

# ACCESSIBILITY, REAL ESTATE, TOURISM AND A BUILDING MENAGERIE: the architectural moulding of Eng. Roberto Freire avenue in Natal, Brazil

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**THEME:** Building Morphology and Usage

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## **Abstract**

*The intense process of urban transformation of Natal/RN since the 1980s led to the formation of long shafts lined with buildings that reflect and embody some forces at play. The emergence of types of buildings designed, converted or adapted to accommodate diverse uses, grouped into foci of embryonic centralities presents the effect of high levels of topological accessibility (Hillier, 1996) generated by the road structure. On the other hand, the high accessibility coupled with the attractiveness of the coastal landscape tropical accelerated marketings strategies - public and private - to promote tourism campaign (Ferreira and Silva, 2008), intensified in the 1980s to the present day, with the objective to promote an image of globalization. This image has been reinforced by the streams of visitors, seasonal, temporary and permanent new arrivals - named as "arrivals" (in more physical than symbolic sense) (Neverovsky, 2005). An iconic example of this process is the Avenida Engenheiro Roberto Freire, visually and chaotic commercial axis that might be taken as a local manifestation of the concept of "strip" (Venturi et al, 2003). Therefore, it is possible to argue that the set edilício built (or under construction) this avenue can be taken as the embodiment of forces such as accessibility, real estate and tourism pressure, along with others, allows classification into expressive types buildings of each phenomenon .*

## INTRODUCTION

The contemporary Brazilian cities shows that the busiest highways have a edílico collection that undergoes several changes. The processes of formation and transformation of the built environment are intensifying essentially originating movement, favored by the topological accessibility potential that is generated by the road structure. Studies such as those de Medeiros and Trigueiro (2007), Carvalho and Trigueiro (2007) and Holanda and Medeiros (2007) has pointed out that the effects in the collection consist of the characterization edílico/disassemble and create new architectural types.

In Natal/RN, one of the more symptomatic of this context is the Avenida Roberto Freire, more commonly known as the road of Ponta Negra, that lead to the beach with the same name and in a little over 30 years, started road carriageway to be a process of intense flow of the middle-class neighborhoods of southern-high and other tourist sights.

Since Natal received the benefits of infrastructure of the National Tourism Development in the Northeast in the '80s, such as highways avenue aroused the interest of property developers in combining tourism real estate directed to the production demands of visitors (LOPES JR , 2004 and FONSECA, 2004). Gradually ranches, farms, vacation homes, and housing gave place to shops and commerces in buildings with programmatic flexibility, functional and decorative, are joining to a "decorated shed" (Venturi et al, 2003) mostly. Its structure resembles a linear strip (Venturi et al, 2003), visually chaotic commercial strip, has been a reflection of the city where the scattering subdivision facilitates the construction of large enterprises in coated propaganda.

Under the theoretical and methodological basis of Social Logic of Space (Hillier and Hanson, 1984) with emphasis on Syntactic Analysis of Space (Hillier and Hanson, 1984), accessibility of the avenue will be considered as a factor that responds to the confluence of significant buildings pressure real estate and tourism. Besides the "decorated sheds", other types reflect the impact of the housing market like tall buildings, and "arrivers" (cf. cited Neverovsky Rossini, 2005) materializing in tall buildings or affiliations "vernacular".

## THE ROBERTO FREIRE AVENUE AND NATAL'S TOURIST EXPANSION

The Roberto Freire Avenue is located in the southern portion of Natal, between the Parque das Dunas - military and environmental protection - and important middle-class neighborhoods such as Capim Macio, Mirassol and Ponta Negra. Furthermore it gives access to the beach of Ponta Negra, the village of Ponta Negra - fishing village - and growing areas of tourist interest of the capital's metropolitan area (figure 01).

Among the 60's and 90's, the "Estrada Ponta Negra" was home for vacation homes and farms. In 70's comes in the context of housing expansion of Natal because the implementation of housing developments financed by the BNH (National Housing Bank) that stimulated the opening of new roads and other improvements both in the South Zone and North Zone. The Conjunto Ponta Negra (1976), Professores da UFRN (1977) and Alagamar (1979) were born in this context (MORAIS, 2004).

Among the 70's and 90's, begins the targeted investments to promote tourism in the State through the National Plan for Tourism Development in the Northeast (PRODETUR/NE)<sup>1</sup> that included the restructuring

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<sup>1</sup> Lopes Júnior (1997) and Fonseca (2004) reported the tourism potential of the city had been perceived by SUDENE (Superintendency for the Development of the Northeast) as an alternative to regional development since the 60s, which resulted in the creation of Emproturn (Company Promotion of Tourism of Rio Grande do Norte).

road axes to delimit coastal tourist capital of the Northeast. In Natal, these plans resulted in the opening of the Via Costeira (80 years), where is the upscale hotel park site, and upgrading the Rota do Sol (90), which leads to other beaches of the south as Pirangi and Cotolevelo (in Parnamirim), Buzios and Tabatinga (Nizia Floresta). Also in the 80's, Roberto Freire is duplicated to facilitate vehicle traffic toward those other axes.

This gave rise to an urbanity that integrated core areas through highways to the model of the free ways and strips, enhancing the marketing of "sun city" and "pleasure." The "sun and sea tourism" (Ferreira e Silva, 2008) - a process that has been linked with the availability of quality of life in the cozy seaside locations - has held since then in the production of real estate investments for the demands of domestic and foreign visitors : real estate tour (SILVA, 2010).

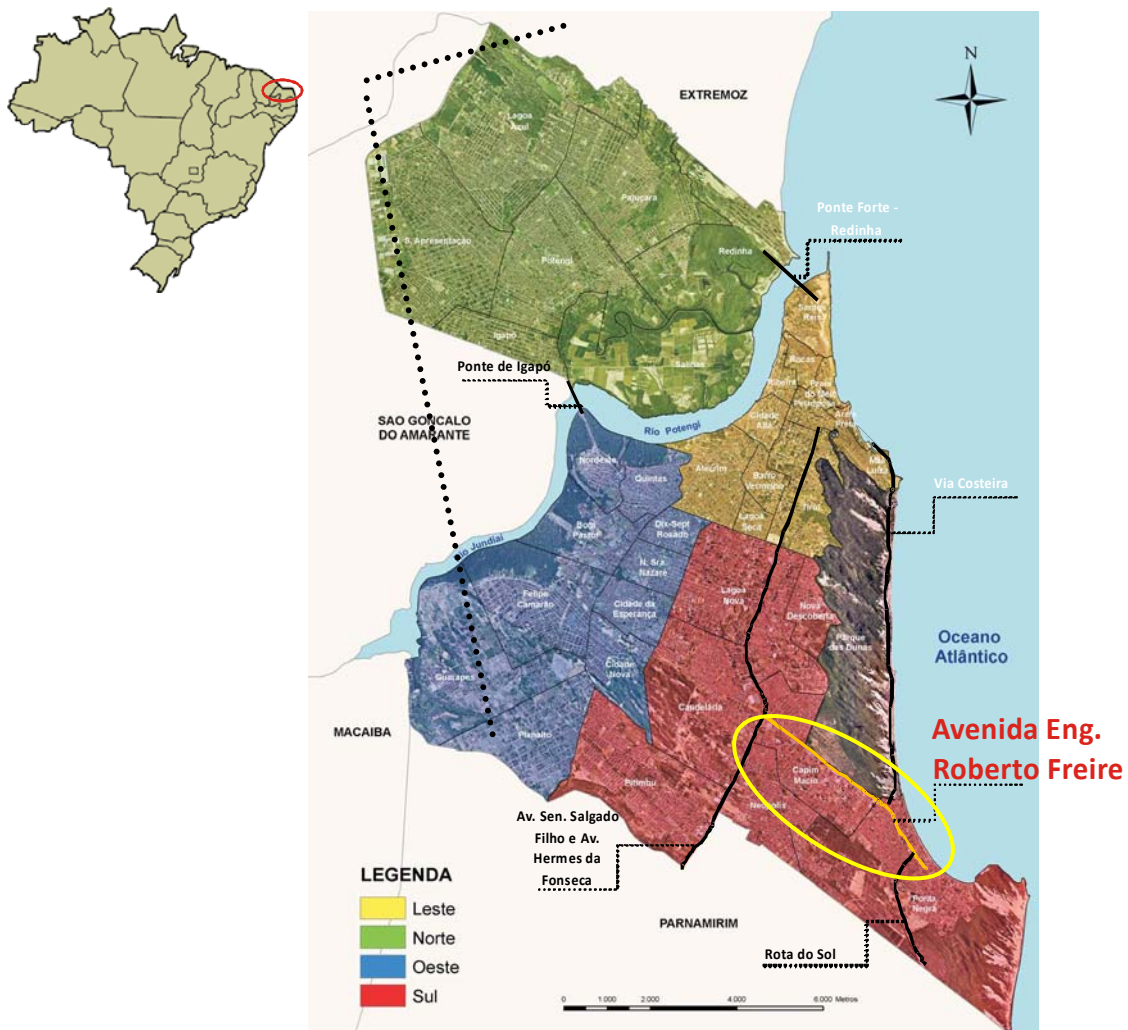


Figure 01: Map showing Roberto Freire avenue in the context of the Natal.  
Font: SEMURB (2010).

This context has been changing the landscape of the Natal coast and the metropolitan area due to the mix of shops and services that support the demands of "arrivals" (cf. cited Neverovsky Rossini, 2005). The diversity of uses has edilicio giving answers to the collection as it gives rise to specific architectural types and serve the economy of tourism and real estate pressure.

## **THE ROBERTO FREIRE AVENUE IN THE CONTEXT OF THE SOCIAL LOGIC OF SPACE**

The Social Logic of Space (LSE), as a theoretical-methodological assumption is that the space (urban and architectural) acts in social relations (Hillier, 1996, p.20) favoring the probability of encounters from the diversity of uses (MEDEIROS and TRIGUEIRO, 2007; CARVALHO and TRIGUEIRO, 2007, MEDEIROS and HOLANDA, 2007). With the LSE is possible to analyze degrees of movement and road hierarchies, based on the assumption that pedestrians and vehicles moving in a straight line. In this sense, takes place at the LSE accessibility topological potential (Hillier, 1996) is seen in the best way connected considering its inclusion in the urban core requirement was to understand the logic of the natural movement (potential) which is determined by the structure configurational mesh.

The most used way representational studies of LSE and the syntax analysis of Space (ASE) where the axial maps represent the lowest number of longer lines that simulate hits in a road network (Figure 02). These maps are the basis for a mathematical matrix that provides quantitative measures of integration, variable<sup>2</sup> that indicates the relative distance of a line in the face of the other system is useful to interpret the different degrees of topological accessibility. Axes directly connected to a given line are a topological step of it, and the lines directly connected to these axes are the first two steps of topological, a principle that reflects the mean depth and generate the global integration (Rn) and local (R2, R3, R4 ...).

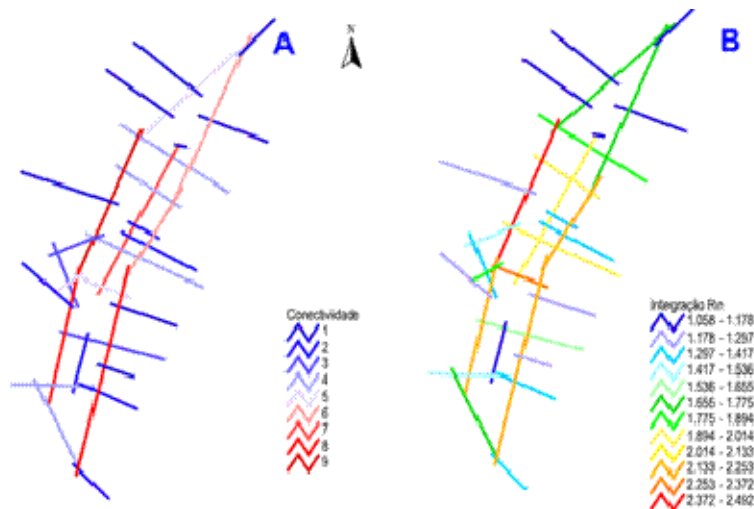
However, the integration values of continuity in maps generated by Mindwalk<sup>®</sup> for the coverage area of Roberto Freire were more accurate because, according to Figueiredo et al (2004, p. 161), they represent best lines and sinuous curves, as is the case of Roberto Freire. In the narrow alleys of continuity maps (Figure 03) are represented as a single entity and can be calibrated to ignore intersections when the lines that intersect to define a certain degree angle (usually 35 to 45 degrees). These maps can also represent the global and local integration.

The ratings were made on the basis edilicias GIS (Georeferenced Information Systems), which allowed the analysis of occurrences of expressive cluster edilicio types of the three factors considered here vis-à-vis more accessible parts (Figure 04). The GIS, on the georeferencing<sup>3</sup>, is the set of software tools intended to assign locations to elements of cartography, geographical information through digital

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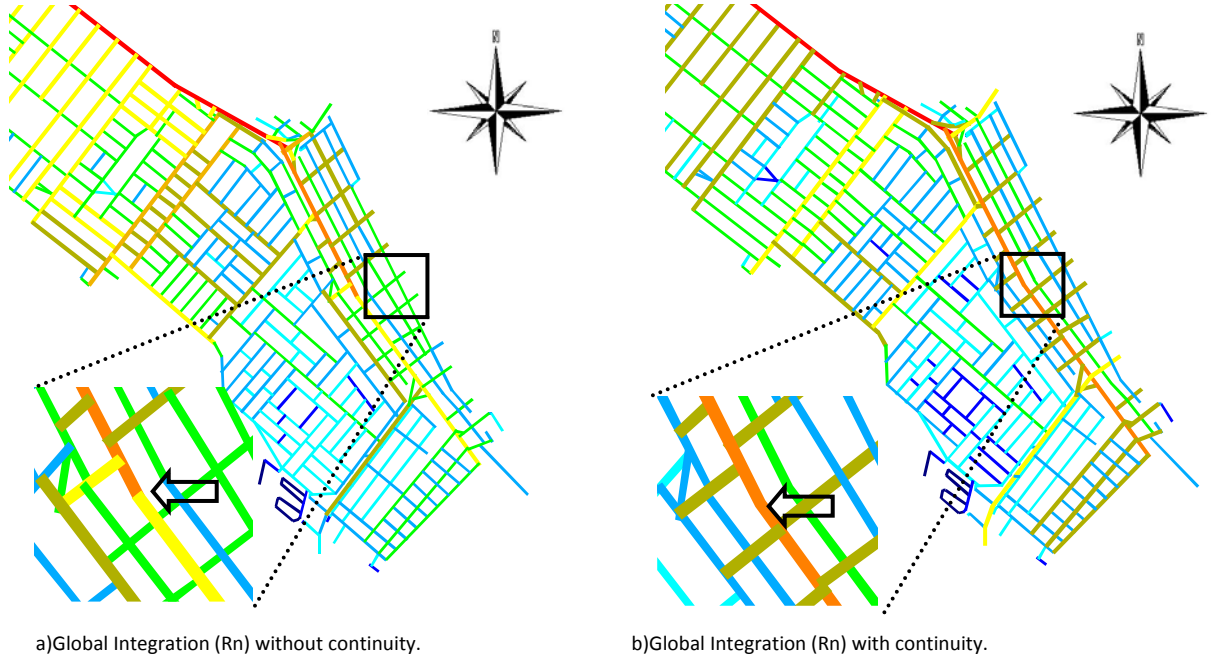
<sup>2</sup> The average depth is defined as the average degree of difficulty and / or ease of reaching an axis starting from the other, and connectivity is the number of lines that intersect.

<sup>3</sup> It consists of a set of concepts, methods and techniques, from the electronic processing of data manipulated mathematically to analyze relationships geotopológicas and environmental importance to urban studies, based on maps, plans and letters associated with specific coordinates.



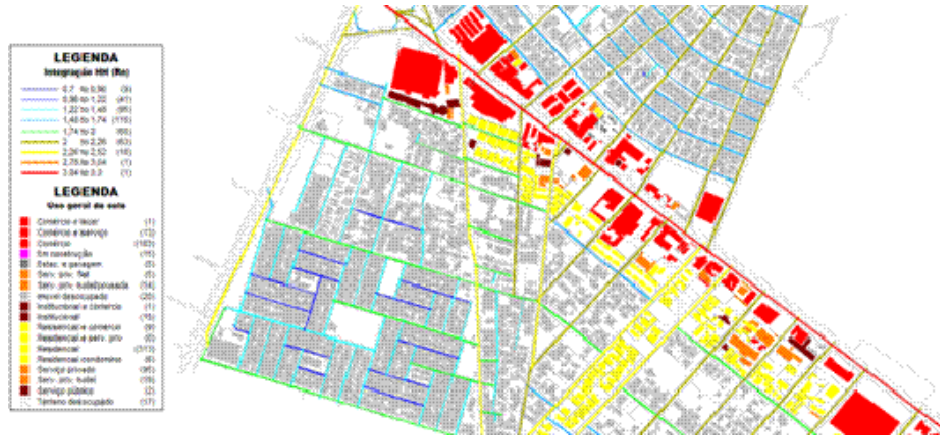
**Figure 02:** Axial maps of connectivity and integration for the Olt Town (Natal / RN) in 90's.  
Font: Medeiros (2006, p.128).

Levels of integration points to the increase in its accessibility topology (Figure 05). In the 70's residential development through the production BNH has momentum as the city is included in the PRODETUR/NE. In 80's, the inauguration of the Via Costeira with its high-end hotels, the dissolution of BNH and duplication of the Ponta Negra road, favor the production of private housing. From the year 90's, the avenue is the easier access to the Rota do Sol and Via Costeira, which boosted tourism and mass production of buildings like flats, hotels and lodges, giving bases for the spread of that Ferreira e Silva (2008 ) call tourism real estate, real estate coupled with the tourism exploitation.



**Figure 03:** Global Integration (Rn) around the Roberto Freire avenue.

Font: Adapted from map given by data base MUsA (Architectonic Morphology and Uso).

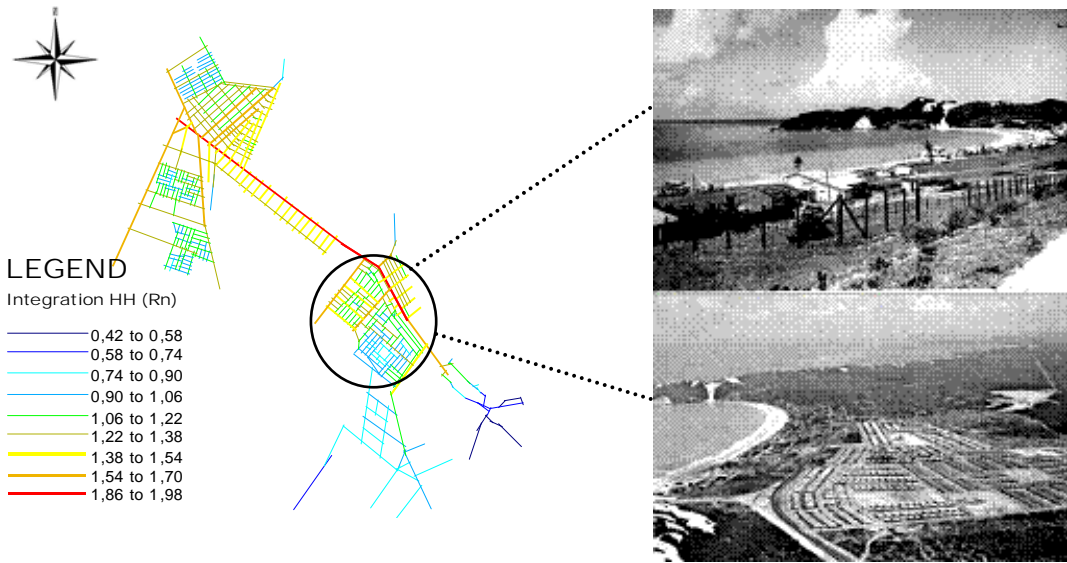


**Figure 04:** Thematic map georeferenced. Global Integration (HH-Rn) and land use.

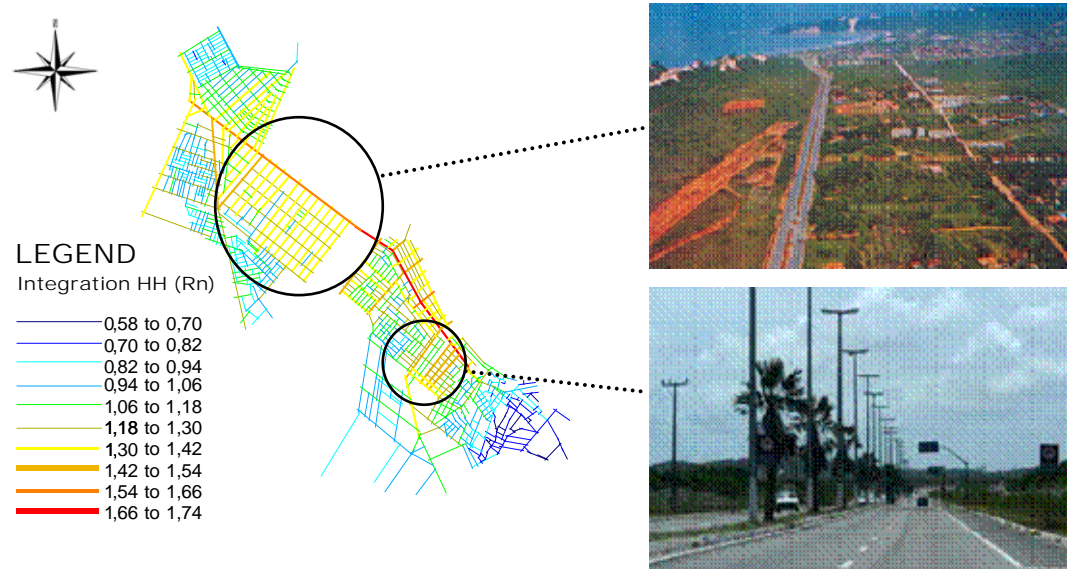
Font: Adapted from map given by data base MUsA (Architectonic Morphology and Uso).



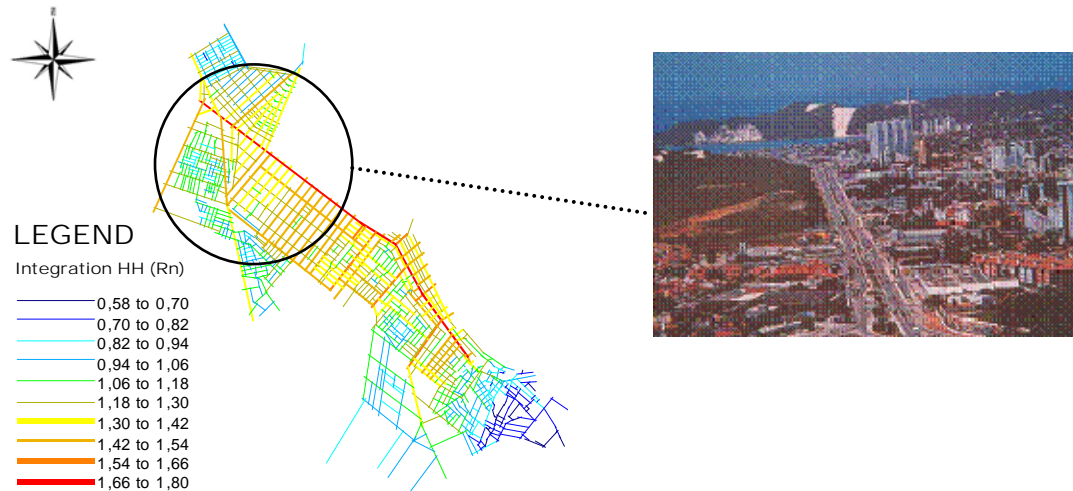
### THE 70'S



### THE 80'S



## THE 90'S AND TODAY



**Figure 05:** Roberto Freire evolution – Integration Rn.

Font: Adapted from map given by data base MUa (Architectonic Morphology and Uso) and Neverovsky (2005).

The high accessibility of the avenue has been the strong attractor for the diversity of uses in a growing centrality (VILLAÇA, 2001) serving local and tourist demand, responding to the edificio collection that seems to favor the maximum viewing for anyone who travels in vehicle with high speed.

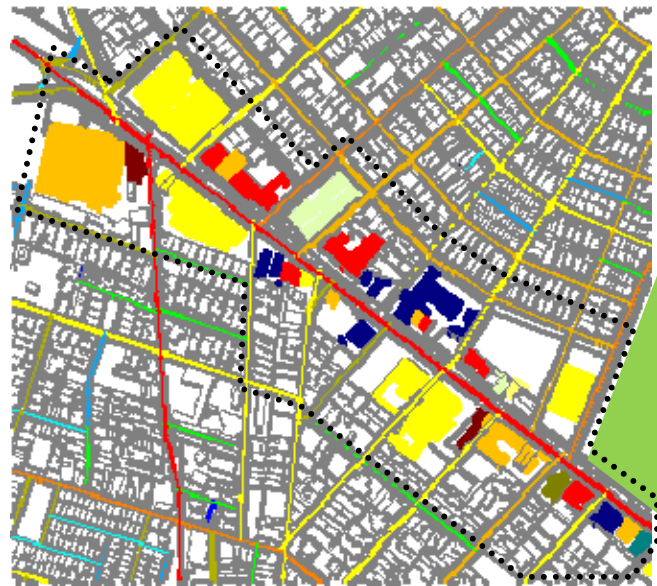
### **ROBERTO FREIRE AVENUE AND THE RESPONSE OF THE ARCHITECTURE IN THE LIGHT OF THE ACCESSIBILITY.**

We conducted the analysis in six different cuts of maps of continuity, for reasons of difference in splitting along the avenue. In these sections the averages were calculated from integration values HH (R3) of all axes of the system so that each section of the road network. This could be seen that clusters are more recurrent types edificio in sets or very little road accessible.

The decorated shed, typical architecture of strips (Venture, 2003), is noticeable in number and grouping due to their flexibility, functional and programmatic epidermal (wall boxes). The longilinea structure on which the car travels at speed, so is the place of persuasion architecture becomes signs and advertisements (NÓBREGA and DUARTE, 2009).

The prevalence of these types occurs in more than half of the avenue, even in passages where the landscape is softened by the Parque das Dunas, just varying the scale to better use of the lot (figures 06, 07, 08, 09 and 10). Among the decorated sheds are also perceive some buildings with historicist quotations and thematic, with neo-classical pediments and / or references to oriental cultures, which shows a "postmodern" influence. In these stretches the high levels of accessibility coincide with the high number of decorated sheds and its variations. Then there are the vernacular and coverage building, with traditional construction method (wood brick) and the other with a roof topped by pillars upholding, respectively.





**Figure 06:** Fragment 01 - Edilicias subcategories and integration HH (R3).  
 Font: Map of local integration HH (R3) – fragment 01 x edilicia subcategories.



A) DECORATED SHED WITH PORCH.



b) coverage building.



c) vernacular thematic.

**Figure 07:** Edilicias Types On Fragment 01.  
 Font: Personal Collection.

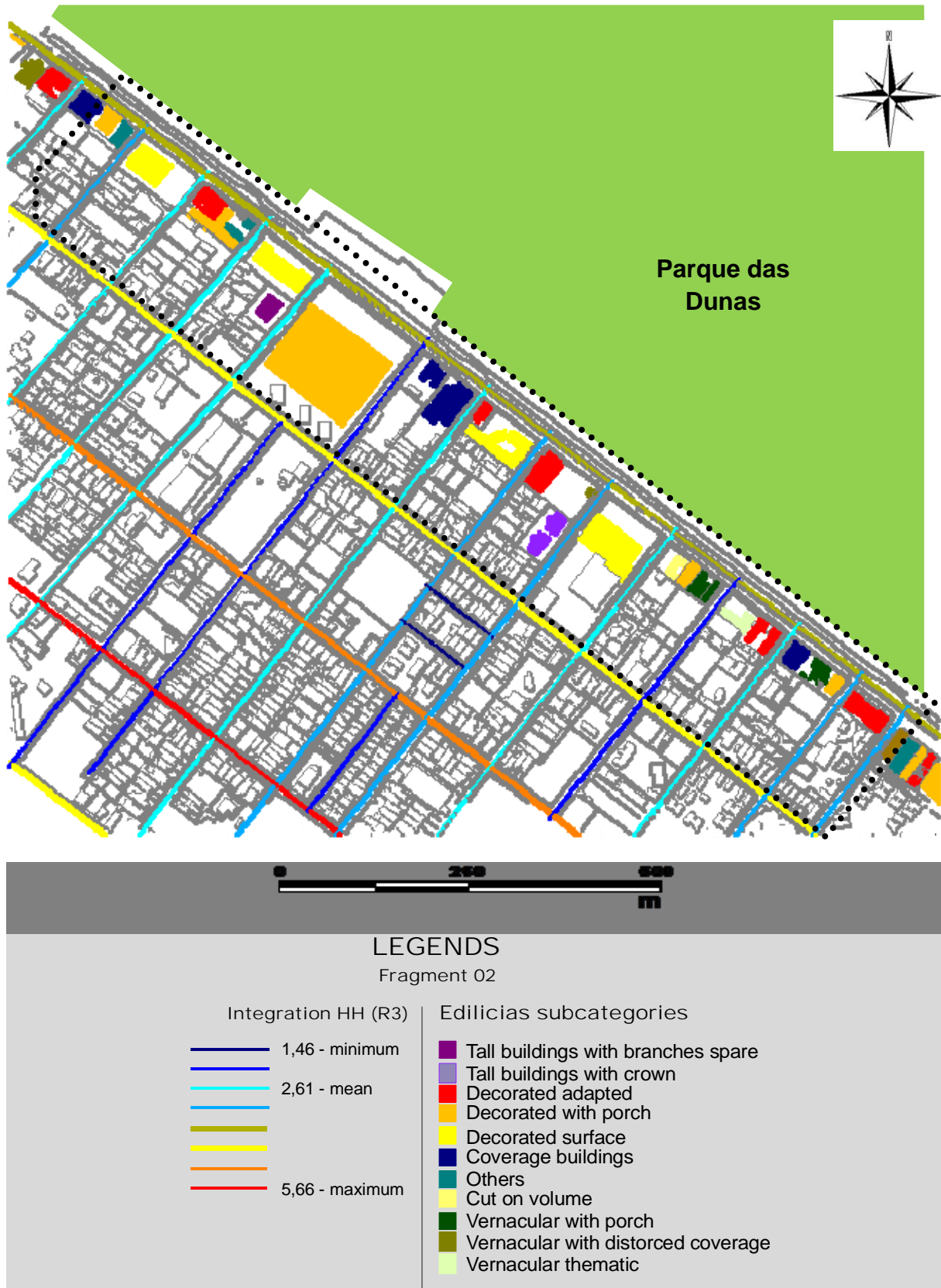


Figure 08: Fragment 02 - Edilicias subcategories and integration HH (R3).

Font: Map of local integration HH (R3) – fragment 02 x edilicia subcategories.



a) adapted decorated shed.

b) vernacular thematic.

c) coverage building.

Figure 09: Edilicios types on fragment 02. Font: personal collection.

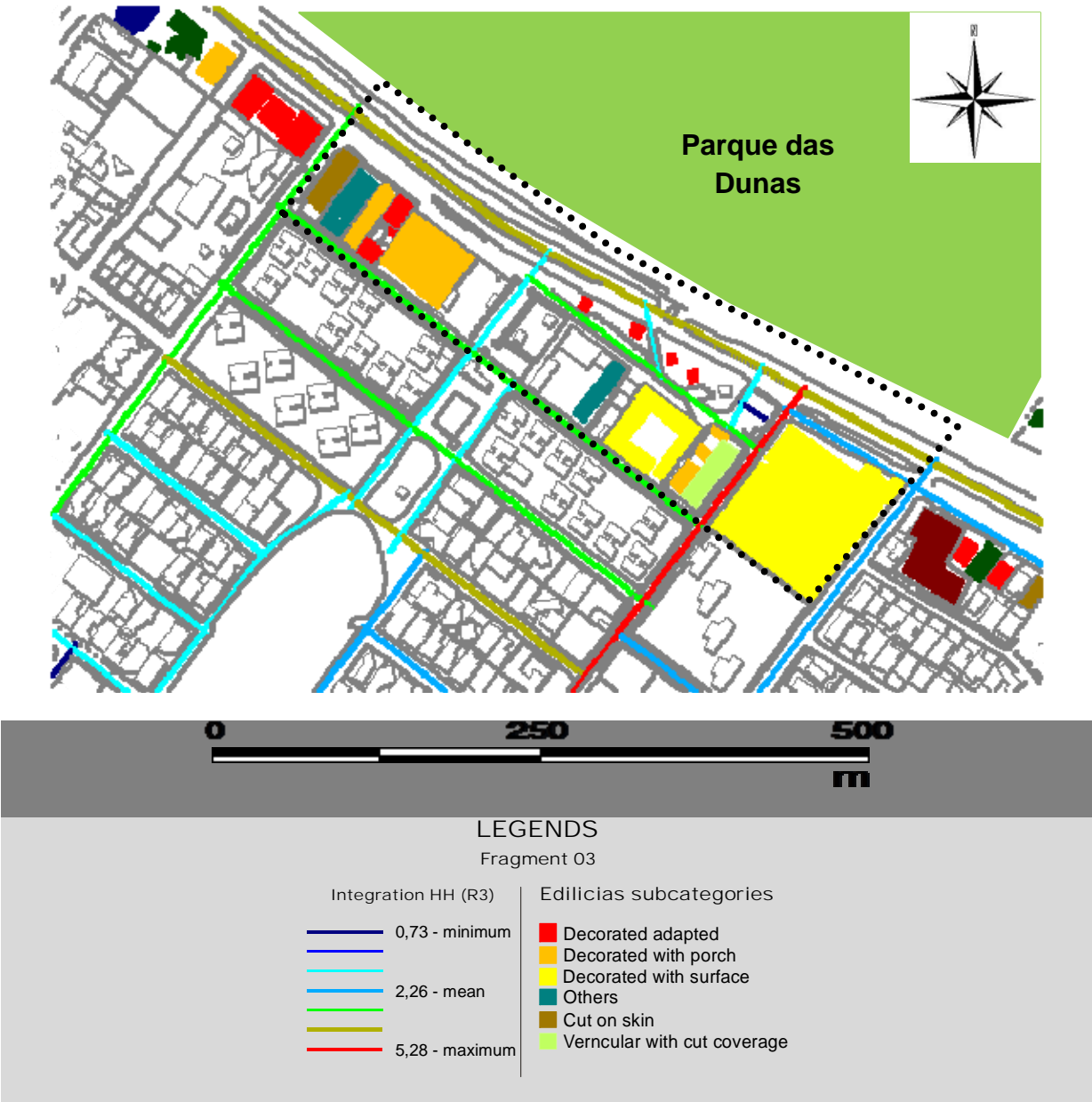


Figure 10: Fragment 03 - Edilicias subcategories and integration HH (R3).

Font: Map of local integration HH (R3) – fragment 03 x edilicia subcategories.



**Figure 11:** Decorated sheds and post-modern buildings.  
Font: personal collection.

In another part of the avenue, buildings remaining types of the first housing is converted to the decorated shed (Figures 12, 13 and 14). Trades and services prevails as the most frequent uses, but it is still in residential buildings perceive affiliations modernist compositional principles (even late), as is the case of Conjunto Ponta Negra, built in the 70's. Here the avenue accessibility decreases, since the more accessible road it's the parallel where the architecture is in the process of dismantling and conversion, to the decorated shed type.

In the final sections (Figures 15, 16 and 17), which reveals the landscape of Ponta Negra beach and the Bald Hill is a high availability features to lower values and adds to pressure dictates of real estate and tourist development, phenomena materialized in tall buildings (vertical prisms), response rates of urbanization of permissiveness and "vernaculares"<sup>4</sup>, with coverage in ceramic tile, large eaves and wood structures as well as frames (castings and / or combined with closures of glass). The coatings are often apparent, giving the idea of "rustic".

In this passage the pressure forces as real estate and tourism overlap of accessibility in the formation of architectural types. In previous sections, accessibility works harder to form a collection edilicio that materializes on the notion of the decorated shed, suitable for viewing who travels in a moving vehicle

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<sup>4</sup> The term vernacular refers to common elements in the formal and semantic of the building, ie, "signs that denote a generic complacency to belong to a social system" (RAJA, 2004, p. 118).





### LEGENDS

Fragment 04

Integration HH (R3)	Edilicias subcategories
1,35 - minimum	Decorated adapted
1,94 - mean	Decorated glazed
	Decorated with porch
	Others
	Late modern
	Cut on skin
	Cut on volume
3,60 - maximum	Vernacular with porch
	Vernacular thematic

**Figure 12:** Fragment 04 - Edilicias subcategories and integration HH (R3).  
 Font: Map of local integration HH (R3) – fragment 04 x edilicia subcategories.

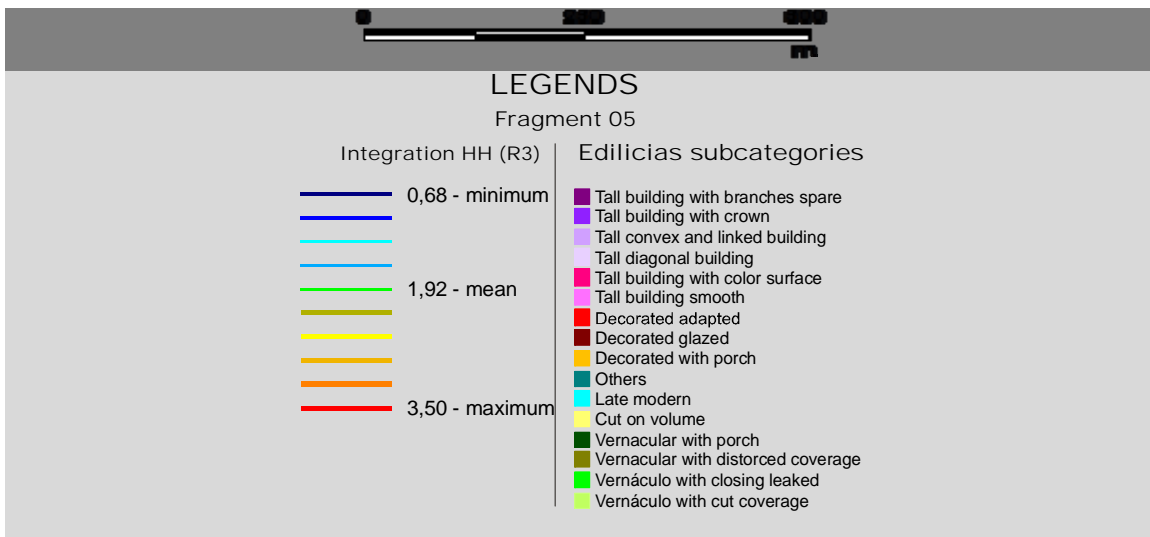
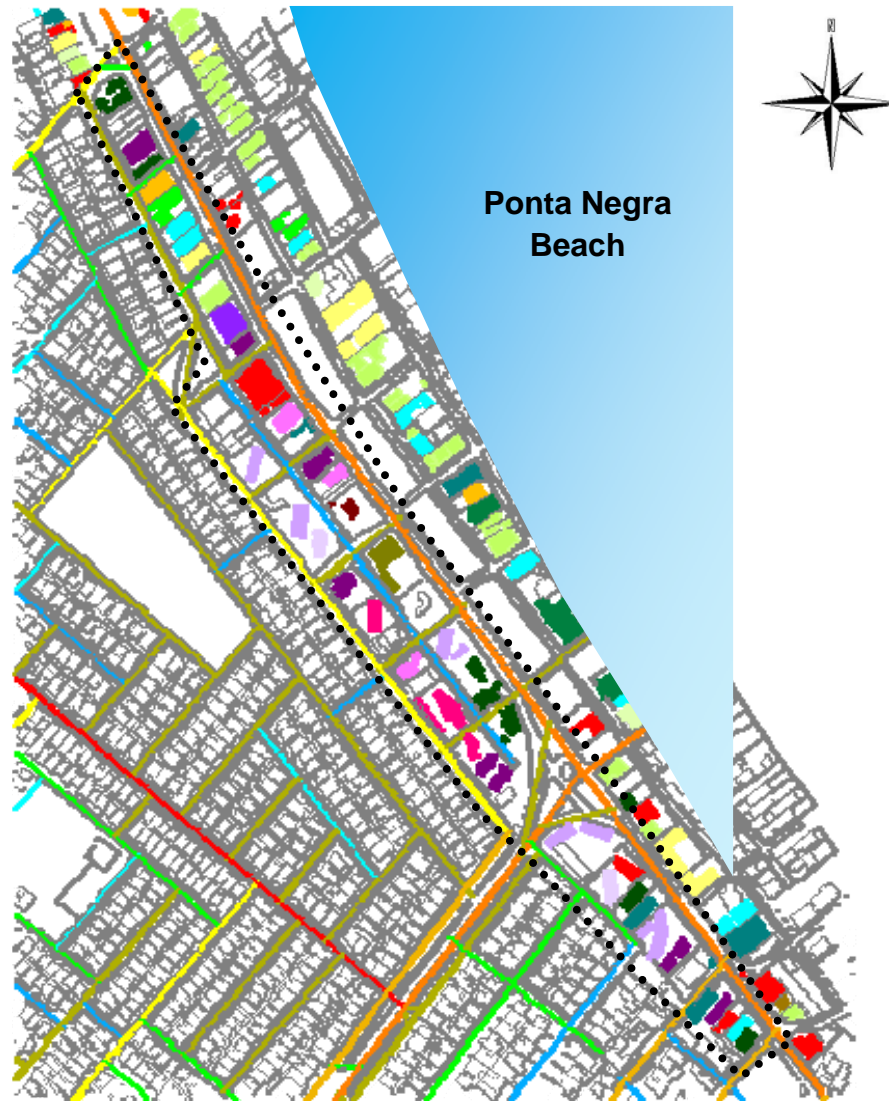


**Figura 13:** Modernists houses converted to decorated sheds.  
Fonte: personal collection.



**Figure 14:** House transformation in Conjunto Ponta Negra.  
Fonte: personal collection.

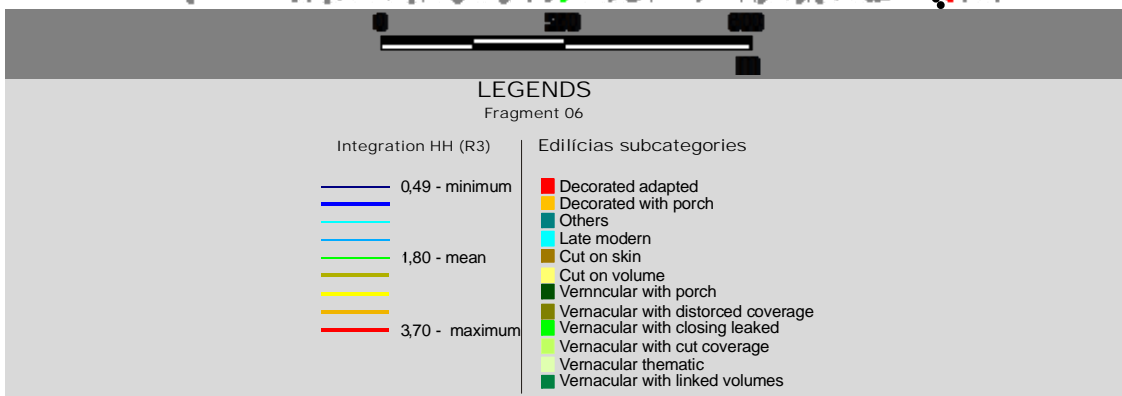




**Figure 15:** Fragment 05 - Edilicias subcategories and integration HH (R3).  
 Font: Map of local integration HH (R3) – fragment 05 x edilicia subcategories.



**Figure 17:** Tall buildings, vernacular buildings and decorated shed.  
Font: personal collection.



**Figure 16:** Fragment 0 - Edilícias subcategories and integration HH (R3).  
 Font: Map of local integration HH (R3) – fragment 06 x edilícia subcategories.

## RESULTS

The high accessibility of the avenue eng. Roberto Freire not only reveals its importance as a means of heavy flow, but points to a tendency to transform the architecture in support of advertising on buildings and functional programmatic flexibility: the decorated sheds. These are the kinds of large and small service businesses and services, being designed or adapted for this purpose. Large enterprises often deployed in large batches then plots and the lowest, intersections and very affordable real estate pre-existing set as in Ponta Negra. This is most noticeable in the street whose linear structure resembles that of a strip, where the logic of natural movement has provoked a multiplier effect, ie, the diversity of uses (Hillier, 1996).

In sections where the landscape is more lush, with a view of the Morro do Careca and Ponta Negra Beach perceive other two edilício types in large numbers and grouping: the prisms vertical and the "vernacular", both mostly residential and private services (hotels, hostels and flats). The first code flexibilities materialize mainly from the urban tourist development since at least the 80's on the occasion of the Tourism Development Plan (Northeast PRODETUR / NE) which increased the penetration of "arrivals" and national and foreign private investment . Since the latter, are located in areas of feedback control and prevention of construction according to the visual landscape of the beach and are more in the service of tourist demands. From these excerpts accessibility decreases and start acting more as real estate and tourism as a factor generating process of cosmopolitanism/globalization.

In this sense, the high accessibility of Roberto Freire does not respond alone to the incidence of specific edilício types. It adds to economic factors and socio-cultural in different degrees, establishing himself as an iconic example of a landscape seen as cosmopolitan ideal setting to represent the penetration of visitors that streamline the tourism and real estate.

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