Reshaping Urban Waterfronts
by Bonnie A. Harken, AIA

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(NOTE: This text is intended to summarize and accompany our presentation at the United Nations, Commission on Sustainable Development's Symposium on Implementation of Sustainable Development Goals in Nanchang, China, May 2005 .)

Cities around the world are restoring their waterways and reshaping major waterfront sites to meet the complex needs of 21st century urbanism. Waterfronts present an opportunity for cities to reinvigorate large, strategically-positioned urban areas. The challenge is to create plans that allow sustainable environments and dynamic urban waterfronts to evolve together.

Background

Waterfront cities throughout the world have been deeply impacted by intense competition for leadership in global commerce, shifts in patterns of industrial production, and the containerization of cargo. Positive and sustainable solutions for restoring urban waterways have emerged from a wide variety of cities which have helped revitalize their downtowns, reclaim former industrial properties, and address the complex needs of contemporary commerce and housing. Today's cities are competing globally for a highly mobile labor pool working on a 24/7 schedule in a multi-national context. Key needs are rapid, intermodal transportation linked to airports and rail systems, and a high quality of life that includes a 24-hour live/work environment. Successful built examples can be found at Amsterdam's Eastern Docklands, Detroit's Global Headquarters for General Motors, Lisbon's Expo '98, New York's Battery Park City, Montreal's Lachine Canal, San Francisco's Embarcadero, and Shanghai's North & South Bund. Please see the accompanying presentation for photographs of these examples.

Deteriorating pier on the East River, New York, NY looking towards the United Nations complex
Photo by Bonnie Harken, 1991

Red Hook Container Terminal, Brooklyn, NY
Photo by Bonnie Harken, June 2003

Lessons of Waterfront Successes

The following is a summary of the common lessons found in successful waterfront projects. They are organized in the sequence that decisions about waterfront opportunities should be undertaken.

1. It's all about the water - clean water depends on people who care

The waterway itself is the most important asset of these sites. Waterways are what link the city to other countries, cities, villages, and the countryside. As a result of industrial pollution of the waterways, many cities turned their backs on the waterfront, creating a cycle of neglect that only made it easier to pollute their precious natural resources. Breaking that cycle and restoring clean water depends on people who care. People care about their waterways when they can see them, get near them, and get out on the water. This means that public access is the first order of business in reclaiming urban waterfronts.

New waterfront parks & piers in the Vieux Port, Montreal, Canada, Photo by Bonnie Harken, 2000

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Low-rise, high-density housing on Java Island, Amsterdam, Netherlands
Photo by Bonnie Harken, 2003

2. Start with the strengths of the site - don't waste existing resources

Not only is the waterfront itself a dynamic natural resource not found anywhere else in the city, but it often carries with it the history of the city's evolution and its sense of identity. Starting with the strengths of the site means understanding how the site's urban fabric of streets, views, open spaces, blocks, lots, and existing buildings embodies a precious resource. Scale, character, rhythms, and memories all play important roles.

Other elements are more tangible. For example, don't waste existing public investments in transportation systems and other physical infrastructure. New York's World Financial Center was originally proposed to be isolated at the foot of Manhattan. Battery Park City's master plan, which I helped design and implement, relocated new commercial development adjacent to the area's major public transportation hub at the World Trade Center. The plan also laid out the entire area for generous light and air to all development properties. When high performance buildings, such as the Solaire at BPC, are placed within this kind of well-planned urban environment, the environmental advantages are compounded because transportation and energy generation are the greatest sources of urban air pollution.

View of the Soltaire, a green building in Battery Park City, New York, NY , Photo by Bonnie Harken, 2006

Starting with the strengths of the site also means making the most of the water itself by appreciating its unique qualities, such as its tides, currents, depths, and colors. Both San Francisco and Amsterdam provide excellent examples of cities integrating uses on both water and land, reinventing historic piers, and making intermodal transportation links to active ferry systems.

3. Program for a mixture of uses and people … because that provides flexibility and sustains vitality over the long term

Waterfronts can easily become the targets of single, powerful interest groups. For example, in cities where economic growth is the highest priority, commercial developers can drive up the price of waterfront land and effectively push other uses inland. Only a mixture of uses and people, however, will provide enough flexibility to sustain an area's vitality over time. Montreal's Vieux Port is an example of centuries-old buildings that maintain their vitality today because of their adaptable mixture of ground floors open to the riverfront, retail shops on the city side, and residential apartments above. The Montreal piers displays the same flexibility: long Great Lake freighters dock right alongside public parks, new science centers, and markets.

Shipping and recreations uses coexist in Vieux Port, Montreal, Canada, Photo by Bonnie Harken, 2000

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At the General Motors Global Headquarters at the Renaissance Center, the strategic plan I helped create turned a fortress-like complex, which blocked downtown from the Detroit River and had been surrounded by parking lots, into an enjoyable riverfront center with new parks, shopping and a winter garden for everyone to enjoy - from office workers to nearby residents and tourists.

Sometimes a single large event can act as a catalyst for redevelopment of the waterfront. In these cases, it is critical that the planning include both the event and the long-term legacy it will leave behind. Expo '98 in Lisbon is an excellent example of reuse of a former industrial site on the Tagus River which was carefully planned both for a world-class event and for a lasting diverse, mixed-use community with permanent elements like a new intermodal metro-bus-rail station.

4. Create intermodal access - reduce energy consumption, air pollution, and connect more people with the water

Intermodal connections are fundamental elements of sustainable waterfront planning because they not only link people directly with ferries and water taxis, but also have a substantial impact on reducing energy consumption and air pollution. In many cities today high-speed ferries, which now move at 40 miles/hour, can easily beat cars stuck on congested highways and gridlocked on city streets. Often, however, the public transportation infrastructure is set inland several blocks from the water either because the tunnels or bridges crossing the rivers require ramps starting inland or because the commercial waterfront was served only by freight rail lines or highways which cut them off from the city.

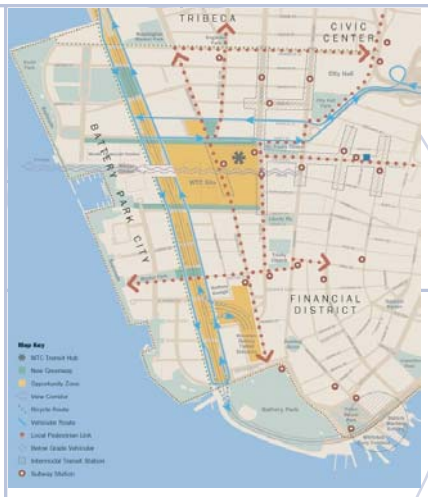
At Ground Zero in New York, the commuters formerly numbered over 350,000/day to the World Trade Center's transit hub. A committee I co-chaired after 9/11 for NewYorkNewVisions (a pro-bono coalition of professional organizations) proposed ways to rebuild that create world-class transit connections for both pedestrians and commuters. Part of the strategy was to link public investments in transportation with those in public parks and create a walkable downtown, with landscaped pedestrian routes around Ground Zero that connect subways, trains, buses, and ferries. The new transit station set in a park is now under construction.

5. Layout the public open space first, then the streets & blocks - maximize the major public investments and natural assets

Many cities make the mistake of trying to maximize the amount of development property on new areas of waterfront. Private investors, in turn, are understandable protective of their property's waterfront edges,

General Motors Global Headquarters at the Renaissance Center - view of the new Winter Garden and waterfront park from the Detroit River, Michigan
Photo by GM Worldwide Facilities Group, 2003

Intermodal connections between rail, bus and metro at the Oriente Station, Lisbon, Portugal
Photo by Bonnie Harken, 1998



Connections diagram for Lower Manhattan, by Connections Committee, Bonnie Harken, co-chair, NewYorkNewVisions, 2002

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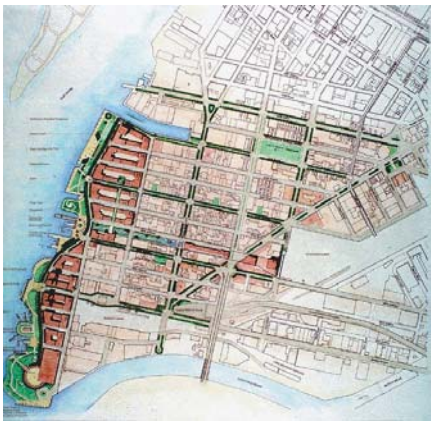
especially where the site has long been neglected and the focus of crime. But, in fact, public investments and returns can best be maximized on waterfronts when the public open spaces are designed to maximize its natural assets.

At Battery Park City, the waterfront esplanade, public parks, utilities, and streetscapes were all constructed before any proposal was accepted from developers. Each development was also required to follow detailed design guidelines for all the public elements of their buildings. This strategy both creates and protects the real estate value of the development parcels. While it requires upfront public investments, the return on that investment is leveraged much further. Battery Park City Authority now reaps millions of dollars in profits each year.

6. Design density in 3 dimensions - help maintain stable social structures and maximize infrastructure investments

What do density and social structures have to do with each other? When existing neighborhoods with cohesive urban fabrics are overshadowed by large-scaled development on their waterfronts, they are de-stabilized in several ways. First, the potential to increase the value of the existing real estate is lost because the inland properties are walled off from the waterfront. Second, the speculation in real estate value begins years before any actual construction and can easily price existing residents and businesses out of the area.

For an example just across the East River from the United Nations complex, new luxury residential towers are rising up to 40-stories tall in an existing mixed-use neighborhood with 3 to 4-story buildings. Parking garages occupy several floors at the base of the towers and are brightly lit all night long. At the request of a coalition of community groups, I designed an alternative plan which creates a continuous waterfront park and a development that respects the scale and character of the existing neighbor. By locating high-density buildings near existing transportation infrastructure, parking requirements are substantially reduced and the entire area can enjoy the East River, rather than just the luxury apartments; public infrastructure investments are capitalized on; and social stability is optimized.



Hunters Point Waterfront Alternate Plan and model, Queens NY, by Harken Architects for the Hunters Point Community Coalition, 1992 , Photo by James R. Morse

Low scale "Main Street" on Vernon Boulevard, Hunters Point, Queens, NY
Photo by Bonnie Harken, 1992

In summary, while the challenge of reshaping waterfront sittes in major cities is highly complex and multi-layered, dynamic new developments that address the needs of contemporary commerce and housing and also create environments that are sustainable in all dimensions of that word - economic, social, and environmental - are not only possible, but their advantages are compelling. It is important for cities to meet this challenge with waterfornt developments that set them on a course for more sustainable futures.

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