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**RENASCIMENTO DA CIDADE**

*Strategies for Lagos' historical centre*



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# ABSTRACT

## ABSTRACT

The city of **Lagos** is located in the south of Portugal in the Algarve region, today it is known as a tourist destination for the attractiveness of its coastline, but unfortunately it is losing its identity: the gentrification process, the presence of a dense urban fabric affecting the public spaces, the lack of relationship between the historic centre and the rest of the city, the *Bensafrim* river conceived as a threat, are just some of the causes for which Lagos is experiencing a critical situation characterised by a progressive socio-cultural degradation and a reduced sense of belonging to the place by the citizens.

The aim of this thesis is to **analyse** some of these causes that generate the “emptying” of the place in a physical and social sense, through the study of five research themes which will be important for the realization of the project: history, ecosystem, built heritage, social and economic process, mobility.

Subsequently, a series of design **strategies** are exposed and they aim to solve the problems highlighted in the analysis chapter: an urban-scale design proposal to fill the functional gaps and implement the quality of the historical centre; the reorganisation of the current mobility into a more sustainable one and above all pedestrian; the

realisation of the Water traces system which is a drainage system also used as an architectonic expedient to define flows, spaces and functions.

These strategies are applied in the third and last phase of this thesis work: the project focused on the **redevelopment of public space** “*Praça Infante Dom Henrique*” and the construction of a community centre. The intention is to design a space from the existing one that can induce users to stay, to experience the community of the city of Lagos, to feel part of a collective and, above all, to re-establish an identity that is becoming invisible.

# OPPORTUNITÀ

## INTRODUZIONE

La città di **Lagos** si trova nel sud del Portogallo, nella regione dell'Algarve e oggi è conosciuta come destinazione turistica per l'attrattiva della sua costa, ma purtroppo sta perdendo la sua identità: il processo di gentrificazione, la presenza di un tessuto urbano denso che incide sugli spazi pubblici, la mancanza di relazione tra il centro storico e il resto della città, il fiume *Bensafrim* concepito come una minaccia, sono solo alcune delle cause per cui Lagos sta vivendo una situazione critica caratterizzata da un progressivo deterioramento socio-culturale e da un senso ridotto di appartenenza al luogo da parte dei cittadini.

L'obiettivo di questa tesi è **analizzare** le cause che generano lo "svuotamento" del luogo in senso fisico e sociale, attraverso lo studio di cinque temi di ricerca che saranno importanti per la realizzazione del progetto: storia, ecosistema, patrimonio edilizio, processo sociale ed economico, mobilità.

Successivamente, vengono espone una serie di **strategie** finalizzate a risolvere i problemi evidenziati nel capitolo di analisi: una proposta progettuale a scala urbana per colmare le lacune funzionali e implementare la qualità del centro storico; la riorganizzazione dell'attuale mobilità

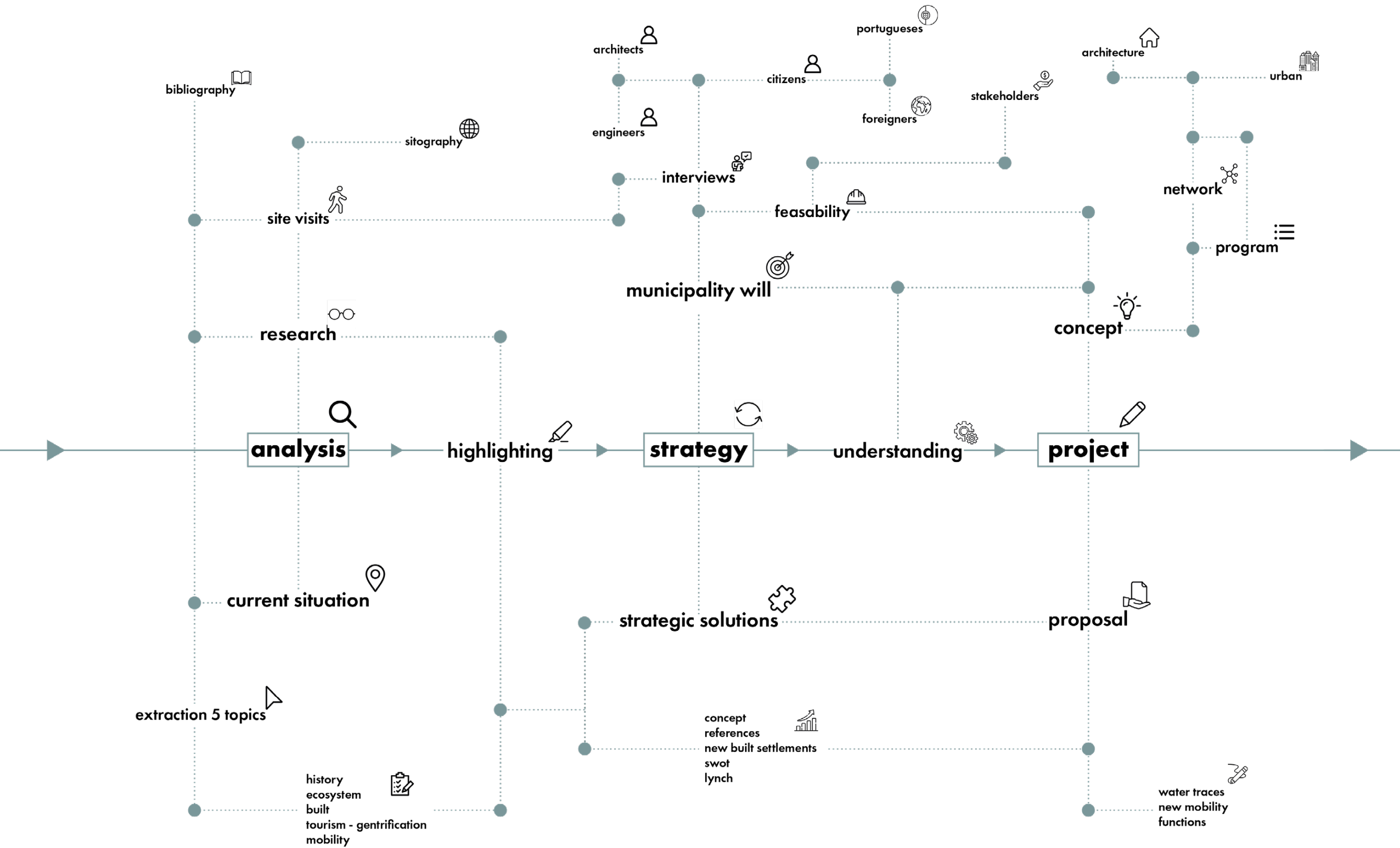
in una più sostenibile e soprattutto pedonale; la realizzazione del Water Traces System, un sistema di drenaggio utilizzato anche come espediente architettonico per definire flussi, spazi e funzioni.

Queste strategie vengono applicate nella terza e ultima fase di questo lavoro di tesi: il progetto focalizzato alla **riqualificazione dello spazio pubblico** "*Praça Infante Dom Henrique*" e alla costruzione di un **community centre**. L'intenzione è quella di disegnare uno spazio a partire da quello esistente che possa orientare l'utenza a rimanere, a vivere la comunità della città di Lagos, a sentirsi parte di una collettività e, soprattutto, a ristabilire un'identità che sta diventando invisibile.



# METHODS

## METHODOLOGY



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## CHAPTER ONE - ANALYSIS

## 1.1 THE HISTORY OF LAGOS

### with urban evolution starting from X century

The first historical settlement of the city of Lagos belongs around the 2000 BC and it was located somewhere along the *Bensafrim river*: still today, the historians did not find sufficient trials of the exact position of this settlement which name was **Laccobriga**.

The main hypothesis on the location which has been confirmed until today is the *Monte Molião*: it is situated along the *Ribeira de Bensafrim* and here have been discovered archaeological remains belonging to the “*Iron Age*” that suggested the position of this settlement.

However, this first village was built by the “*Lacão*” people and lived mostly as maritime and rural place, subsequently, it has been conquered by the Muslims and it became, thanks to its strategic position, one of the main points of the commercial routes between all the cities around the *Mediterranean Sea*, with the name of **Zawiya**.

On 350 BC, the town was hardly shaken by a terrible earthquake followed by a giant tidal wave which destroyed everything: the habitants were forced to move in another place and for some years this area has been abandoned.

More or less 6 years later, people moved back in

this area due to the fertility of the fields and started to build the new settlement precisely on the hill called “*Nossa Senhora da Graça*”.

The main activities during these years have been the commerce through the *Mediterranean sea* and the fishing of tunas and sardines: this last will grow more and more until it will become the principal one of the city through the years, especially during the lasts centuries.

Later on, the city was conquered by the Romans and called **New Laccobriga**, although their reign lasted only few years because in 716 AC the Moors arrived destroying everything and started to have a long alternation of supremacy with the Romans until they won the war and dominated Laccobriga from the 10th century to the 13th century.

During this years, the city developed with a lot of technological improvements and military advancements aimed to reinforce their defences against the Christians armies.



pan. 1 Lagos Urban Plan



pan. 2 Urban plan - 10th century

Later, from the 13th century to the 14th century, the city continued to improve under **King Dinis** and **King Afonso IV**: the defensive walls system was rebuilt stronger and amplified especially for protection against the North African invasions.

At this time, the **Black Plague** occurred and spread all throughout Europe, leading to a huge demographic decay in the urban evolution of Lagos. But, after this epidemic, the growth of the population duplicated leading to a necessary restructuring of the city.

The intervention was mainly focused on the Northern part, where mainly fishing industry workers lived.

Thanks to this growing of the population, of the city and of the geographic location, Lagos became at the beginning of the 15th century a huge **naval centre** for all Europe: in particular, in the harbours any kind of boats were built and repaired. This reputation made Lagos one of the main starting points during the **Discovery Era**<sup>1</sup>: the boats departed from here, discovered **Ceuta**,

**Madeiras Islands**, **Azores Islands** and a lot of places all around the African continent which were never seen before. One of the most important characters for these discoveries has been **Infante Dom Henrique** an explorer to whom the square of the same name in the historic centre of Lagos is dedicated.

Every year, the city was becoming richer and well developed enough to think to new concepts such as health and hygiene, leading to the creation of the **Portico of Gafaria**, a sort of little hospital where sick people were given care.

Additionally, it began the construction of the **Igreja do Santo Espirito** and **Santa Casa da Misericórdia**.

For all these reasons and more in 1573 Lagos, which was considered just as a village until then, became officially a city and the **capital of Algarve**<sup>2</sup> as announced by **King Sebastião** before his disappearance due to war.

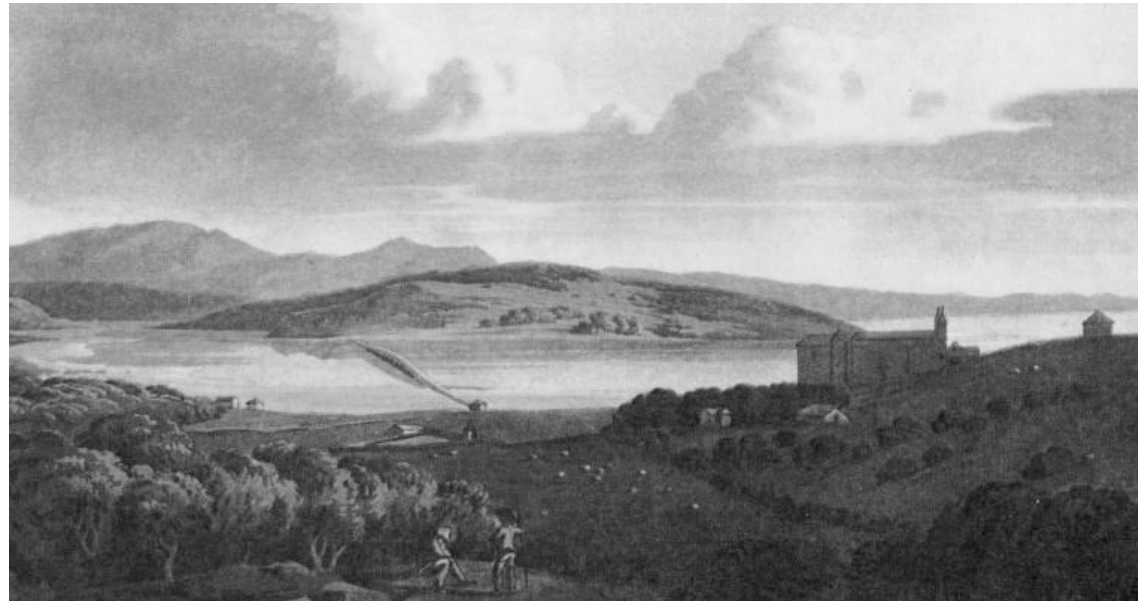


fig. 1 Historical painting - Lagos *Historical Archive*



pan. 3 Urban plan - 13th century

In the 17th century when Portugal restored its independence from the **Castilians**, Lagos suffered through great difficulties with the **immigration** of its population to Lisbon, due to the creation of the “**Grand General Company of Brazil**”.

So, Lagos lost its stature as a trading connection with Brazil, leaving small trading harbours abandoned, making the surrounding population lose most of its livelihood.

An outburst of **Cholera**, also worsened this predicament, decreasing exponentially the agricultural productions as well as commercial activities.

Despite the hard moment, the people of Lagos suffered through, there were **new building additions** in the city such as the **Santo António church**, in late 17th Century, which is referenced in a 1691 registry in the **Misericórdia de Lagos** and the **Forte da Ponta da Banheira** that was a defensive fortress and also the last defensive points built in order to protect the city from coastal threats. In the end, at the beginning of the 18th century

there were registered successive seismic episodes in Algarve. From 1719, there were 5 earthquakes which destroyed several buildings and the last one, in **1755**, was the most devastating because it was also followed by a tsunami.

A huge wave destroyed everything: 15 acres of land were taken by the ocean, most of the population remained without a house and needed to move away; most of the buildings along the coastline were demolished completely, including churches, convents, hospitals and so on.

This earthquake has been destructive for all the country not only under the built environment point of view, but also under the economic and social ones: half of the city has been abandoned, the remained people tried to randomly build again some part of the city and for this reason the urban fabric has never been a grid or a regular form; a lot of cultural, religious and administrative buildings were destroyed.

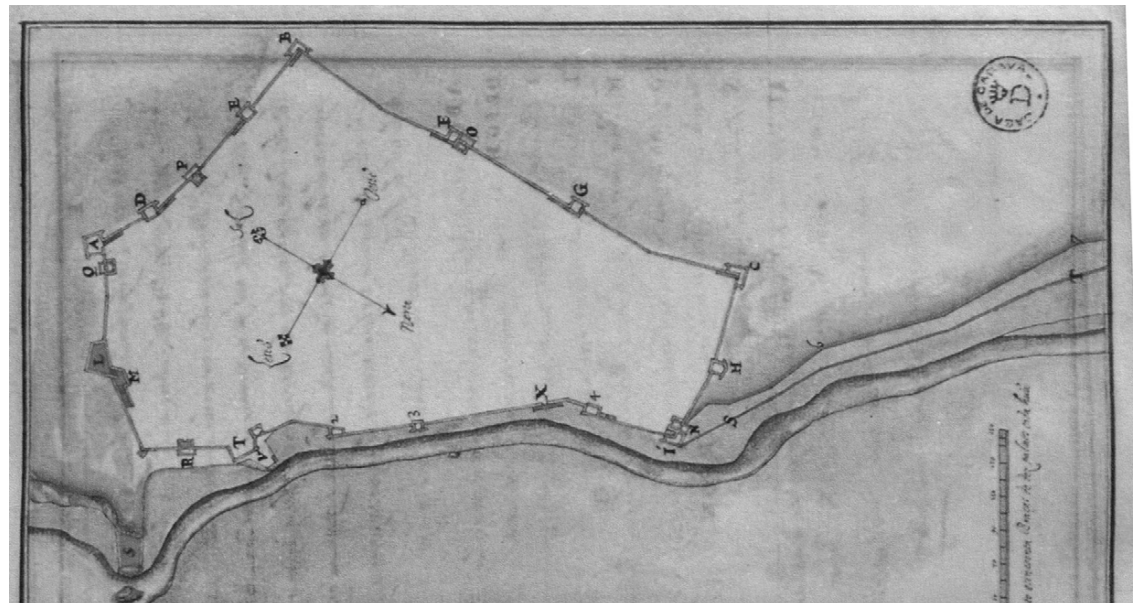


fig. 2 Historical drawing - Lagos plan in 1621 *Historical Archive*



pan. 4 Urban plan - 18th century

It is obvious that at this moment of Lagos' history the city needed a long but necessary **reconstruction period**: since the hard moment, the first works have been the hospitals made of wood to cure the people who have been injured.

Then, military engineers started to think how to rebuild the defensive walls and all the military buildings; the focus has been paid also to the churches and the cultural constructions destroyed by the natural disaster.

The biggest labour though has been the restoration of the streets around the city: soldiers, civil and also young people have been employed in this work because for a long time these have been not viable and the circulation through the town was stopped.

All this reconstruction period lasted until the first decade of 19th century which has been a deep transformation moment in the history of the city especially under the urban point of view: in fact, in this years the city started to grow **outside the defensive walls** and this will be the beginning

of the huge following expansion.

The centuries from the 18th to the 20th have been periods of big changes in terms of development and technological advancements for all the country and also for Lagos: in 1822, due to the revolution started from Lisbon, the monarchy has been replaced by the constitution of the first **República Portuguesa**<sup>3</sup>.

After this, the firsts tourists flows around the country have started thanks to the construction of a new and more developed railroad: these years will be fundamental for Lagos and for Portugal which will be characterized by an economical increasing and infrastructures improvements especially on fishing and naval fields because of the **Industrial Revolution**.



fig. 3 Historical drawing - Algarve in 1794 *Historical Archive*



pan. 5 Urban plan - 19th century



In the 20th century, the main economical activities of Lagos were still the harbours and fishing: unfortunately due to the **World War II** several factors like the silting up of the port and the terrible decreasing in fish production have hardly hit the economy of the city.

However, the decline of a strong sector as the fishing one moved the focus and the corresponding success to other fields: a powerful growth of the **tourism** not only thanks to the beautiful beaches and natural environments of Lagos, but also to the construction of the airport in **Faro**<sup>4</sup> which incredibly increased the amount of visitors to the Algarve region until today.

It is in this century that the **identity** of Lagos starts to be recognized as a beautiful sea place inhabited by a big community of fishermen. Simultaneously, it continues the great expansion of the city itself towards the lands outside the defensive walls which by now become just a landmark losing their function of defence and protection. At the beginning of this expansion, a lot of

**industrial centres** and **factories** were built outside the walls and consequently they required the construction of dwellings for the workers and also new roads and public transportation to better connect these areas.

The street network has been deeply improved not only for the internal connection but also for the external one: with the highway **N125**<sup>5</sup> Lagos has been linked with all the big cities along the Algarve coastline, becoming more and more interesting and accessible for national and international tourists.

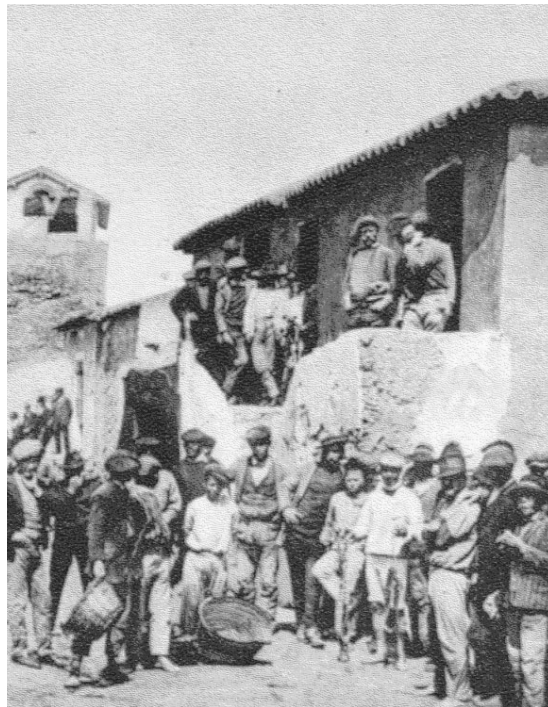


fig. 4 Historical picture - Rua da Ribeira *Historical Archive*

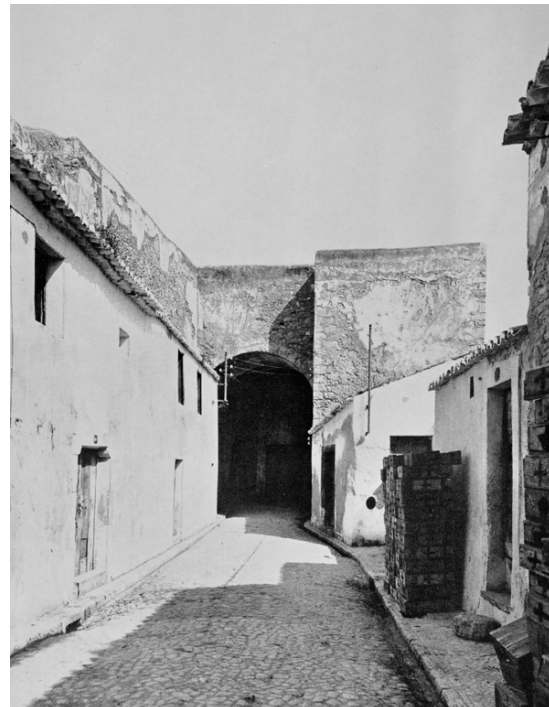


fig. 5 Historical picture - Rua da Ribeira\_2 *Historical Archive*



pan. 6 Urban plan - beginning of 20th century

Since the great expansion, in 1953 the city of Lagos starts to need a mobility element that can connect all the urban fabric from North to South: in order to satisfy also the will to have a new kind of landmark and a better relationship with the waterfront, the **Municipality** decided to start a huge work of extending the city toward the river basically adding a new piece of city.

So, in 1960s it has been realized the **Avenida dos Descobrimentos**: reducing the water space and adding earth along the river, Lagos is changed forever. The former coastline will not exist anymore except in an ephemeral and conceptual way in the points of the city where were left some old peers and naval supplies.

Together with this new main road, another radical transformation took act: the **Marina de Lagos**<sup>6</sup> was built on the other bank of the **river Bensafrim**, constituting a new place for fishermen to settle and work, a place to face the city with its main activity, a place to welcome pleasure boats such as yachts and cruisers and so much more.

In the following years, Lagos became one of the main attractive cities in the south of Portugal achieving undeniable results under every point of

view.

For all these reasons, it continued to grow under urban level reaching almost 3 times its size at the beginning of the 21th century.

A development process maybe too fast has generated new concerns such as the **Gentrification**<sup>7</sup> which basically moved away the residents from the historic centre to the suburbs contributing to an emptier city centre.

The **touristic flows** made Lagos great in the beginning but it also slowly caused a growing breaking of the relation between the residents and the city itself, already provoked from public works such as **Avenida dos Descobrimentos** which if, in one hand succeeded to better connect the city, on the other hand it had a damaging impact for the historical core and for the relation between the city and the water: basically, this road is today considered more an element of division rather than a good circulation element.

More recently, also the building up of the **subterranean parking** lot along the river ruined this relationship with the waterfront, not only under the aesthetic and conceptual point of view, but also being an element in advantage of the traffic and not of a pedestrian mobility.

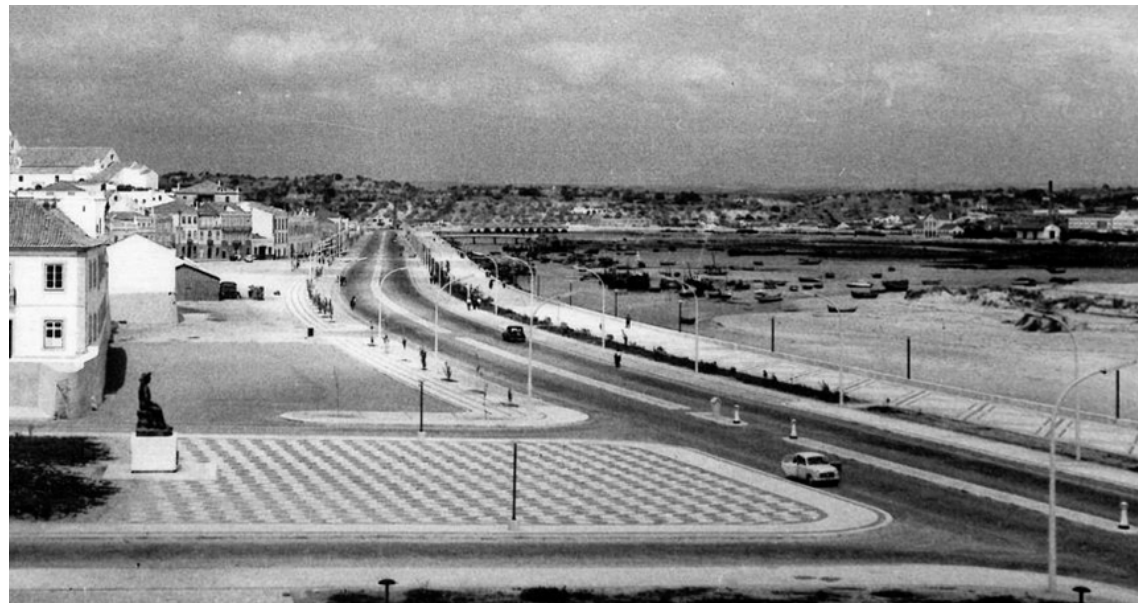
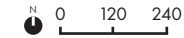


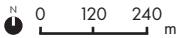
fig. 6 Historical picture - Avenida dos Descobrimentos Historical Archive



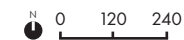
pan. 7 Urban plan - 1953



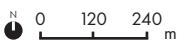
pan. 8 Urban plan - 1960s



pan. 9 Urban plan - 1990s



pan. 10 Urban plan - 2021



## 1.2 THE ECOSYSTEM OF LAGOS

### topography, climate, river, dunes, greenery

One of the main characteristics of the Portuguese cities is the relationship between the urban system and the **physical composition** of the natural environment where they are.

As *M. C. Teixeira* explains in his book *"A forma da cidade de origem Portuguesa"* the first move of the settlement was to follow the water streams and establish itself along these: then, the people started to see and know what was around deciding a functional division of the town's areas according to the physical properties of the environment.

The **topography** of the land, indeed, has been fundamental for the choices of placing the initial urban core, for the perimeter and the resulting defensive system, and to localize the main buildings in the highest and most dominant points.

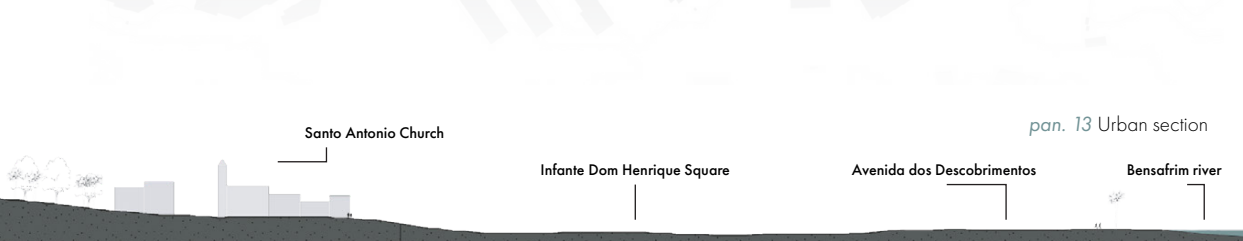
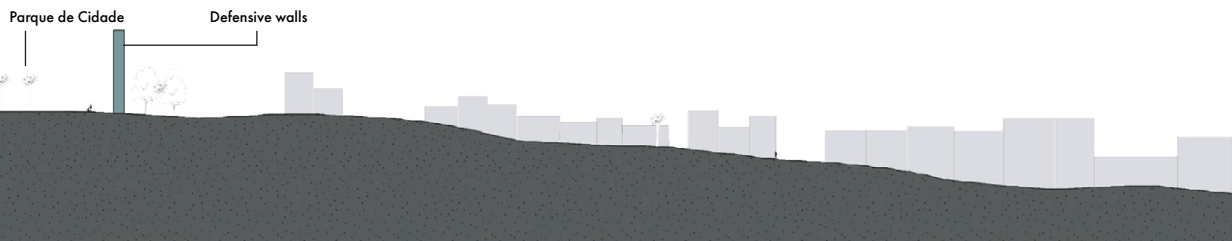
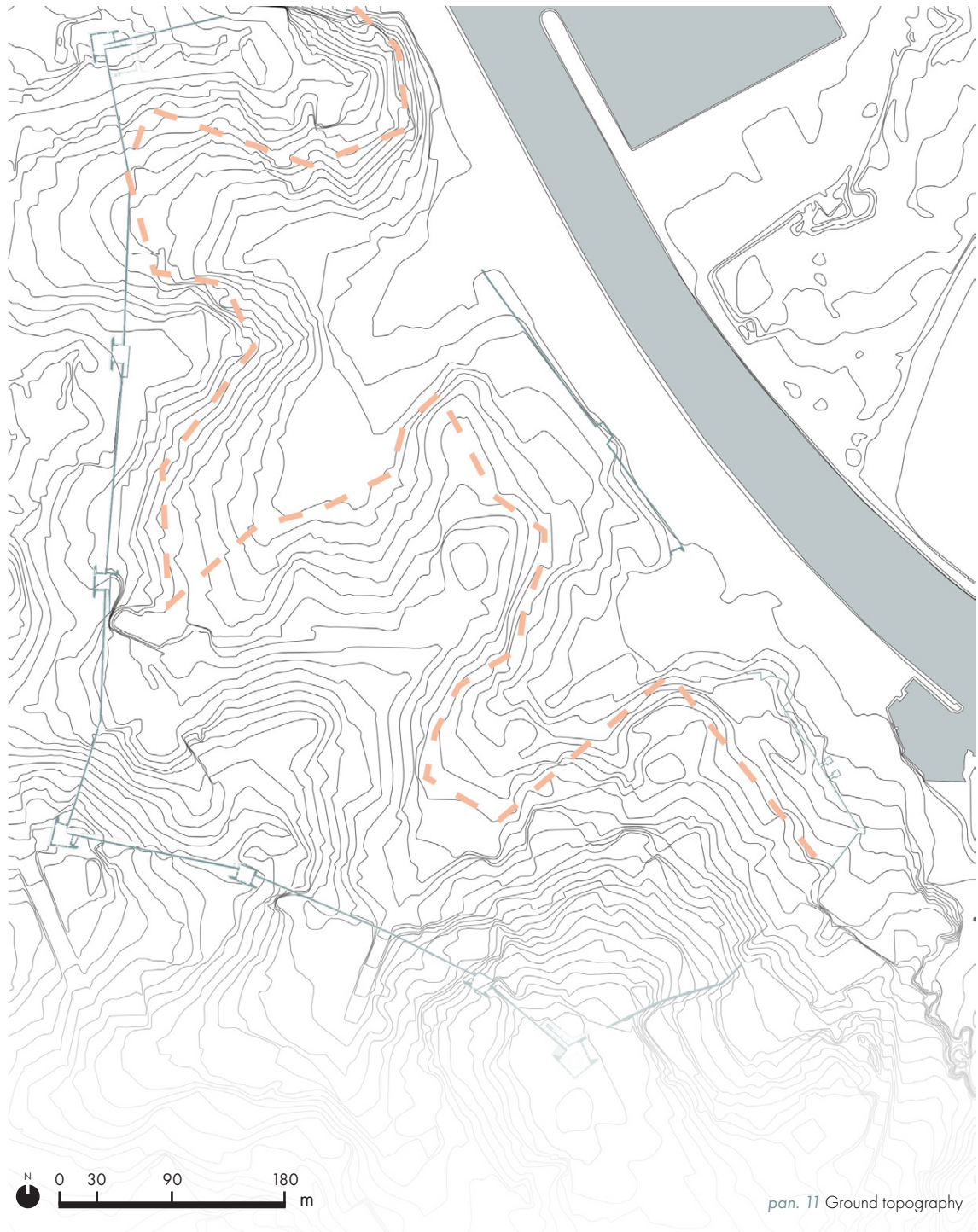
In the case of Lagos, where the first settlement, started along the mouth of the river Bensafirim to take advantage of the water path but also to stay repaired in case of attacks.

From this first settlement, the urban fabric started to grow according to the contour lines shown in following drawings: starting from the more internal part, the ancient defensive walls occupy one of

the highest line in the city just because formerly they were used for protection purpose and as watchtowers.

As we go toward the river, the land slowly goes down along *Avenida dos Descobrimentos* which is the only part totally flat and has an altitude of 3 meters which tries to protect the city from the river tide.

However, the topography of Lagos is very complex and it characterizes deeply the shape of the city; it varies the elevation a lot and it can be distinguished a series of small hills inside the perimeter of the walls, which correspond also to the dashed line in *"Pan. 11 Ground Topography"*: it corresponds to the point where the water arrived due to the **earthquake of 1755**<sup>8</sup> and it is still today considered by the Municipality as a critic point for the eventual future seismic events.



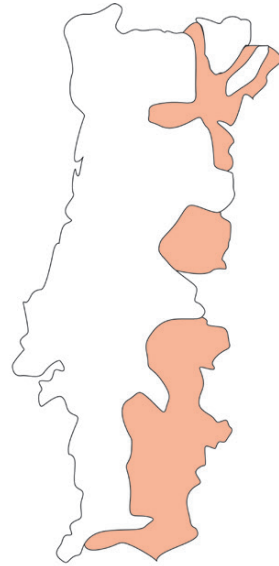
Another important issue about the ecosystem in Lagos is the **climate**: the city is part of the dry and hot continental zone which is a kind of environment very present in Portugal.

This weather is characterized by very high temperature in Summer with dry and hot wind, and moderate temperature in Winter with dry and cold wind.

The **rainfall** is about an average of 600 mm and, even if it is not so much, it results to be a problem for Lagos because of a lack in the drainage system of the urban fabric: in fact, this concept is explored in the following strategical phase with the proposal of the **Water Traces System** which can not only drain the water through the city, but also collect it to be a reservoir of rainy water.

This rainfall issue is strictly related to the **river tide** which is also a phenomenon that floods the city along the coastline: also here, will be proposed a technological system to solve this problem which deeply affects the waterfront area.

So, the **water**, due to these environmental conditions, is considered a critic point for Lagos, even if from its birth this element covered a fundamental and distinctive role, being the real **identity** of the city.



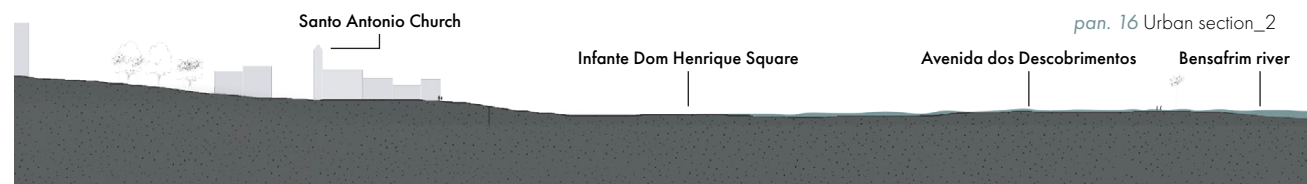
pan. 14 Dry and hot continental zones in Portugal



fig. 7 Bensafrim river's mouth vecteezy.com



pan. 15 Flooded area of the city



pan. 16 Urban section\_2

Also, the river consists in the core of the city and should be more considered even as a connection between the two banks: on the other side, in fact, there is “*Marina de Lagos*”, the place where all the maritime activities are carried out and next to it the **dune system**?

This last one, is almost a filter between the industrial and urban part of the city and the series of beaches “*Praia de São Roque*” and “*Meia Praia*”: it is a system that changes continuously due to the wind and other elements, and it is considered as a huge natural heritage for Lagos that must be preserved.

Another important theme under the natural circumstances is the lack of **green areas**: today, the only ones can be recognized in:

- “*Parque da Cidade*” which is an artificial park located outside the defensive walls;
- “*Jardim da Constituição*” which is located near *Praça Infante Dom Henrique* and connect the square with the ancient entrance of the wall “*Porta*

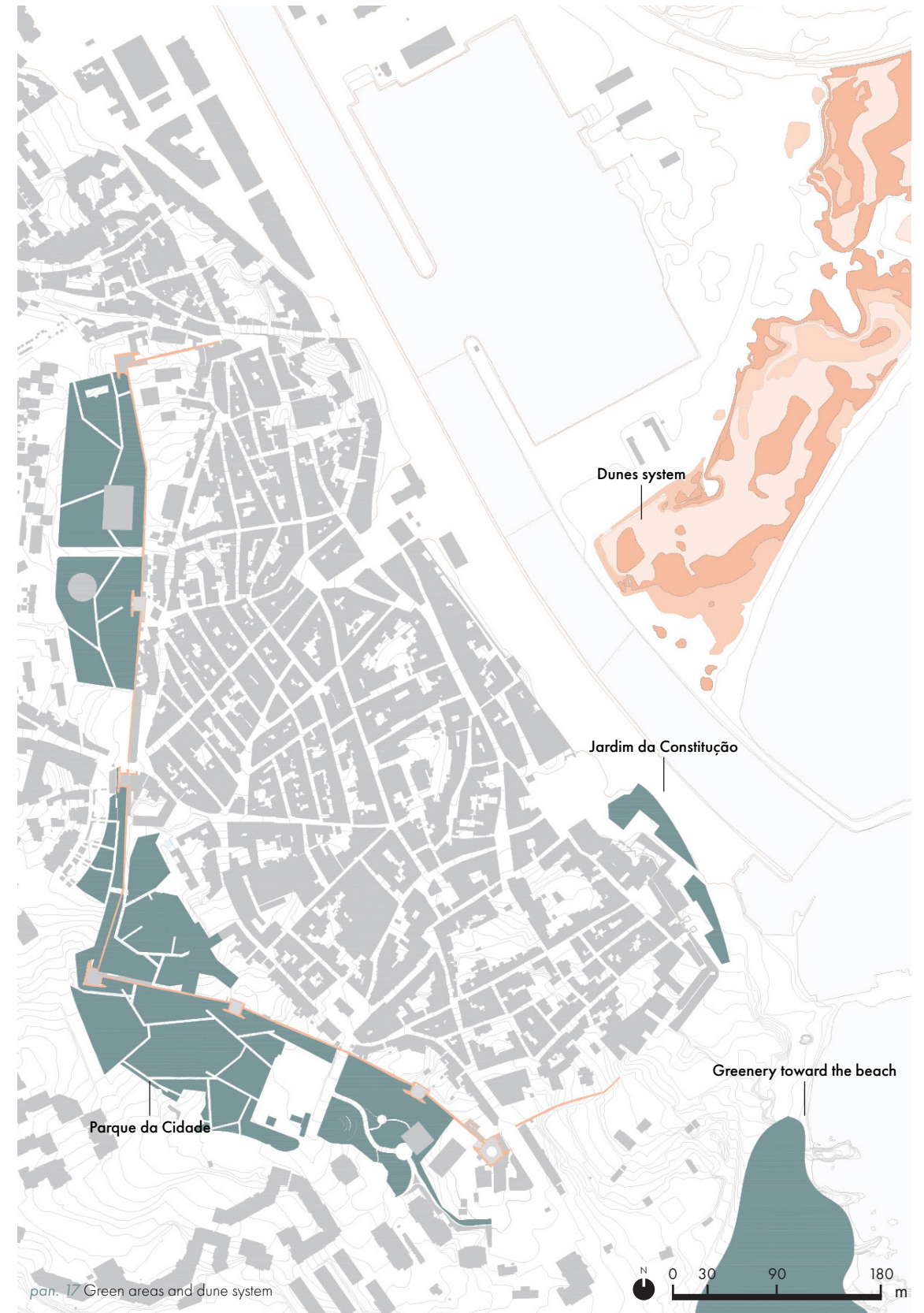
*de São Gonçalo*”;

- the inner courtyards which are mainly filled with semi-public gardens;
- some natural vegetations along the beaches.

This scarcity of greenery is a huge problem under the sustainability point of view that must be considered.



fig. 8 Areal view with dunes system [algarve-portal.com](http://algarve-portal.com)



## 1.3 THE BUILT HERITAGE OF LAGOS

### uses and functions

The **shape** of the Portuguese city is the result of long and complex processes due to different kind of phenomenons. In some way, it presents some of the characteristics of the European cities but also the effect of years and years of foreign influences coming from Brazil, Africa and all the population that have settled in it.

However, the Portuguese cities, and with these clearly also Lagos, have succeeded over time in defining their own particular **image of the city**, which can be recognised in every part of the country.

For instance, the city *“does not contradict the picture of nature, and its silhouette intertwines with the line of the landscape”*<sup>1</sup>, which implies that it is always recognizable for its well integration with the environment: the topography of the land has been often translated directly in the main urban routes, never contradicting the nature.

Despite this, Lagos presents today a really **dense urban fabric** which also means that the streets are small and narrow, there is a lack of public spaces and nowadays the urban mesh does not allow to build large and open space as parks or green areas.

It seems a sort of a small **labyrinth city**: a lot of series of unravelled and intertwined streets and spaces that follow on from one another, creating unexpected surprise effects at the end.

However, the shape and the archetype of the labyrinth means a lot more than a compact structure, but also an incredible mix of diversities and socialites.

*“The spontaneous agglomeration or the urban suburb has enormous potential to respond to diversity. They are born and grow out of it and are therefore labyrinths where difference can be better camouflaged or extinguished. The suburb could be, contrary to the violence of exclusion, the city of tolerance, of the mixing of races, customs and tastes, the city of freedom, if there were spontaneity in this world of manipulated consensus.”*<sup>2</sup>

1. Teixeira C. M., 2012, “A forma da cidade de origem Portuguesa”, Fundação Editora da UNESP (FEU), São Paulo, Brasil

2. Costa A. A., Fernandes J. M., 1996, “Il Portogallo del Mare, delle Pietre, delle Città”, Litografia Tejo, Lisbon, Portugal



fig. 9 Bird view of the city Cinematic Drone



fig. 10 Bird view of the city\_2 Cinematic Drone





pan. 18 Nolli Plan



pan. 19 Urban morphology

In the urban fabric of the city of Lagos, the main feature is the presence of numerous **religious buildings**: churches, convents, parishes; cultural and **historical buildings** such as museums and monuments.

Most of the churches were built many years ago, around the 15th century, and have managed to withstand all the natural disasters the city has suffered: the 1755 earthquake, for example, which almost completely damaged all the city's buildings, was only one of the cataclysms to which the buildings were subjected.

The "Church of Santo Antonio" or "Church of Mercy", for instance, as Rocha M. J. P. writes in "Monografia de Lagos", was already very important in the 15th century and its partial reconstruction due to the damage caused by the earthquake, was very desired by all the people.

In addition to religious buildings, there are some cultural buildings such as museums and historical monuments as the ancient defensive walls with

their majestic and fortified entrance *Door of São Gonçalo*.

The presence of all this cultural and historical sites is for sure a plus point for the city of Lagos, especially from the point of view of economic return through **tourism**.



fig. 11 Church of St. Sebastian [wikipedia.org](https://www.wikipedia.org)



fig. 12 Church of St. António [travel-in-portugal.com](https://www.travel-in-portugal.com)



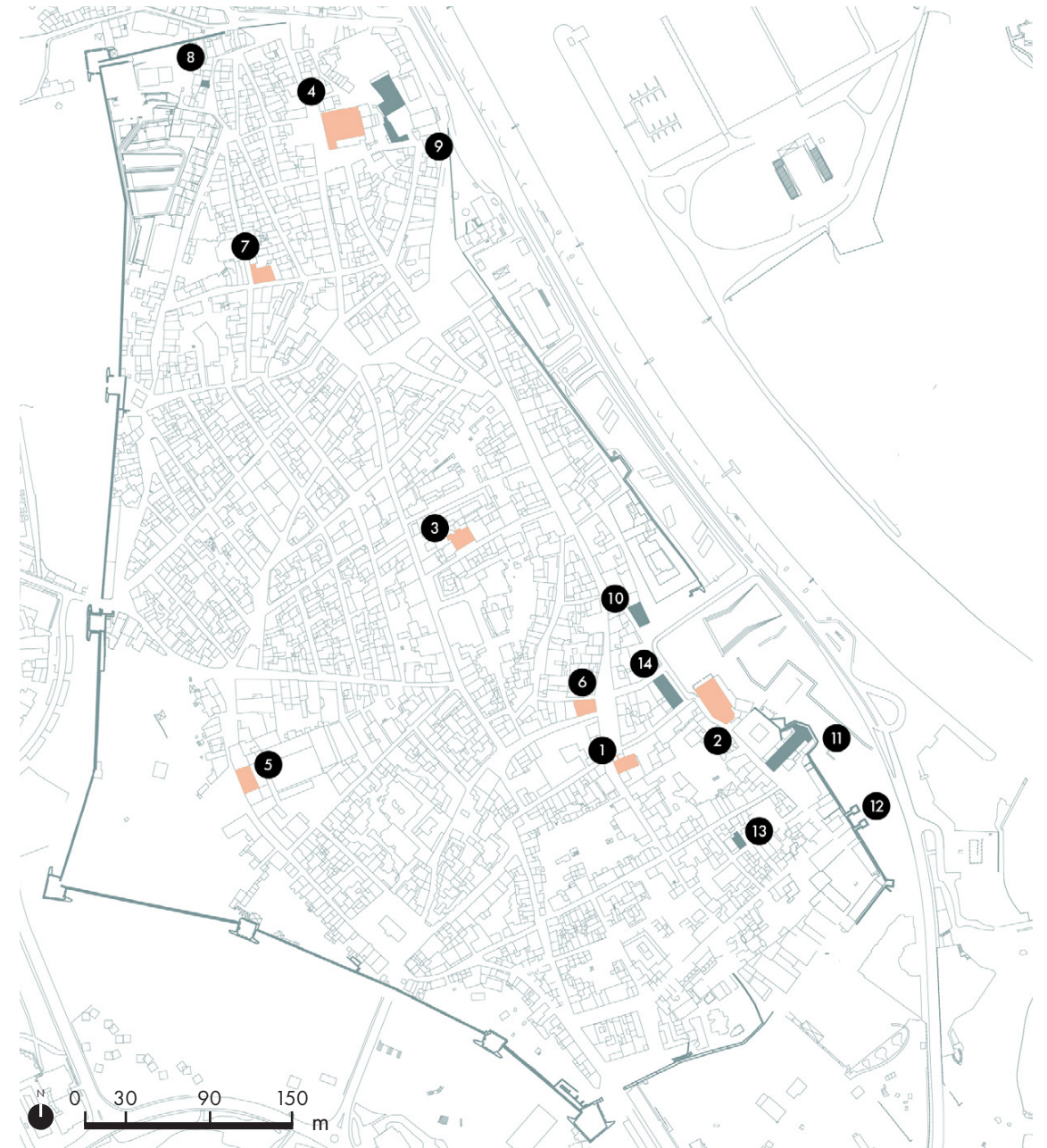
fig. 13 Ancient warehouse "Armazém Regimental" [blogs.sapo.pt](https://blogs.sapo.pt)



fig. 14 Arch/Door of São Gonçalo [euroveloportugal.com](https://www.euroveloportugal.com)



fig. 15 Science Museum of Lagos [google.com](https://www.google.com)



- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>1. Church "Paroquial de Santa Maria de Lagos"</li> <li>2. Church of St. António</li> <li>3. Oasis Christian Fellowship</li> <li>4. Church of St. Sebastian</li> <li>5. Church of "Nossa Senhora do Carmo"</li> <li>6. Church of "Compromisso Marítimo de Lagos"</li> </ul> | <ul style="list-style-type: none"> <li>8. House Museum - José Manuel da Graça</li> <li>9. Science Museum of Lagos</li> <li>10. Slavery Market Museum</li> <li>11. Lagos' Castle</li> <li>12. Arch/Door of São Gonçalo</li> <li>13. Ancient warehouse "Armazém do Espingardeiro"</li> </ul> |
|---|--|

pan. 20 Cultural, Historical and Religious buildings

The dense urban fabric of the city of Lagos makes it extremely complicated to open up space: this phenomenon leads to a **lack of public spaces** and, for example, large portions of the urban centre without a real meeting place or even a small square.

However, there are some squares that are considered to be major meeting points, such as “Praça de Gil Eanes”, “Praça do Infante Dom Henrique” and “Praça de Luís de Camões”: in these cases, however, a very important component comes into play, namely **functionality**.

The activities carried out in these squares today are usually dedicated to attracting tourists and therefore full of commercial activities such as restaurants and bars, **lacking real social activities** such as meetings and events.

In the following paragraphs, in fact, it will be possible to see on a more detailed scale how the most central area of the city’s historic core, namely “Rua 25 de Abril”, which connects

the two main squares “Infante Dom Henrique” and “Gil Eanes”, although enjoying a very high architectural and social potential, is almost entirely dedicated to tourist-commercial activities while it could be utilized to increase the social value of the community: the importance of these squares is very high.

“Squares play a key role in structuring urban spaces, reflecting their functional and symbolic importance. They are privileged places of encounter, exchange and sociability, condensing within themselves the political, social and economic reasons that historically led to the emergence and structuring of cities and that constitute their essence.”<sup>3</sup>

3. Teixeira C. M., 2012, “A forma da cidade de origem Portuguesa”, Fundação Editora da UNESP (FEU), São Paulo, Brasil



fig. 16 Praça Infante Dom Henrique wikipedia.org



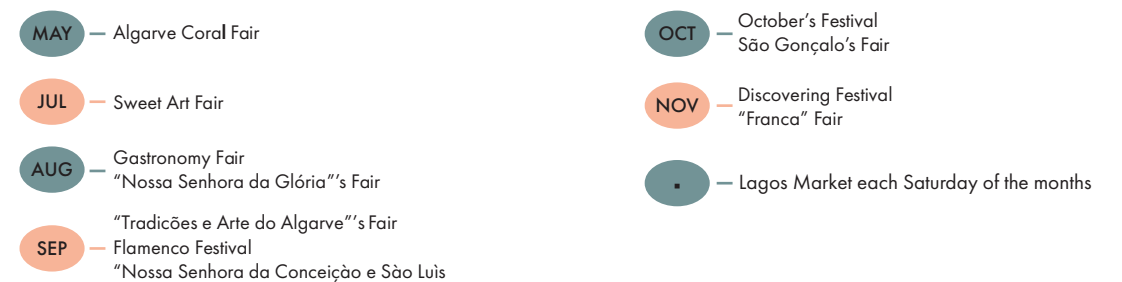
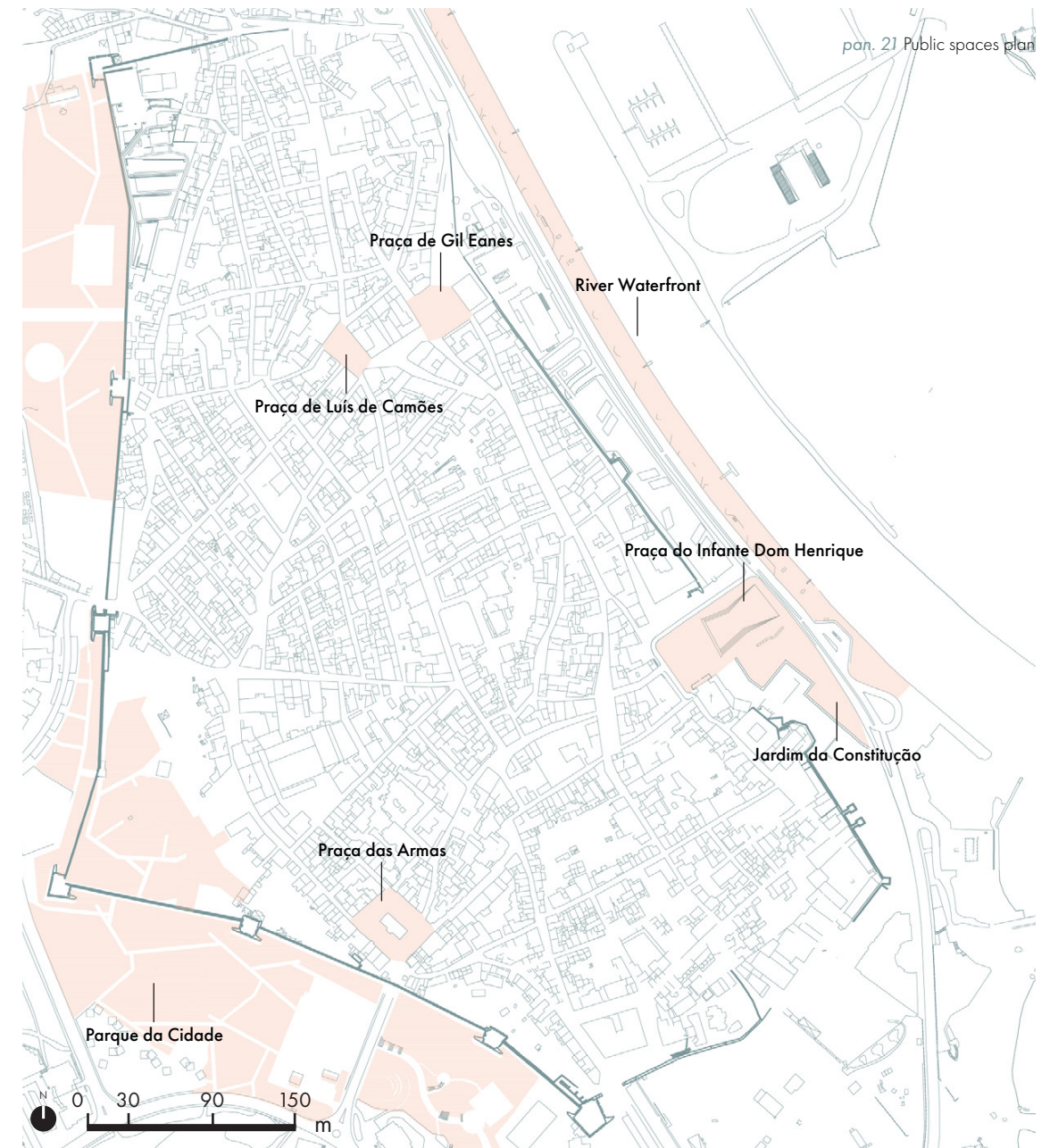
fig. 17 River's waterfront worldtraveloucan.com



fig. 18 Praça de Gil Eanes mapio.net



fig. 19 Parque da Cidade proap.pt



cha. 1 Events calendar Câmara Municipal de Lagos

As it can be seen in the analysis on the right page, in the core of the city centre there is a deep **lack of residential building**: this process is strictly related to the gentrification phenomenon which will be discussed deeply in the following chapters.

Anyway, on the bottom is possible to see some graphs explaining how the “**secondary residence**”<sup>10</sup> amount plus the “**different use**” one reaches the number of “**primary residence**”.

This means that these data, which refer to the area of the Lagos municipality examined so far, show how the residential built heritage is in a very delicate situation, since almost half of the people who own a house do not live in it but use it mainly to **rent to tourists** or for other purposes.

This situation though is extended and diffused at a different scale in all the **Algarve** region which, as Lagos, from one side enjoys the flow of tourists with its associated economic return, but on the other hand this area is at risk of becoming uninhabited for most of the year and also creates a huge gap

between the city and its citizens, who lose their sense of belonging to it.

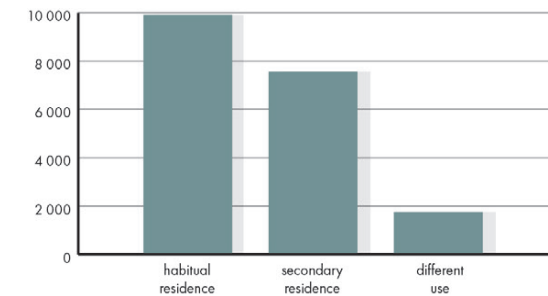
The question arises, what are most of the buildings in the historic centre dedicated to?



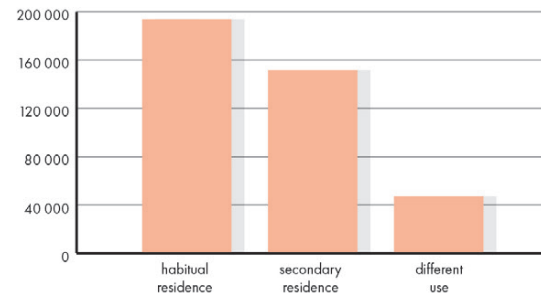
fig. 20 Residential building Avenida dos Descobrimentos Site survey



fig. 21 Residential building in the city centre Site survey



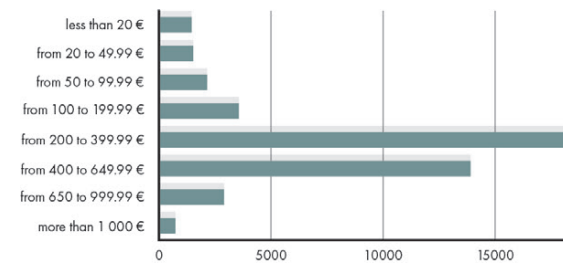
gra. 1 Residential buildings by uses in Lagos ine.pt



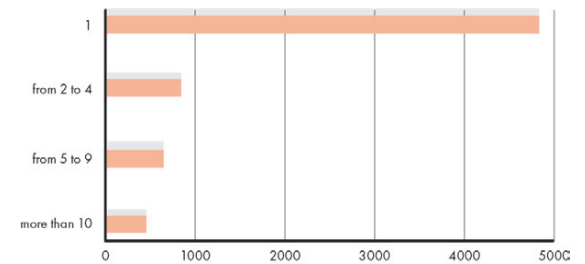
gra. 2 Residential buildings by uses in Algarve ine.pt



pan. 22 Residential building in the main city centre



gra. 3 Monthly rent for houses in Lagos ine.pt



gra. 4 Housing units per building in Lagos ine.pt

Most of the buildings in the historic centre are dedicated to **commercial purposes**<sup>11</sup>.

The large number of tourists who have been coming to Lagos for many years now find a range of services here in the centre, such as hotels, cafés, restaurants, bars, shops, as well as house for rent as seen in the past analyses.

The large amount of these services dedicated to tourists increases the city's approval rating but on the other hand, as can be seen on the right-hand page, they saturate the urban fabric.

Especially "*Rua 25 de April*" is the main street of this activity and also one of the main axis of the city because it connects the two principal squares.

We can say that Lagos is today a touristic place and it is slowly losing the sense of belonging of its citizens especially because it seems more dedicated to the foreign people who pass by for a few days rather than to them.



fig. 22 Rua 25 de April Site survey



fig. 24 Rua 25 de April shops\_2 Site survey



fig. 23 Rua 25 de April shops Site survey



pan. 23 Commercial building in the main city centre

- Bar and pubs
- Shops
- Restaurants
- Hotels

pan. 24 Urban section\_3



Last but not least, an important component of the built heritage of the city is a very particular and ephemeral one: the **invisible spaces**<sup>12</sup>.

These spaces can be recognized, for example, as the continuity of the buildings footprints like in the case of the **inner courts**: with their semi-public condition, most of the time they appear to be “invisible” to the city while actually they are strong components of the public areas network.

Some other instances can be the connection spaces perceived such as “*in-between*”<sup>13</sup> areas which in reality are important and physical link through the urban fabric, and could eventually become something else.

In such a dense urban fabric, even the smallest accessible or **semi-public open spaces**<sup>14</sup> can therefore become the object of design strategies aimed at including them in urban operations and, in so doing, responding to the lack of public spaces in certain areas of the city and increasing the appreciation of the built heritage in its totality,

showing also what appears to be hide.

*“La città per chi passa senza entrarci è una, e un'altra per chi ne è preso e non ne esce; una è la città in cui s'arriva la prima volta, un'altra quella che si lascia per non tornare; ognuna merita un nome diverso.”*<sup>4</sup>

4. Calvino I., 1972, “Le città invisibili”, Arnoldo Mondadori, Milan, Italy



fig. 25 Invisible space - Accessible inner court Cinematic Drone



fig. 26 Invisible space - Accessible inner court\_2 Cinematic Drone



pan. 25 Invisible spaces plan

## 1.4 A SOCIAL AND ECONOMICAL PROCESS

### tourism, Gentrification and population

In order to understand the social and economic dynamics that have generated the great flow of tourists to Lagos and to the Algarve in general, and to draw a conclusion about the effects that this phenomenon has entailed, it is necessary to start by defining the different **classes of tourists**<sup>15</sup> and the **main purposes** that drive people to discover new places.

In fact, as defined by *Rodrigues Gonçalves A.* in his book *“A componente cultural do Turismo Urbano como oferta complementar ao produto - sol e praia - ”* it is possible to define in general **“tourist”** the one who spends at least one night in the place visited; more precisely then, we recognise **“excursionist”** the visitor who leaves the place visited without spending a night, **“holiday-maker”** the one who spends a certain number of nights in the tourist destination, and finally **“short-term tourist”** the one who spends at least one night in the place but his stay corresponds to a limited period.

In addition, it is also crucial to define the main reasons why these different profiles of travellers leave: **leisure**, such as cultural, beach and sports holidays, visits to friends and relatives; **professional**, in the sense of business trips for meetings and various presentations; and **other purposes** such as

study, health and transit.

However, due to the modern shape of the city which usually offer not only one kind of touristic purpose, the motivations could often be mixed.

Regarding in particular the Algarve region, and therefore also Lagos as one of the maximum exponents of the data that will be shown, it has already been mentioned during the paragraph “1.1\_The History of Lagos”, that the **beginning** of the incredible tourist flow can be assigned to the period after World War II:

during the **1950s**, the Algarve region invested heavily in the construction of major roads to provide a much faster connection between the major cities. These constructions coincided perfectly with the beginning of the **“Car Era”**<sup>16</sup>, which clearly revolutionised, and partly gave life to, the concept of holidays, giving everyone the chance to move around freely in the area.

Later, the umpteenth work, aimed at strengthening the already growing tourist wave of the time, was the realization of the airport of Faro inaugurated in July **1965**: this, increased incredibly the numbers of foreign visitors, European and not, in all major cities of the Algarve including Lagos.



fig. 27 Historical picture - Inauguration of Faro's Airport 11 July 1965 [newsavia.com](http://newsavia.com)



fig. 28 Historical picture - Inauguration of Faro's Airport 11 July 1965\_2 [sulinformacao.pt](http://sulinformacao.pt)



Indeed, in the “*Planeamento turístico do Algarve – 1ª parte*” edited by “*Gabinete de Estudos e Planeamento*”, it is shown the incredible **growth** in the number of tourists in the **Algarve** between 1955 and 1965 is shown, which are in fact considered to be the turning point years for this particular economic sector.

*“In no other region of Portugal has the expansion of tourism been faster in the last decades than in the Algarve.”*<sup>5</sup>

As the figures in the graphs show, the growth was mostly exponential, going from an influx of 1% of tourists in Portugal to 11%, making **Algarve** an increasingly popular destination and the only one, along with “*Praia do Litoral Ocidental*”, to have an increasing rather than decreasing flow of tourists.

Obviously, this growing flow of tourists was the main driving force behind the development of the cities in this region: as the demand for tourism increased, the cities needed to speed up the expansion of their offerings, such as increasing

their number of **host structures**.

However, this development of the two sides of the coin, **supply** and **demand**<sup>17</sup>, did not take place in parallel; rather, supply responded somewhat late, only really starting to progress from 1962. Nevertheless, in just three years the capacity of host structures has almost doubled, with an average annual increase of 18.2%.

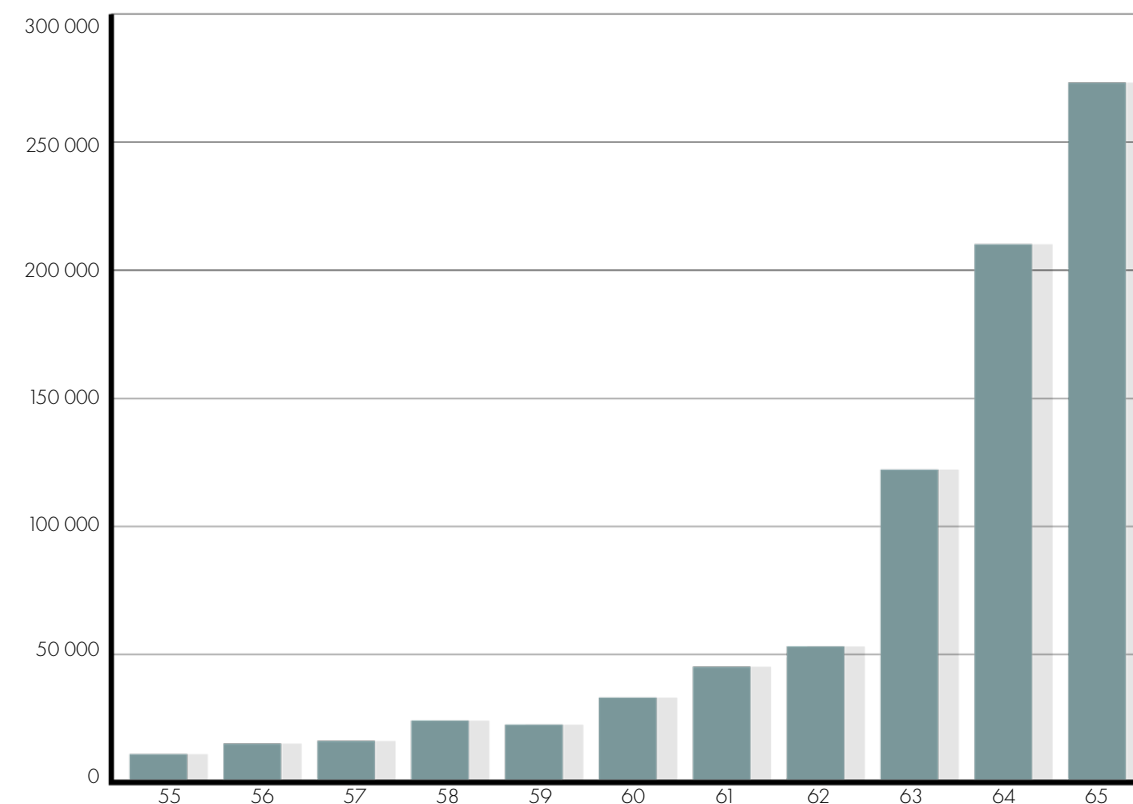
Thanks also to this sudden increase in supply, the region has ensured that it can continue to host more and more tourists, which, according to the “*Comissariado do Turismo*”, is one of the key points on which to make forecasts in this sector:

*“Under these circumstances, the most important factor to examine when making forecasts about the future development of tourism in the Algarve in the short and medium term is certainly the estimate of the probable annual increase in accommodation capacity.”*<sup>6</sup>

<sup>5,6</sup> Comissariado do Turismo, 1966, “*Planeamento turístico do Algarve – 1ª parte*”, Gabinete de Estudos e Planeamento, Lisbon, Portugal

	1962	1963	1964	1965	AVERAGE ANNUAL VARIATION
Host structures capacity in Algarve	2 459	2 872	3 690	4 067	-
Variation of capacity in Algarve (%)	-	+16,8 %	+28,5 %	+10,2 %	+18,2 %
Host structures capacity in Lisbon	56 096	57 366	59 344	61 592	-
Variation of capacity in Lisbon (%)	-	+2,3 %	+3,4 %	+3,8 %	+3,2 %

cha. 2 Average annual variation of the host structures capacity “*Planeamento turístico do Algarve – 1ª parte*”



gra. 5 Annual evolution of overnight stays in Algarve 1955 - 1965 “*Planeamento turístico do Algarve – 1ª parte*”

ZONES	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Algarve	1%	2%	2%	2%	2%	3%	3%	4%	7%	10%	11%
Lisbon	62%	61%	62%	64%	62%	64%	61%	59%	56%	55%	56%
Madeira	15%	13%	12%	10%	9%	8%	9%	11%	12%	10%	10%
West litoral coast	4%	5%	3%	5%	7%	8%	9%	8%	7%	7%	7%
Porto	7%	7%	6%	4%	6%	5%	5%	5%	4%	4%	4%
Azores	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Other zones	10%	11%	14%	14%	13%	11%	12%	12%	13%	13%	12%
TOTAL	100	100	100	100	100	100	100	100	100	100	100

cha. 3 Distribution of overnight stays by zones “*Planeamento turístico do Algarve – 1ª parte*”

Another important instance about this period, is the **internal tourism**<sup>18</sup>: even if the official data about this topic have been registered only starting from the 1964, it is possible to see the ones about 1965 where the internal touristic flow is compared to the foreign one, which will increase in the following years.

The explanation of this **incredible success** of the Algarve region in those years, and in particular of Lagos as we shall see, is explained in the “*Planeamento turístico do Algarve – 2a parte*”. Here, the *Commissariado do Turismo* defines 4 key points that a perfect tourist destination should have:

- **natural attractive assets** such as beaches and landscapes with good sizes and qualities, rivers and lakes or even woods, nice weather and warm temperature of the water;

- **necessary infrastructure** for tourists as road accesses, water and electricity supplies considering an increasing of the inhabitants in the main periods like Summer and Spring;

- **intensity of private activity** considering the promoters, businessmen and landowner who are interested to invest in advantage of the city;

- **functional supports** both material and human, regarding for instance the commercial and recreational services but the quality and capacity of the host structures as well.

The “**Baia of Lagos**” is in the end considered the place in Algarve which comes closest to satisfying these 4 purposes:

*“Having examined, in the light of the criteria set out above, the generic possibilities for the location of major development centres along the Algarve coast, the following stretches of coastline appear to offer the most favourable natural conditions for the location of such centres: 1.Baia of Lagos, 2.Armacao de Pera in Albufeira, 3.Cacela in Vila Real”*<sup>7</sup>

7. Commissariado do Turismo, 1966, “Planeamento turístico do Algarve – 2a parte”, Gabinete de Estudos e Planeamento, Lisbon, Portugal

	1° TRIMESTER	2° TRIMESTER	3° TRIMESTER	4° TRIMESTER
INTERNAL TOURISM	15,9 %	20,3 %	49,8 %	14,0 %
FOREIGN TOURISM	9,7 %	30,1 %	44,9 %	15,3 %

cha. 4 Percentage of internal and foreign tourists in 1965 by trimesters “*Planeamento turístico do Algarve – 1a parte*”

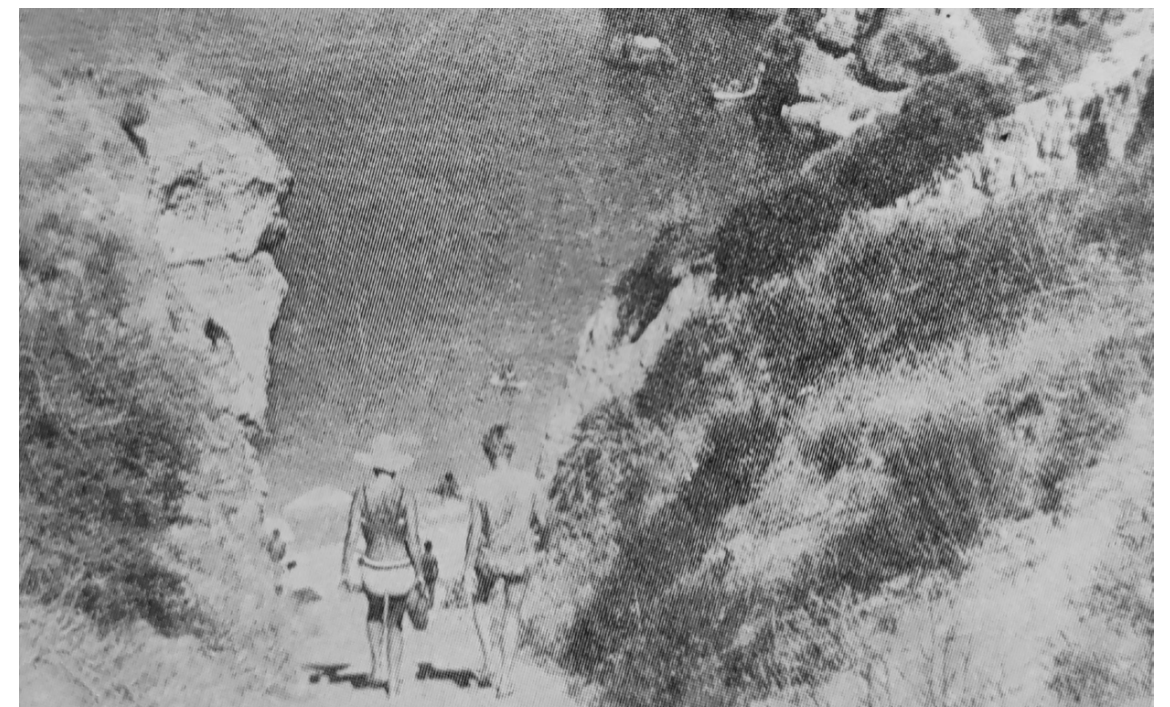


fig. 29 Historical picture - Algarve Summer holidays 60s *Historical Archive*

In the years that followed, Algarve and the city of Lagos continued to be one of the **main Portuguese tourist destinations**, playing an increasingly important role, thanks mainly to the constant development of the offer in response to growing demand but also to the **loyalty** of tourists who continued to choose this destination: indeed, the percentage of people who repeated the travel toward this region, is more or less constant through the years.

If until a few years ago the reasons for travelling were varied, in the 1980s in particular, the **“holiday” motivation** was increasingly consolidated. This process, on the one hand, ensured Lagos continued economic progress in the sector in question, on the other hand, it caused a **slowdown** in the development of the other sectors that, from now on, will become secondary.

Due also to the rapid growth in term of infrastructure, considering for instance the continuous expansion and development of the Faro Airport, the number of foreign tourists increased sensitively.

Another important issue to address from the 80s is the raise of the “Private apartments” as the main host structure to the detriment of all the others such as hotels, camping and so on: this factor is very important as it can be considered one of the first signs of the **“privatisation”** of the tourist issue in the Algarve, which will develop in different forms up to the present day, culminating in **Gentrification**.

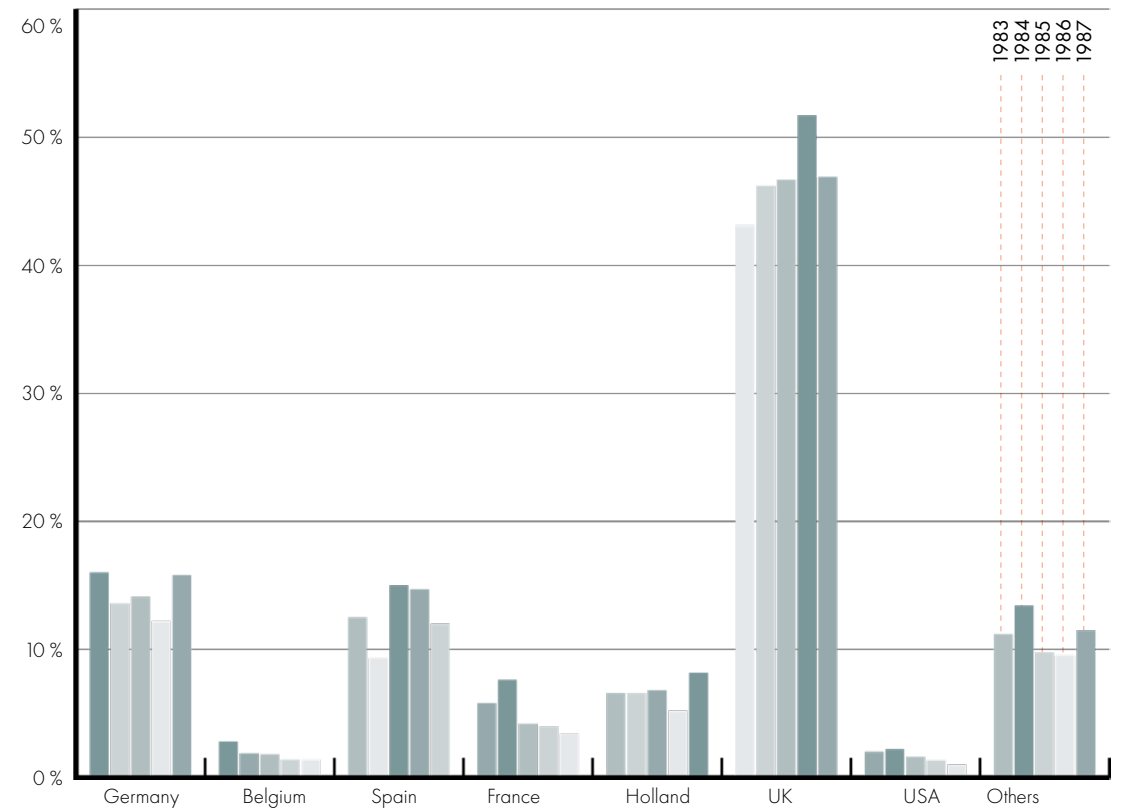
“Planeamento turístico do Algarve – 2a parte”

	FIRST TIME TRIP	SECOND TIME TRIP
1981	40,50%	59,50%
1982	39,40%	60,60%
1983	42,50%	57,50%
1984	49,50%	50,50%
1985	59,30%	40,70%
1986	58,90%	41,40%
1987	57,80%	42,20%

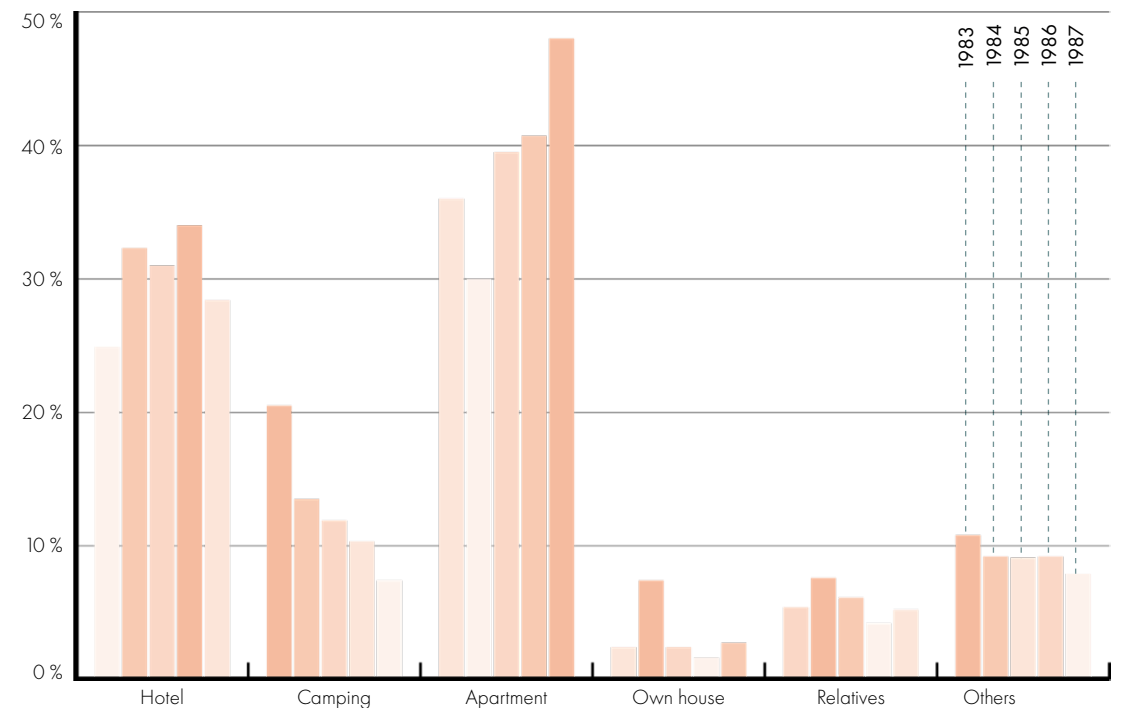
cha. 5 Travellers loyalty in the 80s “O turismo estrangeiro em Portugal”

	1981	1982	1983	1984	1985	1986	1987
Holiday	85,6%	86,2%	87,2%	86,3%	92,3%	88,5%	92,8%
Religious purposes	0,4%	0,3%	0,5%	0,5%	1,1%	3,3%	2,1%
Commerce	4,2%	5,1%	2,4%	2,4%	3,2%	3,7%	2,0%
Family and friends visits	1,6%	1,3%	1,1%	1,1%	1,2%	1,2%	1,1%
Sport activities	0,5%	0,6%	1,1%	1,0%	0,5%	0,5%	0,4%
Professional activities	0,5%	0,6%	0,2%	0,4%	0,3%	0,6%	0,3%
Study purposes	0,5%	0,2%	0,6%	0,2%	0,4%	0,9%	0,3%
Congresses	0,9%	0,8%	0,6%	0,5%	0,4%	0,4%	0,3%
Cultural purposes	0,6%	0,3%	0,3%	0,2%	0,4%	0,4%	0,2%
Health purposes	-	-	-	-	-	-	-
Other purposes	5,5%	4,5%	0,6%	7,4%	0,2%	0,5%	0,5%

cha. 6 Travel purposes during 80s in Algarve “O turismo estrangeiro em Portugal”



gra. 6 Tourists origin from 1983 to 1987 “O turismo estrangeiro em Portugal”



gra. 7 Types of host structures from 1983 to 1987 “O turismo estrangeiro em Portugal”

Nowadays, Algarve is still one of the most aimed destination for the over 21 million of tourists that every year travel to Portugal.

Averagely, it is every year the **third** region for people hosted in the host structures, right after “**Lisbon Area**” and “**North**”: obviously, as in every other place, it suffered the effect of the pandemic situation during 2020 and 2021, with a sharp drop in tourist flows.

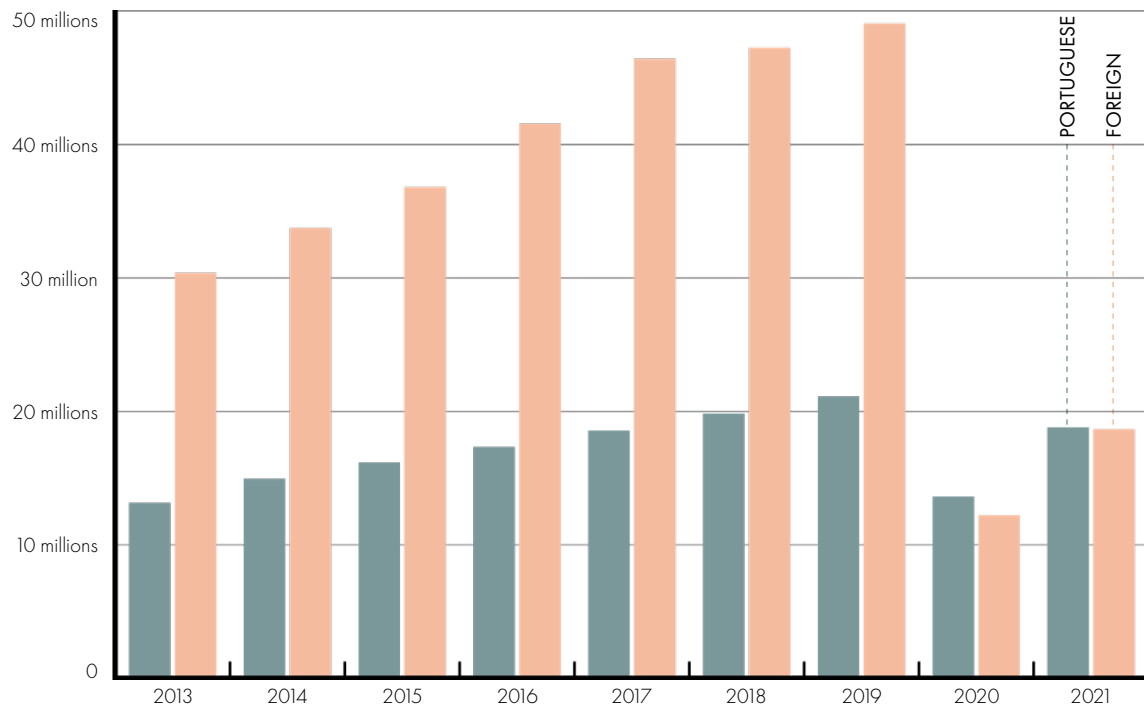
For what concern in particular the city of Lagos, is among the **top tourist destinations** in the region, although other destinations such as “**Loulé**”, “**Portimão**” and “**Lagoa**” are the firsts for people hosted during the last two years.

From all the data reported, it is possible to conclude that since 1950 there has been an irrepressible rise in tourist activity, which is still confirmed today by the statistics: the Algarve region and the city of Lagos, enjoy a privileged position from this point of view, their **economy** today is essentially based on the great flow of

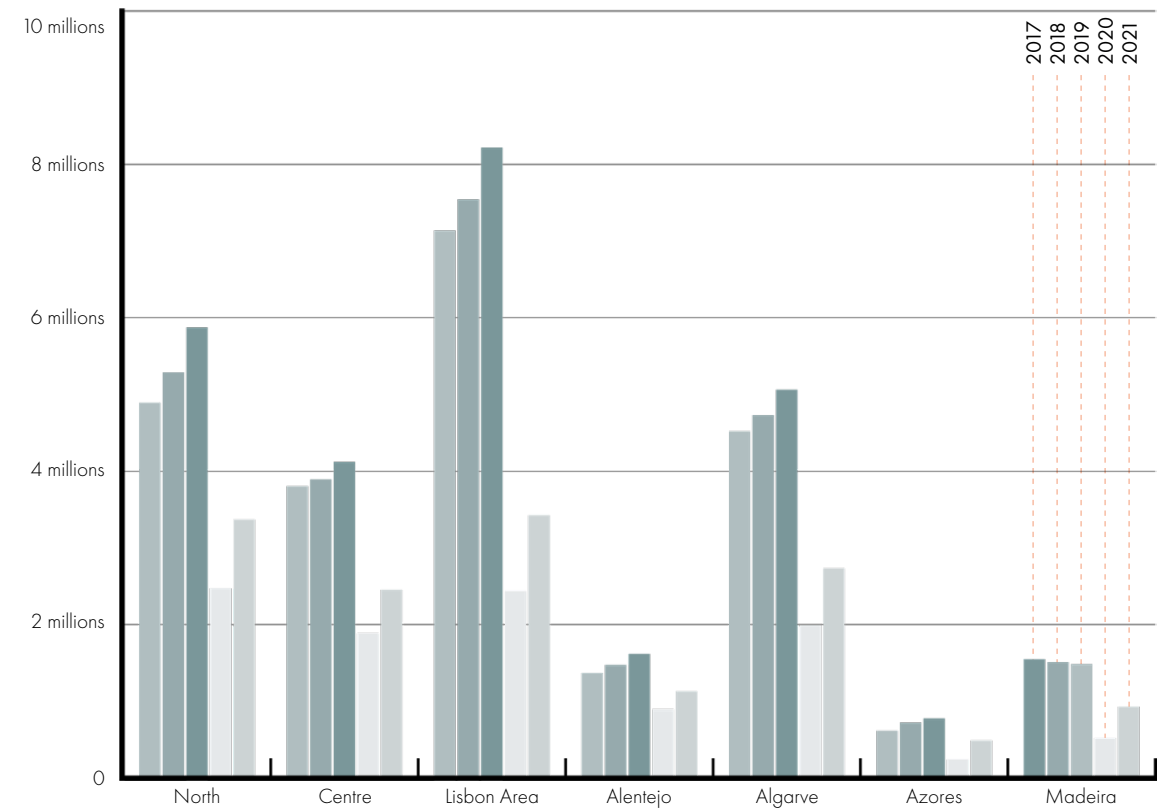
people who spend their holidays there every year, attracted by what A. Rodrigues Gonçalves calls the “**produto sol e praia - product sun and beach**”.

However, it is possible to see a deep change in the distribution of the tourists coming from Portugal and from foreign countries: while in the previous years the number of domestic and foreign tourists was more or less in balance, in recent years the situation has clearly shifted in favour of **foreign tourists**, with the only exception in 20/21 due to the pandemic<sup>19</sup>, which encouraged an increase in domestic travels.

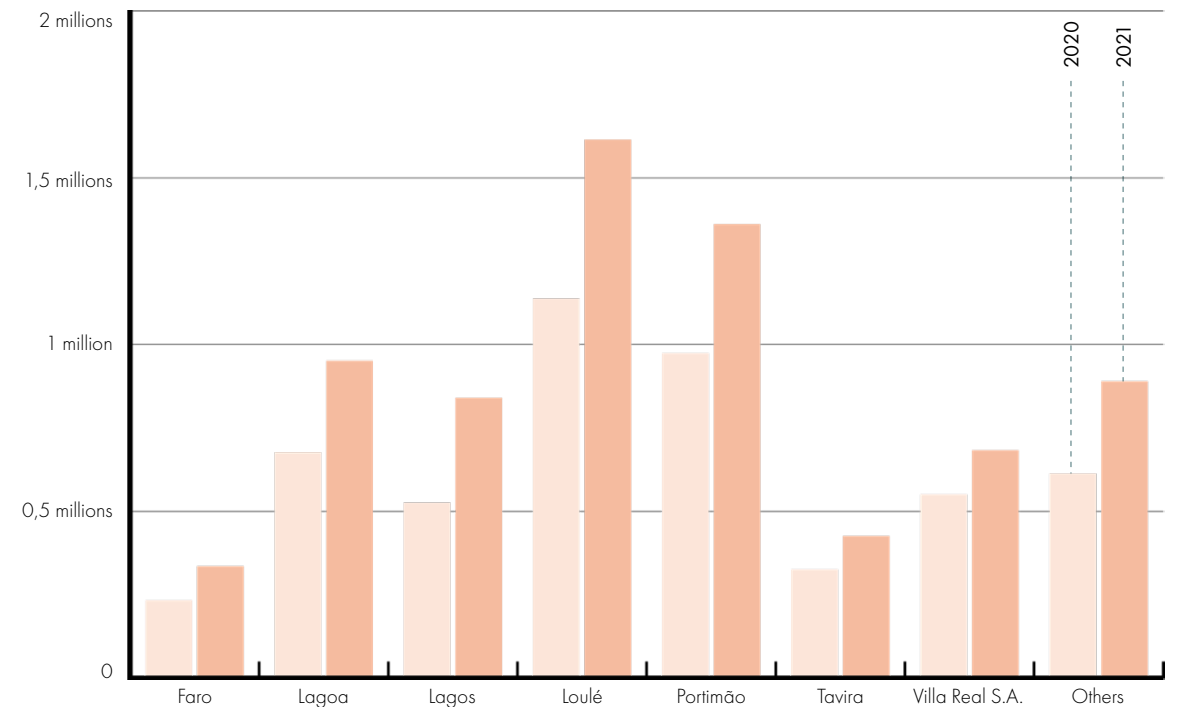
These data are very important because it is closely related to the massive **influx of foreigners** who, for years now, have been moving to the city of Lagos and in particular to the historic centre, causing a continuous increase in the **price of real estate** and a **relocation of citizens** to the peripheral areas of the city, i.e. outside the historic walls: this process is known as **Gentrification**.



gra. 8 People hosted in the host structures in Portugal per origin from 2013 to 2021 ine.pt



gra. 9 People hosted in the host structures per Portuguese region from 2017 to 2021 ine.pt



gra. 10 People hosted in the host structures in Algarve from 2020 to 2021 ine.pt

Around the 1980s the term **Gentrification** emerged first in **Britain** and then in the **USA** and, like many new concepts or processes, several definitions have been given.

*"[Gentrification is] the movement of middle class families into urban areas causing property values to increase and having secondary effect of driving out poorer families.*

- Oxford American Dictionary, 1980

*[Gentrification is] the restoration of deteriorated urban property especially in working-class neighbourhoods by the middle and upper classes.* - American Heritage Dictionary, 1982"<sup>8</sup>

Both of these definitions suggest the essence of a complex **economic process** with profound consequences in terms of **social change**, which takes place within the **residential sector** and shifts its balance, rehabilitating and renovating part of the residential heritage and transforming it into a district dedicated to the **upper-middle class**.

This process usually takes place if a few key

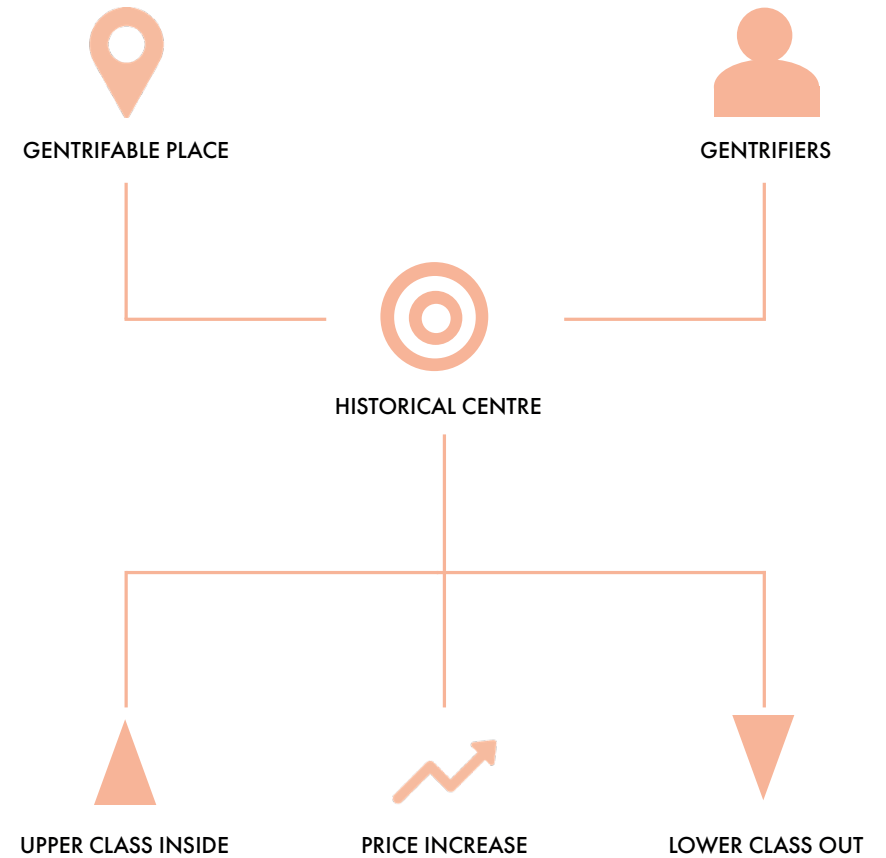
conditions are met: a "**gentrifiable place**" and "**gentrifiers**" as explained in the following quote:

*"The **neighbourhoods to be gentrified** are deteriorated, and occupied by lower- and moderate-income, often elderly, households. These residential areas are located close to the central business district, and often have peculiar amenities such as views of the skyline, access to parks, or some historical significance. [...]"*

*The gentrification process involves the purchasing of buildings by **affluent households** or by intermediaries such as speculators or developers, the upgrading of the housing stock, governmental investment in the surrounding environment, the concomitant changeover in local retail facilities, the stabilization of the neighbourhood and the enhancement of the tax base."*<sup>9</sup>

All these conditions are verifying in the city of Lagos.

8,9. - Smith N., Williams P., 1986, "Gentrification of the city", Allen and Unwin, Boston, United States



### EXPLORATION 1920 - 1960

- accessibility and transportation with low qualities
- tourism infrastructures poor
- construction of the firsts big host structures

### INVOLVEMENT 1960 - 1970

- starting of the investments in tourism sector
- inauguration of Faro Airport in 1965
- construction of luxury hotels
- Summer becomes "High"

### DEVELOPMENT 1970 - 1990

- increasing of low categories hotels
- defining of the product "Sun and beach"
- first investments of foreign people
- improving of the tourism infrastructures

### CONSOLIDATION 1990 - NOWADAYS

- huge increasing in the of the tourist flows
- developing of new markets
- developing of new tourism attractions
- tourism becomes the

### PEOPLE MIGRATION 2000 - NOWADAYS

- habit tourists decide to settle in Lagos
- foreign people start to buy properties
- citizens activities removed from the centre to put more profitable activities

### GENTRIFICATION NOWADAYS

- houses prices rise a lot
- low-middle class pushed away from the centre toward the areas outside the historical walls
- settling of a new upper-middle class in the centre of the city

For some years now, an increasing number of mainly European **foreigners** have been buying a large number of properties, especially residential ones, but not only: walking through the streets of the centre, one can see how the small businesses run by Portuguese people are gradually giving way to more modern businesses set up by the new foreign residents.

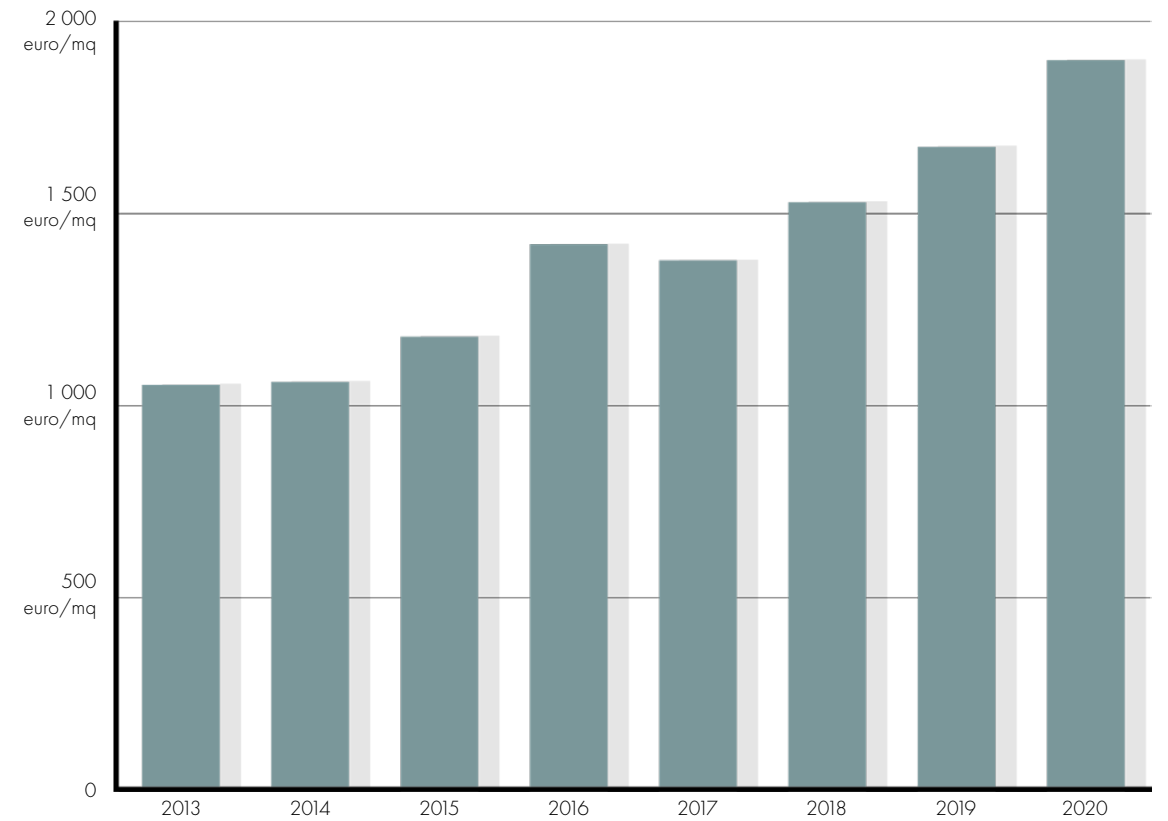
These **activities** obviously command much higher prices than the original Portuguese ones they are replacing, but they are also more attractive to foreigners now resident in the city. In fact, the form of the old Portuguese "tasca"<sup>20</sup>, the typical restaurants with generous portions and low prices, often family-run, fail to compete with the contemporary "coffee-bar" with its elaborate designs and marketing ideas: this process is also a symptom of the gentrification of the old town.

As for the prices of the **real estate market**, they too are showing signs of strong increase, both in the city centre and in some new areas where massive residential agglomerations are being

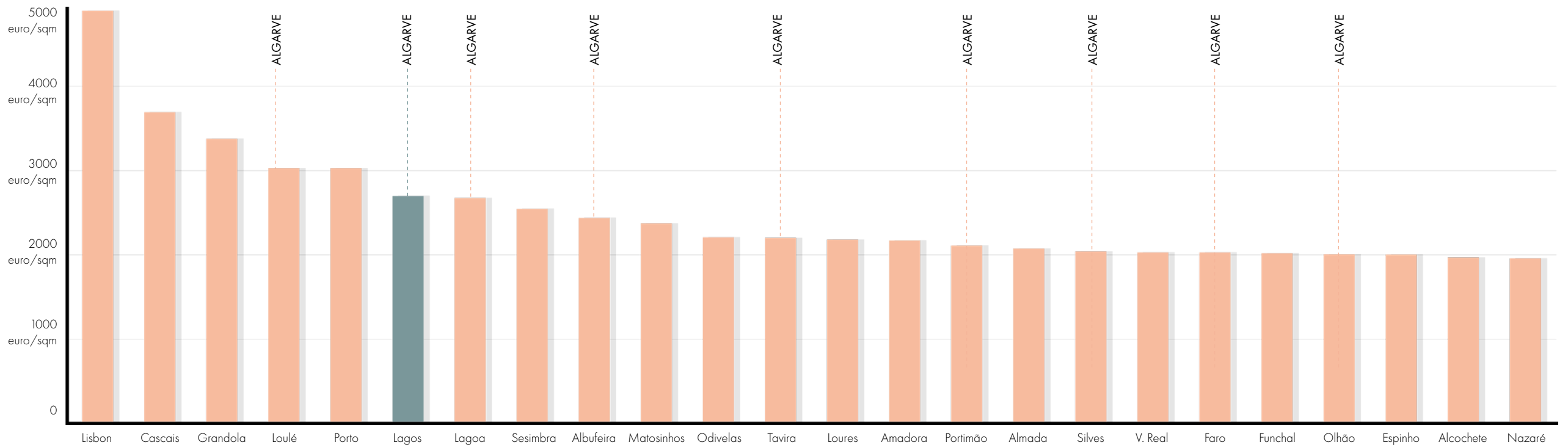
built, with apartments being sold at exorbitant prices to foreigners: the prices of today's real estate market are something that **Portuguese people cannot afford**, both in the case of new buildings, but also in the case of rents, which are increasing dramatically.

The **inevitable consequence** of this process is the displacement of Lagos' inhabitants towards the peripheral areas of the city in search of more affordable prices for their finances, while the historic centre is emptied of its essence and its sense of belonging to its citizens: the streets of the centre, the public spaces, the waterfront risk remaining spaces at the disposal of tourism and of the new foreign population that is slowly buying the city.

Today, Lagos is in the firsts 6 cities for the highest houses price: among the other ones, it is possible to find all the main towns of Algarve where, most of the time, the gentrification process is happening as well.



gra. 12 Price variation from 2013 to 2020 in the housing market of Lagos *ine.pt*



gra. 11 Most expensive Portuguese cities according to houses price *ine.pt*

## 1.5 THE MOBILITY OF LAGOS

### connections, public transportations and pedestrian areas

The issue of **mobility** is one of the most important when looking analytically at the functionality of a place.

Although we are used to thinking of the built environment as an immanent and immobile entity, it is in fact constantly **evolving**, just as the perception of it can be based on the road infrastructure.

In fact, all the elements that become part of the mobility sector, roads, car parks, crossroads, pedestrian areas, profoundly change the **perception** and **shape** of the city.

In the case of Lagos, it is enough to think about how much the situation has changed since the 20th century, a period in which large sums of money were invested to implement connections with other towns.

The **current state of mobility** will be analysed, highlighting the positive aspects such as the high accessibility of both private car and public transport, but also reporting the negative effects that these infrastructures cause within the city: **barriers** and **lack of connections** are some of the critical points that the city shows.

All these disadvantages do not remain an end in themselves, but profoundly **affect** the surrounding spaces, defining their level of quality and satisfaction rating of the people who pass by.

The risk, indeed, is really high: public space is often threatened by mobility solutions that may seem to be revolutionary in the first place, but suddenly they may reveal their **weaknesses** which it is up to each architect to remedy.



fig. 30 Historical picture - Avenida dos Descobrimentos\_2 *Historical Archive*



fig. 31 Historical picture - Avenida dos Descobrimentos\_3 *Historical Archive*



Although Lagos is located to the left of the entire **Algarve** region, thanks to investments made since the early 20th century in the mobility sector, there is now a strong connection between all the main cities along the coast thanks to **N125** freeway.

The construction of the latter, as already mentioned, is clearly due to the desire to have a system that could connect all the tourist destinations in the region and mainly with the **airport of Faro**, inaugurated in 11 July 1965, in order to provide greater accessibility to travellers and citizens.

In addition, the road in question is the one that allows people to reach the highway junction with the **A2**<sup>21</sup>, which leads to the country's capital: **Lisbon**.

Looking more closely at the connections with the surrounding areas to the city of Lagos, it can be seen that it is one of the most important **hubs** of the main routes in the area.

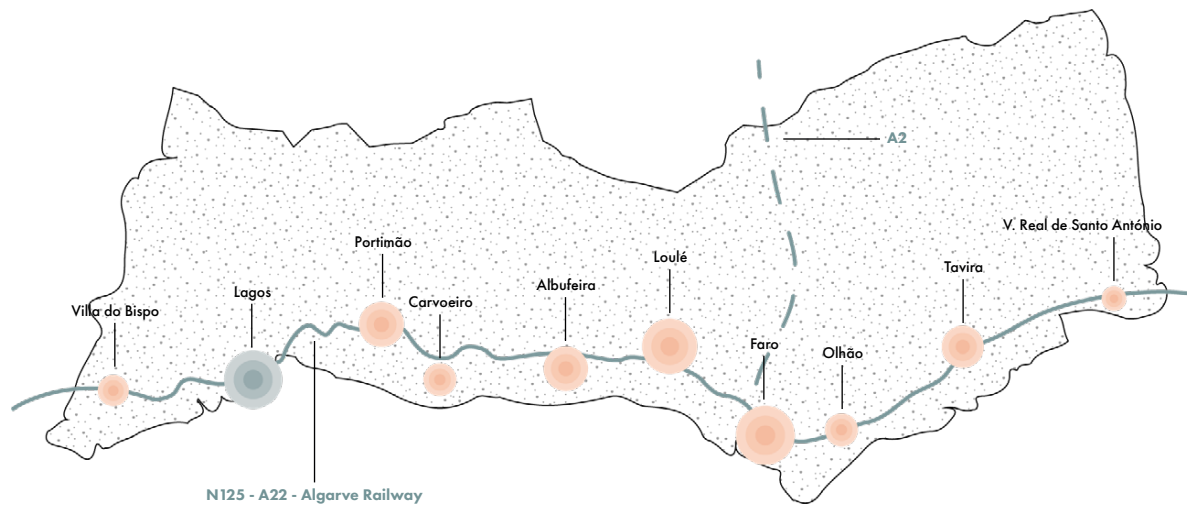
In fact, the previously mentioned **N125** freeway passes directly through the centre of Lagos, finding

continuity with **Avenida dos Descobrimento**: it is important to understand how, since it was built in the 1960s, the **Avenida** has become an integral part of the road system not only of the city itself, but also of the entire region.

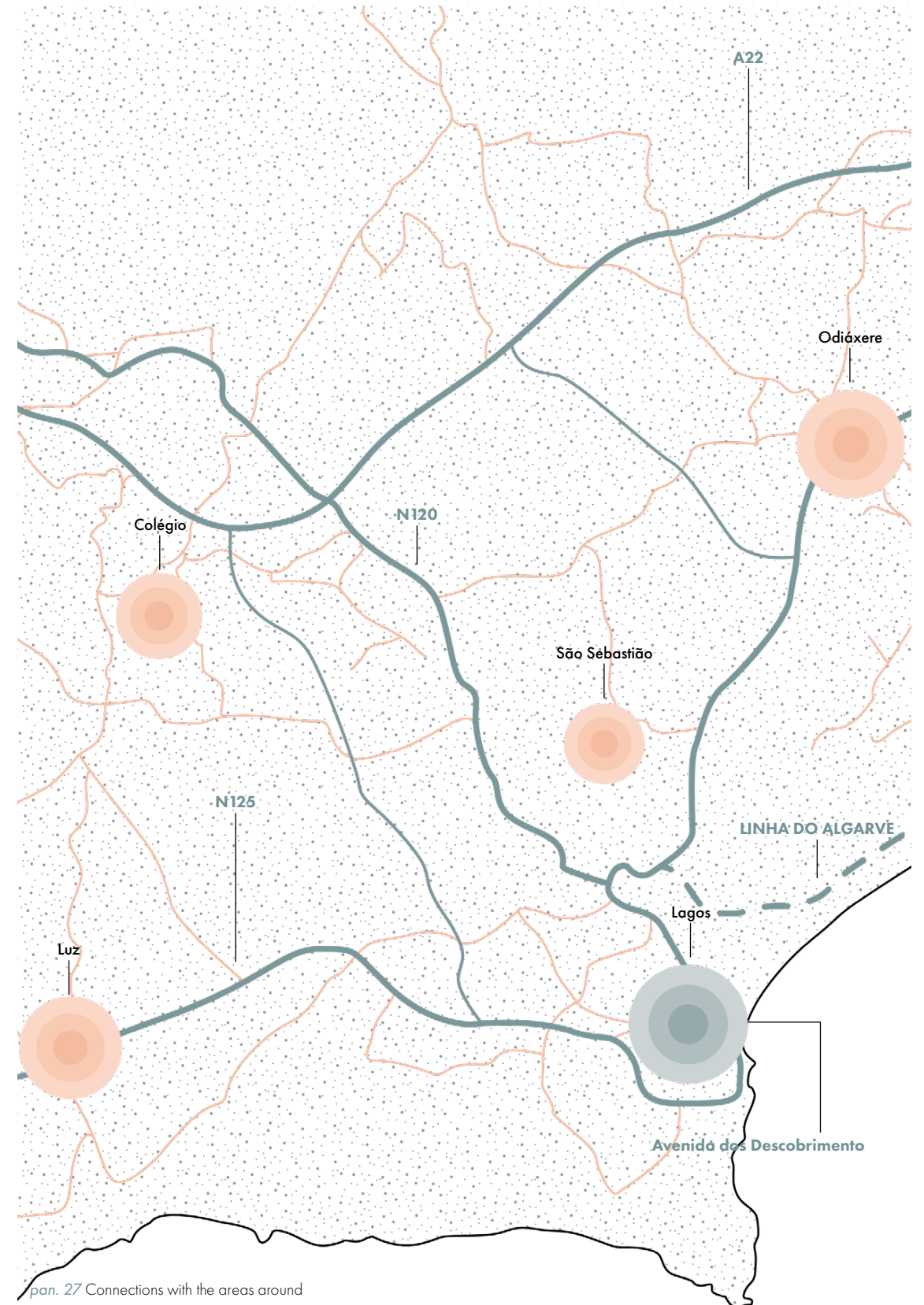
While on the one hand this makes mobility easier, on the other hand it is understandable how this road can become a sort of **barrier** within the historic centre, marking the end of the city to the detriment of the waterfront and the other side of the river.

However, it is possible to avoid entering the city by taking advantage of the dense network of secondary roads or another highway, the **N120**. This one is the fastest connection between the city of Lagos and the **A22**<sup>22</sup>, a highway that cuts through the region parallel to the **N125**.

A further and final route that crosses the inland territory of the south is the "**Linha do Algarve**"<sup>23</sup> tr. "**Algarve Railway**", which starts in Lagos and ends in Vila Real de Santo António.



pan. 26 Connections with the other main cities \* due to the scale, N125 - A22 - Algarve Railway are represented in the same line due to their proximity



pan. 27 Connections with the areas around

Taking a closer look at the city of Lagos and in particular its functionality in terms of mobility, it can be seen that the most frequently used public transport routes **surround** the historic centre but do not pass through it.

This choice is dictated by several factors:

- the first, and foremost one, is the high density of the urban fabric within the historic city walls, which does not allow good traffic flows because of the **narrow width** of the streets, in fact, most of the roads are one-way direction and traffic management is already difficult for private cars by far;

- the second reason for this move is the intention not to invade the historic centre with transportation vehicles, leaving it more dedicated to **pedestrians**.

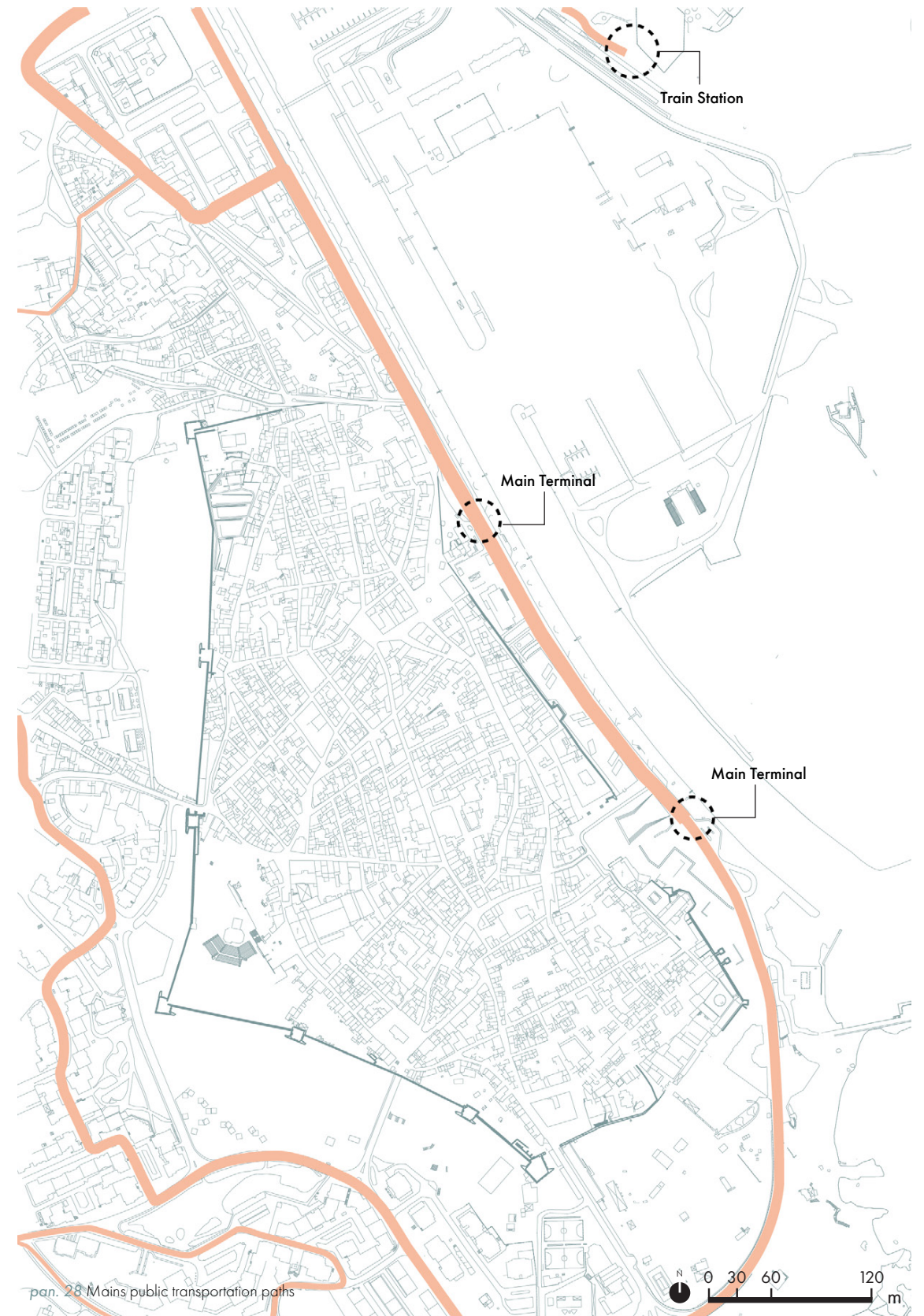
So, to reach the historic centre, it is possible to use public transportation toward one of the many terminals around it.

Looking at the design, the main road most used by buses is, of course, the aforementioned **Avenida Dos Descobrimento**, which in a certain sense constitutes a solid and smooth point of continuity for extra-city and in-city mobility, but on the other hand seems to mark and define the end of the city, creating a sort of **barrier** separating it from the river and from the relationship with the other side of the city.

In addition, there is a clear lack of a connection that could **cross the river** and directly link the historic centre with the **Marina area**, the **dune system**, the various beaches on the coast, and, especially to reach easily the train station which is the point with the highest accessibility.



fig. 32 Bird view of Avenida dos Descobrimento Cinematic Drone



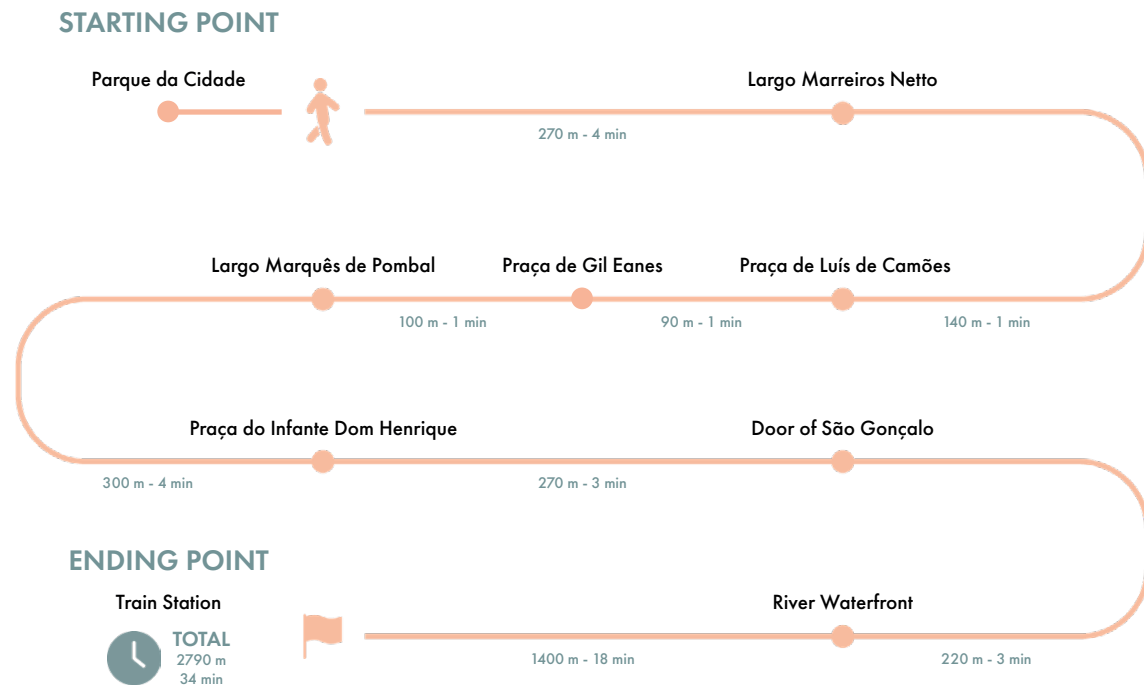
pan. 28 Mains public transportation paths

As for walking mobility within the city, it is the main method of movement: Lagos is not a very large city and to be able to understand and live the essence, **walking** “getting lost” through the many streets is the best method.

In fact, moving around the centre without the use of private or public transport is very simple: in the diagram below “Walk-ability through the main public spaces” the practicability of an example route in terms of time and distance is demonstrated.

The path in question, provides the departure from the ancient city walls along which there is also the “Parque da Cidade” and the arrival at the train station “São Roque”, passing through all the main public spaces of the town.

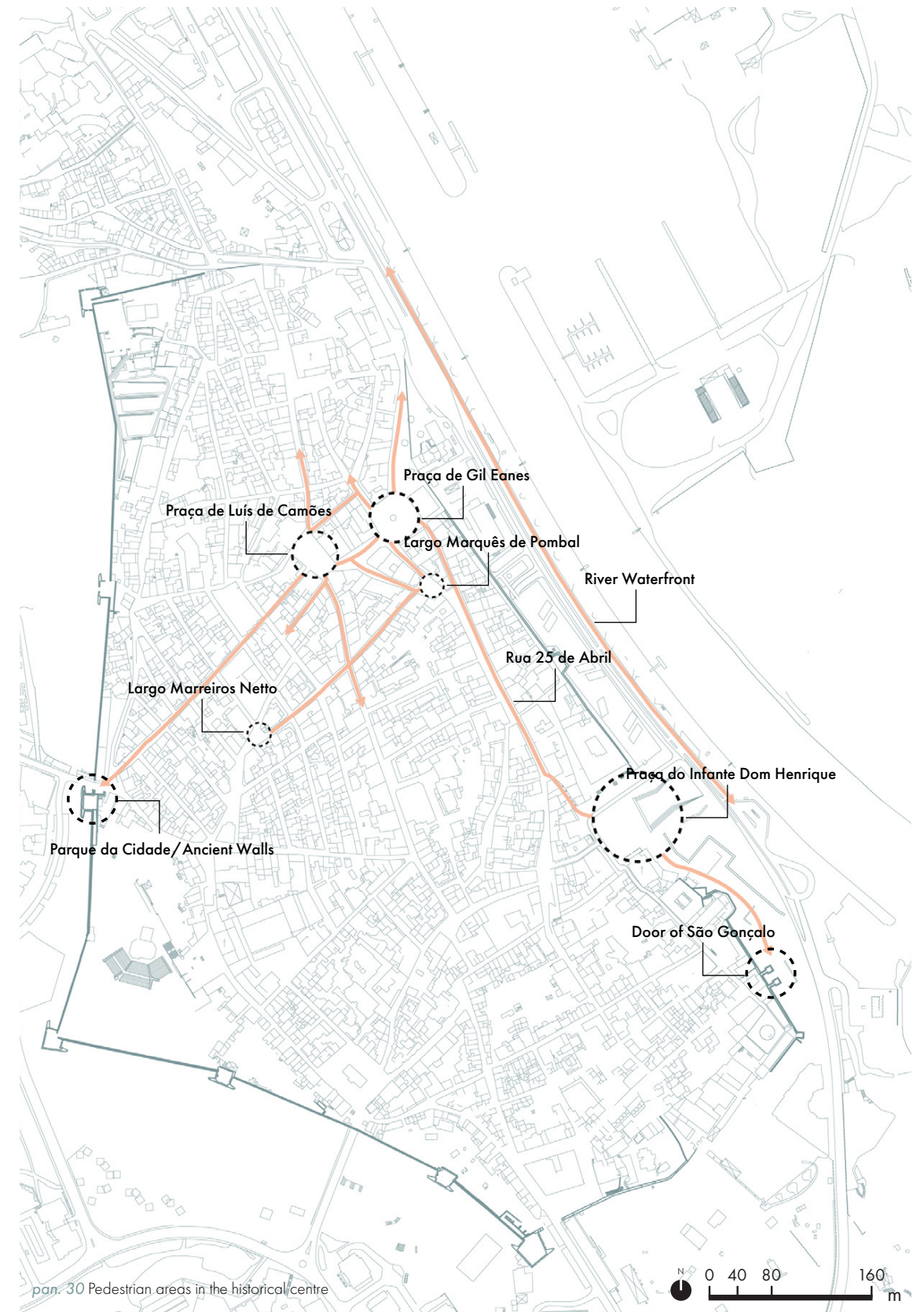
Assuming that the stages are covered without stops, it can be said that you can visit the most attractive open spaces of the city, including the station as an access or exit point, in just **34 minutes**, for a total of **2790 meters** traveled.



pan. 29 Walk-ability through the main public spaces

This is a very important fact that shows how much Lagos is completely a city on a **human scale** and that the **pedestrian movement** is one of the most important movements and, for this, must be improved and encouraged further.

One of the possible interventions, for example, to increase this strength could be the construction of an additional **pedestrian bridge** to allow, not only faster and easier access to the station, but also a better connection with the other side of the river.



pan. 30 Pedestrian areas in the historical centre

**TO  
WIN  
T**

## **CHAPTER TWO - STRATEGY**

# SWOT analysis

# strategy

## strenghts



- high accessibility by water
- high accessibility by train
- low cars traffic in the historical centre
- many tourist attractions

## weaknessess



- lack of a direct connection between the two sides
- some public spaces are barriers
- density of the built does not allow new open spaces
- many tourist attractions

## opportunities



- porosity of the built heritage
- high walkability and accesses by walking
- possibility to create a bicycle path

## threats



- high accessibility by Avenida dos Descobrimento
- high tide and floods
- dune system not preserved

## built strategy



- Re-qualification of Praça Infante Dom Henrique
- Re-thinking the underground parking lot of Avenida dos Descobrimentos
- Providing dwelling to the city centre in Praça Gil Eanes
- Re-designing of the waterfront
- Building of a new pedestrian bridge
- Designing the new Fishermen's Village

## mobility strategy



- Underground parking lots
- Underground tunnel in Avenida dos Descobrimentos
- Public shuttle from the city centre to the train station
- The Algarve Cycle Path
- Low-traffic areas

## water traces system



- How to connect the invisible spaces
- Water traces network
- A technological and architectural tool

## 2.1 THE CITY'S WILL

### citizens and professionals' opinions



Mr. João  
67 years  
Portuguese  
Retired

#### - Talking about Lagos and how it is changed

Lagos was once very **different** from what it is today: it was a fishing town, **fishing** was the main activity, but of course in the summer months there was also a lot of tourism.

Gradually, the situation reversed, it became more and more the **city of tourists** and less and less the city of fishermen: these were gradually pushed to the more distant beaches and more and more tourists decided to stay and live here in Lagos.

Nowadays, it is almost easier to walk through the streets of the centre and meet a **foreigner living there** than a Portuguese: house prices have become very high and the Portuguese cannot afford to live here in the city centre.

It seems that the **identity of the city** has crumbled, the young citizens of Lagos now live outside the walls, which is not a bad thing, however, they do not take an active part in the life

of the city as we once did. In the city centre, there are only a few of us 'oldies' left who still own houses, even though the cost of living has definitely gone up.



Mrs. Patricia  
58 years  
Portuguese  
Bar Owner

#### - Talking about the bar and restaurants services within the historical walls of the city

Over the past few years, **restaurant bars** and things like that have sprung up like mushrooms! Dozens of "Coffee, Brunch" and the like selling a long coffee for 5 Euros...

These activities, we Portuguese restaurateurs, did not think they could last so long; but indeed, all the rich **foreigners** living here today prefer places like these to the typical Portuguese "Tasca".

It is true that we continue to have our clientele, but how long can this situation last? How long will it be before all the typical **local activities** make way

for these more modern things?

We have absolutely **nothing against** the French, British and Swedes who have been coming to live here for years, they are nice people and are an asset to this town.

It is also true, however, that our traditions are in danger of **disappearing**.



*Ms. Janis*  
32 years  
English  
Dance Teacher

- Talking about his move to Lagos

I used to come to Lagos on **holiday** with my parents as a teenager, I was in love with this city, as soon as I had the opportunity I **moved** here.

Today I teach at a **dance school** in the city centre, where I mainly have **foreign students** because apparently it is not a very popular sport here in the centre, and besides, the Portuguese people who live here are adults or older, while I

work with young people.

I love this city and its inhabitants, I would call it **multi-cultural** and above all very **open-minded**: moreover, it is far **cheaper** than London where I was born and raised. There I had no chance to open a dance school, it was my dream, and with the fact that Lagos was so cheap I was able to follow my dream and live in a beautiful place.



*Mr. Maxime*  
29 years  
Swedish  
Restaurant Owner

- Talking about his activities in Lagos

My girlfriend and I holidayed here a few years ago, so three years ago we decided to come here and buy this **two-storey building** and open a **restaurant** on the ground floor.

Business is going very well I must say, there are always a lot of people, especially foreigners. In fact, we decided to buy the part adjacent to the

restaurant, which is currently for sale, in order to **expand** and open another business: a sort of mix between a Japanese cuisine restaurant and a "Wine Tasting" experience.



*Mrs. Lousie*  
45 years  
French  
Bed and Breakfasts Owner

- Talking about her host structures

I don't think the fact that there are many "**bnb**" is a bad thing for the city, on the contrary!

**Tourists bring money**, they turn the economy of Lagos which is mainly based on this activity.

I admit that in recent years, apart from those in Covid of course, the number of tourists and foreign people in general has increased significantly.

I'm not Portuguese and I'm not from Lagos but I love this city and although at times it seems to be becoming more of a 'jewel' for tourists than for the Portuguese, I think it's a good thing.

But I also understand people who decide to go and live outside the city centre, in calmer and, above all, much cheaper areas.



*Mr. Nuno Marques*  
53 years  
Portuguese  
Town Hall Engineer

- Talking about the stakeholders of the city

The city of Lagos has a very large historic centre and this is one of the reasons why it has always been very complicated to manage, renovate and implement it only through the efforts of the municipality. In fact, since the 1980s, after the great expansion of the city outside the walls, the houses began to need major redevelopment: this is where the **private sector** came in.

With their renovation and refurbishment of buildings mainly dedicated to "**Alojamento Local**"<sup>24</sup>, for instance hospitality facilities such as small hotels and bnb's, they have been a big help in the renewal of the city's built heritage.

Obviously, the **municipality's** commitment has not been lacking: between 2000 and 2010, the redevelopment of the "**Frente da Ribeirinha**", the entire waterfront area where the underground car park was also built, was implemented.

We can therefore say that the **stakeholders**<sup>25</sup> in the city of Lagos are both private individuals, with their investments, and the municipality through the use of funds from the European community.

#### - Talking about the European Funds

Fortunately, over the years, European calls for tenders have been published, such as the **PNDES**<sup>26</sup> - "**Plano Nacional de Desenvolvimento Económico**" tr. "**National Economic Development Plan**", in which we, the municipality of Lagos, have participated through applications and obtained important **funds** dedicated to the development of our city.

Within this call, we particularly took advantage of the "**Polis**"<sup>27</sup> programme dedicated to the development of **public space** and urban renewal in an innovative perspective. In addition, shortly afterwards, the "**Polis - Litoral**"<sup>28</sup> programme was also published with

the same intentions and aims, but dedicated in particular to **coastal areas**, as in our case in the waterfront area.

#### - Talking about the historical centre

The **main objective** of the Lagos municipality is to continue to keep the centre of the city in the historic centre: in the modern city, in fact, the new "centre" in terms of services and welfare almost never coincides with the historic centre, which instead remains isolated in its socio-cultural character.

In Lagos, fortunately, this new centre has always remained the **historic centre itself**: the municipality is very happy about this, which is why it works assiduously in this direction and is very interested in interventions to improve the condition of the historic centre. For example, private individuals are supported in constructing and renovating buildings within the walls through very low taxes and fees compared to those required to build in the suburbs.

#### - Talking about the feasibility of the renovation of the Avenida dos Descobrimentos

We can say, without a doubt, that today the

city's mobility is based on the "**Avenida Dos Descobrimentos**": it is not only the main route through the historic centre from north to south, but also the continuation of the N125, which is vital for inter-city traffic and thus for the Algarve region.

Nevertheless, here in the municipality of Lagos, we are aware that the Avenida constitutes a real **barrier** in all respects. This is why we have long been considering taking action, as the last attempt made did not resolve the situation: the Avenida was originally 4 lanes, and in order to deal with the "division" problem it creates, it was narrowed by removing one lane, which became 3. Obviously, the situation has improved slightly but has not been completely resolved.

One of the solutions that has been talked about for years is precisely the one proposed in your project (Nuno Marques is referring to the current thesis), i.e. that of creating a **tunnel**: the **feasibility**<sup>31</sup> of this great infrastructural work is certain, there are no construction problems near that area because the entire area of today's waterfront is totally artificial and furthermore a large excavation has already been carried out for the construction of the underground car park.

There are therefore **no contraindications** of

any kind for the construction of a tunnel, other than economic ones: to build it, one would have to wait for a call for tenders or in any case for funds to be allocated for road improvements.

Having said that, I fully agree with the decision to dedicate the space of the Avenida to citizens and soft mobility, to the detriment of traffic that can be placed underground.

#### - Talking about the feasibility of the new bridge

With regard to the **new bridge** proposed in the project, we can say the same things said about the Avenida: it is an excellent idea for the **connection** between the old town and the dune area, but even more a great **incentive for pedestrian and bicycle mobility**, hence sustainable.

It would also provide an excellent direct link with the beaches of "**Meia Praia**", those adjacent to the dunes, and this would also solve the problem of overcrowding on the small beaches south of the city centre.

With this in mind, as it is also an infrastructure to improve access to the beaches and thus to the coastline, this work could be financed by the "**Polis Litoral**" programme.



## 2.2 ABACUS OF REFERENCES

### Josep Miàs, Banyoles refurbishment

In this project **Josep Miàs** has been involved in regenerating and redeveloping a critical situation such as that of the old town of **Banyoles**: this village is located north of Girona, Spain, and has a very unique characteristic with which architect Miàs had to deal during the project.

This feature is that the town stands above an **aquifer** which literally flows underneath it as if it were a river in flood: this natural feature has always been considered a danger and a threat to the town, which has always had to deal with this problem.

The intention of the project is therefore to **overturn the conception** and idea of the threat posed by the aquifer, and to use it instead to underline the identity of the city by trying to use the materials of the past, typical of the local tradition, to create a contemporary, flexible and equipped design.

Miàs chooses lake travertine as the main material for the redevelopment and uses it to **repave** the entire historic centre of the city where, among other things, a series of traffic calming devices are added to limit the number of vehicles entering and create a more pedestrian-friendly, human-scale centre.

The detail with which the travertine is laid is incredible: ever-changing shapes, both in size and orientation, are used fluidly to match the flow of water.

The most unusual move is to open up like **wounds** in the ground, traces from which it is possible to see and hear the water flowing: the creation of these cuts allows the architect to define spaces, functions, circulations, and to give the city a special, flexible element which is very suitable for children to play in, as they return to living and running through the city streets.

*“Water is also part of Banyoles’s everyday experience and heritage. Water canals, together with the lake, have defined the town in all its shapes and uses.”*<sup>10</sup>

The project reconnects the city to the lake and the marsh, both physically and metaphorically, and what was previously conceived as a threat now becomes the identity of Banyoles.

10. Miàs Architects, 2008, “Banyoles Old Town Refurbishment”, Barlett Design Research Folios, The Barlett School of Architecture, London, United Kingdom

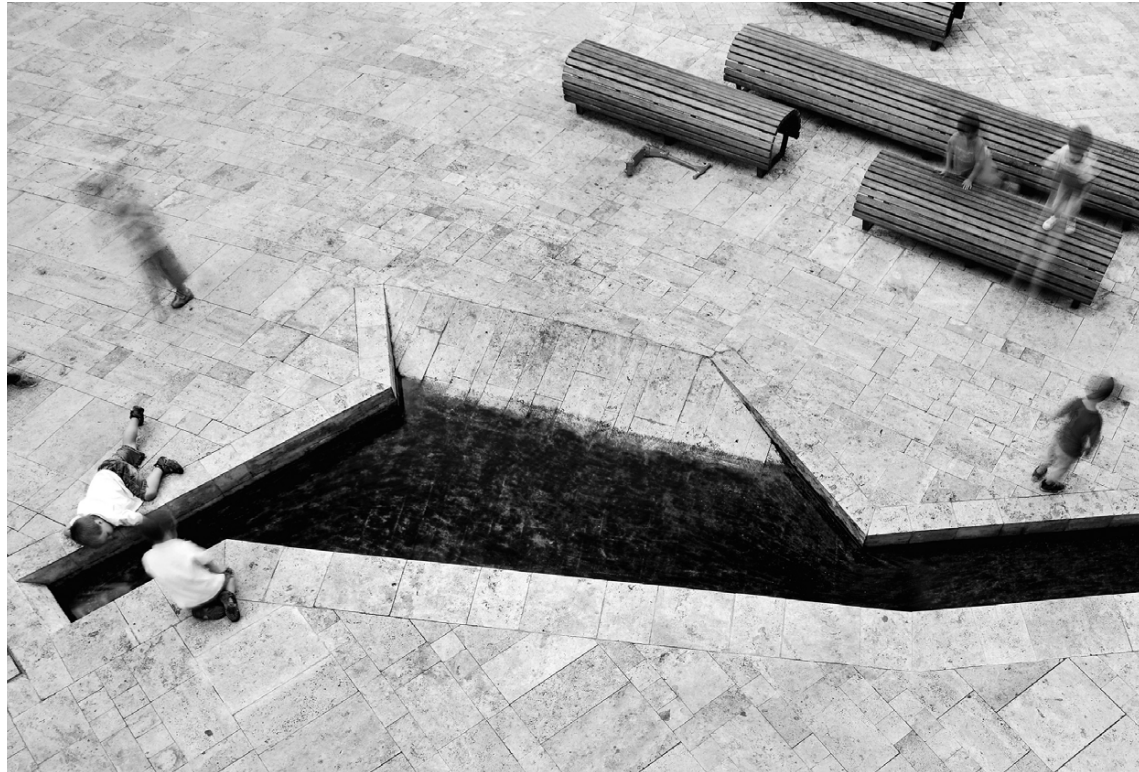


fig. 33 Josep Miàs, Banyoles refurbishment\_1 [miasarquitectes.com](http://miasarquitectes.com)



fig. 34 Josep Miàs, Banyoles refurbishment\_2 [miasarquitectes.com](http://miasarquitectes.com)

## KEY POINTS

- use of local materials
- deal with the history of the site
- define a tool such as the water channels
- re-think the circulation
- build a new identity of the place
- lower the traffic in the city centre



fig. 35 Josep Miàs, Banyoles refurbishment\_3 [miasarquitectes.com](http://miasarquitectes.com)



fig. 36 Josep Miàs, Banyoles refurbishment\_4 [miasarquitectes.com](http://miasarquitectes.com)



fig. 37 Josep Miàs, Banyoles refurbishment\_5 [miasarquitectes.com](http://miasarquitectes.com)

## 2.2 ABACUS OF REFERENCES

### JML, Le miroir d'eau

This project was completed in 2006 and designed by **Michel Corahoud** and **Pierre Gangnet**, together with **JML Studio**, in front of the "*Palais de la Bourse*" in **Bordeaux**, France.

The aim of this urban design was to use **water** as the main artificial element, trying to imitate a process that is very natural, i.e. what happens in "*Piazza San Marco*" in **Venice** during periods of flooding due to the rising tide.

The invitation to the **user** is to take off their shoes and walk in the thin layer of water that fills this rectangle in the centre of the square, defined as "*Le miroir d'eau*", a "*Mirror of water*" in which the city and the people are reflected.

Since the project was completed, the square, previously empty and little used, has become one of the most **attractive** parts of the city, thanks to the creation of this "**artificial city lagoon**" which invites children in particular to play and adults to have fun: the urban intervention has literally reversed the concept of a public space, making it a usable space for everyone with a magical, **natural** atmosphere.

The studio in question, experts in the use of water

as an architectural element, designed this project to create the world's largest urban stretch of water, measuring about 3450 square metres and consisting of a **granite slab**, which from time to time allows a sort of artificial "**fog**" to rise up to two metres above the ground to increase the romantic effect for those observing it from the outside and the experiential effect for those inside.

From a **technological** point of view, the operation of this great asset is based on a large tank hidden underneath the square, capable of containing 800 m<sup>3</sup> of water: thanks to the use of powerful pumps, valves and 900 injectors, the water is pushed to the surface, creating a film of just 2 cm, obtaining a mirror effect for 15 minutes, followed by 5 minutes of pause and 5 minutes of fog, all programmed and managed by a computer that repeats the loop.



fig. 38 JML, Le miroir d'eau\_1 [jmlwaterfeaturedesign.com](http://jmlwaterfeaturedesign.com)



fig. 39 JML, Le miroir d'eau\_2 [jmlwaterfeaturedesign.com](http://jmlwaterfeaturedesign.com)

## KEY POINTS

- emphasising the historical buildings around
- sophisticated technological system
- recreation of a natural environment
- increased attractiveness
- new landmark realization
- use of the water



fig. 40 JML, Le miroir d'eau\_3 [jmlwaterfeaturedesign.com](http://jmlwaterfeaturedesign.com)



fig. 41 JML, Le miroir d'eau\_4 [jmlwaterfeaturedesign.com](http://jmlwaterfeaturedesign.com)



fig. 42 JML, Le miroir d'eau\_5 [jmlwaterfeaturedesign.com](http://jmlwaterfeaturedesign.com)

## 2.2 ABACUS OF REFERENCES

### BIG, The big U

The third and last reference is an unrealised project by **BIG - Bjarke Ingels Group** proposed in 2014 and still under construction. This is the redevelopment of the entire coastline of **Manhattan** Island, the heart of New York City.

The case in question was chosen in particular for the **methodology** with which the analysis and planning work was carried out by the Danish studio: the main threat was recognised and a risk zone was defined along the island's **coastline**; this threat is **flooding**, caused mainly by hurricanes but also by other atmospheric agents such as the tide.

This issue has been studied and analysed in depth, leading to decisive planning in the design of a gigantic series of **green spaces** that act as a "**sponge**" absorbing water in the event of danger, making these areas safe as flooding is managed at a technological level by the infrastructure that will be created.

in addition to the purely protective point of view, which remains the main purpose of the concept, this project attempts to increase the amount of urban greenery of the island of Manhattan that to date remains, if not for some isolated case, present only in "**Central Park**"; so, also from the point of

view of **sustainability** and clean air in such an extensive metropolitan city, the project finds its reason.

Moreover, all these spaces offer a number of incredible **functional mix**: gardens, skatepark, sports centers, relaxation area, jogging spaces, walkways on the water and much more.

The project "**The Big U**" aims to change in a positive sense the essence of the island and the appearance from the outside, greener, safer and more sustainable.



fig. 43 BIG, The big U\_1 big.dk

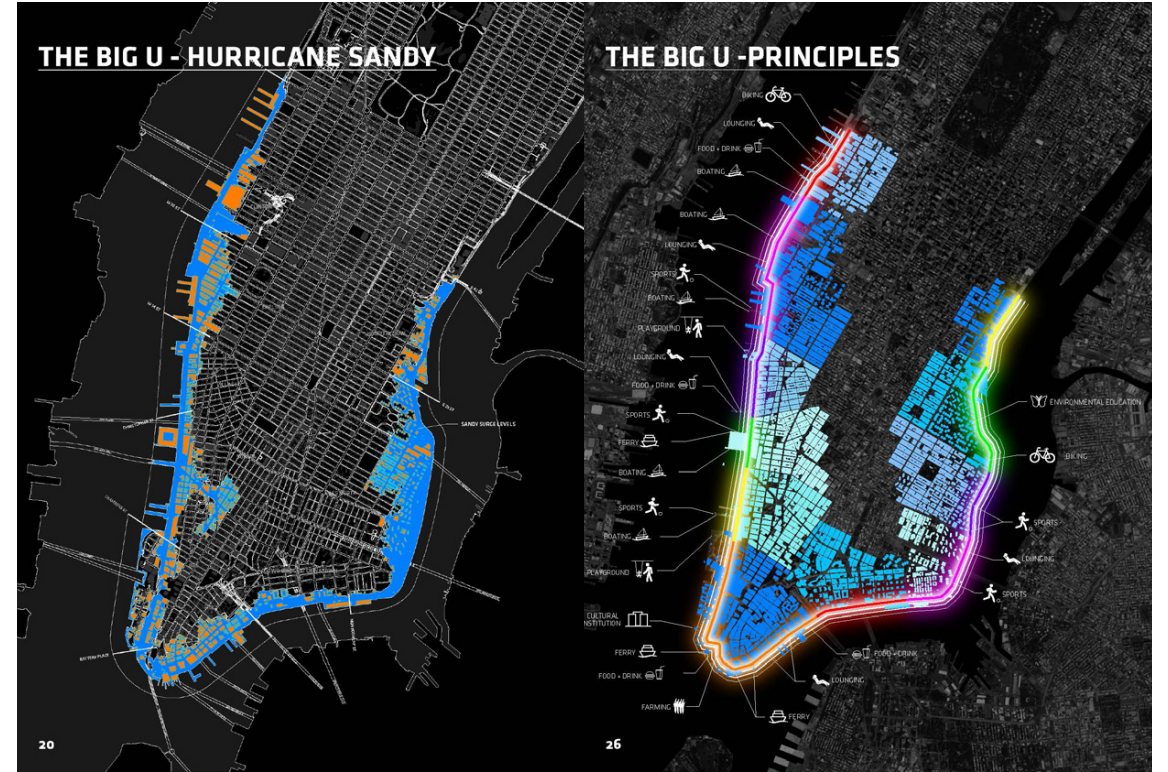


fig. 44 BIG, The big U\_2 big.dk



## KEY POINTS

- protection by flooding
- increasing of green areas
- proposing of high functional mix
- changing of the city appearance
- high technological use
- solving the problem of a natural phenomenon



fig. 45 BIG, The big U\_3 big.dk



fig. 46 BIG, The big U\_4 big.dk



fig. 47 BIG, The big U\_5 big.dk

## 2.3 SWOT ANALYSIS

### a closer look to the city

**SWOT<sup>32</sup> analysis** is a very powerful tool with regard to **strategic planning**, as it allows one to identify the main advantages and disadvantages of the defined field of research, in this case the city of Lagos, and to then be able to distinguish them into 4 categories: *Strengths*, *Weaknesses*, *Opportunities* and *Threats*.

The various concepts defined through this analysis on the next pages are explained below.

#### **Strengths**

- *high accessibility by water*, since time immemorial Lagos has not only been the starting point for great discoveries by ocean routes, but also the cradle of trade and fishing, which today, thanks to the “*Marina de Lagos*” continues to be the case.
- *High accessibility by train*, as already mentioned, a few kilometres from the historic centre is the train station which guarantees quick access to the city especially from the other towns in the *Algarve* region which are all connected by the “*Linha do Algarve*” railway.
- *low cars traffic in the historical centre*, as to avoid traffic congestion and also to have a much more pedestrianised historical centre, traffic is limited within the historical walls, both for private cars and public transport.

- *many tourist attractions*, such as long beaches and beautiful cliffs with hiking trails and a fully functioning tourist accommodation system.

#### **Weaknesses**

- *lack of a direct connection between the two sides*, the idea of adding a footbridge just like the one to the north of the city; could be the keystone to establish the connection between the two banks of the river that today are deeply separated not only physically but also metaphorically: the river, today, is not considered the centre of Lagos but almost as a “back” and this is also determined by the difficulty of reaching the other side and by the more industrial characteristic due to the presence of the “*Marina de Lagos*”.
- *some public spaces are barriers*, to increase this sort of gap between the centre, the river and the other shore, seem to be some public spaces such as the parking lot “*Parque da Frente Ribeirinha*” and the square “*Praça Infante Dom Henrique*” which seem to constitute an additional filter space, or buffer, between the city and the water, as if the great barrier constituted by the *Avenida Dos Descobrimento* were not enough.
- *density of the built does not allow new open spaces*, looking at the situation in the old town more closely one can see the very high density

of buildings that do not allow the creation of new open spaces, reason why you need to deal with those that are already present.

- **many tourist attractions**, this point, has been included in both strengths and weaknesses, since the presence of many tourists is a source of wealth for the city's economy, On the other hand, this activity replaced all the others and also started the process of Gentrification as explained in the **Chapter 1\_Paragraph 1.4\_A social and economical process**.

### Opportunities

- **porosity of the built heritage**, although the building is very dense and denies precisely the creation of new spaces, this is very porous in some cases: in the sense that many blocks contain semi-private inner courtyards accessible directly from the city streets. These spaces have been defined in the previous paragraphs as Invisible spaces and are an incredible potential considering the scarcity of land available for public spaces.

- **high walkability and accesses by walking**, in fact, as analysed in **Chapter 1\_Paragraph 1.5\_ The mobility of Lagos**, the old town is perfectly walkable in a very short time; In addition, along the historic walls on the edge there are several

openings that can also be accessed without vehicles. It is therefore possible to access the city on foot from all the surrounding points except from the dune system area, another reason why a pedestrian bridge in that area would be the move that would fully support the choice of a pedestrianised and sustainable mobility.

- **possibility to create a bicycle path**, always from the point of view of sustainable mobility, but not only, it would be possible to set up a cycle path along the coast of the city that starts from the cliffs to the south and continues in the system of dunes along the beach. This route could also extend to the cities bordering Lagos, creating a real cycle route that connects the cities of the Algarve.

### Threats

- **high accessibility by Avenida dos Descobrimento**, the problem of this large road that has been catapulted into the city centre has been explained several times: it is nothing more than a huge barrier that marks the end of the city at the expense of the waterfront, of the river and the other bank. Although it allows a very high accessibility by cars to the city, it is a big problem that for years has generated the division in several parts of the city. The great traffic flow of this road should be

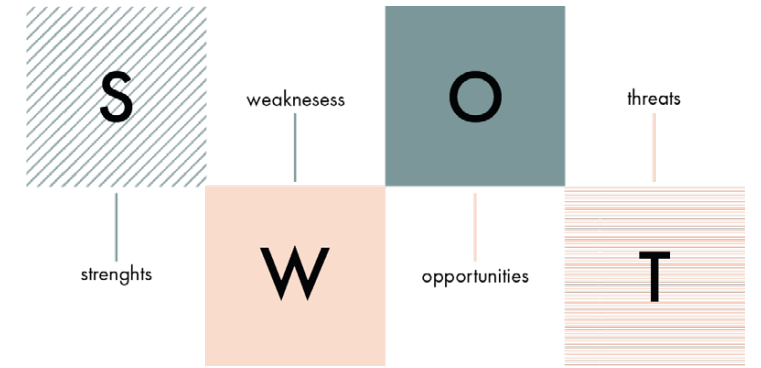
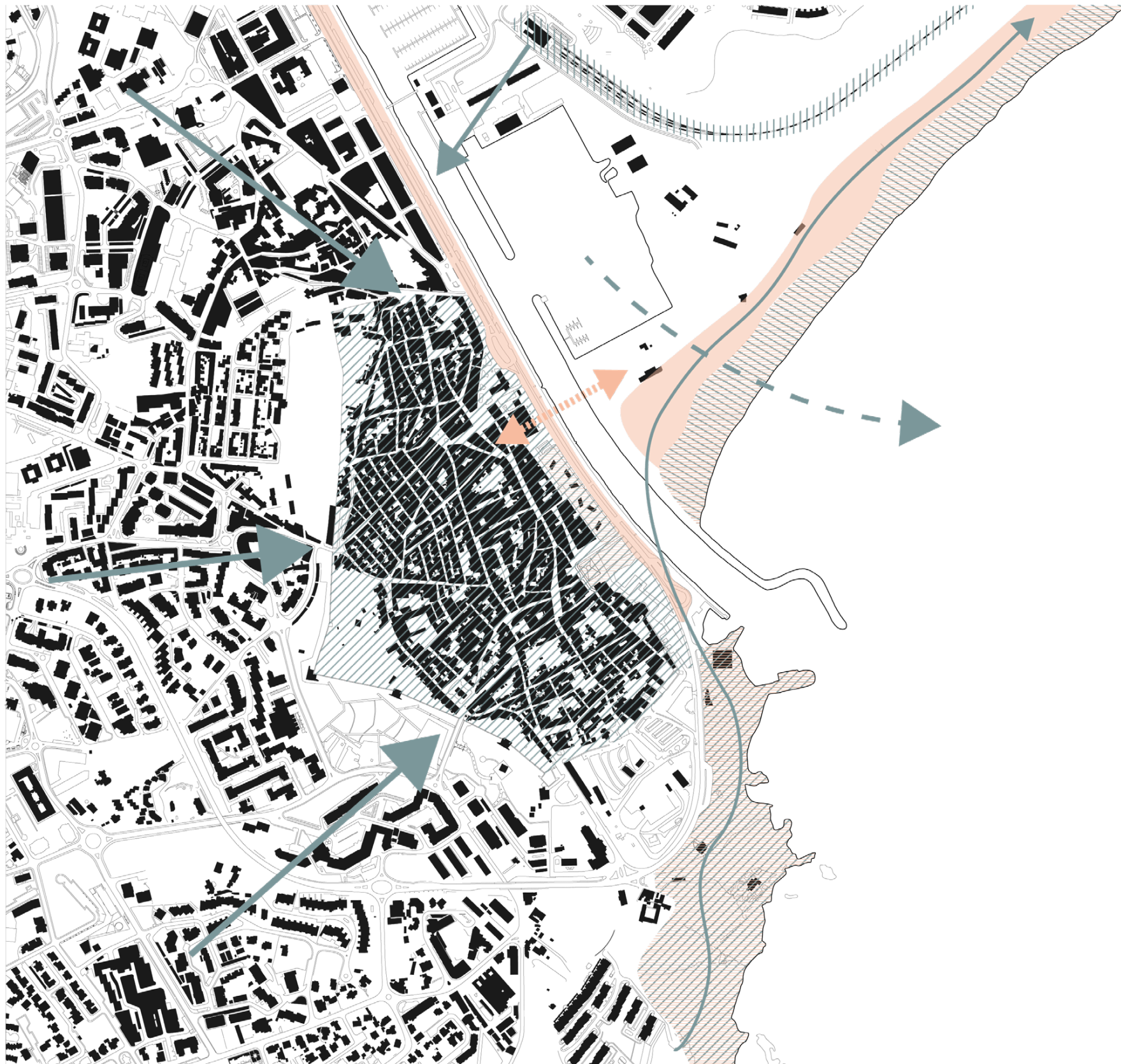
diverted or placed at a different level from the current one such as with the use of an underground tunnel.

- **high tide and floods**, are another major threat to the city: always changing and unexpected, these two natural phenomena put the city system at constant risk; which should be constantly prepared for these events with an adequate hydraulic system for the depletion of water during rains and to counteract the growth of the water level during periods of high tide.

- **dune system not preserved**, is the last point of the analysis: the dune area is a very important system that holds such an invaluable natural and environmental value; as aesthetic; as it is located in the more abandoned part of the city is often forgotten or at least little preserved. Instead, it would be necessary to take care of it and foresee it in the design choices considering the use of a system of raised platforms to be able to cross it, on foot or by bike, observe it and live it without destroying its authenticity.

If we want to draw a **conclusion** from this analysis, it is possible to say that the data that have emerged express a great range of possibilities for the city

of Lagos, both negative and positive, that can be dealt with in the planning and urban planning process that will take place in the years to come: in fact, there are threats that must be prevented, managed with caution and perhaps combated by exploiting the opportunities present; the challenge between strengths and weaknesses will probably always be an open fight as each plot moves in favour of something, but, even without knowing it, to the detriment of something else, just like the intervention of **Avenida dos Descobrimento** and the **high concentration of tourism**, both concepts recognized in favour and against the city.



### strengths

- high accessibility by water
- high accessibility by train
- low cars traffic in the historical centre
- many tourist attractions

### weaknesses

- lack of a direct connection between the two sides
- some public spaces are barriers
- density of the built does not allow new open spaces
- many tourist attractions

### opportunities

- porosity of the built heritage
- high walkability and accesses by walking
- possibility to create a bicycle path

### threats

- high accessibility by *Avenida dos Descobrimento*
- high tide and floods
- dune system not preserved



## 2.4 NEW BUILT STRATEGY

### dwelling and public spaces re-qualification

The main objective of the built strategy is to **regenerate** the urban fabric of the historic city centre, acting on it by proposing **new functions** both in terms of buildings and public spaces.

In the light of the analysis studies presented in the first chapter and the *SWOT* analysis, **4 major areas of intervention** were defined, recognised as the main nerve centres of the historic centre: *Praça Infante Dom Henrique*; *Parque da Frente Ribeirinha* and also the *water front*; *Praça Gil Eanes*; and the *other side* of the river between the *“Marina of Lagos”* and the *dune system*.

Starting from the first point of intervention, namely one of the city’s main squares **Praça Infante Dom Henrique**, the current shape of the square, in particular this sort of large wound in the ground with the seats on either side, is reformulated and **reshaped** thanks mainly to the **use of water**: in fact, the large water-filled basin in the centre of this large public space becomes a **“reservoir”**, a rainwater collection point into which, as we shall see later, river water is also let in to try to regulate the flooding risk that occurs during high tide days. *This public space, will be analysed in detail in the third and final chapter of this treatise, thus deepening the design proposal.*

The second area of intervention is the cars **parking “da Frente Ribeirinha”**: this structure has an uncovered level outside, visible in the drawings, where small activities such as restaurants and cafés are located, and two underground levels used for parking. The design proposal is to maintain the floors used for parking as they will serve the underground tunnel which will be discussed in the section on mobility, and to upgrade the surface space by making it **greener** and more welcoming, but above all by making it like an **extension** within the city of the new Park along Avenida dos Descobrimentos.

The **waterfront area**, in fact, is perhaps where the most changes are made: first of all, the **width** of the current Avenida dos Descobrimentos is considerably reduced to leave more space for **pedestrian circulation** along the river; moreover, everything that is now a simple paved ‘promenade’ along the Bensafrim becomes a true **linear park**.

The incorporation of this park proposes a number of different advantages to the city of Lagos: the addition of a large **green lung**, present only in the Parque da Cidade outside the city walls; the constitution of a sort of **natural barrier against flooding** at high tide, just as in the

project “*The Big U*” by the *BIG studio* in *New York*; a new large green and **public space** for the city’s citizens and tourists.

The interventions around the *Avenida* do not end here, but they will be analysed during the following chapter talking about the new mobility plan.

Another tool that lies halfway between the planning of the built and that of mobility and certainly the project of the **new footbridge**, which will connect the new linear park of the water front with the other bank of the river: this link, today, it is a great lack because it forces people who want to cross the river, to go north of the old town taking therefore more time, thus supporting the move through the use of transport rather than pedestrian. The construction of this bridge brings with it a **symbolic value** and identification not indifferent: the area of the dunes, is now considered almost as a “**back**” of the city, almost as if the old town turned its back and the river was the last piece of the city; the bridge therefore, always archetype of connection and bond, distorts this concept emphasizing the river as the **true centre** of the city bringing people from one side to the other.

Once we cross the new bridge, we come to a completely new district that is proposed, it is the

“**Fishermen’s village**”.

For a long time, the fishermen, who make up the history and are the first real inhabitants of this city, were relegated to the suburbs to the northeast.

Today, however, **fishing** is still a very important activity for this city, not only in terms of livelihood but also in terms of tradition, culture and therefore also attraction for tourism.

Fishermen are also the **soul** of the part of the local population that can hardly afford to live in the city centre because of the **gentrification process** that has increased costs.

For the **municipality of Lagos**, restoring the architectural ecosystem that favours this social class, in a point as strategic as the one next to the “*Marina de Lagos*” can be the keystone to revive the area beyond the river.

*Obviously, the entire district is not only dedicated to the residences of fishermen*, but it tries to propose a functional mix that makes this area a new attraction of the city: in fact, here you will also find **schools of water activities** such as sailing and you can also rent them; the **water tower** where will be collected the rainy water and reused for energy; the **fish market** where every day you can buy fresh fish thanks to the fishing activity; the entrance to the system of raised **walkways** leading to the beaches.

This system is designed to allow people to **walk through the dunes**, but without affecting their natural balance: the sand will only be moved by the wind and the animals that inhabit these areas, in fact pedestrians to go to the adjacent beaches or to walk along them, walking meters from the ground almost **floating on them**.

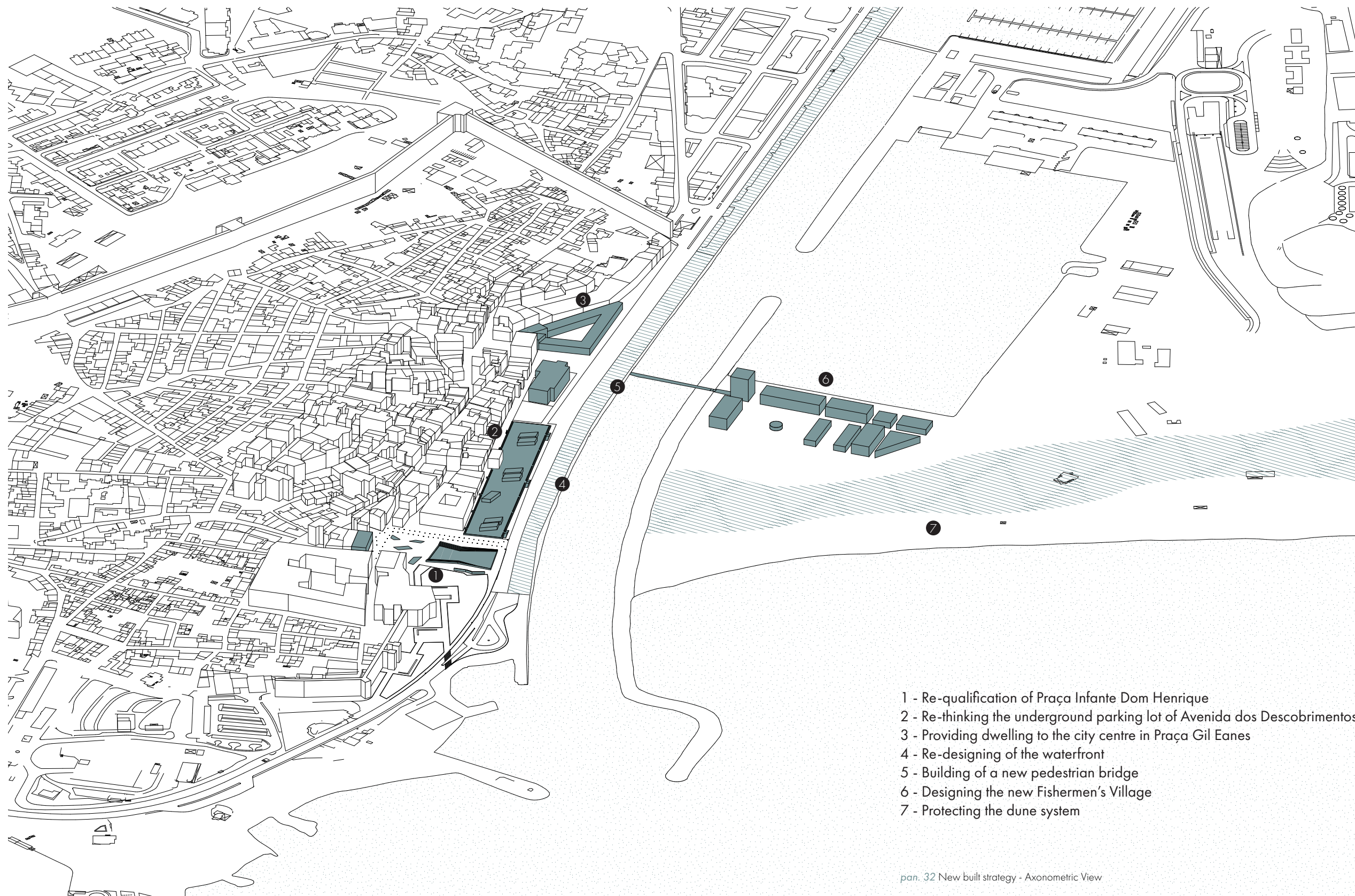
The last point of intervention is located near the **Praça Gil Eanes**, the second main public space of the city.

This too, through the use of the “*Water Traces System*”, will become a point of collection of water that will then be transferred to the water tower in the fishermen’s village.

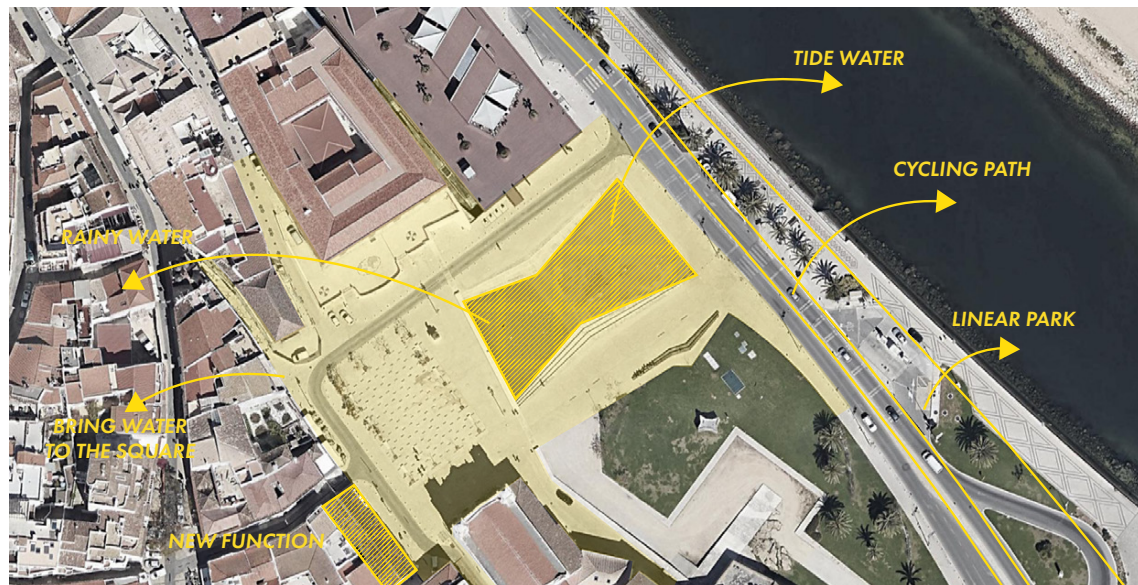
However, a new **building** is placed, following the demolition of a pre-existing, for **residential use** that tries to be as porous and **public as possible**, investigating the limits of public and private and trying to establish a link with **history** as its perimeter is born right along the edge of the end of the ancient city walls.

This large building will be dedicated to a **residential mix**<sup>31</sup> that will accommodate families and not of different kinds and numbers, **social apartments**<sup>32</sup> assigned by the municipality for people in difficulty, aiming at the creation of a community life and integration.

The internal part of this building is completely empty, as are the garden roof terraces: the idea is to have a building that almost does not look like such, that can be covered and filled with people as if they were in a **public space**; in short, make it extension of the *Praça Gil Eanes* and the **linear park** of the water front between which it stands.



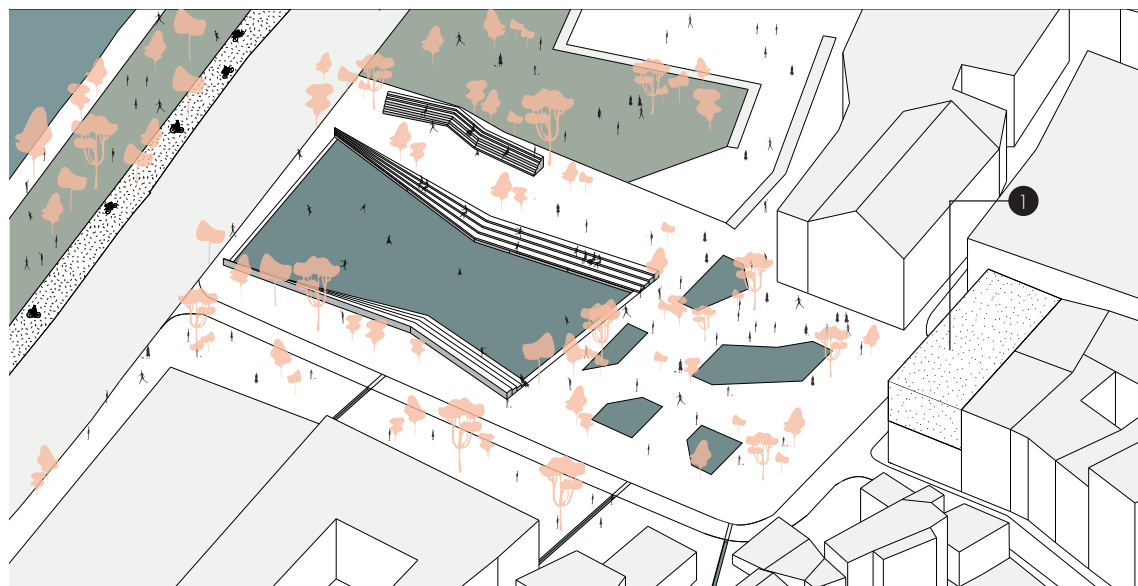
- 1 - Re-qualification of Praça Infante Dom Henrique
- 2 - Re-thinking the underground parking lot of Avenida dos Descobrimentos
- 3 - Providing dwelling to the city centre in Praça Gil Eanes
- 4 - Re-designing of the waterfront
- 5 - Building of a new pedestrian bridge
- 6 - Designing the new Fishermen's Village
- 7 - Protecting the dune system



pan. 33 Praça Infante Dom Henrique - Concept



pan. 35 Parking lot and Avenida dos Descobrimentos - Concept



pan. 34 Praça Infante Dom Henrique - Strategy

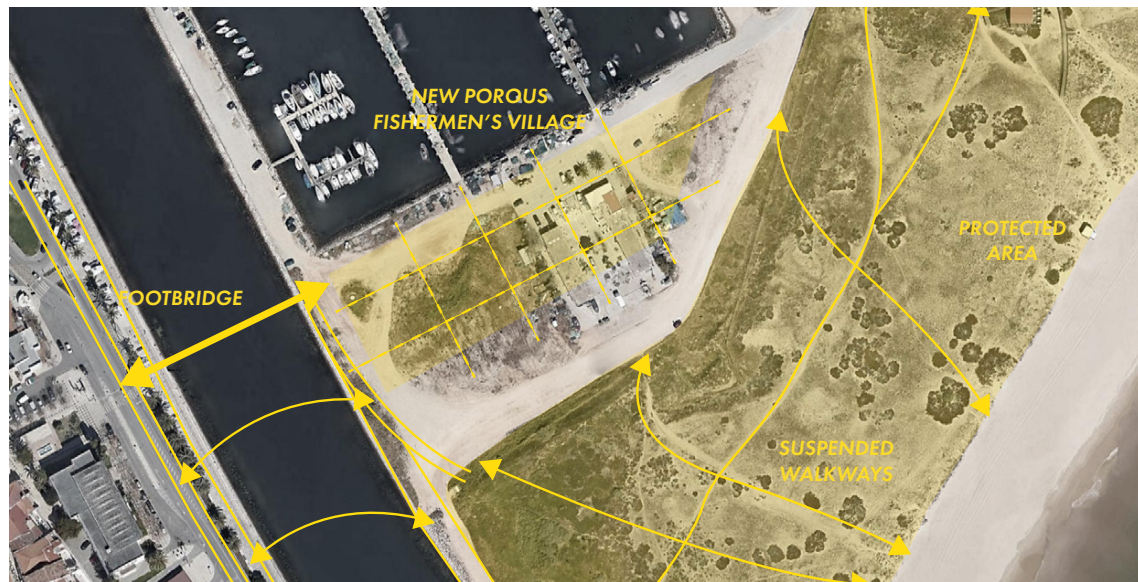
- 1
**Water House**  
 preserved building with a new floor added,  
 dedicated to exhibitions and co-working  
 SL 480 sqm  
 FUNCTION CULTURE



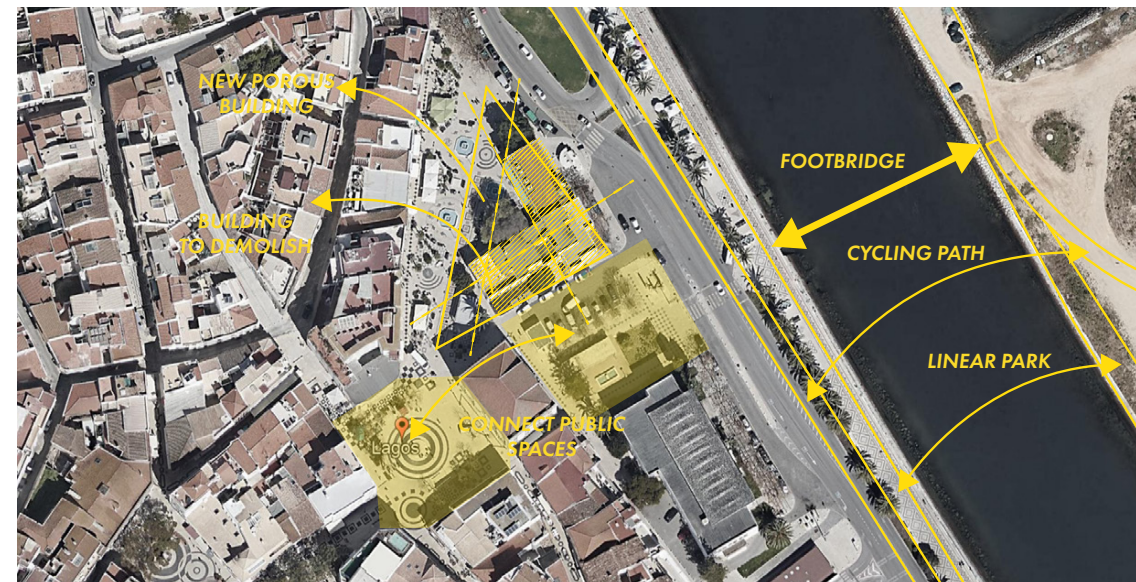
pan. 36 Parking lot and Avenida dos Descobrimentos - Strategy

- 2
**Coffee and Bistrot**  
 renovated bar kiosks with redesigned outdoor spaces  
 SL 630 sqm  
 FUNCTION COMMERCIAL

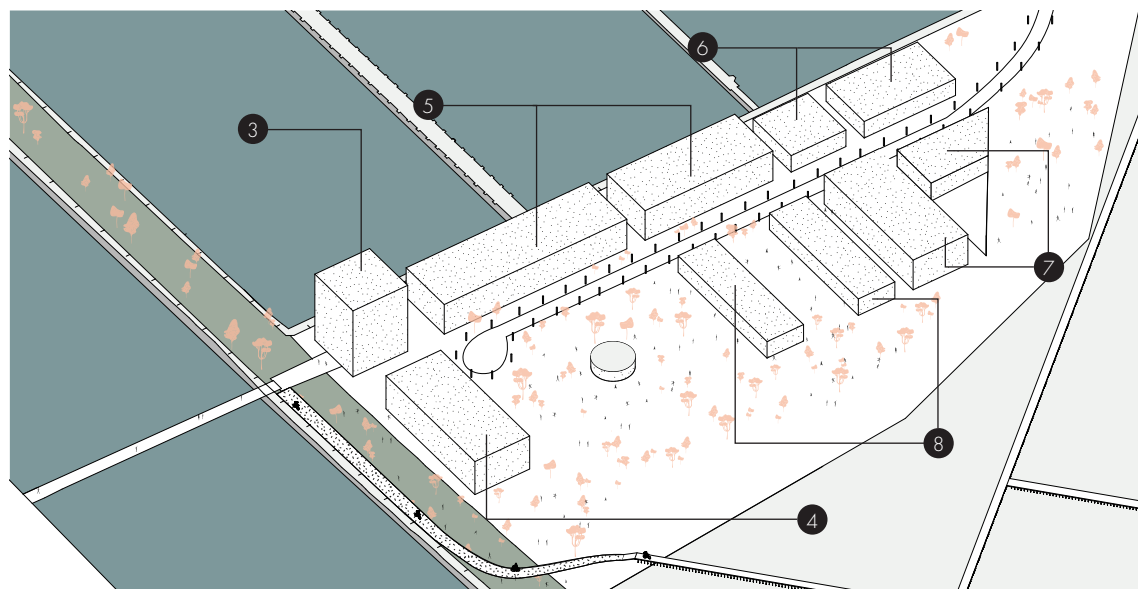




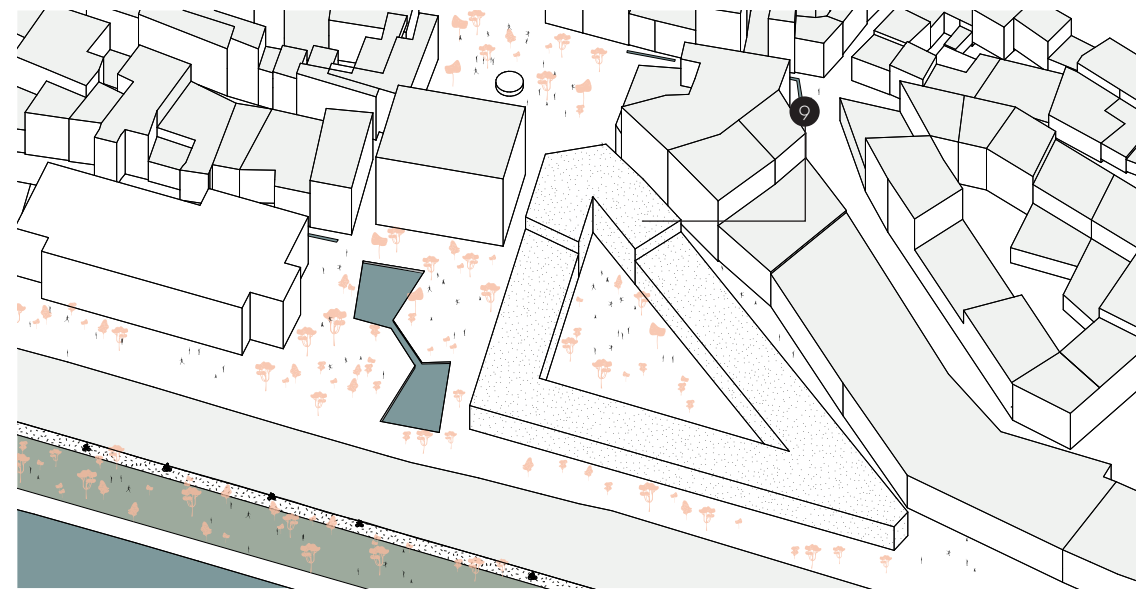
pan. 37 Footbridge and Fishermen's Village - Concept



pan. 39 Dwellings in Praça Gil Eanes - Concept



pan. 38 Footbridge and Fishermen's Village - Strategy



pan. 40 Dwellings in Praça Gil Eanes - Strategy

- |   |   |
|---|---|
| <p><b>3</b> <b>Water Tower</b><br/>used to store water and produce energy<br/>SL 300 sqm<br/><b>FUNCTION</b> ENERGY - LANDMARK</p> <p><b>4</b> <b>Fish Market</b><br/>covered market for fresh fish<br/>SL 520 sqm<br/><b>FUNCTION</b> COMMERCIAL</p> <p><b>5</b> <b>Fishermen's residences</b><br/>social housing for fishermen<br/>SL 950 sqm<br/><b>FUNCTION</b> RESIDENTIAL</p> | <p><b>6</b> <b>Sea Sport Center</b><br/>sail, surf, boat renting, aquatic activities<br/>SL 625 sqm<br/><b>FUNCTION</b> COMMERCIAL, CULTURE, TOURISM</p> <p><b>7</b> <b>Primary School</b><br/>school for children from 6 to 11 years<br/>SL 720 sqm<br/><b>FUNCTION</b> EDUCATION</p> <p><b>8</b> <b>Fishermen's facilities</b><br/>covered spaces dedicated to fishermen activities for their work<br/>SL 600 sqm<br/><b>FUNCTION</b> PRIMARY, COMMERCIAL</p> |
|---|---|

- 9** **Dwelling building**  
used to host different kind of families and people, with different social, economical and cultural provenance, mix used  
SL 6000 sqm  
**FUNCTION** RESIDENTIAL, PUBLIC SERVICE

## 2.5 NEW MOBILITY STRATEGY

more efficient, more eco-friendly

Regarding the new mobility for the city of Lagos, the main objective is to first create a city centre where the most popular way of getting around is **by walking**. Making the city more “walkable” means making it more **eco-friendly** and **sustainable** in all respects.

To achieve this goal, which is of course not the only one, it is necessary to think about important considerations from the perspective of pedestrian mobility in the city: *how much public space is actually dedicated to pedestrians and how much to cars? How can a pedestrian cross the river directly from the city centre without reaching the bridge to the north?*

These are just some of the questions that need to be asked, and which dictated the choices that will be explained later.

Among the first interventions is the construction of the **new cycle-pedestrian bridge** connecting the part of the waterfront near **Praça Gil Eanes**, where the new residential building stands, and the **Fishermen’s Village**: this point was identified as the best connection because from a **functional** point of view it connects two new and strong activities of the project, from a **symbolic** point of view it

seals the union of two parts of the city that until now seemed to belong to two different entities and one was considered almost the back of the other; from the point of view of **general mobility** in the city, this bridge provides high pedestrian accessibility to the train station: whereas until before this bridge, citizens had to walk along the entire waterfront and then take the bridge north to reach the station, it is now possible to do so directly from the city centre and through Fishermen’s Village.

This bridge, in conclusion, profoundly changes the **walkability**<sup>33</sup> presented in the city, ensuring faster access to all the main services and functions of Lagos city.

The bridge, at the level of infrastructure, is not the only intervention that is proposed for mobility, on the contrary, the following one brings with it a much more radical and larger-scale change that is, however, considered necessary for the improvement of the city’s condition not only from a transport point of view.

It involves the construction of an **underground tunnel**: in essence, the idea is to take **Avenida Dos Descobrimentos** to a lower level, underground, for the section that corresponds

to the ancient walls and thus the historic centre.

As mentioned several times before in the course of this treatise, the aforementioned **Avenida** constitutes an immense **architectural barrier** that seems to mark the end of the city to the detriment of the waterfront, which remains well isolated between it and the river.

It is also true, however, that this road is too important a road **axis for the city and the region**, since it is the city extension of one of the regional arterial roads, the **N120**.

Therefore, the solution is not to eliminate **Avenida Dos Descobrimentos**, but to place it at a different level where it loses its negative barrier component, namely underground: by doing so, **car traffic is shifted** to the lower level of the tunnel, while where the Avenida is today, it is possible to intervene with a process of redistribution of space.

The width of the current Avenida varies from a minimum of 13 to a maximum of 22 metres: these can become 8 metres and be dedicated only to **public transport**, electric and sustainable shuttles, which run along the waterfront joining together the underground parkings, the city centre

from south to north and the train station.

Those who until now used to carry out this tour by car, can now do so using the shuttle and, even if they come from outside the city by their own means, can leave the cars parked in the underground parking lots and go up to the surface to take the shuttle; or, ultimately, if a person is passing through he can use the **underground tunnel of Avenida Dos Descobrimentos** without constituting a barrier to the city.

As for all the square meters obtained on the surface, these will be dedicated to the realization of the **linear park of the waterfront**: with a minimum width of 13 meters to a maximum of 22, this linear park will stretch along the entire length of the underground tunnel becoming the new lung of the city.

Inside, in addition to a **tiled promenade** for walking and **green areas** for relaxation, we find a further innovation for the mobility of the city: the **bike path**.

The **bicycle**, as well as the **scooters**, are completely new means of transport if you think about the mobility of Lagos, yet, if you think of the

coast south of the city and then the long stretch of beaches from the dunes, it is possible to draw a linear and very accessible route for this type of transport, which are **highly sustainable** and very **attractive** for citizens and tourists.

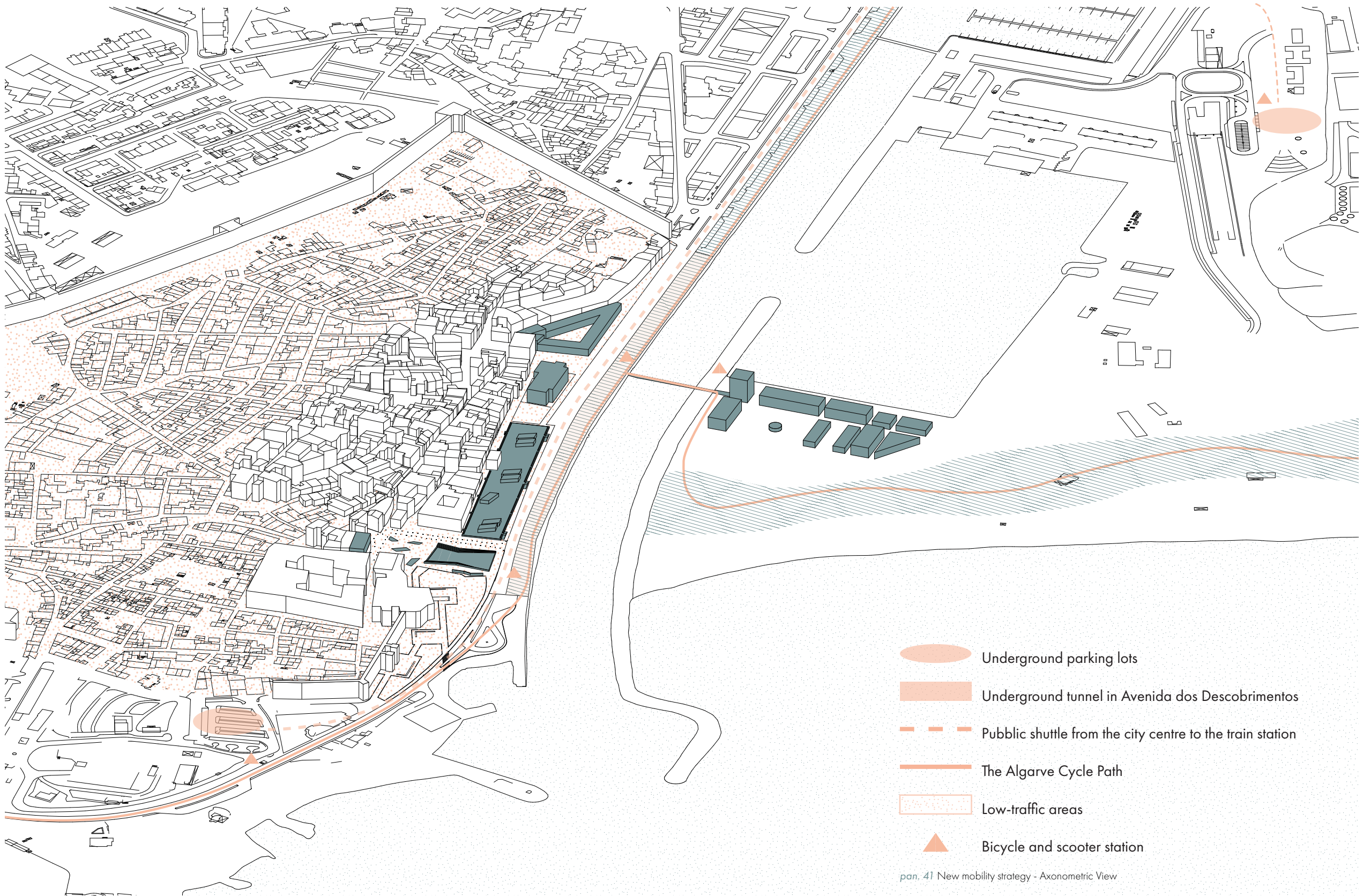
The addition of the bridge is clearly a turning point for this type of road network, as well as the bridge system realized for the Dune System: through the suspended walkways it is possible to travel by bike along the beach without interfering with the natural balance of the dunes.







This **cycling path**, could be a key for reading also for the other cities of the **Algarve region** that being all nearby, one very close to the other, could be connected all by a kind of unique track.

In **conclusion**, we can say that the planning for the new mobility of the city aims to be completely **sustainable** and to **minimize the use of cars** and private vehicles, encouraging the sharing of bicycles and scooters for example, but even more encouraging people to move on foot or through the use of **public transport**.

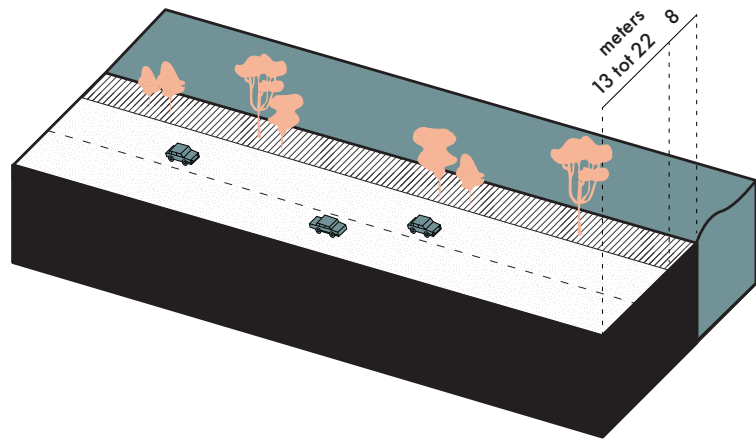
In the following panels, it will be possible to see in general the operation of this transport planning

and in more detail, through special schemes, what for example happens in the Avenida dos Descobrimentos and what the changes are.

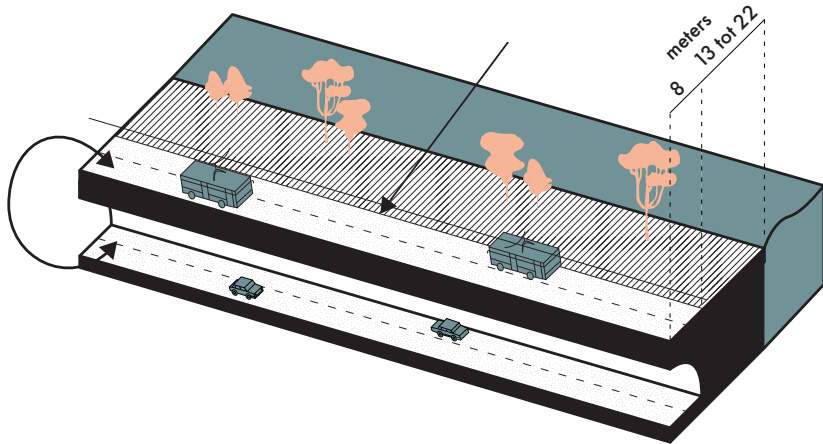


-  Underground parking lots
-  Underground tunnel in Avenida dos Descobrimentos
-  Public shuttle from the city centre to the train station
-  The Algarve Cycle Path
-  Low-traffic areas
-  Bicycle and scooter station

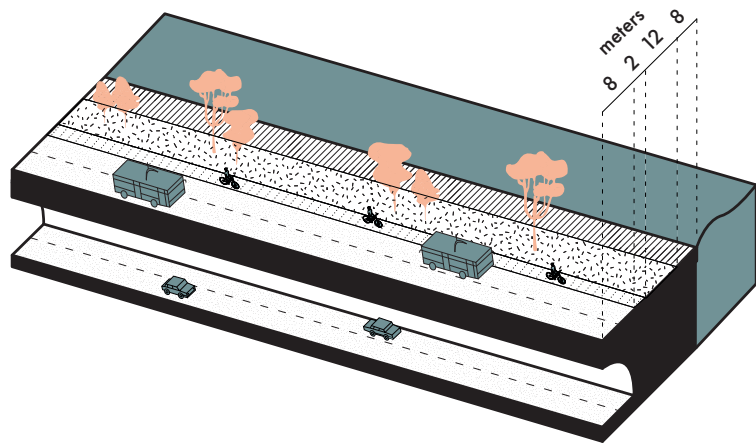
pan. 41 New mobility strategy - Axonometric View



current state of Avenida Dos Descobrimentos



- decreased width
- public electric transportation
- car traffic goes in the tunnel



- Bicycle and scooter path
- Linear Park
- Promenade

pan. 42 Avenida dos Descobrimentos re-design process

pan. 43 Bicycle and scooter path





20 min 15 min 10 min 5 min

gra. 13 Today's reachability by walking OpenRouteService



10 min 8 min 6 min 4 min 2 min

gra. 14 Today's reachability by cycling OpenRouteService

## 2.6 THE WATER TRACES SYSTEM

### a technological and architectural tool

The idea of the **Water Traces System** was born mainly from needs inherent to the city of Lagos: connecting invisible spaces and solving the problem of flooding and regulating the tide of the **Bensafrim River**.

This tool is very important for the planning of this project, especially because, as we have already seen from the nature of the needs to which it responds, it is a tool that can be used in the **architectural** sense, by connecting invisible spaces, and in the **technological** sense, by reducing the impacts of floods, flooding and collecting water for energy purposes.

Moreover, from a **symbolic** point of view, water represents for Lagos a substantial element, historical and vital to its existence since the time when the economy was based on fishing, trade and ocean navigation, up to today where one of the main reasons why huge crowds of tourists flock here is precisely for the beautiful beaches: **water**, constitutes that element which, although conceived as a threat from the point of view of the Ecosystem, is the **identity** of the city.

Moreover, in Portuguese architectural culture, constructions along the water, or in general the

relationship between them, has always been very close, almost as if this people had managed to reinterpret the role of the water's "limit" and exploit it to their advantage.

*"The love of building "together with water", on coastlines, near estuaries and the sea has long been identified with the Portuguese builder. He knows how to make the most of this landscape and moulds it in a perfect symbiosis of nature, design, and inventiveness."*<sup>11</sup>

11. Costa A. A., Fernandes J. M., 1996, "Il Portogallo del Mare, delle Pietre, delle Città", Litografia Tejo, Lisbon, Portugal

So, going into detail to see what this system consists of, we can say that it takes its inspiration from *Josep Miàs' "Banyoles refurbishment"* project: a dense network of wounds, or furrows in the ground within which rainwater flows, but as we shall see, not only that.

Just as in *Banyoles*, this dense network is a great drainage system that is also used as an architectural tool to define spaces, functions and circulations.

In particular, the *Water Traces System* is composed of several elements that are all important for its proper functioning:

- **Point O**, is the point at which the drainage system begins: since using pumps to push the water would have been too great an economic and infrastructure effort, it was decided to take advantage of gravity and the morphology of the site to make the flood water flow. Point O, in fact, is the highest point and closest to the safety line that the municipality of Lagos takes into account, namely the point where the water reached during the floods.

- **the water traces**, are the channels along which water flows during rainy hours or during

floods, and through which the water is carried to collection points located in the two main public spaces redesigned in the project "*Praça Gil Eanes*" and "*Praça Infante Dom Henrique*".

- "**Collection Point Gil Eanes**" and "**Collection Point Infante**" are the points where water drained from the whole system is collected and "shown" to the public, in the sense that water is used here as an architectural element for the urban design of these spaces through fountains and ponds of which you will see well the entity in the third and last chapter of this treatise.

- From collection points, water is sent to the *Linear Park* via pipes: here, water is used to clean the streets, the promenade and especially to irrigate the park therefore a part of this immense natural resource is reused while the remaining part can be discharged into the river or conducted to the *Water Tower*, located at the beginning of the *Fishermen's Village*. Also here, in the promenade along the waterfront is the "**Flooding barrier**": in essence, it is a system composed of a wall, a barrier, which in low tide conditions remains silent below the promenade itself; however, when the tide becomes high, this barrier is raised through a system of hydraulic pistons, thus raising the level of

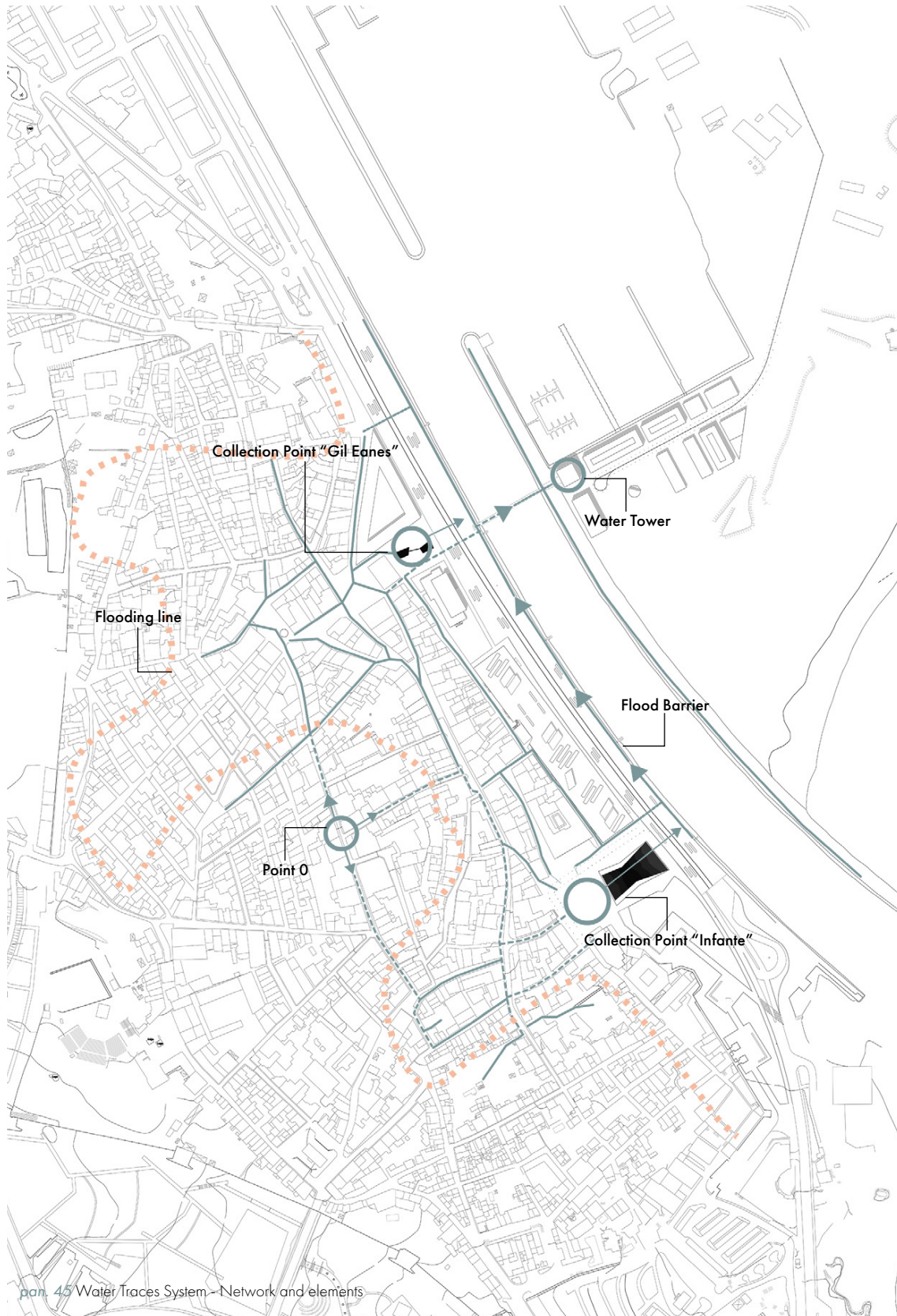
protection against flooding.

- The last element, as already mentioned, is the **Water Tower**: it is first of all an architectural object of pure landmark, which aims to constitute the new face of the city of Lagos as regards the other side of the river *Bensafrim*, giving the beginning to the *Fishermen's Village*; in addition to that, it is a high tower in which water is collected and then used for the most varied uses, all, of course, as sustainable as possible.

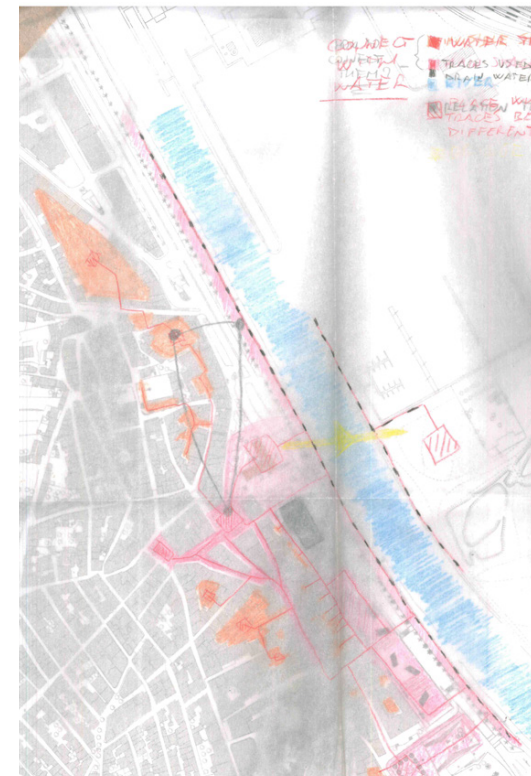
In addition, as will be deepened in the next chapter, the *Water Traces System* will also be used to define the rhythms and functions of the important public space under consideration "*Praça Infante Dom Henrique*".

**Water** in this project, in this city, is a pivotal and fundamental element, understood as a natural, architectural, urban element, as a source of energy, as a symbol, as a metaphor, as an **identity**.

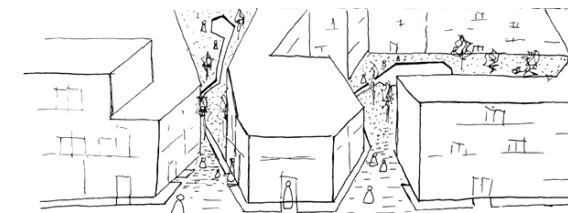




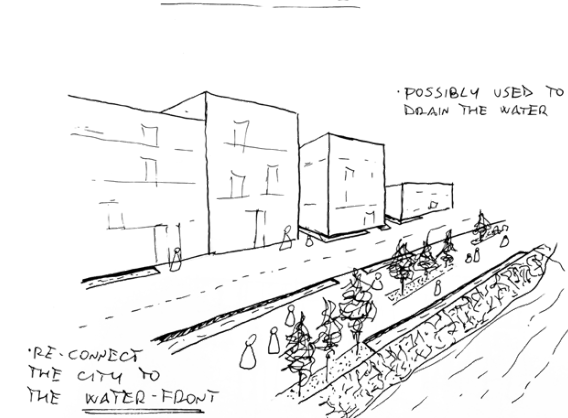
pan. 45 Water Traces System - Network and elements



pan. 46 Conceptual drawings about Water Traces System



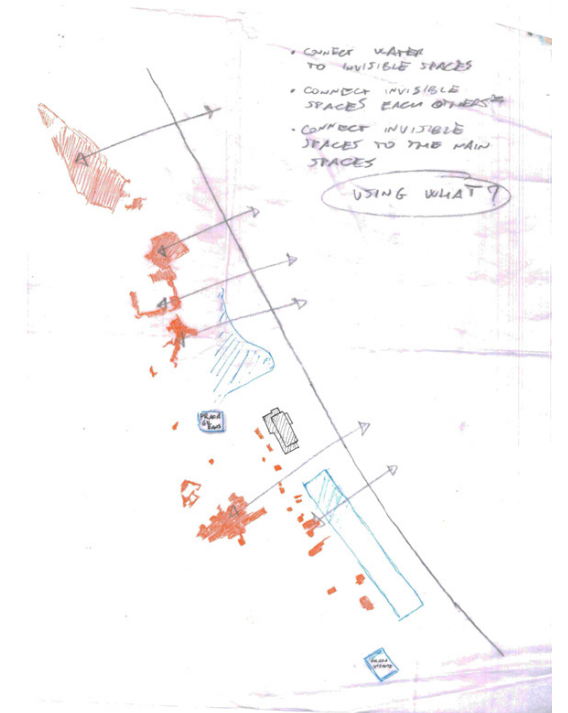
USED TO CONNECT THE INVISIBLE SPACES



POSSIBLY USED TO DRAIN THE WATER

RE-CONNECT THE CITY TO THE WATER-FRONT

pan. 47 Conceptual drawings about Water Traces System\_2

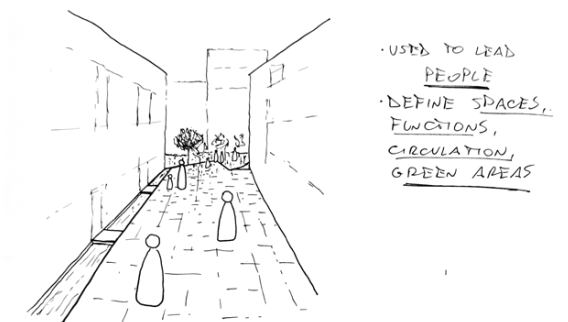


CONNECT WATER TO INVISIBLE SPACES

CONNECT INVISIBLE SPACES EACH OTHER

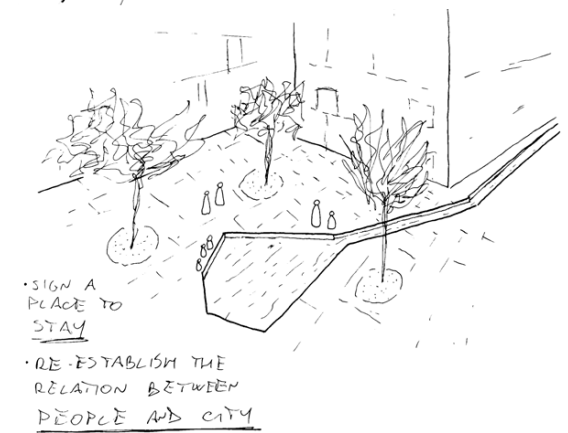
CONNECT INVISIBLE SPACES TO THE MAIN SPACES

USING WHAT?



USED TO LEAD PEOPLE

DEFINE SPACES, FUNCTIONS, CIRCULATION, GREEN AREAS



SIGN A PLACE TO STAY

RE-ESTABLISH THE RELATION BETWEEN PEOPLE AND CITY

## **2.7 MASTERPLAN**

strategies' synthesis



## 2.8 FEASIBILITY

### in the perspective of the “Polis” European project

Concluding this chapter of design strategies that affect the entire historic centre, in terms of construction and mobility, and especially in terms of two major infrastructures such as the **new bridge** and the Avenida dos Descobrimentos **tunnel**, this section will discuss the **feasibility** of these works.

First of all, as we have already seen in the interview with **Nuno Marques**, Lagos town hall engineer, also involved in the drafting of the “*Plano Geral de Urbanização de Lagos*”<sup>34</sup> from the early 2000s until its publication in 2012, there has long been talk of finding a solution to the **barrier** created by the Avenida dos Descobrimentos: citizens, but also and above all the municipality’s professionals, perceive and share the fact that this major road artery seems to sanction the end of the city, separating it from the river and the other bank.

Among the various ideas on the table at the municipality is precisely that of building a tunnel, of which there are obviously no drawings or specific plans as yet, but nevertheless **the intention is to move the Avenida traffic to a lower level**: In this perspective, the project proposed in this thesis fits in perfectly, as engineer Marques says, as not only is the tunnel proposed but, in addition, all the large area that remains free on the surface is well

managed and subdivided into lanes for **electric public transport**, which greatly increase the ease of moving around the city and its main points, lanes for **soft mobility**<sup>35</sup>, encouraging sustainable means of transport, and finally adding a **large green lung**, “Linear Park”, which is currently lacking except for the “Parque da Cidade” outside the walls.

In this scenario, the “**Polis**” project fits in, a **European call for proposals** that makes available large funds for Portuguese cities and, in particular, for its **public spaces**.

The **main objectives** of this programme are:

- developing large integrated urban regeneration operations with a strong environmental enhancement component;*
- develop actions that contribute to the regeneration and revitalisation of cities and promote their multi-city and multi-functionality;*
- supporting other redevelopment actions that improve the quality of the urban environment and enhance the presence of structuring environmental elements*  
*structuring environmental elements such as river or coastal fronts;*
- support initiatives to increase green areas, promote pedestrian areas and limit car traffic in cities.*

As regards the **types of intervention** granted, these are as follows:

- *regeneration of depressed industrial areas*
- *creation of new polarities in metropolitan areas*
- *regeneration of waterfront or river areas*
- *enhancement of the historical heritage and enhancement of the natural heritage and its reintegration into the city*
- *redevelopment of medium-sized cities with economic strength but with a deficit in the quality of urban life*
- *redevelopment of inland cities or border areas that can be poles of regional development poles.*

As can be seen, the proposed intervention on *Avenida dos Descobrimentos* falls squarely within the types of interventions granted.

Considering also that the key words of this “Polis” project are: *digital city, natural city, city of knowledge and city of integration*, it can be said that they are very reminiscent of the fields in which Italy is investing a lot thanks to the **PNRR**<sup>36</sup> - “*Recovery and Resilience Plan*”, such as infrastructure for sustainable mobility, the green revolution and ecological transition, and of course innovation.

Another type of factor that contributes to the feasibility of this infrastructure is the **composition of the soil** along the river: usually, this does not allow for large excavation works or, in any case, to go many metres underground to build, due to, sometimes, the damp soil or even the presence of water in it.

In the case of Lagos, however, as also stated by Nuno Marques, the whole area where the tunnel intervention is proposed actually corresponds to a piece of the city that was completely added **artificially** during the 20th century works: in fact, in that area, some 10 metres have **already been dug** for the construction of the underground car park along the Avenida, further confirmation of the possibility of making this large infrastructure by digging up the ground.

The “Polis” project does not end here, in fact, shortly after its publication, a second plan called “**Polis - Litoral**” was published, as already mentioned in the interview phase. This project provides a series of funds aimed at all the objectives of the generic “Polis” project, but deeply applied and dedicated to littoral areas: more specifically, it subsidises the **integrated re-qualification and operations of risk zones and degraded natural areas located on the coast.**

Its **objectives** are:

- *protect and requalify the coastal zone with a view to defending the coast, promoting nature conservation and biodiversity*
- *prevent and defend people, goods and systems from natural risks*
- *to promote the public enjoyment of the coast, supported by the requalification of bathing spaces and the environmental and cultural heritage;*
- *to enhance environmental resources as a factor of competitiveness.*

It is here, especially from the perspective of the **third point**, the one concerning physical **accessibility to the coast**, that the possibility of participating in the ‘Polis - Litoral’ call for tenders with the proposal of the **new cycle-pedestrian bridge** linking the two banks of the *Bensafrim* river fits in.

In fact, the bridge is not only a way to connect the city and its main spaces such as squares, markets and mobility points such as the station, but is also the easiest and **quickest way to access the series of beaches along the coast**, adjacent to the dune system: therefore, **the design of this bridge can be part of this type of intervention**, which could also solve the problem of the **overcrowding** of

the small beaches located south of the city centre under the cliffs; by providing an easy way to reach the other beaches, in fact, many people could go along the coast of “*Meia Praia*” reducing the number of bathers in the small ones.

# THE E E R H T

## CHAPTER THREE - PROJECT

## 3.1 INTRODUCTION

### why Praça Infante Dom Henrique

Having reached this point in the treatise, we can say that “**Chapter 3 - Project**” is conceived as an in-depth design of a **specific area**, which has already been considered previously.

To recapitulate, while “**Chapter 2 - Strategy**” was dedicated to the radical interventions to be carried out throughout the **urban centre** in order to improve the conditions of the city, in the current chapter, the focus is on the “**Praça Infante Dom Henrique**” and the space just surrounding it, including the redevelopment project of the historical building adjacent to the square, now unused and a victim of “**de-malling**”<sup>37</sup>.

The question arises: *why this project proposal in detail on this area, rather than another?*

The answer is that *Praça Infante Dom Henrique* constitutes the area of the historic centre where all the **issues, weaknesses** and **opportunities** discussed in the previous chapters converge: starting with the fact that it is the city’s **largest public open space** and today does not enjoy great attractiveness, continuing with its close proximity to the barrier constituted by *Avenida dos Descobrimentos* and all that it implies not only in architectural terms but also in terms of **mobility**.

In addition, also referring to the analysis themes explored in “**Chapter 1 - Analysis**”, the

forementioned square, the protagonist of the project, constitutes a place with a high **historical value** as some of the stone tracings along the pavement correspond to the end of the original city, what was once the coastline of Lagos later enlarged during the works that took place in the 20th century; even from the point of view of the historical value of this public space, in the street towards the “*Castelo de Lagos*”, there is an ancient peer that has been used since ancient times by fishermen and those who left during the “*Age of Discovery*”.

As will be seen in the proposal, the **Ecosystem value** of this square will not be inferior to the historical one. Here, in fact, two water flows will meet, that of *rain* and that of the *river*, which together with a sophisticated and detailed **hydraulic system** will change the face of the square continuously, making it **flexible** to all uses and greatly increasing its attractiveness. Moreover, from the mere point of view of **sustainability**, this large body of water that will be created will actually be a water collection point that will then be stored and reused thanks to the *Water Tower* in the *Fishermen’s Village*.

From the point of view of **functionality**,

understood as the services that a space can enjoy, in addition to having a variety of **public activities**, this square, in particular through the reuse of the adjacent historic building in “**de-malling**”, proposes the completion of the functional mix of the historic centre through an activity that is absent: the new **WaterHouse** will be the last piece of this big refurbishment completing it by providing cultural spaces to the citizens.

This large public space, also refers to the issue of “**invisible spaces**”: in fact, it is often considered a space of passage and not a space in which to “delay” or otherwise spend time; moreover, in one of the streets leading to the square, there is also a **courtyard** within a block accessible from the outside, which is a space that can be taken up and dedicated to the public.

This other theme further raises the **sensitivity** and **complexity** of this place, which, *through the project, wants to be made a synthesis of the different proposals for solutions to the criticality and opportunities listed.*

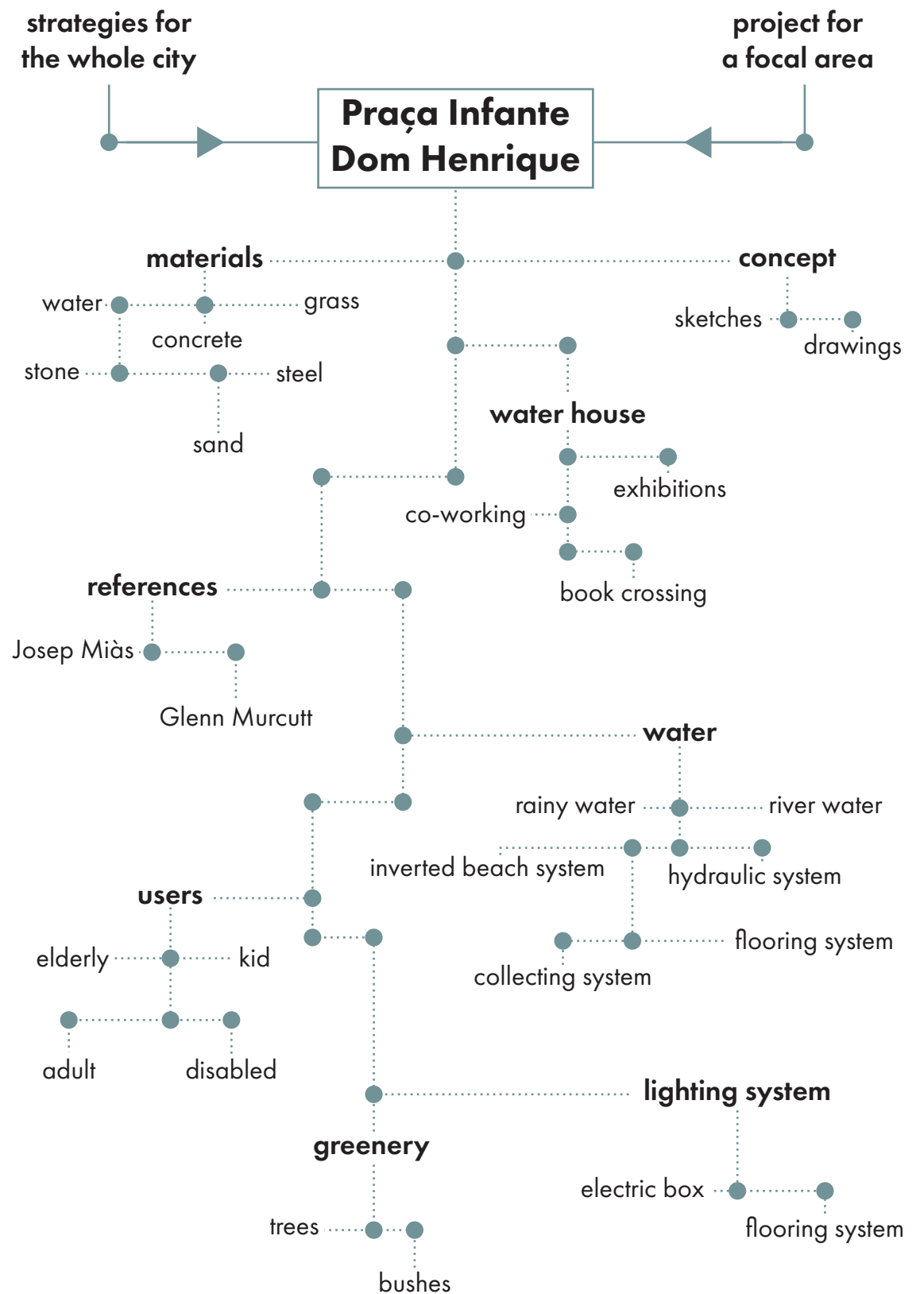
In fact, *the objective is to redevelop and revitalise*

*this public space considered vital for Lagos, through a careful sensitivity to the issues listed, but not only: it is also important, as will be seen, the concept phase in which the users, materials, and references will be defined, nodal elements for the development of the proposal aimed at improving and renewing Praça Infante Dom Henrique.*

Also from the point of view of the **feasibility** and construction phase of this large hydraulic system, which will allow all the benefits already mentioned to be realised in the square, it is important to emphasise the possibility of realising it at the same time as the work on **Avenida dos Descobrimentos**: during the excavations that are to be made for the construction of the tunnel and the entire **Linear Park** system along the waterfront, it will also be possible to extend the construction site to **Praça Infante Dom Henrique** and put in place the aforementioned hydraulic system that will allow not only to store rainwater, but also to “let” river water into the public space, sanctioning the *breaking down of the barrier that today separates the city and the river.*



fig. 48 Praça Infante Dom Henrique\_2 Cinematic video





## 3.2 CONCEPT

### references, users, materials

For the *Praça Infante Dom Henrique* refurbishment project, it is important to refer to the two main architectural **references** used, which somehow inspired the idea of redesigning this space.

The **first** one, already seen in “Abacus of Reference, Chapter 2 - Strategy”, is the refurbishment project for the city of *Banyoles*, by *Josep Miàs*: the small city of Banyoles, in fact, already had a substantial similarity with Lagos before the intervention: as it rises above an aquifer, its history and culture as a city is affected by the element “**water**” with a **negative meaning**, a threat. For many years it has been considered a huge problem and have been made a lot of engineering works to solve it.

*Josep Miàs* in his renovation project decided to completely close the city centre from traffic, to redo the flooring using Italian travertine and, most important operation, to cut the ground in punctual spots to show the water that flows under the city. *This subtraction work allows him to create different spaces and to give to the city that was missing, an identity.*

Indeed, also in Lagos, the water, due to **flood** and to **high tide** of the river, is considered a problem while in reality it is a huge **opportunity**: in this project, an attempt is therefore made to invert the negative connotation of this natural element,

fundamental for the city and its Ecosystem, inviting it to become part of the public space and thus becoming an attractive and functional element.

The **second** reference, on the other hand, is taken into account by looking at the conservation project of the historic building adjacent to the square, now in “**de-malling**” and therefore unused, protected by the *Lagos Municipality* as cultural heritage: in fact, in the document “*Plano Geral de Urbanização de Lagos*” drawn up by the *Câmara Municipal de Lagos*<sup>38</sup>, the aforementioned building appears in “*Article 24º - Património classificado, em vias e em estudo de classificação*”, and it is in a state of classification due to the masonry works carried out on the facades, which must be preserved in any renovation of the building.

For this reason the reference, *Glenn Murcutt’s “Simpson House”*, was chosen because of its **light** and steel structure, therefore different from the pre-existing one, but also because of its sloping single-pitch roof that will act as a screen and protection: following these principles, as we will see in detail, it was decided to upgrade the building with a restoration work and with the addition of a **new upper volume** that rests on its own structure.

For what concern the **users**, the people to whom is dedicated the square, it can be said that the project attempts to be aimed at everyone, without distinction of age or, given the multicultural nature of the city, of origin: the activities that can be carried out, in fact, are the most varied and dedicated to everyone.

For example: the new Praça Infante Dom Henrique square is a quite place to take long walk, to rest under the sun or under the shadow of the trees, to meet each others with the friends; **elderly** people can sit around the square or go down the short steps of the pool in the low tide days.

**Adults** people now can stop and delay in this space, pushed by the curiosity for the pool and for the water behaviour in this square. Singles can meet each other and couple can bring their children to play. They can also use the pool not only to sit near the water, but also to organize events.

**Children** are the ones who would love to play inside the pool, learning the behaviour of the water and its different level according to the tide. The strict relation between the design and the natural phenomenon allows the children to play while they are learning.

The configuration of the square is totally friendly for **disabled** people: there are no steps that divide the flooring of the main spaces and the street but just smooth and short drops to allow the water to drain. They can even see inside the pool since there are no walls to divide it but fences for a safety purpose.

From a more physical and tangible point of view, the choice of **materials** was profound and careful, taking into account which of these, due to their intrinsic and extrinsic **properties**, are best suited to their use in the project.

While some, in fact, are chosen more for their historical value, almost as a symbol of respect and a reminder of something that does not exist today but should be kept in mind, others are used not only as simple construction or aesthetic materials, but as true architectural tools.

The river is the core of Lagos and **water** is the core of the project: until now the river has not been considered the centre of the city but almost a "back". The new square wants to reverse this conception and to threat and to use the water as it deserves.

The **rainy water** flows in all the city and is

collected in two main points; the **river water** is now accepted inside the city and controlled.

The lack of **green** area is a deep issue for Lagos: the city needs trees, bushes and plans to breathe, to clean the air and for so much more. The presence of the water traces in the urban fabric allows to an easy irrigation of the green areas.

The **stone** is the material of the dialogue with the past: it is preserved in some area of the project as the old peer and the street that leads to the ancient walls.

**Steel/Corten** is the new material inserted in the project: it is a type of material that thanks to its characteristics create a sort of detachment with the pre-existence when used for a re-qualification process. It is used mainly in the square for urban furniture such as the handrails and the benches, and for the new volume of the **Water House**.

The flooring of the square will be made of 4x4 meters square of **concrete** bounded together in bigger square which are divided by a **gap of 1 cm** to allow the water to pass through: this material perfectly create a dialogue with the old "**calçada**", the typical Portuguese finishing for the street.

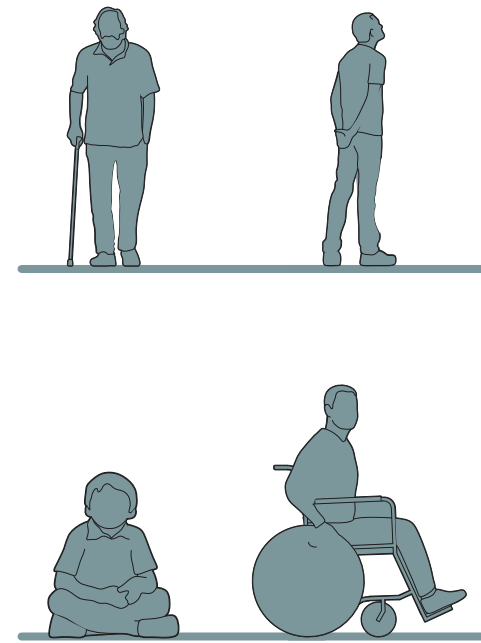
Also the **sand** is used to communicate with the **history**: years ago the path toward the ancient walls was the end of the city, more precisely the beach. In this area so, the beach system is recreated by a deep layer of sand with a proper draining system of the rainy water.



fig. 49 Josep Miàs, Banyoles refurbishment\_6 [miasarquitectes.com](http://miasarquitectes.com)



fig. 50 Josep Miàs, Banyoles refurbishment\_7 [miasarquitectes.com](http://miasarquitectes.com)



pan. 49 Users



pan. 50 Moodboard of materials

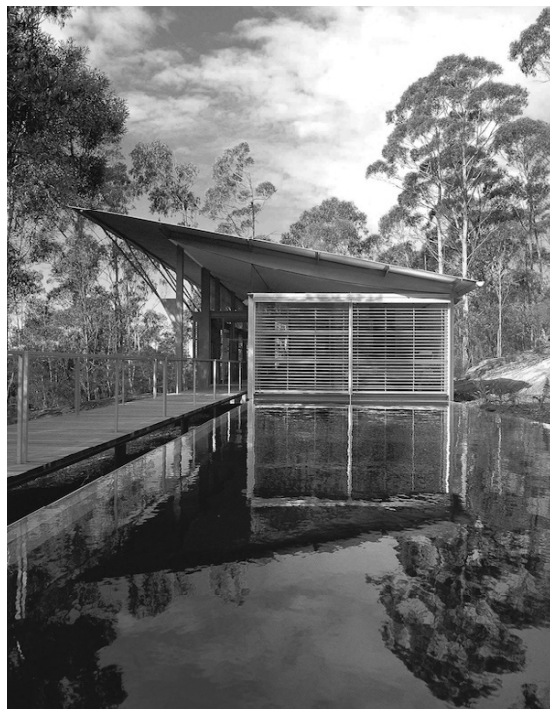
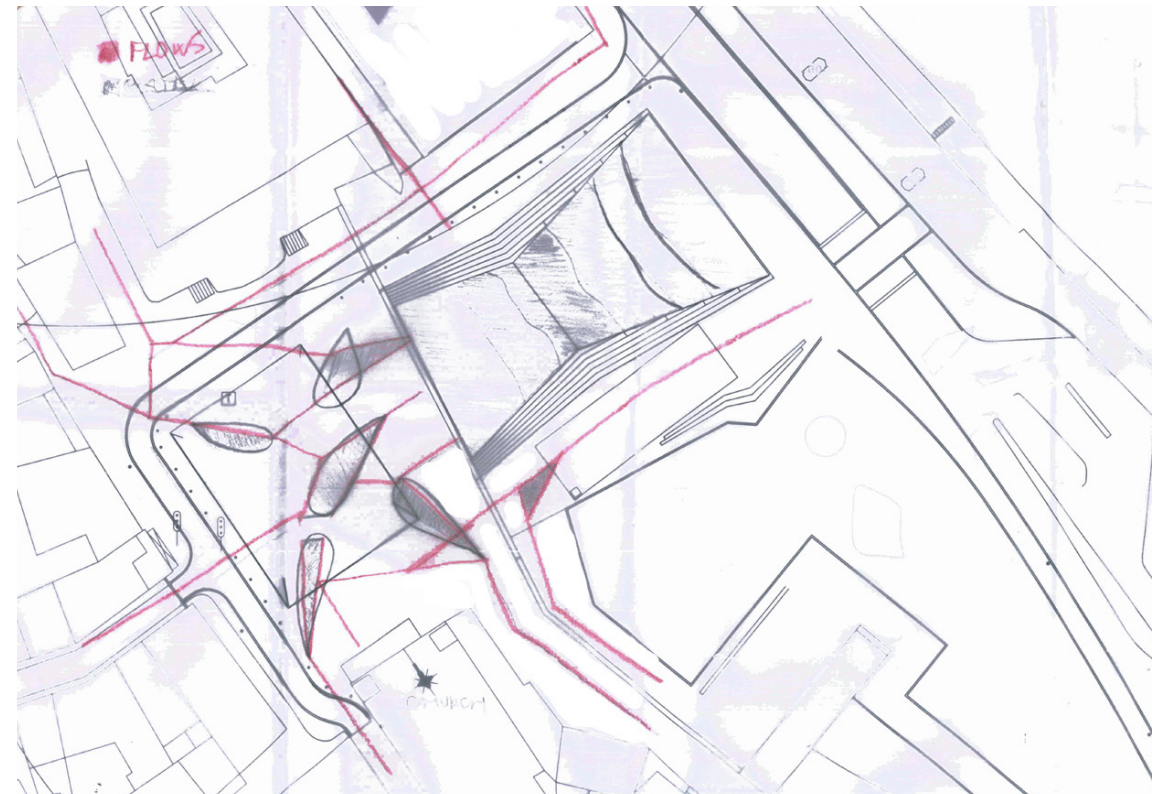


fig. 51 Glenn Murcutt - Simpson House\_1 [ozetecture.org](http://ozetecture.org)



fig. 52 Glenn Murcutt - Simpson House\_2 [ozetecture.org](http://ozetecture.org)



pan. 51 Flows study in the square

## 3.3 PROJECT PROPOSAL

### the square's shape

This section shows the **design proposal** for the redevelopment of *Praça Infante Dom Henrique*, considered, as explained above, the focal public space of the city's historic centre.

The square today does not enjoy great attractiveness, it is conceived more as a place of passage than **a place "to be"**: for this reason, starting from the concept idea, an attempt is made in this solution to **"guide"** people towards the square through a re-paving operation and through the use of water traces.

In fact, as can be seen in the master plan, the water traces in this case are used as a real **architectural tool**: these are scattered throughout the historic centre to form a drainage system that is currently lacking, but, starting from the streets surrounding the square, these water traces mark the path **leading** to the square. Moreover, the new paving made up of concrete squares is not limited just to the square, but also extends to the surrounding streets, almost as if to **catch passers-by** and invite them to come to Praça Infante Dom Henrique.

It is also important to emphasise that the **change of paving**, into smaller concrete blocks, defines the road, which is only maintained for emergency

and maintenance purposes and possibly for the access of vehicles for the organisation of events: here, too, it is emphasised that car mobility is strongly discouraged while soft mobility is clearly favoured.

Inside the large square, on the other hand, there are five **mirrors of water** whose design is generated by a study of the **flows** and **circulation** within this space: in fact, these mirrors of water suggest several paths without, however, defining a main one, such as the one towards the large pool called the **"Inverted Beach System"** or the one towards the **"Castelo de Lagos"**; they also define the space in front of **"St. Antonio's Church"** with a **buffer** area that remains within the church's perimeter.

With regard to the large pool in the centre of the square, the work carried out starts by maintaining the original perimeter of the existing state, with the internal addition of this sort of gradually narrower staircase looking towards the city: this large system is called **"Inverted Beach System"** because, with its back to the water but **facing the city**, it constitutes a sort of artificial **urban lagoon**, where the water level can be managed according to different factors;

moreover, this large basin also constitutes the point where the rainwater brought by the **Water Traces System** flows and is collected before being sent to the **Water Tower**.

So we can say that the presence of all this water within the space, is a way of making the rainwater that is collected, and also that of the high tide as we will see, **interactive**: the people inside the square **actively witness** this large water collection infrastructure, interacting with the space also according to the weather conditions.

*But how does this 'Inverted Beach System' work specifically?*

As seen in "Chapter 1 - Analysis" the **ecosystem** of the city of Lagos is a key and very important point, in fact, the river **Bensafrim** during the day raises its level considerably due to **the high tide**, which is also why the "**Linear Park**" already constitutes a **protection** in case of flooding as the ground will absorb a lot of water before it enters the city.

So, as can be seen in section, thanks to the same **hydraulic system** that connects the large basin to the Water Traces System for rainwater collection, **the basin is also connected directly to the river** where, depending on the level of rain, but especially depending on the level of the tide, water can be introduced into the basin, changing

its **configuration** and thus its functions.

In this way, the "Inverted Beach System" enjoys three **different layouts** depending on the water that is fed in, the rain, and especially the tide level:

**High Tide Layout** - The large pool is full and the people of Lagos can sit around **enjoying** the beauty of this large body of water with the city reflected in it, and thanks to the stairs, the little ones can even **play** on the first steps with their legs submerged in the water.

**Mid Tide Layout** - In this case, part of the pool is submerged in the water and part is not, so it is possible to walk up some of the steps and of course also use them for **sitting** and **relaxing**.

**Low Tide Layout** - At low tide, on the other hand, the pool can be completely emptied and used up to the lowest part. In this case, the layout of this space becomes perfect for organising events as it effectively becomes a small **amphitheatre**: meetings, concerts and much more can be held by obviously blocking the water intake system.

This piece of infrastructure makes the square completely **flexible** for any use, and in the

meantime, a great **sustainable process** such as water harvesting and tidal control of the Bensafrim river is underway.

With regard to the latter, another technology is employed along the waterfront: it is a **barrier** that is normally lowered into the pavement but, as the tide rises, this barrier is pushed up by a system of **hydraulic pistons**, thus raising a barrier that protects the waterfront from flooding by following the rising water level.

Returning to the configuration of the square, another peculiarity is the shape of the pavement: the square concrete blocks are "**suspended**" to allow water to pass beneath them. This process is possible because the blocks are placed on supports only at their four corners and so the flow of rainwater, carried by the city's water traces, can continue its course: by the way, the blocks are not joined but rather placed side by side with a **gap of 1 cm** that allows the rainwater falling on them to slide underneath and join the rest of the flow.

This system, besides being a great advantage from the point of view of **water collection**, gives the square an important symbolic value, namely the continuous **sound of flowing** water, thus

bringing people even closer to this important issue for the city of Lagos.

In the new Praça Infante Dom Henrique, a series of **lampposts** have been designed to illuminate the space in the evening and make it usable even in the hours of darkness. The electricity cables run below the water level inside a well-insulated screed and reach the points where they need to exit and be connected to the lampposts. The shape of these lighting systems recalls the shape of the **lighthouse** that historically stood in this area of the city before the 20th century.

Another **historical reference** worth mentioning is the use of sand on the street that connects the square to the ancient "Castelo de Lagos". This is where, before the great works of the 20th century, the city of Lagos ended and there was a small **beach** dedicated to fishermen, so much so that the original stone **peer** where fishing boats were docked still stands. In this small path, as a form of historical respect, the old edge of the city is recreated by the **use of sand** on the beaten floor.

In addition, the new square is **much greener** than the existing state, thus also increasing the number of green square metres for the city that are currently in short supply: in addition to the park adjacent to the square, and the "**Linear Park**"

along the waterfront, within this large public space, concrete blocks "**jump**", leaving space instead for **modules** with earth and a large planted tree.

As far as the choice of trees is concerned, this was made on the basis of the book "**A Árvore em Portugal**" by **Francisco Caldeira Cabral**, from which **4 types** of trees typical of Portuguese culture were selected, although not all of them are of Portuguese origin, but they are certainly suitable for the climate of the city of Lagos defined by the following parameters:

*"Continental zone - Environment dry and hot. Temperature very high in the Summer and moderate in the Winter. Wind dry and cold in the Winter and dry and hot in the Summer. Rainfall 600 mm. Dry Summer period of more or less 4 months."*<sup>12</sup>

Therefore, the "**Palmeira das Vassouras**", a palm tree typical of the Algarve region, "**Aderno Bastardo**", also typical of southern Portugal, and two trees that have been imported from abroad for years and are widely used in the aforementioned **climate zone**, namely a maple tree "**Bordo-Negundo**" from North America and finally "**Aracuraria de Norfolk**" from England, were

chosen.

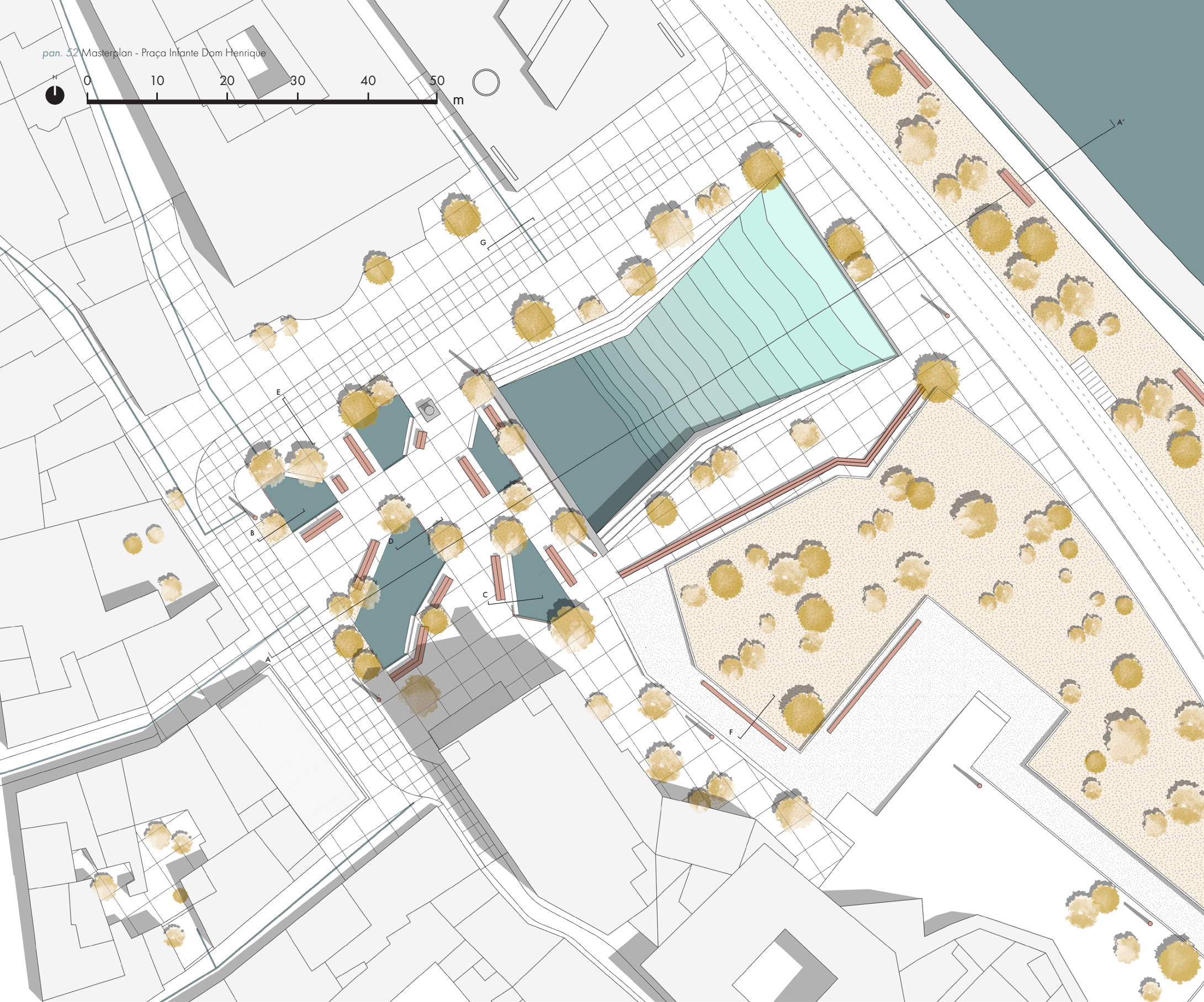
Finally, it is possible to see how, again using the same concept of "**extension**" of the pavement of the square and the water traces, one can connect a main space such as the large square to a smaller and hidden space, an "**invisible space**": in particular, very close to Praça Infante, there is an **inner courtyard** open to the street that can in fact be considered one of those spaces that, in such a dense urban fabric, can be rethought and used by the public as a common **space to be shared**.

To complete the great functional, symbolic and architectural network of the new Praça Infante Dom Henrique, the "**Water House**" was born, the redevelopment project of the "**Armazém Regimental**" building with great cultural and historical value in need of revitalisation.

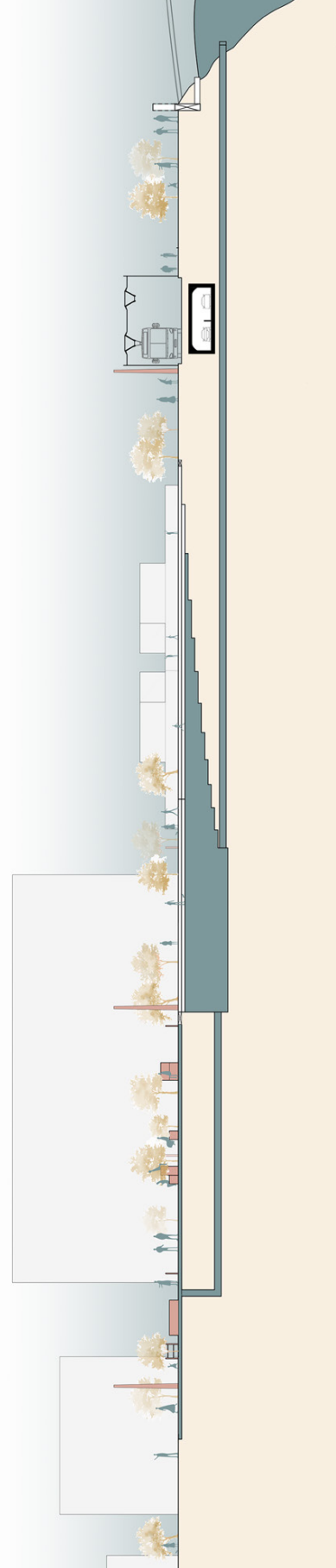
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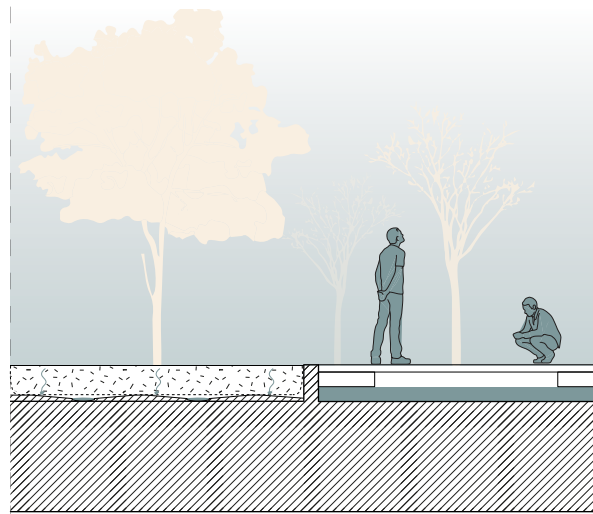
12. Caldeira Cabral F., 1999, "A Árvore em Portugal", Assírio & Alvim, Lisbon, Portugal

pan. 52 Masterplan - Praça Infante Dom Henrique



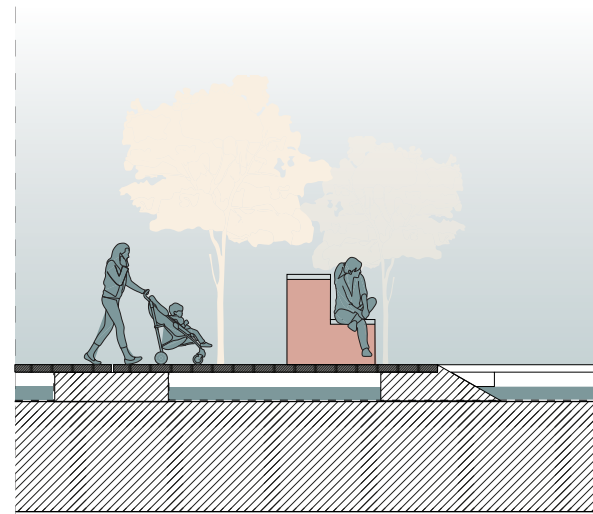
pan. 53 Section AA' - Praça Infante Dom Henrique





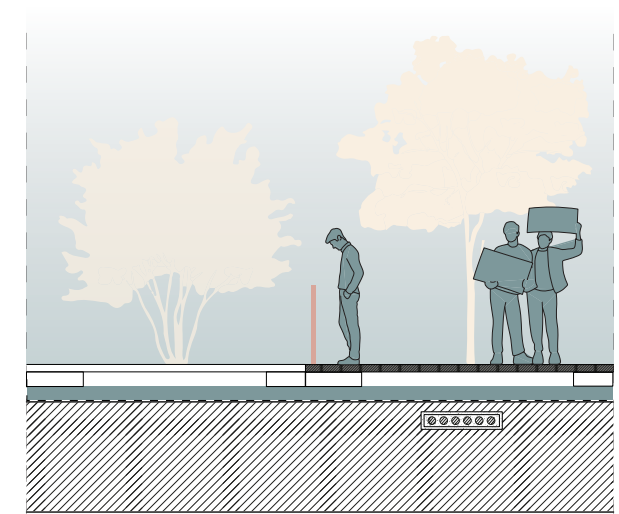
▼ 0.00 m  
▼ -0.50 m

pan. 54 Section B - Scale 1.100



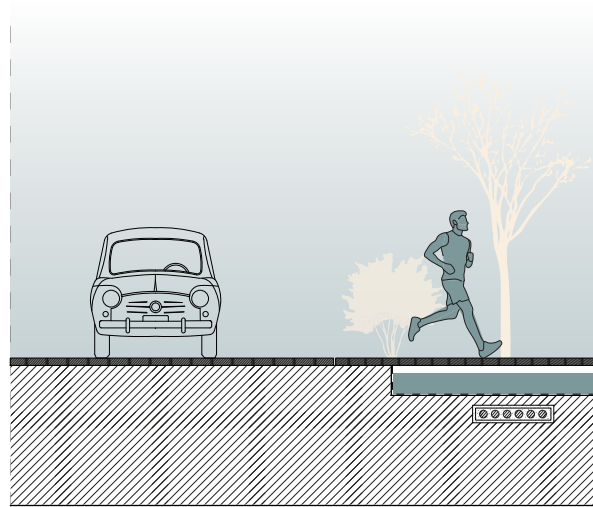
▼ 1.20 m  
▼ 0.60 m  
▼ -0.50 m

pan. 55 Section C - Scale 1.100



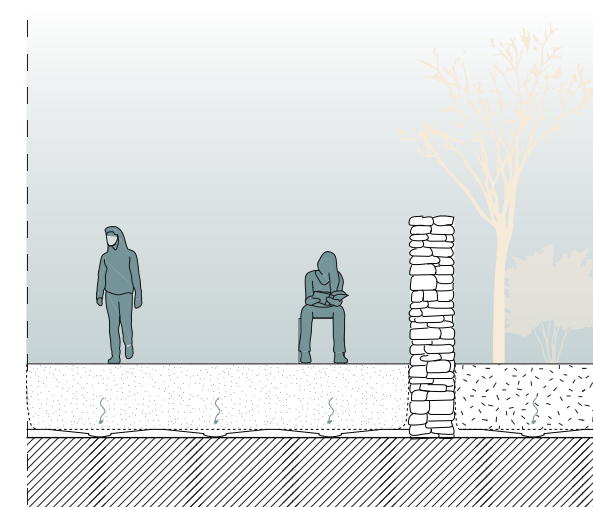
▼ 1.10 m  
▼ 0.00 m  
▼ -0.60 m

pan. 56 Section D - Scale 1.100



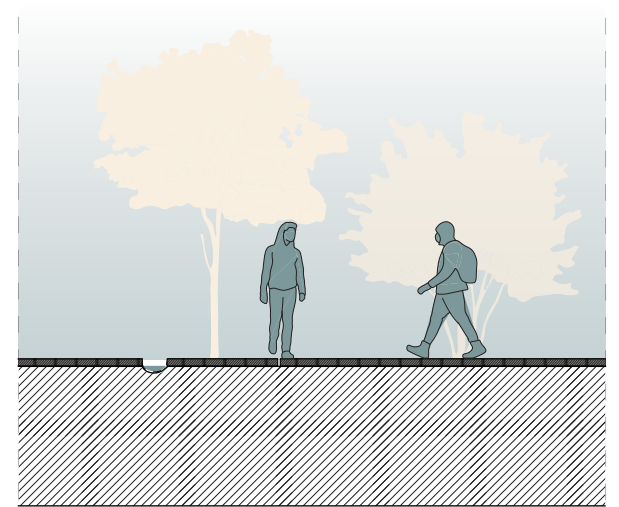
▼ 0.00 m  
▼ -0.50 m

pan. 57 Section E - Scale 1.100



▼ 1.40 m  
▼ 0.00 m  
▼ -1.00 m

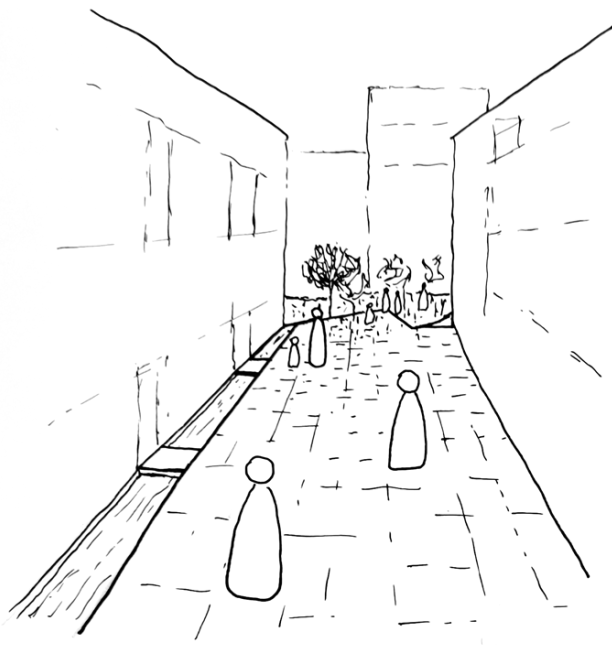
pan. 58 Section F - Scale 1.100



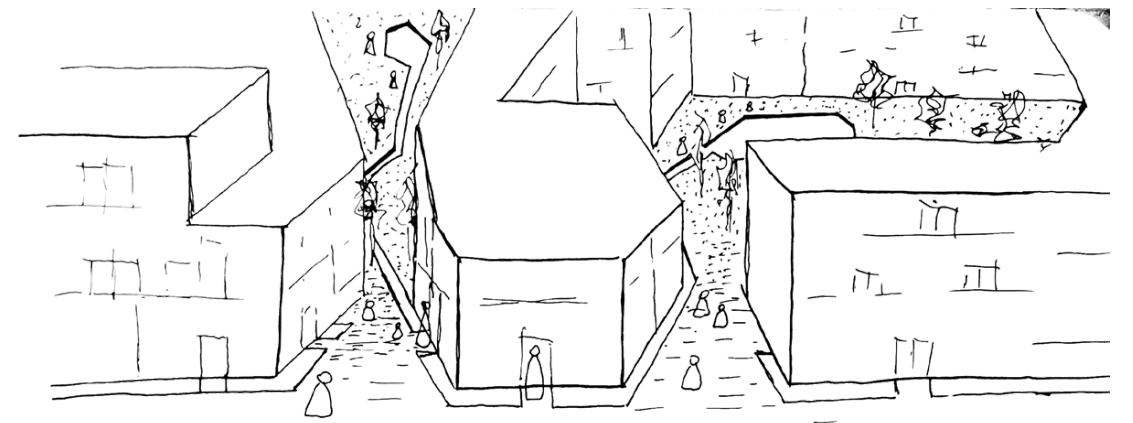
▼ -0.10 m

pan. 59 Section G - Scale 1.100

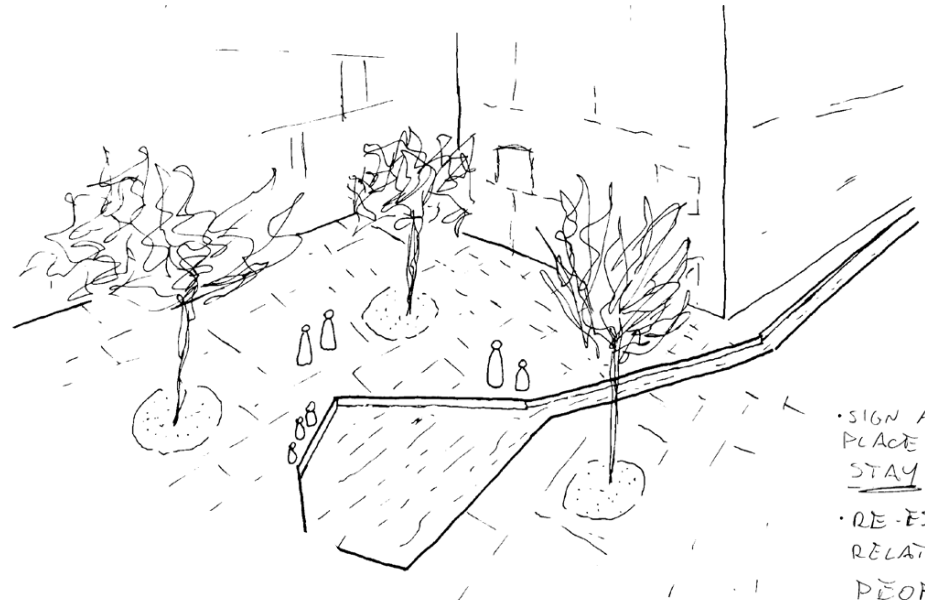




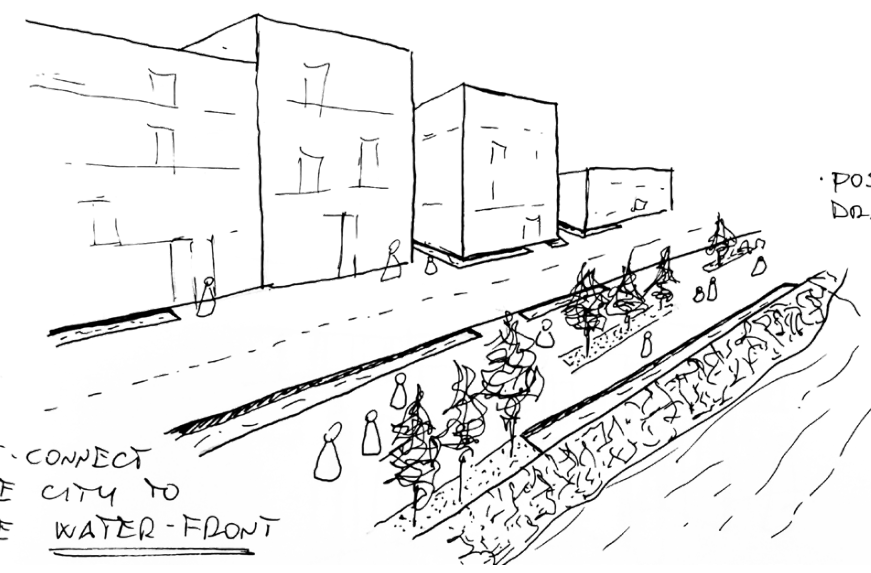
- USED TO LEAD PEOPLE
- DEFINE SPACES,  
FUNCTIONS,  
CIRCULATION,  
GREEN AREAS



- USED TO CONNECT  
THE INVISIBLE SPACES

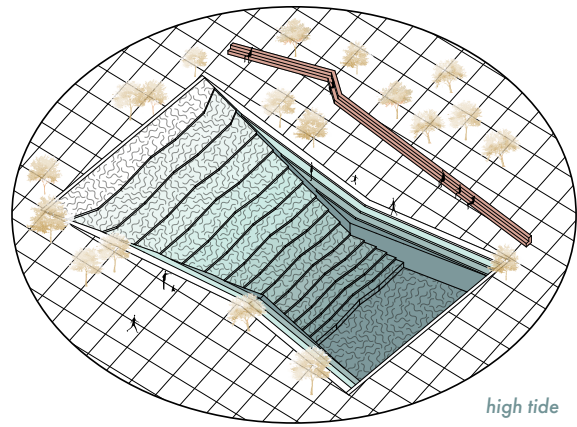


- SIGN A PLACE TO STAY
- RE-ESTABLISH THE RELATION BETWEEN PEOPLE AND CITY

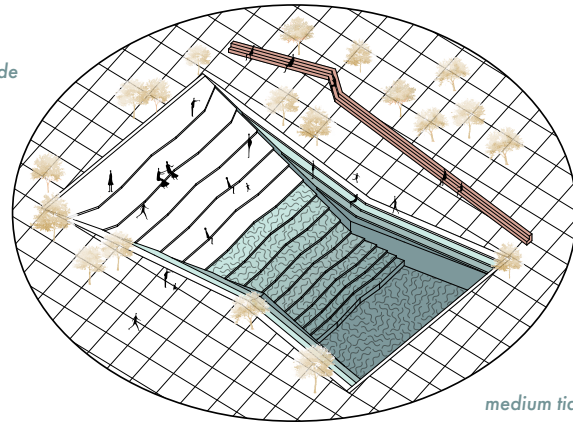


- RE-CONNECT THE CITY TO THE WATER-FRONT

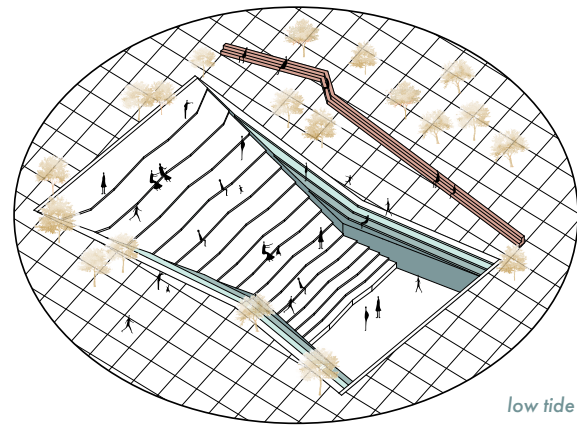
- POSSIBLY USED TO DRAIN THE WATER



high tide

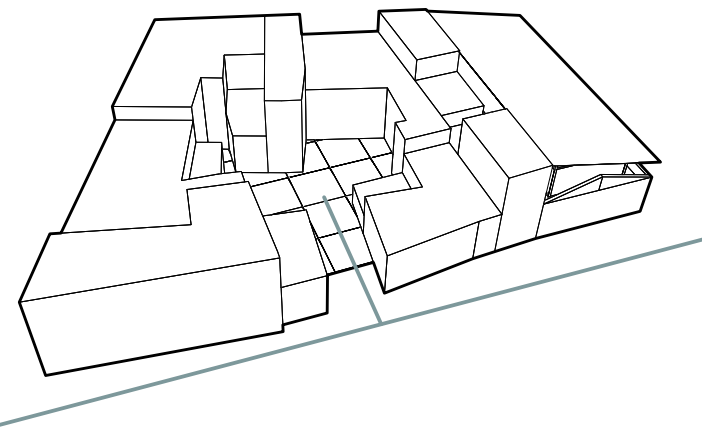


medium tide

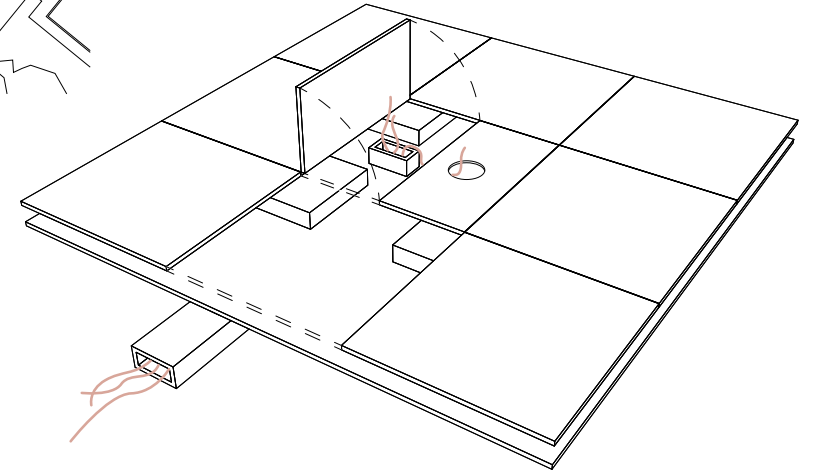
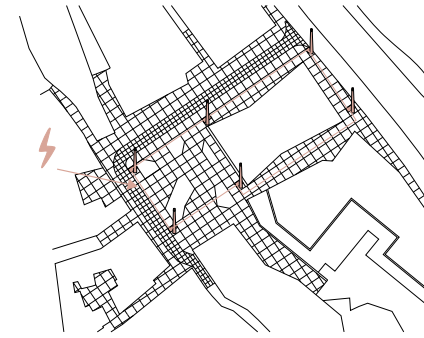


low tide

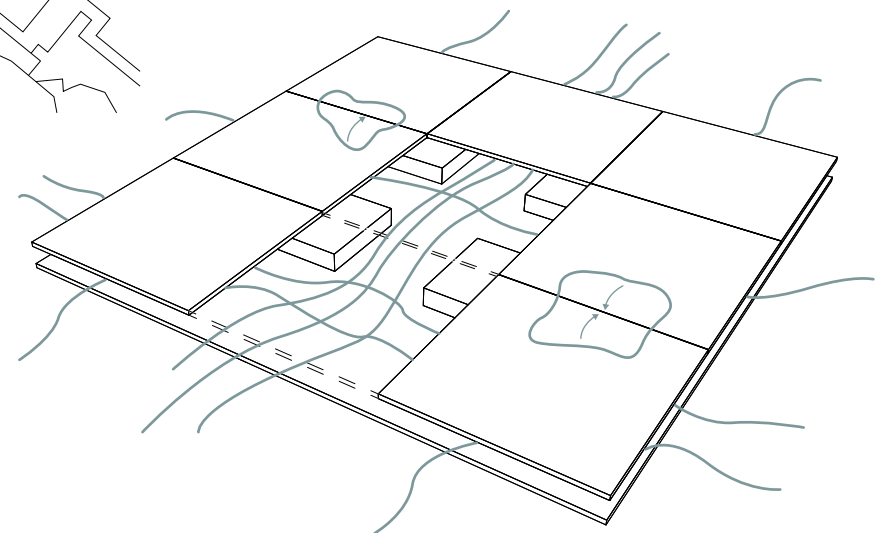
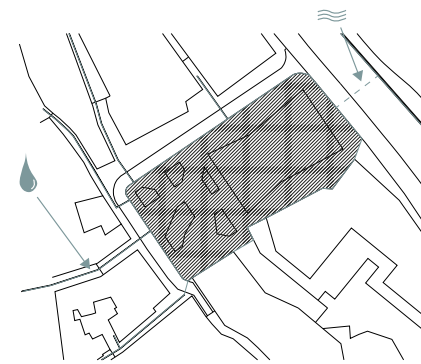
pan. 61 "Inverted beach system" different layouts



pan. 62 Invisible space diagram



pan. 63 Electrical technology - Network and system



pan. 64 Hydraulic technology - Network and system

## 3.4 WATER HOUSE

### completing the functional mix

As already mentioned, the architectural object in question came into being mainly due to the idea of preserving the “**Armazém Regimental**”, this small building adjacent to Praça Infante Dom Henrique, which used to be a *royal warehouse* where various objects were stored. Today, in fact, the historical value of this building is very high, although, as can be seen in the “*Plano Geral de Urbanização de Lagos*” of the early 2000s, its class has not yet been decided under the different categories of cultural heritage.

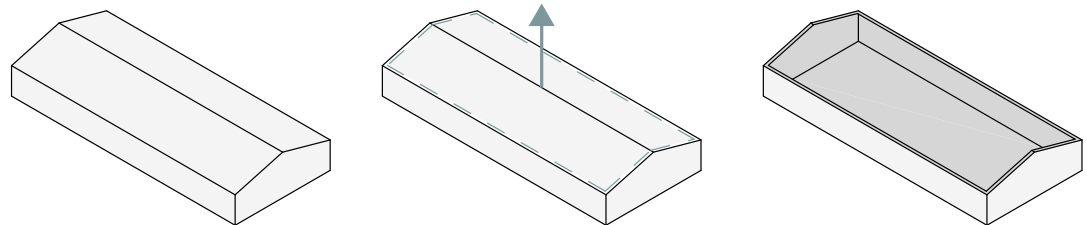
However, as witnesses the indecision that still persists, but also and above all the general idea that exists in the city of this building, it is necessary to preserve it, as in any case, you can see a small plaque on one of its walls that reads “*Património do Estado*”<sup>39</sup> tr. “*Heritage of the State*”. The low **decorative reliefs** on the main door and the stonework on the smaller doors are very special.

*But why should this building need a help?* Today, this building is a victim of **disuse**: in fact, until a few years ago, this space was used to house small workshops of artisans selling their products called “*HeartMade Market*”.

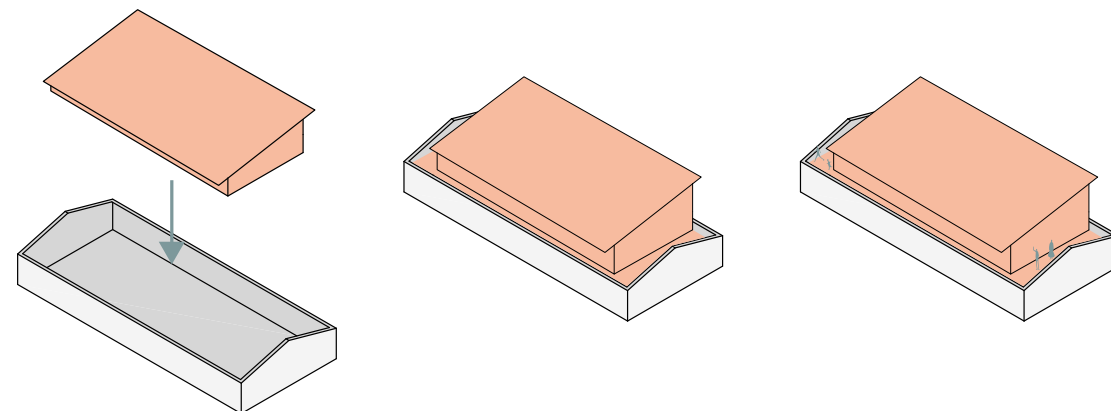
In order to combat this process and above all not to abandon this building of great historical value,

it was thought how it could be renovated, thus allowing the building to be preserved but also giving it a new life, choosing new functions that could in some way **complete the functional mix** available in this part of the historical centre, and above all that could give something more to this space to prevent it from falling into disuse again. In short, to create something **new for the city** and above all for both the inhabitants of Lagos and the foreigners who have moved here, who unconsciously increase that process of gentrification of the historic centre.

The functions chosen, therefore, are that of a **permanent exhibition** on the city of Lagos itself, its history and the relationship between the city and the water, so that both Portuguese citizens can have a cultural space in which to review the history of their city, but also **foreign citizens** can come into more contact with it and by understanding the problems present can slowly bridge the gap that separates them, in some cases, from the locals; the second function, on the other hand, is that of **co-working**, a space dedicated to everyone where it is possible to work and study in peace and quiet in a dedicated area; furthermore, again to revitalise the city’s cultural network, **book-crossing**, a free book exchange



pan. 65 Water House - Volumetric scheme of the intervention



technique aimed at the free circulation of culture, is possible in this place.

In order to realise these two functions, in reality, a process of **adding a volume** to the building is implemented, but following concepts that make this new added piece totally independent, allowing what needs to be preserved of the underlying building, namely the **perimeter walls**.

In fact, the existing building as it is, is **emptied** and only the perimeter walls are left, where the masonry works considered to be heritage are located, after which, in this void, a **new smaller volume** is inserted that will constitute the upper floor: in this case, this second floor will rest, at a structural level, not on the perimeter walls of the old building, but on a **new series of steel pillars** that will make it untied and independent from the floor below.

With this **small detachment**, a sort of action of respect towards the antique, it is possible to distinguish the intervention from the pre-existing building, thanks also to the use of steel and a light structure as in the cited reference of "*Simpson House*" by *Glenn Murcutt*.

Going into the specifics of the functions mentioned above, in the ground floor, it is hosted the "Water

in Lagos" **permanent exhibition** where is explained the deep relation between the city and the water: from the natural point of view and so about the floods and the low or high tide of the river, but also under the hydraulic and artificial point of view and so all the interventions that have been made in this sense during the project.

For what concern the **flooring**, the big squared tiles of the Praça Infante Dom Henrique, are present also in the interior of the Water House to establish a connection of continuity between the indoor and the outdoor, always leading people by the a sign on the floor as it happens with the water traces but this time with the tiles, letting them understanding the **unity** of the project.

The space is completely free except for the steel pillars which sustain the upper floor and for ramp, with the wheelchair supply, which lead to it. Three big **tables** are in the middle of the room to expose maquette which talk about the water in Lagos and all the walls around are used to show historical pictures and, eventually, the construction of the water traces system: in this way, people can understand this deep relation and see that it is always been there.

The first floor is the added value to this building and consists of a **co-working** space dedicated

to everyone, from children to elderlies, especially for the people who are interested in the history of Lagos: the shelves system all around the room hosts a wide collection of books about any topics regarding this city, in this way the citizens can discover a lot of things about their town and this would raise their sense of belonging.

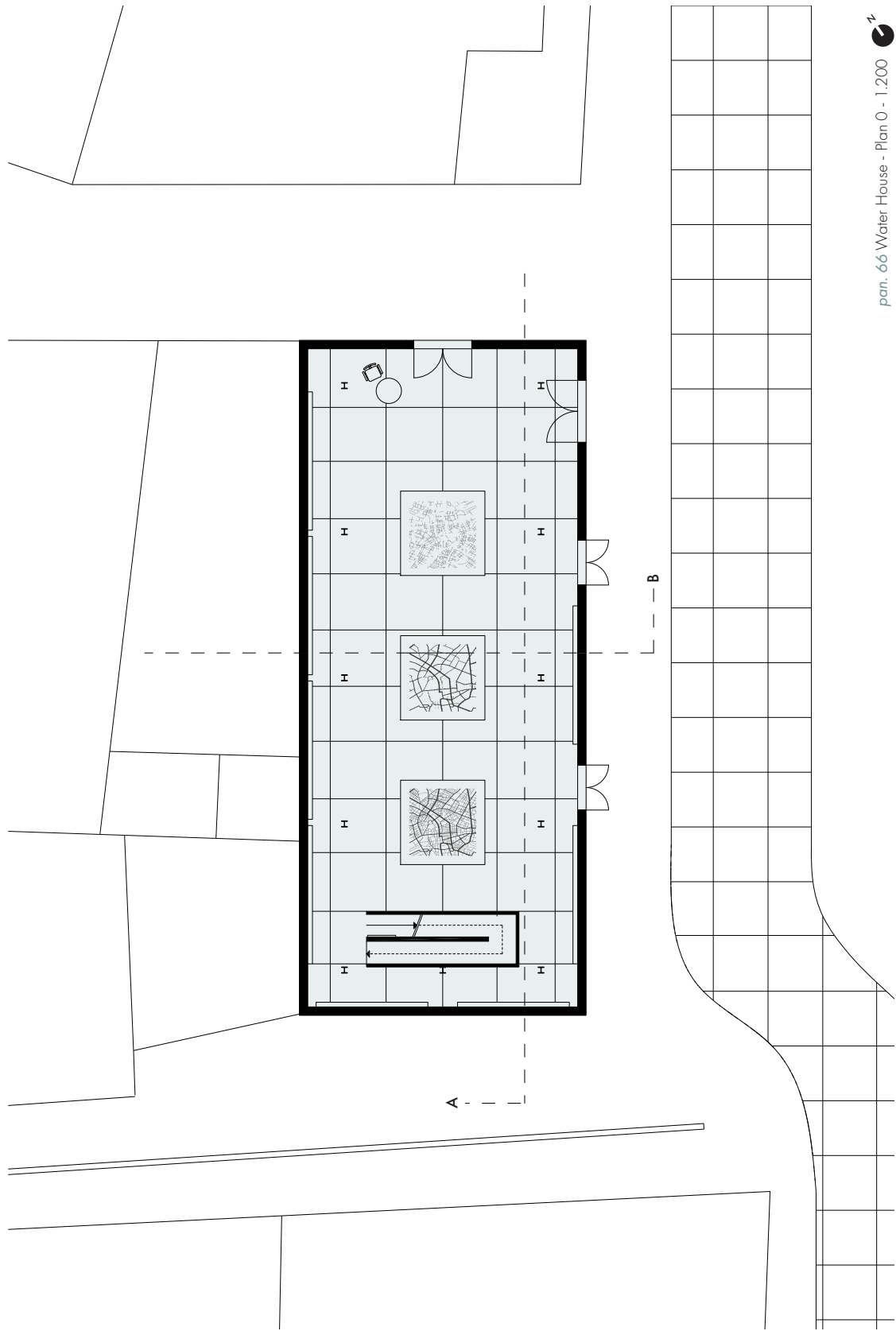
Also, the **book-crossing** activity is held: people can leave their books on the shelves and take some others totally for free, just to participate, somehow, to the circulation of the culture.

All the **furniture** are movable, nothing is fixed, to let people decide which is the best layout of this space according to their needs.

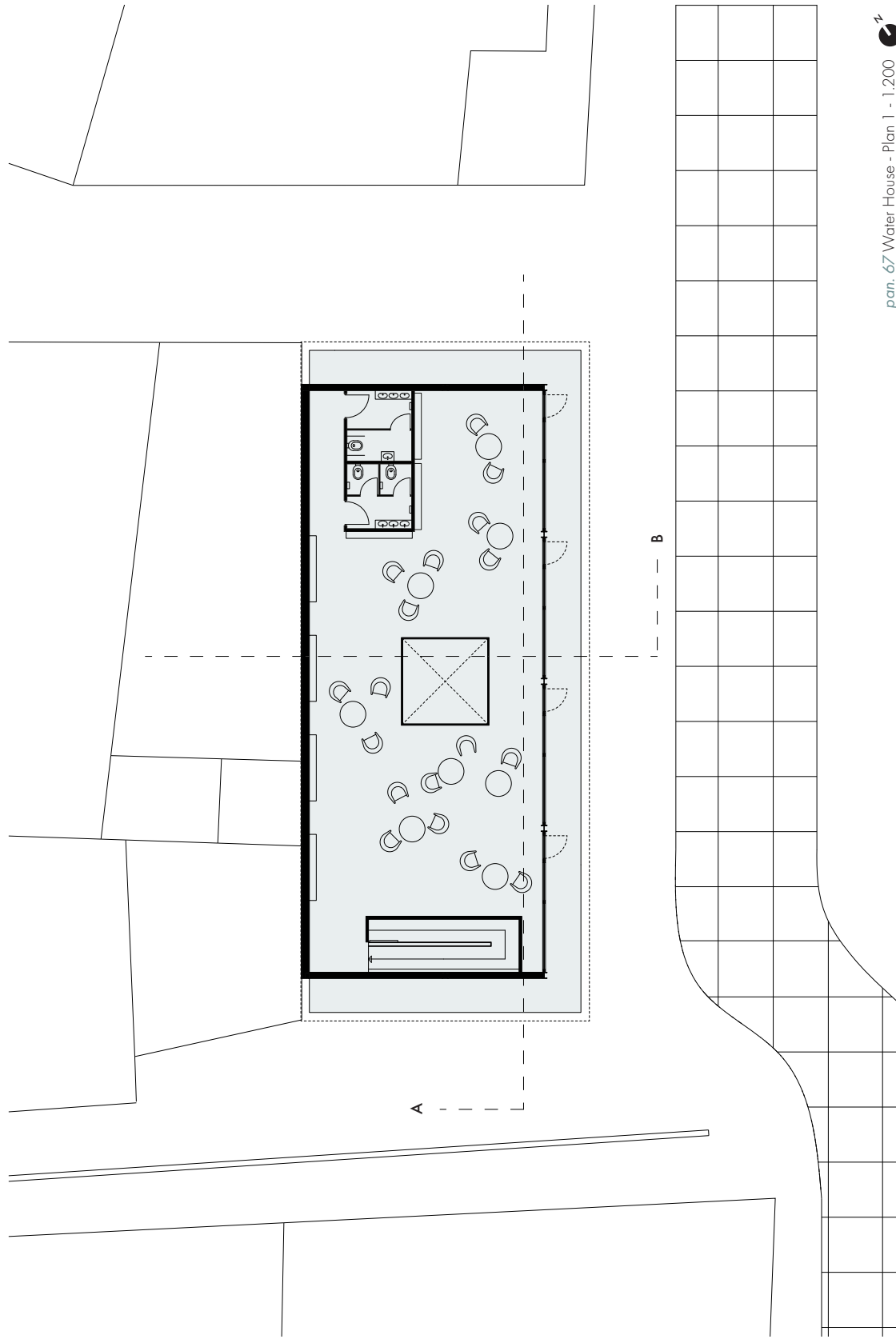
The space is broken in the middle by a **double height** which allows the ground floor to earn more light and for the curious people to take a look to the exhibition.

The wide windows exposed to south-east are properly shaded by the roof which stands until the ancient walls becoming a **shelter** for them and for the terrace.

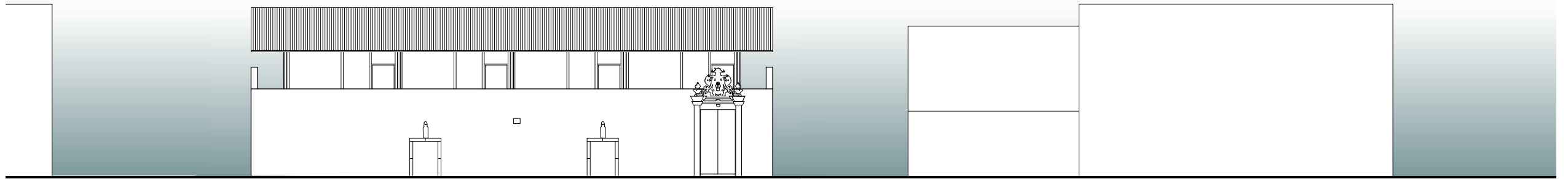
**Water House**  
preserved building with a new floor added,  
dedicated to exhibitions and co-working  
SL 480 sqm  
**FUNCTION CULTURE**



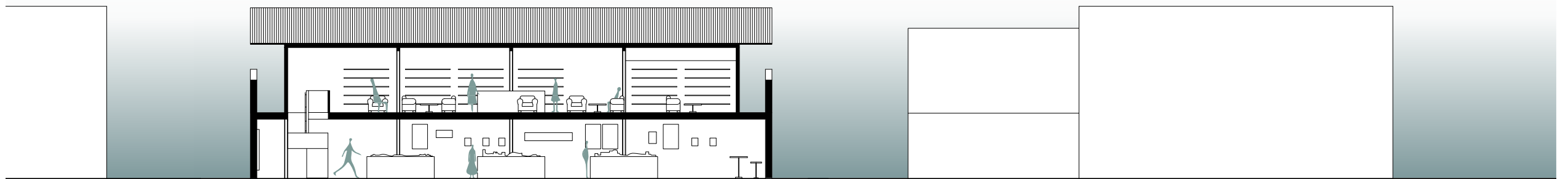
pan. 66 Water House - Plan 0 - 1.200



pan. 67 Water House - Plan 1 - 1.200



pan. 68 Water House - South East Elevation - 1.200



pan. 69 Water House - Section A - 1.200

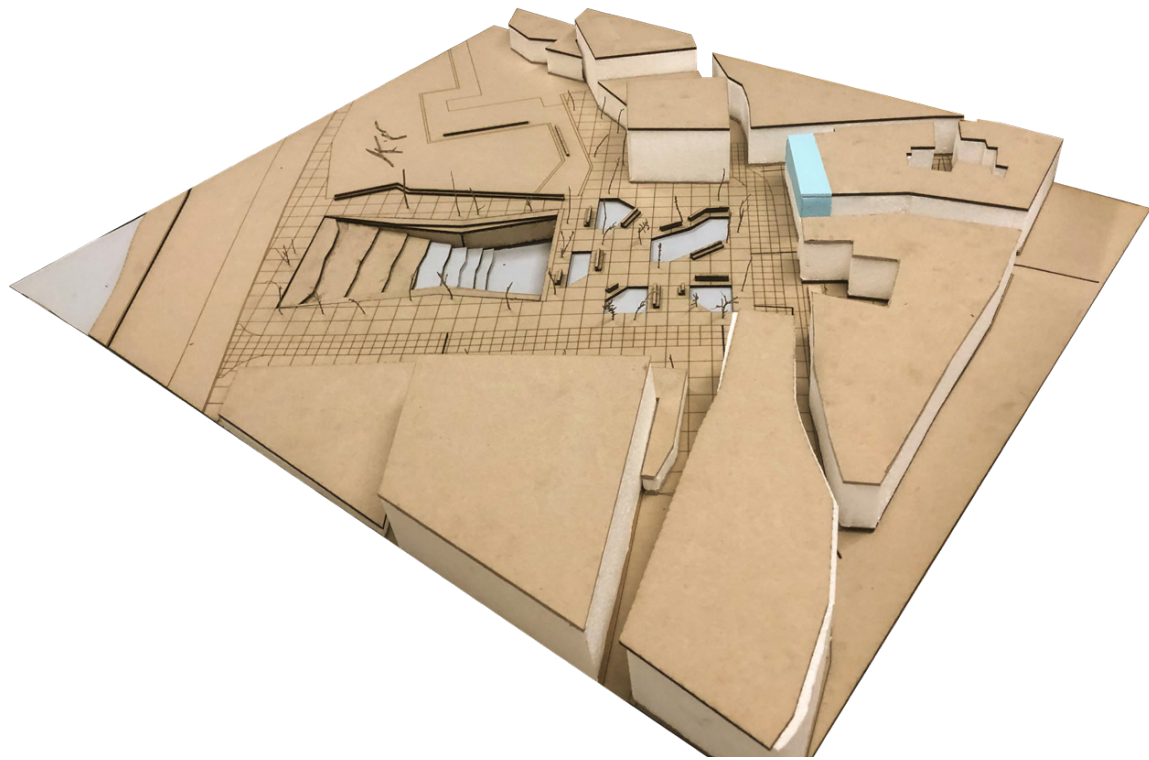


pan. 70 Water House - North East Elevation - 1.200

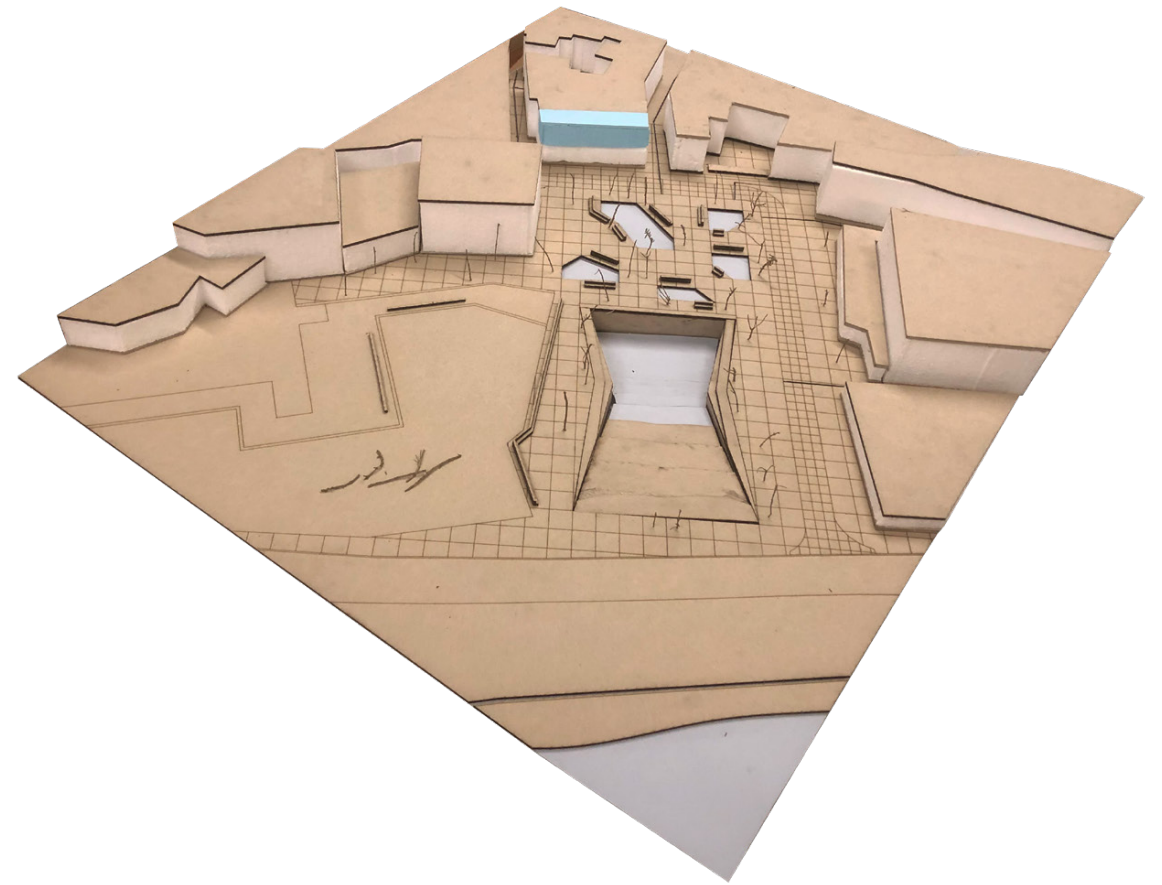
pan. 71 Water House - Section B - 1.200

## **3.5 A FINAL LOOK**

maquette and renders

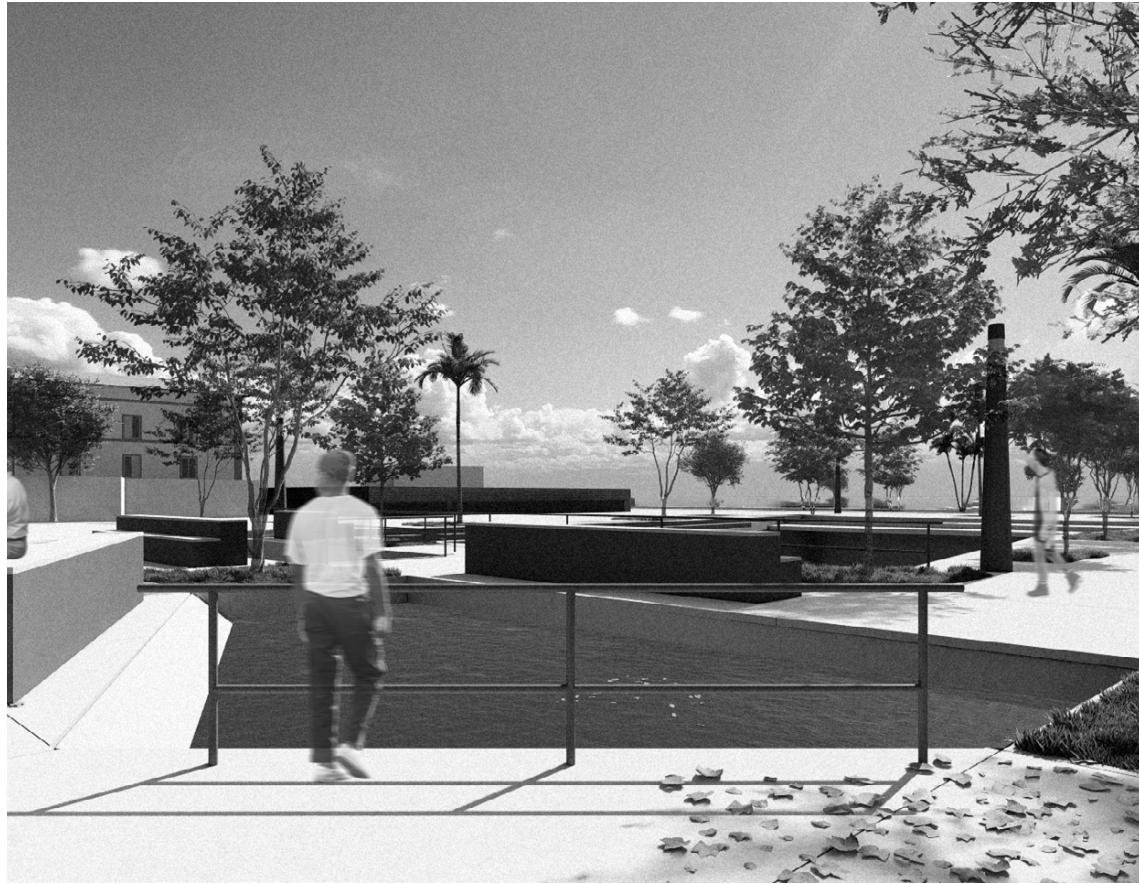


pan. 72 Maquette Praça Infante Dom Henrique\_1



pan. 73 Maquette Praça Infante Dom Henrique\_2





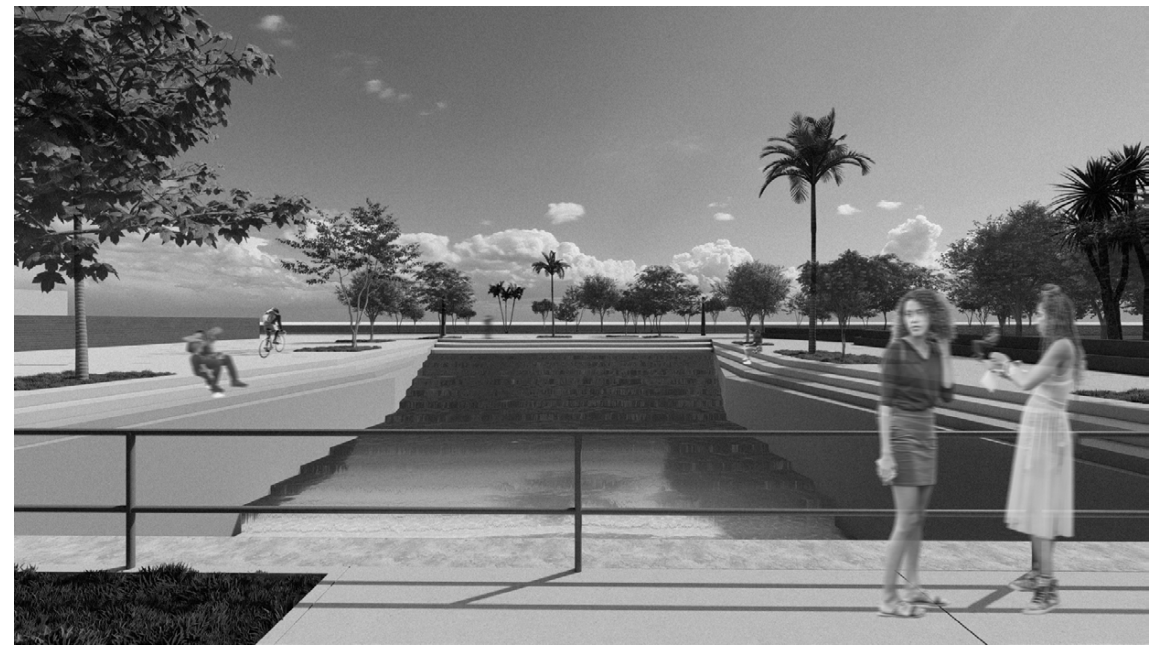
pan. 74 Praça Infante Dom Henrique View\_1



pan. 75 Praça Infante Dom Henrique View\_2



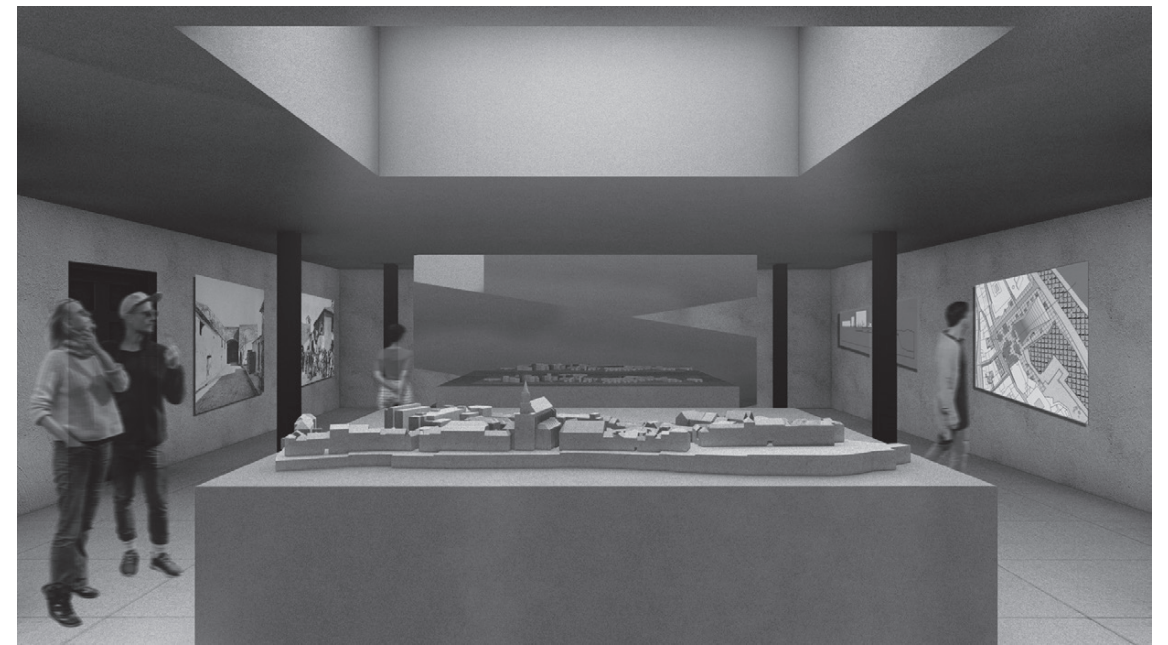
pan. 76 Praça Infante Dom Henrique View\_3



pan. 77 Praça Infante Dom Henrique View\_4



pan. 78 Water House View\_1



pan. 79 Water House View\_2



pan. 80 Water House View\_3

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- fig. 1 Câmara Municipal de Lagos - Historical Archive - 10/10/2021
- fig. 2 Câmara Municipal de Lagos - Historical Archive - 10/10/2021
- fig. 3 Câmara Municipal de Lagos - Historical Archive - 10/10/2021
- fig. 4 Câmara Municipal de Lagos - Historical Archive - 10/10/2021
- fig. 5 Câmara Municipal de Lagos - Historical Archive - 11/10/2021
- fig. 6 Câmara Municipal de Lagos - Historical Archive - 11/10/2021
- fig. 7 [www.vecteezy.com](http://www.vecteezy.com) - 05/04/2022
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## Glossary

1. **Discovery Era** - A period recognised for the many operations to discover new points on the globe, especially by water, between the 15th and 17th centuries.
2. **Algarve** - Portugal's southernmost region, characterised by a number of cities considered among the country's best summer tourist destinations.
3. **República Portuguesa** - Official name of the Portuguese republic, established following the fall of the monarchy on 5 October 1910.
4. **Faro** - One of the main cities in the Algarve region, located in the south of Portugal.
5. **N125** - Important highway connecting all the main cities in the Algarve region, located in the south of Portugal.
6. **Marina de Lagos** - Institution managing the port area of the city of Lagos established in 1994.
7. **Gentrification** - Term for the economic, social and urban process of gentrification of a city or one of its districts.

8. **Earthquake of 1755** - This historic earthquake is remembered in Portuguese culture because of its power and the destruction it caused, mainly due to the tidal wave that occurred afterwards.
9. **Dune system** - Area of the city that divides the part of the city beyond the Bensafrim River, and the long beach system. It is an important natural system to be preserved for the ecosystem of the city of Lagos.
10. **Secondary residence** - Understood as that set of residential buildings that are not used as "first homes", not permanently inhabited by the owner
11. **Commercial purpose** - There is a wide range of commercial activities in the historic centre of Lagos, from accommodation and leisure services to the sale of souvenirs.
12. **Invisible spaces** - Traced as one of the project themes, these correspond to those semi-public spaces that are not conceived as such and remain hidden, invisible.
13. **In-Between** - Those spaces in the middle that in architecture can be either flexible and dedicated to different uses, or present to create tension between two opposing elements.
14. **Semi-Public space** - Spaces where the land is in the public domain and owned by the state of a particular city, but which due to its use or relevance to, for example, private property is conceived of as private, or dedicated only to a small number of people.
15. **Classes of tourist** - Defined as categories into which tourists are placed because of their type or motivation for travelling.
16. **Car Era** - An expression that indicates in popular thought a historical period in Europe characterised by the "Economic Boom" phenomenon, in which most people took private transport, giving rise to a new type of tourism.
17. **Supply and Demand** - Demand is the quantity of needs and wants, supply is the availability of goods and services to fill the needs of demand.
18. **Internal tourism** - Defined as the tourism process in which travellers move within their own national territory.
19. **Pandemic** - With reference to the situation caused by the Covid-19 virus from the beginning of 2020, which obviously affected the deciphering and reading of tourism data in 2020/2021.
20. **Tasca** - Restaurant typical of Portuguese cities and culture.
21. **A2** - 240 km motorway line connecting Albufeira, a city in the Algarve region, with Lisbon, the capital of Portugal.
22. **A22** - Motorway that cuts longitudinally through the Algarve region and connects the main cities.
23. **Linha do Algarve** - Railway that cuts longitudinally through the Algarve region and connects the

main cities.

24. **Alojamento Local** - An institution that includes a whole series of buildings or at any rate temporary residences dedicated mainly to tourists or otherwise to short stays.
25. **Stakeholders** - Defined as 'interested parties', they constitute in the field of architecture and town planning those interested in investing funds for projects.
26. **PNDES** - "National Economic Development Plan", a national plan of earmarked funds to improve the quality of public space in Portuguese cities.
27. **Polis** - European programme dedicated to the development of public space and urban renewal in an innovative perspective.
28. **Polis Litoral** - European programme dedicated to the development of public space and urban renewal concentrated on coastal zones and their access areas.
29. **Feasibility** - Defined as the constructability of the project, in social economic terms but above all in terms of construction and thus geological, structural and so on.
30. **SWOT** - An analysis tool divided into four categories, used to summarise the key points of a research field: strengths, weaknesses, opportunities and threats.
31. **Residential Mix** - Conceived as a mix of different housing units suitable for accommodating different households in terms of number, culture and affordability.
32. **Social Apartments** - Type of residence that enables the lower social classes or otherwise economically unstable people to have a home.
33. **Walkability** - Ability, in terms of time and distance, to reach points in the city by walking
34. **Plano Geral de Urbanização de Lagos** - Document drafted in 2012 by the "Câmara Municipal de Lagos" which provides the study, analysis, definitions and design strategies for the future on the city.
35. **Soft Mobility** - The set of all those lightweight and completely sustainable means of transport that have minimal impact on the environment.
36. **PNRR** - "Recovery and Resilience Plan" Italian plan based on European funds to regenerate various sectors of the country's economy, including public space.
37. **De-Malling** - means the process by which the shopping centre stops being what it is and turns into something else. *This term is then adapted to situations in which a building ceases to have its function.*
38. **Câmara Municipal de Lagos** - Municipal chamber of the municipality of the city of Lagos.
39. **Património do Estado** - Term assigned to a building, any cultural work that is considered relevant by the Portuguese state and therefore protected by it.



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