists of a strip of land bounded by the riverfront and the I-87/ Major Deegan Expressway (MDE), while the smaller Spuyten Duyvil Focus Area is a non-contiguous segment of waterfront at the junction of the Harlem and Hudson Rivers.

Section 2: Public Participation Plan and Techniques to Enlist Partners describes the public process in this phase of the BOA study, which has entailed a robust community outreach program through the HR BOA Steering Committee, events hosted by BCEQ and partners and the efforts of a not-for-profit community based organization, Friends of Van Cortlandt Park (FVCP), as the outreach consultant.

The Harlem River BOA project has encouraged residents of the four upland communities to add new specificity to the planning for their shared waterfront. What uses would draw them to it? How would they get there? How can the waterfront be developed to connect the four communities to each other, to new employment centers, and to future amenities? How will the underlying resource, the Harlem River, be protected? How can the waterfront change from posing a threat to public health to enhancing public health?

Section 3: Analysis of the Proposed Brownfield Opportunity Area delves into the community and

The Department of State's Brownfield Opportunity Areas (BOA) Program provides communities with guidance, expertise and financial assistance . . . to complete revitalization and implementation strategies for neighborhoods or areas affected by brownfields or economic distress. Brownfields are dormant properties where contamination or perceived contamination has impeded investment and redevelopment.

Program grants support a variety of community revitalization activities permitted in three program steps:

- Step 1 - The Pre-Nomination Study consists of a preliminary analysis so communities can gain a basic assessment and understanding about existing conditions, brownfields and the area's potential for revitalization. This step sets the stage for detailed work.
- Step 2 -The Nomination consists of an in-depth assessment and evaluation of existing conditions, including an economic and market trends analysis, and assets to determine the best reuse potential for strategic sites and other revitalization opportunities.
- Step 3 - The Implementation Strategy funds a range of techniques and actions to achieve revitalization objectives by advancing redevelopment on strategic sites, improving supporting infrastructure, and overall neighborhood revitalization through investment, provision for public amenities and improving environmental quality.

Source: BOA Program Summary, NYS DOS, Office of Planning & Development http://www.dos.ny.gov/opd/programs/brownFieldOpp/boasummary.html

regional context of the study area. The Central Focus Area (the waterfront) is isolated by topography and the transportation corridors of I-87/MDE and rail lines; it is virtually unpopulated except for River Plaza Towers, which houses fewer than 5,000 people. On the other hand, the Context Areas beyond the Focus Area include densely populated portions of Bronx Community Districts (CDs) 4, 5, 7, and 8, where over 150,000 people live within a one-mile walk of the waterfront. Neighborhoods in the area include the Lower Concourse, Highbridge, Morris Heights, University Heights, Kingsbridge, and Spuyten Duyvil areas.

The Harlem River waterfront is a prime linkage in the midst of the Hudson-Raritan Estuary System. In 1987, the NY-NJ estuary system was designated as one of 28 "Estuaries of National Significance." Positioned within the core of the estuary, the Harlem River is actually a tidal strait linking the East River and the Hudson River. This preeminent natural resource merits protections of water quality and habitat through public, private and not-for-profit partnerships.

The **Inventory and Analysis** segment of Section 3 examines a range of issues impacting current uses and revitalization potential along the Harlem River waterfront. Key points include:

- **Brownfields, Abandoned and Vacant Sites:** The majority of the HR BOA Central Focus Area meets the BOA program definition of a brownfield as "any real property, the development or reuse of which may be complicated by the presence or potential presence of a contaminant." The Step 2 study included preliminary site assessment screening of 63 properties of interest in the Central Focus Area to reveal potential for contamination. Subsequently, the environmental investigation delved further into the environmental concerns and contamination potential on a subset of 29 tax lots. Findings are discussed in Section 3: "Brownfield, Abandoned and Underutilized Sites" and Appendix D.
- **Land Ownership/Jurisdiction:** As a key part of the Step 2 process, a complete inventory of properties within the BOA Study area was conducted. A table with detailed property ownership information resulted. Key issues are summarized in Section C and the inventory is included in Appendix C.
- **Parks and Open Space**: In the past few years since the completion of the BOA Step 1 report, tremendous progress has been made in consolidating and improving land for public access along the Harlem River. In spite of the existing and planned parks, there is still a documented need for additional developed park space along and near the Harlem River waterfront. The neighborhoods of the BOA Central Focus Area are located in some of New York City's most park-starved districts.
- **Historic or Archaeologically Significant Areas:** The western Bronx is home to a collection of historic assets that together tell a richly layered story of New York City's physical and social development during the heyday of its urban expansion in the nineteenth century. The recently reopened High Bridge, a unique example of 19th century engineering infrastructure and emblem of the Croton Aqueduct System, as well as other landmark bridges merge with the spectacular views of natural and historic resources beyond the Central Focus Area.
- **Transportation:** The greatest transportation issue for the Harlem River BOA Study Area is the need for walkable and bikeable transportation infrastructure providing linear connections along the waterfront as well as connections to the inland/upland neighborhoods. Access to the Harlem River waterfront by vehicle is limited to only a few points

of entry—the main reason why the waterfront has remained mostly undeveloped. Subway and bus service is available within reasonable walking distance of most of the Harlem River BOA Focus Area and is most convenient on the southern end of the study area. An underutilized resource is the Metro-North regional rail line that runs along the waterfront and serves the BOA area with a total of five Metro-North Stations are within or immediately adjacent to the Harlem River BOA Focus Areas.

- **Recreational Boat Access:** In spite of the Harlem River's rich history as "Sculler's Row," access points for small boats are scarce today, especially on the Bronx shoreline. Additional access points rank high as a priority in the community vision.

- **Natural Resources and Environmental Features:** The Harlem River corridor is a treasure within the urban fabric of New York City, offering a rareopportunity to revitalize a corridor of ecologically rich green space in the core of the largest city in the nation. As a connection point from tidal estuary to shoreline to upland, from the expansive Van Cortlandt Park to the north to the future greenways to the south, the HR BOA corridor's ecological functioning matters for human health and well-being as well as myriad species of plants, birds, fish and other life forms. The waterfront offers existing and potential habitat to at least 63 species of migratory birds and is in a key location near a number of heavily wooded parks in the Bronx and Upper Manhattan. The relatively shallow river provides opportunities to enhance habitat for shorebirds and aquatic species. There is considerable room for habitat improvement through well planned and executed ecological enhancements.
- **Flood Hazards:** Virtually all of the study area is classified by FEMA as being at moderate to high risk of flooding, based on the FEMA Preliminary Flood Insurance Rate Maps. The 1% annual chance floodplain generally extends inland to I-87/ MDE. The area is also designated by NYCOEM as being in hurricane evacuation Zones 2 and 3, in a system of six zones with Zone 1 being the most likely to be evacuated. Flooding potential in New York City coastal areas is expected to worsen with sea level rise over the coming decades.

- **Infrastructure:** Inadequate stormwater treatment and aging infrastructure currently have an enormous impact on the river's water quality. A total of 11 combined sewer outfalls and approximately 8 outfalls for stormwater from local streets and I-87/ MDE empty into the Harlem River in the BOA study area in wet weather events. Limited sewer and water main access is also an issue in some parts of the study area.
- An **Economic and Market Trends Analysis** conducted as part of the Step 2 process determined that while overall employment and earnings figures suggest a weak market basis for development in the immediate areas surrounding the BOA Strategic Sites, the market for new development in the Context Area and throughout the southern and western Bronx shows signs of increasing strength. Anticipated population growth suggests the need for additional public recreational facilities in the area.

Section 4: Key Findings and Recommendations

Section 4 proposes a number of Key Findings and Recommendations progressing toward the vision of a Harlem River waterfront that is alive with people enjoying biking, walking, boating, fishing, taking in the views, learning, spending time with family and friends and appreciating the wildlife that thrives in glistening clean water and beautiful native plant communities along the shore. Key Recommendations are:

- **Strategic Sites:** This Harlem River BOA Step 2 study identifies eight Strategic Sites and three Strategic Connections for inclusion in the NYS BOA program. All are vacant or underutilized brownfield properties with the potential to be remediated and upgraded to higher functioning uses to benefit local neighborhoods and the region.

- **Brownfield, Abandoned, and Vacant Sites:** The potential for petroleum and/or hazardous materials on Strategic Sites and other properties should be further investigated in order to determine the nature and extent of contamination. Results of these investigations should be used to determine appropriate remedial and mitigation measures in order to reduce contaminant discharge to the Harlem River, improve overall water quality and reduce possible health impacts. Wherever feasible, bioremediation techniques are preferred as effective long-term, low-cost strategies for cleaning waterfront sites, though in some areas, faster remediation techniques may be warranted to expedite public access projects.

- **Transportation Systems and Strategic Connections: The Crucial Role of Access:** For the Harlem River Waterfront to be revitalized and brought back into productive use, multi-modal

access routes must be funded and built, particularly pedestrian and bike infrastructure.

- ***Harlem River Greenway:*** The more greenway continuity can be developed between nodes of parkland, the higher the use value will be for all users. Harlem River Greenway connections clearly merit prioritization for funding allocations. Full construction of the Harlem River Greenway will unify and invigorate the Harlem River waterfront and adjacent neighborhoods. Connecting the HR Greenway to the Putnam Railroad Trail to the north and to other greenways within the NYC system will link the Harlem River to an expansive and ever-growing regional greenway system. Building on earlier Harlem River Greenway studies, this BOA study also delves into more detail about how the greenway might be routed through and around some very challenging obstacles. Concepts are presented in the Key Findings and Recommendations section.

- ***Pedestrian Access and Public Transit:*** The Transportation section also makes specific recommendations for improving the safety and experience for those on foot with pedestrian signals, crosswalks and other safety measures at the limited entrances to the waterfront. Locations for possible new bus stops closer to the waterfront are also identified.

- **Land Use and Zoning:** The consensus is that there should be maximum public open space in the area and that a district of waterfront parks along the Harlem River connected by a continuous greenway system is feasible. If any residential or mixed-use development is constructed on the waterfront, it should provide maximum public open space and greenway space. These elements should be required even where the site is not technically a "waterfront" lot due to presence of the Oak Point Link. Designs for Waterfront Public Access areas should consider the open space, access, boating and connectivity recommendations contained within this report.

- **Land Ownership/Jurisdiction:** Combining fragmented parcels will achieve the greatest public and ecological benefits from waterfront projects. In order for the Harlem River parks district to expand and thrive, more waterfront land needs to be publicly accessible and developed as public space.

- **Parks and Open Space**: Priorities for parks and open space on the Harlem River include:

  - Obtaining funding for the first phase of the Harlem River Promenade concept (Depot Place).

  - Remediating and constructing Regatta Park (already initiated by NYC Parks).

  - Acquiring the CSX parcels in CDs 7 & 8 for ecologically-oriented park space and a greenway connection, including a pedestrian/bike bridge over the rail tracks.

  - Creating new access points for hand-powered craft (boat launches and possibly boathouses) in CD5 in the proposed Harlem River Promenade and in CD7 near the University Heights Bridge and at the CSX site. The University Heights Bridge area is also often noted as a possible location for a marina.

- **Sustainable Design and Maintenance:** Whether funded publicly or privately, all new parks and open space in the BOA study area should be built and maintained according to sustainable design principles as recommended in the *High Performance Landscapes Guidelines* (2010) and other recommended resources. The community's vision includes job training and employment opportunities for installation, care and maintenance of green infrastructure and open space.

- **Resilient Design to Mitigate Flood Hazards:** Parks designed to withstand occasional flooding with minimal damage and to help manage storm surge are often considered the best land uses for flood prone areas. "Living" shoreline strategies should be pursued that allow for greater ecosystem benefits, rather than bulkheads or other hardening strategies. In some areas, new park and esplanade infrastructure could have the added benefit of helping to protect vulnerable rail infrastructure.

- **Natural Resources and Environmental Features:** The strategies that have the greatest potential for improving water quality in the Harlem River are:

- Clean-up of brownfields that may now be leaching contaminants into the river through groundwater and erosion sediments;

- Deploying green infrastructure through the greenway, waterfront parks and open spaces, and

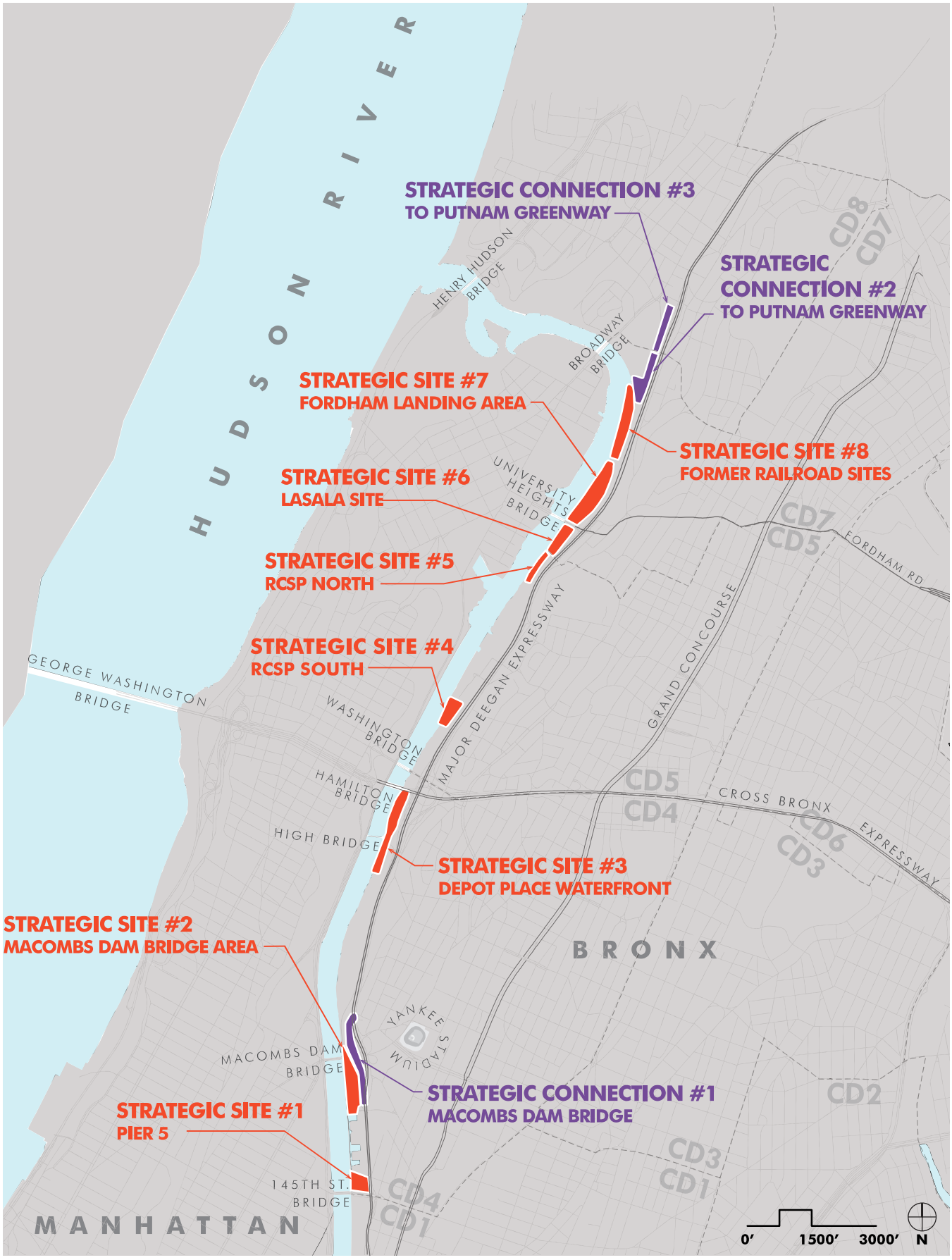

Figure 2. Overall Strategic Sites and Strategic Connections Map

streetscapes to cleanse contaminated runoff and avert combined sewage overflows into the river;

- Improving the ecological productivity of the river corridor by creating rich aquatic and terrestrial habitats such as intertidal marshes, oyster reefs, and native grass, wildflower, shrub and tree canopy areas.

- **Infrastructure:** The most urgent infrastructure issue within the Harlem River BOA study area is to integrate green infrastructure into the Harlem River Greenway and waterfront parks to help reduce water pollution.

- **Historic Assets and Tourism Potential:** An interpretive and wayfinding program along the river with a "New York, Then and Now" theme can tell the story of the ambitious 19th and 20th century engineering projects that shaped the Harlem River Valley and New York City's water supply system, as well as the Harlem River's history as a recreational boating destination. Linking the historic significance of Harlem River as boating/regatta destination in the 19th century and early 20th centuries and bringing back recreational boating under the concept of the "People's River" (as proposed by ULI) would connect a greater constellation of attractions along the Harlem River and beyond. Designs for future parks and any new structures should capitalize on distinctive views of natural and historic areas and should protect significant viewsheds along the way.

The Harlem River BOA is poised for clean-up of brownfield contamination and for vibrant, transformative adaptive reuse projects along the river's edge.