

# **URBAN PLANNING IN OLAIAS**

PROPOSAL FOR A NEW CENTRALITY

Extended Abstract

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## 00. INTRODUCTION

### 00.01. TARGET AND SCOPE OF THE WORK

The main goals of this work are the presentation and analysis of the strategies developed during the project phase of the work performed in the scope of the discipline “Final Project”, which is part of the 5th and final year of the Masters in Architecture, along the academic year 2008/09.

The proposed project consisted of developing an urban plan in eastern area of Lisbon in order to respond to the urban restructuring and road construction motivated by the Third Tagus Crossing (TTC). It is expected that the construction of this infrastructure, which has an unusual scale and importance, will introduce profound changes in the territory, namely on the north bank of the River Tagus. Thus, the project of the third Tagus crossing provides an opportunity to rethink and reshape the urban system of the city, based on the changes and opportunities that this new axis not only allows but also encourages.

During the development phase of the proposal, an area of direct impact of the TTC was considered, whose limits are defined as follows: North - “Av. dos Estados Unidos da América”; West – “Avenida Almirante Reis”; South – “Cemitério do Alto de S. João”; East - Tagus River. Within this territory a project, which aims to study the organization of the main roads and urban transformations resulting from TTC is developed, while seeking to respond to current needs and problems analysed, not only at Lisbon scale, concerning the integration of the new axis in the consolidated urban fabric, but also with the scale of the close neighbourhoods. Thus, there was need to have different approaches to the subject under study, by testing the scales between 1:5000 and 1:500.

After having outlined the main guidelines of the proposal, a second area of impact was considered with the aim of introducing new ways of thinking concerning the urban morphology, mobility system, ecological structure, typology of buildings and public space. This further analysis addressed, as main subject of study, the “Bairro Olaias”, which, with the introduction of the TTC, is considered as a new potential centrality in the urban context of Lisbon. In this sense, exploring the concepts inherent to this territory that enhance the intended centrality are considered secondary objectives of this work, among which the author stand out the accessibilities and transportation networks, the building structure and diversity of uses.

Taking into account the potential increase of traffic, mainly people, in this area leveraged by the intersection of major transportation networks, it is also considered as an objective of this work the development of the interface concept as a structural element of centrality, considering two complementary perspectives: the *node*, resulting from connecting two or more transport networks, and the *place*, the territory involved in a complex urban structure of a city.

### 00.02. JUSTIFICATION OF THE TOPIC AND MOTIVATION OF THE AUTHOR

Since mid-20<sup>th</sup> century, the eastern city of Lisbon has been the stage for pioneering strategies in the domains of architecture and urbanism at national level. These strategies created a cleavage in the urban development of the city, proposing high density housing units, scattered in a structure of unitary cells. Although the territory is already part of a centrality of Lisbon, it appears that currently it is fragmented, with segregated areas and poorly articulated with the urban consolidated fabric. It is

within the scope of these urban discontinuities, that today the possibility of introducing an infrastructure that may cause profound changes in the territory is being developed, presenting an excellent opportunity for restructuring and integration of this area in the city.

Thus, the interest and relevance of this work is mainly related to the urgency of having efficient response to this territory, which may be subject to major changes resulting from an infrastructure that is currently under study and analysis. This scenario of opportunities is a subject of common interest to users of the city, which is addressed in this work through a study that is not focused only on one possible solution, but as a reflection concerning the key issues of the territory, which allows developing a potential solution, among several viable ones.

On the other hand, there is an obvious personal interest to carry out this work, because the main project targets of the author are presented and explained here as the culmination of ideas and strategies developed over a year.

## **01. DEVELOPMENT**

### **01.01. HISTORIC AND URBAN CHARACTERIZATION OF LISBON**

The first chapter is responsible for a comprehensive background of the subject under study, the city of Lisbon, focusing on the most important moments and major disruptions in history and in urban conception, not of a merely chronological or historic view, but with the intention to highlight the social and urban processes that led to important and decisive changes in the urban logic of the town.

Seeking, in this chapter, a clear focus on the evolution of the concept of the city centre, supported on key urban planning strategies developed since the formation of the consolidated city, in order to deepen our knowledge of the territory explored by the project.

The development of this chapter was primarily supported on literature concerning the historical and urban evolution of the town of Lisbon, as well as in the collection and analysis of the city plans corresponding to different dates.

### **01.02. INTERFACE AND URBAN DYNAMICS**

The second chapter presents a deeper analysis of the concept of interface, one of the most important infrastructures proposed when developing the project. Seeking an analysis of this concept supported by two complementary perspectives: the *node*, resulting from connecting two or more transport networks, and the *place*, the territory involved in a complex urban structure of a city. If, on the one hand, such concepts cover such distinct areas, on the other hand, the mutual influences on each other are so strong that they cannot be addressed independently.

After a thorough approach to the subject, a set of case studies allowing to frame and to introduce the project within the scope of the city of Lisbon are used. Seeking a direct and pragmatic assessment of the case studies through a matrix that allows the

analysis focusing on some parameters concerning the interface as a node and as a place, deemed essential to the development of the project proposal.

Table 1. Matrix for the Evaluation of Case Studies

		PARAMETERS	POINTS OF REVIEW	Matrix of Analysis
<b>Node</b>	<b>Number of Links</b>		Number of existing lines.	
	<b>Transport Networks</b>		Diversity and efficiency of transport networks.	
	<b>Change lines</b>		Distance; Time; Barriers; Mechanical equipment; Measurement; Legibility.	
<b>Place</b>	<b>Physical Relation with Surroundings</b>		Physical Continuity; Visual Continuity; Scales.	
	<b>Accessibility</b>		Permeability; Pedestrian Access; Parking; Taxis.	
	<b>Public Space</b>		Safety; Comfort; Pedestrian Mobility; Measurement.	
	<b>Uses and Activities</b>		Diversity of Uses; Social Diversity; Type of users; Spaces for Activities.	

Source: Table developed by the author

### 01.03. THE PROJECT: ANALYSIS OF THE AREA UNDER STUDY

In the third chapter, a first approach to the territory on which is focused the proposal made within the discipline “Final Project” is held. Initially, a historical and urban overview of area is presented, supported on the form and characterization of the erected structures existing in the territory. A series of analysis with different natures are then carried out allowing to increase the knowledge about the subject under study, leading to the realization of a more mature and complete a project. In this context, the author produces: a characterization of the mobility system, with its major flaws and introducing the constraints of the TTC; a biophysical analysis, which contributes to the awareness of the topography, sun exposure and ecological structure inherent to the territory; a characterization of the built structure, essential for understanding the typology of built spaces and identification of equipment and significant heritage; and an analysis of constraints, which not only deals with the main existing plans (Plano Director Municipal e Plano Verde) but also reflects about some specific constraints to be considered regarding the urban project. These analysis are mainly developed through the preparation of schematic plans, duly justified by explanatory texts that identify the main points to be considered.

The contents of this chapter is mainly a result of the research conducted within the discipline “Final Project”, during a phase prior to development of the proposal, supported primarily on site visits, photographic and bibliographic surveys, reflections over the major urban plans that focus on this territory and analysis of a variety of plans developed by the Municipality of Lisbon (CML).

### 01.04. THE PROJECT: PRESENTATION OF THE PROPOSAL

The fourth chapter consists on the proposal developed during one year, within the scope of the discipline “Final Project”. This chapter is divided into three key phases that follow the logic of the proposed statement:

**PHASE 1 | TTC and Lisbon: Proposal for Urban Articulation** | In the first part, an urban plan focused on the introduction of TTC and its consequences, particularly regarding the urban infrastructure, road infrastructure and green structure, was conducted in groups. At this stage, the general objectives of the project were presented, taking into consideration the significance and importance of developing this type of infrastructure across the city.

Fig.1. General Plan of the Proposal. Phase 1



Source: Author's Image

### Summary Phase 1:

- 1** | The construction of the TTC contributes to a wide range of opportunities, increasing affluence to the territory and justifying intensive urban transformations;
- 2** | The mobility system has a key role in the access to the municipality of Lisbon, and its organization can contribute to the integration of this territory in the city;
- 3** | The integration of some of the main roads originated with the TTC, ensures an environment of enormous potential to Project Intervention Area (PIA), explaining its approach as one of the main future focal points of the city;
- 4** | The number of green areas is an important structural element of the area under study, assuming a key role not only in preserving the system of green corridors in the "Vale de Chelas", but also on the permeability of the surrounding neighbourhoods.

**PHASE 2 | “Olaias” and “Vale de Chelas”: Proposal for a New Centrality** | At this stage, a strategy to respond to the major problems in the neighbourhood was developed, proposing a program that included the new services and equipment provided by the construction of the TTC. Afterwards a smaller area was defined in order to address the issues related with the infrastructure, mobility, public space and urban typologies. This phase is focused on “Olaias”, which takes a prominent position regarding the TTC plan, as it will be the first stop of the conventional rail line, and consequently, the first interface with the existing subway station “Olaias”. The aim, at this stage is to draw up a strategy to respond to major problems in the neighbourhood, through a program that integrates the new services and equipment provided by the insertion of the TTC.

Fig. 2. General Plan of the Proposal. Phase 2



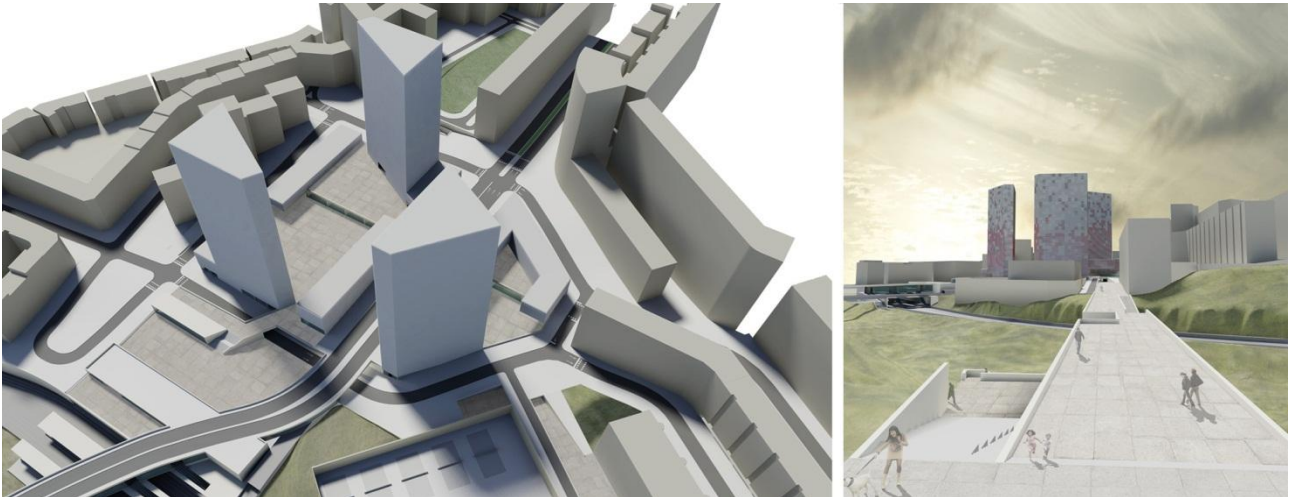
Source: Author's Image

### Summary Phase 2:

- 1 | The author sought to develop a program that not only takes into account the main consequences imposed by the TTC, but also respond to the specific needs of “Olaias”;
- 2 | The program is mainly made up of four elements: an interface that provides the link between the four networks of public transport, a Central Square responsible for the coordination of all equipment, a Commercial and Business centre, which brings an element of diversification to the uses of the neighbourhood, enabling to leverage the centrality, and a Building-Bridge, which physically links the two sides of “Vale de Chelas”;
- 3 | In what concerns the built structure, an intent to a more dense utilization of “Olaias” centre with economic activities is proposed, contributing to an increased competitiveness towards other centralities of Lisbon;
- 4 | The road structure is reorganized, seeking to create greater independence between the urban context of “Olaias” and the flow crossing “Av. Carlos Pinhão”;
- 5 | Public space is proposed as an essential element linking all the equipment proposed, essentially reflecting on concepts such as accessibility, permeability and interaction.

**PHASE 3 | Zone A + Zone B: Completing the Project** | With the definition of a plan within the neighbourhood scale, two areas were explored in more detail, Zone A and Zone B, which correspond to the major equipment proposed. Zone A includes the Interface, the Central Square and the Shopping and Business Centre. Zone B includes the proposal of a Building-Bridge that provides the link between the two sides of “Vale de Chelas”, ensuring greater permeability between “Olaias” and “Parque da Bela Vista”. The author seeks, in this phase, the development of project responses at building scale reflecting primarily about the articulation of public space, the scale ratio and the architectural quality of proposed buildings.

Fig. 3. General Image of the proposal and Image of the Building-Bridge



Source: Author's Image

Fig. 4. Plans Zone A and Zone B



Source: Author's Image

**Summary Phase 3:**

- 1 | The Central Square constitutes a referential public element linking all equipment proposed in a simple and direct way;
- 2 | The Commercial and Business Centre is the largest part of the proposed building, contributing to the diversity of uses in “Olaias”, which currently is lacking in the tertiary sector. The core of this proposal consists of six interconnected buildings

(three for offices and three for commercial areas), and focuses mainly on the Central Square that provides most of the needed accesses;

**3 |** The Office Towers are one of the most obvious architectural and urban transformations proposed, including in the territory of the Project Intervention Area (PIA) three elements of particular relevance in the context of the city. The widespread introduction of this type of economic activities acts, as main target, to enhance an emerging centrality, leveraging its competitiveness towards other central areas of Lisbon;

**4 |** The Commercial Area is proposed in smaller buildings, which together with the Office Towers, creates the physical boundaries that define the Central Square (3 e 4). Unlike conventional malls, this area is aimed at boosting the commercial activity in a deep relationship with the public space and the other activities, ensuring a large number of users throughout most of the day;

**5 |** The Building-Bridge proposes a direct link from the PIA to the existing “Parque da Bela Vista”, through a fluid and permeable structure of public space. Within the city scale, this connection between the two sides of the valley represents the final complement of the pedestrian-cycle route between the two main green leisure areas of the city: “Parque de Monsanto” and “Parque da Bela Vista”.

## 02. CONCLUSION

### 02.01. CRITICAL REFLECTION ON THE PROJECT STRATEGIES

Regardless of the results or the degree of success of a proposal, it is considered that the exercise of intervening in the urban context instils a great responsibility to the designer. Develop a strategy requires the balancing of choices, where the benefit of certain aspects may jeopardize the integrity of others. Based on these considerations a critical thinking is developed, where the proposed strategy is presented not as an absolute truth, but as a possible approach to the transformation of the concerned territory. Therefore, this reflection has as main objectives to justify or question certain significant choices, as well as point out other possible answers.

**RELATIONSHIP OF THE TTC WITH THE “VALE DE CHELAS”** | Contrary to what is currently planned, the proposal organizes the road and rail node coming out of the TTC in the underground, supporting itself on the eastern side of “Vale de Chelas”. This aims to relieve the Valley from the presence of infrastructures, ensuring a greater permeability necessary for the articulation of the surrounding neighbourhoods. The road and rail distribution coming out of the existing Bridge “25 de Abril”, supported on the eastern side of the “Vale de Alcântara” is an excellent example of what is the overlap of heavy infrastructures in a very sensitive fundamental ecological system. Despite the efficiency of this example as a system of road articulation, the landscape of the “Vale de Alcântara” is currently marked by a set of structural axes that create physical barriers creating difficulties to normal movement of people.

However, not all consequences of this strategy are benefits to the urban structure. The earth works and the construction of the different tunnels needed to develop this infrastructure involve lengthy and costly process that often cannot justify the solution. Moreover, it is also envisaged that section of the current Conventional Circular rail Line must become underground, which



requires modifying the existing altitude of the line. In addition to high costs involved, this would be a modification that would bring a lot of restrictions during the works, since it would not be feasible to interrupt rail connections during this period. The most viable solution for this purpose would be to build a provisional line, which again would involve great cost and time to the works.

Considering the various possible perspectives for building this infrastructure, the strategy developed in the proposal is essentially justified by the dimension of the Project involved. The TTC, as part of an international plan, will create many new opportunities that can and must restructure and strengthen the areas involved. Having said that, higher constructive and financial resources, which contribute to significant improvements in the urban planning, can be considered to be viable.

**THE “BAIRRO DAS OLAIAS” AND THE QUESTION OF CENTRALITY** | Considering the opportunities justified by the TTC, the strategy of the entire proposal assumed that the “Bairro das Olaias” could become an important centrality within the city of Lisbon. This starting point was mainly supported by the issues related with road access, whereas the main road and rail connection towards the centre of Lisbon would cross this area. In addition, it was also considered the existence of the Subway Station, which, through a correct connection with the Rail Network, would create an excellent opportunity for the promotion of public transport regarding the new links originated with the TTC. In fact, in terms of mobility, all conditions point to an excellent opportunity for the development of this area, however, there are conditions of physical, social and urban nature that introduce a lot of questions regarding the proposed strategy. First, the “Bairro das Olaias” assumes a peripheral position in the consolidated urban fabric, essentially limited by the obstacles represented by the system of valleys creating “Bairro das Olaias”. Moreover, the high rate of existing construction (1.56) corresponds mostly to housing units. Thus, one of three possible scenarios could be foreseen: the existing equipment together with the proposed equipment can have the critical mass to justify the desired centrality; otherwise the increase in construction will be limited to the area consumed by residential buildings, not allowing the desired centrality; in can also happen that the speculation could, potentially, reduce gradually the number of residents, as it happens in most of the centralities created.

**THE PROJECT INTERVENTION AREA (PIA) AND THE PROXIMITY RELATIONS** | The articulation of public space in continuity systems was one of the main concepts defined in this exercise. Whereas the relations of proximity not only physical, but also social and urban are fundamental elements to the success of a centrality, it was noted that currently the “Bairro das Olaias” has elements that lead to social and spatial segregation. In this sense, a strategy of converging continuous networks of public space was established, developing mainly on five different fronts: the connection to the “Alameda D. Afonso Henriques”, establishing a relationship with the city centre; the connection to the bottom of the “Vale de Chelas”, enhancing relations between very different altitudes; the connection to the “Parque da Bela Vista”, taking advantage of its features as a Green Recreation Area; in connection to “Bairro da Picheleira”, which currently operates independently of the “Bairro das Olaias”; and finally in the connection to the “Bairro de Casal Vistoso”, which has no physical relationship with the “Bairro das Olaias”.

Within the five areas focused in the strategy, stand out negatively the connections to the “Bairro da Picheleira” and to the “Bairro de Casal Vistoso”, where, with the exception of minor details, did not receive major improvements. For the connection to the “Alameda D. Afonso Henriques”, the integration of a pedestrian and cycling way, as part of a green corridor is proposed, however, the author considers that the redesign of the public space may not be enough to make this connection more efficient. Moreover, the infrastructures that establish connections with the bottom of the Valley and the “Parque da Bela Vista” are

enhancing elements of the territory, ensuring connections of extreme importance to fundamental ecological structure. Currently, about one year after the development of the proposal, the relevance of the connection between the two slopes of the “Vale de Chelas”, is confirmed with the proposal from the Lisbon Municipality regarding a pedestrian elevated viaduct, specifically for this territory. Thus, it is considered that the Building-Bridge ensures one of the most relevant issues in the context of the proposal, mainly due to the connections it establishes.

In addition to the connections analysed in the proposal, there are urban relations that could have been further explored. In this context we highlight the connection with “Areeiro”, which could ensure greater continuity to the built structure, giving these area better conditions to become a centrality through the relationship with the consolidated city.

**RATIOS PROPOSED** | The proposal introduces a substantial increase in the Gross Built Area on the PAI (134,388 m<sup>2</sup>), reflecting very high (2.13) Building Ratio (net) when compared with other case studies (the average is about 1.40). In this sense, the strategy of building more equipment over spaces already characterized by high densities, can highlight a possible over sizing of the buildings, from which stand out the Office Towers ranging from 32 to 34 floors. However, despite high ratio of construction, the proposal foresees a Occupation Ratio (0.25) lower than the average values of other case studies (0.27), achieving the highest percentage of Public Space among the areas analyzed (72%). These intentions fit into an overall strategy of concentration of buildings, freeing public space and, at the same time creating a critical mass for the economic activities necessary for the growth of a central location.

Such considerations, supported by evidence (quantitative ratios), lead to a fundamental reflection: the dimension of the proposed buildings. It is clear that the elements introduced into the territory bring a different scale, which imposes over the existing buildings. However, while developing the proposal, several studies concerning the volumes occupied, both at the local scale, and in the context of the city, were carried out. In this context, the author tried to create two parallel approaches: integrated in “Olaias”, the proposed buildings must respect the main physical and visual alignment, ensuring sufficient clearances regarding the surrounding public space and the impact in the city, the building should be a reference, allowing visual insight to broader scales.

**HOW THE PROGRAM FITS THE NEEDS** | While thinking about the program and, whenever this is not pre-defined, a careful study of the existing uses of the territory, as well as of the uses we intend to create, must be carried out in order to enhance the dynamics of the place. The program developed in this exercise is mainly supported by four elements: the interface, within the context of the convergence of different transport systems; the Central Square, main connecting element of the public space; the Commercial and Business Centre, which contributes to the development of a centrality; and the Building-Bridge, which, not only allows an important connection to the “Parque da Bela Vista”, but also includes supporting facilities to the Park. Concerning the diversity of uses, it can be seen that the program focus mainly on the tertiary sector and in leisure to enhance this area, not covering other sectors.

However, the analysis of the diversity of uses actually in the territory leads to needs different from the ones addressed in the proposal. The sectors which are farther away from the area under analysis are the cultural and the institutional, not very much addressed in the program prepared. This conclusion is intended to highlight what is considered a major flaw of the proposed development. On the other hand, the leisure sector is very much enhanced, being closer to the “Parque da Bela Vista” (from 950m to 300m), the tertiary sector, which reduced distances as much as 170m, and the health sector that, when considering

the existence of the “Hospital de Todos os Santos”, represents the only analysed use that may be considered non-existent actually. Regardless of the flaws discussed above, it is well documented that the proposal will contribute to a general decrease of the distances concerning uses in the different sectors.

## **02.02. FINAL STATEMENTS**

This study sought to present and analyze a project on an urban scale, carried out within the scope of the discipline “Final Project”. It is important to enhance the interest and highlight the relevance of the theme proposed by the teachers, which induces profound reflections on urban issues that are urgent and real, in the context of strategies that are being conceived and defined today, giving the possibility of, through an academic work, participating in the reflection of a significant and important problem concerning the architecture and urbanism of the city of Lisbon.

Considered as the sum of the ideas and strategies developed during one year, this report became an essential way to present the Project, allowing to support its main goals with theoretical foundations, as well as raising more questions and point out situations that remain unsolved. In this sense, this investigation would have been more fruitful and enriching if done within the course of the project development, allowing the practical and theoretical components to support each other, leading to more conscious strategies for transforming the territory.

The theoretical analysis regarding the concept of interface as well as the practical analysis of case studies, were crucial elements for the development of this work, allowing a comparison between the academic study and the real situations, allowing us to understand the feasibility and the constraints of the proposed infrastructure . In this context, the author created a matrix that allows the analysis of effectiveness of each interface according to different parameters. Throughout the work it was found that this matrix is an important tool both for the analysis of case studies as in this proposal, and also regarding its use for evaluating or implementing future projects.

Last but not least, this report allowed for a more conscious and reasoned critical reflection on the project, leading to the conclusion that the project developed meets successfully the proposed goal, bridging and solving major problems and gaps in the territory under study, as well as anticipating the transformations resulting from the construction of the third Tagus crossing. However, it was found that there are some aspects that should be explored in a deeper way, and issues that were not covered. This investigation created also a better understanding of the specifics of a project of this size and significance, showing that the success of a strategy is dependent not only on the architectural quality of the urban plan, but also the feasibility of actions needed for its implementation, issues that were not taken in consideration while developing the project within its academic context.