

TRANSFORMATIONS OF CONTEMPORARY METROPOLITAN WATERFRONTS. CASE STUDY: ROSARIO'S METROPOLITAN REGION, ARGENTINA.

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ABSTRACT. The changes widespread around the world, associated to new accelerated dynamics of economy, market and globalization, cause that port-cities confront, in the last decades, new spatial transformations. Thus, diverse and complex territorial changes around the city-port relationship occur. In this context, we take as a case study the waterfront of Rosario and its region, to discuss both the changes that happen in recent years on the banks of the city -according to its original facilities-, as well as those related to major port-metropolitan infrastructures. This riverfront has great relevance to analyze multiple complex transformation processes occurring in contemporary metropolis.

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INTRODUCTION

Multiple changes around the world, associated with accelerated dynamics of economy, market and globalization, cause that port cities face, in recent decades, new spatial transformations. On one hand, the historical production facilities -such as port, railway and industries-, located in city centers, become obsolete and in conflict with other activities; while on the other, new urbanization processes, technological transformations, demands of capital -among other causes-, cause these infrastructures to move and acquire new roles in the metropolitan configuration, being located in new spaces and towns. In this way, diverse and complex territorial transformations occur around the port-city relationship.

River towns have grown up around a particular dialectic with water. Following Bruttomesso [1], it's this element which, in many cases, is responsible for the deepest identity of the city -the *raison d'être*-. Especially since the mid 1970's, several historical urban centers carry out projects of renovation of their waterfronts in order to reintegrate the city with the river again. These areas have a high value and potential of territorial transformation. In this context, due to economic, productive and territorial changes, we are confronted with new conflicts, but at the same time, with new possibilities. The requalification of urban waterfronts is a relevant opportunity for many cities. Not only it is possible to redesign its

urban fragments, but also favors the planning of the whole city, its operation and its image. The possibility of recovering the riverfront -when it has been occupied by large facilities, mainly linked to the port- means to rethink the role and organization of the entire urban area surrounding the waterfront.

Therefore, various conflicting interests arise; since, although it's allowed to imagine the recovery of public access through the development of new open places for community, it is also an expectant stimulus to market speculation. Administrators, politicians, citizens, entrepreneurs, port authorities, economic entities, among others, become actors with specific -and usually contradictory- objectives about the fate of these areas. The rediscovery of the value of water and the urban waterfront -for non-productive activities- is a challenge for coastal cities; such as the territorial transformations result of the establishment of new infrastructures in the metropolitan bank.

So, we take as a case study the waterfront of Rosario and its region, to analyze the changes happening in recent years on the banks of the city -in relation to its original facilities-, and the transformations linked to major port-metropolitan infrastructure. This waterfront is a case study of great relevance to analyze multiple complex transformations processes happening in contemporary metropolis. (Fig. 1)



Source: (Galimberti, 2014) and (METROPOLITANA, 2013)
 Figure 1: Waterfronts transformations in the Metropolitan Region of Rosario, Argentina.

LITERATURE REVIEW

In recent decades, many port cities take the challenge of regaining its riverfront's central areas for new activities -mainly recreational, residential and commercial-. They rediscover the possibilities offered by this condition and propose to restore the complex relations between urban fabric and water. The recovery and redevelopment of the waterfront becomes a strategic theme of urban planning agendas. Various examples of requalification of waterfronts are positioned as emblematic cases and have been referents to others transformations in different corners of the world. For example, we can mention: Docklands in London; Kop Van Zuid in Rotterdam; Baltimore Inner Harbor in United States; Malecon 2000 in Ecuador; Puerto Madero in Argentina, among others.

Since the last decades of the 20th century, transformations and new developments in waterfronts have been an essential part of the life of a large part of the riverside urbanizations. Although these projects have great potential to establish new spatial links, the resulting interventions not always are successful. Experience has shown us, in many cases, that the proposed operations focus to respond to certain economic interests, to repeat generic models already made in other countries -usually very different-, or to transform these areas into structures similar to an amusement park. In many of these conversions, there is a lack of identity, an absence of the sense of belonging to the place; as also, these transformations usually

tend to generate gentrification processes. We register, at global level, numerous new proposals, project mimesis of previous winner's models but they lack of distinctive and characteristic elements. By visiting these re-functionalized spaces, as Brutomesso [2] explains, one often experiment a *deja vú*, a feeling of already have been there or that it's not possible to identify exactly in what part of the world one is.

The reorganization of waterfronts turns out to be a matter of interest for multiple actors of different areas: municipalities, society in general, real estate developers, among others. However, the incentives that motivate them to claim the revitalization of these banks are contradictory. For example, whereas some of them request its recovery for new public spaces, the environmental waterfront rehabilitation and the reconnection with the existing urban plot; others demand its privatization -mostly for offices and residences for upper-middle sectors of the population. At the same time, the municipal authorities often project these reconversions for a major tourist attraction as well as to attract private investment. The basic difficulty that involves these transformations in port cities is the reconciliation of diverse aims, interests and influences involved.

Waterfront's transformations embrace universal processes, but they also have specific characteristics in relation to the context where they develop. Therefore, both dimensions, local and global, are present in these new river projects. The successful

results of these transformations, according to Hoyle [3], depend essentially on three things: "integration, integration, integration. First, integration of past and present; second, integration of contrasting aims and objectives; and third, integration of communities and localities involved." Therefore, the joint of different actors, factors, topics and interests is essential for contemporary waterfront transformations.

On the other hand, changes in the demands of market, the increasing flows of goods and technological transformations also lead to change techniques, organizations and forms of management of harbor infrastructures. The port that does not adapt to the new conditions becomes obsolete and cannot be at the level of productivity required by economic policies. So, these facilities face a profound change, in recent decades, based on the new international demands and must provide a complex network of services, coordinated with other sets of agencies and companies involved and articulated in a regional integrated system. Port management requires the conjunction of policies and public-private investment in joint cooperation.

RESULTS AND DISCUSSIONS

The metropolitan waterfront of Rosario is an important harbor region. The port is the reason of the conformation and expansion of Rosario and its hinterland. It is not possible to think its waterfront without the port as well as the port without ties to the city. Both components, port and city, in conjunction enable the metropolitan development. However, due to the transformation of new dynamics and harbor needs, in decades recent, the port condition comes into conflict with the urban dimension. The main problems are linked to the location of these facilities, situated in central and strategic parts of the city. So, in the 1980's begins the transformation of the historical ferro-port facilities located in the central area of Rosario; which are transferred to the southern sector of the city. Also, the metropolitan port infrastructures are consolidated and acquire great importance, at regional, national and international scale, -especially the riverfront of San Lorenzo's department-. This sector has a strategic location next to the Paraná river and with optimum conditions of navigability and connectivity. (Fig. 2)

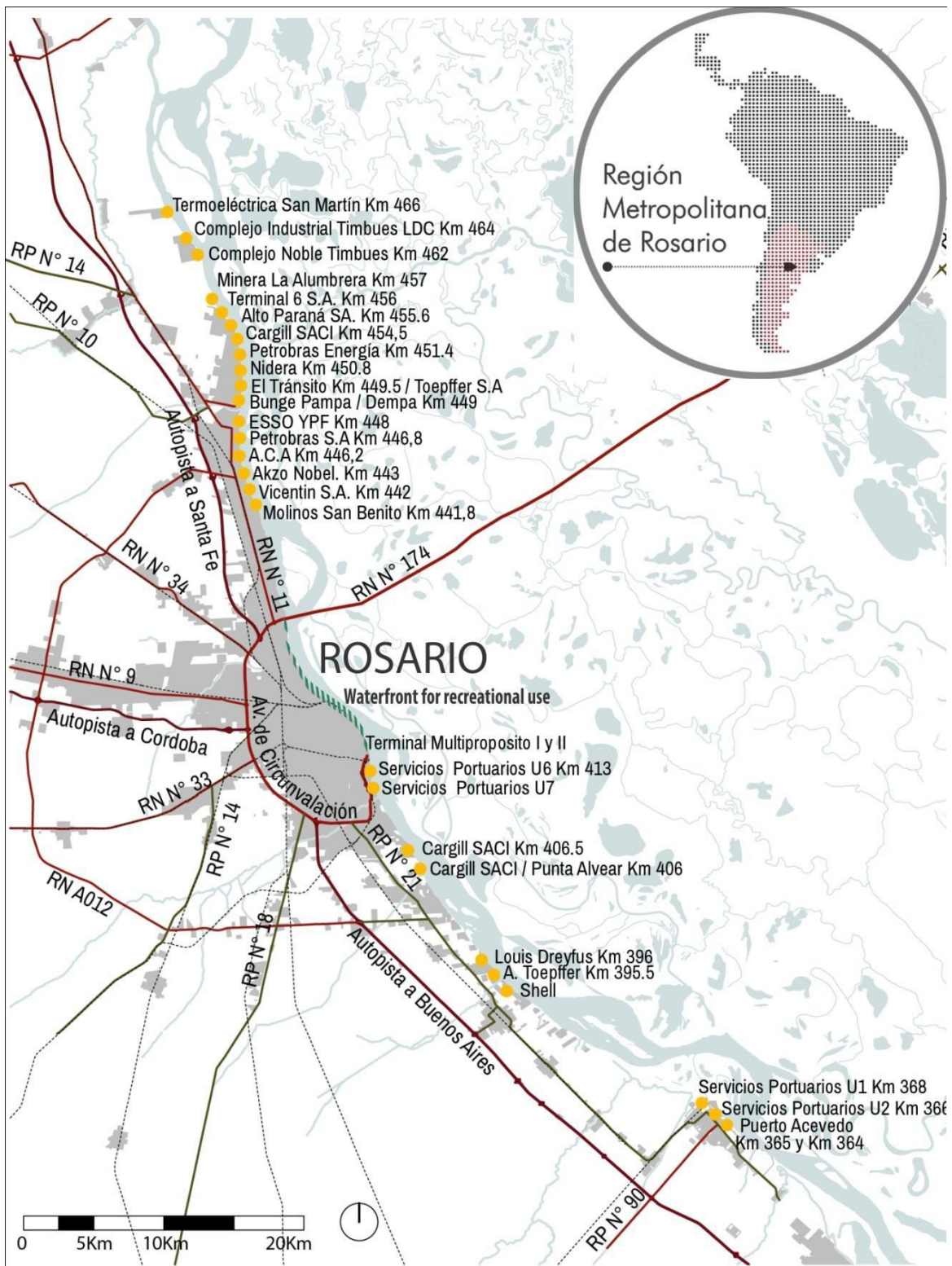
The waterfront of Rosario

Rosario, in the early years of the 1980's, faces a process of crisis and deterioration of its

harbor activity. In spite of continuing being one of the major Argentinian's exporting center, in this period diverse conflicts are registered around the port -for example, the obsolescence of port facilities and the lack of new infrastructures- according to new requirements of international trade. Also, after the democratic return of 1983, the previous projects of restructuring the central waterfront of the city are retaken and the riverside conversion is again one of the main guidelines of urban planning. The productive condition of Rosario's bank -whose rail infrastructure and port have occupied 11 Km extension of the 16.7 Km of fluvial front-, it is determinant to re-articulate the city with the river. Therefore, through the joint action of a large number of actors, is carried out a series of integrated projects seeking a continuous waterfront reconversion, from North to South, from a recreational, touristic, cultural, residential and commercial perspective.

As is explained in the "Updating of the Urban Plan and documental bases for the revision of the Urban Code" [4], presented to the City Council of Rosario in 1991, the first point of the structural operations to be performed in the city are the recovery of the waterfront and the reconversion of the harbor. According to this document, this operation promotes the integrated use of the bank of the river, claiming and reaffirming the fluvial character of the city, by combining their productive role with recreational development and micro-regional tourism on the disaffected sectors of harbor activities.

Thus, a continuity of policies takes place in the guidelines proposed through the years. For example, in the new Urban Plan of 1999 [5], the city-river system continues to be one of the main structural projects of Rosario. As is explained in that document, this new way of linking the city with its river is expressed in the different condition of accessing the waterfront -very restricted until recently-. In the new uses that are listed, in particular those associated with recreation, and in the construction of a new facade on the river, it is symbolize the processes of change taking place today in the city. In this way, an old aspiration of the citizenship -that dates back to the early decades of the past century- is achieved: to release the Paraná's bank free of ferro-port facilities and turn it into a recreational area for public use. So, it is possible to set up a cultural, recreational and tourist corridor through the creation of new public spaces along the restoration of existing productive historical buildings.



Source: (Galimberti, 2015)
 Figure 2: Metropolitan Region of Rosario, Argentina.

Also, in this period, the waterfront of Rosario is interpreted as a collective heritage, beginning with the recovery of many areas and infrastructures. Precisely, a new relationship between the city and the river arises, demonstrating an active dialogue between the

new uses and the pre-existing conditions of the place. Therefore, began the process of reconversion of the ferro-port heritage along the waterfront, for example: the former station "Rosario Central" is restored in a multi-functional complex, whose main activities

include the "City Center Municipal District"; and the "Island of Inventions" -a space of games and science dedicated to children, linked to recover the history and past of the city through various educational and cultural activities-. Are also restored the railway warehouses nearby this station: three buildings are converted into the "House of Tango", which aims to promote the culture of tango through various events, concerts, exhibitions and seminars.

At the same time, another of the sheds, originally known as warehouse n° 10 of the

Central Railway, which was the first passenger station from the beginning of the railway services -until 1870 which opens the "Rosario Central" station-, is refurbished as a restaurant and ballroom. In addition, many port warehouses, settled in the "National Flag Park", are also restored in order to rehabilitate them with new uses, mostly cultural. Another major example of the rehabilitation of port facilities is the restoration of the former "Silos Davis" -grain storage, designed in the 1930's by architect Ermete De Lorenzi- into the current Museum of Contemporary Art of Rosario -MACRO-. (Fig. 3)



Source: (Galimberti, 2013, 2014, 2015)

Figure 3: Patrimonial restoration in the central waterfront of Rosario.

Furthermore, simultaneously to the conversion of the north and center riverfront for mostly recreational uses, on the lower south coast is carried out the port modernization of the city, through the implementation of new works; for example: the dredging of the Mitre channel, the completion of the Ring Avenue and the improvements to the port access, the completion of the South port of Rosario -enabling the seventh storage unit with a capacity of 80,000 tons-, and the realization of new infrastructures.

It is noteworthy, that these actions are supported by a new legal framework¹. Also, in the context of the Law of the Reform of the State and the Law of Ports, the nation's ports are transferred to the provinces after the conformation of a non-state public organization that is in charge of their administration. In

¹ It is important to note that, since the early years of the 1990s, Argentina performs a structural change in their port policies linked to deregulation, decentralization of management and administration of its ports; establishing a new legislative regulatory framework for port activity in the country. It establishes a new legal framework concerning the authorization, management and operation of State and private ports already existing or to be created in the Argentina.

Rosario, it is created the Entity Manager Puerto Rosario -ENAPRO-, assuming its duties in October 1994. This organization, years after its establishment, develops a Master Plan for the restructuring of spaces and functions of the port area. Through the same is proposed to achieve the recovery and the upgrade of the facilities, in order to integrate the port of Rosario in the network of fluvial transport in the region and to respond to new requirements of the international market. Between the end of the 20th century and early 21st century takes place the final process of dismantling the north port area, being developed in 2004 the National Competition of Ideas and Projects to incorporate the recovered lands.

In the last thirty years, has changed, greatly, the territorial configuration around the city-port relationship in Rosario, responding to the demands of new productive applications as well as social demands, in order to establish a new dialogue between the river and the urban fabric. However, it is still a pending challenge the integration of the southern port city. Rethinking the connection between the active port of Rosario and the rest of the urban structure constitutes a space of opportunity to

operate and respond to the various problems existing in the southeast sector of Rosario, such as: environmental vulnerability, social segregation and lack of infrastructure.

The waterfront of Rosario's Metropolitan Region.

The strategic position of the western waterfront's Paraná river -with excellent topographic conditions of natural port, great interconnection of roads, among other features-, make the 90 km of metropolitan waterfront extension, a privilege location for the installation of large and numerous productive infrastructures. Mainly, stand out those related to the shipment of grains, products and oils. The major port-industrial density is registered from the south of the town of "Timbúes" to the city of San Lorenzo inclusive. This regional port system², since the late of the 1980s, is a consolidated exporting hub. For example, in those years, the Puerto General San Martín-San Lorenzo's complex concentrates the largest amount of commodities exports of the country. As Bassadona [6] explains, the Metropolitan Region of Rosario, in the 1970's, recorded an annual average of 2.5 million tons of grain; while, in the 1980s, it passes to mark 11 million -between grains and sub-products-, capturing more than 60% of the total registered in other ports of the country.

At the same time, since the Law of Ports of 1992 -through which enables individuals to manage and operate public or private, industrial, commercial or recreational ports-, this sector consolidates its position even more. This law also regulates the situation of those terminals with temporary permissions. However, it is in 1997 that the final authorizations are given, because of the Decrees n° 119 to 123 of 1997 that the following terminals are permanently enabled: Terminal VI S.A., La Plata Cereal, Punta Alvear S.A., Cargill S.A.C.I., Argentine Cooperatives Association and Louis Dreyfus Commodities. Although, in this productive metropolitan waterfront dominate the bulk ports, other products complete the complexity and magnitude of this great regional complex. The metropolitan waterfront of Rosario is positioned as the main gateway to international trade of the country.

This bank presents a large number of great importance port terminals; which are multi-

modal strategic nodes for concentration and operation of loads. It is noted that these belong mostly to private multinational capital. These terminals are concentrated in three complexes: 1. Puerto General San Martín - San Lorenzo - recently incorporated the town of Timbúes, specialized in commodities, vegetable oils and hydrocarbons export-. This sector has significant infrastructures advancing on the river, built in recent decades with great technical ability, giving response to the new international solicitations; 2. The complex of Rosario -which also embraces the terminals of Villa Gobernador Gálvez, Alvear, General Lagos and Arroyo Seco-. In which dominate the diversified loads, containerization, and grains operation; and finally, 3. The port terminals of Villa Constitución, which is dominated by the flow of containers, grain, minerals and steel -especially from Acindar-.

Therefore, in recent decades, the regional port system evolves and adapts to new changes and international production requirements and to political and economic transformations at national level. The modification of port structures -from technological, organizational and management perspective- is done in order to be more competitive, given the complexity of the global demands of commodities exchange.

According to the "Bolsa de Comercio", 77% of total crushing capacity at national level is located in the Region of Rosario, mainly in the waterfront's towns studied here. Following Julio Calzada [7], this is one of the largest commodities complex in the world -if we focus on the concentration of factories and port terminals in a region-. However, while this regional port system is the largest economic center of the region, it also brings many conflicts to the towns where these infrastructures are located. This makes us think on what are effectively the benefits granted -qualitatively and quantitatively- to this territory and its population, when there is a lack of planning of the port-city relationship. (Fig. 4)

² Since the mid-20th century, it is developed the productive profile of the Metropolitan Region of Rosario, being located in its waterfronts large production plants and industries. It is built numerous private docks. This tendency intensifies with the Law n° 22.108 of 1979, which allows private companies to be owners of port terminals. So, since this norm, they begin to build new terminals and expand existing ones, increasing its capacity.



Source: (Galimberti, 2015; from METROPOLITANA, 2013)
 Figure 4: Puerto General San Martín's productive waterfront.

Although, various problems occur in these locations, we can mention for example: high pollution and environmental vulnerability -that generates diseases to the local population-; serious difficulties for large flow of trucks, especially in times of harvest -that isolate populations by obstructing completely the routes and generating their deterioration-; conflicts in the road infrastructure; barriers between the urban fabric and the river which produce socio-spatial fragmentation and segregation. It is identified, furthermore, a deficiency in the organization and management of the load mobility system and also registered a weakening of the State power to exercise control to mitigate the negative effects generated by these facilities to the territories and local societies.

In this regard, the local/global dichotomy is in conflicting terms in relation to the links between economy and territory. A large part of these processes tend to respond to external pressures of capital -aggravated by the release of the State role-, leaving aside the needs and problems that arise at the local level. However, facing the increasing role of the regional economy requires establishing actions and guidelines in order to integrate the global demands with the local ones of each territory.

CONCLUSION

Due to new pressures linked to port, industrial and agricultural changes and new social

demands, the local level reinvents itself to respond to different requirements and requests. In this context, on one hand, the city of Rosario across, in recent decades, a process of redevelopment its waterfront, relocating port facilities to the southern low coast and readapting the central bank -with new uses, mostly aimed at public-space-. On the other, the metropolitan waterfront is positioned as major exporter node through the consolidation of the port-productive terminals. Nevertheless, these processes respond to different interests and denote a lack of articulation between them which produces numerous problems.

The harbor is a potential engine of urban development and not a mere disconnected sector from the city. In this regard, we consider that the critical analysis of the port dynamics is a current challenge and its approach must be done in a comprehensive way through the articulation of the different central themes of the fluvial territory, as for example: productive infrastructures, mobility, residential areas, public and recreational components, patrimonial value, environmental protection, among others.

So, we ask about: How could we evaluate the success of the transformations on contemporary waterfronts? Which parameters and variables take? We can say, following Hoyle [8], that success cannot be measured around the economic results of financial

investment or to create a park along the water or replace obsolete infrastructure by artificial imported images. Otherwise, the success of transformations in contemporary waterfronts implies a deep articulation at all levels between town and river; in other words, between the various jurisdictions, actors and interests involved. In this sense, it is crucial both the active presence of the State -integrated in their different scales- as an essential promoter of these transformations, as well as the participation of all citizens, in order to articulate the different demands of social, productive and spatial spheres.

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