



User-friendly waterfronts: a dialogue of responsiveness and placemaking

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1 ABSTRACT

In contemporary times, waterfronts reveal themselves to have a special role in offering society diversified opportunities for economic development, public enjoyment and civic identity. Optimally, successful waterfront developments strive to exert user-friendly impacts on the quality of life in urban settlements.

To this end, the aim of this paper is to explore the process of creating user-friendly waterfront developments. In doing so, the paper elaborates on certain sets of criteria that can be implemented in the process of creating a uniquely user-friendly waterfront development. The sets of criteria under study are related to the two notions of "responsiveness" and "placemaking". These two notions are chosen under the hypothesis that the concept of user-friendliness is comprehensive in its nature while being quite associated with the criteria of successful making of places that can be responsive to people needs, demands and aspirations.

The scope of the paper is then narrowed to cover mixed-use waterfronts developments. The choice of this set of developments in particular is based on their vitality and coherent relationship with the criteria of responsiveness and successful placemaking. Mixed-use waterfronts are diverse in their activities and offer wide possibilities of user-friendliness.

In light of all of this, the research methodology of this paper is devised to elaborate on the concepts of waterfronts, placemaking, waterfronts development, responsiveness, and mixed-uses while following a multidisciplinary path in the trial to weave all these terms together into one coherent discussion that is related to the quality of life and user-friendliness.

All of these terms intersect to yield a focal study point that is concerned with successful placemaking criteria and their coherence to responsive design criteria.

The discussion is finally sealed with the matching of placemaking criteria with responsiveness criteria within the scope of providing a clearer view of the principles that can guide the development of user-friendly waterfront developments.

2 INTRODUCTION

2.1 Defining waterfronts

In the urban design vocabulary, the term 'waterfront' is associated with a number of definitions. According to the Oxford American Dictionary, waterfront is "*a part of a town that borders the sea or a lake or river.*" The US Federal Coastal Zone Management Act, Office of Ocean and Coastal Resources defines the term urban waterfront as "*any developed area that is densely populated and is being used for, or has been used for, urban residential, recreational, commercial, shipping, or industrial purposes*" (coastalmanagement.noaa.gov/about/czma.html). From a more metric point of view, a waterfront can be considered as an area including 200m to 300m from the interface to the water side and 1km to 2km to the land side (FAO, 1994). The term Waterfront is also associated with a number of terms including "*cityport*" (Hoyle, 2008), "*harbourfront*" and "*river edge*" (Watson, 1986).

This paper sustains the argument that a waterfront is a unique and irreplaceable resource with boundaries that are dimensionally impractical to determine. A waterfront can be described as a place integrating land with water and having a water body attraction to people. Waterfronts can be regarded in terms of property that has a strong visual or physical connection to water.

2.2 Waterfront development

In contemporary times, waterfront developments adopt different strategies varying between "*waterfront regeneration*" (Wood & Handley, 1999), "*waterfront revitalization*" (Goodwin, 1999), and "*waterfront redevelopment*" (ibid) to ideally achieve their ultimate goal of creating places of quality, identify and meaning.

One of the idealistic common factors between these strategies is that the waterfront development should be both community generated and oriented and that it should aspire to offer a better quality of life commonly through development projects that are relatively homogeneous.

From this discussion, it can be strongly argued that waterfront development is about creating a certain vision for an area and then deploying the skills and resources to realize it after involving a dialogue with the users within that area.

In contemporary urban development scenarios, marginalized and neglected waterfronts present themselves as prime targets for transformation into new and refined patterns of land uses. Marginalized waterfronts have different origins in contemporary urban contexts. For a starter, several industrial sites and ports have relocated as a consequence to the deindustrialization of city centers where cities have shifted their industrial places and activities from cities to suburbs. This relocation has left the existing waterfronts land freed up for development.

Another motivation behind waterfront development is the increased mobility in our times which has consecutively caused an expansion of tourism. This may encourage the 'injection' of new mixed-uses along the water bodies that combine areas of open space and leisure, with shops, café and restaurants and provide cultural and recreational attraction. On a similar note, and since the third quarter of the last century, there has been a growing concern with environmental issues that include saving the natural marine life and decreasing the pollution of water bodies; the thing which in turn encourages the new waterfront investment.

Also of significant motivation to waterfront development is the orientation towards cultural tourism. The preservation and restoration of historic sites are key elements to cities' character.

All of these issues translate the waterfront development strategies into a number of formats varying between conserving, redeveloping or creation of new developments.

Conservation of waterfronts is about the use of old waterfronts, which still exists even today, consolidating their existence and activities and – in some scenarios- restoring them to their original condition.

Similarly but not equally, redevelopment of waterfronts is generally about the upgrading of existing waterfronts into important areas of urban life.

On a more creation-oriented route, waterfront development can target the establishment of new waterfronts which will meet the present needs of the city while aiming for a high quality of life, nourishment of business and conservation of the environment.

3 USER-FRIENDLY WATERFRONT DEVELOPMENT STRATEGIES

3.1 Quality of life and user-friendliness

In all its different formats, the concept of waterfront development deals with the notion of the quality of life. Quality of life can be seen as a combination of human enjoyment, satisfaction and excellence from one hand and the conditions of the environment in which people live on the other hand (Kampb et al, 2003). As a concept, the quality of life is relatively impressionistic and multi-faceted with no firm agreement regarding its terminology and criteria. Despite this ambiguity of the term, the quality of life can be identified to include objective measures relating to the status of individuals and the community. In these regards, there have been several attempts to objectively measure the quality of life through a variety of quantifiable social indicators related to the socio-cultural, economic and environmental wellbeing. Such indicators are identified to include: People, Knowledge and skills, Health, Safety, Housing, Social Connectedness, Civil and political rights, Economic standard of living, Economic Development, Natural Environment, and Built Environment (Team, 2007).

The focus of this paper is the built environment indicator; especially the role of placemaking criteria in its creation. Under this discussion, the term user-friendly strongly presents itself. User-friendliness is a direct expression of the quality of life in a certain built environment. User-friendliness is about the satisfaction associated with the quality of life that is generally determined by people's physical surroundings and their psychological inputs. To this end, user-friendliness is quite associated with the 'art of placemaking' which targets the creation and provision of places of meaning, identity and significance that can enrich their users' spatial experience and – hopefully on a grander scale- life.

3.2 Placemaking

The quality of the built environment (and consecutively its user-friendliness) has an important role in creating safe and welcoming public spaces that provide focal points for people to encourage community interaction. This is all related to the concept of placemaking. By definition, a place is part of space that is occupied by people that interact with the environment and is endowed with meaning, value and stability (Madanipour, 1996). Therefore the process of Placemaking allows diverse constituencies to identify how public spaces can be shaped to make them welcoming, well-functioning and attractive places for people.

Placemaking and waterfront development are quite connected. In their different formats, user-friendly waterfront developments deal with the aspects of successful place-making such as environmental friendliness, social equity, economic boost, planning and transportation strategies, architectural design into the creation of places of beauty and

distinct identity. In order to shed more light on the discussion, the whole process of placeamking can be understood in light of four criteria:

3.2.1 Access & Linkages

Successful placmaking strives to connect places to their surroundings (both visually and physically) while rendering them easy to get to and to get through.

3.2.2 Uses & Activities

A place is mainly defined by its uses and activities. People come and return for well managed activities throughout the day for people of different ages, to be used by singles or people in groups.

3.2.3 Sociability

The sociability of a place strives to boost the sense of attachment of people to that place.

3.2.4 Comfort & Image

Comfort and good image are about the creation of places that are safe and clean, and that provide people with a variety of seating possibilities.

In order to better understand the placemaking criteria and their impact on the quality of life (particularly the user-friendliness of the built environment), more attention should be given to the humanistic interpretation of the needs of urban living that create satisfaction and a sense of well-being. This can be achieved through the study of the concept of 'responsive criteria'. Such criteria are devised to conjure up an urban development which *“provide(s) its users with an essentially democratic setting, enriching their opportunities by maximizing the degree of choice available to them to provide responsive places”* (Bentley et al, 1985, p. 9). The importance of applying responsive criteria to the urban development process stems from the notion that the built environment and the socio-cultural, economic and political environments should be ideally linked together through a web of appropriate design ideas. This web is constituted from a set of criteria commonly known as responsive design criteria which include: Permeability, Variety, Legibility, Robustness, Visual appropriateness, Richness, Personalization (Bentley et al, 1985). The whole discussions elaborated in the following sections.

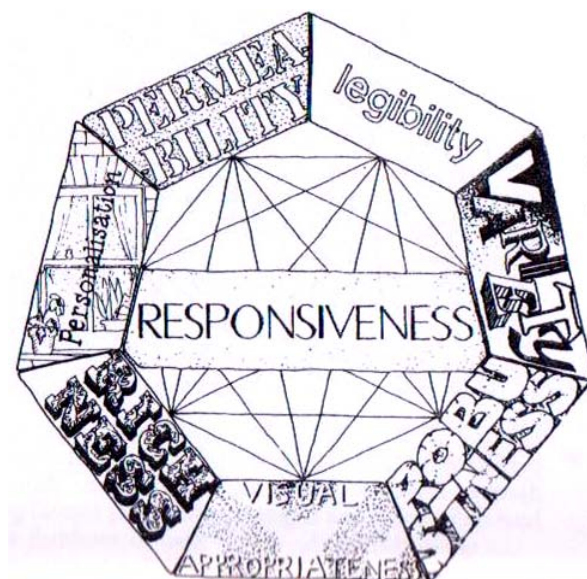


Figure.1: Responsive design Criteria (Bentley et al, 1985, p. 9)

3.3 Responsive criteria

3.3.1 Permeability

Permeability can be defined as “...*the freedom with which a person can walk about and look around*” in the urban space (Tibbalds, 2001, p. 49).

Urban spaces are ideally accessible to users of different age, ability and income while offering a variety of choices in access and mobility to different activities. Special attention is being paid in today's' sustainable masterplans to pedestrians, cyclists and disabled persons. One way is to encourage activities at street level in a way that sustains pedestrian movement through arcades, passages and courtyards. Landmarks also reinforce such activities. Visual continuity at the street level and design continuity that aid in the dispersion of activities at the street level encourage permeability.

Permeability –on the public space level- is governed by a number of physical parameters such as the number, width and slope of alternative routes that must be visible. In this realm, small blocks tend to increase visual and physical permeability as they increase the people's awareness of the available passage choices. Accordingly, increasing the scale of the development is argued to significantly reduce permeability. Similarly, inflexible designs do not allow current and future users the opportunity to control how to use the space, segregate or desegregate it by detailed design.

In gunning for permeability, a number of guidelines can be followed. In coherence to the subject of this paper, the discussion is elaborated in terms of waterfront development.

Diversifying the modes of transportation

Ensuring multiple accesses to the waterfront needs to be a high priority. The character and experience of waterfronts are enhanced and flourished when easily accessible through different means of transportation such as by boat, on foot or by bikes. Pedestrians and cyclists are the classic mix of accessibility to waterfront activities, events and festivals. Walking promenades and bikes lanes are designed to provide the impact of safety and enjoyment. A walk-able waterfront with variety of uses along its length will link destinations and achieve continuity.

The five 'C' principles

Connections, Convenience, Convivial, Comfortable and Conspicuousness are the five principles of an enhanced interaction and accessibility to waterfronts. This necessitates the analysis of street layouts as well as the transportation network between the proposed new streets while checking the characteristics of junctions between transportation means and defining the relative importance of all access points to the site.

Decreasing the development blocks size

The development block is defined as the land area charted by the grid streets. Development blocks' optimum size ensures ease of access while sustaining a variety of building types with the ability to change and adapt to future requirements.

3.3.2 Variety

Variety usually manifests itself as different types of uses, forms and meanings. Variety is a positive addition to the urban development process because of the increase in choices (which is considered as an asset and an attraction concept) which is achievable through promoting variety is a sure way to ensure the appeal of the urban development to a large demographic sector.

A successful urban development demonstrates compatibility between the existing and proposed uses in a way that avoids conflict by linking the uses to centers with access to public transport. This is amalgamated by creating successful spaces that take into consideration the distances that people have to walk to access daily facilities, the presence of a sufficient range of such facilities to support their needs, and spaces where a variety of activities can take place. The key is to develop a vision where the layering of activities and uses exerts far reaching and comfortable impact. Adding a housing component to the urban development enhances the mix of uses and enables activities to be stretched beyond daytime office and shopping hours.

3.3.3 Legibility

Clarity and legibility are important properties of a space which render it graspable to the users through the physical form and patterns of activity. Successful urban spaces are legible when users can understand or read them like a book and know which way to go for the different places and facilities without confusion.

The test of the legibility of a certain space is the relative degree of easiness with which the visitor can find his or her way at first encounter as well as the easiness of remembering the space(s) with the mind's eye. Traditional cities and their spaces are highly legible in terms of being easy to grasp, identify and memorize. This is not the case in the modern

city where there is confusion due to the huge scale as well as the similarity of public and private buildings which makes it difficult to create spaces of distinct identity. In the modern city, people are supported by special way-finding devices such as maps, street numbers, route signs as well as digitalized mapping devices. All of this discussion is quite related to the concept of the 'mental picture' of the city which is the product of sensation and the memory of past experience that is held by the individual. A clear image of the surroundings enables people to easily and quickly familiarize with the space and may serve as a broad frame of reference and an organizer of activity and offers security and intensity of human experience.

In the context of this discussion, reference is quite often made to the elements which give a city's form clear and accurate images; landmark, district, node, edge and path (Lynch, 1960).

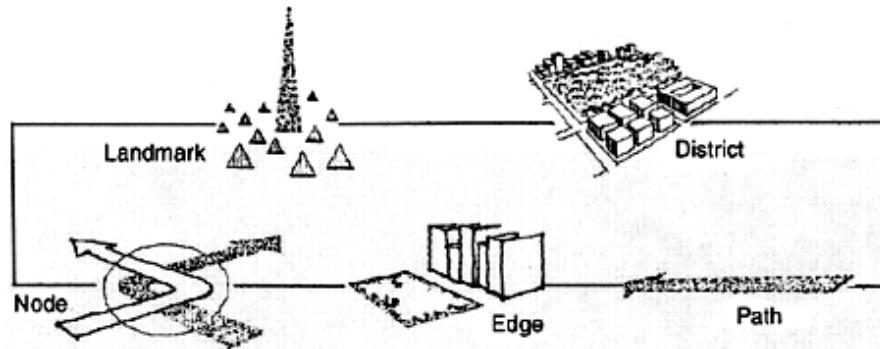


Figure (3.21) Five Key Elements of the image of the city (Lynch, 1960)

Using these elements play an important role in the legibility of the city as a whole and help designers to analyze the key image in their projects' existing surroundings. These elements regularly overlap; districts are structured through nodes, defined by edges, penetrated by paths, and spattered with landmarks. Cities in which these five elements are clearly legible tend to offer more visual pleasure, emotional security, and a heightened potential depth and intensity of human experience.

Nevertheless, the image of the city is not only defined by these five elements. Other principles intervene in the process. For instance, and applying the discussions waterfronts, it is important to create mixed-use districts with a strong identity and a pedestrian-friendly environment to develop themes that celebrate the waterfront.

Also of significant importance is the mix of activities which makes a waterfront a vitally identifiable part of the city with a clear image. Although visitor oriented commercial uses along the waterfront play an important role, nevertheless such commercial uses reinforce the sense that the waterfront is separate from the rest of the city. It is desirable to have diverse districts that extend the fabric of the city to the waterfront (Preiksaitis & LTD, 2006).

3.3.4 Robustness

Robustness can be achieved by designing waterfronts that offer to their users more choices than places designed for one fixed use. This is realizable within normal costs by letting activities in public space act as the most important supports for other activities. This rarely calls for segregating and separating activities.

This paper is concerned with macro-scale robustness which deals with the early design of the urban spaces to change their uses and offer wider choices to users. Certain factors govern the successful implementation of macro-scale robustness while ensuring financial feasibility and increasing the range of uses. As one example, most spaces urban still need physical requirements. Most activities necessitate natural light and ventilation and accordingly deep spaces with no access of light and ventilation cannot easily change in use.

3.3.5 Richness

Richness is about the variety of sensual experiences in a space. Although spatial information are conveyed through eyes and sight for most people as the dominant sense but is not the only sense that shapes the identity of a place. In other words, richness is not a purely visual matter. There are other senses which have design implications such as:

The sense of motion: a space can be identified by the starts and ends of its routes

The sense of smell: the olfactory sense can be a key element in identifying spaces

The sense of taste: in urban spaces, this is quite linked to the foods which can reflect the natural environment in which they are raised

The sense of hearing: Auditory richness can be achieved in small spaces, at the cost of imposing it on everyone there.

The sense of touch: a surface texture can help identify a certain space disregarding its scale

The sense of time: this is associated with the reciprocal relation between the urban space and passing time through the changing pattern.



Fig.2 A typical waterfront mix of activities and experience for the senses (www.pps.org)

To sum up, the visual sense in integration to other senses such as smell, taste, motion, hearing, touch and time are the tools needed to understand and interact with unique and dynamic places that attract a wide range of people.

3.3.6 Visual Appropriateness

Visual appropriateness is a result of the interpretations that people give to a place which is striving to reinforce its responsiveness. Special attention is paid to places which are most frequented by people from different backgrounds.

Visual appropriateness- as a responsive design criterion- is achieved through a number of sub-criteria. For example, the building mass and details reinforce the legibility of the area in which it is located. Design principles such as order, unity, balance, symmetry, scale, proportion, rhythm, contrast and harmony must be overlapped and connected together to ensure the visual appropriateness of the space. Architecture should contribute positively to the street and achieve a unique expressive identity respectful of context. Also of importance is how to locate uses in a way that makes people read their pattern easily. Moreover, buildings, which are the physical boundaries of spaces, should be designed to accommodate a wide range of uses. Its detailed appearance must reinforce this potential by looking appropriate for all these uses.

Arts on the waterfront - in a similar way to good landscape - add to the vitality and beauty and give a sense of identity to the place.

3.3.7 Personalization

Personalization is a responsive design criterion that targets the rendering of a place's pattern of activities clear and explicit. Changing building facades through their users' interventions (through adding ornaments for instance) is a simple yet typical example of personalization.

In applying the discussion to waterfronts; community engagement and local ownership are necessary elements to today's' comprehensive waterfronts. Public initiatives can help set the goals to achieve successful waterfronts. In implementing an adaptable vision, it is always better to test the whole implementation process through small experiments which can make changes and gain support through time. The main goal in this scenario is to make the most of local identity, character of the natural environment, heritage and culture stimulates. This is all intended to create a unique sense of place in the waterfront. This in turn draws users from different sectors and adds value to places by increasing tourism, investment and identity.

Personalization is usually affronted by a number of issues. Personalization is not always attainable unless the user of a place has a claim to its occupation. Also of influence are the urban spaces' type and length of stay in such spaces. Residential and working spaces are easily personalized by people who use them on a permanent basis. This is different from public areas which will probably not be personalized because of the short stay duration of their users. Personalization can be supported by using materials and techniques with high standards of visual attractiveness, durability and environmental performance which can be easily mastered even by unskilled users.

It should be also noticed that personalization is not a randomly aspired goal. High degrees of personalization may evolve into chaos. To this end, personalization has to be taken into consideration when designing public spaces. In personalizing a place, users are confirming their tastes and values to themselves. Users are also communicating their tastes and values to others by modifying the design to encourage the effects of personalization ideally without jeopardizing the visual appropriateness or richness of the place.

3.4 Responsive criteria, Placemaking and user-friendliness of waterfronts

Both, placemaking and responsive approaches create and enhance opportunities for positive social interaction in the built environment. The criteria under both subjects are quite connected as both of them focus on the variety of uses and activities as well as the accessibility to places, the comfort, image and the sense of places and also sociability. The most important issue is providing a better understanding of the urban world in which people live and function to adapt the daily demands and opportunities of urban living.

In discussing the two subjects in depth, it is quite argued that both placemaking criteria and responsive design criteria can be paired into a web of guidelines that can direct the process of planning and implementing user-friendly waterfront developments. The attempt to pair these two sets of criteria can be seen as a result to the desire to mould the waterfront development process into implementable steps that can be controlled, evaluated and assessed.

To start with, access and linkage as a placemaking criterion is noticeably pair-able to the responsive design criterion of permeability. Access and linkage is all about connecting destinations along the waterfront while optimizing and increasing public access. Improving accessibility with various modes of transportation (boat, bike and foot) is also directly related to access and linkage. This is similar to locating new routes through the site to improve connectivity and accessibility as well as checking the practicable sizes of blocks that define the streets.

The second placemaking criterion is uses and activities. This is quite related to the two responsive design criteria of variety and robustness. In this arena, creating multiple-use destinations and offering choices is a major attribute to creating successful uses and activities. This is similar to integrating seasonal activities into each destination along the year as well as encouraging 24-hour activity. Creating successful uses and activities is also about providing an active recreation waterfront while encouraging cultural activities, promoting arts and stimulating creativity.

The third placemaking criterion is comfort and image. This criterion manifests a strong connection to the three responsive design criteria of richness, visual appropriateness and legibility. Comfort and image deal with enhancing the experience of the place using different senses. This is also quite related to enhancing the arts, details, landscaping while maintaining the view. This is not fully achievable without extending the influence of the waterfront to the city through using key elements of legibility such as districts, nodes and landmarks.

Finally, in discussing the placemaking criterion of sociability, the responsive design criterion of personalization presents itself as the prime candidate for pairing. Sociability is about achieving local identity and character. This is quite associated with making public goals the primary objective for the development. In order to do so, a shared community vision is essentially developed and maintained through good management.

4 DISCUSSION & RECOMMENDATIONS: DESIGNING USER-FRIENDLY WATERFRONTS

In summing up, it can be strongly argued that the criteria of successful placemaking are strongly intermingled with the criteria of responsive design in a manner that makes them most suitable for comprehensive development projects. In applying the discussion to waterfronts, the twining of placemaking and responsiveness has its effects quite noticeable in mixed-use waterfronts.

The development of mixed-use waterfronts is quite common around the globe today. Such waterfronts are not always restricted to grand developments. Disregarding the size of the development area and magnitude of the development interventions, mixed-use waterfronts ideally reflect the ability of cities to adapt to altered economic and social circumstances.

Mixed-use waterfronts in today's development scenarios incubate many components such as housing, shopping, offices and recreation. Complex negotiations, leadership issues and huge sums of public and private money are involved in the process.

In such an ambience of development, the twining of placemaking and responsiveness design criteria plays its role in shaping the development scenario. To better understand the whole discussion, the following examples are discussed in an attempt to depict an outline of how mixed-uses are a prime candidate for successful placemaking and responsiveness.

On the Yokohama bay, and in the center of one of Japan's largest metropolitan area, a development plan known as the Pacifico project was developed for the area. The potentials of the bay originally include luxury hotels, shopping center and offices. The area incubates a work force of 190,000 and houses 10,000 residents. The Pacifico mixed-use development is composed of four buildings; a grand hotel, a conference center, the national convention hall and an exhibition hall as well as a public park situated at a prime waterfront site. The hotel developed in the project features a

gracefully curved façade providing panoramic views. Although separate as a building, the hotel is integrated in terms of its architectural features as well as functions in a manner that complements the national convention hall and the conference. All the project components are oriented towards the harbor (Breen & Rigby, 1996).



Figure.3 An aerial view of the Pacifico project (Breen & Rigby, 1996, p. 27).

In analyzing the project, it is noticeable that the successful placemaking of waterfront developments can very strongly aim to draw people to a variety of activities that can be weaved together into a coherent solution. This is ideally applicable to large or small scale developments. In the Pacifico example, a mix of buildings which advocates leisure, tourism and cultural activities is integrated into a responsive solution which brings together a variety of users.

In successful waterfront developments, this can be very well complemented by adding an extra flavor of commercial activities. This is quite evident in 'festival marketplace' waterfront developments which represent a widespread and longstanding tradition of eating, shopping and socializing along water bodies, likewise is a public focal point, drawing people to attend cultural events.

In such developments, the classic waterfront seafood restaurant, venerable waterside tavern and hotels all work together as part of a larger mixed-use development. Most importantly, the projects have to demonstrate that the commercial tradition of waterfronts is continuing in a style that has been adapted to current needs.

A successful example is the 'Southgate Melbourne' waterfront development in Victoria, Australia. This waterfront development is located on the south bank of the Yara River in the middle of Melbourne. The need for the waterfront development became pending after the Yara downtown and its buildings were neglected that they became a place for waste and rubbish. The closeness of the Southgate to the Victorian arts center encouraged the inclusion of commercial activities in the area so that there becomes a combination of cultural and commercial attractions. The basic idea was to integrate the placemaking components with the multilevel promenade along the river which is composed from two levels; the lower one containing greens, natural banks, ferries and tour boats dock while the upper level is lined with trees and has benches, lamp and include restaurant. The constituents of the mixed-use program for the development include houses, colorful café umbrellas, restaurant balconies and public art. In addition, other components are in this project like office towers, parking, church, exhibition center, maritime museum and casino that attract a great number of people (Breen & Rigby, 1996).

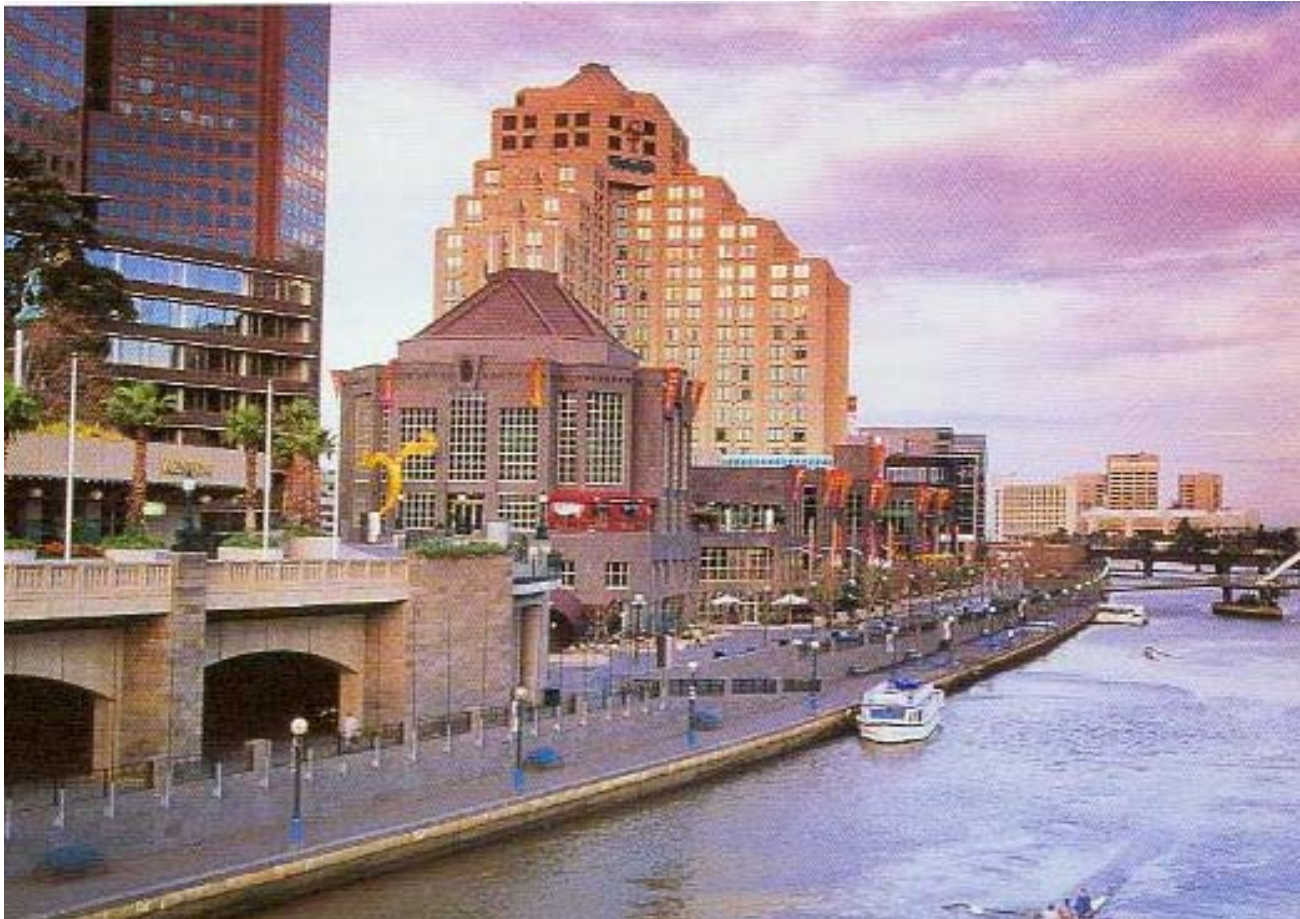


Figure.4 Southgate Waterfront view (Breen & Rigby, 1996, p. 68)

Mixed-use waterfronts often include housing schemes. This comes as a logic sequence to the trial of creating responsive places which encourage a prolonged stay and relationship with the places that are created. Throughout history, people have lived along the water for reasons both practical and poetic with housing styles that vary according to the culture. Areas adjacent to river lakes, coasts and canals are public resources that can be shaped through responsiveness and adequate placemaking criteria to balance between their public appeal to visitors on one hand and the need to meet the requirements of their residential population on the other. This means that walkways and facilities strive to be visible, attractive and accessible and comfortable for the visitors yet providing security and privacy to the area inhabitants.

In coherence to all of this discussion, it is quite logic to argue that instead of condemning old waterfronts to decay and ultimate abandonment; the preservation and adaptive reuse of historic buildings while injecting the development plan with mixed-uses helps to maintain a tangible sense of the past while favoring a restorative approach that makes for a richer community.

Clusters of boutiques, pubs, restaurants, hotels, houses and offices that are introduced in abandoned buildings can secure vitality and livability. This helps cities to be in touch with the past in modern daily life while being capable of preserving their historic waterfront districts.

An iconic example in this realm is the city of Marseilles. In the nineteenth century, Marseille was the arm of Europe reaching to global focal points such as the Suez Canal that provided direct access to the Mediterranean Sea. The Marseilles docks comprise a huge warehouse complex of stone and brick with cast-iron braces that was built at the time in the port of Marseille. The warehouse complex comprises seven story structures that are strung together along a block fronting the port. In 1991, the docks were rehabilitated into offices, shops and gallery space. An atrium traversed by walkways bathed in sunlight in the centre of each structure. A restaurant, café and a reflective pool captures the light cascading down the stone walls that are utilized area used as an exhibition space (Breen & Rigby, 1996).



Fig.5 The renovated Docks of Marseille (Aix-Marseille, 2007)

To conclude, waterfront development constitutes a crucial challenge to enhance the identity and environmental quality of cities. Waterfronts can play an important role in the economic and social health of their cities. In contemporary times, waterfront developments usually follow mixed-use approaches which strive to weave commercial, recreational, residential, historic, cultural, educational and environmental services and activities into one coherent successful solution. This can result in a waterfront that is a major attractive medium for wide ranges of users.

The best of the mixed-use (cultural, educational environmental, etc) waterfront emphasizes the vital connections between man and water. Waterfronts have been providing beautiful setting for religious architecture, memorials, public art, grand cultural institutions and educational sites for generations while having a great influence on our lives. As illustrated during the course of this research paper, responsiveness and placemaking can be twin-paired into sets of coherent criteria that can make the waterfronts' impact on our lives one of successful blossoming on the socio-cultural, ecologic and economic fronts.

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