

# Urban Project Issues: Dealing with Porto Maravilha Project in Rio de Janeiro

Denise B. Pinheiro Machado

*PROURB, Graduate Programme in Urbanism, School of Architecture and Urbanism, Universidade Federal do Rio de Janeiro (UFRJ), Brazil*

**Abstract:** This paper focus on the urban project in the central and port area of Rio de Janeiro, Brazil, Porto Maravilha. It is a project with many complexities, including both small and large scales, dealing with a diversity of actors and interests in a territory in transition. The project covers an area of 489 ha, consisting of obsolete port structures, urban voids, historic fabric and low-income housing areas. The Rio de Janeiro Olympic Games in 2016 and the 2014 World Cup in Rio de Janeiro created the opportunity to implement this project. A legal, financial and urban development operation was established to enable a project based on a public-private partnership that envisaged the additional construction of 4.7 million m<sup>2</sup> involving 2 billion US dollars. The government carried out the infrastructure works, and the waterfront was revitalized with the insertion of new leisure and cultural equipment. The permission to build buildings more than 50 meters high, which are foreign to the city's urban standards, means a break in the landscape. So far the private sector has invested shyly in the area, we still have uncertainties about the transformation of this space.

**Key words:** urban project, urban transformation, Porto Maravilha, Rio de Janeiro

## 1. Introduction

This paper focus on the urban project for the port area of Rio de Janeiro, Brazil, called Porto Maravilha, which was created in 2009, aligned with the preparations for the 2016 Olympic Games in the city.

Rio de Janeiro's port area was set up at the beginning of the 20th century with the construction of the modern port in a landfill area, which was "glued" to the existing urban fabric, with a traditional configuration. Built to meet the needs of port activity at a time when Rio de Janeiro was the capital of the country, this new totally flat area is composed of large lots, where warehouses are built on land owned by the federal government (company of the ports and rail network). On the other hand, the previously existing urban fabric consists of small lots, with buildings for residential or commercial

use on the existing steepy hills. It is a place rich in history, where the first favela of Rio de Janeiro appeared and where the slaves first set foot up until the end of the 19th century. These are different contexts and urban fabric that although contiguous, do not interact.

This is a pericentral area that, since the 1980s, when the port activities ceased, has been the object of frustrated proposals for renovation, seeking to recover dynamism through new uses. It is a complex area, close to the historical and financial downtown areas of the metropolis, of large dimensions and with particular land features.

The Porto Maravilha design foresees the construction of approximately 4.5 million m<sup>2</sup>, in a time window of 30 years, in an area consisting of obsolete port infrastructures, urban voids, historic fabric and low-income housing, that was for many decades outside the radius of operation of the real estate market in Rio.

---

**Corresponding author:** Denise B. Pinheiro Machado, Doctor, Professor; research areas/interests: urban planning and design. E-mail: denisepm10@gmail.com.

The project is theoretically based on sustainability goals, with road rehabilitation, infrastructure recovery and expansion, light rail vehicle (VLT) implementation, tunnel construction, and the implementation of street furniture and bicycle networks. The Porto Maravilha project also aims to enhance the historical heritage and promote the social and economic development of the region. It also aims to raise the quality of life of the population living in the region through urban requalification.

The Rio de Janeiro Olympic Games in 2016 and the 2014 World Cup in Rio de Janeiro created the opportunity to implement this design. A legal, financial and urban development operation was established to enable a design based on a public-private partnership.

The design involves the application of a significant amount of resources, new institutional and financial arrangements to make it viable, assuming, for these reasons, a very particular character in the recent practices of urban planning in Rio de Janeiro.

It presents many complexities, including both small and large scales. It deals with a diversity of actors and interests in a territory in transition.

In fact, the legal and financial operation privileged a large business area with housing for the middle and

upper classes. In practice, the government carried out the infrastructure work, and the waterfront was revitalized with the insertion of new leisure and cultural equipments. No action has been taken to improve the living conditions of the low-income population.

This paper explores the considerations on the urban conceptions of the project and the proposed occupation patterns, revealing the degree of uncertainties involved in the renovation process of the port area. It also discusses the meaning of Porto Maravilha in Rio's urban dynamics, considering the trends of the current urbanization process.

## 2. Urban Concept, Patterns of Use and Uncertainties

Porto Maravilha is supported by a complex legal, institutional and financial framework. The major instrument is Porto Maravilha's Consortium for Urban Operations, enforced by a municipal Law in 2009. This Law defined a basic program for the use of the land with some important urban interventions — most of them for road works — and new urban parameters that enable construction densification in the port area.

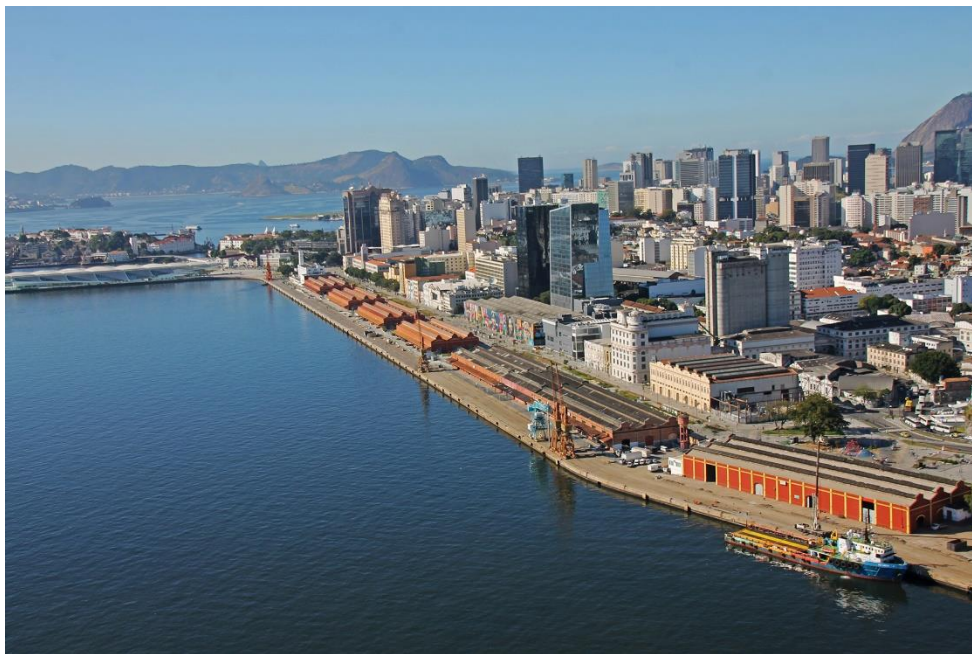


Fig. 1 Porto Maravilha and the city.

The adopted urban concept for the Project does not present any substantial difference from the traditional Brazilian urbanism approach. It considers the area as being a void to be occupied and, under this notion, the existing urban fabric is not fundamental in the design

concept. The renovated site overlaps the existing one and, also, suggests, as it can be seen in the images of the new developments, the creation of a generic landscape.



**Fig. 2** Porto Maravilha Water Front and Rio de Janeiro's landscape.



**Fig. 3** Porto Maravilha in the Olympic Games 2016.

The urban operation is mostly based upon the opening of some roads, local transportation system modernization, infrastructure implementation and the grant of new urban parameters. An ingenious financial

arrangement comprising of public budget, selling of public real estate and fiscal benefits supports and guarantees the realization of the planned public works. This financial arrangement is under the denomination

of a public private partnership, enabled by the creation of the Urban Operation Consortium (OUC). It is worth noting that the rationale for this instrument, in compliance with the Estatuto da Cidade (The City Bylaws, a federal legislation from 2001 that provides a set of urban legal instruments, which the Urban Operations Consortium is one of them) is to use private resources to finance basic urban interventions.

However, what it is seen in the port area of Rio de Janeiro is the opposite. The public sector paid for the infrastructure in the area, with minor participation of private investments.

### *2.1 Legal, Institutional and Financial Framework*

The Porto Maravilha project was object of not only specific norms that provide legality and legitimacy to the whole urban operation but, specially, it is structured on financial models and on tax exemptions.

The main urbanistic judicial instrument adopted is a public private partnership, called Urban Operation Consortium, OUC, which is not something new. However, it acquires a different dimension through the Estatuto da Cidade (The City Bylaws), as it comes hand in hand with other instruments and with the creation of CEPACS (Additional Construction Potential Certificate) that are securities that would be issued and purchased regarding the asset of construction potential.

The first regulation for Porto Maravilha Project is the Supplementary Law 102/2009, that defines the area as of urbanistic special interest, providing for legal instruments and specific actions to make the urban project feasible.

This same Law provides for the foundation of the Company for Urban Development in the Region of the Port of Rio de Janeiro, CEDURP, as a joint enterprise in charge of the project management. As many other complex urban projects, it is necessary the establishment of a specific body to manage and deploy the project.

The Urban Operations Consortium is part of the

Municipal Planning for Public Private Partnership — PROPAR RIO — regulated by the Supplementary Law 105/2009. Furthermore, the Law 5128/2009, provides for fiscal and tax benefits to foster tax revitalization, waivering, reductions and even, write offs. At the same time, it is established a consortium, composed by the major construction companies (OAS, ODEBRECHT and Carioca Engenharia).

In terms of property ownership, for the municipal government to be able to change the urbanistic parameters and the use of the land, a simple term of understanding between the federal, the state and the municipal governments was signed; so that the federal and the state governments could transfer their ownership in the area of OUC to the municipal government (where 62% belonged to the federal government and 6% to the state government). The municipal government represented by the CEDURP would manage the enterprise. This conciliation among the different levels of the government to provide viability for Porto Maravilha Project was essential and unique, because the greatest constraints to the realization of the project in the port area of Rio de Janeiro were the matter of ownership and the imbalance of interests among the public powers over the city.

In this regard, the perspectives of hosting the 2016 Olympic Games and the 2014 World Cup were the catalyzers for the land ownership flexibilization, needed for the realization of Porto Maravilha.

Another important aspect in Porto Maravilha's model was the way of applying the CEPACs, the additional additional potential certificate, the acquisition of rights to build beyond the permitted municipal parameters by the real estate sector. The money collected by the public authorities, through offers of CEPACs, would be invested in infrastructure in the area. In 2011, in a single tender, all the bonds were acquired by Caixa Economica Federal (CEF) (a public bank) using the resources of FGTS (Fund for Guaranteed Time of Service, an existing fund that



guarantees the workers rights), hoping to resell them later on, to the private sector. Who anticipated the resources for the realization of the planned construction work in the operation was not the private sector, only interested in investing in the area without risks; but, indeed, the public bank. So, the FGTS and CEF were in charge of all expenses in this public private partnership, resulting in a total of US\$2 billion dollars, for the payments of CEPAGs and for the public land in the area. It was expected the return over the investment through the sales of the CEPACs for the real estate market, which did not take place.

The FGTS was created for the worker's social protection. If applied for other ends, exists the legal obligation to compensate it with part of the resources for the construction of popular housing, which it was not done in Porto Maravilha. Without the financial provisioning with social housing construction neither present in the municipal budget nor in the sales percentage of CEPACs, the Law 101/2009 was not in compliance with its own guidelines rendering social and economic benefits for the population affected by the urban operation and the proper use of urban voids. On the contrary, in 2009, many violent evictions in settlements in the flat side of the port region took place.

## *2.2 The Urbanistic Proposal*

The Porto Maravilha urban operation has general objectives, it aims to provide urbanistic structural transformations, social benefits and environmental valorization. It refers to expansion, interaction and re-utilization of free spaces for public use as strategy for urban reconfiguration of the port area. However, the objectives of the actions are not clearly defined and the basic program for use of land does not allow a forecast of the type of occupation to be achieved.

The evaluation of the distribution of urbanistic parameters in different sectors and subsectors as defined by the basic program enables the identification of big parcels, where, effectively, it has been planned new urbanistic parameters, considering a substantial

increase in construction potential. It is a stock of additional construction potential that can be used by those that purchase the CEPACs, Additional Construction Potential Certificate.

The maximum utilization coefficient is very high, allowing the construction of 50-floor buildings in some subsectors, despite all the risks that they may bring to the local landscape.

Maybe, one can say that it is the area of real urban renovation of the operation. The others are the protected sites by heritage and the favelas, that are not the core of the operation but also suffer the impacts of the construction works and of the occupation of the area to be renovated.

Thus, it is important to report that during the works in Cais do Valongo, there were major historical findings that proved to be one of the most important port for entrance of slaves in the world. It was officially declared UNESCO's World Heritage site, due to the efforts made by the National Heritage Institute, the municipality of Rio de Janeiro and the social activist movement against racial inequality.

According to the guidelines for the urban operation, the new urban pattern for the area will not be determined by a project that would drive the process of renovation and occupation, but by the total number of independent developments to be realized along time. In the areas where it is possible to acquire the certificates of the additional construction potential, the buildings will not be subject to restrictions in tipology, horizontal occupation, number of buildings in the lot and number of units per building.

The operation plan did not specified the distribution of the occupation of the land by sector; a resource that is frequently applied to implement use diversity and to define the financial aspects, such as residential and non-residential uses that have different market coefficients. Even though, there are expected equivalence rates for residential and non residential uses for the selling of additional construction potential in each sector, the operations did not fix quotas.

Without induction mechanisms, it is the market that establishes the use and, certainly, it will favour what is more profitable. As it happens, it was not established quotas for housing of social interest in the different sectors or for new developments. This element could promote social diversity in the future.

Without having clear guidelines to guide the occupation of the parcels, it is also impossible to see

the re-design of public spaces as being the structuring element in the Rio de Janeiro's port urban project.

In essence, the works foreseen in the operation are basically road ones. The main works are the two big roads that cross all the area to be renovated (Fig. 4) and the implementation of the Light Transportation Vehicle on tracks.

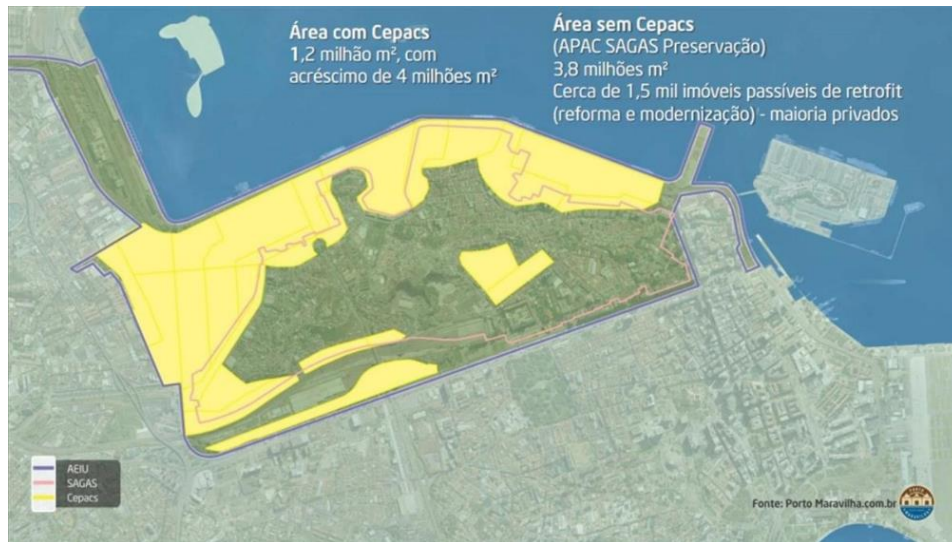


Fig. 4 CEPAC's zones shown in yellow.



Fig. 5 New buildings' height permitted.

The implementation of Light Transportation Vehicle redefines the mobility in the perimeter of Porto Maravilha, connecting it to the regional airport in downtown Rio and to the Central Bus station, located at the junction of two major roads to the rest of downtown area and to the rest of the metropolitan

region. The most important work is the Binário do Porto, and the expressway that replaced the Belt Flyover that was demolished.

The flyover bypassed downtown and the port, all along Guanabara Bay; it was built in the 50s, during the peak of the so called highway fever in Rio de Janeiro [1]

and it was seen as one of the worst urban disasters in carioca urban history. For some decades, its demolition was conjectured but as it was there and important for the city's road system. The main justification for its demolition was its impact in the local urban space and in the landscape of the city.

Although, paradoxally, the operation admit new urban parameters that, depending on the sector, it

would result in the construction of new buildings, 90, 120 or 150 m high. Should these 50-floor buildings be built, although not part of the urban tradition of Rio de Janeiro, they will probably create obstacles to the perception of the mountains that frame the central area of Rio de Janeiro and, that since 2012, is part of UNESCO's World Heritage site in the category of cultural landscape.



Fig. 6 Mobility map.



Fig. 7 Light transportation vehicle.



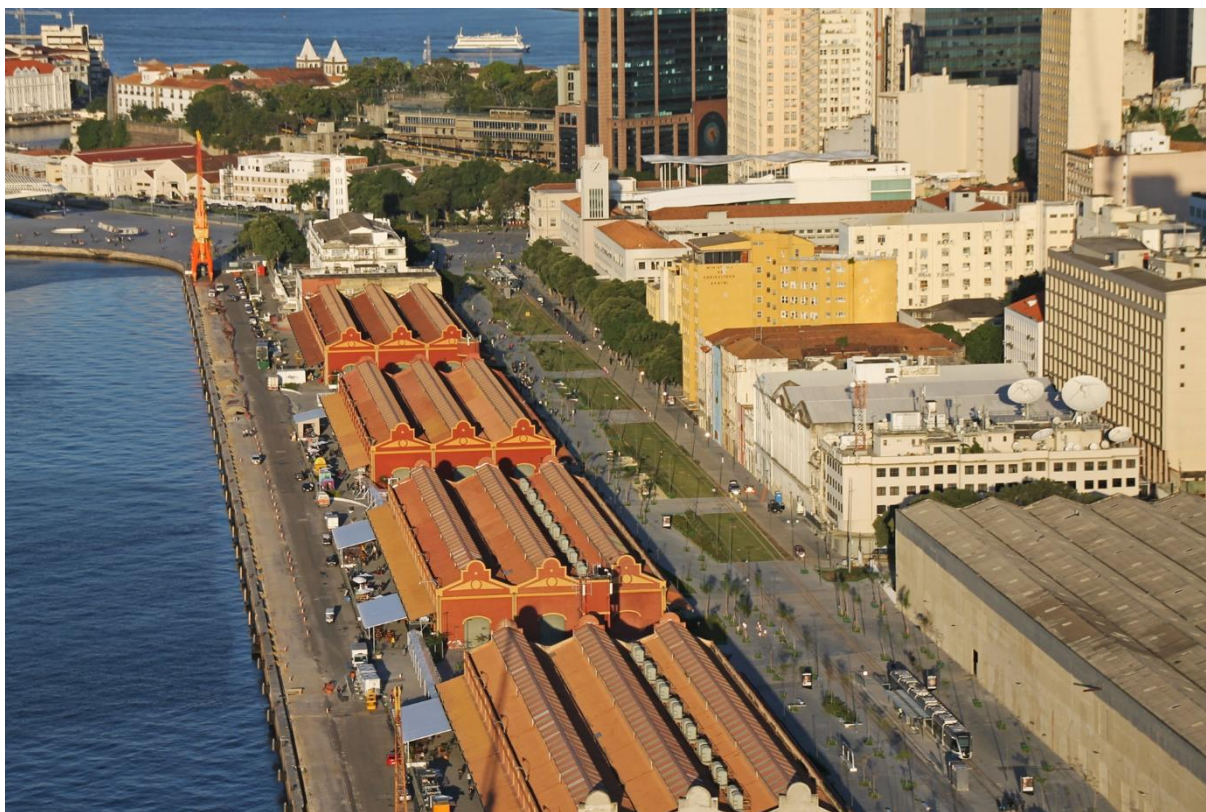


**Fig. 8** The flyover bypassed downtown and the port area.



**Fig. 9** Porto Maravilha - waterfront without the flyover.





**Fig. 10** Water Front - Orla Conde.

### *2.3 The Perimeter of the Operation and the Future of Its Occupation*

The large perimeter extension of Porto Maravilha (near 500 ha) and the expectations in building more than 4.5 million m<sup>2</sup>, of which 4 million m<sup>2</sup> would be of additional construction potential are concerning factors about the development of the project throughout time.

The comparison with some well-known international experiences provides a good understanding of what these numbers represent [2].

The project for revitalization of the port area in Buenos Aires, Puerto Madero, encompasses a large area along the banks of River de la Plata, directly connecting it to the downtown area of the Argentinian capital. Frequently, it is seen as a reference for Rio de Janeiro due to the fact that is also an experience in a latinamerican city. It began in 1990, with a perimeter of 170 ha. The amazing transformation in Puerto Madero produced a new high-end business, tourism and housing hub, occupying no more than 2.25 million m<sup>2</sup>,

from 1992 until 2011.

Two other large waterfront renovation projects, Canary Wharf in London and Battery Park City in New York City, with similar sizes, present more modest numbers than Porto Maravilha. Both sites have approximately 40 ha and with almost 1.5 million m<sup>2</sup> of construction in 20, 30 years.

The Paris Rive Gauche project, with the intention of renovating the large area in the east part of the French capital city, has 130 ha in perimeter and its initial program was to be 2.4 million m<sup>2</sup>. It started in 1991, and according to official data, about 60% was built by now, producing a meaningful transformation in this part of the city.

The perception of building more than 4 million m<sup>2</sup> may seem excessive for a single operation, with the aggravating factor of not having a clear strategy for this to be accomplished; it is also necessary to consider that the realization of all this potential may have bad spatial outcomes. Besides the height factor, already mentioned, being permitted for new buildings, this would also

represent a very high density of buildings, more than 18.000 m<sup>2</sup>/ha in an area of 220 ha.

From the urban space standing point, Magalhaes (2012) [3] shows that the renovation of the port area of Rio de Janeiro is “in the hands of cold indexes of utilization of land and subject to the needs of the capital that is being invested for its development”. In the case of Porto Maravilha, the action of designing it and the strategy for redesigning the city became of less importance.

### **3. The Renovation of the Port Area and the City of Rio de Janeiro**

Besides the uncertainties of the outcomes of OUC Porto Maravilha in the existing urban environment in the port area, also, its impacts in the city are unknown. Other ongoing actions in the city point out into the opposite direction, such as the policies of recentralization of urban development, the opposition to expansion trends and dispersion of urbanization that Porto Maravilha project may signify.

The presence of the real estate industry in Rio de Janeiro, in Barra da Tijuca and in western zone, during the recent decades, is still strong. It seems that OUC Porto Maravilha presents itself as a new and available for possible new markets but, yet, without strongly interfering with the existing market.

On the other hand, in recent years, it has been seen a growing demand for new commercial spaces in central area of Rio de Janeiro, that was being supplied by many enterprises being launched between Cidade Nova and Praça XV (Porto Maravilha adjoining areas) through retrofitting some buildings in Downtown Rio and, surely, pressing into some National Heritage protected areas. The start of OUC Porto Maravilha interferes in this movement, absorbing some developments. It is possible that there may be demand for new developments in the port area, but hardly it will meet the volume envisioned by the operation. Unless the expansion into the port area will happen due to a process of stripping the consolidated downtown, but it

would be harmful to the city.

### **4. Final Considerations**

In this paper, we sought to reflect on the significance of the renovation process in the port area of Rio de Janeiro and on what the urban project represents. Gigantism and the lack of a clear strategy over time and the adherence of the various agents involved in the OUC Porto Maravilha project, suggest a scenario of many uncertainties regarding its implementation process in the medium and long terms. The possible impacts of this project in the overall dynamic of the city are also not clear, even though it has been celebrated by its promoters as the biggest private-public partnership in the country, as if this were a goal in itself.

The actual realisation of the additional constructive potential foreseen for the port area by the OUC Porto Maravilha will hardly ever fully happen. If so, the urban outcome will most likely be disastrous. If not, in theory, there will be a suboptimal use of the already installed structure, and the onus of having acquired all of the stocks of the area's additional construction potential, the acquisition of CEPACs, will be left upon Caixa Econômica Federal, without being able to sell them entirely in the market.

The urban operation does not effectively establish a process of renovation of the port area that would be able to deal with different scales of intervention, different timeframes, different social actors' interests, all of which are important issues for the implementation of urban projects [4]. Conceived in a static way, the project covers up conflicts, does not clearly establish a strategy for occupying the area of intervention over time and risks being altered at anytime to time to fulfil occasional interests.

In spite of everything, it can perhaps be said that a scenario of uncertainties concerning this operation would still be the most favorable one to the city of Rio de Janeiro, for it leaves open the possibility to review the on-going project. Preferably, leaving aside empty

images and formulating an urban project that promotes social diversity and different uses of space, combining good architecture with quality public spaces.

### Acknowledgements

I gratefully acknowledge the support of CAPES - PrInt, FAPERJ and CNPq to carry out this work.

### References

- [1] M. Abreu, *Evolução urbana do Rio de Janeiro*, IPLANRIO/Jorge Zahar, Rio de Janeiro, Brazil, 1987.
- [2] H. Barandier and D. Pinheiro Machado, 'Porto Maravilha' e o Destino da Área Portuária do Rio de Janeiro, UPM; PUC
- Campinas, Anais do III ENANPARQ, Encontro Nacional de Pesquisa e Pós-graduação em Arquitetura e Urbanismo, São Paulo, 2014, available online at: <http://www.anparq.org.br/dvd-enanparq-3/htm/XFramesSumarioST.htm>.
- [3] R. Magalhães, Porto Maravilha descuidado da paisagem, Porto Maravilha para quem?, 10 de novembro de 2012, available online at: <http://portomaravilhaparaquem.wordpress.com/2012/11/10/porto-maravilha-descuidado-da-paisagem>.
- [4] Y. Tsiomis and Z. Volker, *Anatomie de Projets Urbains*, Editions de La Vilette, Paris, France, 2007.