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# Revitalization of urban waterfronts in port cities : the case of New York and Boston

Francisca Ramalhosa

To the Graduate Council:

I am submitting herewith a thesis written by Francisca Ramalhosa entitled "Revitalization of urban waterfronts in port cities : the case of New York and Boston." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Planning.

James Spencer, Major Professor

We have read this thesis and recommend its acceptance:

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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# REVITALIZATION OF URBAN WATERFRONTS IN PORT CITIES
# THE CASE OF NEW YORK AND BOSTON

A Thesis
Presented for the
Master of Science in Planning
Degree
The University of Tennessee, Knoxville

Francisca Ramalhosa
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Lastly, I would like to thank my parents, my sister, and Miguel, whose encouragement and support made this work possible.

**Abstract**

The purpose of this study was to study urban revitalization in old port areas in the United States, which for various reasons are no longer used for port activities, specifically the cases of New York and Boston.

In the 1960s, changes in port technology and transportation systems led to major transformations in port activities. Waterfronts that for years were used exclusively for port activities were now vacant. In this context, New York and Boston are two major port cities that succeeded when planning for their waterfronts.

This thesis studied the major technological changes that led to vacant harbor land and then the importance of that land for the city and, therefore, the importance for revitalization. The projects adopted by New York--Battery Park City-and Boston-Waterfront and Faneuill Hall area-were analyzed in order to come to some conclusions about what is possible to do in waterfronts. These two cases are viewed as successful. This thesis explains why.

Although there is not an exact formula for redevelopment of waterfronts, it was possible to draw some guidelines.

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Crossing this landscape my dream of an infinite port
And the colour of flowers is transparent of the sails of great ships
That leave the quay dragging as shadows through the waters
Into the sun the forms of those ancient trees...

The port I dream of is sombre and pallid
And the landscape is bright sunlight on this side...
But in my spirit this day's sun is a sombre port
And the ships that leave this port are these trees in the sun...

Doubly free, I leave the landscape below...
The outline of the quay is the clear calm road
Which lifts and rises like a wall,
And the ships pass through the trunks of trees
With a vertical horizontality,
And let fall the cables in water through leaves one by one within...

I do not know who I dream myself...
Suddenly all the water of the sea of the port is transparent
I see the bottom, like an enormous print that was shining there,
All this landscape, torn from the tree, the road burning in that port.
And the shadow of a ship more ancient than the passing port
Between my dream of the port and my view of this landscape
And it comes close to me, and enters into me,
And passes to the other side of my soul...
(...)

Fernando Pessoa

# CHAPTER I
# INTRODUCTION

Urban Ports have changed in recent years because of changes in port technology. These changes have altered the amount of land needed and the way it is used. This thesis is a study of urban revitalization in port areas in the United States, which for various reasons are no longer used for port activities. It includes case studies of New York and Boston.

The study begins with a literature review that is informative about the reasons that led to the existence of vacant harbor areas. It describes the importance of these areas to the city environment and therefore the need for revitalization projects that can restore the vitality of waterfront lands in the urban life in port cities. The cases of New York and Boston will be presented as case studies, with an analysis of the urban revitalization projects conducted in the harbor areas of the Port of New York and Boston.

## ❑ PURPOSE OF THE STUDY

The purpose of the study is to understand how port cities can revitalize their harbor areas when land is no longer needed for traditional port activity. As in many other social science studies, case studies are a crucial source of information. The case studies will allow study in depth of the type of alternatives port cities have to revitalize their waterfront; as well as the major challenges of that process.

The research questions of this thesis are:

**PRIMARY QUESTION**:

- How can port cities revitalize vacant harbor areas?

**SECONDARY QUESTIONS**:

- What are the reasons for the existence of vacant land in port areas?
- What are the main factors to take into account when planning for harbor areas?
- The case of New York and Boston

    ⇒ How to handle the process?

    ⇒ What type of land use?

    ⇒ What type of design?

    ⇒ How to finance the project?

    ⇒ What is the main objective of the project?

    ⇒ Who is the responsible entity?

    ⇒ How is it working for the city?

It would of course, be ideal to have many case studies (the more the better). But, due to both financial and time constraints it was decided to concentrate on two case studies. There are various reasons for chosing New York and Boston. These two cities and their ports represent an enormous role in American history. The revitalization work done in both was in some aspects pioneering and is well known throughout the world. Moreover, because they are so important and yet so dissimilar, it was not expected to find a common trend that could be followed, but different alternatives to serve the same purpose – revitalization of the waterfront. It is not my intent to judge

the decisions made by New York or Boston. On the contrary, it was determined to comprehend the decision processes behind their revitalization projects and to appreciate the final product.

## ❑ METHODOLOGY

To answer the research questions a study was made of the literature in the following subjects:

- History of port cities;
- Technological changes in ports, and
- Waterfront revitalization.

Some literature in Urban Design is also important. It is important to say that the knowledge acquired in various classes of the Master's Degree Program were crucial to this study.

The case studies demand not only a study of the literature on those cities but also a personal visit to the site. It would be difficult to study what was made in the waterfront of New York and Boston without visiting them. A visit was made to Boston, where study of the site that was revitalized. The site visit included a review of what was made, how the space is used and its relation to the rest of the city. Contact was also made with the Boston Redevelopment Authority for information and for an interview with a person who had knowledge of their process. In the case of New York, because the city was visited, in particular the port area, this past summer; a second visit was not made. However, the Battery Park City Authority was contacted to request an interview by phone or internet. In both interviews information was obtained about the process of the revitalization project, including:

- How was it done?;
- What were the main constrains?;
- What was the goal?;
- Who were the responsible parts involved?

# CHAPTER II
# CHANGES IN PORT ACTIVITIES THAT LED TO VACANT HARBOR LAND

*"Technology made and then broke the traditional urban waterfront"* [Peter Hall, 1993]

In the foreword of the book *Urban Waterfront Development*, Frank Spink points out the importance of the ocean to the settlement of the most important American communities. Water was for many years the most important form of transportation, and therefore the earliest commerce was water-related. Communities located at key points along rivers, waterways or on the ocean experienced a fast growth because of their geographic location, which was strategic for commercial and economic activities. Moreover, these communities were the "front door" for the immigrants who came from all over the world.

For centuries port cities were the most important cities in the country. They began as a small harbor, and soon would grow into a town, city and later a regional metropolis. The twentieth century had a new destiny for port cities. While some of port cities never lost their initial important role, others did. Changes in the transportation system and advances in port technology changed deeply the role of the port and moreover the use of its waterfront land. Many cities had to close their ports, and the ones who didn't had to make high investments to keep their activity.

In his book, Douglas Wrenn traces the typical pattern of port development, explaining the changes that have taken place along urban waterfronts. His theory of port development is presented here.

The prerequisite for establishing a port was the existence of a safe harbor suitable for cargo and passenger ships. A small wooden jetty was constructed within the harbor where cargo was transported from the cargo ship to the shore by smaller boats. The ships were anchored offshore. A street pattern would slowly be established later on ( see Fig.1a).

Typically a period of rapid growth and development followed. During this period the physical configuration of the waterfront underwent significant alterations. A larger pier was installed in order to allow ships to dock. The street grid expanded and filled in with buildings (see Fig.1b).

At this point there was the need to improve anchorage and stabilize the shoreline; therefore, bulkheads and seawalls were constructed. Despite the fast expansion, the settlement was still turned to the waterfront with a shoreline street providing primary access. Maritime commerce stimulated urban development and the shoreline road was a busy street providing services and supplies. At this point, the settlement was becoming a city and the waterfront a port (see Fig.1c).

Commerce increased with the use of steamships. The construction of warehouses blocked the water's edge from the street, and bigger docks made of stones and fill material gradually substituted for the old wooden piers. The expanse of docking and storage facilities increased the distance between the shoreline and the city's center (see Fig.1d)

The port continued to grow and more warehouses were built. By this time (nineteenth century), railroads had appeared. The development of the railroad expanded the geographic and commerce opportunities. The introduction of railways required a great amount of waterfront land. In order to satisfy the spatial needs of the railroad, more land with fill material was created. As can be seen in the figure, this change effectively detached the central city from the waterfront (see Fig.1e).

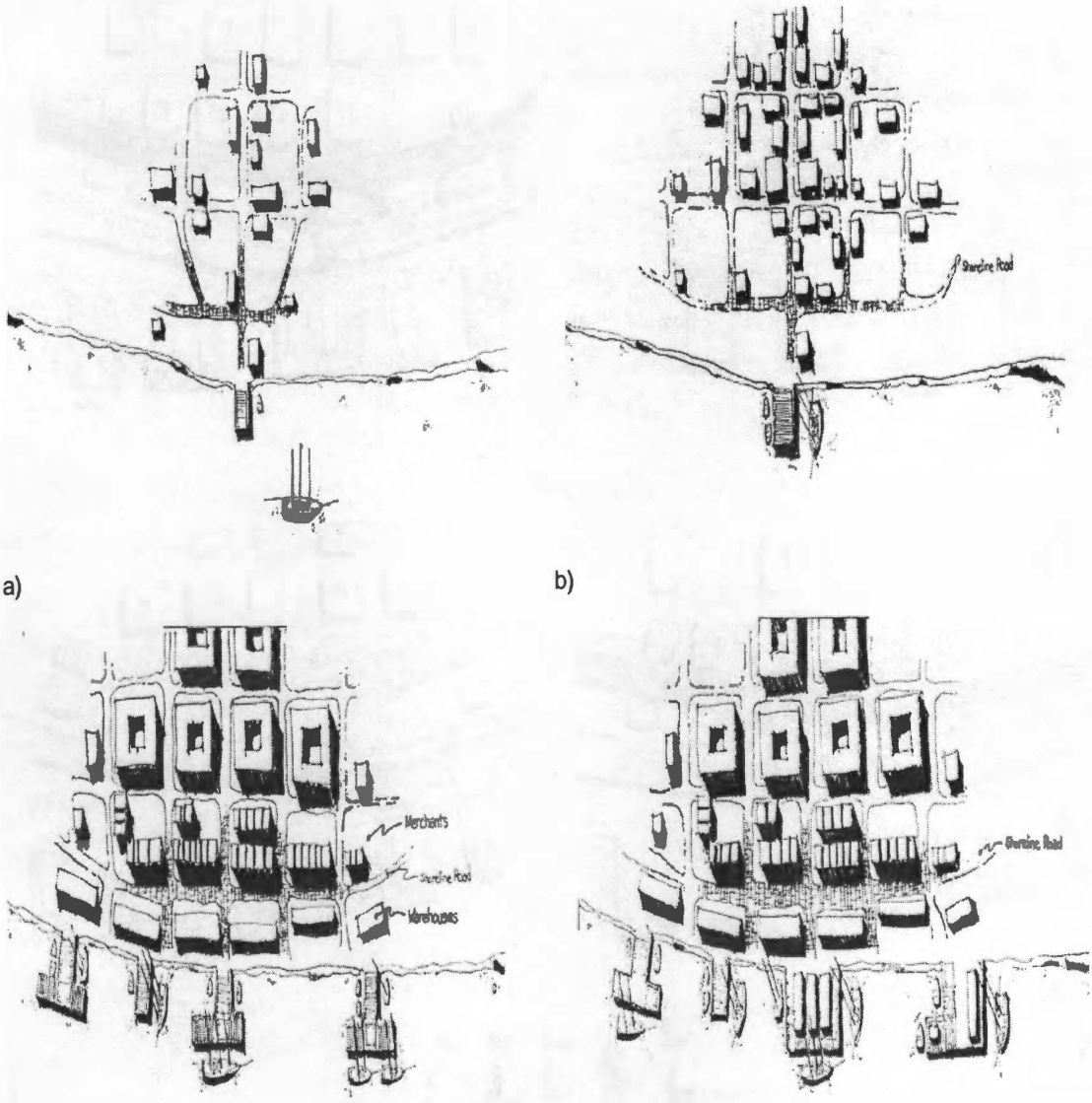
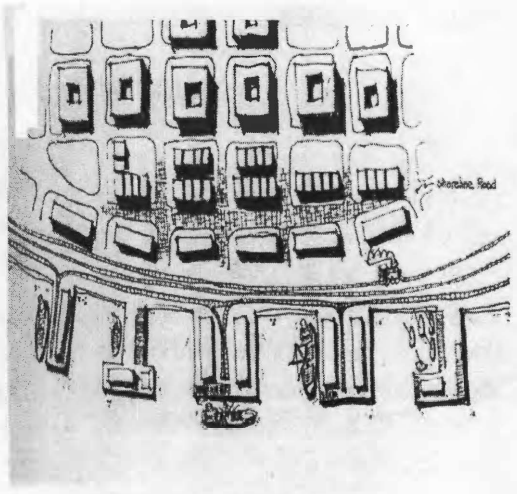



Fig.1 – Typical evolution of a port.
Source: Wrenn, Douglas. 1983. Urban Waterfront Development.

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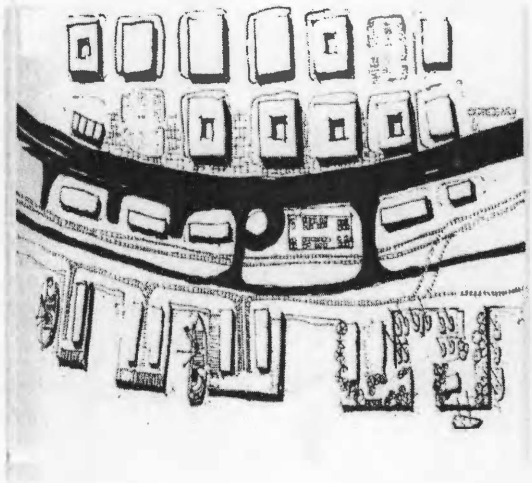

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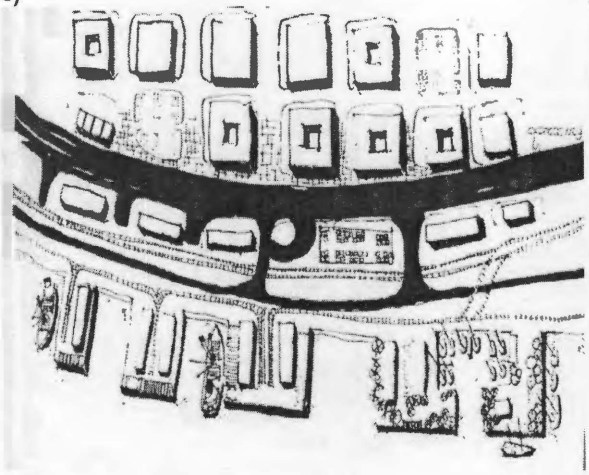
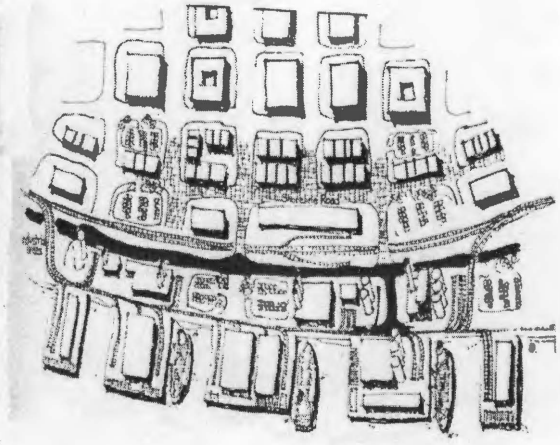


g.1)



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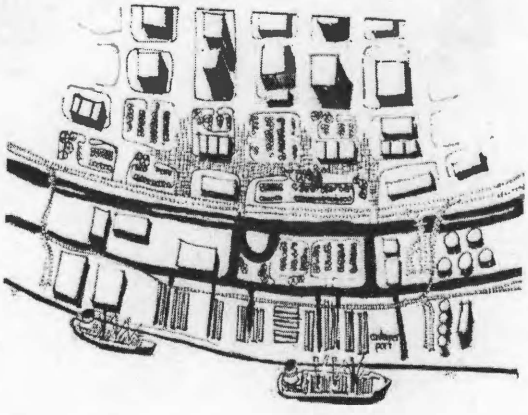


i)

Fig.1 – Continued.

The process of change continued and the original shoreline road became functionally less useful as the distance from the water kept increasing. The central city was effectively detached from the shoreline and the waterfront was congested and difficult to maneuver through. Often a new-elevated highway (with limited access to the city) was constructed near the shoreline to alleviate the congestion. The offices and stores along the old shoreline road were progressively converted to warehouses (see Fig.1f).

At this stage the typical port development scenario followed one of two paths, depending on the level of shipping. If the shipping declined, then the shoreline remained unchanged and the buildings along the old shoreline road were subsequently demolished and the expressway widened (see Fig.1g.1). If shipping increased, the port activities were expanded, more industrial uses were introduced, and wider piers were constructed (see Fig.1g.2).

Throughout this development process the scale of the waterfront increased significantly along with the size of the elements of industrialization (trains, cranes, ships) in use (Fig.1h).

Brian Hoyle also identifies the stages in the evolution of the port-city interface. Figure 2. shows his theory of the evolution from the primitive cityport to the present stage of the majority of American waterfronts. In both Fig.1 and Fig.2 the pattern of port development is similar. With time the port activity created a barrier between the city and the water.

Technological advances have been probably the most significant factors to the changes that occurred in ports. Since their beginning, ports have to adapt quickly and effectively to new technologies.

In their article *Spatial approaches to port development*, Hilling and Hoyle explain the changes in cargo handling from the traditional method – manual labor intensive cargo-handling.

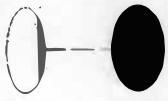
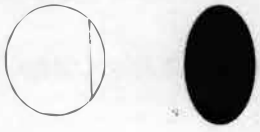
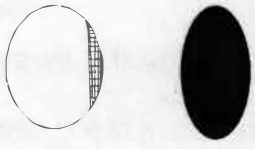
| Stage | Symbol<br>city○ port● | Period | Characteristics |
|---|---|---|---|
| 1 Primitive cityport |  | Ancient-medieval to 19th century | Close spatial and functional association between city and port |
| II Expanding cityport |  | 19th – early 20th century | Rapid commercial and industrial growth forces port to develop and break-bulk industries |
| III Modem industrial cityport |  | mid – 20th century | Industrial growth (especially oil refining) and introduction of containers and ro-ro facilities require separation and increased space |
| IV Retreat from the waterfront |  | 1960s – 80s | Changes in maritime technology induce growth of separate maritime industrial development |
| V Redevelopment of the waterfront |  | 1970s – 90s | Large – scale modem port consumes large areas of land and water-space; urban renewal of original core |

Fig. 2 – Stages of cityport evolution
Source: Hoyle, B.S., Pinder, D.A..1981. Cityport Industrialization and Regional Development. Spatial Analysis and Planning Strategies.

The dockworker was responsible for making the most effective use of the ship's space and ensuring minimal damage to goods in transit. Because the manual labor gave low levels of productivity on the ship and on the shore, ships spent most of the time tied up in port. Therefore, ships remained relatively small, averaging 5000-8000 tons dwt in deep- sea trades. While ports could differ within respect to the number of berths, they displayed considerable uniformity with respect to cargo-handling methods, berth size and layout, dredged channel depths, and dock dimensions.

After World War II, the United States chose to commit to international trade. U.S. seaports, windows on the world economy, became the critical link in the infrastructure of international land and sea trade [Chilcote, 1988]. The expansion of international trade required technological advances to stop with labor and port costs. The most far-reaching advance in maritime technology in the past forty years was *containerization*.

As Hoyle and Hilling [1984] state "[T]he adoption in the 1960s of the standardized ISO container resulted in what some see as a revolution in transport." A container is a mode itself – a truck body, which because of its size and transferability became an advantage for both load/unload and intermodal movement (see Fig.3).

The containerization concept is simple:

1. The goods (of any kind) are packed into a container at any location (usually away from the waterfront);
2. The entire container is placed on wheels and moved by truck or rail to the maritime terminal;
3. Large gantry cranes lift the container from the maritime terminal apron into a ship with slots designed to hold containers in place during the ocean voyage.

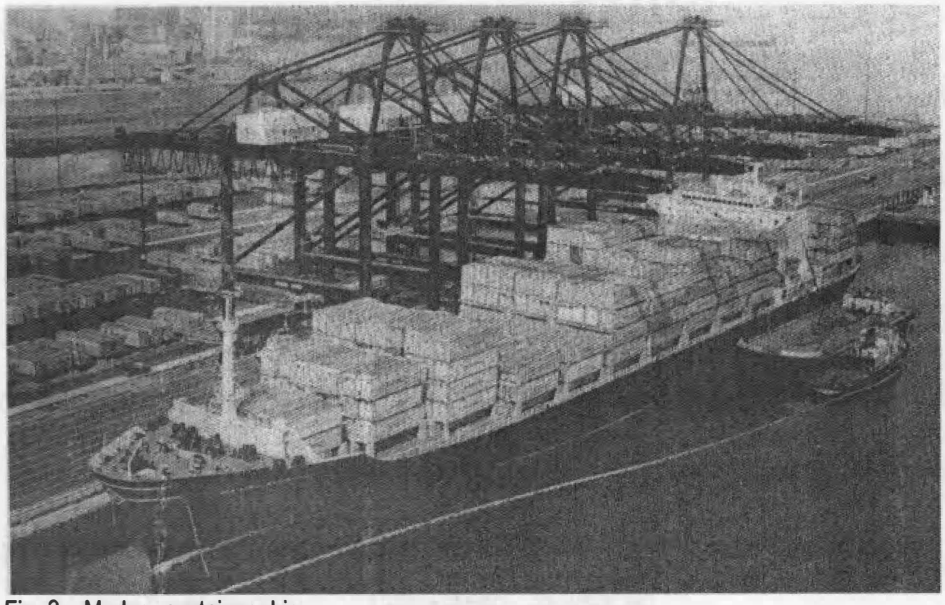


Fig. 3 – Modern container ship
Source: Hershman, Marc (ed.). 1988. Urban Ports and Harbor Management.

Before the invention of containers, the goods had to be moved four times: once at the origin, once at the destination and twice as they were loaded onto and unloaded from the ocean-going ship. Containerization eliminated two handlings required at shipside. Two major advantages brought by containerization were standardization and mechanization. Standardization ensured that the equipment was compatible (machinery from shipping lines and vessel hold dimensions). Like the railroads had done a century before in track and railcar standards, shipping lines also agreed upon a size standard for containers.

The importance of mechanization was in the increase in cargo capacity per lift and the speed with which a vessel could load/unload. "Productivity went from 10 to 25 tons per gang, per hour to about 250 to 260 tons per gang per hour" [Hoyle, Pinder and Husain, 1988]. Cargo-handling was transformed from a complicated and expensive operation to an almost completely mechanized one. "Unitization has meant the wholesale restructuring of the internal geography of

ports"[Hilling and Hoyle, 1984]. The handling of the containers into and out of the ship is still done at the dock, but the loading and unloading of the container can be undertaken at the origin and the destination of the goods. While the traditional cargo-handling needed only few acres of waterfront (at the most about 1acre per berth), in the form of a wooden pier and a small warehouse; a single containership berth typically requires between 12 to 30 acres of land for sorting and stacking purposes. There is therefore a need for space, which not all ports have been able to provide. Over the years the new type of cargo handling has led to changes in the amount of land needed for port activities and moreover to deep changes in the location where cargo-handling activities take place.

Another development was the barge-carrier, which is a mother-ship with the capability of taking barges on board either by lift-on/lift-off or float-on/float-off methods. The design of the barge has never achieved the same degree of standardization as with containers.

Because of the increase of containers' size, owners built vessels as large as they could since it did not translate to an increase in the marginal operational cost. While the first-generation vessels approximated to conventional cargo vessels, the latest ships are much larger and cannot be accommodated at some ports. These changes in ships' size and design have forced ports that want to keep their activity to provide new deeper-water facilities.

These technological changes have brought crucial alterations to ports. The traditional breakbulk strategy, "go where the cargo is," was replaced by "cargo following the containership" [Chilcote, 1988]. The traditional strategy meant that a vessel would stop 10 or more times along a particular continental seacoast, which resulted in a limited revenue sharing or coordination with land transport. On the other hand, containership uses land transport to a single port within a region. "Furthermore, most container lines tended to select the same ports because of the complicated range of services that container operations require. The port selected for this concentration of

activity became known as the regional container load center" [Chilcote, 1988]. The competition among ports led to the end of activity of the weakest ones, and high investments for the ones who wanted to keep in activity. Goodwin states:

> Since the end of World War II, three major trends in society have transformed the old working waterfronts of our nation's port cities: the ascendancy of airline carriers over steamships for transporting people (and some goods) within and between continents, the technological revolution in the scale and efficiency of waterborne cargo shipping and handling, and the migration of industry from the central city to the suburbs. {Goodwin, 1988].

Spatial restructuring in port-hinterland relations has paralleled these trends. There were two major patterns in this spatial restructuring. In some, the docks and piers built for breakbulk freighters and passenger liners were abandoned, and new marginal docks designed for containerships were constructed on filled lands or other flat sites well beyond the congestion of the central business district (CBD). The port activity moved to land away from the CBD because the backup land required to accommodate containers awaiting transshipment was unavailable in the old waterfront. Consequently the old port area lost its original function. During this period some manufacturers began to leave the city, and as a result railroad yards on the waterfront deteriorate because of the decline of manufacturing plants. Other ports decided to specialized in a specific type of cargo and invested in the technology for that. Because the new technology was more efficient there was no longer the need for the same amount of land as before. In this case, the specialization of the port led to a space concentration of the work in some docks and piers.

These were the major factors that affected waterfronts. What used to be a vibrant, central point in a port city became an abandoned area that everyone avoided going to. Wrenn in his book refers to this process "The waterfront virtually became a ghost area – a deserted, inaccessible, depressing reminder of better days" [Wrenn, 1981].

# CHAPTER III
# IMPORTANCE OF THE WATERFRONTS FOR PORT CITIES

*"If there is magic on this planet, it is contained in water"*

[Loren Eiseley]

As explained in the last chapter, the old harbor was abandoned for technological or transportation reasons and for many years, waterfronts lived as distressed areas. In the 1970s, this tendency changed and waterfront revitalization became well established in North America. Many port cities understood that they were neglecting their waterfronts and that revitalization could bring enormous benefits for the city. Bruttomesso [1991] refers to this phenomenon as a "city's 'rediscovery' of its water frontage...." This trend was not only noticed in the U.S. but also in Europe and Asia where key port cities developed major revitalization projects for their waterfronts. Meyer [1999] states that there is a general feeling that "the urban waterfront became an international formula for success."

One can question, why did cities start to invest large amounts of money in projects for waterfront revitalization after years of neglecting these areas? This chapter will try to answer this question, explaining the importance and value of the waterfront in a port city.

It is hard to place in history the beginning of the relationship between Man and water. Water has always been a decisive condition for humans' survival. Mumford explains that although the first urban settlements, which occurred in Egypt and Mesopotamia, presented disconcerting

contrasts, they had an element in common - they settled near water. "[T]he city seems to have sprung up in a few great river valleys: the Nile, the Tigris – Euphrates, the Indus, the Hwang Ho" [Mumford, 1961]. The big majority of the urban historians believe as Morris [1994] that agriculture was the essential prerequisite for the evolution of urban settlements. The practice of agriculture could never exist without the provision of water; moreover, water makes land more fertile, permitting higher levels of cultivation.

Since the earliest forms of life, the waterfront has been a focus for human habitation. The shore was the place were people built when they first arrived as they came from the sea. There are different reasons for why people built on the shore. One can say that it was for security, trade, travel or aesthetic reasons. While they are all true, the most important reason was the influence that water has on people. As Bender [1991] points out "water is a source of life, power, comfort and delight and moreover a symbol of purification and renewal." It is common sense that water is the source of life that has both controlled and yet provided for human existence and all flora and fauna on earth. Some authors believe that people are attracted to live on the edge. As Torre [1989] states, "It is at the edge that man is at his best, that life is its most vibrant and reiterative of the beauty and complexity of our adopted communal existence." In a more philosophic spirit, one can say that it is near the water that man is closest to the intuitive spirit that represents life itself.

While in the "primitive" period water was seen exclusively as a survival element, time showed the various potentials of water. Obviously, the most important function of water is still for human survival, but over the years Man learned how to use water for other proposes, from transportation to recreation. In his book, Mumford [1961] points out the importance of rivers in the transportation system, "rivers were the first high roads, once boats were invented." Moreover, for many years boats were the only way for transportation of people and goods between Continents.

From rivers to the ocean, water became a critical element in the transportation system. Changes in society's behavior and customs brought together Man and the water for recreational or health reasons. Romans are known for their luxurious customs, one of the most well known being the baths. The baths were used not only for health and therapeutic reasons but also as a way to socialize. This was one of the first recognitions of the recreational potential of the water. Moreover, places near the water started to be used for recreation. Wrenn in his book *Urban Waterfront Development* describes the common function of American waterfronts:

> During the early urban development of North America, a city's waterfront served primarily to support its immediate resident population. The basic functions were commerce, shipbuilding, transportation, commercial fishing, and defense. Recreation was a secondary function and often the waterfront was thought to provide by itself adequate open space for the health and recreational needs of the citizens [Wrenn, 1983].

Although advances in technology and transportation systems allowed urban expansion to areas not located near the water, the human being tends to desire cities with waterfronts. These cities normally have a higher population density despite the fact that they are more likely to suffer natural catastrophes (hurricanes, earthquakes, etc) than other cities. The biggest cities on the world, like New York, London, Tokyo, and Rio de Janeiro, are located near the water. Why are waterfronts so special and attractive to urban development?

*GEOGRAPHIC LOCATION* - Waterfronts are privileged sites. They are rare because special geographic conditions need to be encountered. In *A Practical Guide to Improve Waterfronts* prepared by The U.S. Department of Commerce, National Oceanic and Atmospheric Administration, and Office of Coastal Zone Management, waterfronts are defined as land located on coasts, along rivers, at the terminus of shipping channels, or alongside bays leading inland from the ocean. The condition of

these water resources varies with each location. The more important factors are the dimensions and configuration of the body of water, the water resource dynamics, and the water quality. As Wrenn [1983] states, "To a great extent, these factors dictate the potential water-related uses of the shoreline."

Geographic location is the element which gives the unique character to a waterfront and, moreover, can determine its potential use. It is a fundamental variable distinguishing one urban waterfront from another.

*LAND RESOURCE* - Land is one of the most valuable resources in our society. Because waterfronts are privileged locales, they are invaluable.

One of the most important factors about waterfronts is the amount of land available. Quantity and configuration are crucial variables to determine the potential uses of waterfront land. In the past when there was the need for more waterfront land the response was to create new land by filling out into the water. The results were not very positive due to environmental problems. Wrenn [1983] states "it is safe the assumption that the amount of waterfront land in a given location is relatively fixed." The inland boundaries of urban waterfront land vary widely from city to city, most of the times the boundary coincides with topographical variations or physical barriers.

The quantity and configuration of the waterfront land not only affects its use but also the pattern of urban development. Wrenn [1983] explains that coastal seaports generally follow an urban form where either part of the city's perimeter is bounded by the shoreline and growth occurs farther inland, or the body of water penetrates inland and the city gradually envelopes it.

*URBAN CONTEXT* - The concept of urban context is used here to refer to the relationship between the waterfront and the city itself. More than the waterfront's location, urban context takes in consideration of cultural, social, historical resources and the pattern of land use. Unlike geographic and land resource characteristics, these factors can be altered.

The urban context of the waterfront is highly defined by the type of land and water uses. How does the city use its waterfront? In this matter, there is not a common pattern among waterfronts. Some waterfronts are heavily industrialized, either reflecting current activity or past port-related functions. Other waterfronts are primarily resort areas, and still others are dominated by commercial facilities or residential districts. More commonly, urban waterfronts are composed of a mixture of industrial, commercial, residential, recreational, and transportation uses. What makes waterfronts attractive to development is their potential to accommodate a diversity of land uses. Moreover, waterfronts exclusively provide opportunity for water dependent uses and water related uses. The first implies uses that cannot exist in any other location but on the water (e.g. port facilities, maritime transportation services, marine facilities). The second are the uses which may be helped by location on the water but could function in other locations. If real cost savings or revenue advantages can be attributed to waterfront location, the use is considered water related (e.g. seafood processing plants, sand and gravel companies, parks, public resorts, aquariums, restaurants). Each combination of uses reflects the role of the waterfront within the city/urban area. Another important factor to take in consideration when analyzing the urban context of waterfronts is their public. According to Wrenn [1983] the waterfronts' public can be divided into two groups: the primary group and the secondary group. People who use the waterfront as a residence, a place of work, or a recreation resource constitute the primary group. The secondary group is composed of people who occasionally go to the waterfront, have no direct involvement with it, but feel the

water's edge is a public resource and are concerned about it. Unlike other places in the city, the waterfront is desired by a diverse public for different reasons. Moreover, there is a general sense of waterfronts as public property, therefore, people feel that they have the right to use it. The diversity of people who use the waterfront for various reasons make the waterfront a melting pot of issues and interests.

It is also important to understand the relationship between the city and its waterfront in terms of what is its role in the city's physical form. Kevin Lynch in his book *The Image of the City*, classified the physical contents of the city into five types of elements. One of the elements are *edges*. Defining this term, Lynch writes:

> Edges are the linear elements not used or considered as paths by the observer. They are the boundaries between two phases, linear breaks in continuity: shores, railroad cuts, edges of development, walls. They are lateral references rather than coordinate axes. Such edges may be barriers, more or less penetrable, which close one region off another; or they may be seams, lines along which two regions are related and joined together. These edges elements, although probably not as dominant as paths, are for many people important organizing features, particularly in the role of holding together generalized areas, as in the outline of a city by water or wall [Lynch, 1960].

Waterfronts are in this context considered *edges*, functioning as the boundaries between two kinds of areas, the end of land and the beginning of the water. Furthermore, Lynch states "the clear transition from water to land at a sea-front, all are powerful visual impressions." One of the characteristics of edges in a city is that they often help to orient the observer.

Waterfronts are therefore not only important for the city because of their geographic characteristics, and the variety of land uses they can accommodate, but also because they represent a major role in the form of the city. They are not an annexed area; they are part of the city itself. Their function is more than land resource; it is to guide the visitor/resident/observer through the city and to offer them an "unforgettable picture."

*WATERFRONT HERITAGE* - Many waterfronts are rich in historical and cultural significance. The type and importance of the cultural or historical resources depend on the city's age and location. Some of the more common ones include: military installations, industrial buildings, markets and trade centers, shipping terminals, warehouses, fishing facilities and municipal buildings.

This historical character attracts even more interest around waterfronts from the part of investors, preservationists or the general public. Investors are attracted to historic waterfronts because of possible tax breaks on designated historic buildings rehabilitated for income-producing uses, and also because these areas normally help develop tourism. The age, the rarity and the type of the historic elements normally found in historic waterfronts captivate preservationists. Because the general public is fascinated by maritime heritage of old seaports and ships, historic waterfronts are locales of attraction.

Waterfronts create unique societies with unique customs like cuisine, music, dance, etc. Even today, there is still the notion that people who live near the water are more socially open and festive.

All these different characteristics attract different people for various reasons to the waterfront. And even though waterfronts were for many years forgotten and abandoned, this tendency did not last forever because people cannot neglect waterfronts' special value. In the last three decades one has been able to observe a movement toward the revitalization of waterfronts. As Peter Hall states:

> As waterfront sites become available, competition arose for the redevelopment of at least some of the most advantageous locations, both from land-based concerns such as housing, restaurants and shopping complexes, as well as from maritime interests like marinas, recreation and water-based facilities [Hall, 1981]

There are at least four reasons why cities began thinking about redeveloping their waterfronts in the 1970s and beyond. They are reviewed briefly below:

*Environmental* - The Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) were created in 1970. This year is often related as the beginning of the environmental movement. Major federal initiatives were launched to address problems related to air and water quality. "Federal water cleanup spending, begun in earnest in the 1970s, constitutes one of the largest public works programs ever undertaken" [Rigby, Breen, 1994]. These initiatives obtained important results in terms of increasing water quality.

Society became more concerned with environmental issues, which pressured authorities to present more results. The demand for water cleanup in the interest of health also encouraged new waterfront investment. With the water cleaned, cities tended to reconcile with their waterfront.

*Economic* - While old harbor areas were abandoned, cities were facing pressures to grow. As Richard Bender states "old cities are facing a new set of pressures to build at the edge as their arteries clogged with traffic, their infrastructures decaying, and an explosion of suburban growth choking off the possibility of expansion at the periphery" [Bender, 1991]. With the pressure to grow, and the attraction of views and access to the water, and individuals and companies ready to pay for space to live and work close to the city's center, waterfronts started to be seen as attractive sites for development.

*Social* - Society's customes changed with the years. The interest for more open spaces available for recreation and physical activities increased in the last decades. People started to have more

free time and more mobility, which caused an expansion of tourism in general and an increase of leisure time. These factors led to a market for recreation and for physical activities facilities. Waterfronts are the perfect location for these types of activities.

*Preservation* - As indicated previously, many waterfronts have an important historic and cultural heritage. In the U.S., in the 1970s the historic preservation movement received an increased emphasis. This movement led to the awareness of the need to preserve historical structures, including the ones located on waterfronts. The preservation movement also increased the attractiveness of historic buildings to investors because of the possible tax breaks and federal funds available for preservation. From the many forms of preservation, one of the most used in waterfront structures is adaptive use.

In this context, port cities started to invest in major revitalization projects for their waterfronts. Because waterfronts are special resources with unique characteristics, the task of revitalization is not an easy one. Many projects have failed in bringing life back to the old harbor, while others are major successes (either in economic, environmental or social terms). There are many strategies for revitalization, depending on the main goal of the project. In the next part of this thesis New York's and Boston's waterfront revitalization projects are going to be detailed and analyzed. Certainly they are very different yet they both have succeeded in restoring the important role of the waterfront for the whole city.

# CHAPTER IV
# THE CASE OF NEW YORK

*"A hundred times I have thought: New York is a catastrophe, and fifty times: It is a beautiful catastrophe"* [Le Corbusier].

- BRIEF HISTORY OF THE PORT OF NEW YORK[i]

History says that the first European to sight the coastline of the land that would one day be named New York was the Italian explorer Giovanni da Verrazano. In 1524 he entered Lower New York Bay, which he called "Beautiful Lake." After him other explorers visited the area but their discoveries remained unpublished. In 1609 the explorer Henry Hudson, working for the Dutch King, sailed into New York Bay and voyaged north to the present Albany. He published a report with his and the crew's testimony. This provided the first complete description of New York Bay. Hudson's voyage established a Dutch claim to the region. The river was named after the explorer – Hudson River. The Dutch started to colonize the region they called New Amsterdam. The attractiveness of the region was strongly related to its natural harbor. In 1664, England changed New Amsterdam into New York, as the port passed to British hands.

In 1678, the colony passed an act requiring that the sifting or "bolting" of flour for export be concentrated at the port of NY in order to facilitate inspection and to safeguard its uniform quality.

[i] The history of the port of New York is here mainly told according to :Albion, Robert. 1939. The Rise of New York Port.

This act led to a major increase in the traffic of the New York's port. During the first seventy-five years under English rule, NY was overshadowed commercially by Boston. The goods from England were arriving in New York by way of Boston instead of directly. To combat this competition, New York laid a heavy duty on goods which came from England by way of Boston. In 1770, New York's port stood in fourth place among the American ports in total tonnage and clearing (first was Philadelphia followed by Boston and Charleston). During the revolution, New York's port played an unusual role as a Tory Port. It was occupied by the British in the summer of 1776 and remained in their possession for seven years. The British zone was limited to a radius of only 20/30 miles around the city, and for a while this cut off the port from trade with the countryside. The war finished in 1782, bringing new opportunities to the American seaports. Without producing many of the important articles of commerce, New York made itself an *entrepot* where goods of every sort from every place were exchanged. Even more significant was the choice of the port by the British to "dump" their manufactures. This was the first step to the port's remarkable rise at this time. Although New York's port had luck, it has also to receive credit for its initiatives. In fact the port started to be overstocked, but the port made some decisions that were crucial for its history. The first one was the enactment of favorable auction legislation, which became law at Albany. This measure was designed to secure final sales of all goods put up for auction and, therefore, to attract more buyers. The other measure was the announcement of the first ocean liners, that made regularly schedule trips to Liverpool. These initiatives as well as other facts permitted New York's port to rise to first place among American seaports.

The decade of 1815-1825 was significant for the port's development. During this decade it became determined that New York port would outstrip the other big seaports of America (Boston and Philadelphia). In 1825 the Erie Canal opened, connecting the Hudson River with Albany. It

shaped the economic and social development in the nation and, moreover, gave the port of New York even more prominence. During the nineteenth century, New York experienced a growth in port activities and therefore more piers had to be constructed. "Over ten thousand vessels berthed here (thirty times more than a century earlier), carrying a total tonnage in foreign, coastal, and domestic trade that was twice that of London." [Buttenwieser, 1999]

There were no doubts that New York would become the center of the trade and commerce of the world. In the twentieth century, however, the port of New York saw itself in a new situation with technological and transportations changes, and with shifts in international trade strategy. The volume of activity decreased and at the same time the port had to do major investment to keep up to date with the new technologies. One of the consequences was that the space occupied for port activities became bigger than needed. Moreover, in the 1960s the port transformed itself into a regional container load center [Hershman, 1988]. As a result, the piers in Manhattan became abandoned and the port activity was intensified in New Jersey (see Fig.4). It was a new era for the city because of the challenge of deciding what to do in the old harbor site. The area reserved mainly to the movement of goods and people was now available for other uses. In this context the city had to revitalize many vacant areas on the waterfront, trying to link them with the rest of the city.

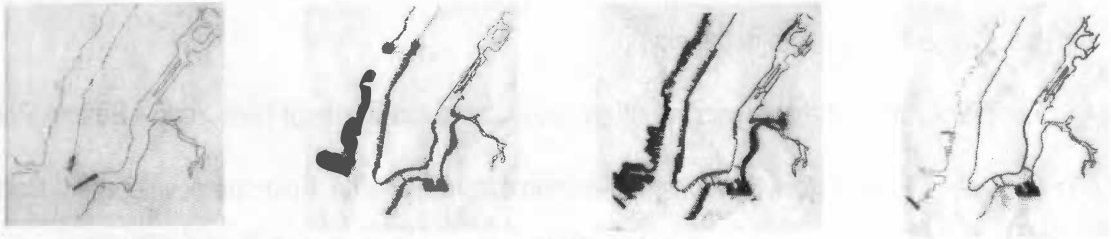


Fig. 4 – Spatial change of port activities in New York in 1850 to 1990.
Source: Adapted from Meyer, Han. 1999. City and Port.

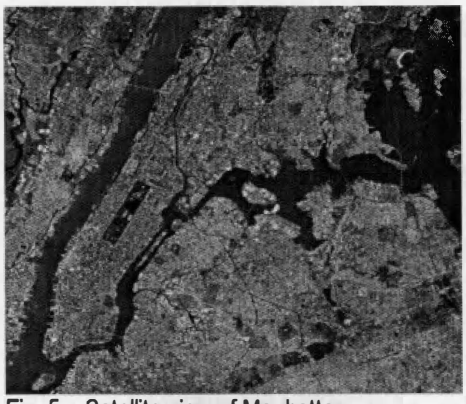


Fig. 5 – Satellite view of Manhattan
Source: http://www.satellite.zodiac.com

- GEOGRAPHY / URBAN CONTEXT

"It is often remarked by inhabitant and visitor alike that New York does not seem to be a city on water" [Plunz, 1994]. Normally the image that one has from New York is not a water related city; however, everyone knows that New York is on water! In fact New York has 578 miles of water frontage (see Fig.5). And although the city developed due to its port's activity, the city's culture and identity is barely related with water. The waterfront in New York was always used for maritime activities, which meant that the city was separated from the water. Presently the port's activity no longer takes place in the shoreline of Manhattan however it still has a major role in the national and international trade. Manhattan's waterfront, after centuries devoted to watching ships coming and leaving, has now a different role in the city.

For the purpose of this thesis the study area was in the South of New York – Battery Park City. The choice of Battery Park City was made upon different criteria. First, the development made on the site was a major success in terms of real estate, and it is a major reference in the urbanism

field (either internationally and nationally). Secondly, although the site and the rest of the city are only connected on the west side, Battery Park City has a major role in the urban life of New Yorkers. There is not another site on the long waterfront of New York with the same strong relation with the city as Battery Park City.

Battery Park City has one of the world's most prominent sites: the Hudson River waterfront at the end of Manhattan, New York (see Fig.6). It is a ninety-two acre site of new land, since it was created by landfill from 1967 to 1976 (see Fig.7). Battery Park City is bounded on the east by West Street, which insulates the area from the Financial District of downtown Manhattan. To the east, north and south, the area is surrounded by the estuary of the Hudson River.

Back in the time that all the visitors arrived by ship, this area was the first view of the city. Now many visitors arrive by air, but the postcard view still remains an important icon of New York. Battery Park City is an essential part of the urban ensemble around New York Bay. It is daily viewed by hundreds of thousands of people. For the residents of New York City, the site is a reference in part because it is adjacent to the Financial District and to the Battery Park which was one of the first waterfront public spaces in the downtown.

Fig.6 – Lower Manhattan.
Source: Battery Park City

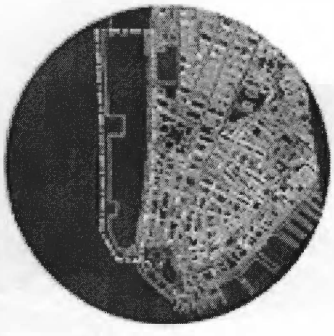


Fig.7 – Arial view of Downtown Manhattan
Source: Battery Park City Authority

## ❑ BEFORE THE MASTER PLAN[ii]

The last adopted Master Plan for Battery Park City was developed in 1979. However, plans for that area had been proposed since 1962. Although all the plans were different, they all had three goals in common: to expand the area of lower Manhattan; to get people living downtown again; and to provide lower Manhattan with a few more trees and some open space.

The earliest ideas for Battery Park City were inspired by the collapsing status of 20 piers in the Hudson River. The New York City Department of Marine and Aviation wanted to rebuild the piers as a continuous 100-acre dock. The agency hired consultants in planning to envision the Hudson waterfront in the year 2000. They recognized that the site seemed to have a different potential. The first Master Plan developed for Battery Park City in 1969, envisioned the combination of housing, offices and industrial uses. It contained: six commercial pier slips, eight office buildings, eighteen high-rise apartment buildings with 4500 dwelling units, and a forty-story hotel. The first phase of the plan included landfill from the Battery Park to Chambers Street, with apartments and offices built on top of the continuous 100-acre dock (see Fig.8).

Fig.8 – The New York City Department of Marine and Aviation 1962 Master Plan for Battery Park City
Source: Battery Park City Authority

[ii] The events and the plan's analysis here described are mainly based on information from the Battery Park City Authority.

According to Battery Park City Authority the solution was to build this "unprecedented new city" on top of the shipping terminals, with a sort of industrial esplanade along the edge. The plan was presented in 1962 and was not well received. The plan sank, but some parts were later salvaged by organizations which followed the Marine and Aviation Department lead.

During the 1950s and 1960s, the Downtown Lower Manhattan Association [DLMA] was one of the most powerful and effective private planning organizations in New York [Gordon, 1997]. David Rockefeller was the founder and the leader of the Association. The DLMA commissioned a plan for the downtown area and proposed that the Port Authority build the World Trade Center.

When The Department of Marine & Aviation proposal appeared, DLMA liked the idea of landfill along the lower Hudson but did not agree with the distribution of land uses. DLMA wanted a large residential community adjacent to their office developments. Their architects changed the project and included housing and a hotel on the Hudson River and new buildings for the stock exchange and a "world trade center" along the East River. Their plan was released in 1963 and was received with some reservations by the press and City.

The DLMA's pressure for redevelopment of the area was so powerful that the city's administration (at that time Mayor Wagner, democrat) was forced to respond. So, in February 1965 the City Planning Commission (CPC) engaged a consortium of planning firms to prepare a comprehensive plan for all of lower Manhattan. The plan was supposed to be finished in early 1966, but a municipal election delayed the process. In November 1965 John Lindsay (republican) was elected mayor, and a month later the first draft of the plan was released. The final plan was delayed until the spring, while the new mayor reviewed the proposals. Meanwhile, the Governor had some ideas for the site. Nelson Rockefeller was the Governor of New York State from 1959 to

1973. He was involved in various projects – universities, hospitals, housing, office buildings, parks and the Albany Mall.

Rockefeller was also concerned about middle-income housing. In 1961, he established a study committee which proposed massive residential developments like Starrett City in Brooklyn and apartment buildings built on piers on the New York waterfront [Gordon, 1997]. The Governor's interest in a residential development on the lower Hudson River waterfront probably emerged from the World Trade Center project.

After long negotiations between Rockefeller, the Port Authority, the city of New York and the city of New Jersey, an agreement was reached. The Port Authority team proposed that the fill from the massive excavation of the construction of the World Trade Center and the Twin Towers should be dumped into the river beside the site (see Fig.9).

Fig.9 – The World Trade Center under construction with landfill in the Hudson River
Source: Gordon, David. 1997. Battery Park City.

Rockefeller recognized that the proposed fill would create an opportunity to develop his idea for the area. He contracted one of the most successful architects of the day, Wallace K. Harrison, and asked him to design a model "comprehensive" community to be built in the area of the 20 Hudson piers over a level of "light industry."

Harrison's plan (see Fig.10) was a reaction against the poor conditions of tenement housing. Every apartment gets plenty of sunshine and fresh air, there are no streets where kids might get into trouble, and formal landscapes would herald in some green and a sense of order. According to the Battery Park Authority, the most important thing is that everywhere you look in this plan there are social services bolstering the various components of Rockefeller´s mixed income, interracial composition. Rockefeller recognized that architecture alone would not provide the solution. His community services were an essential part of this design [Battery Park City Authority, 2003].

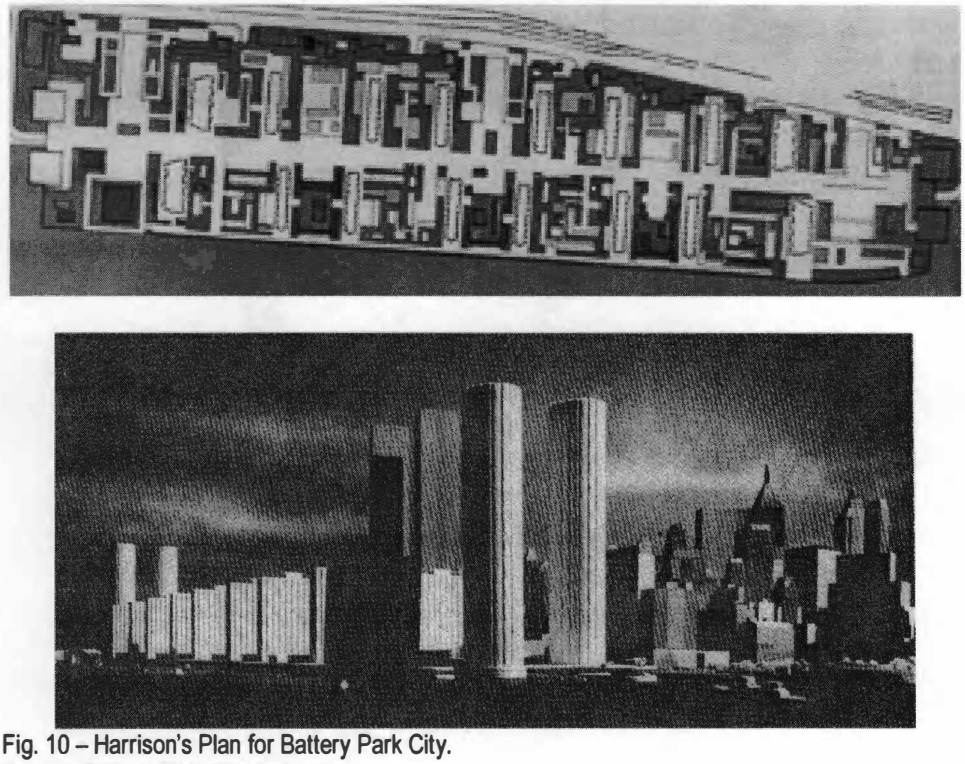


Fig. 10 – Harrison's Plan for Battery Park City.
Source: Battery Park City Authority

The project was unveiled to the public on May 1966. However the project proposed housing for a mix of incomes and a wide range of community services, the design of the project left much to be desired and received strong critiques. One of the most heard critiques was that the plan consisted of rows of slab buildings on a pedestrian deck over light industry.

Harrison's partner, Max Abramovitz described the project as "yesterday's kind of planning; a left over from Le Corbusier's ideas" [Gordon, 1997]. Another strong critique was that the plan had little to do with that specific site and could be used in any other site.

In June 1966 the City Planning Commission finally released the Lower Manhattan Plan. Its recommendation included expansion of the financial core and residential development on landfill along both the Hudson River and East River (see Fig.11). The Plan was enthusiastically welcomed by the DLMA and the press.

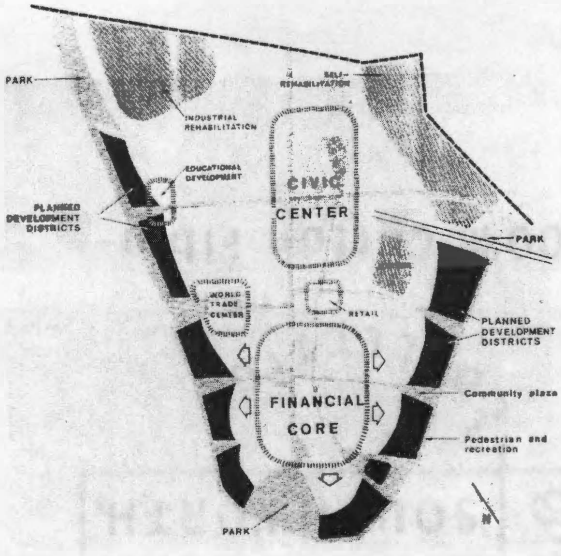



Fig.11 – Lower Manhattan Plan Principle, 1966.
Source: Gordon, David. 1997. Battery Park City

New York City owned the land and had the power to regulate urban development and had prepared a superior plan. However, Rockefeller had the money, legislative authority and an enormous desire to build Battery Park City.

They joined forces together and agreed on the general policy – to develop a mainly residential community on landfill adjacent to the World Trade Center. The problem was that they disagreed substantially on urban design and policy implementation. It took the City and the State three years to work out their differences. "In the end, the two parties made a trade: the state would develop BPC, while the City would get the Governor's support for a proposed Linear City project over a Brooklyn expressway" [Gordon, 1997]. The next resolution was about the design of the plan. The city had made it clear that Harrison's project was not acceptable. Philip Johnson was brought to the process to mediate between the Governor's architect (Harrison) and the City's urban designers (Conklin and Rossant). All were to work under the Battery Park City Authority, created in 1968. In less than a year the team presented a plan. Both the City and the Governor were pleased with the plan and the critical response was supportive.

According to the Battery Park City Authority the plan turned out to be the first official Master Development Plan for Battery Park City. It is probably the most elaborate urban plan ever proposed on an official level, and it was translated into voluminous zoning regulations and adopted by the city. It envisioned a mega structure, a single building complex. It was essentially a seven-story mall, containing urban functions and amenities – shops, restaurants, schools, parks, rapid transit, utilities, public and recreational facilities. This service spine ran the length of Battery Park City as a partly glassed-in, partly open "lifeline," into which all the buildings were plugged in. Seven development pods would attach to the megastructure. The commercial pod, located at the south

end of the site would consist of a ten story commercial podium with three office towers (see Fig.12).

Despite its futuristic look, the 1969 plan carefully adhered to a set of urban design principles. The mall, for example, became transparent at key view corridors. And it had serious chances of joining Battery Park City to Manhattan.

The 1969 plan was quite well received. A New York Times' columnist wrote about the Plan: "Is this any way to plan a city? You bet it is." Although the Plan was popular among the press and the public and both the Governor and the City were confident with it, reality turned out to show that the Plan's timing was off. In 1973, by the time all the details were worked out, an economic recession had hit. The economic context was not prosperous and so investors were unwilling to commit themselves to such a new concept as the Plan of 1969. As a result the megastructure failed.

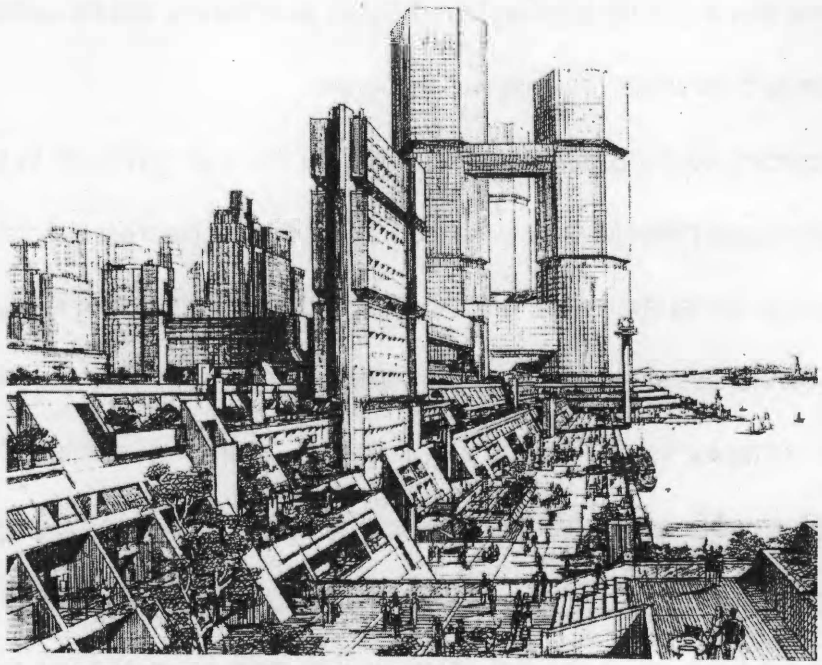


Fig.12 - Master Plan for Battery Park City, 1969
Source: Gordon, David. 1997. Battery Park City.

According to the Battery Park City Authority, the megastructure was an all-or-nothing proposition. "You had to take the whole thing on simultaneously – you couldn't go at it piece by piece" [BPCA, 2003].

Meanwhile, in 1976 the land-fill of the 92 acre site was completed. However, Battery Park City had three major problems to deal with during the 70s: the rigid and complex Master Development Plan could not be implemented, there was no market for the office space, and both the City and the State had a fiscal crisis which paralyzed their development agencies.

- THE MASTER PLAN

Until 1979 the City had owned the landfill and Battery Park City Authority leased it. But due to a financial emergency caused by fiscal crisis during the 1970s, New York State´s Urban Development Corporation moved in (with the City´s cooperation) and condemned the project, transferring title from the City to the Battery Park City Authority (BPCA). This gave the BPCA the authority to change some things quickly, the first of which was to adopt a radical new master plan. According to the BPCA, the new plan was radical because it was so simple. "The new plan was a product of the hard-nosed, practical realism at the end of the 1970s" [BPCA, 2003]. The essence of the plan is simple: in the center is a commercial sector, to the north and south are residential areas. Linking the whole is a magnificent, 70-foot-wide waterfront esplanade along the Hudson River. The plan proposed an extension of the traditional street and block structure of lower Manhattan (see Fig.13). This decision brought together the old part of the city with a new part. The extension of the grid would divide the site into development parcels.

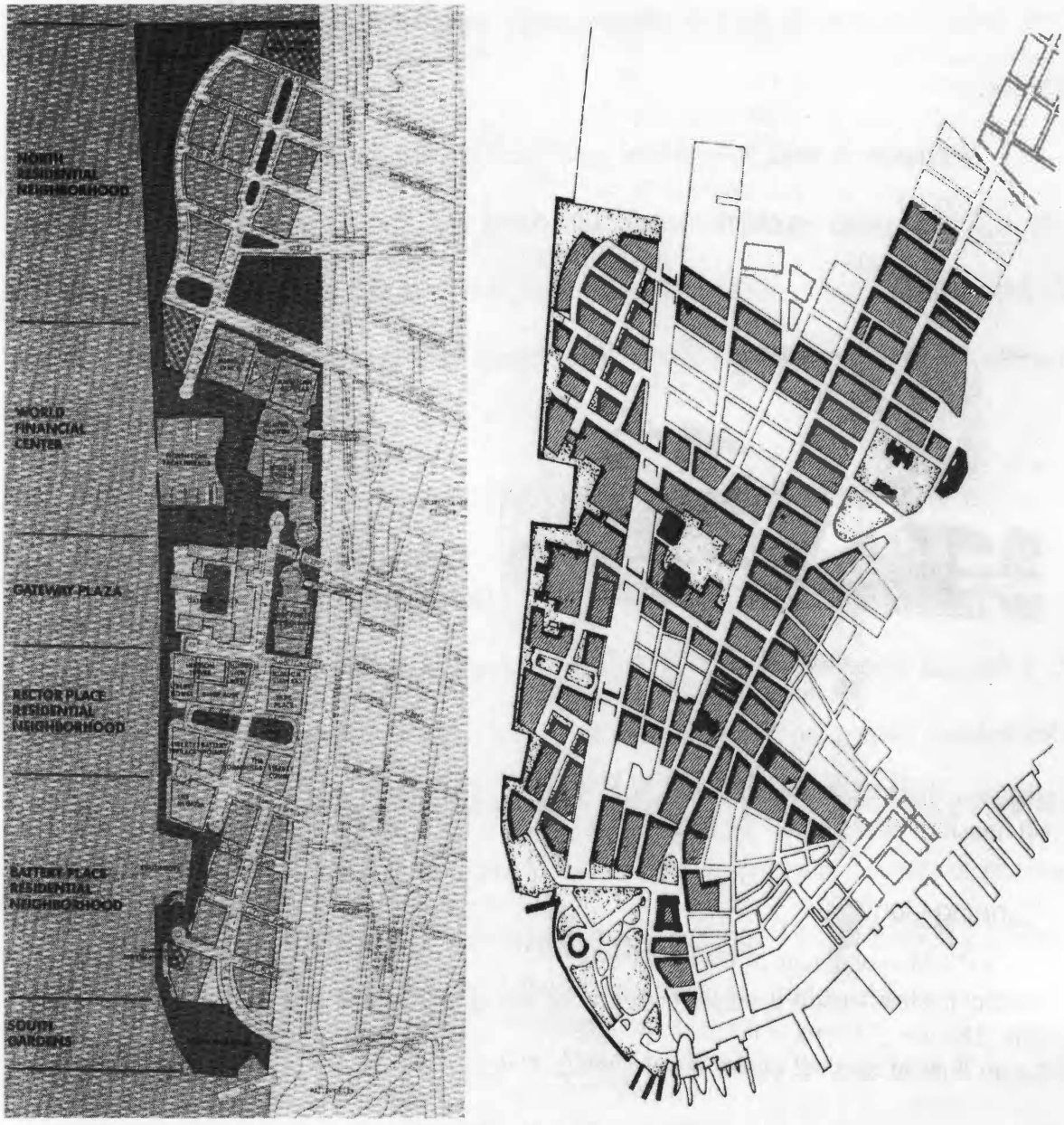



Fig.13 – Battery Park City Plan, 1979
Source: Source: Gordon, David, Battery Park City, 1997

Each block could be parceled out to different developers at different times, according to market demand. Then, each private investor would build in accordance to the design guidelines created especially for Battery Park City. Although the plan does not present strict design guidelines, it presents a comprehensive view of what is wanted for the site.

According to the Battery Park Authority, the 1979 Master Plan allocated the land as follows:

- 42% residential up to 14,000 housing units;
- 9% commercial : six million square feet of office space located opposite the World Trade Center;
- 30% open space : includes public parks, plazas, and esplanade;
- 19% streets and avenues.

According to the Battery Park Authority the 1979 Master Plan was based upon eight design principles:

1. Battery Park City should not be a self-contained new-town-in-town, but a part of lower Manhattan;
2. The layout and orientation of Battery Park City should be an extension of lower Manhattan's system of streets and blocks;
3. Battery Park City should offer an active and varied set of waterfront amenities;
4. The design of Battery Park City should take a less idiosyncratic, more recognizable, and more understandable form;
5. Circulation at Battery Park City should reemphasize the ground level;

6. Battery Park City should reproduce and improve upon what is best about New York's neighborhoods;
7. Battery Park City's commercial center should become the central focus of the project;
8. Land use and development control should be sufficiently flexible to allow adjustment to future market requirements.

The overall purpose of the plan was to keep the 1969 land uses but transform the image of the project. Cooper and Eckstut, the authors of the plan, drew the plan showing the pattern of development but not specifying the form of the buildings. The plan was clearly positioned in the vanguard of post-Modern urban design.

The central area designated to be commercial, was the heart of the plan. It was planned thinking on the potential linkage to the World Trade Center Plaza. The location is unique because the center to be built there would be related to the Financial District and to Battery Park City. After some discussion and analysis of purposes, the site was occupied by the World Financial Center designed by the architect Pelli (see Fig.14).

The complex consists of four towers, ranging from thirty-three to fifty stories each. The space surrounding the towers at ground level accommodates a series of shopping areas. At the center a large winter garden was realized so office workers could seat beneath the palms and enjoy free concerts at lunchtime fully protected by a glass dome.

Other developers were attracted to start invest in the area because of the WFC. Construction soon began on the first residential complexes. A total of twelve thousand apartments were projected in the plan, most of which were for people in higher income categories.

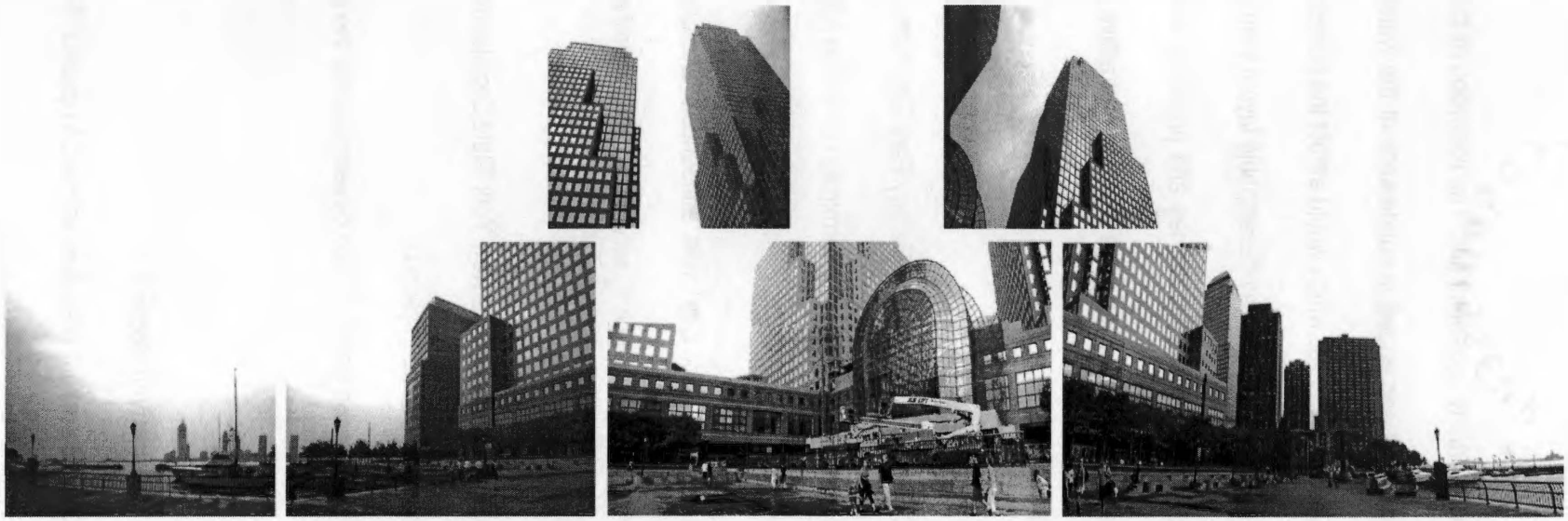


Fig. 14- Different views of the World Financial Center.
Source: the author

The plan also had the intent of giving priority to pedestrians. The extension of the grid, provided that existing streets would be extended and ended in cul-de-sacs at the waterfront. Also, the scale of the open spaces was to be a small scale which would attract the pedestrian.

The Master Plan of 1979 offered a simpler, more easily developable layout than all the plans before. Without regulating specific and rigid design guidelines and providing a strong framework for the development of the site, the plan contained more direct and attractive public benefits and more private investment potential.

TIMETABLE OF THE BATTERY PARK CITY, according to the Battery Park City Authority:

1962 – First Plan to revitalize New York's Hudson River shipping terminals combining housing, offices, and industry was presented.

1966 – Governor Rockefeller's plan for "Battery Park City" was announced. Designed by Wallace K. Harrison, this plan combined housing and social services in a "comprehensive community" to be built over a level of light industry.

1968 – Battery Park City Authority (BPCA) was created by the New York State Legislature.

1969 – Battery Park City's first official Master Plan was completed.

1972 – BPCA issued $200 million in moral obligation bonds for the development of the landfill and necessary infrastructure.

1976 – The 92-acre landfill was completed.

1977-79 – Due to New York's fiscal crisis, development stopped.

1979 – BPCA was restructured and a financial workout plan was adopted to project BPCA's bonds. A new development plan, the 1979 Master Plan, was created.

1980 – Construction began on the 1, 712-unit Gateway Plaza, Battery Park City's first residential development.

1981 – Olympia & York began construction of the six million square foot World Financial Center.

BPCA designated six development teams for the Rector Place neighborhood.

1982 – The first tenants moved into Gateway Plaza.

1983 – The first section of the 1.2-mile Esplanade was completed and opened to the public.

1984 – Construction was begun on 2,200 units in the Rector place neighborhood.

1985 – Rector Park and another section of the Esplanade were completed.

The World Financial Center opened, and the first tenants moved in to the Dow Jones and American Express towers.

1986 – New York Legislature passed, and the Governor signed, Housing New York legislation which allowed battery Park City's excess revenue to be used for low and moderate income housing in the Bronx and Harlem.

1987 – An agreement was signed to allow the new Stuyvesant High School to be built at Battery Park City.

1988 – The Battery Place neighborhood construction began.

South Cove and the next extension of the Esplanade opened.

The World Financial Center was completed and the Winter Garden and World Financial Center Plaza opened.

1989 – The North Cove Yacht Harbor was completed.

"Rector gate" by R.M. Fischer, "Sitting Stance" by Richard Artschwager and "Upper Room" by Ned Smyth dedicated.

Construction of Stuyvesant High School began.

Ground was broken for The Governor Nelson A. Rockfeller Park.

The Port Authority Ferry from Battery Park City to Hoboken was inaugurated.

1991 – The first phase of Battery Place neighborhood was completed.

1992 – The Governor Nelson A. Rockfeller park opened, including, "The real World" by Tom Ottemess.

Stuyvesant High School opened its doors to 3000 students.

1993 – Construction was begun on the Belverde at North Cove and on Robert F. Wagner, Jr. Park.

Housing New York completed the first project with money generated by Battery Park City; 1557 units in 54 buildings.

1994 – Ground was broken for the Museum of Jewish Heritage: A Living Memorial to the Holocaust.

Three development teams were designated to build 1,000 apartments in the North Residential Area.

1995 – The New York Mercantile Exchange began construction of a new headquarters.

The Belvedere at North Cove was completed, including light pylons by sculptor Martin Puryear.

City Council approved zoning for new K-8 public school, P.S./I.S. 89, at Tribeca Bridge Tower.

1996 – Robert F. Wagner, Jr. park opened with works by three artists: Tony Cragg, Jim Dine, and Louise Bourgeois.

Ground was broken for P.S./I.S. 89 and Tribeca Bridge Tower in the North neighborhood of battery Park City.

1997 – The NYMEX building was completed and opened for business with a small historical museum.

The Museum of Jewish Heritage: A Living Memorial to the Holocaust opened to the public. The police Memorial was dedicated.

1998 – P.S./I.S. 89 and Tribeca Bridge Tower opened.

Tribeca Pointe and Tribeca Park opened in the North Neighborhood.

A 463-room Embassy Suites Hotel and 16-plex cinema began construction in the commercial center.

Construction of two residential buildings, both designed by Hardy Holtzman Pfeiffer, started in the battery Place neighborhood.

Construction of the Hallmark Senior Living building with 200 units began in the North Residential area.

1999 – Construction of the Ritz Carlton Hotel & Condominium in the Battery Place neighborhood will begin in the Fall 1999.

River Watch Residential Rental Building, 200 units opened.

South Cove Plaza Residential Rental Building, 200 units will open summer 1999.

- CRITIQUE

Battery Park City occupies one of the most spectacular and potentially valuable sites in the world. Yet, for many years it was unable to generate developer activity. After decades of trying to decide what would be the right thing to do in Battery Park City, the Master Plan of 1979 opened a new chapter for the site and the city. The exclusive geography of the site called

for the attention of many different voices that brought varied opinions to the discussion. Probably never before had so much discussion been generated around what to construct on a site. Many would say that New York won despite the lengthy process and the variety of proposed projects because at the end Battery Park City is a world known success.

The 1979 plan had as one of the goals to design Battery Park City not as a "self-contained new-town-in-town" but as part of lower Manhattan. Indeed Battery Park City is part of lower Manhattan and New Yorkers recognize that. The main reason Battery Park City fits in the city is the extension of the city's grid. The extension of the grid guaranteed that few new streets were created. On the contrary, Battery Park City is served by extensions of existing streets. This gives a sense of continuity and familiarity to the city and to pedestrians. Battery Park City is indeed a piece of the puzzle but is it pedestrian friendly as the plan envisioned? One of the principles of the plan was to emphasize ground level circulation and create an environment attractive to pedestrians. This should not be that difficult because the site has such good natural resources that would attract people. However, many believe that the biggest failure of the plan is concerned with the circulation in the site. One of the critiques more commonly heard is that Battery Park City is isolated in itself. When one walks around Battery Park City, one of the first sensations is that the site is isolated, and it even seems that it is a private place. There is almost the feeling that maybe one should not be walking around there. Indeed looking to the plan, the connection between Battery Park City and the city was taken for granted with the extension of the grid and there were no plans to reorganize the west area of Lower Manhattan in order to integrate Battery Park City. The result is that Battery Park City itself turned its back on the city, not having a strong link with Lower Manhattan. If the pedestrian does not know *a priori* about the existence of Battery Park City, the pedestrian will

easily leave Lower Manhattan without visiting it. The highway and the situation of the buildings in the west side of Lower Manhattan are a barrier between the city and Battery Park City. The circulation to Battery Park City is hard, to some degree the pedestrian almost feels lost while trying to find the way to the site. As Meyer points out in his book, "The most important pedestrian connection between Lower Manhattan and Battery Park City consists of two 'skywalks' between the World Trade Center and the World Financial Center." [Meyer, 1999] Obviously, this was before the tragedy occurred in September, 2001. New York has now the enormous challenge of planning for the site where once the Twin Towers stood. As many times before, New York will succeed. Whatever is decided it is going to impact Battery Park City, New York, and all the World. Battery Park was closely related to the World Trade Center and Twin Towers, not just because of the spatial proximity. Battery Park City is a result of landfill from the construction of World Trade Center.

Another indicator of the lack of efforts to open Battery Park City to the city, is that there is no subway station in Battery Park City. Moreover the Battery Park City Authority and Olympia & York have made efforts to keep the World Financial Center's winter garden closed to the public, although it was built on public property.

The sense of isolation accentuates the exclusive character of the site and attracts investors, entrepreneurs, residents, and consumers to the area. John McMillan, the Director of Planning for the Battery Park City, claims that high income young families are attracted to the residential areas because the site offers security, open spaces, excellent views and exclusivity. It is almost like living in the suburbs with the exception that Battery Park is even better because it is actually in the city. To some degree Battery Park City is almost a luxurious private community.

Although Battery Park City is known as a major success in waterfront revitalization, is it really? It fails in terms of public space. One can say that the open space is there, people can go and enjoy it, which is true. However, it is not only important to invite, it is crucial to be aware how the invitation is made. The fact of existing public space is not a sufficient condition for people to use it.

Battery Park City is an example of success in real estate in a redevelopment project. In fact, both the private and public win with the site's isolation which provides an "added value" to real estate. This was the great and innovative point of the Master Plan of 1979, a pro-development plan which would attract developers and investors but at the same time a plan with public and aesthetic concerns.

Many are of the opinion that the plan was made to save the city from bankruptcy. Overall Battery Park City offers a diversity of uses, buildings, and parks, all within a context that relates to the rest of New York (see Fig.15).

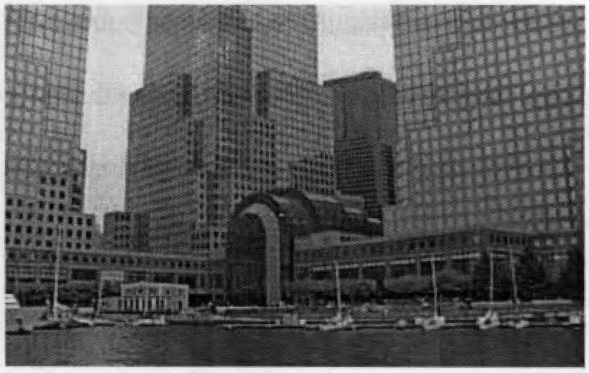


Fig.15 – Different uses offered by Battery Park City
Source: Battery Park City Authority.

# CHAPTER V
# THE CASE OF BOSTON

*"It is not the strongest of the species that survive, not the most intelligent, but the one most responsive to change"* [Charles Darwin].

- BRIEF HISTORY OF THE PORT OF BOSTON[iii]

"In the summer of 1630 Governor John Winthrop decided that because of a lack of good water at Charleston another site should be found for the principal city of the Massachusetts Bay Colony" [Reps, 1965]. The place chosen was the land across the River Charles, where Boston was settled. By this time, the port of Boston had become a busy place and took on a major role in international trade. Yet, the harbor had served before for at least four thousands years as a settlement and trading area for native American tribes. Once the most important in the western hemisphere, Boston remains a major harbor.

Since its beginning, the port had to face many challenges to keep its activity as a major port in the country. During the colonial period Boston was totally dependent on British trading ships and therefore started a vigorous shipbuilding industry and began to establish independent trading links with other colonies and countries.

By the 1750s rapid growth in the mid-Atlantic colonies allowed Philadelphia and later New York to obscure the port of Boston. Boston responded to the crisis by developing a

[iii] The history of the port of Boston is here told mainly according to the Massachusetts Port Authority (Massport).

foreign trading network that brought wealth, culture, and influence to the city [Massachusetts Port Authority, 2003]. A big portion of this wealth was created by the "triangle route" in which sugar was brought to Boston to be made into rum which was then traded for slaves in Africa, who were transported to West Indies sugar plantations to produce sugar for Boston's distilleries.

The Boston harbor is rich in history not only because the port is one of the most important and oldest but because of a series of events which culminated in the American Revolution. England was jealous of the increasing wealth in Massachusetts and demanded that the colonies trade with England. By preventing Boston's merchants from engaging in world trade, England was giving reasons to Boston's middle-class to join the more radical elements in calling for revolution.

Although the Boston port was devastated by the British during their wartime occupation, it enjoyed growth as the American republic began to re-engage in world trade. Soon, American ships were seen all over the world and many were manned by Boston sea captains. The profits served to build many districts of the city.

The late nineteenth century became a time of economic expansion. The port of Boston was prosperous, but international trade began to be concentrated in the port of New York. Moreover, Boston's shipbuilding industry collapsed as it failed to adapt to the new techniques of iron and steam-powered ship construction. Boston was not able to keep up, and ultimately this resulted in the deterioration of the downtown waterfront. As a consequence railroads companies started to build new port facilities in South Bay and East Boston. This shift in the location of port activities and the creation of the Massachusetts Port Authority (Massport) brought a new era to the port. Major investments were made in order to update the port

installations to the new technologies such as containerization. Although the Massport claims that the port of Boston has become one of the most modern and efficient container ports in the U.S., the literature says the opposite. "Some Ports were successful in attracting cargo, and others were not so successful, in spite of large investments in container terminals...., whereas Boston,..have not been able to maintain their traditional share" [Hershman, 1988].

The original harbor became abandoned with the move of the port activities to the South Bay and East Boston (see Fig.16). Like New York, Boston's waterfront was now occupied by old and decaying piers.

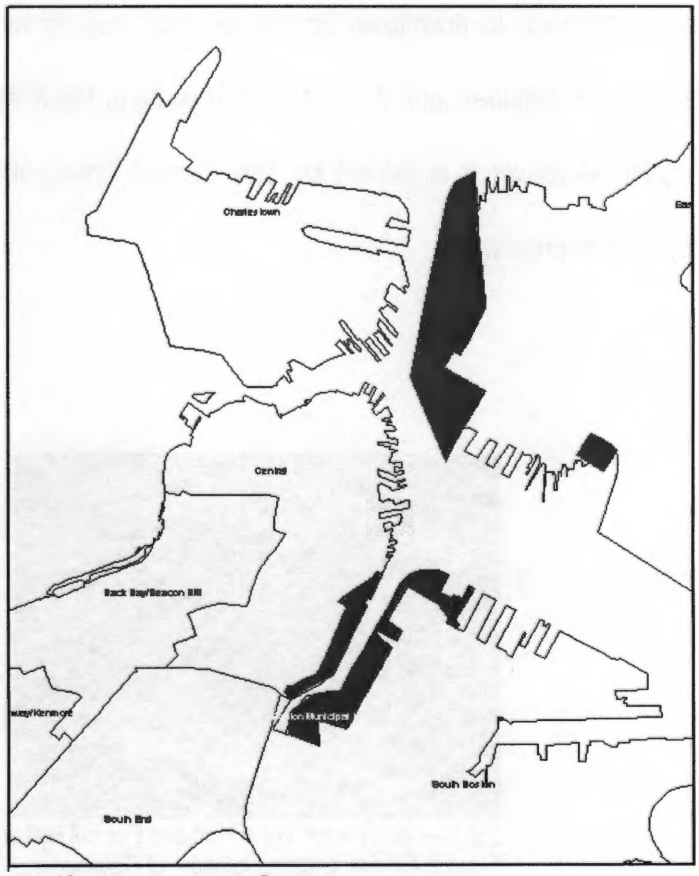



Fig.16 – Harbor areas in Boston
Source: Boston Redevelopment Authority

## ❑ GEOGRAPHY / URBAN CONTEXT

This study analyzes the Charles River's waterfront at the end of the Southeast side of the city of Boston, Massachusetts and also the Faneuil Hall area (see Fig.17). Originally this site was almost entirely under water and was known as the Great Cove. The first commercial settlement was at the head of the Cove. Piers extended into the Cove and land was filled.

The landfill work was finished in 1868 (580 acres of new land) (see Fig.18) at the same time that Atlantic Avenue was constructed along the line of the waterfront, serving as a harbor defense wall.

It is common to read that the waterfront is Boston's "Window on the World." It is located at a major entrance to downtown Boston by land, sea, or air. It is within walking distance to the city's rail terminals and it is the closest place in the financial district to Logan International Airport. Moreover it is served by The Central Artery, the major avenue that connects the city to all expressways.

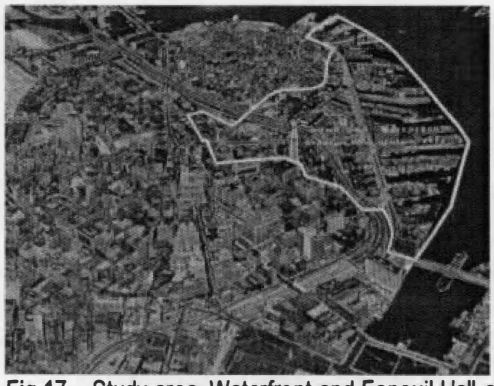


Fig.17 – Study area, Waterfront and Faneuil Hall area.
Source: Greater Boston Chamber of Commerce.

Fig.18 – Evolution of the landfill work, 1630, 1710, 1860.
Source: Adapted from Boston Redevelopment Authority.

It is immediately adjoined by three city districts: the financial district, which is also the city's commercial center; Government center; and the historic North End residential community. For all these reasons, the site has a major role in the daily urban life of Bostonians.

- BEFORE THE PLAN[iv]

Since the beginning, Boston's waterfront was an important site for the urbanization of the city. In the 1820s, when the port was still strongly active, Mayor Quincy began the construction of a magnificent group of granite market structures adjacent to Faneuil Hall on the harbor: Quincy Market, North Market, and South Market Buildings (see Fig.19). This was the first act of urban planning in Boston.

[iv] The events described here are according to the Greater Boston Chamber of Commerce.

Fig.19 - Quincy, North, and South Market Buildings, with Faneuil Hall in the background, 1827
Source: http://www.iboston.org

The Civil War and the changes in port technologies marked the start of decline in this area. The marine functions were replaced by industrial, wholesale, and storage functions. The deterioration of the waterfront did not see an end until the middle of the twentieth century.

Obviously the urban revitalization of Boston's waterfront was not made in a short period of time. It is always a long process, and most of the time the actual renewal work is shorter than the decision and planning processes. The first step Boston took for the revitalization of its waterfront was in the 1920s when three of the old wharf buildings were converted to luxury apartments, meeting an enormous demand. In 1956 the City Planning Board surveyed the area and found that:

> The physical plant presents a dreary picture of obsolescence, neglect and vulnerability to fire. Much of the pier work itself is in an advanced state of rot, and in a situation which is little short of being an emergency case [Greater Boston Chamber of Commerce,1962].

The Planning Board proposed a redevelopment of the waterfront, though it didn't happen. At that time, urban renewal was not very common, especially in an area of this type.

- THE PLAN

In 1960, the new mayor of Boston, John Collins proposed imaginative development for the city. He knew that he needed the citizen support for that and so he asked:

> Does Boston have enough faith in itself and its future to make the try?
> Is Boston willing to support a big, bold, fast-moving program?
> Will Boston have enough courage to accept the hardships and disruption that are inevitable a part of rebuilding?
> Will Boston be willing to accept the leadership of its Mayor in this rebuilding effort? [Greater Boston Chamber of Commerce,1962].

The response was enthusiastically affirmative, and so without any opposition Boston launched a new urban renewal program. Boston was more ambitious and complex than any other city, at that time. Another innovation of Mayor John Collins was uniting the city and the chamber of commerce in the urban renewal effort. He asked the Greater Boston Chamber of Commerce to undertake and finance an urban renewal study of the waterfront area, claiming that this area can again become Boston's "Window on the World." Without hesitation the Chamber accepted the invitation, seeking an opportunity to expand the city's economic base. To finance the planning, engineering, traffic, and real estate market studies which were carried out ensuing over eighteen months, the chamber provided $150,000.

In 1962, a proposal for the urban renewal of the Downtown Waterfront – Faneuil Hall Area was presented. The plan was prepared by the Waterfront Redevelopment Division of the

Greater Boston Chamber of Commerce and its consultants, including Kevin Lynch and John R. Meyer. The Chamber was very confident that the plan could become the most handsome and exciting urban renewal project in the U.S., and it was very explicit in its plan: "The Chamber suggests that this proposal with its adventurous diversity, its strong economic appeal, its freshness of design, its emphasis on social values will enrich the life of every citizen" [Greater Boston Chamber of Commerce,1962].

The Chamber recommended that Mayor Collins, and the Boston City Council approve a survey and planning application to the Housing and Home Finance Agency which would finance the next steps required to make the proposal a reality. The next table (see Fig.21) shows the 6 goals the Chamber identified and the problems the area was facing. The plan for redevelopment of the area is shown in Fig.20.

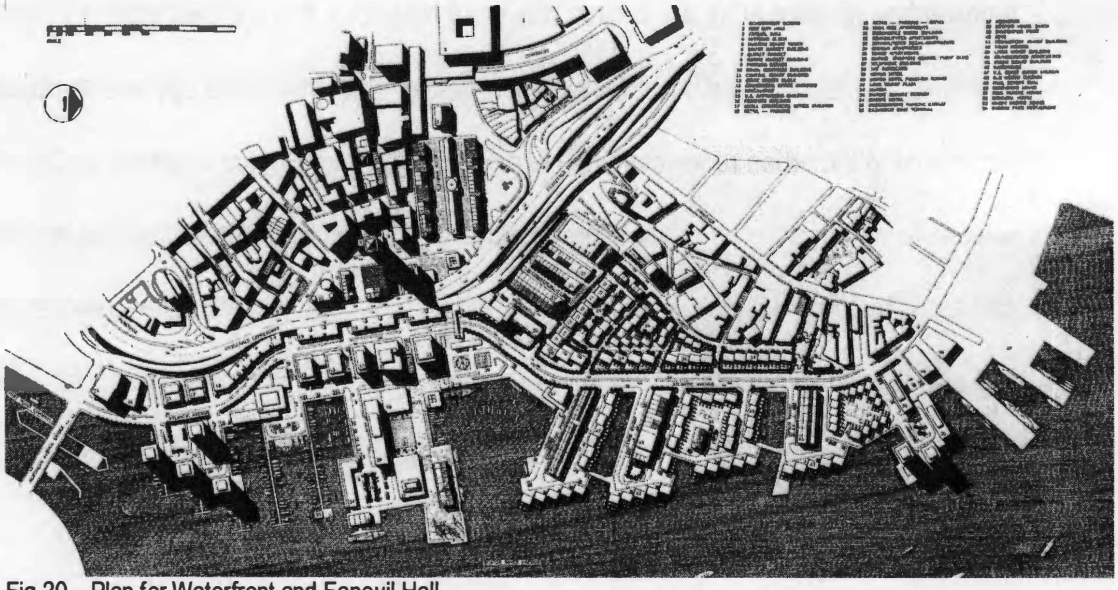


Fig.20 – Plan for Waterfront and Faneuil Hall
Source: Greater Boston Chamber of Commerce.

| GOAL | PROBLEM | SOLUTION |
|---|---|---|
| Open the City to the sea | - Waterfront is cut off from the rest of the city by the Central Artery. | TRANSPORTATION:<br>- Relocate traffic from under the Artery to existing streets;<br>- New connection to the Government Center along South Market;<br>- Improve connection to North End.<br>ACTIVITIES:<br>- Relocate Atlantic Avenue inland to provide a generous and well-shaped area for public uses;<br>- Create a marine at the end of the Cove;<br>- Build the Long Wharf Plaza and an Aquarium;<br>- Create a network of promenades offering restaurants, shops, cafes, etc. |
| Reinforce the Neighboring Districts | - Disfigurement of the waterfront affects other districts | - New hotel at the Long Wharf providing excellent accommodations for business travelers;<br>- Create an area for medium and smaller office buildings;<br>- 350,000 net square feet office space will be provided. |
| Preserve Historic Buildings and Traditions | - Deterioration of historic buildings | - Conversion of historic buildings into residential use |
| Create a Waterfront Residential Community | - Desertification of waterfront;<br>- Need for 2200 units housing in the city. | - 450 units in towers in Rowes Wharf;<br>- 150 large town houses;<br>- 130 units in high rise buildings;<br>- 230 units in middle height buildings;<br>- 120 units in buildings integrated with old buildings;<br>- 180 units created by rehabilitation in the Faneuil Hall Market area building;<br>- 250 new garden-style apartments;<br>- 200 units created by rehabilitation at the North End. |
| Increase Visitor Traffic to the City | - Waterfront is not an appealing area | - Motor hotel;<br>- Marine hotel;<br>- Restaurants;<br>- Tourist information center to be built near Faneuil Hall;<br>- Waterfront Freedom Trail. |
| Strengthen the City's Economic Base | | - Attraction of at least $70,000,000;<br>- Tax base will increase;<br>- Employment will rise. |

Fig.21 – Goals and actions proposed by the Plan for the Downtown Waterfront-Faneuil Hall Renewal Plan.

The plan also indicated that the proposals required the establishment of development controls. Although the plan required more capital then the public sector could provide; the Chamber guaranteed that once public actions began private developers and investors would be very interested. To assure this, the Chamber committed to undertake an ambitious promotional program at the appropriate time. The plan included the estimated project costs which follow:

| | $ |
|---|---|
| Acquisition Expenses | 400,000 |
| Payments for acquisition of property | 15,100,000 |
| Demolition Costs | 2,400,000 |
| Public Improvements & Community Facilities | 7,500,000 |
| Interest Payments on Federal Loan | 1,200,000 |
| Property Management & Administrative Costs | 1,500,000 |
| Other Project Costs | 650,000 |
| Final planning, engineering, legal, disposition expenses, etc. | |
| **Gross Project Cost** | **28,750,000** |
| **Land Disposal Proceeds** | **6,500,000** |
| **Net Project Cost** | **22,250,000** |
| **Federal Share** | **14,830,000** |
| **State Share** | **3,707,500** |
| **City Share** | **[1]3,707,500** |
| **Federal Relocation Payments** | **[2]2,500,000** |

[1]No cash is required of the City of Boston. The city share is provided in the form of expenditures for improved streets, water and sewer lines; parks and similar expenditures.
[2]This cost is met entirely with Federal funds.

The city was supposed to support around 16% of the costs, as was the state, and the remaining 66% would be supported at the federal level. As was common in this type of project, the city would not provide cash but infrastructures. This was usually preferred by cities since these expenses are almost obligatory for them and also because the provision of infrastructures generates local employment.

The plan was well accepted, and a special agency was created to be responsible for making the plan happen, the Boston Redevelopment Authority (BRA).

In 1969 Boston made a $5 million investment in the New England Aquarium. This was one of the first new structures on the central waterfront (see Fig.22). The Aquarium attracted some developers and investors and soon new 40-story apartment towers were built, and several warehouses were converted to retail and housing. The conversion of old warehouses into housing units happened mainly because the city attracted property owners by offering tax breaks and loans.

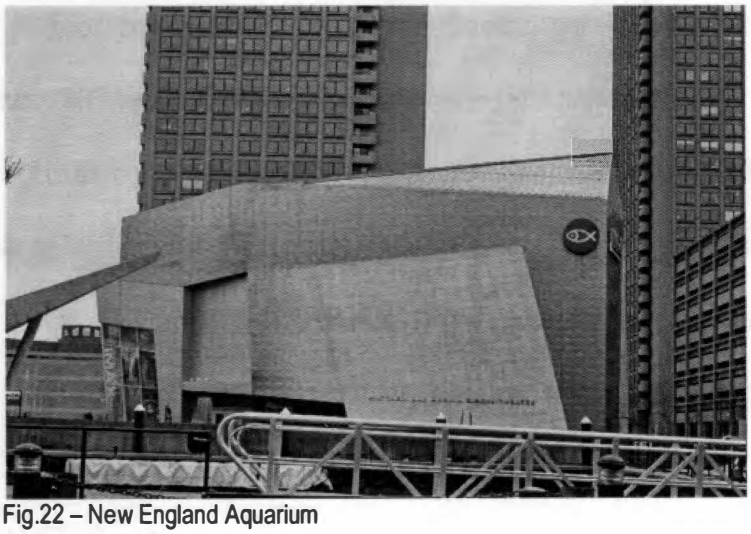


Fig.22 – New England Aquarium
Source: the author.

In the 1970s, under the sponsorship of the BRA and the management of a private developer, Faneuil Hall was renovated in three phases. The Hall area was very deteriorated when the work begun.The first phase consisted of the restoration of the Quincy Building and Faneuil Hall Building (see Fig.23), which were opened in 1976. The Quincy Building contains 85,000 square feet of retail space devoted to selling foods of all kinds. The facility cost $30 million, of which $10 million came from the city and federal funds. The Quincy Building receives monthly around a million visitors. Surrounding the perimeter of the Quincy Building is a semi-enclosed mall where local artisans and entrepreneurs peddle their crafts in small carts. Faneuil Hall was renovated primarily as a historic landmark and museum. It now contains some retail space in the lower levels. Faneuil Hall's first floor continues to operate as a market, although most of the stores offer handicrafts where their predecessors sold food. The second floor, primarily taken up by the Great Hall, where Boston's town meetings were once held, is now operated by the U.S. National Park Service in cooperation with the Boston National Historical Park. The third floor contains the museum and armory of the Ancient and Honorable Artillery Company of Massachusetts. The second phase of the renewal was completed in 1977, when the South Building opened. This building has around 160,000 square feet of rentable space, of which around fifty per cent is devoted to office use. The building is occupied by several small retail establishments selling varied products from clothes to food.

The North building opened in 1978 completing the third and final phase. The building is slightly smaller than the South building (120,000 square feet), and half of it contains small retail establishments and the other half is devoted to office space.

Fig.23 – Faneuill Hall
Source: the author

In 1976, when Faneuil Hall and the Quincy Building were opened, a $2.1 million waterfront park -- Waterfront Park Avenue -- was also opened to the public. This was the major public opening to the harbor in the heart of central Boston, occupying 4.5 acres of the center city waterfront. It was projected to be the terminus of a pedestrian path from the Government center via Faneuil Hall to the waterfront, attracting people to walk to the water.

The park had a wide promenade and paved plaza with seating at the shore, and large chains at the water's edge. Included in the park, were a play area, a fountain and an open green grass area. There was also a grove of locust trees. The signature of the park was a striking 340 foot long trellis that ran across the middle. Curved and 20 feet high, covered with wisteria vines, it was a prominent visual element, providing shade and interesting shadows. The walkway underneath is lined with wooden benches, choice spots for reading or harbor viewing. Details were well chosen: the granite, brick, cobblestone, and wood features were both rugged and handsome, reflecting the area's early days as a prosperous port [Breen, 1994]. Presently, the park is closed because of major construction in the area (see Fig.24).

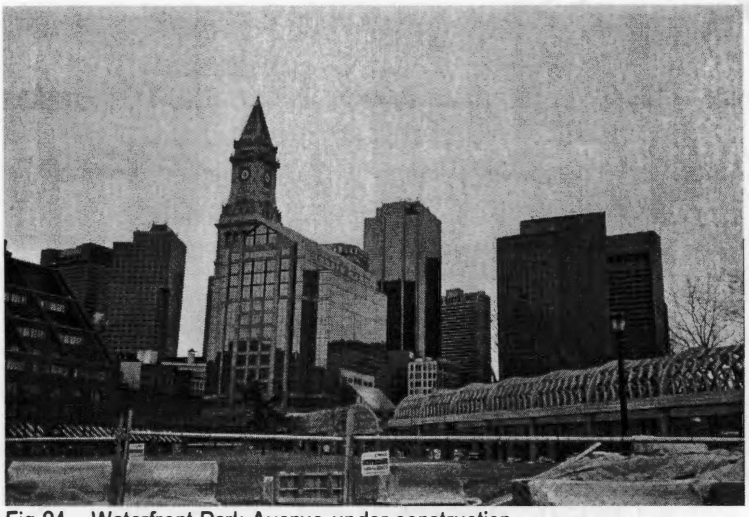


Fig.24 – Waterfront Park Avenue under construction.
Source: the author

One of the most well known developments along Boston's waterfront is Rowe's Wharf. Built in 1987, it is an exemplary mixed-use project and a triumph of contextualist design. The project contains a total of 665,000 square feet of office, hotel, residential, dock, and retail space on a 5 1/2-acre site. But because of the careful design, the project is not overlarge and manages to fit in with downtown Boston and its historical waterfront. It mixes public space with high income office, hotel, and condominium residences. This mix was possible only because the land belonged to the city, controlled by the BRA. Since the Boston real estate market was strong during the 1980s, the BRA could be demanding. The BRA organized a competition, and the winner, the developer Beacon Companies and its architects Skidmore, Owings & Merrill of Chicago, spent two years working on the final project. There were design guidelines, by the BRA, which established issues such as height, use mix, general style, and public access. Rowe's Wharf has several components tied together. At the front, the Atlantic Avenue side, the structure has two 15-story wings, housing the Boston Harbor Hotel on one side and residences

on the other side. In between, there are nine stories of offices. Three seven-story structures are built out onto piers (these step down the height) and are surrounded by a public walkway. One of the structures is a condominium, the other two are a mix of hotel and office plus support for the docks. The other element of Rowe's Wharf relates directly to the waterfront. Along the 500 feet at the water's edge is a busy ferry dock; a water ferry service from Logan Airport docks and suburbs of the city provides a dramatic entry to downtown Boston. The centerpiece tying the project together is a 3 1/2 story archway on Atlantic Avenue. Atop the arch is a copper dome, a symbolic exhibition area at the water's edge that serves as a shelter for ferry passengers.

Another BRA guideline required a significant amount of open space. The guideline called for fifty per cent, but the developer decided on two thirds. The ground level is accommodating and has an open feel and there is also a walkway from one side to the other around the piers, as well as through the center. The building ties in so well with downtown that there is the feeling that the building has been there for may years. Its architecture is probably the main thing responsible for this feeling. The building has low height, basic red brick construction and rich detailing. The BRA's design concept for the project was "exhibiting a strong architectural relationship with the abutting properties, the artery, the downtown urban matrix and waterfront development". And indeed, that was what the architects did.

- CRITIQUE

Boston has always had a strong connection with water. Its culture mirrors a city in the water and its economy was strongly related with marine activities. Yet when port activities

stopped, the relationship of the city and the water suffered. Kevin Lynch, in 1960, in his book *The Image of the City* studied how Bostonians saw their city. He noted that the position of the historic city center had degenerated so badly that it was nothing but a blank spot within 'the Boston everyone knows' [Lynch, 1960] (See Fig.25). If Lynch had to write his book again, he would find a different Boston, a new, renewed city facing its waterfront, as Meyer drew (See Fig.26).

The redevelopment of Boston's waterfront started in the 1960s and it has never stopped since. The plan made by the initiative of Mayor Collins was an extraordinary start for the process. It showed that the city really wanted to redevelop the area and it was engaged in making commitments to achieve its goals. Meyer drew Boston in a different period in time than Lynch. In Meyer's schematic drawing it is possible to see a route from the Boston Common to the Waterfront Park. It shows what had been planned, the Waterfront Park as the major entrance to the waterfront of Boston. When Lynch drew Boston there was nothing linking the waterfront and the rest of the city whereas Meyer found the park between the central artery and downtown. The park completes the path that guides the pedestrian from downtown to the water's edge.

If one visits the city today, one can see the results of the original plan but also that the planning has not stopped. Many places in the city, especially some sites on the waterfront, are under construction. It is easy to be in the city without feeling that there is a waterfront; however once past the obstacles, the pedestrian finds a pleasant area with many attractions. The Aquarium is a major success, attracting millions of tourists. It is also a success in terms of its architecture. Its architect, Peter Chermayeff, later drew on this experience to design aquariums

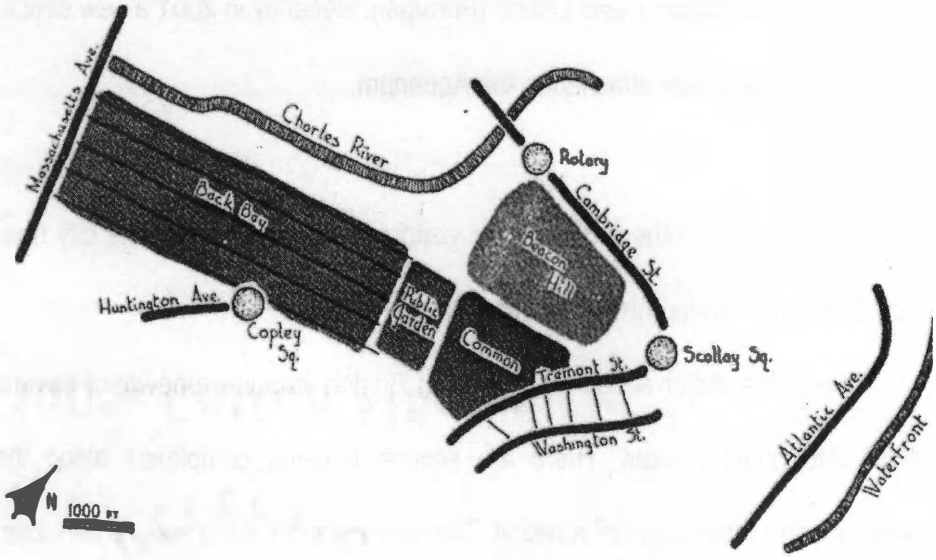



Fig.25 – 'The Boston everyone knows' drawn by Kevin Lynch .
Source: Lynch, Kevin, The image of the City, 1960.

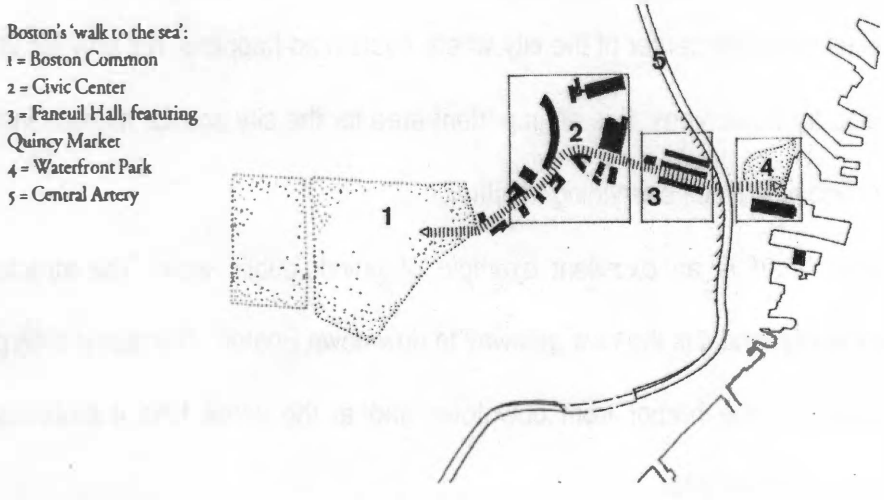



Fig.26 – Schematic drawing of downtown Boston.
Source: Meyer, Han.1999. City and Port.

in Baltimore, Osaka (Japan), and Lisbon (Portugal). Recently in 2001 a new structure housing the first IMAX cinema was attached to the Aquarium.

There are also other activities for visitors, all water related. The city has successfully promoted its water related history in this area.

One of the major accomplishments of Boston was the renewal of several old historic buildings into housing uses. There are several housing complexes along the waterfront, showing different techniques of renewal. The renewal work done was remarkable, maintaining the original materials and old feeling of the waterfront. The success in the housing market of these units attracted developers and there is still new housing development, offering different types of housing (see Fig. 27).

One of the most known "postcard images" of Boston is the area of the Faneuil Hall. The redevelopment of the buildings has been extremely successful in bringing people back. The area seems to be the center of the city where everything happens, not only for visitors to the city but also for Bostonians. It is an important area for the city and for its relationship with the waterfront because it ties everything together.

Rowe's Wharf is an excellent example of private/public work. The structure is a landmark for the city, and it is the new gateway to downtown Boston. The center arch provides an excellent view of the harbor from downtown and at the same time it functions as an invitation for the public to enter.

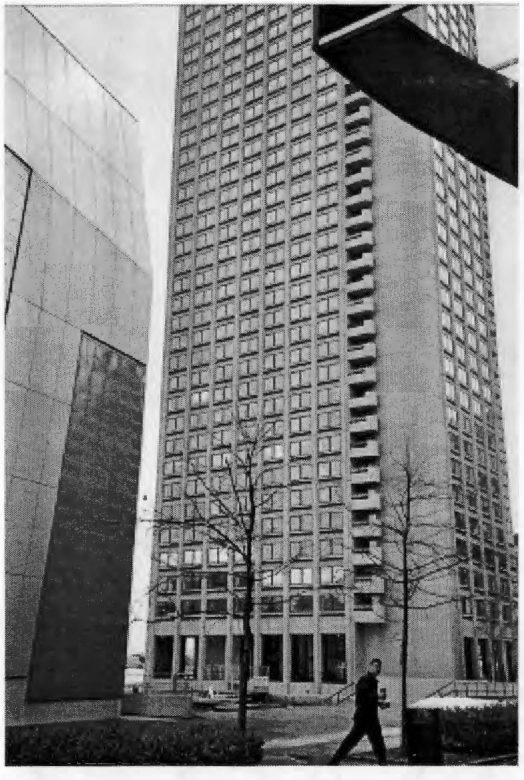



Fig.27 – Housing development in the waterfront
Source: the author

The walkway along the waterfront edge is another invitation for the public. Rowe's Wharf overall is one of the best projects linking a city with the waterfront and providing different uses. The only criticism of it is that there is no cafe or restaurant at the street level in the building, so most of the visitors only walk through it, rather than spending time there (see Fig.28 and Fig.29).

While the redevelopment has been very successful on the whole, the plan has failed to some degree in opening the city to the sea, one of the plan's six goals. It is still very difficult to access the waterfront. At present the city has a major project going on, the Big Dig, a tunnel that will replace the Central Artery. The construction has made the situation even worse at the moment, but the Big Dig may ultimately make access to the waterfront easier. The Central Artery is the major obstacle, a barrier between the city and the water (see Fig.30). With its end, the city and the waterfront will re-connect, joining in one. What will be done in the land that the Artery occupied will have a significant impact on the relationship between the city and the water.

Overall, Boston is a major example for other cities because of its effort and its success in joining the public and private sector in redevelopment projects. Another good example one can take from Boston is the success of the mixed-use concept in the redevelopment. Boston's waterfront is not a perfect place yet, but the city has been learning over time, and a more positive attitude about the waterfront continues to emerge. Bostonians are aware of the value of their waterfront and are committed to doing the best they can to keep it as part of the city, and moreover one of the most exciting parts of the city.

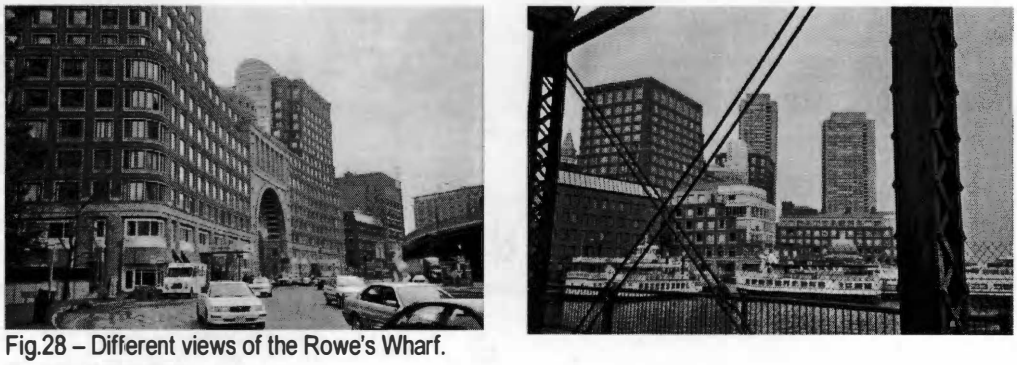


Fig.28 – Different views of the Rowe's Wharf.
Source: the author

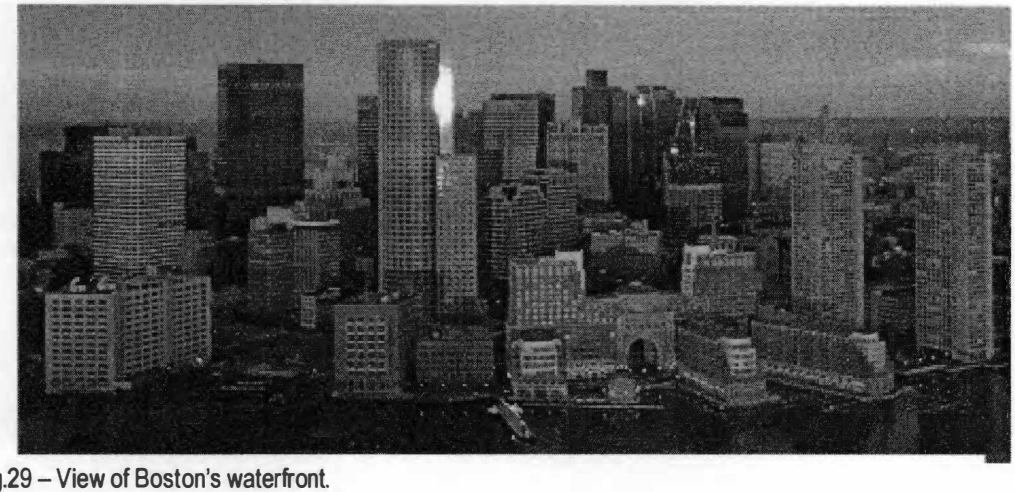
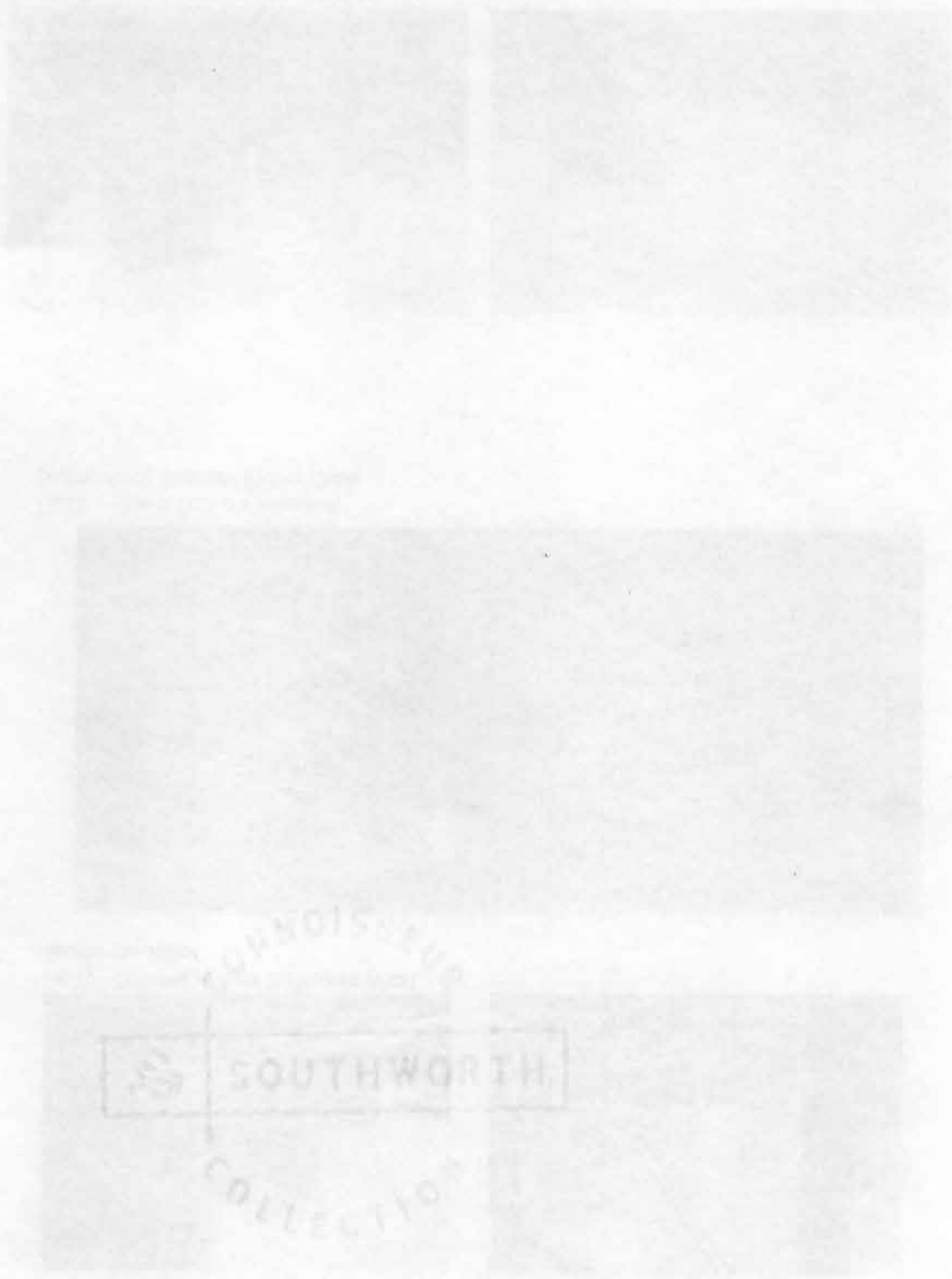


Fig.29 – View of Boston's waterfront.
Source: Frank Siteman / Picture Clube

Fig.30 – Downtown seen from the waterfront.
Source: the author


SOUTHWORTH
COLLECTION

# CHAPTER VI
# CONCLUSION

*"To seek the timeless way we must first know the quality without a name, there is a central quality which is the root criterion of life and spirit in a man, a town, a building, or a wilderness. This quality is objective and precise, but it cannot be named"* [Christopher Alexander].

The waterfront was for centuries the place used for port activities, the stage for commerce and, moreover, an entrée way to the city or the country to the city or the country. In this context cities urbanized without regard to their waterfronts. One cannot neglect that port cities existed for centuries without including their waterfronts in their daily urban life. So when their old harbors became abandoned, cities had difficulty in looking at those areas as part of the city.

Taking that into consideration, the purpose of this thesis is to understand how port cities can revitalize their vacant harbor areas, looking at the examples of Battery Park City in New York and Boston's waterfront.

There is no such thing as a formula for success for urban redevelopment on waterfronts. All waterfronts are different, either because of geography or history. So a redevelopment project made for a specific waterfront can never be used for another, even if it was a success. Moreover,

not only the characteristics of the waterfronts are important but also their context in the city and the economic and social environment of the time.

Boston and New York show two different approaches to waterfront redevelopment. They both were successful but they diverge in many aspects. Although their plans are excellent examples, other waterfronts cannot copy them. The project for Battery Park City could never be applied in Boston and vice versa. The scenario is always different from city to city and also from time to time. If New York had to plan for Battery Park City today, the plan would certainly be very different, perhaps better, perhaps worst. Without the willingness and commitment of great individuals, maybe the landfill of the site where Battery Park City sits would have never happened and Boston would still hiding its waterfront.

Although the plans cannot be used for other waterfronts, some conclusions and guidelines can be taken from New York's and Boston's success. For their achievement, the redevelopment plan is maybe the major contributor, but the process behind it is also crucial. The difference in the nature of the results achieved in Boston and Battery Park City are mainly a consequence of very distinctive redevelopment processes. While Boston's waterfront redevelopment was decided and planned in a specific point in time, Battery Park City experienced a more convulsed decision process during a longer period of time. Furthermore, in Boston the mayor had a vision for the site which the other stakeholders embraced. On the contrary in the case of Battery Park City, many were the participants with different views for the site, there was not a strong vision shared. This made the planning process lengthier and more controversial.

There are several different ways to face the redevelopment of urban waterfronts. For example, the project can decide on one specific land use that will occupy the majority of the site. Many waterfronts were redeveloped exclusively as residential, or commercial, or industrial areas. There are also cities that because of their historic inheritance decided to conserve the way their waterfronts always had been. Furthermore, there is the case, common in recent projects, in which the city takes advantage of special events or opportunities to redevelop the waterfront, so the area takes a specific theme. This is the case of Bilbao in Spain, where the construction of the Guggenheim Museum led to the revitalization of the whole waterfront. Another example is the case of Lisbon in Portugal, when the city in a major effort revitalized the area of the old harbor to receive the World Exposition, EXPO98. Yet, New York or Boston are not included in either of these categories. Both show a combination of all the options, their redevelopment purpose was served by a comprehensive plan which embraced different land uses for different types of people, and their waterfronts were not seen as a special opportunity in a specific time. Rather, their waterfronts were seen as one of the many parts of the city that needed attention. Yet the attention given to waterfronts has to be special because of their special characteristics. This is the main reason why Battery Park City and Boston are examples of success in planning for waterfronts. They planned the site taking into account the needs of the whole city but at the same time taking into consideration the distinctive characteristics of the place. As all cities should do, New York and Boston treated their waterfronts as a special and unique resource for the city, and therefore they planned carefully how to use them.

The process of planning for the waterfront is lengthy, costly and, in some degree, convoluted. Ideally, the entities involved should join efforts in creating a streamlined process.

Moreover, waterfront transformations are complex, requiring the close participation of local, state and federal agencies. It is normally difficult to coordinate the different levels of authority; therefore, it is important that the main purpose of the redevelopment be decided *a priori* so neither time nor money are wasted.

Waterfronts are attractive resources, and there is the feeling that they are for the purpose of public use. The decision about whether to plan for public use or not has to be made early on. If the decision is to use the waterfront mainly as a public space, it is important to include the public in the process. One cannot plan for the public without listening to their opinions, after all they are the client. The tendency is for cities to avoid conflict or discussion, but these are welcome in the planning process; however, there should be a timeline and an agenda so that ultimately the plan can be accomplished.

Boston is a better example of redeveloping the waterfront for the general public use than New York. In Boston, one can see that the plan was made while looking at a "bigger picture". Boston planned for the waterfront to connect with the city so that people would come to the waterfront. On the other hand, Battery Park City was planned without sufficient attention to the physical connection to the rest of the city. More relevance was given to the built environment than to the ones who were going to live there. Boston's plan is more in the Kevin Lynch planning style, including the concept of paths and landmarks with the intent of integrating the waterfront with the city. On the contrary, Battery Park City's plan served development, seeking the profit from it, rather than including the waterfront in the city as a public space. It is important to mention that the plan of Battery Park City was not supervised by the city but by the Battery Park City Authority. Whereas in the case of Boston, the city was the initiator and has always been an active participant in the project. That is probably the reason that in Boston the public participation was a big part of the

process and that at the end the high level of cooperation between the public and the private sectors yelded excellent results both in terms of financial profits and in public use of the space.

Overall, the big decision that has to be made when planning for the renewal of urban waterfronts is to decide whether or not the redevelopment is going to be for public purposes. Is the goal to offer public spaces in one of the most exclusive sites in the city because people live in the dense city or suburbs and, therefore, they need quality space? In this case the plan has to be oriented to the secondary group. As mentioned in Chapter III, the secondary group is the group of people that use the waterfront occasionally and have no direct involvement with it but feel that the waterfront belongs to them as a public resource. Planning exclusively for this group means that the waterfront would be used mainly as an open space and recreational uses. This would require high public investment, and it would be difficult to attract private investment.

The other option is to redevelop the waterfront taking advantage of its special aspects and making a profit with it. The waterfront would be occupied by housing, commercial and office spaces, buildings to high density and with little concern to site design and its relation with the rest of the city. In this case the waterfront would be used by the primary group, people who use the waterfront as a residence or work place. Basically the development rights would be given to private investors and developers who would use the waterfront maximizing the profits. With a lower investment, the city would receive higher financial returns.

From the cases presented here it is possible to arrive at another solution for the redevelopment of waterfronts. The city can plan for both primary and secondary groups at the same time since waterfronts can accommodate both. Of course this will be the most difficult option

because it will be hard to coordinate both interests, to decide land allocation, and to finance the project.

The best way to maximize waterfronts is to open the city to the waterfront, allowing people to use it in various ways. If the waterfronts are occupied with mixed-use rather with one primary or exclusive land use, the area will be used by more people. Along with buildings with mixed use, should be created open spaces where the view that the waterfront offers can be admired. If the waterfronts are planned for both the primary and secondary groups, the area will be part of the urban daily life and will serve recreational needs offering space and activities, at the same time.

Waterfronts are exclusive resources, cities that own them should invest in good planning for the best use possible. However, waterfront planning is complex because of all the different interests and aspects of it. The easiest and probably the most profitable answer would be to allow private investors to develop the shoreline. But a city cannot make decisions based on what is easiest to do, as Daniel Burnham once advised: "Make no little plans; they have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone, will be a living thing, asserting itself with ever-growing insistency." Waterfront planning should vision not only present use but also future use of the site. Being a special resource and a unique part of the city, the built environment of the waterfront is vital for the urban life of a port city. Furthermore, it is our responsibility to leave to the next generations a livable and vigorous waterfront. If a city is successful in planning for its waterfront for the present use and if the plan leaves opportunity for the waterfront to adapt to new conditions along the way, then one can say that the waterfront was successfully planned.

# BIBLIOGRAPHY

**Albion, Robert**. 1939. The Rise of New York Port.

**Battery Park City Authority.** 2003. http://www.batteryparkcity.org.

**Basile, Ralph, et al.**. 1980. Downtown Development Handbook. Washington, Dc: Urban Land Institute.

**Benkendorf, Al.**. 1981. Planning for Successful Waterfront Renewal.

**Breen, Ann, and Rigby, Dick**. 1994. Waterfronts, Cities Reclaim their Edge.

**Breen, Ann, and Rigby, Dick (eds.)**. 1984. Urban Waterfronts' 83.

**Breen, Ann, and Rigby, Dick (eds.)**. 1996. The New Waterfront. A worldwide Urban Success Story.

**Boston: Greater Boston Chamber of** Commerce. 1972. Report on the Downtown Waterfront/Faneuil hall Urban Renewal Plan.

**Buttenwieser, Ann L.**. 1987. Mnhattan Water – Bound. Manhattan's Waterfront from the Seventeenth Century to the Present.

**Bruttomesso, Rinio (ed.)**. 1993. Waterfronts. A new frontier for cities on water.

**Committee on Urban Waterfront Lands**. 1980. Urban Waterfront Lands. Washington: National Academy of Sciences.

**Cowey, Ann Breen**. 1980. Improving your waterfront: A Practical Guide. Washington: US Government Printing Office.

**Ellin, Nan**. 1996. Postmodern Urbanism.

**Farrel, Virginia**. 1980. Development and Regulation of the Urban Waterfront: Boston, San Francisco, and Seattle.

**Frankel, Ernest**. 1987. Port Planning and Development

**Garvin, Alexander**. 1995. The American City – What works, What doesn't. McGraw-Hill.

**Goldfield, David, and Brownell, Blaine**. 1990. Urban America. A History.

**Gordon, Daniel L.A.**.1997. Battery Park City.

**Hall, Peter**. 1988. Cities of Tomorrow.

**Heckscher, August**. 1977. Open Spaces. The life of American Cities.

**Hershman, Marc (ed.)**. 1988. Urban Ports and Harbor Management.

**Hoyle, B.S., and Hilling, D.**. 1984. Seaport Systems and Spatial Change.

**Hoyle, B.S., and Pinder, D.A.**. 1981. Cityport Industrialization and Regional Development. Spatial Analysis and Planning Strategies.

**Hoyle, B.S., Pinder, D.A., and Hussain, M.S.**. 1988. Revitalising the Waterfront – International Development of Dockland Redevelopment. Belhaven Press.

**Klein, Milton**. 2001. The Empire State – A History of New York.

**Kreiger, L. Michael**. 1979. Waterfront Redevelopment Strategy: Phased Redevelopment of the Inner Harbor Waterfront. The Port Authority of New York and New Jersey.

**Lynch, Kevin**. 1960. The Image of the City. Massachusetts Institute of Technology.

**Marshall, Richard**. 2001. Waterfronts in Post-Industrial Cities.

**Massachusetts Port Authority.** 2003. http://www.massport.com.

**Meyer, Han**. 1999. CITY AND PORT, Urban Planning as a Cultural Venture in London, Barcelona, New York, and Rotterdam: changing relations between public urban space and large-scale infrastructure.

**New York, N.Y.**. 1974. The New York City Waterfront.

**Reps, John**. 1965. The making of Urban America. A history of City Planning in the United States.

**Smith-Craig, Stephen, and Fagence, Michael**. 1995. Recreation and Tourism as a catalyst for Urban Waterfront Redevelopment.

**Torre, L. Azeo**. 1989. Waterfront Development.

**Urban Land Institute**. 1978. Adaptive Use. Development Economics, Process, and Profiles.

**Wilburn, Michael D., and Gladstone, Robert**. 1972. Optimizing Development Profits in Large-Scale Real Estate Projects.

**Wrenn, Douglas M.**. 1983. Urban Waterfront Development. The Urban Land Institute.

## Vita

Francisca Ramalhosa was born in Torres Novas, Portugal on February 12, 1977. She was raised in Torres Novas where she went to high school. She went to the Higher Business School in Lisbon and graduated in economics in 1999. In 2000 she received a Research Grant to work at the Urban and Regional Institute at the University of Coimbra.

Francisca is currently pursuing her master in Science on Planning at the University of Tennessee, Knoxville.