Urban impacts of the oil and gas production chain: a case study in Santos, State of São Paulo

Impactos urbanos da cadeia produtiva de petróleo e gás: estudo de caso em Santos, SP

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Abstract

This paper aims to identify and analyze the main urban impacts on the city of Santos (State of São Paulo, Brazil) generated by the implementation of the headquarters of Petrobras' Operational Unit of Santos Basin, due to the oil and gas production chain (pre-salt) in Santos Basin. The methodology adopted in the research has an investigative character, seeking a theoretical framework that allows a critical analysis of the topic. The implementation of the new Petrobras headquarters in the Valongo neighborhood and the prospects of new business and employment opportunities have motivated a process of real estate valuation and speculation in the neighborhood and in the city, especially in the beachfront, as a result of the expectations that have been generated about the future of the socioeconomic development of Santos and region.

Keywords: urban impacts; oil and gas (pre-salt); real estate valuation and speculation; revitalization; Valongo, Santos.

Resumo

Este artigo procura identificar e analisar os principais impactos urbanos na cidade de Santos, gerados pela implantação da sede da Unidade de Operação da Bacia de Santos da Petrobras (UO-BS), em função da cadeia produtiva de petróleo e gás (pré-sal) na Bacia de Santos. A metodologia adotada na pesquisa tem caráter investigativo, buscando referencial teórico que possibilite uma análise crítica sobre o tema. A implantação da nova sede da Petrobras no bairro do Valongo e as perspectivas de novas oportunidades de negócios e emprego motivaram um processo de valorização e especulação imobiliárias no bairro e na cidade, em especial na região da orla da praia, em função das expectativas geradas quanto ao futuro do desenvolvimento socioeconômico de Santos e região.

Palavras-chave: *impactos urbanos; petróleo e gás (pré-sal); valorização e especulação imobiliárias; revitalização; Valongo, Santos.*

Introduction

Brazil and the Baixada Santista Metropolitan Region – RMBS under go a period of great optimism regarding the future development prospects of the Country and region, largely due to the discoveries of oil and gas reserves in the Santos Basin, in the areas of the so-called pre-salt, announced by Petrobras in 2006.

Baixada Santista is located on the coast of the state of São Paulo, just 70 km from the capital. Since its formation, the region has obtained in its port activity a great economic impulse, which established conditions for its insertion in the capitalist mode of production. Because it houses the Port of Santos, the largest in Latin America, the region has an important and strategic role in the state, national and international economy. The port is the main entrance and exit door for products, not only from the state of São Paulo, but also from other states in the Country due to its great weight in the Brazilian trade balance, reaching more than 25% of the Country's total foreign trade. It became the Baixada Santista Metropolitan Region – RMBS from the State complementary law number 815 of July 30, 1996, being formed nine municipalities: Peruíbe, Itanhaém, Mongaguá, Praia Grande, São Vicente, Santos, Cubatão, Guarujá and Bertioga, who have heterogeneous socioeconomic functions and realities.

According to Viana (2010), the economic functions of RMBS are mainly focused on urban activities, especially the secondary and tertiary sectors. Its development occurred in three different phases of the capitalist mode of production, which took place in history on average, every 50 years. Initially, occurred at the turn of the 19th century, the coffee cycle, characterized by a basically agro-exporting economy. Since the 1950s, the economy was structured on the tripod: port/industry/seaside tourism, where industrial activities were concentrated in the Industrial Pole of Cubatão and Santos. And in the 2000s, with the new development cycle linked to the discovery of the pre-salt in the Santos Basin, the expansion and modernization of the port and the Cubatão petrochemical industrial park and the diversification of tourism.

In this context, there was great expectation in RMBS, in front of the new role of this important region portuary, industrial, tourist and now oil, to become even more strategic for the economic development of the state and Country. Glimpsed in Oil and gas exploration and production in the Santos Basin (pre-salt), a potential future development for the region as a way to expand the production and accumulation of wealth. Undoubtedly, the opportunity that maybe the engine of regional development, but which can also aggravate existing problems, create new and expand social inequality (Viana, 2010).

Santos is the polo municipality of RMBS, with a population of 419,400 inhabitants (IBGE, 2010), which hosts the first Petrobras Exploration and Production Operation Unit (UO-BS). In 2014 the first tower is inaugurated in the Valongo neighborhood, in the so-called Historic Center of Santos. This enterprise generated and has been generating an urban transformation process, due to the valorization and real estate speculation of urban soil, motivated by business expectations and jobs related to the pre-salt production chain, as well as by investments promoted by the public authorities and by the private sector with the construction of new corporate ventures.

In the period of the so-called productive restructuring of capitalism[1] and economic globalization, there was an increase in oil activity linked to the discovery of the pre-salt in the Santos Basin, in context of a world panorama that indicated the increased demand for oil. Thus, it becomes an economic vocation in potential of RMBS, especially with the implementation of Petrobras headquarters in Santos, in the Valongo neighborhood.

In view of this scenario, the main objective of this article is to identify and analyze the main urban impacts in the city of Santos, particularly in the Valongo neighborhood, due to the oil and gas production chain (pre-salt) and the installation of Petrobras UO-BS headquarters, from a ten-year time frame, from 2006 to 2016. The article is based on the authors' research, especially in the scientific initiation of the Architecture and Urbanism course of the Catholic University of Santos, carried out by Marum (2017) and Santos (2017), as well as studies conducted by the advisor in his doctoral thesis and articles published on the subject (Viana, 2010, 2016, 2017 and 2018). To meet the objectives of the research in the different dimensions of analysis, we sought a methodology and theoretical framework that would enable a critical analysis on the subject, based on a bibliographic, documentary research, field surveys and interviews.

The pre-salt and its impacts in Santos and RMBS

> The dream was great: until this year Santos would be a reference in oil production and the region would gain hundreds of new jobs thanks to the discovery and exploration of pre-salt. The real estate market accompanied the proposal and dozens of new buildings were in the city. Civil society also embraced the promise and oil and gas courses spread throughout the region's colleges and universities. (Martinez, 2017)

The Santos Basin is a sedimentary basin that extends for about 352,000 km², covering the northern portion of the coast of the state of Santa Catarina, the entire coast of the states of São Paulo and Paraná, and the southern portion of the state of Rio de Janeiro. The pre-salt area extends from the coast of Santa Catarina to the coast of Espírito Santos, including the Santos, Campos and Espírito Santo Basins, and below it's located the main reservoirs of oil and gas, between seven and ten thousand meters of ocean depth, under a thick layer of salt (QGEP, 2017).

At RMBS, due to the discoveries of oil and gas reserves in the Santos Basin announced by Petrobras in 2006, the term "pre-salt" was widely pronounced by the regional and national media between the years 2008[2] and 2012,[3]expressing great optimism about the future prospects for development of the Country and region.

For the exploration of the pre-salt, the federal government approved in the National Congress a new regulatory framework in 2010,[4] which established rules for exploration and production of oil and natural gas in the pre-salt area and in areas that will be considered strategic, with other legislative innovations approved later, in 2012 and 2013.[5] It should be noted that 2010 legislation

> defines the production sharing system for exploration and production in areas not yet tendered in pre-salt; the creation of a new state(Petro-Sal); the formation of a Social Fund; and the onerous assignment to Petrobras of the right to carry out exploration and production activities (E&P) of oil and natural gas in certain pre-Salt areas, up to the limit of 5 billion barrels, in addition to a capitalization of the Company.

The posterior legislation innovates by changing the royalty sharing regime and, mainly, by allocating pre-salt resources for investments in social areas, in particular education and health.

Even before establishing the exact amount of oil in the pre-salt layer and environmental impacts, in addition to the rules for oil and gas exploration, the distribution of royalties[6] was already being one of the most discussed subjects about pre-salt. It was then assumed that the royalties paid on the total value of the production of each oil and gas field – according to the volume produced, the characteristics of each field and financial compensation for the exploration of fields of great production or high profitability – should impact favorably on the finances of the municipalities of the Paulista Coast.

The data present in Chart 1 are from 2015 and 2016, and show that the municipalities of RMBS received royalties in less expressive values than other municipalities on the coast of São Paulo, such as Ilha Bela, São Sebastião and Caraguatatuba. Cubatão is the municipality that received the largest amount of royalty resources among the municipalities of the region. For housing the Presidente Bernardes Refinery, it could benefit more from being in the prospecting area for the exploration of oil and gas in the pre-salt in the Santos Basin.

The investments made brought positive consequences for the other counties of RMBS, as in Guarujá, where it was implemented in the Industrial Naval complex of Guarujá – CING, a production unit of the Italian multinational Saipem, which had its operation interrupted due to Petrobras' complaints in the *Lava Jato* operation. However, according to the *Official Gazette of Guarujá* of 18/9/2018, there are prospects for resumption of its activities in the near future, thanks to participation in Petrobras bids underway for undersea fields of pre-salt. Saipem Offshore Technology and Construction Center (CTCO) specifically was designed to meet oil and gas industry, in particular pre-salt in the Santos Basin. This is located at the entrance of the Santos stripe and close to residential neighborhoods of Guarujá, which brought negative impacts from the traffic of cargo vehicles that moved to the development, causing in these areas a process of degradation.

It is also worth noting that Petrobras installed in the municipality of Cubatão the Presidente Bernardes Refinery in 1955, due to an investment plan of the Brazilian government in the post-war period, based on the energy-steel-petroleum tripod. This fact shows that the region the Baixada Santista region has already been part of the oil production chain since the 1950s, with the implementation of the largest Petrochemical Pole in Latin America. This activity was strengthened with the discovery and exploration of pre-salt in the Santos Basin from 2006 and with production beginning in 2009.

Chart 1 – Amounts paid in royalties (in Reais) for the cities of the area of influence of Petrobras projects in the Santos Basin in 2015 and 2016

City	Royalties paid in 2015	Royalties paid in 2016
Angra dos Reis (RJ)	64.903.267,48	56.870.817,76
Bertioga (SP)	43.212.350,52	36.968.297,71
Cananéia (SP)	11.396.911,96	10.069.892,98
Caraguatatuba (SP)	80.218.573,46	58.657.829,80
Cubatão (SP)	51.932.926,43	44.834.512,52
Guarujá (SP)	1.007.808,41	917.601,51
Iguape (SP)	20.579.965,37	17.261.582,89
Ilha Comprida (SP)	46.772.142,74	34.206.878,23
Ilhabela (SP)	157.732.045,12	153.932.630,35
Itaguaí (RJ)	58.138.141,25	29.583.114,08
Itanhaém (SP)	907.027,58	825.821,36
Maricá (RJ)	143.868.316,78	179.038.768,64
Mangaratiba (RJ)	21.916.547,75	22.072.181,12
Mongaguá (SP)	781.051,50	711.123,94
Niterói (RJ)	124.161.204,33	151.353.370,93
Paraty (RJ)	63.714.983,56	54.518.112,30
Peruíbe (SP)	2.809.683,79	2.254.329,94
Praia Grande (SP)	11.753.567,09	10.701.318,49
Rio de Janeiro (RJ)	77.598.593,36	67.790.345,91
Santos (SP)	1.007.808,41	883.073,46
São Sebastião (SP)	85.629.731,27	66.318.100,96
São Viente (SP)	11.753.567,09	10.701.318,49
Ubatuba (SP)	1.907.778,52	1.624.653,19

Source: Adaptated from Communicates Santos Basin – available on: http://comunicabaciadesantos.com.br/conteudo/royalties.html, access on: Apr 12, 2017.

In Itanhaém, Petrobras used the regional airport Dr. Antônio Ribeiro Nogueira Junior, as a support base to transport employees to the "off-shore" platforms, which are far from the coast. Prior to Petrobras' arrival, the airport had a small movement. However, it received investment from the state, of about R$ 14 million for the construction of a terminal with capacity to receive up to 60,000 people/month. In the 2000s, there were days when no landings or takeoffs were recorded at the airport, contrary to what was recorded in 2015, a 51% increase in aircraft movement, according to the Aviation Department of the State of São Paulo (DAESP) that manages it, due to its strategic importance for supporting Petrobras

platforms. (Brandão, Morell & Santos, 2015). But Petrobras in 2017, alleging the need to reduce spending, decided to deactivate all aerial operations to transport employees to oil platforms from airports on the coast of São Paulo. Helicopter flights were transferred to Rio de Janeiro, where operations of the Santos Basin are now concentrated (Pimentel, 2018).

In this context, optimistic expectations regarding oil activity, which could become the region's main potential for future economic development were frustrated at RMBS. Much in function the current political and economic crisis that intensifies since 2014, involving complaints and investigations at Petrobras, the changes that occurred in the Regulatory Framework in 2016 and also in Petrobras' investment strategy, which reassessed its investment intentions and opted for the maintenance of logistics that meets the pre-salt Santos basin in Rio de Janeiro, according to an interview by the researchers:

> Support activities for maritime exploration have always been focused on Guanabara Bay. With the prospect of expanding oil and gas production due to the discovery of the Pre-Sal in the Santos Basin, Petrobras came to consider the use of the Port of Santos and airport of Itanhaém, due to the proximity to the metropolis of São Paulo and the potential for growth in the region. However, with the event of the current financial crisis, Petrobras reevaluated these intentions, so that today all maritime and air support logistics to meet the pre-salt of the Santos Basin are concentrated in municipalities of Guanabara Bay." (Marcos Vinicius de Mello, Sector Manager of environment at UO-BS/ SMS, interview conducted via digital questionnaire on Jul 24, 2017).

There is a change in the discourse of the federal government and the mainstream media about such prospects of pre-salt. However, in the Temer government with the change of the regulatory framework at the end of 2016, which opens the exploration of the pre-salt to foreign capital and eases the rules of exploitation, one can observe a new change in speech of the federal government and the mainstream media that resumed optimism regarding the exploitation of pre-salt from the new rules[7] in force. According to the National Petroleum Agency – ANP, in matters of *Estadão* (2017),

> the next rounds of bids of oil and natural gas exploration and production fields – planned for 2017, 2018 and 2019 – have the potential to attract US$40 billion in investments to the State of São Paulo, an amount that corresponds to half of the investments planned due to all scheduled auctions in the Country in the same period. With this, São Paulo should jump from a daily production of 330,000 barrels of oil per day to 1.1 million barrels per day by 2027, surpassing Espírito Santo as the second largest producer.

Given this scenario, the Government of the State of São Paulo intends to resume the installation project of the Technological Center of Baixada Santista da Petrobras (CTBS), planned to be implemented in the municipality of Santos, in the Vila Nova neighborhood, with investments valued at 77 million.[8] According to the *Newspaper A Tribuna* (2018),[9] Petrobras should include, in its 2018 budget, R$84

million to complete CTBS by 2020, contributing to the revitalization of the neighborhood.

It should be noted that the resumption of investments and the huge financial resources expected by the exploration of pre-salt will depend on the price of a barrel in the international market, which tends to be a gradual and slow process.

It is therefore appropriate to point out the challenges to be faced by urban and regional planning, especially with regard to prevent and foresee the major impacts and transformations in the urban space, especially in the Valongo neighborhood of Santos, to promote urban development on sustainable bases.

The process of emptying the Center and the transformations in the Valongo neighborhood

The central area of Santos covers the five oldest neighborhoods in the city: Valongo, Centro, Paquetá, Vila Nova and Vila Mathias (Figure 1). It is characterized by having good accessibility, urban infrastructure, public equipment and services and diversified uses, especially commercial, institutional and residential to a lesser extent, with the presence of tenements. In this area, it is possible to identify the largest collection of historical elements, composed of buildings, squares and monuments from different periods in the history of the formation of the city of Santos.

In function of the large investments in the Port of Santos, there was a morphological change in the city with the urban expansion of areas near the sea, which were consolidated from the implementation of the Plan of Saturnino de Brito in the early twentieth century, a sanitary engineer who came to solve the problems of sanitation of the city and the port, through the sewage and drainage system, with the construction of the canals that became the great urban reference of Santos.

Due to the displacement of the higher income classes and with the increase in the population of Santos, there was a gradual process of occupation of the areas near the shore of the beach and a population emptying of the central area, which has undergone a process of degradation and abandonment, as can be seen in Table 1.

The distancing of the Center in search of better conditions and quality of life was largely the responsibility of the evolution of the means of transport, due to the construction of large avenues, such as Ana Costa and Conselheiro Nébias and the expansion of tram lines, essential for the movement of the population at the time. These innovations have transformed Santos into a modern and more dynamic city, providing urban expansion towards the beachshore.

In the 1940s and 1950s, Prestes Maia developed a Regional Plan that dealt with the port issue on a regional scale, promoting the articulation of access infrastructure to the port with the entire region, in addition to predicting port expansion in the municipality of Santos on the left bank (now Guarujá). Proposals such as the railway on the left bank of the port, inauguration of the Anchieta highway (main access medium to the city of Santos), Padre Manuel da Nóbrega, Piaçaguera/Guarujá, Rio/Santos and the connection between the municipalities Santos /São Vicente through

Figure 1 – Map of the central area of the municipality of Santos – SP

Source: Google Earth, elaborated by Marum, 2017.

Table 1 – Population evolution in the island area of Santos (1950-2010)

Regions	Populations						
	1950	1960	1970	1980	1991	2000	2010
Centro[1]	***44.401***	44.130	31.942	18.566	10.552	6.982	***4.307***
Leste	134.700	177.888	242.942	309.731	308.732	293.088	295.788
Noroeste	4.194	18.095	37.867	60.588	66.985	81.589	83.095
Morros[2]	11.673	19.185	27.172	28.822	29.333	34.088	33.043
Total[3]	194.968	259.298	339.905	417.707	415.602	415.747	416.233

[1] Central Area: includes neighborhoods Centro, Valongo, Paquetá, part of Vila Nova and Monte Serrat.
[2] Occupied and occupable areas on the slum are computed, except in 2010, when these were considered.
[3] Total insular area of the municipality.

Source: Demographic Census FIBGE (1950 to 2000).

Avenue Nossa Senhora de Fátima and the bus station of Santos, located in the Valongo neighborhood were implemented. According to Prestes Maia, the central area of Santos suffered from the evils of ancient cities, such as: insufficiency of area and patios. To solve this deficit, the engineer elaborated three technical solutions: perimetral arteries, reduction of construction density and expansion of the road network. These initiatives contributed to accentuate the so-called "second home tourism" of Santos and the other municipalities of RMBS (Maia, 1950, pp. 197-198).

Between the 1940s and the 1970s, there was a great expansion of the real estate sector in the area of the edge of the beach, due to the change in the population of the highest income that lived in the center for these areas (Moreira, 2010). Such a transformation took place through a gradual process of verticalization of buildings on the edge of the beach, driven by the advancement of technology and the second home tourism. Verticalization, according to Somekh (1997, p. 20), "presupposes the effective multiplication of urban soil, made possible by the use of elevator. This idea is associated with the characteristic of verticality, the intensive use of urban land (density) and the technological pattern of the twentieth century, demonstrating the verticalization/density relationship".

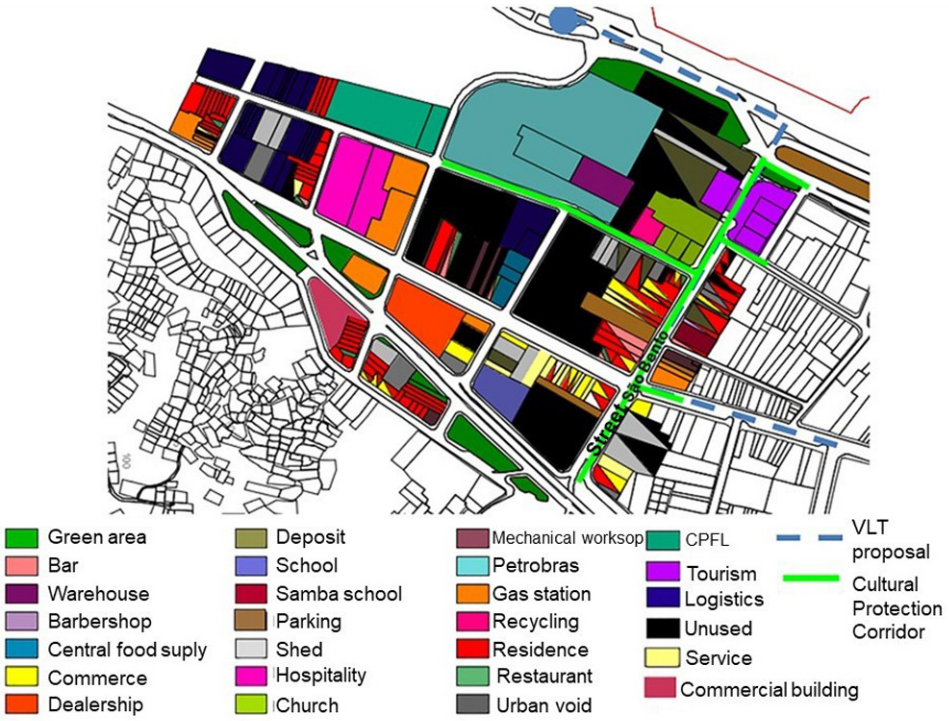
The emptying of the center occurred largely due to the displacement of the population with higher income and tertiary activities, which characterize the main center, to the other centralities such as in the neighborhoods of Gonzaga and then Aparecida, which caused an emptying of the neighborhoods of the central area, such as Valongo. Later, other factors, such as the advancement of industrial activities, allowed by the Master Plan of 1968, and of retroport activities in part of the center over residential areas, as well as the prohibition of the construction of residences in the Centro neighborhood, led to a gradual process of degradation of central area properties, making them empty, abandoned and in ruins. There was an increase in the population in tenements, with higher concentration in the neighborhood of Paquetá, but which today occupy part of the neighborhoods of Vila Nova and Vila Mathias, demonstrating a displacement of this population in the last years.[10]

According to Brandão, Morell & Santos (2015), the "way that goes far", which gave rise to the Valongo neighborhood, was one of the first areas to be occupied in the city of Santos, living its peak in the times of the coffee cycle and decay at the end of the twentieth century. Valongo was one of the most imposing and aristocratic neighborhoods of Santos, being of great historical-cultural importance.

The coffee-based economy contributed to the growth and development of the city, but over the years there has been a transformation in its main economic vocation, bringing more and more commercial and service activity to its area of coverage, suffering influence from port activity and then retroport, which made the neighborhood one of the most deteriorated areas of the city.

In the São Bento Street predominates a diversity of uses (Figure 2) and the proximity to the tourist part – Pelé Museum, the Valongo Station with the Tram and the Escola restaurant of Unisantos, and the Santo Antônio

Figure 2 – Map of use and activities of the Valongo neighborhood



Source: Elaboration of Marum, in 2017.

do Valongo Shrine – in addition to Petrobras' UO-BS headquarters and the traditional X-9 samba school. Also composing the uses and activities appear residually the residential use, hotel and inns, nightclubs, bars, cafeterias and restaurants, parking lots, repair shops and mechanical workshops, logistics companies and sheds, and some of them are idle and/or abandoned, empty lots, mansions and old and new commercial establishments, occupying properties mostly in precarious situation. The area near the docks' port suffered a process of emptying and abandonment, a fact noticeable because of the condition of the port warehouses that are in ruins and without activity.

It is perceived in the urban landscape of the Valongo neighborhood (Figure 3), a heterogeneity in constructive pattern, showing that there are limits and conflicts in the relationship between the public and the private, that manifest themselves in an ambiguous way in the interventions of properties and in public spaces that make up the urban landscape.

However, in recent years, Valongo has been going through a process of transformation, due to public and private investments, given the expectations generated by the pre-salt. In the field surveys carried out, its new configuration (Figure 4) is evident,

Figure 3 – Contrast of the properties present in the urban landscape of the Valongo neighborhood, in Santos-SP (2016/2017)

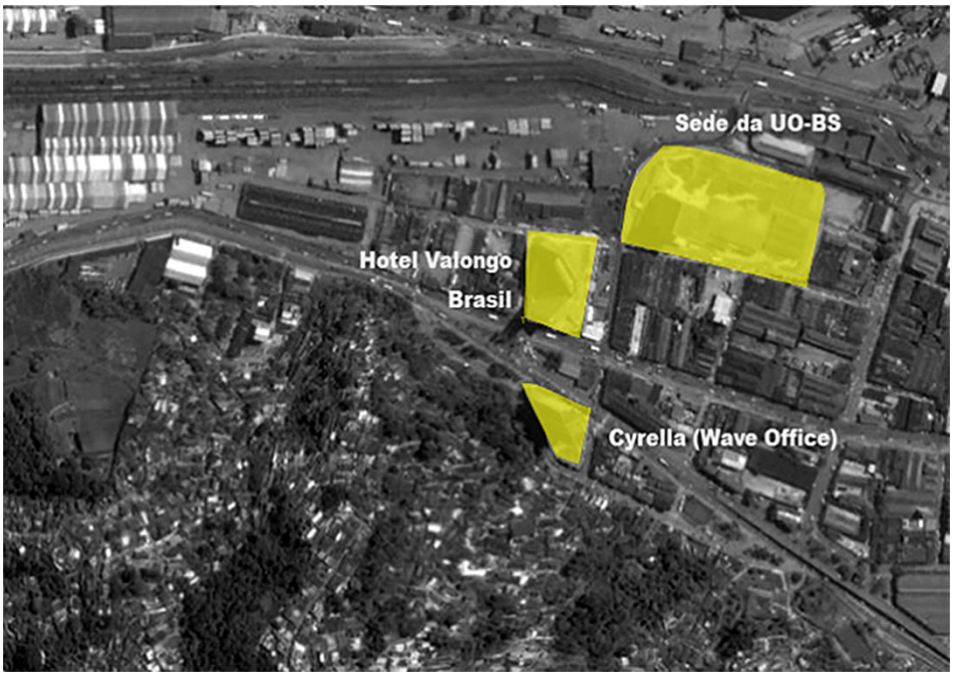
Source: elaboration of the authors, in 2016/2017.

with the construction of vertical buildings Wave Office (20 floors) and the Valongo Brasil condominium (15 floors), with commercial rooms, stores and the attached Ibis Hotel to its structure, whose work began in 2013 and was completed in 2015. These projects are close to the first Petrobras UO-BS tower, which has 2,000 workers, whose inauguration and occupation took place in 2014. The construction of the other two towers planned in project has no forecast yet. According to Petrobras (2017), they must be built according to demand.

In this context, it is necessary to think about future perspectives, with regard to the urban space and the existing architectural ensemble in Valongo, so that the necessary measures can be planned, seeking to minimize the impacts of large undertakings, in particular the assessment of the capacity of support the urban infrastructure, impacts on the relevant collection of built historical heritage and, mainly, the relationship with users in the area, such as traders, service providers and residents of the arounding area.

To this end, we seek to understand the process of production and transformation of urban space, in line with the urban legislation that allowed greater verticalization in the city with the construction of large real estate developments.

Figure 4 – Vertical ventures linked to Petrobras in the Valongo neighborhood in Santos-SP



Source: elaboration of Marum, in 2016/2017.

Real city versus legal city: in search of revitalization the historic center of Santos

The central area of Santos concentrates a high density of trades, services offered, political-administrative and religious institutions, besides, a significant architectural-urban heritage represented by the ensemble of its buildings.

According to lei that disciplined the Land Use and Occupation Order (LUOS) of the municipality of Santos, approved by law nº. 312/98, there was a change in the rules of land use and occupation in the island area of the municipality, modifying the urban parameters that benefited the construction sector in the city, especially in the areas of the area of the beach edge of Santos. The legislation of 1998 allowed the release of template from the new projects, eliminating the limit requirements for the maximum heights of the enterprises, which were up to 14 floors. The maximum occupancy rate allowed to occupy 60% of the plot area on the first four floors for buildings with more than 10 floors, provided that the use of these floors was for commercial use,

provision of services or common activities that make up the building's basement. From this level, the occupancy rate became 40% of the lot (Viana, 2010, p. 243).

Another aspect was the change of the permitted utilization coefficient, which was 5 times the plot area, thus determining the number of times that the terrain area could be transformed into a built area. In the case of the city of Santos, the common areas were still discounted. The resumption of economic growth in the Country led to the warming of civil construction, which added to the flexibilization of urban parameters, alloweding the construction of large towers of buildings, which reached more than 30 floors, transforming the urban landscape, especially the Zona da Orla (ZO).

However, this resulted in a verticalization of residential buildings with a low population density, due to the wide dimensions of apartments and common areas in the basement with a large number of parking spaces.

The Alegra Centro Program Revitalization and Development of the Central Region of Santos[11] was created in 2001 by the City of Santos. It had its first implementation in 2003, through municipal complementary law n. 470/2003, the result of a strategy of the municipal government santista, in addition to the Master Plan of the Municipality of 1998. This law recently underwent a review process and the new complementary law n. 1085/2019 was passed, which replaces previous ones, aiming to adapt the program to the Master Plan and the Land Use and Occupation Act (LUOS), both sanctioned in 2018. The Alegra Centro aims to promote the recovery of Santos' architectural heritage and improve the urban lanscape. The Valongo neighborhood for its historical and cultural value is part of this initiative of revitalization and urban renewal.

The City of Santos, after achieving some improvements and advances for the central area due to the Alegra Centro Program, announced new investments to promote the recovery and revitalization of the Valongo neighborhood, aiming at exploring its tourist and economic vocations. A new zoning was established for the central area, that implied the modification of the indexes and characteristics of installment, use and occupation of the land and changes in the rules of buildings through the listing of properties of architectural, historical and cultural interest (Malavski, 2009). The program tried to stimulate economic and tourist growth through the expansion of the tram line, restoration of the Coliseum and Guarany theaters, War train house and Valongo Railway Station, installation of the Pelé Museum in the former Valongo Mansion, in addition to providing tax incentives, with partial or total exemption of taxes and municipal rates, and attraction of private investors of small, medium and large size for the installation of establishments.

In addition to The Alegra Centro, other plans and projects were proposed for the municipality of Santos, as is the case of the Porto-Valongo project that aims to transform an area 55,000 square meters between warehouses 1 to 8[12] of the port of Santos, located in Valongo, in a large tourist, nautical, cultural and business complex, with cruise terminal, a public marina, offices, restaurant and waterway transport. This project would be of great relevance, because despite the large investment of capital needed, it would

also bring the benefits offered of the new leisure and entertainment alternatives, thus contributing to the return of the population to the central area (Instituto Pólis, 2012). However, the plan to recover the warehouses from 1 to 8 remains stagnant and the area remains degraded, according to the newspaper *A Tribuna* (2018).[13]

Another proposal prepared by the state government, in partnership with the City of Santos, was the implementation of the public transport system operated by the Light Rail Vehicle (VLT) of Baixada Santista. Due to the challenges to improve the quality of life of the population, which resides mainly in the central municipalities of RMBS and to promote the development and improvement of Santos' metropolitan mobility infrastructure and region, was built and delivered to the population the first stretch of the VLT in 2017, which connects the Port of Santos to the Barreiros terminal in São Vicente, with 11.5 km long.

As a positive impact, this means of transport contributed to intercity, favoring the expansion of access to opportunities for employment, trade and service, consumption of cultural goods and leisure. There will be fewer buses in circulation and less noise pollution, in addition to comfort and reduced travel time between municipalities. However, it is necessary to anticipate the impacts of the VLT, because, according to the data collected by EMTU, responsible for the supervision and regulation of metropolitan transport, the main negative impacts that will predominate in the construction phase will be disapropriations. However, it has not yet been exposed how many buildings will have to be expropriated to serve the works of this future stretch. (Challoub, 2017).

Based on the study by Malavski (2009), these various actions of the municipal government of Santos reinforce the economic dimension from interests focused on the sector of trades, services, tourism, real estate and port logistics, together with the valorization of the urban landscape. This is an attempt to promote the return of these agents to the historic santista center, where there is the possibility of reproducibility of capital, through a process of economic reconversion and urban revaluation. The social issue, aimed at the production of housing and social leasing in the central area of Santos, especially Housing of Social Interest (HIS) and Housing of popular market (HMP), is not prioritized as a strategy of repopulation the Center.

The proposal to implement the second stretch of the VLT, called Conselheiro Nébias – Valongo, may lead to expropriations, since the current planning adopted in the municipality of Santos – based on the processes of urban renewal, aiming to promote the revaluation of urban space – was conceived aiming at the production and consolidation of the space-merchandise, focused on the activities of interest to the real estate market and economic sectors. This logic thus contributes to engendering a process of real estate speculation and exacerbated verticalization, which has been affecting not only the urban landscape of the beachshore area, but also the Valongo neighborhood itself.

The process of verticalization, appreciation and real estate speculation in Valongo and the Zona da Orla de Santos

The last two decades of the 20th century marked a period of economic crisis, with few investments in RMBS – the so-called "lost decades" (1980/1990). During this period, there was a decrease in construction works in the construction sector, urban growth with low external migrations and real estate developments, in short, a period of economic stagnation. However, at the same time that the real estate sector and construction collapsed, irregular occupations and precarious settlements were deepened, reflecting on high unemployment rates, workers' pay loss and increased socio-environmental and urban degradation (Viana, 2010).

In the 2000s, the Country again presented significant economic growth and the construction sector played a prominent role in overcoming the economic crisis and generating new jobs. The heating in construction was enhanced by the installation of Petrobras' UO-BS headquarters, which generated a speculative process of real estate valuation due to the expectations of the oil and gas production chain.

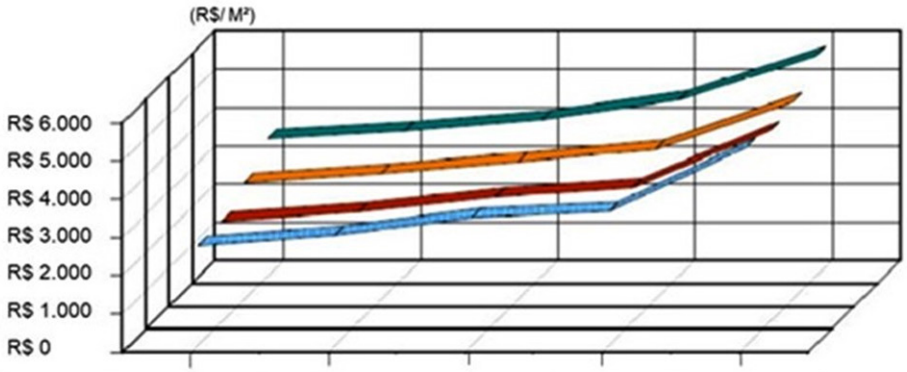
After Petrobras' announcement in July 2006, Baixada Santista began receiving several investments that moved the region's real estate market. From the discovery of the pre-salt, the price of properties in Santos and other municipalities of Baixada Santista almost doubled, according to the São Paulo Housing Union (Secovi-SP, 2011), and the amount of properties sold also increased significantly.

A study released by Secovi indicated data on the average price of the square meter of a residential property of a dormitory, which went from R$2.602 to R$5.182 from August 2006 to April 2011. In an interview conducted in 2017, Michel Robert Zarif, an economic advisor, pointed to the discovery of the pre-salt in the Santos Basin as the main argument for the significant increase in property sales in Baixada Santista.

According to Moreira (2010), since the implementation of Petrobras' UO-BS headquarters in 2009, in the Valongo neighborhood, there has been a boom in the price of residential and commercial real estate, increasing its value by about 60%. "In the port area, the price of the square meter of a property or commercial land went from R$1.600 to R$2.000. In the residential area, the price of the square meter jumped from R$2.300 to R$4.000" (ibid., p. 7).

When evaluating Figure 5, a gradual appreciation of the vertical property in Santos is perceived. It is possible to note that the square meter value of the property of a dormitory doubled in the period from August 2006 to April 2011. These data reinforce the diagnosis that the properties of the municipality of Santos are focused on the middle and high social classes and, consequently, the low-income population will have difficulty in being able to pay for the high price of properties in Santos, since vertical properties have the price of the square meter valued at an average greater than R$5.000,00. This fact has generated the expulsion of the poorest and the youngest to other municipalities of RMBS, especially São Vicente and Praia Grande.

Figure 5 – Evolution of nominal average price per m² in vertical properties in Santos in 2011



	August 2006	August 2007	August 2008	August 2009	August 2011
1 Dorm.	R$ 2.602,00	R$ 2.882,00	R$ 3.341,00	R$ 3.500,00	R$ 5.182,00
2 Dorm.	R$ 2.642,00	R$ 2.891,00	R$ 3.281,00	R$ 3.524,00	R$ 5.012,00
3 Dorm.	R$ 3.056,00	R$ 3.296,00	R$ 3.602,00	R$ 3.925,00	R$ 5.164,00
4 Dorm.	R$ 3.608,00	R$ 3.811,00	R$ 4.105,00	R$ 4.618,00	R$ 5.770,00

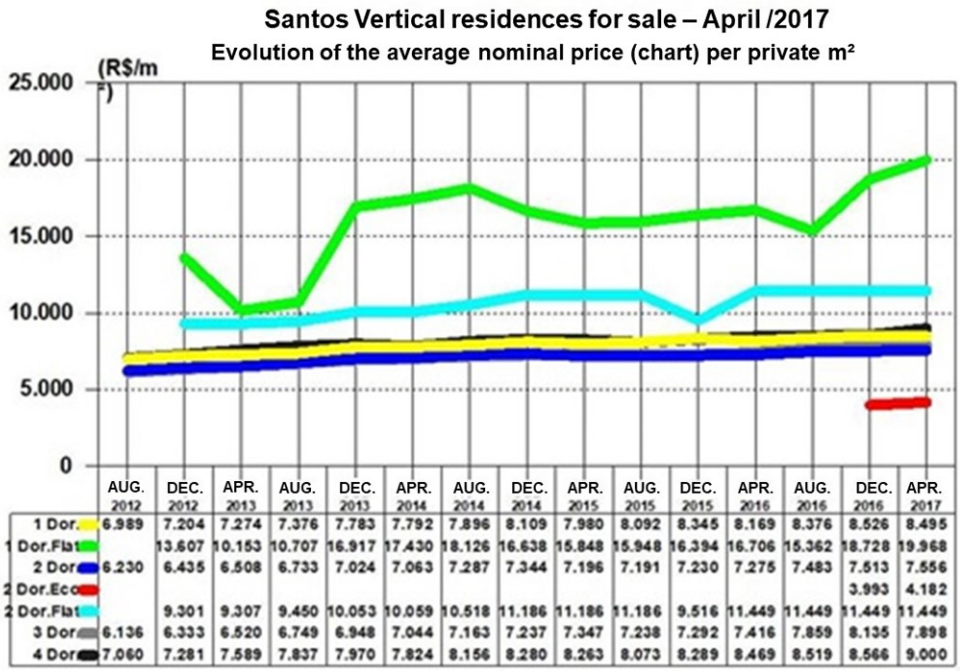
Source: adaptated from Zarif (2011).

When analyzing Figure 6, made available by the representative of the real estate sector in an interview conducted by the authors (06/02/2017), a gradual appreciation of the vertical property in Santos was noted, as previously observed in 2011. The value of the square meter of the property that has only one dormitory until those with four dormitories little grew during the period from August 2012 to April 2017.

It is noted that the value of the square meter remained in an increasing state with few variations, except for the flats that suffered large oscillations, but that from 2016 the value remained increasing. With this analysis, it is possible to identify that Santos' properties remain focused on the middle and high social classes.

Analyzing the Figure 7, perceives an evaluation of commercial property in Santos and São Vicente. You can notice a drop in the value of the square meter from April 2015 to April 2017. The most attention-catching figure is the value of commercial rooms up to 40 to 150 m² – the value of which has dropped considerably in this period. Properties with a square meter exceeding 150 remained stable. All indications are that the values of

Figure 6 – Evolution of nominal average price per m² of vertical residential properties in Santos from 2012 to 2017



	AUG. 2012	DEC. 2012	APR. 2013	AUG. 2013	DEC. 2013	APR. 2014	AUG. 2014	DEC. 2014	APR. 2015	AUG. 2015	DEC. 2015	APR. 2016	AUG. 2016	DEC. 2016	APR. 2017
1 Dor.	6.989	7.204	7.274	7.376	7.783	7.792	7.896	8.109	7.980	8.092	8.345	8.169	8.376	8.526	8.495
1 Dor.Flat		13.607	10.153	10.707	16.917	17.430	18.126	16.638	15.848	15.948	16.394	16.706	15.362	18.728	19.968
2 Dor	6.230	6.435	6.508	6.733	7.024	7.063	7.287	7.344	7.196	7.191	7.230	7.275	7.483	7.513	7.556
2 Dor.Eco														3.993	4.182
2 Dor.Flat		9.301	9.307	9.450	10.053	10.059	10.518	11.186	11.186	11.186	9.516	11.449	11.449	11.449	11.449
3 Dor	6.136	6.333	6.520	6.749	6.948	7.044	7.163	7.237	7.347	7.238	7.292	7.416	7.859	8.135	7.898
4 Dor	7.060	7.281	7.589	7.837	7.970	7.824	8.156	8.280	8.263	8.073	8.289	8.469	8.519	8.566	9.000

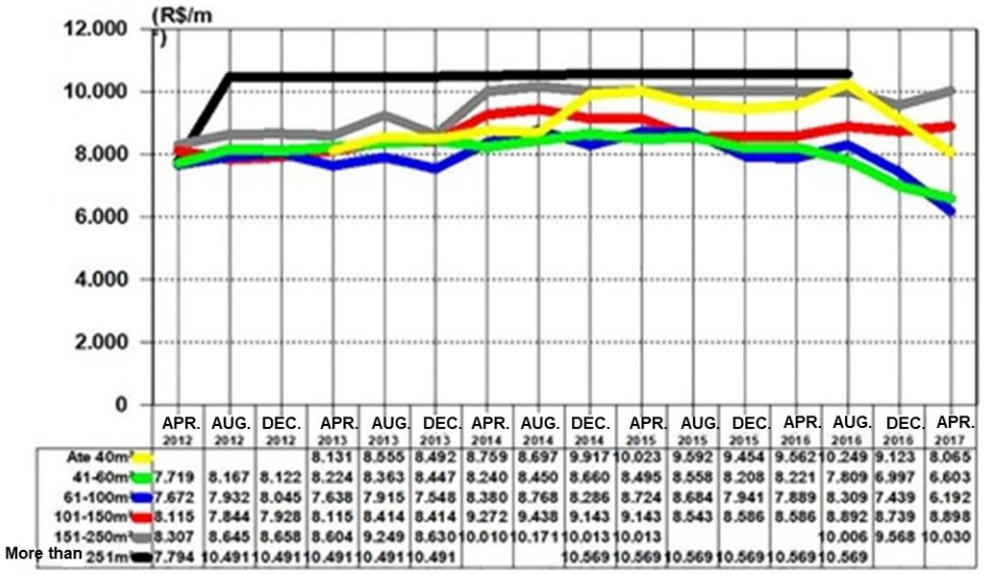
Source: adaptated from Zarif (2017).

commercial real estate declined due to the financial and political crisis of the Country that intensifies in 2014 and the hopelessness that investors had with the expected "economic miracle of oil and gas". Zarif's studies (2011/2017) show that the vacancy rate is high in commercial enterprises, where most of the distractions occurred, given confirmed in the field work and interviews realized in the enterprises of the Valongo neighborhood by the researchers.

However, the expectation of economic growth in the region, resulting from the exploitation of pre-salt, especially in Santos, was widely used by the real estate market as marketing of its products, directed almost exclusively to the population with family income exceeding fifteen minimum wages.

According to Costacurta (2013), in relation to the appreciation of land in downtown Santos, especially in the Valongo neighborhood, fifty percent of the rooms (flats) of the Ibis Valongo Brasil hotel were put up for sale in 2012, before the start of the operation, and within a month all units made available were sold. What draws the most

Figure 7 - Evolution of nominal average price per private m² of commercial properties in Santos/São Vicente from 2012 to 2017



	APR. 2012	AUG. 2012	DEC. 2012	APR. 2013	AUG. 2013	DEC. 2013	APR. 2014	AUG. 2014	DEC. 2014	APR. 2015	AUG. 2015	DEC. 2015	APR. 2016	AUG. 2016	DEC. 2016	APR. 2017
Até 40m²				8.131	8.555	8.492	8.759	8.697	9.917	10.023	9.592	9.454	9.562	10.249	9.123	8.065
41-60m²	7.719	8.167	8.122	8.224	8.363	8.447	8.240	8.450	8.660	8.495	8.558	8.208	8.221	7.809	6.997	6.603
61-100m²	7.672	7.932	8.045	7.638	7.915	7.548	8.380	8.768	8.286	8.724	8.684	7.941	7.889	8.309	7.439	6.192
101-150m²	8.115	7.844	7.928	8.115	8.414	8.414	9.272	9.438	9.143	9.143	8.543	8.586	8.586	8.892	8.739	8.898
151-250m²	8.307	8.645	8.658	8.604	9.249	8.630	10.010	10.171	10.013	10.013				10.006	9.568	10.030
More than 251m²	7.794	10.491	10.491	10.491	10.491	10.491			10.569	10.569	10.569	10.569	10.569	10.569		

Source: adaptated from Zarif (2017).

attention was that the price of the square meter of the rooms was approximately sixteen thousand reais.

Data from the city of Santos, published in *Journal A Tribuna* (6/28/2008, p. A4), pointed out that from November/1998 to June/2008, 60 projects with more than 20 floors were approved, with a growth trend with 17 projects approved between 2007 and 2008. The neighborhoods that grew up most are located in the beachfront region: 15 developments in Gonzaga, 10 in Ponta da Praia, 9 in Embaré, 8 in José Menino and 7 in Boqueirão, according to the newspaper *A Tribuna* (Rifer, 2009).

For the most part, these ventures used pre-salt as an element of attracting consumers in a scenario of high expectations of excellent returns from invstiments in real estate. In addition to the real estate market to accompany this expectation, civil society also embraced the promise of the "economic miracle" and courses aimed at oil and gas spread through the technical courses, colleges and universities of the region, such as UniSantos, Unifesp and Unip.

The consulting and real estate broker Lopes, together with the cities surveyed by the FipeZap Index launched in 2014 a survey

indicating the cities that had the average price of the square meter of the most expensive residential launches in the Country in 2013 and 2014 (Chart 2). In 2013, Santos came in eighth place, with the price of the square meter valued at R$6.080. Two other municipalities of RMBS entered the list, São Vicente in eleventh place with the price of m² valued at R$5.500 and Guarujá in thirteenth place with the price of m² valued at R$5.320. To reach the average prices of properties in these cities, an evaluation mechanism composed of 196,292 units launched in 2013 was used. The final report showed that the average price of the square meter of apartments launched in Brazil in 2013 was 9% higher than in 2012 (Yasbek, 2016b).

Already in 2014, only the municipality of Santos appears on the list and in fourteenth place with the price of the square meter valued at R$4.876. When comparing the two tables, it is perceived that in only one period of one year, between 2013 and 2014, the value of the m² suffered a great drop, due to the political

Chart 2 – The 14 Brazilian cities with the most expensive m² in 2013 and 2014

The 14 Brazilian cities with the most expensive m² in 2013		
Position in ranking	Cities	Value of m² R$
1st place	São Paulo (SP)	8.470
2nd place	Niterói (RJ)	7.380
3nd place	Santana de Parnaíba (SP)	6.740
4th place	Recife (PE)	6.600
5th place	Campinas (SP)	6.430
6th place	Rio de Janeiro (RJ)	6.360
7th place	Porto Alegre (RS)	6.290
8th place	Santos (SP)	6.230
9th place	Brasília (DF)	6.080
10th place	São Caetano do Sul (SP)	5.860
11th place	São Vicente (SP)	5.500
12th place	Vitória (ES)	5.320
13th place	Guarujá (SP)	5.320
14th place	Osasco (SP)	5.230

The 14 Brazilian cities with the most expensive m² in 2014		
Position in ranking	Cities	Value of m² R$
1st place	Rio de Janeiro (RJ)	10.893
2nd place	São Paulo (SP)	8.351
3nd place	Brasília (DF)	8.143
4th place	Niterói (RJ)	7.733
5th place	Recife (PE)	5.955
6th place	Belo Horizonte (MG)	5.796
7th place	São Caetano do Sul (SP)	5.586
8th place	Fortaleza (CE)	5.523
9th place	Florianópolis (SC)	5.292
10th place	Curitiba (PR)	5.183
11th place	Campinas (SP)	5.161
12th place	Porto Alegre (RS)	5.040
13th place	Vitória (ES)	5.027
14th place	Santos (SP)	4.876

Source: elaboration of Marum, in 2017, based on the studies of Yasbek (2016b).

and financial crisis experienced by the Country, generating a process of recession economic.

The analysis of data on the valorization of urban soil in Santos makes it possible to realize some perspectives for the coming years. It is noted that there was no commitment to the construction of HIS in the municipality, since the values of the properties built are directed to the wealthiest classes. This overvaluation tends to increase the gentrification process, through the change of lower income social groups by residents of the higher income layers.

Although there is a disparity in property prices in the central area of Santos, especially in the Valongo neighborhood, as a result of data analysis of Santos' Generic Plant of Values (PGV), the discrepancy is clear from the average value of the square meter per street in 2008 and 2013, as show in Chart 3.

For representatives of the real estate market, pre-salt was one of the main factors that inflated Santos' real estate market and the non-realization of the growth expectation contributed to countless properties being vacated in the city (Martinez, 2017).

Guidelines and proposals for the revitalization of the Valongo neighborhood and the central area of Santos

In view of the main urban impacts identified above, real estate valuation can be cited based on a speculative process. According to a theory of the organization of space, analyzed by Déak (2001, p. 56), "the price of the soil is the fundamental market instrument in the spatial organization of capitalist production in general and in the great urban agglomeration in particular". Therefore, what raises the prices of urban locations is not speculation, but an valorization, due to the growing difference in space, in a market economy (Déak, 1991).

Chart 3 – Average value of the square meter by the patio area in the Valongo neighborhood in Santos-SP, in the years 2008 and 2013

Average value of square meter per street in the Valongo neighborhood in Santos, SP - 2008	
Street	**Square meter value m² (R$)**
XV de Novembro	633,80
Cidade de Toledo	987,66
Frei Gaspar	918,80
Rua do Comércio	477,00

Average value of square meter per street in the Valongo neighborhood in Santos, SP - 2013	
Street	**Square meter value m² (R$)**
XV de Novembro	1.520,00
Cidade de Toledo	1.313,00
Frei Gaspar	1.840,00
Rua do Comércio	1.237,00

Source: adaptated from Comitre, F. – PGV, 2008 and 2013. Elaboration of Marum, 02/2017.

Other urban impacts were identified by the researchers, such as verticalization due to the change in urban legislation (PD and Luos); the overload in the road system by the intense traffic of vehicles, in particular trucks linked to port activity; the implementation of the VLT line to improve urban mobility, which can generate negative impacts with expropriations and the existing historical--cultural collection; the transformation of the urban landscape for the new real estate developments; the tendency to gentrification of current users of the area; the insecurity and idleness of infrastructure and urban services, during the night and weekends, depending on existing uses, the operation of which is mostly restricted to the commercial hours; as well as the small resident population of only 251 inhabitants, according to IBGE (2010).

The main environmental impacts observed were air and noise pollution due to the intense truck traffic, heat stroke and ventilation problems caused by the shading of vertical enterprises, such as Ibis Valongo-Brazil hotel and the lack of green areas in the Valongo neighborhood.

The term revitalization is inserted in a historical context of degradation of the oldest areas of cities, especially in the central areas, due to the displacement of the resident population and public and private investments to other regions of the city (Tiesdel, Taner & Heath, 1996, pp. 2-4). Such intervention seeks to offer a new function and form to the architectural ensemble and to the consolidated urban contexts, but, at the same time, respecting and/or incorporating the existing landscape and the historical, identity, memory, and aesthetic values present in them. It also consists of preserving historical and cultural interest, careful recycling of uses in historic properties, promoting new uses and environmental recovery.

By establishing more selective uses and easing urban parameters for civil construction, the urban legislation in force in Santos benefits the interesses of the real estate market, the port and the elites. At the same time, by requiring unreachable standards for the low-income population and generating a speculative real estate valuation, contributes to the emergence of self-constructed and segregated territories, configuring an unequal and excluding city, causing the population emptying of the center and a process of degradation and abandonment of real estate.

The process of degradation of central areas can be attributed, in part, to the negligent policies of the government and the real estate market, which benefit the wealthiest layers that can pay for the high price of urbanized land, especially with the best locations.

In this context, it is necessary to point out some guidelines that can contribute to the requalification and revitalization of the central area, especially in the Valongo neighborhood, taking advantage of the potential of its economic vocation to allow the recovery of its attractiveness, through the implementation of new tourist, cultural and leisure equipment, linked to the generation of new jobs and quality of life, infrastructure and, mainly, the supply of decent housing and, mainly, the supply of decent housing and integrated by urban mobility.

Part of the empty land or idle properties should become mixed residential areas, with incentive to active facades with street oriented

commerce and service, especially in the Areas of Sustainable Density (AAS) on the VLT axis and in the Special Areas of Social Interest (ZEIS), with the presence of HIS and HMP enabling population density in the center, but always respecting the context of existing historical and cultural heritage.

It should be promoted the revitalization of public spaces, through urban intervention projects, such as PIU,[14] "which aims to systematize and create urban mechanisms that better take advantage and urban infrastructure, increasing demographic and constructive densities and allowing the development of new economic activities, job creation, production of HIS and public equipment for the population", as proposed in the city of São Paulo. Requalifying the green areas, squares, streets and boardwalks, recognizing the public space as material and intangible heritage belonging to the collectivity; implementing new urban furniture that through urban design allows the perception of the history and identity of the city; modal conversion, prioritizing streets and sidewalks for pedestrians, adopting measures reducing traffic and vehicles, with incentive of public and sustainable transport, are some appropriate measures to be adopted.

In the Valongo neighborhood, because it is an attractive place due to the presence of properties of historical-cultural, tourist and commerce and service value, there is the possibility of promoting cultural projects to intensify the flow of people, through the feasibility of the occupation of public spaces by the population, such as a space of enjoyment and conviviality.

In this sense, the City Statute has instruments to achieve the social function of property to ensure that everyone has access to urban services and equipment, especially the improvements made by the public authorities. In short, the Statute seeks to correct the historically unfair distribution of the benefits arising from the urbanization process, making the government mandatory to act for the collective interest. To this end, the instruments present in the City Statute are used, in order to foster some possible solutions. The Consortium Urban Operations (OUCs) are responsible for one-off interventions carried out under the coordination of the government, involving private initiative, residents and users of the area. They are intended to structurally transform (redesign) a sector of the city, seeking to achieve social improvements and environmental valorization.

Other urban instruments such as Parcelament, Edification and Compulsory Use (PEUC) applied on empty or underutilized land in ZEIS, forces owners to lease or build for the segment of social interest, under penalty of the application of IPTU progressive in time, enabling the establishment of real estate consortium between owner and public power. The Transfer of the Right to Build (TDC) will act in the buildings of historical value, defined with levels of preservation of heritage, because it is an effective instrument that stimulates the preservation of buildings of historic and cultural interest. In addition to these, Estudies Of Impact Environmental (EIA) and Neighborhood Impact Studies (EIV) are important instruments to identify and evaluate the physical and social interferences of enterprises in the environment, having the function of giving the protection that zoning often cannot guarantee.

The santista case reflects a reality that is inherent to other cities, especially port and coastal. There is a need to review urban and regional development policies by the public authorities, in a participatory and inclusive way, together with private initiative and civil society, in line with other sectoral policies and territorial clippings, in order to guarantee the right to decent housing and the city to all citizens.

Conclusion

When analyzing the urban impacts generated by the implementation of the oil and gas production chain in the city of Santos, questions arose about the production and use of urban space, through the acting of the government, the private sector and civil society. The study can demonstrate how the plans developed by the municipal government, linked to the speculative interests of the real estate market are responsible for interfering in urban dynamics, promoting actions that, for the most part, move away from the ideals of social justice and, on the other hand, provide the necessary basis for the circulation and reproduction of capital, favoring gentrification, sociospatial segregation and expanding social inequality.

It can be observed that the Santos Center, especially the Valongo neighborhood, underwent a transformation of its urban landscape due to a speculative process generated by the prospects of pre-salt and the implementation of Petrobras headquarters. This generated a verticalization in the neighborhood, with the construction of new corporate enterprises and the installation of new uses and activities. However, what was evidenced was that the benefits derived from investments in the urban space are not distributed equally by the population.

Like the oil region of Northern Fluminense of Rio de Janeiro, which despite the significant generation of direct and indirect jobs linked to the oil industry, is a region marked by inequalities, which demonstrates that economic growth alone does not bring prosperity. According to Cruz (2005, p. 97 apud Viana, 2018, p. 332), "it is a problem region with deep sociospatial and socioeconomic inequalities, [...]; the oil enclave contributed to the reproduction of the concentrated and polarized pattern of its economic development [...]; with this the regional labor market is restricted, selective, polarized and excluding."

For better urban planning, it is extreme important to use urban instruments of the City Statute to integrate programs and projects that already exist for the central area of Santos, that have potential for economic and tourist development, but which are currently driven by a process speculative.

It is necessary to ensure the diversification of uses, activities and social classes, which could have as an alternative the provision of HIS and HMP in the central area, contributing to the requalification of the central area and the Valongo neighborhood. It's desired to Santos and RMBS – characterized by its significant natural wealth, but also of great environmental fragility – a model of urban development on sustainable bases (Sachs, 1993), that fulfills the social function, ensuring the right to the city.

What goes through urban sustainability, from a set of actions and priorities that seeks to overcome poverty, promote equity and social justice, greater environmental balance, seeking to minimize negative externalities about the territory and for the future generations (Borelli, 2014 apud Viana, 2017).

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Notes

(1) The productive restructuring, according to Harvey (1992), comes from the transformations that affect society currently in the transition from the rigidity of Fordism to the so-called flexible accumulation, which occurred from the 1970s, through the implementation of new organizational forms and new productive technologies generated by the information revolution. This generated a series of changes in labor and production relations with the emergence of new paradigms, responsible for the transformation of economic, social and cultural relations in world capitalism.

(2) In 2008 production began in campo de Jubarte, with the exploration of the first oil produced in the pre-salt of the Campos Basin, in Rio de Janeiro. In 2009 it was the first oil exploration in the Santos Basin in the Field called Lula.

(3) In 2012 Petrobras announced a new discovery of good quality oil in pre-salt reservoirs, in deep waters of the Santos Basin.

(4) Federal laws passed in 2010 for pre-salt exploration: LF n. 12,276/10 on the costly assignment and capitalization of Petrobras; LF n. 12,304/10 on the creation of the public company Pré-salt Petroleum SA - PPSA; LF N. 12,351/10 on the sharing and production regime and deals with the Social Fund.

(5) Federal law n. 12,734/12 that deals with new water orders for the distribution of royalties and spatial participation and Federal Law n. 12,558/13 on the destination of resources for the areas of education and health.

(6) "The royalties and space holdings of each oil and gas field are paid monthly by concessionaires directly to the National Treasury Secretariat, which passes the amounts to municipalities, states, and the Union" (Polis, 2016, p. 13).

(7) This change in the regulatory framework exempts Petrobras from participating in all pre-salt consortia and changes rules for oil and gas exploration in the pre-salt. Source: http://g1.globo.com/economia/noticia/2016/11/temer-sanciona-lei-que-desobriga-petrobras-de-participar-do-pre-sal.html Access on 09/02/2017.

(8) Source: http://www.petrobras.com.br/fatos-e-dados/assinamos-termo-de-compromisso-para-a-implantacao-do-centro-tecnologico-da-baixada-santista.htm Access on: Feb 05, 2017.

(9) See ATribuna.com.br article on Aug 23, 2017, available at: http://www.atribuna.com.br/noticias/noticias-detalhe/santos/centro-de-tecnologia-deve-sair-do-papel-em-2018/?cHash=5a87e136c474c7ab6c079d1c7a630008. Access on: May 14, 2018.

(10) Based on the Diagnosis of the central area prepared by Sedurb/PMS in 2016 to support the review of the programs “Alegra Centro” and “Alegra Centro Habitação”.

(11) The program “Alegra Centro” aims, above all, to resume the development of the center and the entire city, using strategies that act in fostering the preservation of historical heritage combined with urban renewal.

(12) The assignment of warehouses 1 to 8 of the Port of Santos was celebrated between Codesp and municipal administration through a Use Permit Term (TPU) in 2007.

(13) In ATribuna.com.br article of 26/02/2018, available at: http://www.atribuna.com.br/noticias/noticias-detalhe/porto%26mar/plano-de-recuperar-armazens-do-1-ao-8-segue-estagnado/?cHash=29704d2e67a1b6625f43dcdeb1aeec4c Access on: Feb 26, 2018.

(14) Urban Intervention Projects (PIU)are the technical studies necessary to promote urban planning and restructuring in underutilized areas with transformation potential in the city, such as those existing in the city of São Paulo. Source: http://gestaourbana.prefeitura.sp.gov.br/estruturacao-territorial/piu/.

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