

# A Study of Historic Waterfront Revitalization: *from Clarke Quay-Boat Quay, Singapore to Puerto Madero, Argentina*

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## Abstract

Many researchers have examined and discussed the study of revitalization, but a fewer still have discussed revitalization along riverbanks. This research aims to explore the revitalization of riverbank areas by focusing on and comparing two East and West locations. The Clarke Quay-Boat Quay area in Singapore – East and Puerto Madero, Argentina the West precedent. The research's method was qualitative by comparing two precedent studies to seek the typology of the revitalization concept. This paper obtains results using a descriptive narrative approach to describe the analysis of both precedent studies. In conclusion, it was found that both precedent studies have the same concept of revitalization. Both precedents use adaptive reuse as a concept to have a new function of both areas from warehouse and port areas to be commercial areas for tourists such as restaurants, cafes, bars, shops etc. It was concluded as well that both precedent studies with different social-culture conditions have adopted the concept of converting historic buildings (repurposing) to new host new functionality resulting in more commercial value.

**Keywords:** *Historic Waterfront, Revitalization, Clarke Quay, Boat Quay, Puerto Madero, Adaptive Reuse, Singapore, Argentina*

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## Introduction

The study of revitalization has been discussed and studied by many researchers. Although, before we discuss some revitalization studies, we need to understand the meaning of “revitalization” is exactly. We understand that the word “revitalization” is very familiar in conservation and preservation. From the Encyclopedia Britannica Ultimate Reference Suite 2012, the meaning of “revitalization” is very often understood as “rehabilitation of existing facilities, historic preservation and reuse of obsolete structures.’ The term “revitalization” itself is from the word “re” and “vitalize,” which means “re” - “again” and “vitalize” - “to switch on” - “to make life.” Thus, the term “revitalization could be understood as switching on again or making it live again. Referring to the revitalization of a particular area or district, it means that the concept has delivered a concept to make that specific area live again because that area was unused, under-utilized, abandoned and has a degraded infrastructure.

Wilczkiewicz and Mamcarcyk (2015) have discussed that the term “revitalization” has become significantly popular in recent years in many countries. The term is used in urban planning and landscape and in everyday life to describe various forms of revival (spiritual, fitness, material situation). Wallace (1956) in Wilczkiewicz and Mamcarcyk (2015) was an anthropologist specializing in studying the culture of Native American or American Indians. He was the one who introduced the term “revitalization,” which has been defined as efforts of members of a society to construct a more satisfying culture by inner revival. This theory was into practice in the USA and was related to problems of minorities, the inhabitant of poor districts and slums with high crime and unemployment rates.

Pawłowska and Swaryczewska (2002) in Wilczkiewicz and Mamcarcyk (2015) stated that the term “revitalization” had been used in various meanings depending on the discipline such as architecture, social sciences, economics, etc. This flexibility resulted from new experiences, and the development of a more conscious society increasingly interested in co-deciding about their environment was still growing. Pawłowska and Swaryczewska (2002) also mentioned that revitalization is defined as a many-sided effort including revalorization, restoration, reconstruction, modernization, and actions aimed at the revival of a building district or a town devastated in various aspects, also economic and social. Some researchers also mentioned that revitalization actions had been taken in many different places, cities in the world and have considered various assumptions (Lichner, Breznoscak, 2007:22; Casanovas, 2007:73; Rui, 2003:2; Narring, 2008:197-213). But in every renewal action which has been taken so far, some aspects are common. Moreover, Niemiec (2016) has mentioned that revitalization measures should target ensuring sustainable development. The implemented processes should result in making degraded areas able to function efficiently again by changing the structure of the areas and giving them new functions – Poland- Operational..., 2008:3].

Niemiec (2016) also underlined that revitalization-oriented actions are largely concentrated on improving urban space's image and beauty. They are primarily projects associated with the modernization of buildings, improvement of the quality of technical and social infrastructure, and marginalization of the economic and environmental aspects. Niemiec (2016), in her research, also discussed that it

is essential to achieve balanced social and economic development, environmental management, and effective governance. In the context of a sustainable city, it is hard to accomplish it in terms of revitalization. Moreover, in some cases, the meaning of revitalization has been interpreted narrowly. The very notion itself is often treated as renovation or modernization, which stands for extension or alteration made to some part of a building (e.g., adaptation of the attic for inhabitable rooms).

Referring to Rypkema and Tiesdell (1996) in Purwantiasning (2014), alleging that the old historic buildings mostly do not have adequate utilities so that the building is not feasible and does not have a value in accordance with their respective functions. The weakness in most of the old buildings, in the end, caused the buildings not to function as they should be. All those problems revealed various efforts to revive old buildings in some countries that have historic building legacies. Certainly can never forget about a statement that a great nation is a nation that always appreciates its legacies of history.

When we talk about historical site as well as historical building, we need to discuss about what is history. Purwantiasning, et al. (2020) had discussed some theories about history and underlined that history has a particular meaning. She had mentioned that history can be considered as a chronological event in the past, which could be used as a method of way of thinking to collect data and information that related to the past and could be used to help to analyze all the collected data. History can be defined as a way of thinking of significant event which has been seen in different time or era. By using history, it could be understood the chronological event also the reason of cause-effect of those events and why it is still maintained until the present day.

Purwantiasning (2014) also has stated that the areas of conservation which have been regarded as old historical sites with a lack of utilities and not liveable anymore, could be revitalized as a new place with a new function. This effort will support the condition of social, economic, and culture of the area. And as a result, the successful implementation will improve the quality of the environment and the quality of the human being within the area. She has also highlighted that revitalization is not only activity-oriented to the physical solution but also aims to enhance the community's economy and culture. In implementing the revitalization activity, some parties need to be involved because it will not work by government funds only. The roles of the community and their involvement are essential as well. It should be underlined that the involvement and the roles of the community will become the main component of the activity of revitalization.

Loades (2019) underlined through the statement of Orbasli (2002), Ashworth, and Tunbridge (2000) that The pressures of tourism, and the often associated demands of development and construction, are challenges shared by a large number of World Heritage sites. However, these issues are often most acutely felt in urban World Heritage sites, particularly the 'tourist-historic cities,' which tend to have many infrastructural and architectural limits to the number of tourists they can

absorb. Loades (2019) also explained that to stimulate sustainable management of World Heritage sites, heritage sites need to be understood and managed in connection with the broader spatial and cultural environments in which they are embedded. Other areas, which may also be central to cultural heritage and identities, may be overlooked by awarding protection to certain spatially defined areas of culture. In the wake of obtaining World Heritage nomination, pressures to construct tourism facilities near the sites often emerge. As such, these areas close to World Heritage sites are particularly vulnerable to exploitation from market interests. On the other hand, Draper (2017) has mentioned that under the heading 'Preservation and promotion of ASEAN cultural heritage,' the strategic objective is to: Promote the conservation and preservation of ASEAN cultural heritage to ensure its continuity to enhance awareness and understanding of the people about the region's unique history and the cultural similarities and differences between and among the ASEAN Member States and to protect the distinctiveness of ASEAN cultural heritage as a whole (ASEAN Secretariat, 2009:22).

Furthermore, Ancho and Juan (2021) also have discussed the significance of preserving heritage buildings. They said that preserving heritage buildings can be seen as knowledge generation rooted in the historical past. It provides contemporary perspectives to visualize the future. Studies such as these are platforms that celebrate cultural experiences for continuity and a sustainable future. Especially during recent times, advocating the preservation and conservation of GSB calls for stringent measures. Amid efforts to value the past, social development requires commitment and sound policy attempts to ensure cultural resources are valued and given attention.

Another essential thing about preserving heritage places is maintaining the area as a memory from one generation to the next generation. This statement has also been highlighted by Hristic and Stefanovic (2020) that discussed how to rebuild memory through architecture. They have discussed that conservation and development strategies are based on a clear perception of the existing potential and their rich use in the future. The principles of preserving heritage and reconstruction fit into the general concept of renewal, "completed transform of passive to the prospective way, abandoning the principle of resolving the fate of architectural heritage through static conservation – like a museum." The active protection of the urban unit and dynamic rehabilitation involves integrating heritage into contemporary life trends by emphasizing the identity of space. Hristic also said that this is especially important when reconstructive procedures are introduced in the historical areas, where is the need to harmonize the conditions of protection and conservation with the requirements of modern life. This is an example of how tradition and memory of the place are essential and how contemporaries should regard the layers of heritage and decisions for earlier periods.

In the previous research, Purwantiasning (2019) had mentioned that historical places not only bringing memories to the society, but also giving an attachment among them, she called it as a historical attachment. An attachment can be related to the history of an object which is either via written history or by oral his-

tory and in this case, a historical building or area. If the attachment is related to a place, then it becomes something special for someone who lived within the area. Individuals may feel a sense of the atmosphere or experience of the space, based on memory or individual interpretation. Historical buildings, or even historical areas that could be considered as places, become essential or significant when related to history or the past.

Denes and Pradit (2022) said that the revitalization of intangible heritage has strengthened local collaboration between sectors, including urban communities, educational agencies, academic networks, and local authorities. The revitalization of intangible heritage also has led to the transmission of cultural knowledge between urban and suburban areas.

This research aimed to explore the revitalization of the riverbank, which has designated two precedent studies from East to West. The Clarke Quay-Boat Quay area in Singapore has presented the East, and Puerto Madero and Argentina have presented the West. The research has explored and studied the differences and similarity of both precedent studies which representing two different countries with different aspect of social culture between East and West.

### Research Methods

This research has explored and revealed the differences and similarities of applying the revitalization concept along riverbanks within two precedent studies. One precedent study has represented the East (Clarke Quay-Boat Quay, Singapore), and another one has represented the West (Puerto Madero, Argentina). To fulfill the aim and objective of this research, we have conducted a descriptive qualitative research method which used a descriptive narrative approach using precedent studies from two countries. Collected data has been analyzed using two approaches. The first approach was by exploring and describing the history of both precedent studies narratively, generally. The second approach was identifying the typology of both precedent studies, particularly the typology of the revitalization concept and the typology of the building performance within the area of both precedent studies, particularly along the riverbanks.

### Location and Research Time

The research was undertaken in two locations. The first one is the area of conservation known as Clarke Quay and Boat Quay, Singapore, which has been regarded as a Conservation Area since 10th December 1993 by the Central Government of Singapore under Capitaland. We chose the areas of Clarke Quay and Boat Quay in Singapore as the first particular locations for the research (see Figure 1). The second location is the area of conservation known as Puerto Madero in Buenos Aires, Argentina, representing the West region. This area has been regarded as a Conservation Area since the 1980s after being abandoned for several decades. The area of Puerto Madero (see Figure 2) become a pilot project of revitalization in Argentina under CAPM (Corporación Antiguo Puerto Madero) since 1989.

The research was conducted for about two years between 2020 and 2021, while the primary data collection took around three months in different years in 2020 and 2021.

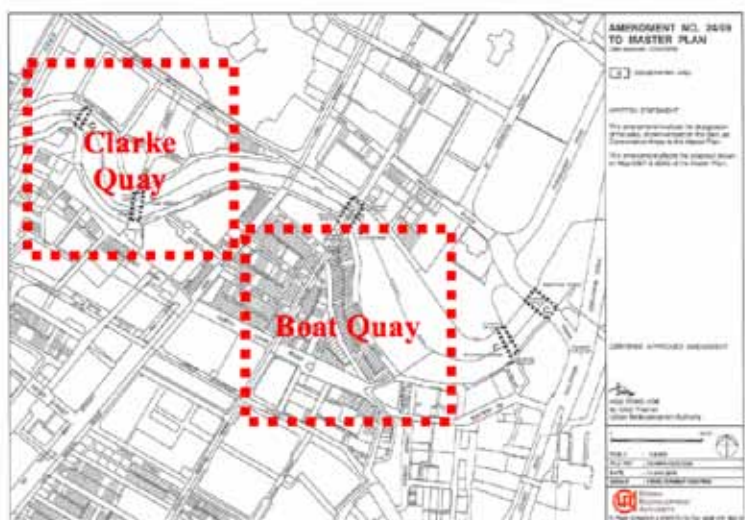


Figure 1. Research location within the historical site of Clarke Quay-Boat-Quay, Singapore. Source: Urban Redevelopment Authority, 2021.



Figure 2. The location of the research within historical site of Puerto Madero, Argentina. Source: Unidad de Sistemas de Informacion Geografica.

## Results and Discussion

### The History of Clarke Quay and Boat Quay, Singapore

Boat Quay and Clarke Quay, known as the Quays, are the areas along the Singapore River, where Sir Stamford Raffles first set foot in 1819. This area was once a center of trade and a warehousing center area realized because of these trade activities (see Figure 3). All ships must pass through this dock to reach the ranks of shops at Boat Quay. The more days of trading activities are growing so that other piers such as Clarke Quay are growing.

As the times progressed, the Singapore River was getting dirtier due to trading activity. Then the port was moved, and the government was encouraged to carry out revitalization activities by cleaning the river. Initially, this area will be destroyed because of its squalmen making Singapore have a declining environmental quality. Still, under Prime Minister Lee Kwan Yew, who is the only person with a high forward vision of the Quays area, the area that has declined in quality is revitalized. By applying various conservation principles governed by Singapore government regulations, the Clarke Quay and Boat Quay areas were successfully revitalized into areas that improved the quality of their built environment. By applying the concept of pedestrianization, the place is very pedestrian-friendly. The beauty of the original buildings is displayed by using the concept of adaptive reuse to every warehouse building in Clark Quay and Boat Quay. The primary function as a tourist attraction has also been applied to this area. The old function of the warehouse is transformed into bars, restaurants, cafes, and various entertainment venues that tourists can use both domestically and internationally. This area has become one of the mandatory destinations for tourists. The area is very pedestrian-friendly because the facilities provided also provide comfort and security for visitors.

With the development of the Quays area, the Singapore government has been increasingly developing tourism and culture in the region until now. Clarke Quay and Boat Quay are not only areas for tourist pleasure, especially culinary tourism, but also become shopping areas, nightlife, and restaurants (see Figure 4) and various recreational facilities such as cruise boat tours.

This area is used as a conservation area by the Government of Singapore. This area becomes an attraction for the surrounding community (domestic) and foreign (international) communities. In addition to the many historic buildings in the area, there are many rows of restaurants that offer a variety of food flavours with views of the river that stretches. At night, the area feels more romantic, with lights in restaurants and riverbanks. In this area, various kinds of transportation can be used to access this area. Cruise ships are one of them, which is water transportation that is often used by tourists and nearby residents to circle the Singapore River. In addition, there is an MRT that passes underground, buses that pass with several stops in this area, motor vehicles such as motorcycles and cars with lines that have been provided, and bicycles.



Figure 3. The condition of Clarke Quay and Boat Quay as warehouses before revitalization. Source: Urban Redevelopment Authority, has been accessed 20th November 2021.



Figure 4. The image of Clarke Quay and Boat Quay as tourist destination after revitalization. Source: Author, 2019.



Figure 5. Some images of Clarke Quay as tourist destination after revitalization. Source: Author, 2021.

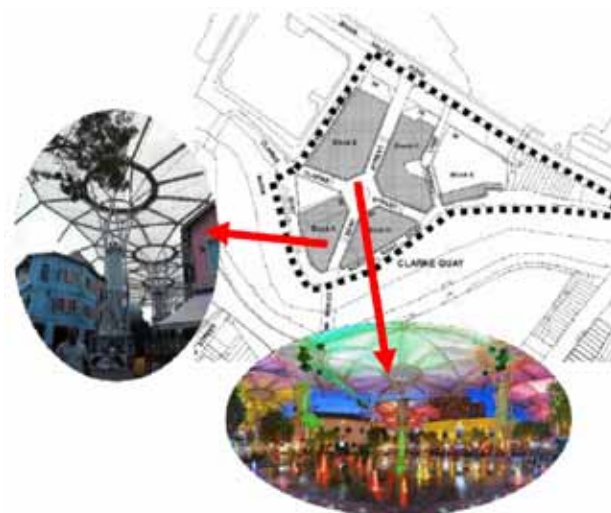


Figure 6. Giant Umbrella as a landmark of Clarke Quay as tourist destination after revitalization. Source: Author, 2021.





Figure 7. The row of restaurants, cafes, bars of Boat Quay as tourist destination after revitalization.  
Source: Author, 2021.

### The History of Puerto Madero, Argentina

Puerto Madero dates to 1889 as Buenos Aires' first port, built in front of Argentina's federal administrative center (Plaza de Mayo) and the President's residence (Casa Rosada). Several years after completion, the port was rendered useless to vessels due to faulty engineering, sending the area into decline. However, in 1918, the municipality of Buenos Aires started the construction of a public promenade along the shore that would become the Costanera Sur. The Costanera Sur functioned as a famous public beach until the 1950s when water pollution made it undesirable. Many plans have been drawn for the rehabilitation of Puerto Madero, but none were implemented to revitalize the site until the Puerto Madero regeneration project of the 1990s. (worldbank.org, has been accessed 20th November 2021)

The world bank's book also said that the port was inaugurated in 1889 when the rustic pier to the wide River Plate (Rio de la Plata) was replaced by Puerto Madero. The port was rendered useless a decade later because it lacked access to deep water and had a faulty design, which generated operational difficulties. Not long after, a new port was opened further north, and Puerto Madero began to decline. Access to the area was fenced off from public use from the very beginning.

From the history of Puerto Madero that has been discussed in the book of the world bank, it stated that in 1918, the municipality of Buenos Aires started the construction of a public promenade along the shore that would become the Costanera Sur. The Costanera Sur functioned as a famous public beach until the 1950s, when the pollution of the River Plate became so pervasive that the boardwalk area deteriorated. At the end of the 1970s, a new urban highway program reclaimed the land that was to be destined for the new administrative centre of the city. However, in 1984 the project was abandoned. Puerto Madero and Costanera Sur lost the open view of the river, and, in 1986, the reclaimed area was declared a nature park and ecological reserve.

These efforts were part of a much longer history of many plans formulated to re-design and redevelop the entire Puerto Madero area. At the beginning of the 1940s, plans were designed to build and improve upon the site—some initiated by local and international architects and some by regional, municipal, and city officials. In 1981, the Buenos Aires Municipality prepared a land-use plan to expand the central business area, which proposed utilizing the reclaimed river area to extend the city's CBD. A super grid would advance into the river. The channel between the Costanera Sur (part of the Puerto Madero area) and the reclaimed area would be filled. As a result, the site would increase to a total of 800 hectares (ha). The plan included uses directly related to the CBD, as well as for residential use. There was also a metropolitan park closer to the waterfront for recreation.



Figure 8. The condition of Puerto Madero as warehouses before revitalization. Source: world bank online, has been accessed 20th November 2021.



Figure 9. The condition of Puerto Madero as commercial buildings after revitalization. Source: Author, 2020.

### The Revitalization of Clarke Quay and Boat Quay, Singapore

Revitalization activities in the Boat Quay and Clarke Quay areas are based on conservation considerations from the Urban Redevelopment Authority (URA), which

has specific criteria and conditions for establishing buildings from suitable areas for preservation or preservation. An area can be designated as a conservation area if the area has criteria such as unique character, historical value. The area can contribute to improving and improving the quality of the buildings and the environment around the area.

Based on the above requirements, Boat Quay and Clarke Quay are designated as conservation areas because this area has a particular historical value. This area is a combination of several cultures such as Chinese, Indian and Malay. This is shown in the form of buildings in this area. As a result of the revitalization in the region, the Boat Quay and Clarke Quay areas became more colorful and livable, making them an exciting place to visit as a tourist area.

One interesting thing about Clarke Quay and Boat Quay is the existence of a row of shophouses that decorate along the Singapore River. The presence of this shophouse building became a unique and special character of the Quays Area (see Figure 10). This is what prompted the Singapore government to keep this area and be set up as a conservation area with a unique character.

Traditionally, shophouses are designed to provide for business premises on the ground floor and residential accommodation on the upper stories; terrace houses and bungalows are designed purely for residential use. Structurally speaking, the original use is always the best use for a conserved building.

However, old buildings may often have to be restored and upgraded to meet modern living needs or accommodate new uses. In restoring and adapting a conserved building to new uses, it is essential to adhere to the conservation principle to retain the intrinsic character and historical value of the building (see Figure 11). Alterations or strengthening of the building structure is to be done most sympathetically and unobtrusively, using the original methods and materials wherever possible.

The restoration and adaptation of conserved buildings to new uses require an understanding of the behavior of traditional buildings, traditional building construction methods, and how the buildings hold themselves together by the intricate interaction of the various elements (see Figure 12).

Pattananurot and Khongsaktrakun (2022) have mentioned that the concept of adaptive reuse is modifying old buildings to meet new economic and functional values that can create attraction to activities in the district by maintaining the value of elements that represent the place or identity of that building.



Figure 10. Shophouses in Clarke Quay and Boat Quay. Source: Author, 2019.



Figure 11. The typology of shophouses in Singapore. Source: Urban Redevelopment Authority, has been accessed 20th November 2021.

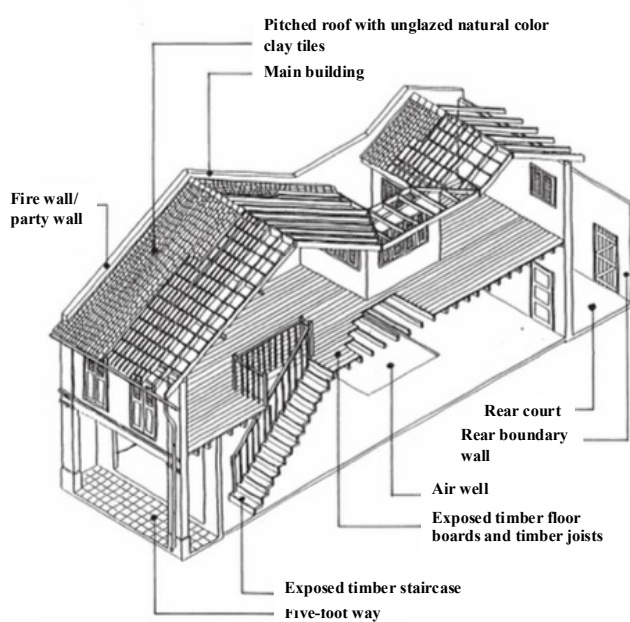


Figure 12. The main elements of shophouses in Singapore. Source: Urban Redevelopment Authority, has been accessed 20th November 2021.

### **The Revitalization of Puerto Madero, Argentina**

The condition of Puerto Madero in Argentina as the main port area was getting worst for decades. The situation worsened when Argentina's political and economic conditions struggled from one political issue to another. Keeling (2001) had mentioned that changing national and international political and economic circumstances in the late 1980s encouraged a reevaluation of the role of both Buenos Aires and Argentina in the global economy. Keeling (2001) also mentioned that with creating a public-private partnership system designed to represent the many competing political and economic interests, the next step involved untangling the multiple jurisdictions that controlled property in Puerto Madero and creating a mechanism to finance the redevelopment. Several provincial, federal, and municipal agencies and private corporations doing business in the area used the docks, old warehouses, and mills, as did hundreds of illegal squatters. The federal government transferred ownership of the land and the existing infrastructure to the newly established corporation to solve jurisdictional and financial problems. It required that the property be used to raise capital solely for the redevelopment of Puerto Madero. Resolution of these problems marked the first time in Buenos Aires's urban planning history that the federal government and the municipality had reached an agreement on a joint urban development policy, especially one that would have such far-reaching implications for the city.

Garay et al. (2013) had discussed Puerto Madero, which was abandoned as a port at the beginning of the 20th century when operations transferred to Puerto Nuevo. They also mentioned that by the late 1980s, Puerto Madero had suffered several decades of neglect and underutilization. The federal General Administration of Ports owned the land, but the city and national governments both had jurisdiction over planning. Similarly, greater Buenos Aires – home to 35 percent of Argentina's population and producer of 46 percent of its GDP – is governed by an overlapping set of institutions that often have trouble coordinating. To simplify this inter-jurisdictional governance, a public limited corporation, with shares divided equally between the national and city governments, was formed to manage the project. In 1989, the federal government transferred ownership of this port sector to the new corporation, CAPM (Corporación Antiguo Puerto Madero).

Moreover, Garay et al. (2013) have explained that after receiving the federal land transfer, the role of CAPM was to develop the site plan, define a self-funded financial model, undertake the site improvements associated with the project, commercialize the land, and supervise the development process in accordance with the established time frames and guidelines of the master plan. Unlike similar ventures elsewhere in the world, which generally rely on substantial public financing or access to credit, CAPM by decree would receive no public resources besides the land transfer and generate its revenue to cover operating costs. The port redevelopment could not have happened otherwise, as the federal government was focused on fiscal recovery and job creation amidst a nationwide economic crisis. As in most Latin American cities, the displacement of activities from Buenos Aires's traditional downtown had curtailed the use of the public transit system and led to the slow decline of historical buildings, many of which had lapsed into substan-

dard housing. The proposed redevelopment of Puerto Madero was part of the city's broader strategy to protect heritage, promote downtown development, stimulate the local economy, and contribute to the reversal of these undesirable settlement patterns. The condition of Puerto Madero after revitalization shows significant differences. The old buildings that used to be docks, warehouses, and mills became commercial places such as restaurants, cafes, bars, and shopping areas (see Figure 13). All the areas become pedestrianized, as seen in Figure 14; thus, they become pedestrian-friendly for visitors.



Figure 13. The condition of Puerto Madero as commercial buildings after revitalization. Source: Author, 2015.



Figure 14. The area of Puerto Madero's riverside is friendly for pedestrian. Source: Author, 2015.

Although Puerto Madero has become an exciting place to visit, Puerto Madero is still poorly served by public transport and is not well integrated with the urban transit network. Access and egress to the zone by pedestrians remain difficult and dangerous, especially across the two central boulevards that separate Puerto Madero from the city center. Buenos Aires lacks sophistication in its tourism marketing and promotion vis-a-vis the new area. There is little evidence that Puerto

Madero's attractions have been meaningfully articulated with the city's major tourist destinations. The author has experienced this condition in 2015 while Visiting Puerto Madero. For sure, this has become a future program that the Government should consider.

The existence of some new functions within Puerto Madero will attract many visitors to come, but unfortunately, it will not work if the accessibility of the area is slightly difficult. People will not consider coming if there is not such comfortable access. Figures 15, 16, and 17 show that some places in Puerto Madero have been changed to a new function to give a new life for old buildings in Puerto Madero to attract many visitors.



Figures 15 & 16 are before and after images. One of the areas in Puerto Madero's riverside that has been revitalized to a new function. Source: World Bank Online, has been accessed on 20th Nov. 2021.



Figure 17. One of the buildings in Puerto Madero's riverside that has been revitalized to a new function as a commercial building. Source: World Bank Online, has been accessed on 20th November 2021.

### The Typology of the Revitalization:

#### From Clarke Quay and Boat Quay to Puerto Madero

From the above explanation and discussion, it could be underlined that both areas of revitalization, Clarke Quay-Boat Quay Singapore, and Puerto Madero Argentina, were used to be port areas that have an essential role for the city even the Country. Both areas represent a historical area designated as a conservation area

and feasible to be revitalized. The condition before revitalization was terrible, and many buildings were become abandoned and lack of utility, the area lack of infrastructure as well. By the government's initiative, both areas have been revitalized and become a new area with new functions and new appearances of the buildings. Although, the character of the building remains the same.

Buildings within Clarke Quay and Boat Quay Singapore have a specific character representing Chinese architecture with the concept of shophouses. Figure 18 shows how the shophouses in Clarke Quay-Boat Quay remain the character of the Chinese architecture with the main three elements: ground floor as a public space (shops, cafes, restaurants, etc.); second floor as a semiprivate space (for guests, family, friends, and relatives) and the upper floor for private spaces (for family activities). But after revitalization, some owners have moved to another place, and no longer live in that shophouses. All the areas of the shophouses become a commercial space, although the upper floor sometimes becomes a rest area for staff and stocks spaces/ storage.

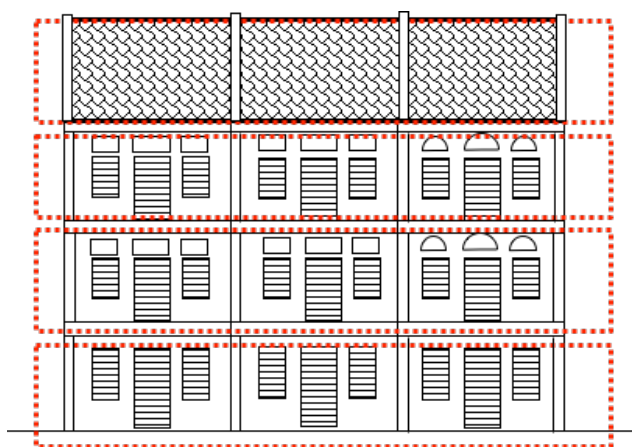


Figure 18. The schematic typology of shophouses in Singapore. Source: Author, 2021.

On the other hand, buildings within Puerto Madero, Argentina, have a different character. The buildings covered by red brick represent the era of Victorian architecture. The buildings have used to be docks and warehouses for the port. For many decades those buildings have been abandoned and neglected with a lack of utilities and infrastructure. Learning from another country that succeeded with the revitalization program for old buildings, Puerto Madero had been proposed and promoted as a tourist destination in Argentina.

Figure 19 shows that some buildings within Puerto Madero have similar typologies as warehouses with a particular character in Victorian architecture. Those buildings have a similar appearance in façade with a specific form of doors and windows. After revitalization, the function of the buildings has been changed into a new function by applying the adaptive reuse concept. On the ground floor, the areas have become commercial areas for shopping areas, cafes, restaurants, bars, just like shophouses in Clarke Quay-Boat Quay Singapore. On the upper



floors, they have been changed into other functions such as retails, rental spaces (co-working spaces, offices), and some become rental apartments or hotels for tourists.

The similarity of both case studies shows that the concept of adaptive reuse seems to become the perfect solution to regenerate and revitalize old buildings into new appearances and functions. Both cases studies have similarities as a port area, warehouses, and recently as a commercial area. Both case studies become significant places to be visited by domestic or international tourists. The comparison between both precedent studies could be seen in the Figure 20.

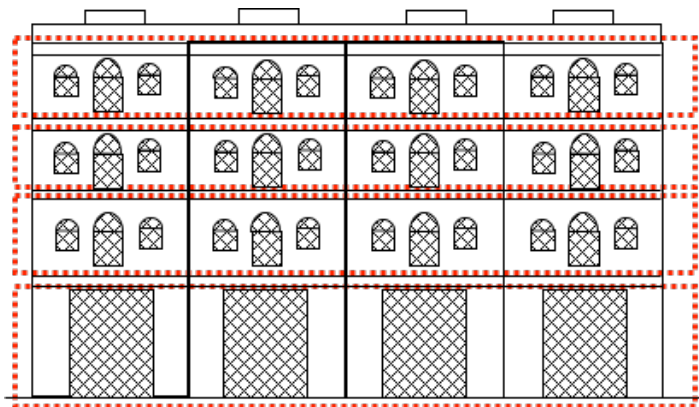


Figure 19. The schematic typology of buildings in Puerto Madero. Source: Author, 2021.


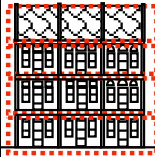

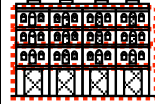
No	Waterfront Area	Building's Appearance	Building's Typology	Architectural Style	Old Function	New Function
1	Clarke Quay-Boat Quay, Singapore		Shophouses: 	Chinese Architecture	Warehouses, docks and residents, lower areas for storage and upper areas for living	Shops, Bars, Restaurants, Cafes
2	Puerto Madero, Argentina		Docks & Warehouses: 	Victorian Architecture	Warehouses, docks	Rental Offices, Bars, Cafes, Restaurants, Co-Working spaces

Figure 20. Table of the comparison of buildings between Clarke Quay-Boat Quay, Singapore and Puerto Madero, Argentina. Source: Author, 2023.

### Acknowledgements

We thank to Study Programme of Architecture, Faculty of Engineering, Universitas Muhammadiyah Jakarta, who give us a chance to have this Research Grant through Program Kompetisi Ksmpus Merdeka Year 2021, with a contract number: 01/E1/PPK/KM.05.03/2021 between Pejabat Pembuat Komitmen Sekretariat Direk-

torat Jenderal Pendidikan Tinggi Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi and the Rector of Universitas Muhammadiyah Jakarta.

### Conclusion

Clarke Quay-Boat Quay area in Singapore and Puerto Madero Area in Argentina have similarities both as former Port Area and former Port warehousing buildings. Also, the two have similarities in the method of the revitalization of the area. Namely, using the concept of adaptive reuse by re-functioning the buildings of former port warehouses into commercial buildings profitable for tourists both domestically and abroad, from restaurants, cafes, bars, and lodging to rental offices.

Although the two regions have similarities in the initial function and the method of preservation, both have different uniqueness in terms of the appearance of the character of the building and its architectural style. In Singapore's Clarke Quay-Boat Quay area, the buildings that line the Singapore River represent ethnic Chinese architectural styles with the typology of their shophouses. Meanwhile, in Puerto Madero, Argentina, the main building along the Darsena Sur River (Rio Darsena Sur) displays a Victorian architectural style that shows the dominance of red from red bricks (red bricks) that show the peculiarities of the character of Victorian architectural style.

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