

DIPLOMA THESIS

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**INSTITUTE OF LANDSCAPE ARCHITECTURE,
URBAN PLANNING AND GARDEN ART**

MLA PROGRAM
THESIS PRESENTATION

ENHANCING URBAN AVENUE LIVABILITY

**A CASE STUDY OF AVENUE HABIB BOURGUIBA
TUNIS, TUNISIA**

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Figure 1 : Photo of Victory square in 2023 , source : Mouhamed belakial



Figure 2 : Photo of Victory square in 1950 , source : alamy



Figure 3 : Perspective of avenue Habib bourguiba in 2023 , source : lost in Tunisia



Figure 4 : Perspective of avenue Habib bourguiba in 1950 , source : alamy



Figure 5 : Perspective of avenue Habib bourguiba in 2023 , source : lost in Tunisia

ABSTRACT

'ENHANCING URBAN AVENUE LIVABILITY, A CASE STUDY OF AVENUE HABIB BOURGUIBA, TUNIS, TUNISIA

Avenue Habib Bourguiba, located in the heart of Tunis, the capital of Tunisia, is an important part of the country's history and culture. This avenue connects the old medina to the waterfront. It serves as a focal point for social and political activities.

However, despite its iconic status, this avenue has many problems that hinder its livability and vibrancy. Traffic congestion impedes both vehicular and pedestrian flow. Moreover, public transport connections remain inadequate, limiting accessibility and mobility for residents and visitors. Walkability issues make the avenue's situation even worse, making it harder for people to take leisurely walks and enjoy their surroundings. Moreover, the absence of rest areas deprives users of essential opportunities for relaxation. Coupled with a lack of vegetation layers, this results in poorer air quality and reduced aesthetic appeal.

By proposing innovative design solutions, this work aims to contribute to reimagining Avenue Habib Bourguiba as a vibrant, pedestrian-friendly urban space that harmonizes with its historical legacy and cultural identity.



Figure 6 : Perspective of avenue Habib bourguiba in 2023 , source : ZH photography

ACKNOWLEDGEMENT

I express my gratitude to God for guiding me through every aspect of my life. I deeply appreciate my mother's sacrifices and support in helping me pursue my goals and dreams. My family's care has been invaluable, and my life partner has been a constant source of motivation, love, and happiness. My friends have made this journey fulfilling and memorable. I extend special thanks to my supervisor, Dr. Bakay Eszter, whose expertise has greatly enriched my academic and personal growth. To all the wonderful people I've met over the past two years, thank you for your kindness and encouragement. This thesis is dedicated to each of you.

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CHAPTER 1: GENERAL INFORMATION

1. INTRODUCTION

Tunisia, officially known as the tunisian republic, is a country located in north Africa. Tunisia has a rich history, with its roots dating back to ancient civilizations such as the Phoenicians, Romans, and Arabs. It gained independence from France in 1956 and has since developed into a diverse and vibrant nation.

The capital city of Tunisia is Tunis, which is also the largest city in the country. Tunis is situated on the northeast coast of Tunisia, overlooking the mediterranean sea. It serves as the political, economic, and cultural center of the country. The city is known for its historic medina, a UNESCO world heritage site. Tunis is also home to modern part, including bustling business districts, shopping malls, and cultural institutions.

Tunis has a mediterranean climate. This means it's hot and dry in the summer and mild and rainy in the winter. The city gets some rain, mainly between October and March. This rain helps keep the city green and beautiful.

In this thesis, I analyse the rich history and significance of Habib Bourguiba Avenue, a renowned landmark in Tunis. This avenue serves as a focal point for social and political activities. Lined with government buildings, hotels, cafes, and shops, it has become a hub for both locals and tourists. Throughout Tunisia's history, Habib Bourguiba Avenue has seen pivotal events such as protests and celebrations, making it a symbol of the nation's identity and heritage. In this study, my objective is to investigate methods for improving the livability of urban avenues, focusing on this avenue as a case study.



Figure 7 : Photo of avenue Habib Bourguiba, source : Alamy

2. GOALS

The main goal is to transform the avenue Habib bourguiba into a more vibrant and pedestrian-friendly urban space.

Why?

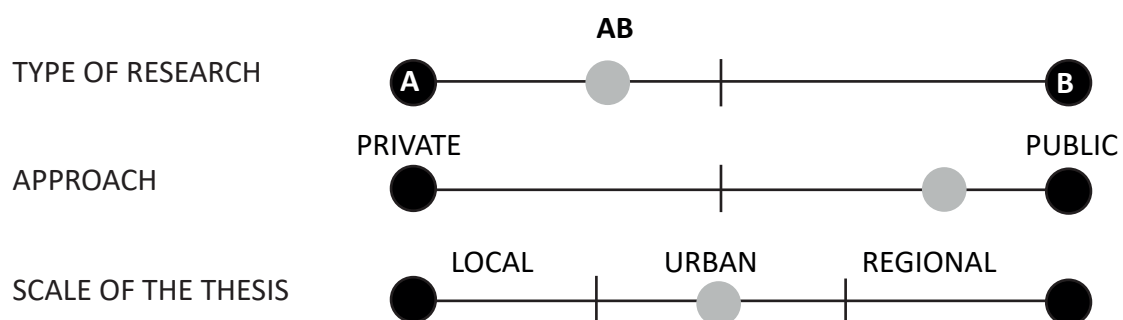
1. To improve the quality of life for residents and visitors.
2. To promote social interactions and economic vitality.
3. To preserve the cultural heritage and identity of Tunis.
4. To create a more attractive and enjoyable environment for pedestrians

How?

1. Enhance livability with more green spaces and amenities.
2. Improve pathways for better pedestrian access.
3. Balance transportation options for cars and pedestrians.
4. Ensure safety and cleanliness.
5. Maintain cultural and commercial significance.

3. EXPECTED RESULTS

1. Increased satisfaction among residents and visitors with the improved livability and attractiveness of avenue.
2. Enhanced community engagement and social cohesion, manifested in higher pedestrian activity and public gatherings.
3. Stimulated economic growth with a rise in local business revenues and tourism-related activities.
4. Improved traffic flow and reduced congestion, resulting in smoother transportation operations and reduced pollution levels.
5. Enhanced public perception of safety and cleanliness, leading to a more positive user experience for all.
6. Continued recognition of Avenue Habib Bourguiba as a significant cultural and commercial landmark, reinforcing its status as a symbol of tunisian heritage and identity.



4. METHODOLOGY

1. Analysis of Data and Evaluation

- Conduct a comprehensive analysis of site data, historical research, and cultural assessments.
- Evaluate the advantages and disadvantages of the existing conditions of Avenue Habib Bourguiba, considering factors such as traffic flow, pedestrian accessibility, cultural heritage, and economic vitality.

2. Development

- Develop a strategic framework for the transformation of Avenue Habib Bourguiba, outlining objectives, and strategies.
- Create conceptual and schematic designs that transform the strategic vision into tangible design proposals, showing alternative scenarios and design options.

3. Designing

- Implement the adopted strategy through the development of a master plan for Avenue Habib Bourguiba, integrating urban design principles, green infrastructure, placemaking strategies, and cultural preservation initiatives.
- Develop detailed design plans that translate the master plan into actionable design elements, including street furniture, landscaping, signage, lighting, and public art installations.

4. Present

- To present the proposed design, which will contain all the detailed technical drawings and models.

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CHAPTER 2: ANALYSIS AND EVALUATION

II. 1. SPECIFIC DESIGN PROBLEM

My design project focuses on improving urban avenue livability, specifically studying Avenue Habib Bourguiba in Tunis, Tunisia. This iconic avenue is vital to the city's fabric, known for its cultural and historical significance. Through historical research and innovative design interventions, the project aims to enhance pedestrian experience, integrate green spaces, and preserve cultural heritage. The ultimate goal is to revitalize Avenue Habib Bourguiba, creating a more vibrant, inclusive, and sustainable urban environment.

- Terminologies and definitions

Urban Avenue Livability refers to the **quality of life** and attractiveness of a street or avenue in a city. It focuses on creating a **safe, vibrant, and accessible** environment for people by considering factors like **walkability, transportation options, green spaces, safety measures, and community engagement**. (Source : a Review, Urban livability across disciplinary and professional boundaries, author Mohamad Kashef, Frontiers of Architectural Research)

Urban mobility refers to all the dynamics of the movement of people and goods in cities from a strategic perspective. It is one of the basic pillars within urban development. It can include modes of transport, such as walking, cycling, and public transit, as well as the spatial arrangement of these modes in a built environment. Urban transport and urban mobility have been differentiated in terms of their practical aspects. While transport defines a sector of the activity, mobility in cities carries with it a more profound concept. (Source: Urban Mobility Author: Dr. Jean-Paul Rodrigue, The Geography of Transport Systems)

Table 1. Categorization of high-frequency keywords into six sub-themes.

Research Topic	Keyword Co-Occurrence Analysis	Sub-Themes
Urban mobility	Smart infrastructure, facilities, management Connectivity, accessibility, density, street hierarchy, street network	Smart street infrastructure Hierarchical street network
	Safety, children, accessibility	Safe streets as a guarantee of access
Urban livability	Physical activities, social interaction, health, place making Streetscape design quality, pedestrian, physical environment Walking, cycling, sustainable transport, public transport, travel, electric vehicle	Street activities to enhance social interaction Human-centered Street environment design Active travel and its assessment criteria

Figure 8 : Table from examining the role of innovative streets in enhancing urban mobility and livability for sustainable urban transition. A review by: JIN RHUI and FRANK OTHENGRAFEN

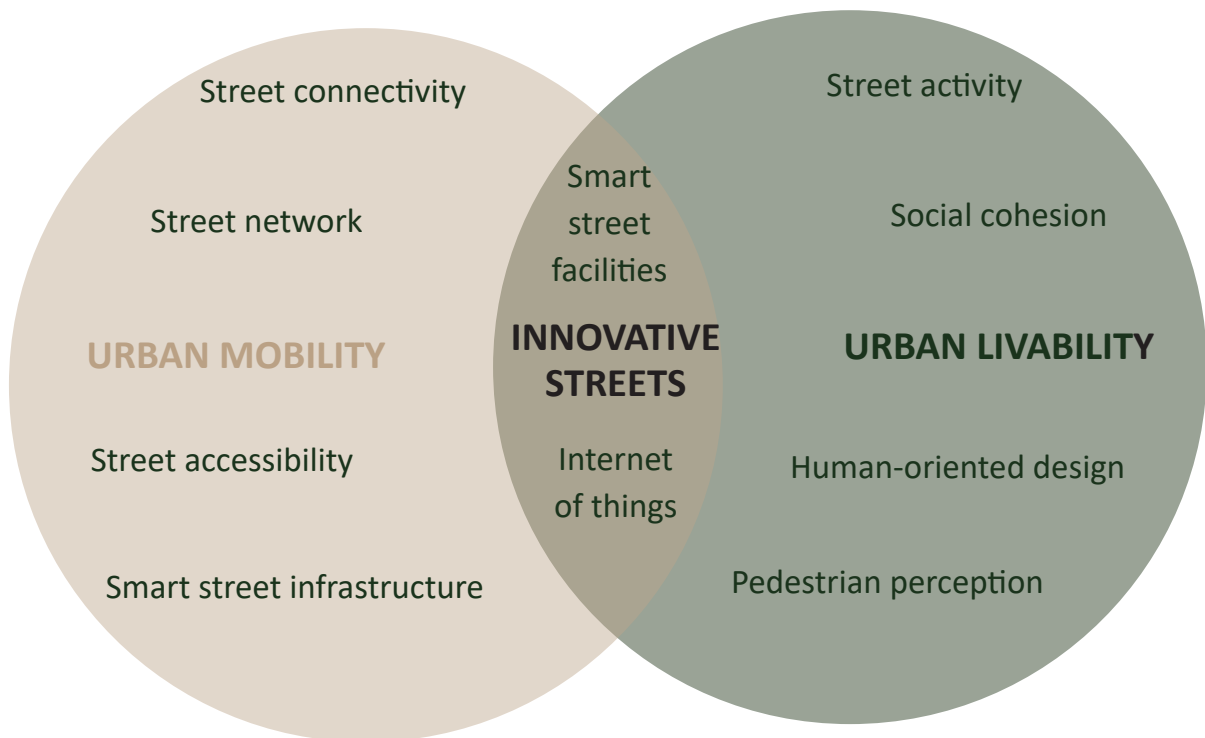


Figure 9 : Innovative streets as an integrative urban practice

II. 2. SITE INTRODUCTION

II. 2.A. General Location

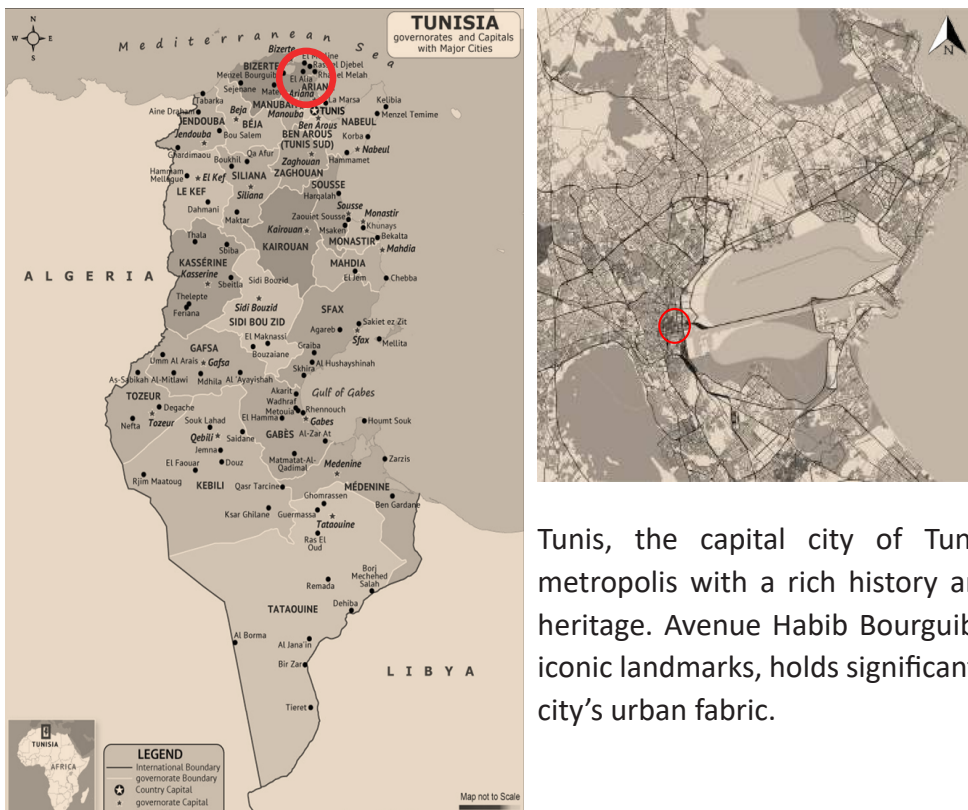


Figure 10 : Tunisia map , source : mapofindia.com

Tunis, the capital city of Tunisia, is a vibrant metropolis with a rich history and diverse cultural heritage. Avenue Habib Bourguiba, one of its most iconic landmarks, holds significant importance in the city's urban fabric.



Figure 11 : Tunis map , source : Google map

The avenue Habib Bourguiba in Tunis connects the historic medina with the waterfront, through the modern city. It serves as a lively hub for shops, cafes, and cultural activities, reflecting both the city's rich history and contemporary life. With its mix of old and new architecture, the avenue symbolizes the bridge between tradition and modernity in Tunis.

II. 2. B. Historical overview

1. Era of Reform : Husaynid Beyds



Figure 12 : Tunisia map, source : Tunis histoire d'une ville



Figure 13 : Photocollage of the medina, source : Tunis histoire d'une ville

After the arab conquest in 698 and the end of Byzantine domination over Carthage, Ifriciya took Kairouan as its capital and Not far from the center of power . At the Kasbah, the large Zitouna mosque opens into the souks to create the pole around. These souks have created an economic network through the manufacturing and marketing of handicrafts. Around this cultural and commercial center, the residential districts extend with their main streets, their ramifications and their dead ends, integrating with the natural setting of the site.

2. Colonial Era: 1881-1956

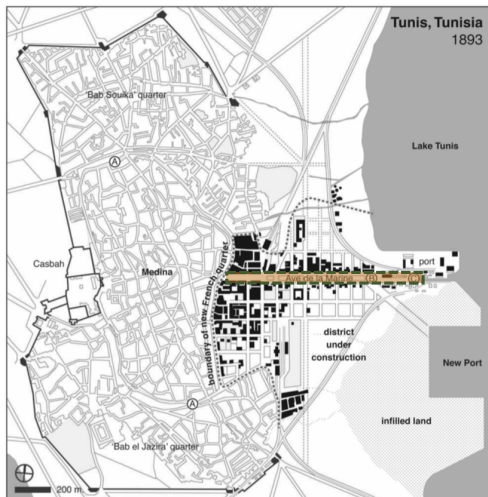


Figure 15 : Tunis map 1893 , source : Tunis histoire d'une ville



Figure 14 : Avenir Jule FERRY , source : Tunisie CO

During the colonial era (1881-1956), avenue Habib Bourguiba, known as avenue de la marine, has seen significant urban development. It became a showcase of modernity, lined with shops, cafes, and administrative buildings, serving as a symbol of French influence in Tunisia's capital city. This transformation reflected the colonial aspirations to modernize and europeanize Tunis, shaping its urban landscape for decades to come.

Structurally, it featured wide boulevards, tree-lined avenues, and European-style architecture.

3. After independence: 1956 -2003



Figure 16 : Tunis map, source : Tunis histoire d'une ville



After Tunisia gained independence in 1956, avenue Habib Bourguiba is transformed to reflect the country's new identity. Renamed after Tunisia's first president, the avenue became a symbol of national pride and progress. Modern buildings appears up along its length, housing offices, hotels, and shops. Some parts of the avenue were redesigned to be pedestrian-friendly, with plazas and green spaces created for people to relax and enjoy. Unfortunately when they extended the avenue, they disrupted the axiality of the avenue.

4. The period between 2003 and 2023

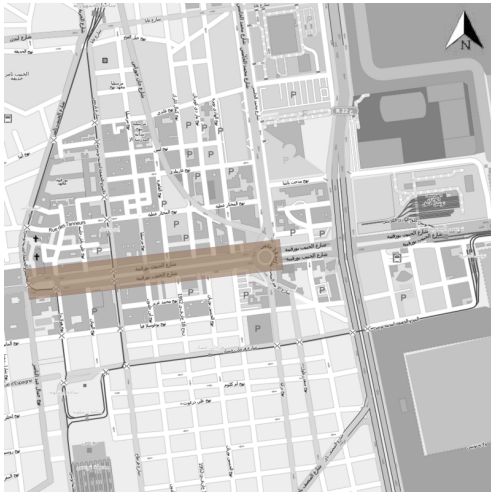


Figure 17 : Tunis map, modern city, source : Cad mapper



Figure 18 : Aerial view of the Avenue, source : Alamy

After 2003, avenue Habib Bourguiba in Tunis continued to be a focal point for cultural and political events, serving as a symbol of civic engagement. Urban renewal projects likely persisted, aiming to modernize infrastructure and enhance public spaces, potentially including the addition of green areas and pedestrian zones. Despite changes, the avenue maintained its economic vitality, with a variety of shops, cafes, and restaurants catering to residents and tourists. Efforts to preserve its rich cultural heritage likely continued, ensuring that historic buildings and landmarks remained protected.



II. 2.C. Site delimitation

The boundaries of avenue Habib Bourguiba are marked by the building façades, the sea gate on the left side, and the clock tower on the right side. With a length of 1000 meters and varying widths ranging from 27 meters to 60 meters, the site is a dynamic urban corridor that connects historic landmarks and modern city. the whole area is 52 410 m² (5,241a).

Figure 19 : Site delimitation, source : Custom map

II. 3. URBAN ANALYSIS

II. 3.A. STREET HIERARCHY



This avenue is the only direct connection between the Medina and the waterfront. We have four secondary streets crossing the avenue perpendicular to it. All the tertiary streets connected to the avenue are one-way.

Figure 20 : Street hierarchy map, source : Custom map

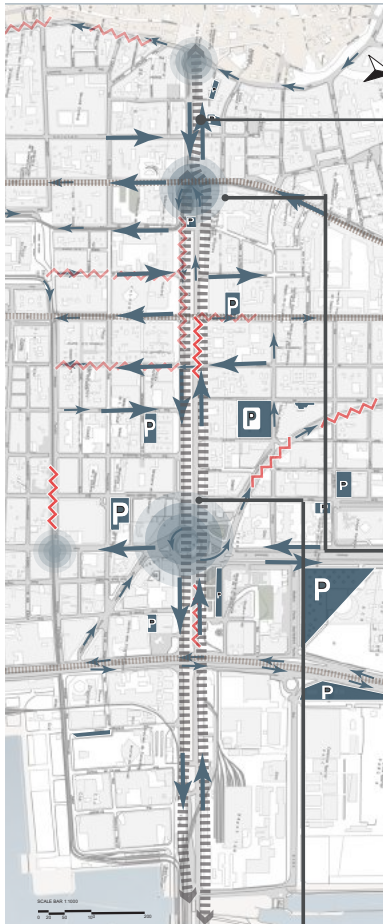
II. 3.B. TRANSPORTATION



For the transportation system, there is a tramway that connects two major stations. Additionally, a major bus station is situated on Avenue H.B, with two bus lines serving the area. The Tunis Bahria station is linked to the avenue and extends to the coastal area, reaching as far as La Marsa. However, it's important to note that there isn't a longitudinal connection through the avenue from the Sea Gate until the Tunis Bahria station near the waterfront.

Figure 21 : Transportation map, Metro line source : Custom map

II. 3.C. CIRCULATION DIRECTION AND TRAFFIC MAP



The restriction of car passage and car parking.



The closure of a parking area to give more space for pedestrian



-  Congested points
-  Roadway congestion

Figure 22 : Circulation map,
source : Custom map



High traffic volumes and inadequate infrastructure

Figure 23 : Traffic and circulation, source : Custom photos

In the first photo, it is evident that the municipality has begun implementing restrictions on car passage and parking. Additionally, a parking area, situated in the middle of the avenue, has been closed off. However, in certain areas, there are noticeable issues such as high traffic volumes and inadequate infrastructure. To address these challenges, the municipality has started relocating parking lots farther away from the avenue. In conclusion, the municipality is moving towards restricting car passage and allocating more space for pedestrians.

II. 3.D. SURROUNDING FUNCTIONS

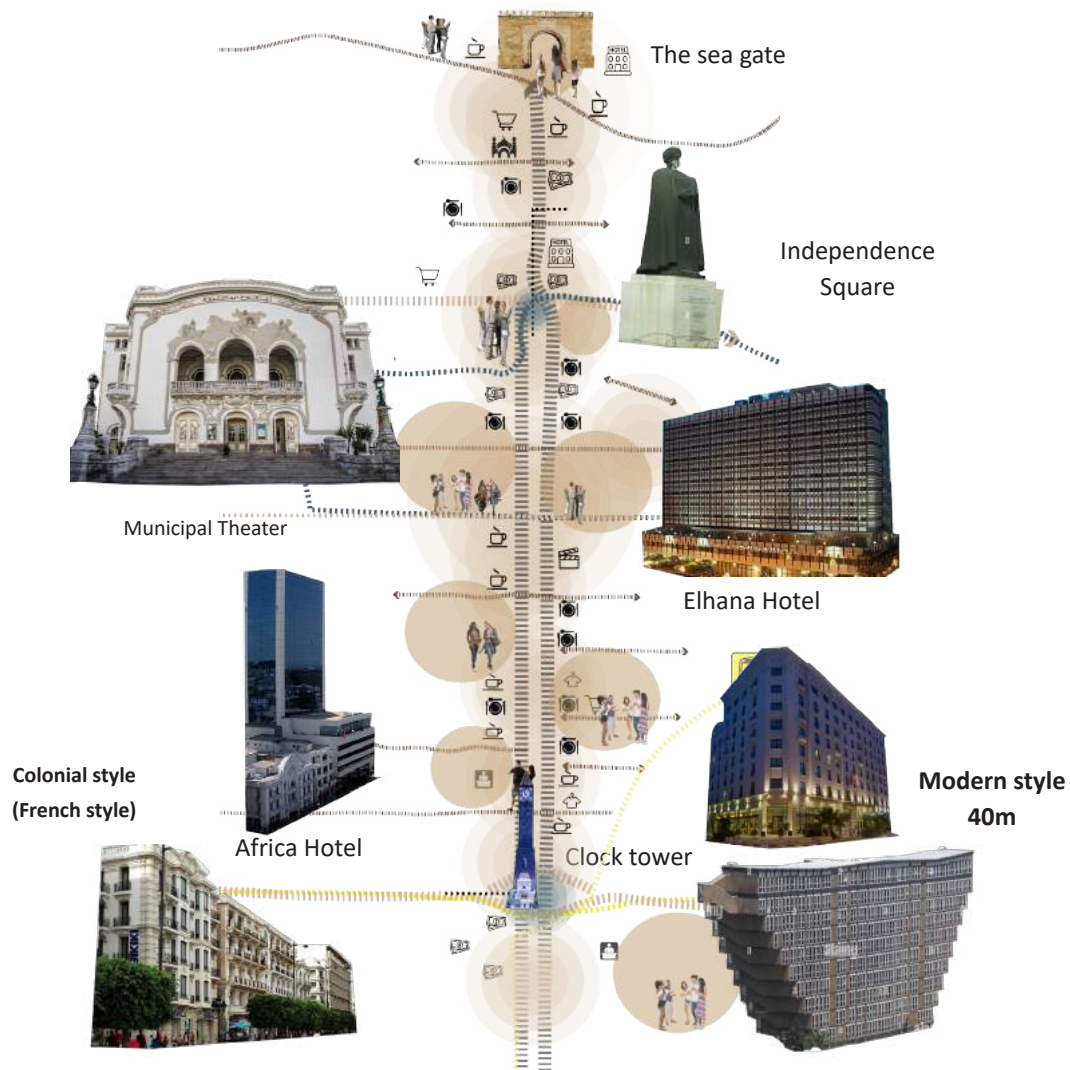
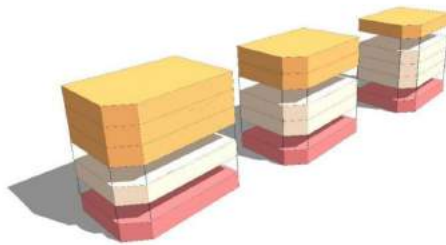


Figure 24 : Functions map, source : Custom map

The avenue Habib Bourguiba is a multifaceted space, vibrant with activity and diversity. On its ground floor, commercial activities dominate, constituting half of the area, while cultural activities and residential spaces each claim a significant portion. Recreational facilities are also present, offering opportunities for relaxation and leisure. Administrative functions support the smooth operation of the avenue. Above ground level, levels of residential and administrative spaces harmoniously coexist. Landmarks such as the Municipal Theatre and esteemed hotels are distributed along the avenue with cultural significance, serving as focal points for community engagement and events.



Figure 26 : Typical functions photo, source : Custom photos



- Commercial: 50%
- Cultural: 10%
- Residential: 20%
- Recreational: 10%
- Administrative: 10%



II. 3.E. SPACEWALLS



Figure 25 : Photo collage of architectural styles, source: Custom photo

The architecture along Avenue Habib Bourguiba in Tunis reflects a blend of styles. Modern architecture brings a contemporary ambiance, while the neo-Byzantine Saint Vincent Cathedral adds a touch of grandeur. Reflecting Tunisia's colonial past, French-style buildings have historic charm and dominate the landscape. Additionally, Art Nouveau buildings, such as the Municipal Theatre, contribute artistic style to the surroundings. Finally, the International style like Hotel Africa, brings modernist sophistication to the avenue. It is important to note that 80% of these buildings are in good condition. Together, these architectural styles create a visually dynamic and culturally rich environment along Avenue Habib Bourguiba.

II. 3.F. WATER ELEMENTS

We have two important water elements along this avenue. One is located at the Sea Gate, refreshing the atmosphere, while the other, a larger one, is situated at the clock tower roundabout. This serves as both a refreshing feature and a landmark, contributing to the pleasant ambiance of the site with its sounds.

Start point



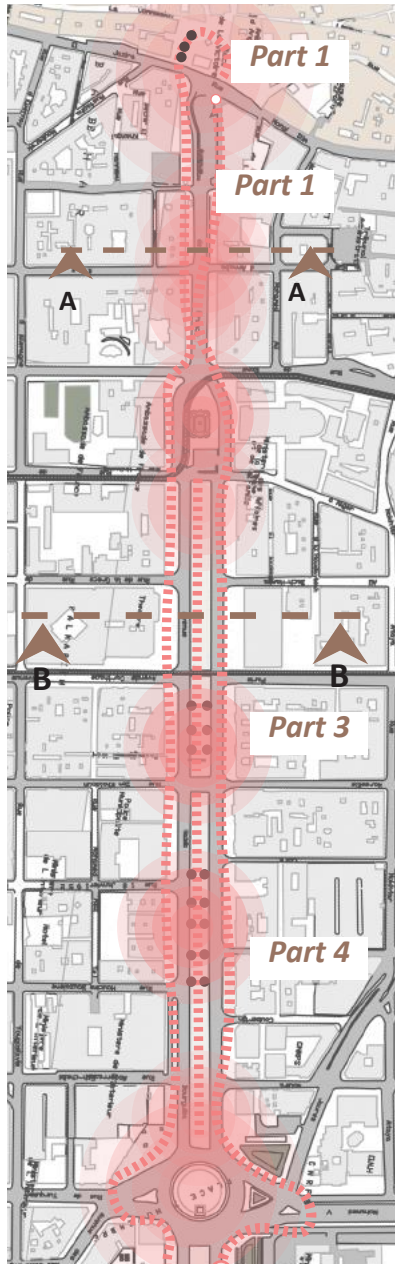
Figure 27 : Water element in the sea gate source: Custom photo

End point



Figure 28 : Water element in the clock tower, source: Custom photo

II. 3.G. PEDESTRIAN ACCESS AND FURNITURE



- ● ● ● ● Pedestrian access
- High flow of people



Figure 29 : Small sitting area in the square in front of the Sea Gate, source: Custom photo



Figure 30 : The restaurants on the sidewalk block the pedestrian crossing, source: Custom photo



Figure 31 : Section A-A, source: Custom section

Pedestrian access along the avenue presents a few challenges. A small sitting area in the square in front of the Sea Gate highlights the need for more sitting areas. However, the presence of restaurants on the sidewalk obstructs pedestrian crossings, as evident in the photos. Additionally, there are restrictions on car passage in certain sections to prioritize pedestrian space. Fortunately, the municipality has taken steps to address this issue by implementing restrictions on car passage, aiming to create more space for pedestrians.

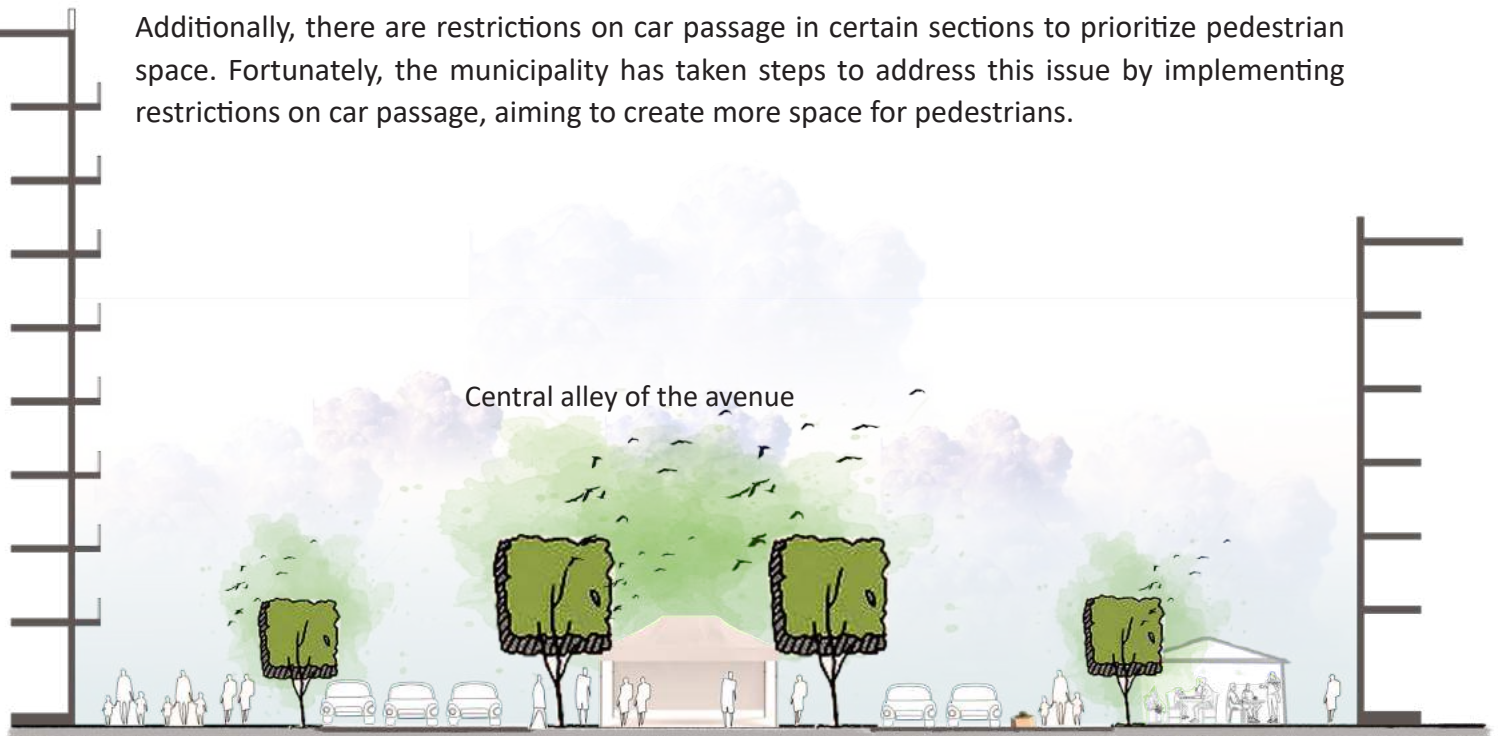


Figure 34 : Section B-B, source: Custom section



Figure 32 : The central area, source: Custom photo



Figure 33 : The restriction of car passage, source: Custom photo

The installation of ephemeral structures for cultural events in the central area has created walkability problems.

- SEATING AREAS



Figure 35 : lack of seating area, source: street view google map

In the analysis of pedestrian access and furniture along avenue Habib Bourguiba, it is evident that there is a notable deficiency in seating and resting areas. Observations in photos reveal that people often resort to sit on planters or even on the ground due to the limited availability of benches or dedicated seating spots along the avenue. This highlights a clear need to improve a pedestrian-friendly infrastructure. Addressing this issue by introducing more benches or seating areas would not only enhance the overall pedestrian experience but also contribute to the liveliness and vibrancy of the avenue as a social and cultural hub.

- PAVEMENTS AND FURNITURE



Wooden forge benches



The pavement in the central area



Grey asphalt



The Lantern

The pavement materials along the avenue Habib Bourguiba offer a functionality. In the central area and pedestrian paths, interlocked granite stones are used, while grey asphalt for vehicles. For the furniture, wooden forged benches are located only in certain parts of the central area.

► It's important to note that the pavements are not permeable, resulting in a high surface area of impermeable surface.

- LIGHTING

Lighting fixtures in the form of lanterns, inspired by the Art Nouveau architectural style, enhance the ambiance of the avenue. Additionally, it's worth noting that the existing lighting infrastructure in Avenue Habib Bourguiba is sufficient and effective, **requiring no further improvement.**



Figure 36 : lighting, source: riadh photography

II. 4. VEGETATION ANALYSIS

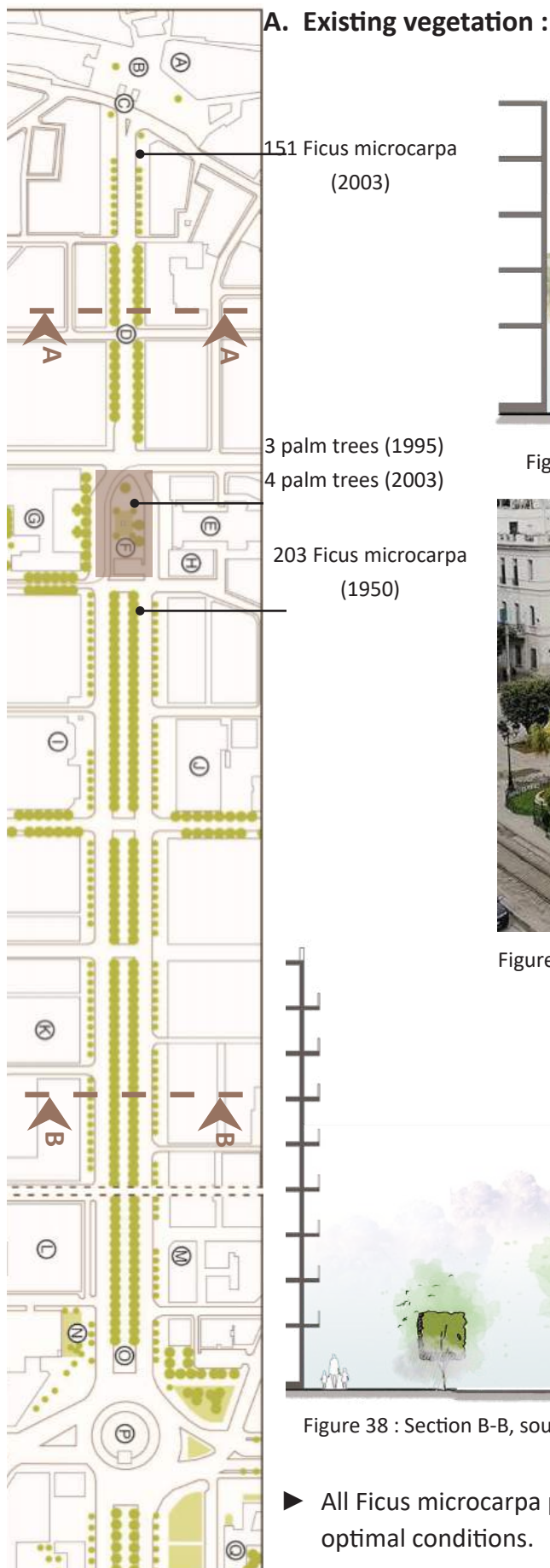


Figure 37 : Section A-A, source: Custom section



Figure 39 : Ibn Khaldoun square, source: ambiance à Tunis

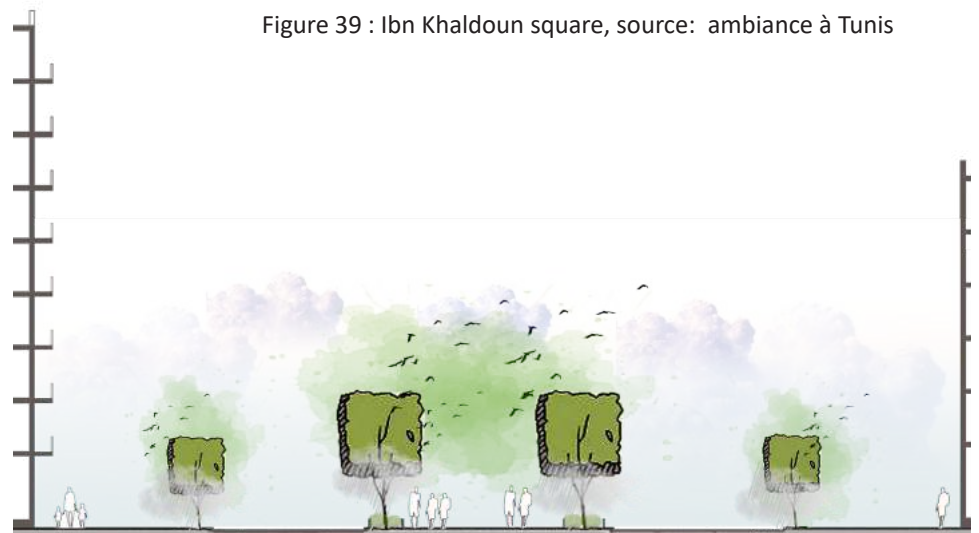


Figure 38 : Section B-B, source: Custom section

- ▶ All Ficus microcarpa plants are well-maintained and kept in optimal conditions.



Figure 41 : lack of vegetation layers, source: street view google map

In the vegetation analysis of avenue Habib Bourguiba, it's noted that the *Ficus microcarpa* trees, planted during renovations in 1950 and a development project in 2003, are in a good condition. However, the limited variety of vegetation, especially in terms of different layers, may impact the avenue's ecological balance and visual diversity. Increasing the range of plant species and layers could enhance both the avenue's aesthetics and its **ecological resilience**.

B. Green spaces and their impact on the avenue's livability:



Figure 42 : Memorable perspective of the avenue, source: alamy

The trees lining the avenue, especially the *Ficus microcarpa* plants, are not only vital for providing shade during the hot summer months but also hold significant historical and memorial importance. Their presence characterizes the landscape of the avenue, creating a visually appealing and inviting atmosphere. These trees serve as living witnesses to the passage of time. Their historical significance enhances the overall cultural richness of the urban environment, making them an integral part of the **community's identity and collective memory**.

II. 5. SOCIAL ANALYSIS

1. Historic landmarks



2. Economic Activity



1. **Historic Landmarks:** such as the municipal theatre and the clock tower.
2. **Economic Activity:** This avenue hosts numerous businesses, shops, restaurants, and cafes. It's strategic location in the heart of Tunis makes it a prime destination for commerce.

3. Cultural Hub



4. Political Significance



3. Cultural Hub: As the main thoroughfare in Tunis, avenue Habib Bourguiba serves as a vibrant cultural hub, hosting festivals, parades, and cultural events throughout the year. This avenue also serves as **a platform for social and political activism**, with protests and demonstrations frequently taking place.

4. Political Significance: During the arab spring in 2011, the avenue was the focal point of demonstrations that led to the ousting of president Zine El Abidine Ben Ali, marking a turning point in Tunisian politics. Today, avenue Habib Bourguiba continues to be a symbolic space for political discourse and activism, representing the aspirations of the Tunisian people for democracy, freedom, and social justice.

► In conclusion, avenue Habib Bourguiba serves as more than just a thoroughfare; it is a representation of Tunisia's history, culture, economy, and politics.

II. 6. MUNICIPALITY PLANS

The Société de Promotion du Lac de Tunis (SPLT) has initiated a significant redevelopment project aimed at revitalizing the waterfront area adjacent to the scenic Lake of Tunis. This initiative seeks to enhance the area's visual appeal, functionality, and overall attractiveness, creating an inviting urban space for residents and visitors.

However, it's noteworthy that I have decided to exclude the adjacent waterfront area from my scope. By focusing solely on Avenue Habib Bourguiba, I can concentrate my resources and efforts to maximize the impact of my project while ensuring alignment with existing urban development initiatives in Tunis.

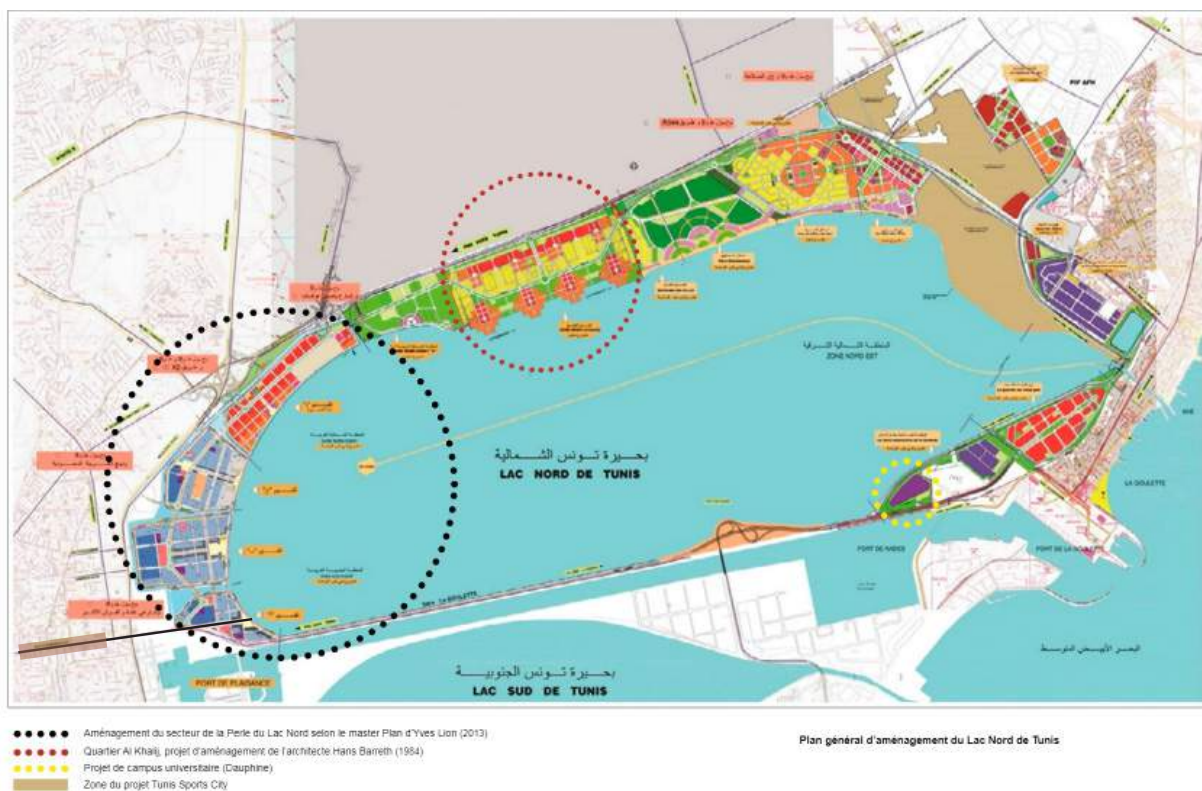


Figure 43 : LAKE PROJECT, source: SPLT Tunis

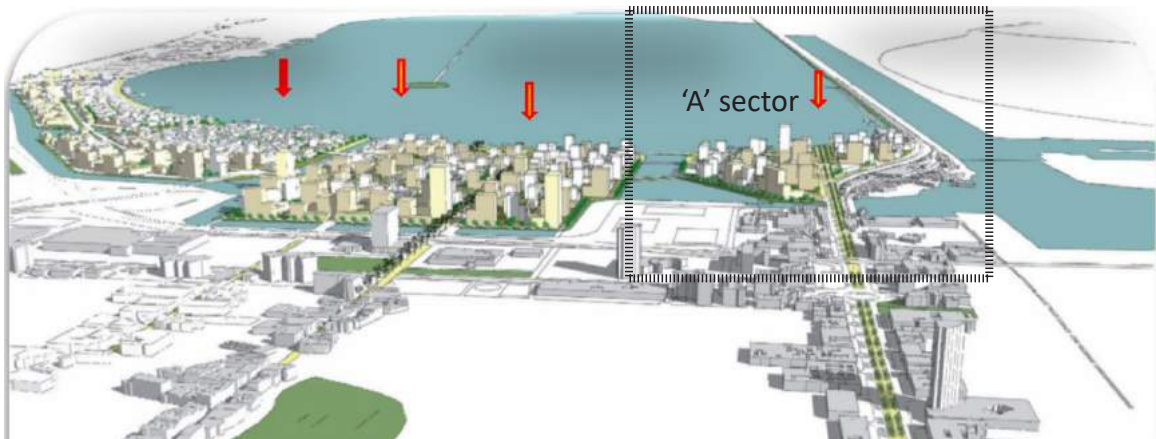


Figure 45 : The 3D of the lake project, source: SPLT Tunis



Figure 44 : A sector, source: SPLT Tunis



Figure 46 : Bike line in 'A' sector, source: SPLT Tunis



- In the future development of the avenue, I aim to guarantee the continuity of all transportation lines, including buses, pedestrian paths, and bike paths, as proposed in the SPLT project. This ensures smooth transitions and connections between these transportation modes, facilitating convenient and efficient movement for residents and visitors alike.

II. 7. EVALUATION OF ANALYSIS

Avenue Habib Bourguiba remains a vibrant cultural hub, boasting a rich tapestry of historical significance and economic activities.

In evaluating the site analysis of this avenue, we can notice several key factors. Walkability present a significant challenge, caused by inadequate infrastructure and disjointed pathways, limiting the avenue's potential as a pedestrian-friendly environment. Traffic congestion also aggravates this issue.

Moreover, the lack of seating and resting areas along the avenue contributes to the problem of discomfort for pedestrians. Additionally, the absence of a diverse vegetation layer ggravates the visual and ecological challenges faced by the avenue.

Moving forward, there is a clear imperative to prioritize enhancing walkability within this urban avenue. This implement a more inclusive and pedestrian-friendly environment favorable to social, cultural, and economic vitality. This necessitates also, a comprehensive improvements in infrastructure, including the creation of seamless pedestrian pathways and the integration of green spaces, to ensure a comfortable and enjoyable experience for all users.

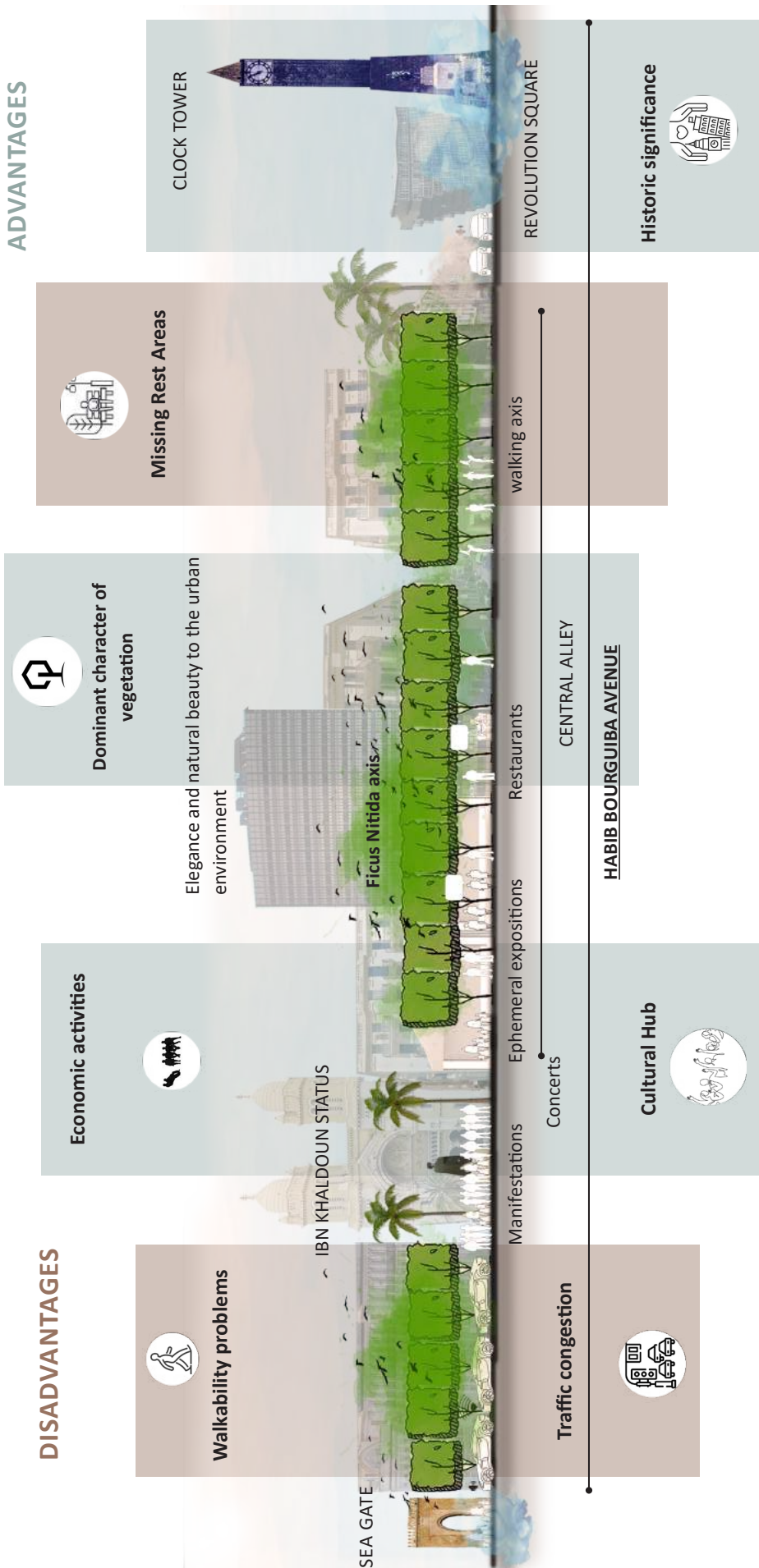
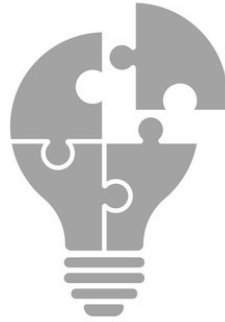


Figure 47 : summary section, source: Custom schematic section

CHAPTER 3: CONCEPTUAL APPROACH



III. 1. CONCEPT

ENHANCING URBAN AVENUE LIVABILITY

Enhancing urban avenue livability involves transforming it into a welcoming and vibrant space that prioritizes the needs and experiences of its users. This concept requires improving pedestrian access, reducing traffic congestion, creating inviting public spaces, and integrating greenery to promote a sense of tranquility and well-being.

III. 2. STRATEGIC LEVELS OF PLANNING

My strategy is based on three main levels of planning.

01 TRAFFIC DEVELOPMENT



- By improving two parallel avenues to reduce traffic congestion on the main access,
- Encouraging residents and visitors to utilize sustainable options like walking, cycling, and public transit reduces dependency on cars and alleviates traffic congestion.

02 RECREATIONAL DEVELOPMENT



- Installing **seating areas** at regular intervals along the avenue provides users with opportunities to rest and socialize, enhancing the overall experience.
- Establishing **rest zones** with shaded shelters offers pedestrians refuge from the sun and inclement weather, creating comfortable spaces for relaxation and social interaction.

03 GREEN COVERAGE AND PERMEABLE SURFACE DEVELOPMENT



- Incorporating a **pocket park** in the heart of the avenue will introduce natural elements into the urban environment, improving air quality and enhancing aesthetic appeal.
- Developing **permeable surfaces**, such as porous pavements or green infrastructure, helps manage stormwater runoff and reduce heat island effects.

CHAPTER 4: DESIGN DEVELOPMENT

IV. 1. TRAFFIC DEVELOPMENT (REGIONAL SCALE)

IV.1.1 Car traffic solution :

- In addressing car traffic solutions for avenue Habib Bourguiba, two alternative routes have been developed to reduce congestion and minimize traffic flow on the main avenue. The first proposed solution involves reconfiguring the road layout of Farhat Hached Avenue, extending from the waterfront towards the direction of the medina. This adjustment includes converting the road into a dual carriageway. Additionally, the second alternative route necessitates changing course a part of Jean Jaures Road and Moktar Attia Road, situated on the parallel side of Avenue Habib Bourguiba. By changing traffic onto these parallel routes, the aim is to redistribute the flow away from the main avenue, thereby reducing congestion.

- A second proposed idea involves reducing the number of lanes dedicated to cars from three to one along the main avenue. This reduction aims to prioritize pedestrian and alternative modes of transportation, such as cycling and public transit.

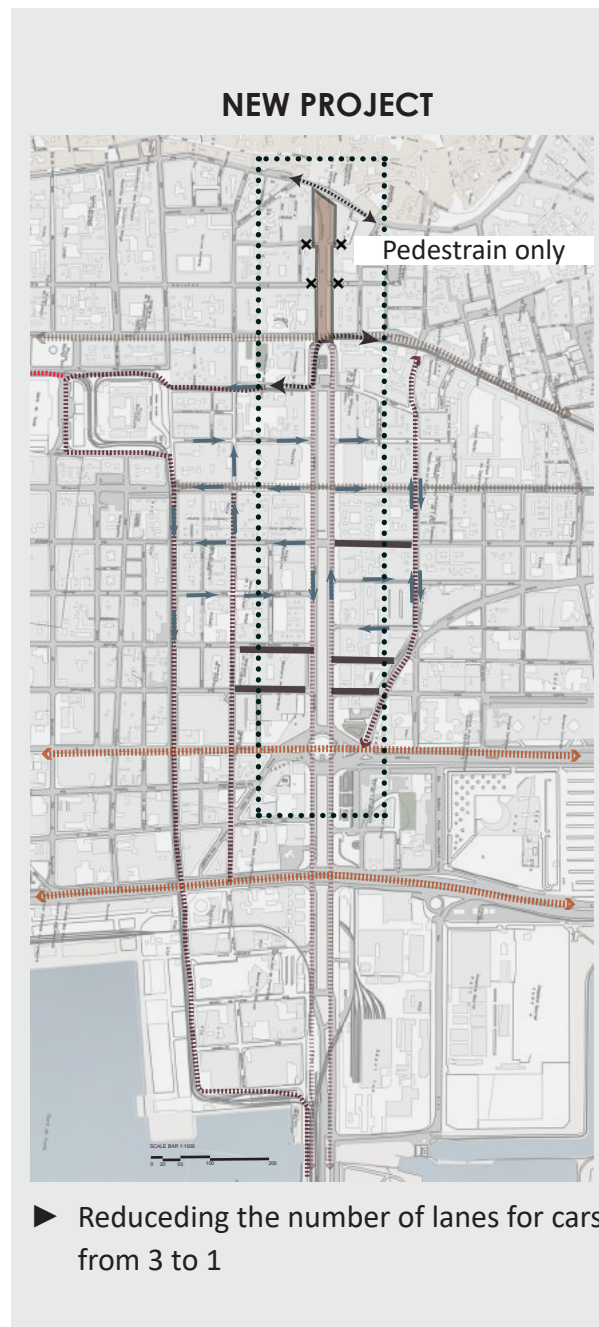
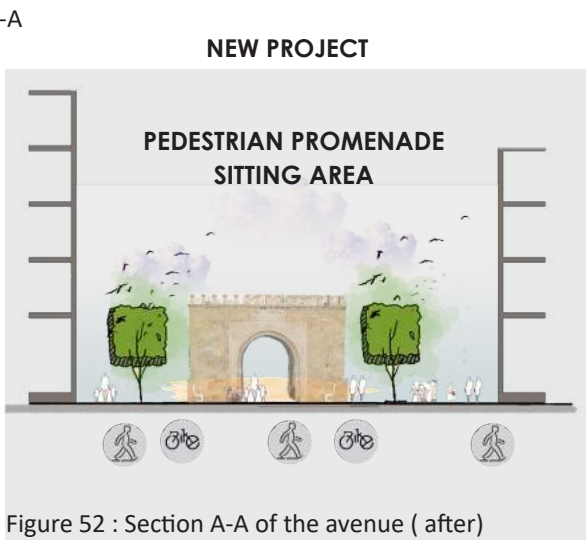
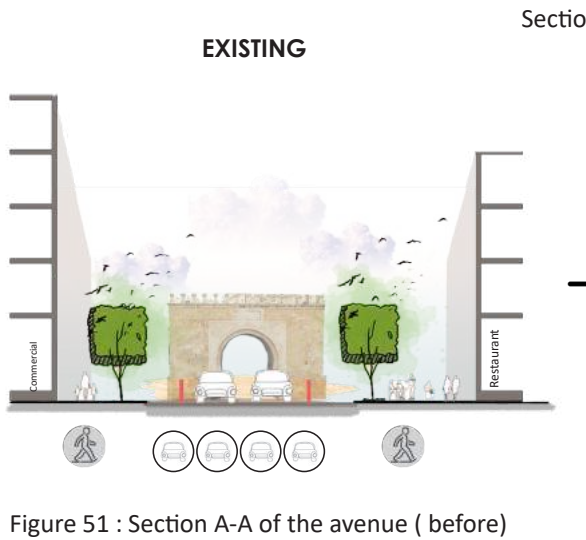
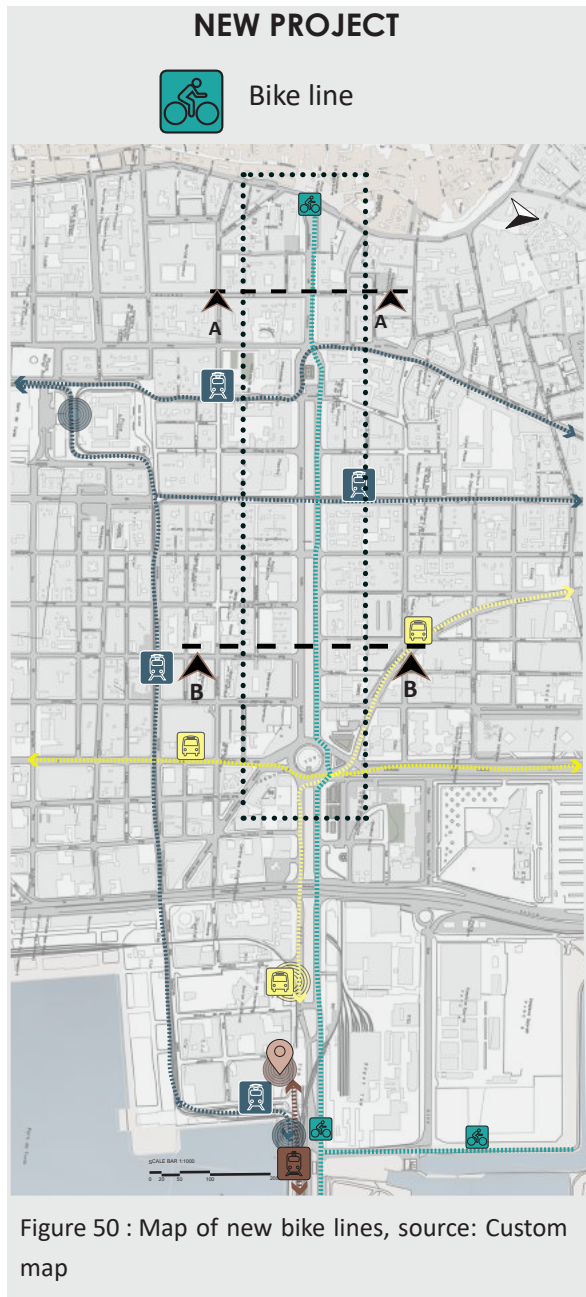
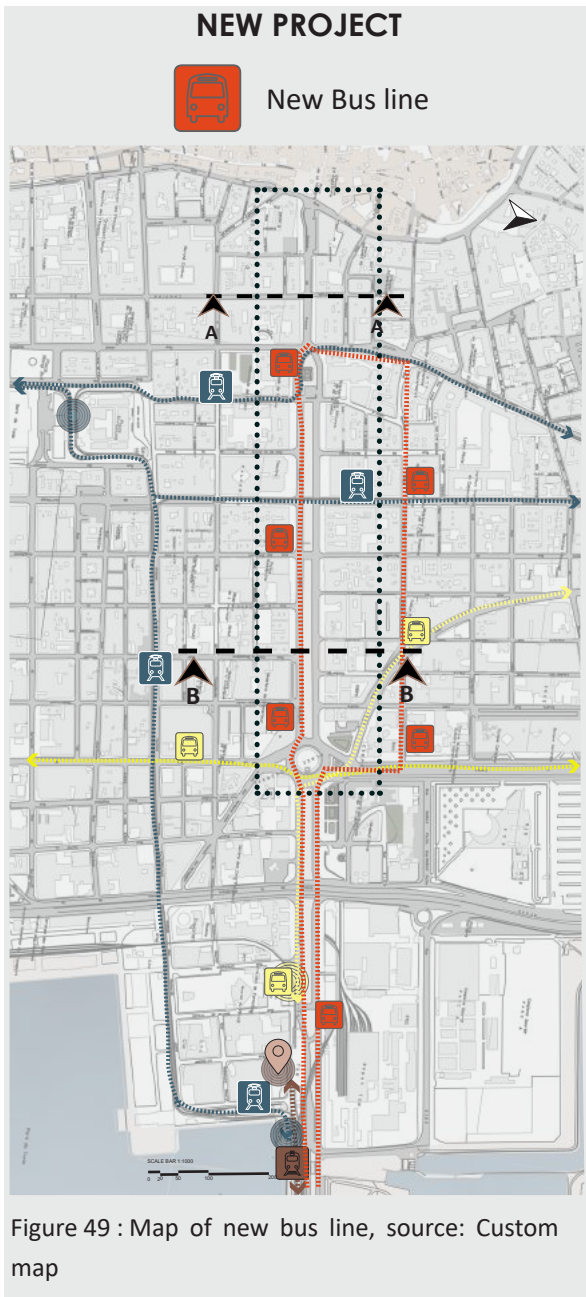


Figure 48 : Map of car traffic solutions, source: Custom map

IV.1.2 Implementation of bus line and bike lines

A dedicated bike lane will be established, running from the waterfront to the medina, providing cyclists with a safe and efficient route along the avenue. Additionally, a bus line connected to the SPLT project will be introduced, starting from the Tunis Bahria station located outside the site delimitation. This bus line will extend to the upper part near the French Embassy and return from the road of Moktar Attia.



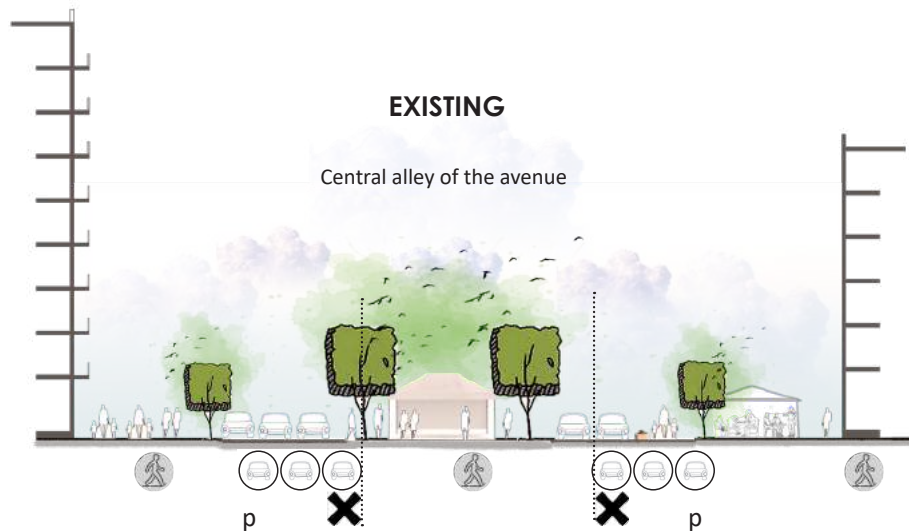


Figure 53 : Section B-B of the avenue (before), source: Custom section



Figure 54 : Section B-B of the new avenue (after), source: Custom section

Enhance the street for **multi-modal transportation** (integrating designated lanes for cars, pedestrians, bikes, and buses)

- Prioritizing pedestrian movement while ensuring seamless integration for vehicles.

IV. 2. RECREATIONAL DEVELOPMENT (PROJECT SCALE)

IV. 2. 1. BUBBLE DIAGRAM:

The concept adopted for the masterplan of avenue Habib Bourguiba highlights **the preservation of the avenue's axuality and perspective** while incorporating various development components. The bubbles representing the recreational development, are strategically distributed according to this idea. Specific areas are highlighted within these bubbles, such as the **open plaza** at the intersection of the sea gate and pedestrian road. The France Road will be transformed into a **pedestrian promenade** with designated sitting areas, while the small square in front of the cathedral will be developed into a **pocket park**. A **seating area** will be incorporated into the central alley of the avenue, and an **event space** will be established in front of the municipal theatre. Finally, the **pedestrian promenade** will extend until the clock tower, providing additional sitting benches for relaxation and enjoyment.

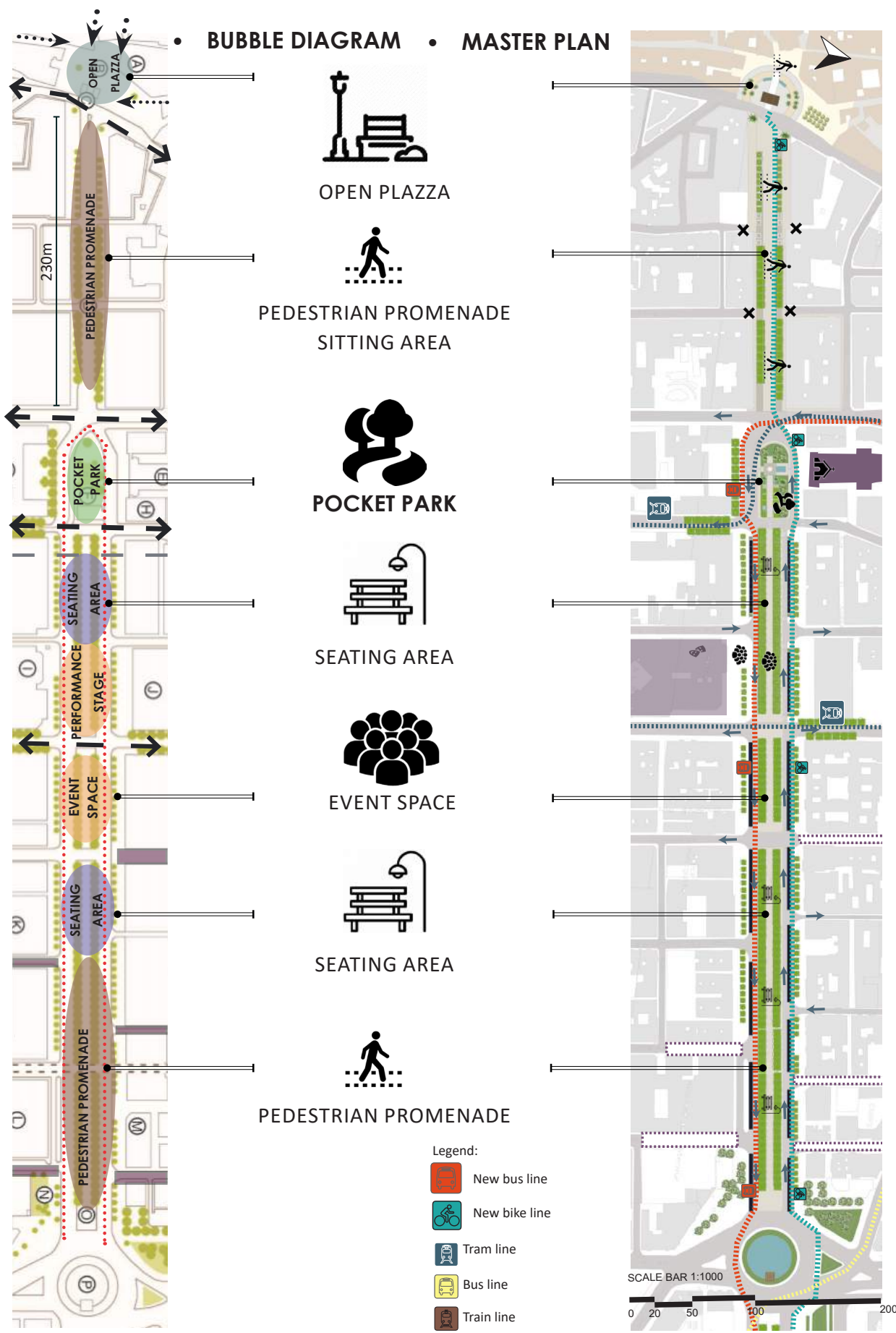


Figure 55 : Bubble diagram, source: Custom map

Figure 56 : Master plan, source: Custom map

IV. 2. 2. MASTER PLAN

The master plan for avenue Habib Bourguiba integrates traffic development and recreational development to optimize the avenue's functionality and livability. The reduction of car lanes aim to diminish traffic congestion, while the establishment of dedicated bike lanes and a bus line enhances sustainable transportation options. recreational functions, such as **seating areas, pocket parks, and event spaces**, are strategically placed along the avenue to promote social interaction and relaxation. The overlapping of traffic and recreational development ensures **a balanced approach to urban planning, fostering a vibrant and pedestrian-friendly environment**. The integration of green coverage and permeable surface development further enhances the avenue's aesthetic appeal and ecological sustainability, creating a harmonious blend of urban infrastructure and natural elements. Through thoughtful design and strategic allocation of spaces, the master plan seeks to preserve Avenue Habib Bourguiba's historical significance while meeting the evolving needs of its users. In the upcoming Zoom sessions in the master plan, each part will be explained in detail.

IV. 2. 3 . ZOOMS IN MASTER PLAN

1. VICTORY SQUARE AND PEDESTRIAN STREET

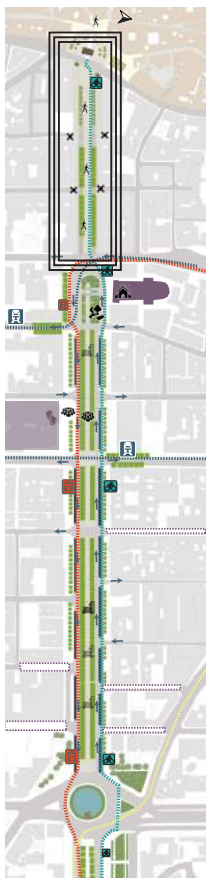


Figure 57 : Master plan,
source: Custom map

In the upcoming zoom of the master plan, we will focus on the development of Victory square and the sea gate, along with the adjacent pedestrian street. This area serves as the gateway to the historic medina, characterized by souks offering a variety of artisanal goods.

- The **layout** will be organized in a **circular shape** to highlight the sea gate, both in the overall plan and in 3D visualization. **Sitting areas** will be placed adjacent to planters with palms to provide shade without blocking the facades of surrounding buildings. Additionally, **a cooling fountain** will be installed to refresh the air, particularly during the **hot summer months**, enhancing the comfort of visitors and residents alike. Moreover, **arboreal shelters**, consisting of groups of trees, will be situated on the right side of the gate, offering shaded areas.

- **The France street** With a width of 27 meters and a length of 230 meters, has been transformed into a pedestrian-only area, complemented by a dedicated **bike lane**. this part is home to various shops, cafés, and restaurants. My aim is to maintain the axuality of the avenue **to preserve the perspective of the sea gate**. On both sides of the street, there will be **cozy dining areas** under the trees in front of the cafés and restaurants, and comfortable **seating areas** will be set up in front of the shops. Moreover, we'll be introducing **new mobile popup shops** to add to the lively atmosphere.

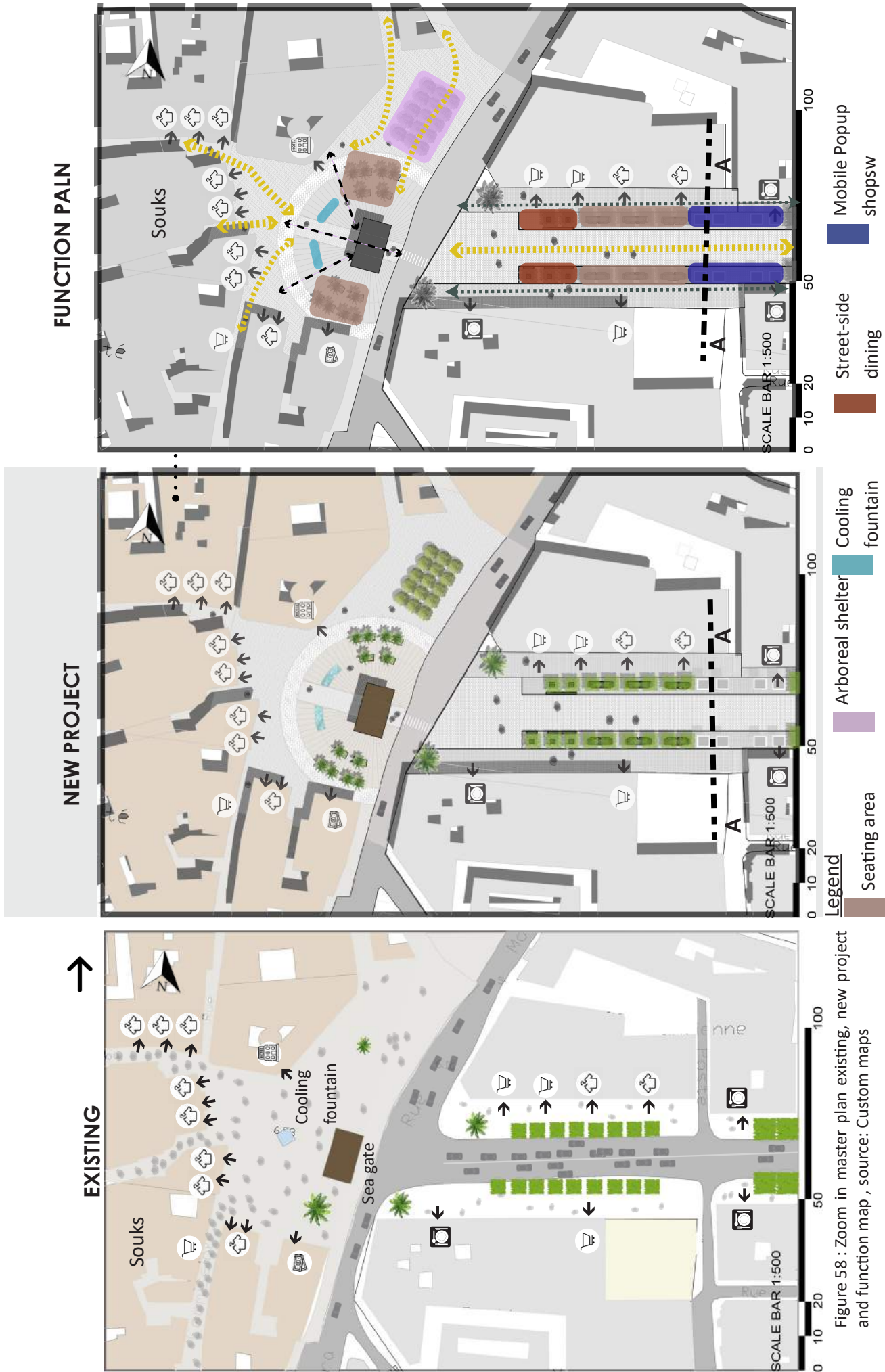


Figure 58 : Zoom in master plan existing, new project and function map , source: Custom maps

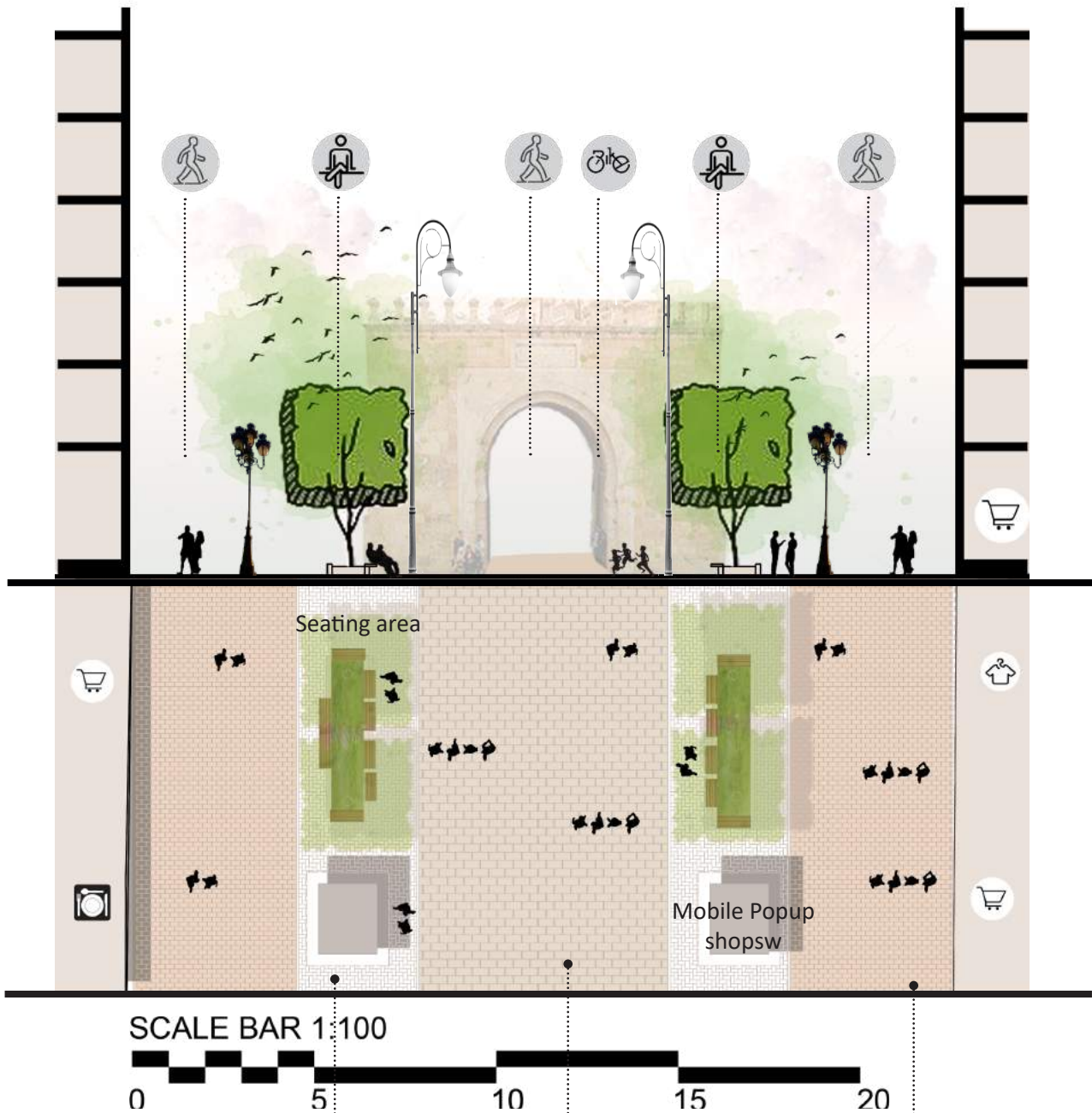


Figure 59 : Section A-A in the pedestrian street, Custom section

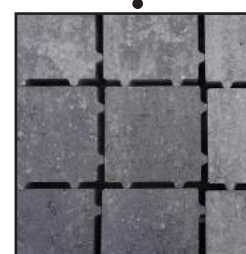
- PAVEMENT



Camino Permeare



Stone pavers



Permeable concrete
Pavers - Gray-black

In designing the pavement for the pedestrian street, I've prioritized **sustainability and functionality**. Stone pavers evoke the heritage of the medina, while Camino Permeare and Permeable concrete Pavers - Gray-black offer efficient **drainage and durability**. By strategically placing these materials based on their **properties and usage**, I create an urban space that not only honors tradition but also addresses modern environmental concerns.

FURNITURES AND LIGHTING



Mobile Popup shops



The Lantern



Planter with
benches



Trash can

- Preserve lighting fixtures in the form of lanterns, inspired by the Art Nouveau architectural style



Figure 60 : Pedestrian Street, source: custom visualization



FIGURE 62 : Victory square - Sea gate , source: custom visualization

2. POCKET PARK IN IBN KHALDOUN SQUARE AND STREET FOR MULTI- MODAL TRANSPORTATION

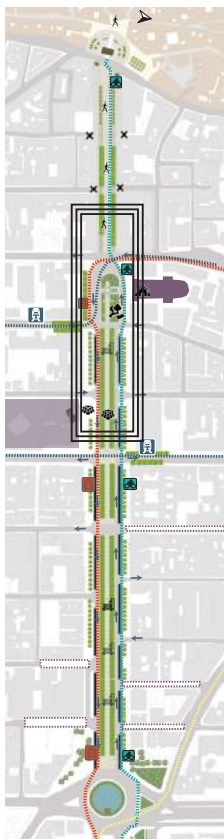
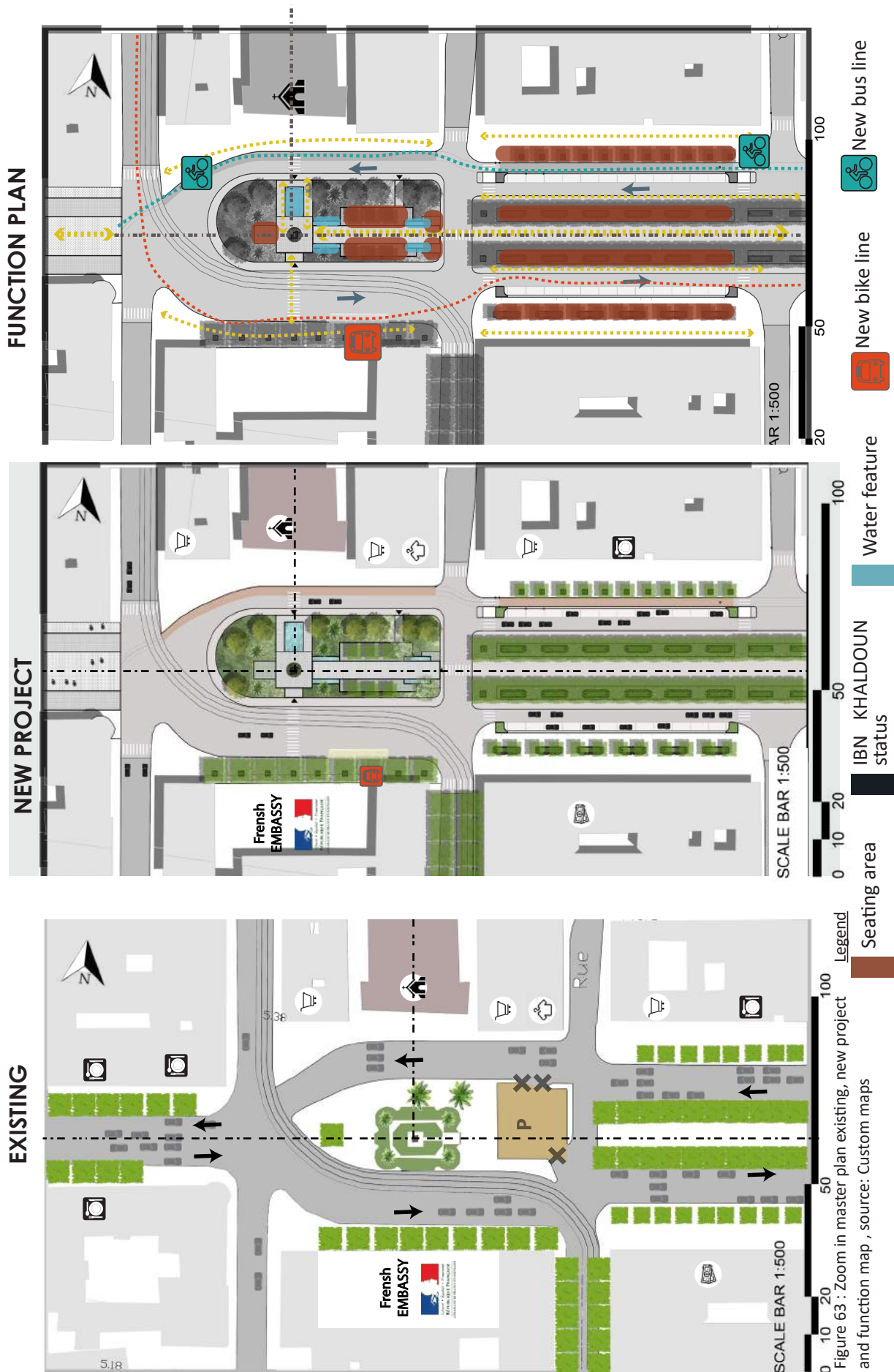


Figure 61 : Master plan, source: Custom map

In the existing situation, the square in front of the cathedral and the French embassy consisted primarily of green space with a notable statue of Ibn Khaldoun marking the intersection axis of the avenue and the cathedral. Additionally, there was a parking area that was closed by the municipality. This parking area will be incorporated into the **new pocket park** design. The proposed idea aims to preserve the axis, especially that of the avenue, while enhancing the park's functionality. The park's layout resembles an L-shape, featuring two main entrances—one from the avenue axis and one from the cathedral axis—and two secondary axes. This pocket park offers various benefits, including improved pedestrian access, increased greenery for a more pleasant urban environment, opportunities for relaxation and social interaction.

Additionally, the **multifunctional road** includes a single lane connecting both parts, along with two bike lanes and an expanded central area with sitting benches placed adjacent to planters, creating an inviting promenade for visitors.



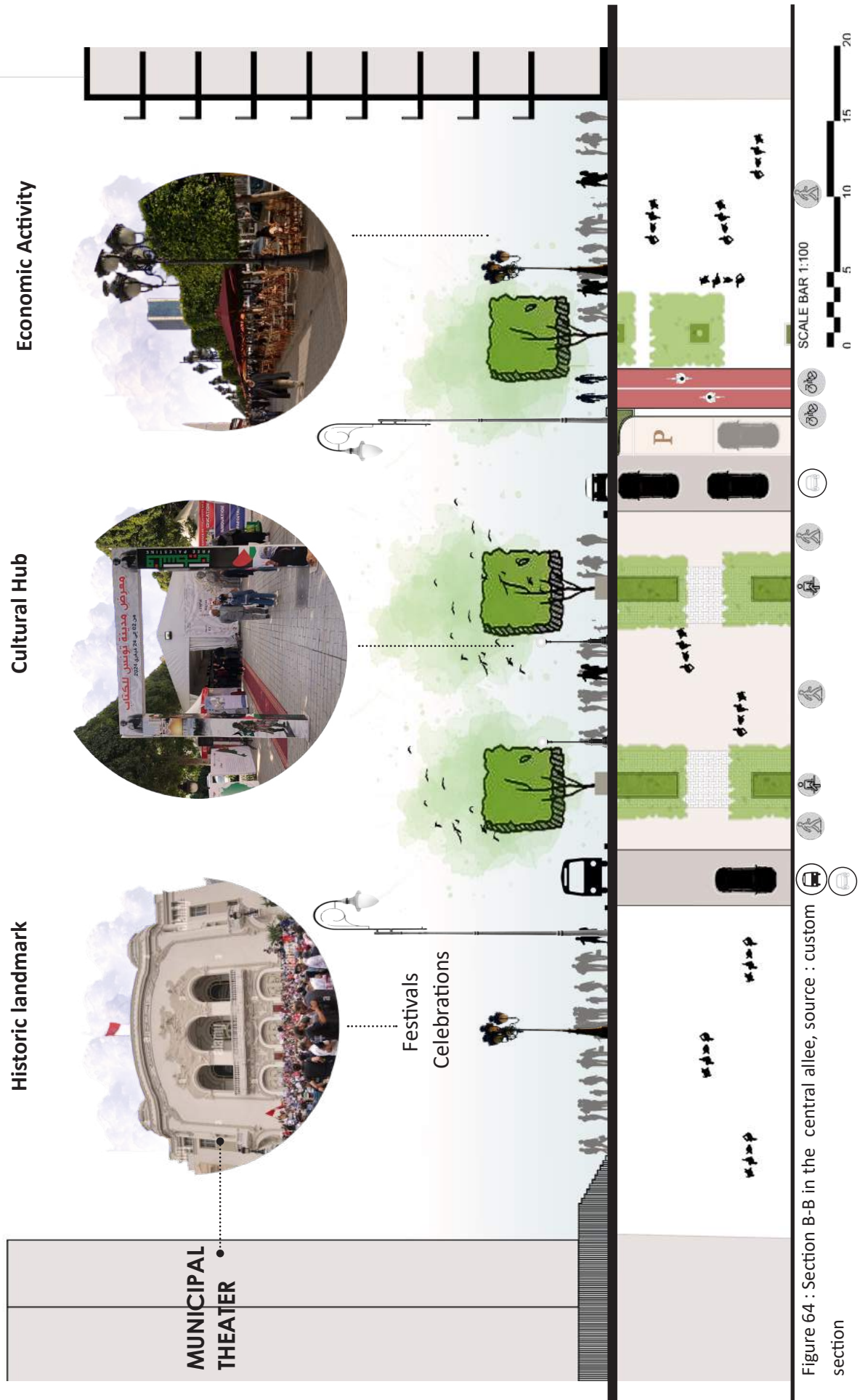




Figure 65 : Actual situation of the tree line without seating benches (before)



Figure 66 : Tree line with seating benches (new project), custom visualization



Figure 67 : New car and bus line (new project), custom visualization

V.3. GREEN COVERAGE AND PERMEABLE SURFACES DEVELOPMENT

V. 3. 1 . POCKET PARK IN IBN KHALDOUN SQUARE IN 1/200

The transformation of the space in front of the cathedral and the small parking into a pocket park is a significant step towards enhancing the urban environment. The park's layout is designed in an L-shape. It has two main entrances, one from the avenue axis and another from the cathedral axis, and two secondary access points, from the north and south near the bus station. Adding a notable water feature on the cathedral side reflects the grandeur of the cathedral facade and elevating the park's aesthetic appeal. At the heart of the park, the prominent statue of Ibn Khaldoun stands as a testament to the area's rich history, serving as a focal point and preserving its historical significance.

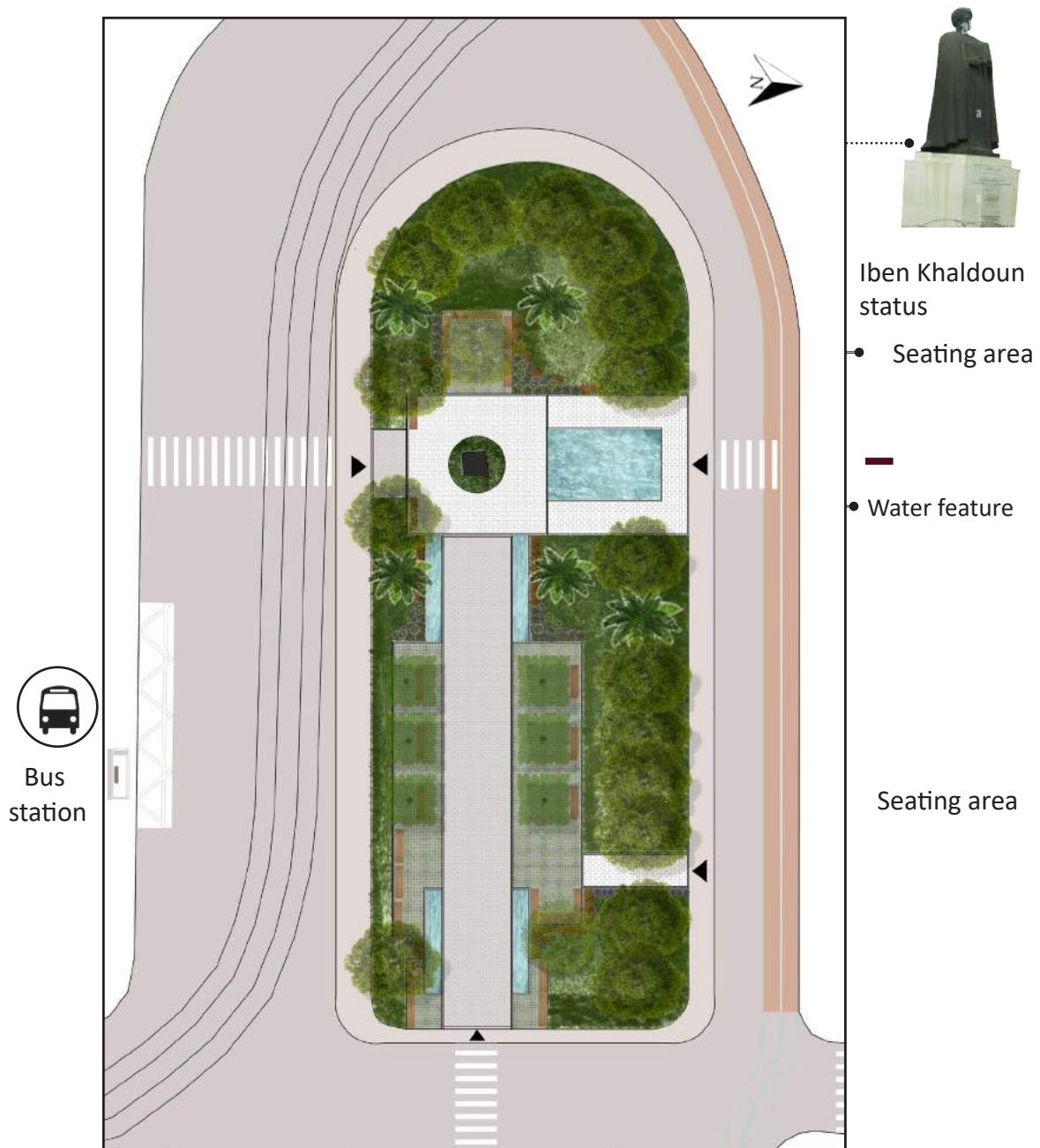


Figure 68 : Pocket parkin 1/200 , source: Custom map

GREEN COVERAGE

In the new design, the green surface in the pocket park has been significantly expanded to **711 m²**, compared to the previous green area of **300 m²** in front of the cathedral. Additionally, the parking area, which was previously **359 m²**, has been transformed as part of the new pocket park, contributing to the increased green space and overall enhancement of the urban landscape.

I aim to preserve the five existing **palm trees** within the square, maintaining their presence and contributing to the overall aesthetic and environmental value of the space.

Moreover, in line with **sustainability principles**, I have prioritized the use of **local plants** and vegetation throughout the park's design, ensuring a harmonious integration with the surrounding ecosystem while minimizing ecological impact.

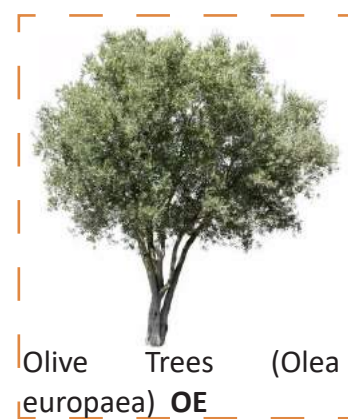
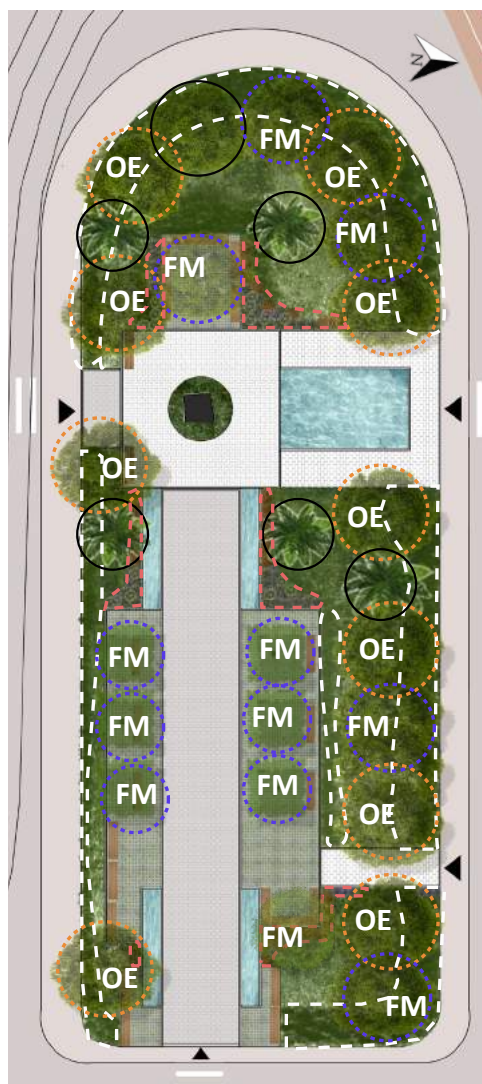
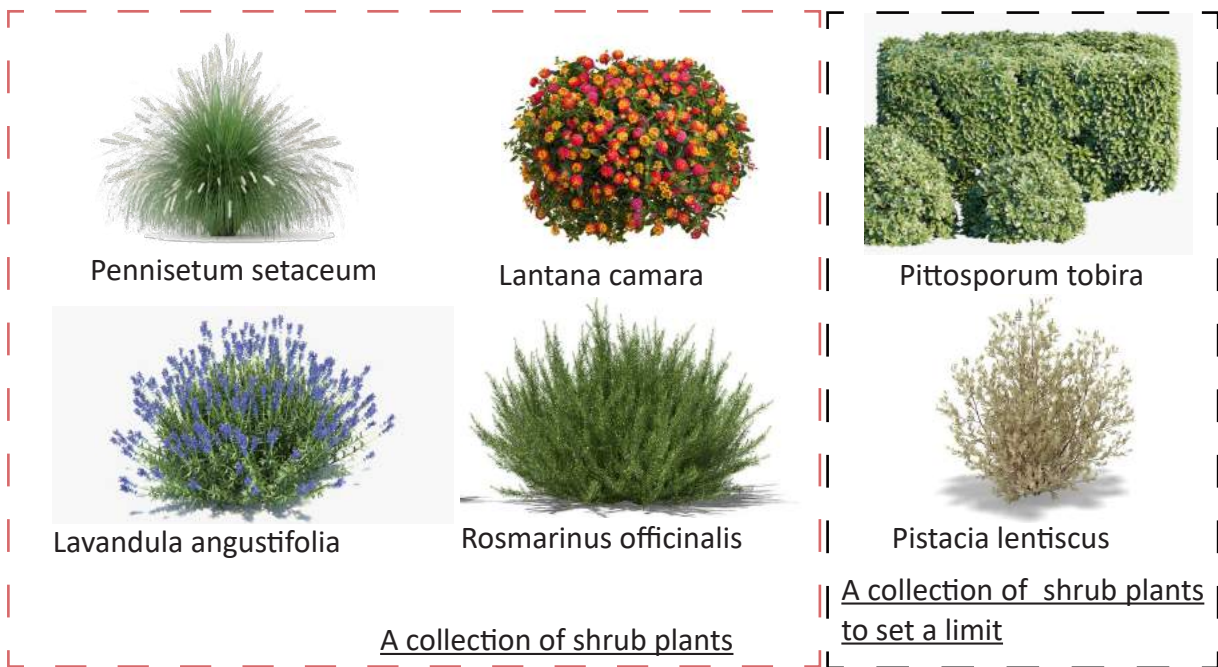
TREES				
NAME	DIMENSION	FLOWERING PERIOD	WATER DEMAND	SUN DEMAND
Ficus microcarpa	up to 20 meters	Insignificant flowers	Regular moisture	Full sun
Phoenix dactylifera	H: 15-24 m S: 6-12 m	Spring	Moderate	Full sun
Olive Trees (Olea europaea)	H: 15 m S: 4-8 m	late spring to early summer	drought-tolerant	Full sun

Figure 69 : Tree spices, custom table

SHRUBS				
NAME	DIMENSION	FLOWERING PERIOD	WATER DEMAND	SUN DEMAND
Pittosporum tobira	H: 1.8 to 3 m S: 1.2 to 1.8 m	Late spring to early summer	Moderate	Partial shade
Pistacia lentiscus	H: 2 to 5 m S: 7 m	Late spring to early summer	Moderate	Full sun
Myrtus communis	H: 1 to 5 m S: 7 m	Late spring to early summer	Moderate	Full sun
Lavandula angustifolia	H: 30 to 90 cm S: 30 to 60 cm	Late spring to early summer	Low	Partial shade
Rosmarinus officinalis	H: 60 to 180 cm S: 30 to 60 cm	spring to early summer	Low	Sun
Lantana camara	H: 60 to 180 cm S: 60 to 150 cm	from spring to fall	Low	Sun
Pennisetum setaceum	H: 60 to 120 cm S: 30 to 60 cm	late spring to fall	Moderate	Sun

Figure 70 : Shrub spices, custom table

Legend :



Existing tree : 5 Palm trees and 1 Ficus microcarpa

Figure 71 : Plantation in pocket park , source: Custom map

PERMEABLE SURFACE DEVELOPMENT



Figure 72 : Pavement in pocket park , source: Custom map

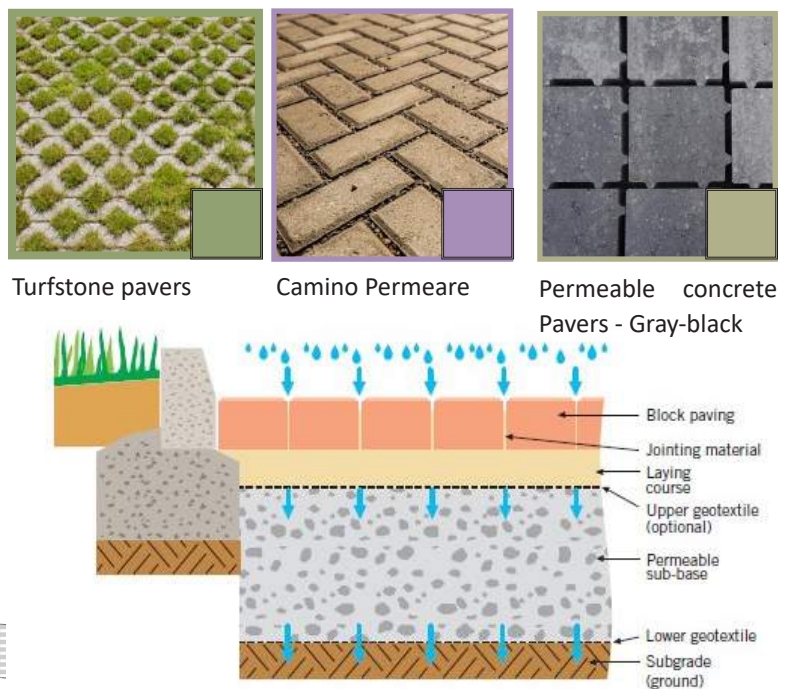


Figure 73 : Typical section of permeable pavers, source paving expert

For the permeable surface development in the new pocket park, I suggested utilizing TurfStone pavers, Camino Permeare, and Jebel Permeable concrete Pavers - Gray-black. These materials not only provide functionality and aesthetic appeal but also ensure permeability to **manage rainwater runoff**, thus addressing **sustainability concerns**. In the section dedicated to permeable pavers, a typical representation of how these materials are installed and their permeable nature was depicted, emphasizing their role in promoting **eco-friendly urban** development.

V. 3. 2. PLANTERS IN AVENUE HABIB BOURGUIBA

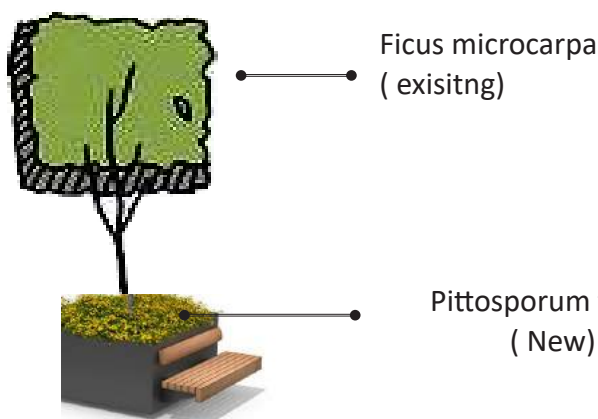


Figure 74 : Planter with benches in avenue , source : custom photo



Figure 75 : Planter with benches in victory square , source : custom photo



Figure 76 : Pocket park - Etrance -1 , source: custom visualization

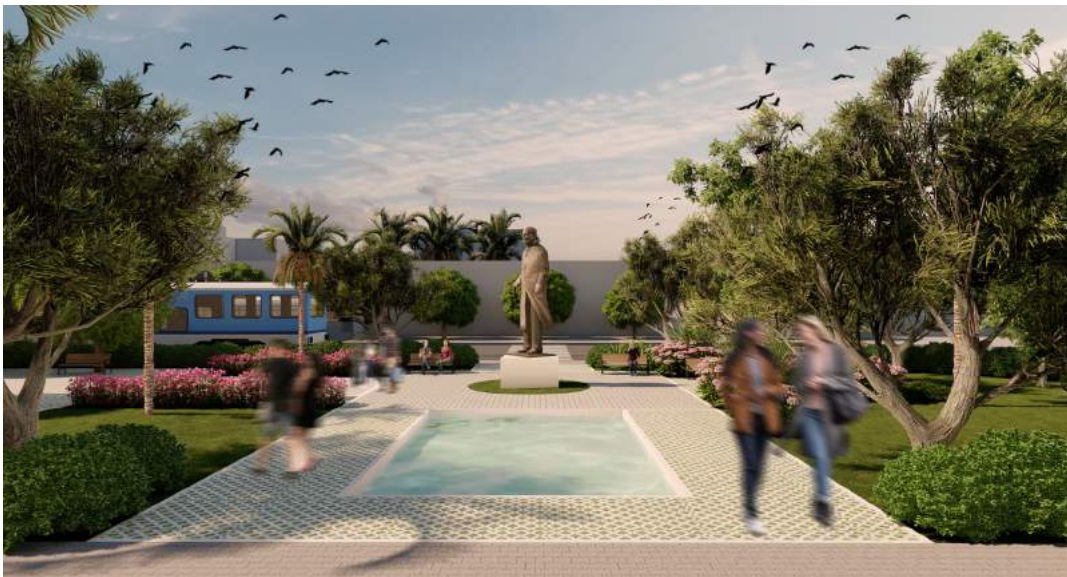


Figure 77 : Pocket park - Etrance -2 , source: custom visualization



Figure 78 : Illumination at Habib Bourguiba's pocket park , source: custom visualization

V. 3. 3. DEWATERING CONCEPT

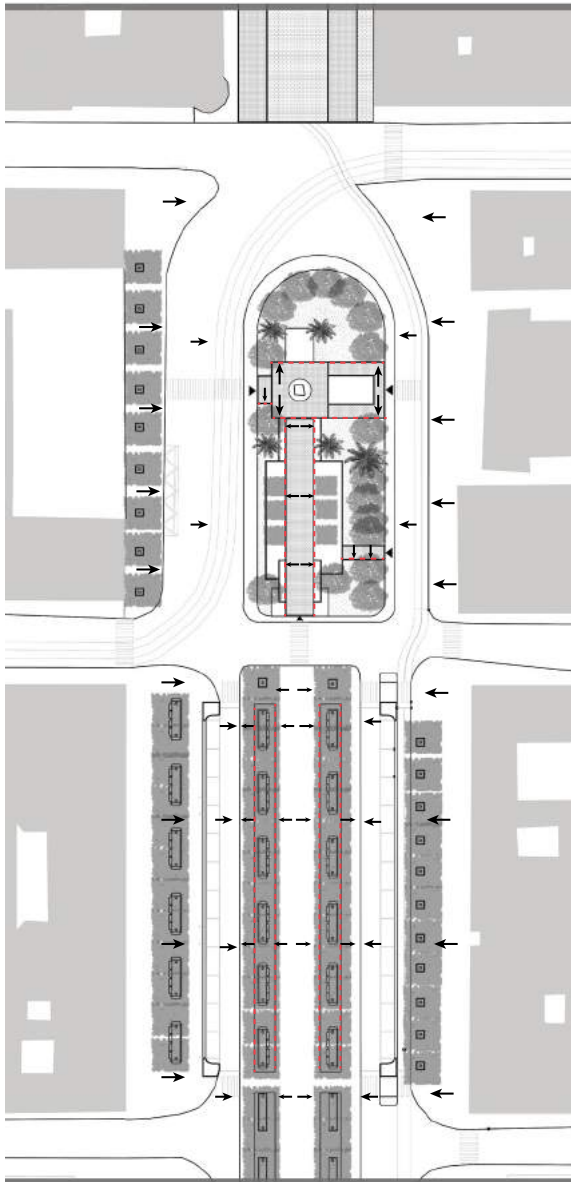






Figure 79 : dewatering in pocket park , source: Custom map

Legend :

-  Green surface
-  2% . Direction of inclination
-  Gutter line
-  Square gutter

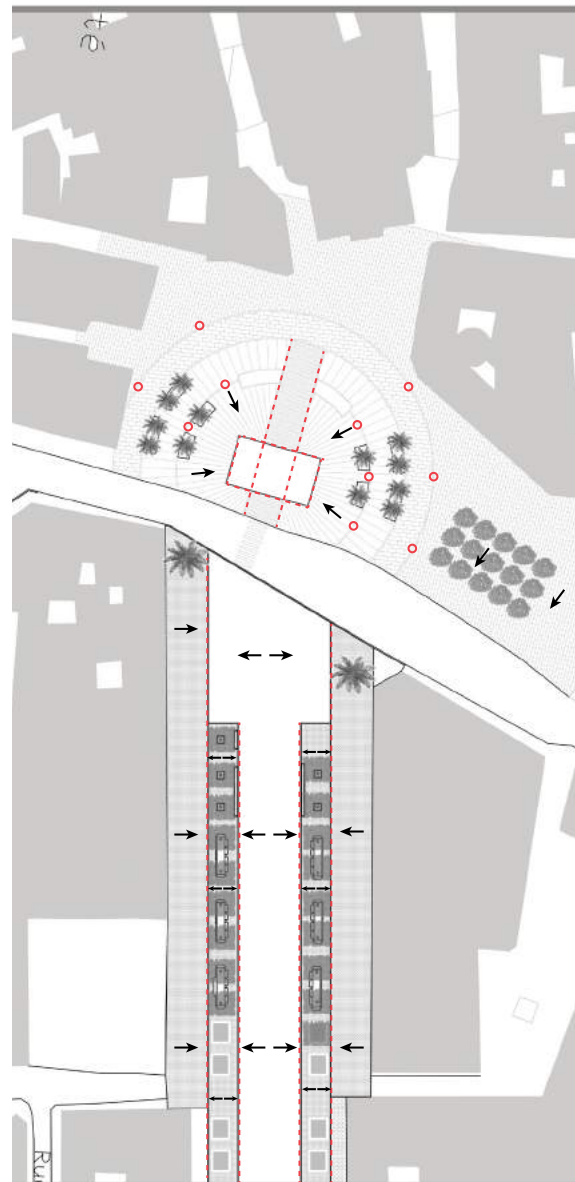


Figure 80 : dewatering in sea gate and pedestrian street , source: Custom map



Figure 81 : Gutter line, source: drain systems

In the dewatering plan for the site, we've devised a dual approach to effectively manage stormwater runoff across different surface configurations. For rectangular areas, linear drainage channels will be installed along both longer and shorter sides to accommodate runoff in either direction. In contrast, the circular gate area will feature a combination of spot and linear drainage systems.

V. 3. 4. CONSTRUCTION DETAILS

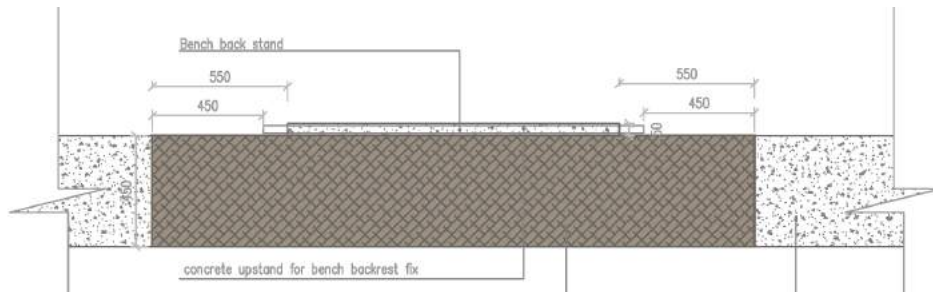


Figure 82 : typical Plan of benches & planter , source : custom layout

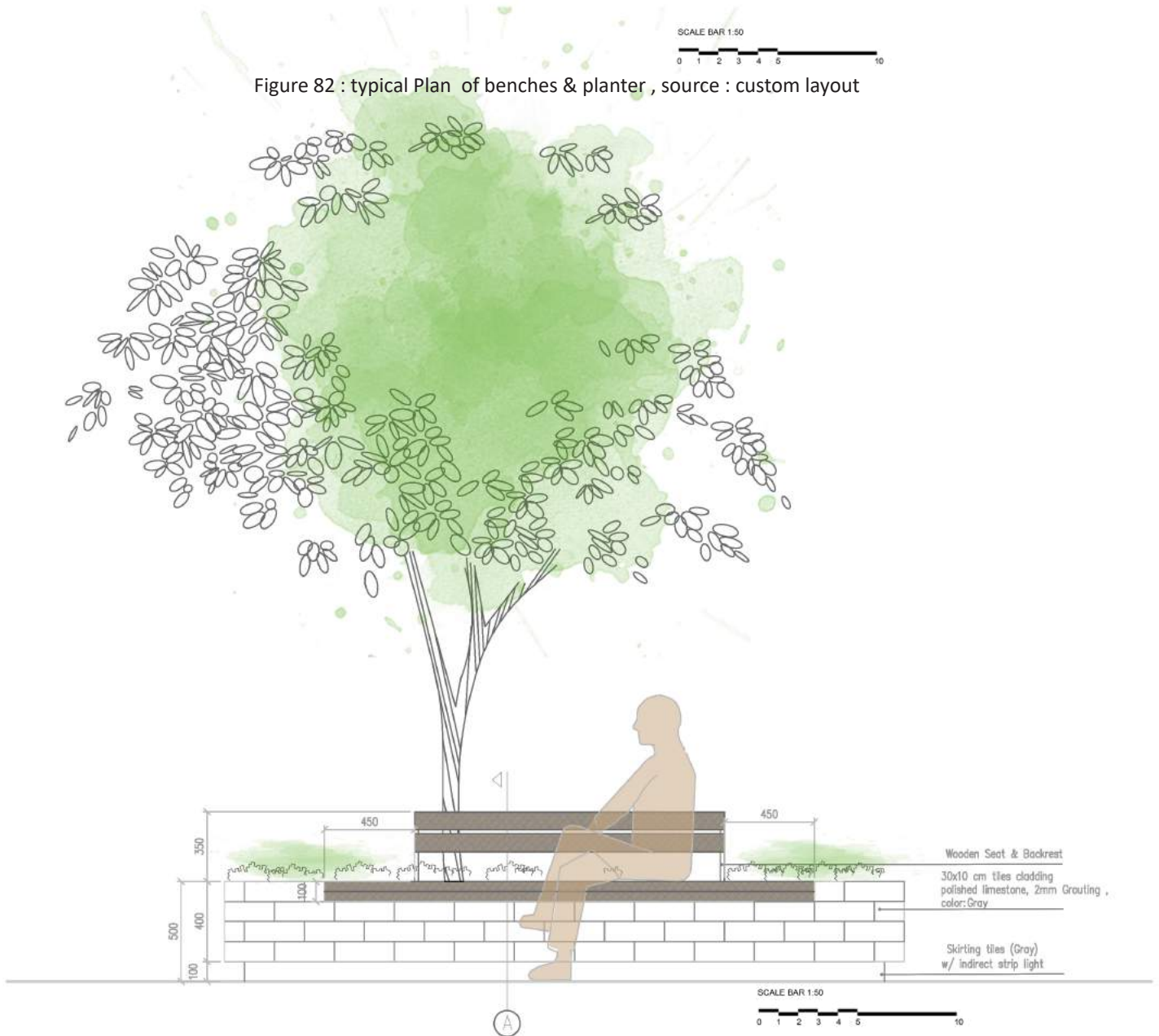


Figure 83 : typical elevation of benches & planter , source : custom layout

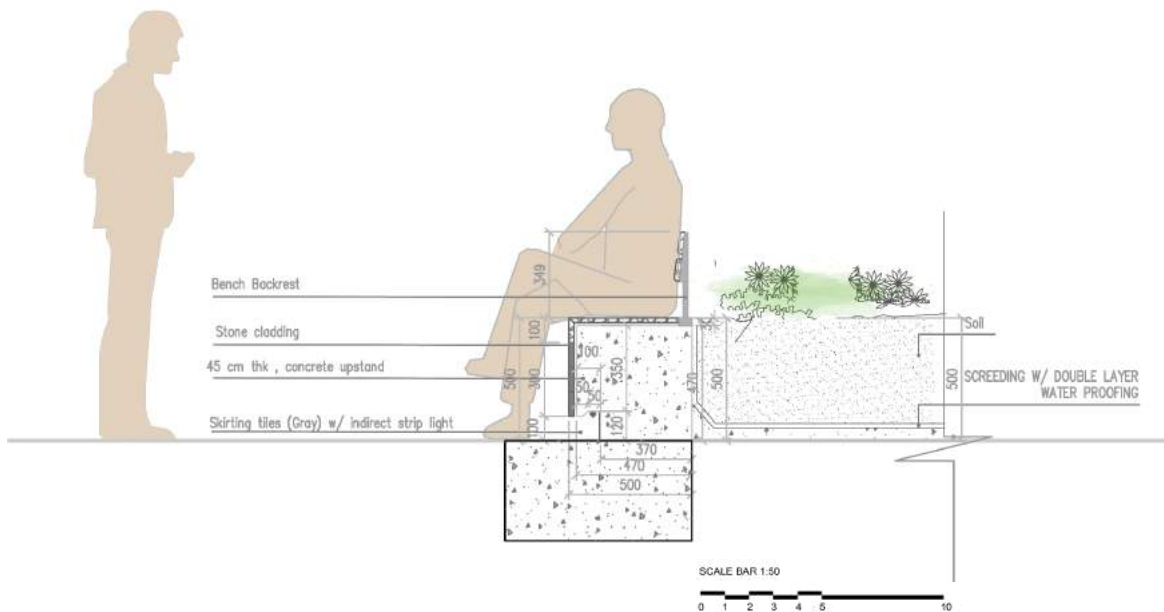


Figure 84 : typical sectionpf benches & planter , source : custom layout

V. CONCLUSION

In summary, this study brought attention to the imperative needs for **urban revitalization initiatives** along avenue Habib Bourguiba in Tunis, Tunisia. Through detailed analysis and strategic planning, this study focused on the pressing issues in the avenue, such as traffic congestion and inadequate pedestrian infrastructure to a shortage of green spaces and seating areas. These challenges not only impact mobility and accessibility but also diminish the overall quality of life for residents and visitors alike.

This thesis has pursued a comprehensive approach **to enhancing the livability and vibrancy of the avenue**. The main idea of this design was to transform the avenue into a vibrant, pedestrian-friendly, and culturally rich urban space. Through innovative solutions such as traffic management strategies, the creation of inviting public spaces, and the integration of green infrastructure. This involved proposing comprehensive solutions with three main objectives:

- First, **traffic development** initiatives seek to reduce congestion and improve mobility along the avenue. By improving alternative routes, reducing car lanes, and prioritizing pedestrian and alternative transportation modes.

- Second, **recreational development** aim to enrich the urban experience along Avenue Habib Bourguiba. Through the creation of inviting public spaces, such as pocket park in front of the cathedral instead of the closed parking, seating areas along the avenue and in the victory square as well, and event spaces in central Allee, as well as the transformation of France Road into a pedestrian promenade. the objective is to promote social interaction, leisure activities, and community engagement.

- Third, **green coverage and permeable surface development** initiatives focus on enhancing the ecological sustainability and aesthetic appeal of the avenue. By incorporating green spaces especially in the pocket park, vegetation layers in the empty plantation squares under the tree line, and permeable surfaces. the aim is to improve air quality, reduce heat island effects, and create a more visually appealing and environmentally friendly urban environment.

Together, these three pillars of development, traffic management, recreational enhancement, and community engagement, work together to transform Avenue Habib Bourguiba into a dynamic, pedestrian-friendly, and culturally vibrant urban hub. This design has the potential to establish a **precedent for future urban developments in the region**, influencing city planning and development policies to prioritize the well-being and livability of urban communities. The success of this design could **serve as a model** to be replicated in the entire city.



Figure 85 : Memorable perspective of the avenue, source: alamy

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BIBLIOGRAPHY AND LITERATURE

Books and articles

- .The tree in Tunis: assumptions for a history of public space

Myriam Bennour-Azooz, Pierre Donadieu and Taoufik Bettaieb

- Examining the Role of Innovative Streets in Enhancing Urban Mobility and Livability for Sustainable Urban Transition: A Review

By: JIN RHUI and FRANK OTHENGRAFEN

Department of Spatial Planning, Technical University of Dortmund, August-Schmidt-Straße 10, 44227 Dortmund, Germany

Author to whom correspondence should be addressed.

Sustainability 2023

- Living Heritage in the Urban Landscape. Case Study of the Budapest World Heritage Site Andrassy Avenue

By: Kinga Szilágyi , ORCID, Chaima Lahmar, Camila Andressa Pereira Rosa and Krisztina Szabó

- Examining the Role of Innovative Streets in Enhancing Urban Mobility and Livability for Sustainable Urban Transition: A Review

By: JIN RHUI and FRANK OTHENGRAFEN

- (Re)branding a (Post)colonial Streetscape: Tunis's Avenue Habib Bourguiba and the Road Ahead

By DANIEL E. COSLETT University of Washington

- Assessing livability of residential streets – Case study: El-Attarin, Alexandria, Egypt

Author links open overlay panelAhmed Atef Elsayy,

- La modernisation de Tunis : un urbanisme et une architecture d'État au miroir d'une anthologie de la percée dans la médina (1881-1987)

Thèses et mémoires électroniques de l'Université de Montréal [23156], MEDDEB, NADER

- BELHÉDI A. - L'espace tunisois : organisation, fonctionnement et structure typique. Revue Tunisienne de Géographie, p. 9-39
- URBACONSULT, URAM et BRAMMAH, Étude du schéma directeur du Grand Tunis. Rapport de 1ère phase au Ministère de l'Environnement et de l'Aménagement du Territoire,

Direction Générale de l'Aménagement du Territoire , 287 p.

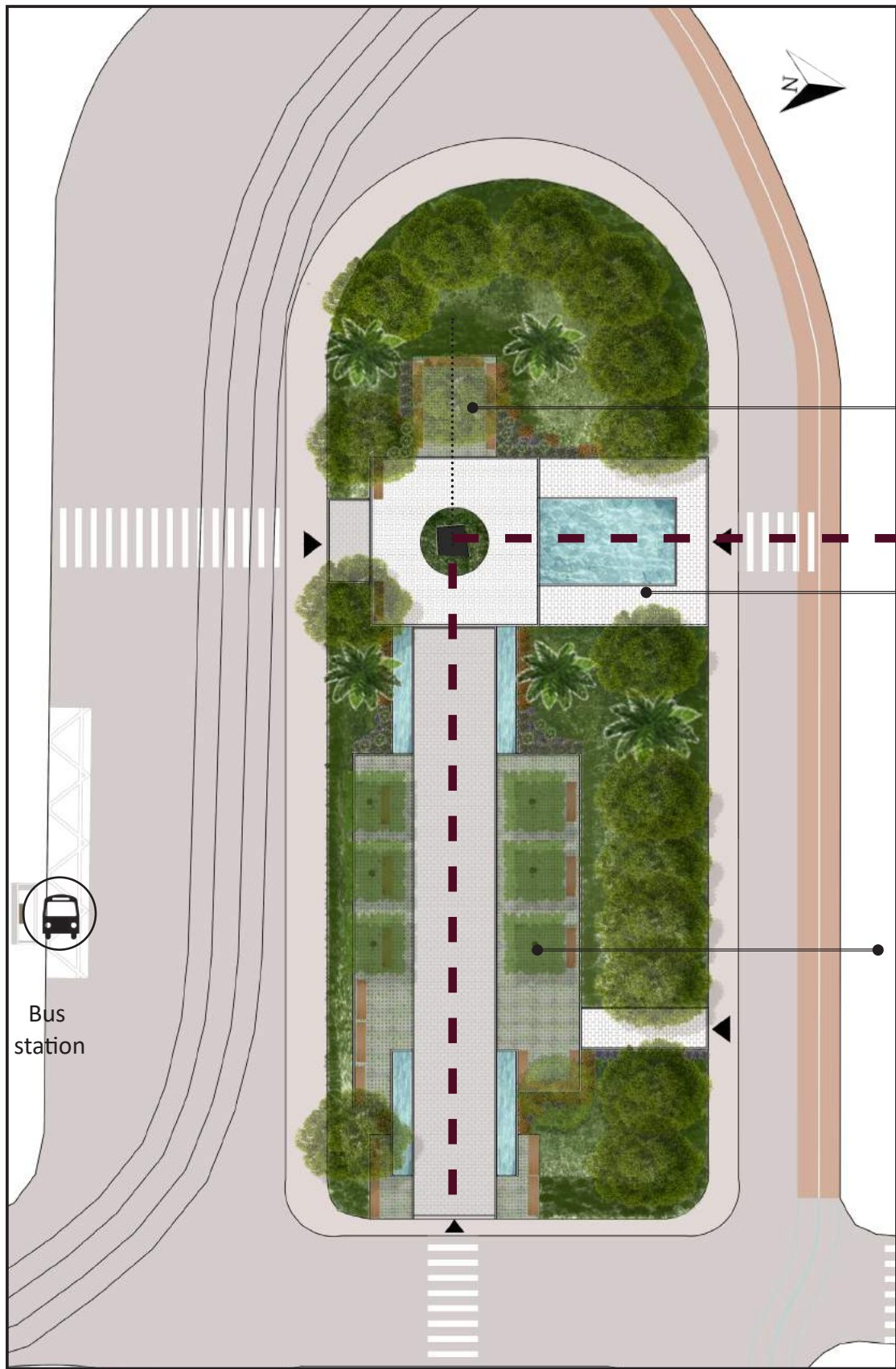
- ABDELMALEK, Bilan de l'urbanisation du Grand Tunis. Rapport de l'Agence d'Urbanisme du Grand Tunis 47 p.
- WEBER C. et PUISSANT A. - Urbanization pressure and modeling of urban growth: example of the Tunis Metropolitan Area. Remote Sensing of Environment.
- ZOUALI-LAIDAN- Le lac de Tunis : facteurs climatiques, physico-chimiques et crises dystrophiques. l'Office National des Pêches, p. 37-49.
- Review Examining the Role of Innovative Streets in Enhancing Urban Mobility and Livability for Sustainable Urban Transition: A Review by Jin Rui and Frank Othengrafen
- a Review, Urban livability across disciplinary and professional boundaries, author Mohamad Kashef, Frontiers of Architectural Research

Online Sources:

- <https://www.tomorrow.city/urban-mobility/>
- https://issuu.com/salem.bouaziz/docs/m_moire_salem_bouaziz
- <https://journals.openedition.org/paysage/15536?lang=en>
- Paris 2030: space for cars to be halved in the Avenue de la Grande Armée

APPENDICES

POCKET PARKIN 1/200



Ibn Khaldoun status

Seating area

Water feature

Seating area



POSTERS

DIPLOMA 2024 **ENHANCING URBAN AVENUE LIVABILITY**
A CASE STUDY OF AVENUE HABIB BOURGUIBA TUNIS, TUNISIA

SPECIFIC DESIGN PROBLEM

My design project focuses on improving urban avenue livability, specifically studying avenue Habib Bourguiba in Tunis, Tunisia. This iconic avenue is vital to the city's fabric, known for its cultural and historical significance. Through historical research and innovative design interventions, the project aims to enhance pedestrian experience, integrate green spaces, and preserve cultural heritage. The ultimate goal is to revitalize Avenue Habib Bourguiba, creating a more vibrant, inclusive, and sustainable urban environment.

HISTORICAL OVERVIEW

Era of Reform - Husaynid Beyds

For protection reasons, the Medina of Tunis is distant from the sea

Colonial Era: 1881-1956

Developed in the late 19th and early 20th centuries and served as a prominent avenue in the city

After independence: 1956-2003

The Breakthrough of Axiality: Land Reclamation at the End Point of the Lake

2003-2022

Reduction of axiality up to the clock tower

The avenue has seen many important events in Tunisia's history, including political rallies and celebrations.

REGIONAL DEVELOPMENT

SPLT PROJECT 2022-2030

This project aimed to revitalize the waterfront by SPLT.

Objectives: to enhance the area's visual appeal, functionality, and overall attractiveness, creating an inviting urban space for residents and visitors.

URBAN ANALYSIS

A. STREET HIERARCHY

Primary Street
Secondary Street
Tertiary Street

This avenue connects the Medina to the waterfront.

B. CIRCULATION DIRECTION AND TRAFFIC MAP

The restriction of car passage and car parking.
The closure of a parking area.

Congested points
Roadway congestion

C. TRANSPORTATION

Train line
Bus line

URBAN ANALYSIS

D. SPACEWALLS AND SURROUNDING FUNCTIONS

The sea gate
Independence Square
Municipal Theater
Ehanna Hotel
Colonial style (French style)
Africa Hotel
Clock tower
Modern style 40m

URBAN ANALYSIS

E. WATER ELEMENTS

Start point
Water element in the sea gate
End point
Water element in the clock tower

G. PEDESTRIAN ACCESS AND FURNITURE

Small sitting area in the square in front of the Sea Gate
Pedestrian access
High flow of people

The restaurants on the sidewalk block the pedestrian crossing

SECTION A-A

SECTION B-B

Central ebb of the square

URBAN ANALYSIS

VEGETATION ANALYSIS

151 Ficus microcarpa (2003)
3 Palm trees (1995)
4 Palm trees (2003)
203 Ficus microcarpa (1990)

All Ficus microcarpa plants are well-maintained and kept in optimal conditions.

NO VEGETATION LAYERS

SOCIAL ANALYSIS

1. Historic landmarks

2. Economic Activity

3. Cultural Hub

4. Political Significance

EVALUATION OF ANALYSIS

DISADVANTAGES

- WALKABILITY PROBLEMS
- TRAFFIC CONGESTION
- NO VEGETATION LAYERS

ECONOMIC ACTIVITIES

- MANIFESTATIONS
- EPHEMERAL EXHIBITIONS
- RESTAURANTS
- WORKING SPACES

DOMINANT CHARACTER OF VEGETATION

- SEA GATE
- IN BALCONY STATUS
- CENTRALITY

MISSING REST AREAS

- NO VEGETATION LAYERS

ADVANTAGES

- CLOCK TOWER
- REVOLUTION SQUARE
- HISTORIC SIGNIFICANCE

HABIB BOURGUIBA AVENUE

URBAN ANALYSIS

SEATING AREAS

There is a notable deficiency in seating and resting areas.

PAVEMENTS AND FURNITURE

Wooden forge benches, Interlock stone, Grey asphalt, The Lantern

THE RESTRICTION OF CAR PASSAGE

SIWAR LAMARI
www.siwars.com

DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN

BAKAY ESZTER

MATE
INSTITUTE OF LANDSCAPE ARCHITECTURE, URBAN PLANNING AND GARDEN ART
LANDSCAPE ARCHITECTURE AND GARDEN DESIGN MA PROGRAMME

DIPLOMA 2024 **ENHANCING URBAN AVENUE LIVABILITY**
 A CASE STUDY OF AVENUE HABIB BOURGUIBA TUNIS, TUNISIA

CONCEPT

STRATEGIC LEVELS OF PLANNING

01. TRAFFIC DEVELOPMENT

Strategic level

Goals

- Alternative modes of transportation
- Implementing traffic calming measures to reduce vehicle speeds.

02. RECREATIONAL DEVELOPMENT

Goals

- Install **seating areas** at regular intervals.
- rest zones with shaded **shelters**.

03. GREEN COVERAGE AND PERMEABLE SURFACE DEVELOPMENT

Goals

- Incorporate **green spaces** or **pocket parks** along the avenue.

I. TRAFFIC DEVELOPMENT

1. CAR TRAFFIC SOLUTION

► Reducing the number of lanes for cars from 3 to 1

2. IMPLEMENTATION OF BUS LINES AND BIKE LINES

► New Bus line

► Bike line

NEW PROJECT

Section A-A

► Pedestrian promenade and seating area

Section B-B

► Prioritizing pedestrian movement while ensuring seamless integration for vehicles.

Enhance the street for **multi-modal transportation** (integrating designated lanes for cars, pedestrians, bikes, and buses).

II. RECREATIONAL DEVELOPMENT

BUBBLE DIAGRAM

MASTER PLAN

SCALE BAR: 1:1000

Legend:

- New bus line
- New bike line
- Tram line
- Bus line
- Tram line

Icons for: OPEN PLAZA, PEDESTRIAN PROMENADE SITTING AREA, POCKET PARK, EVENT SPACE, SEATING AREA, PEDESTRIAN PROMENADE.

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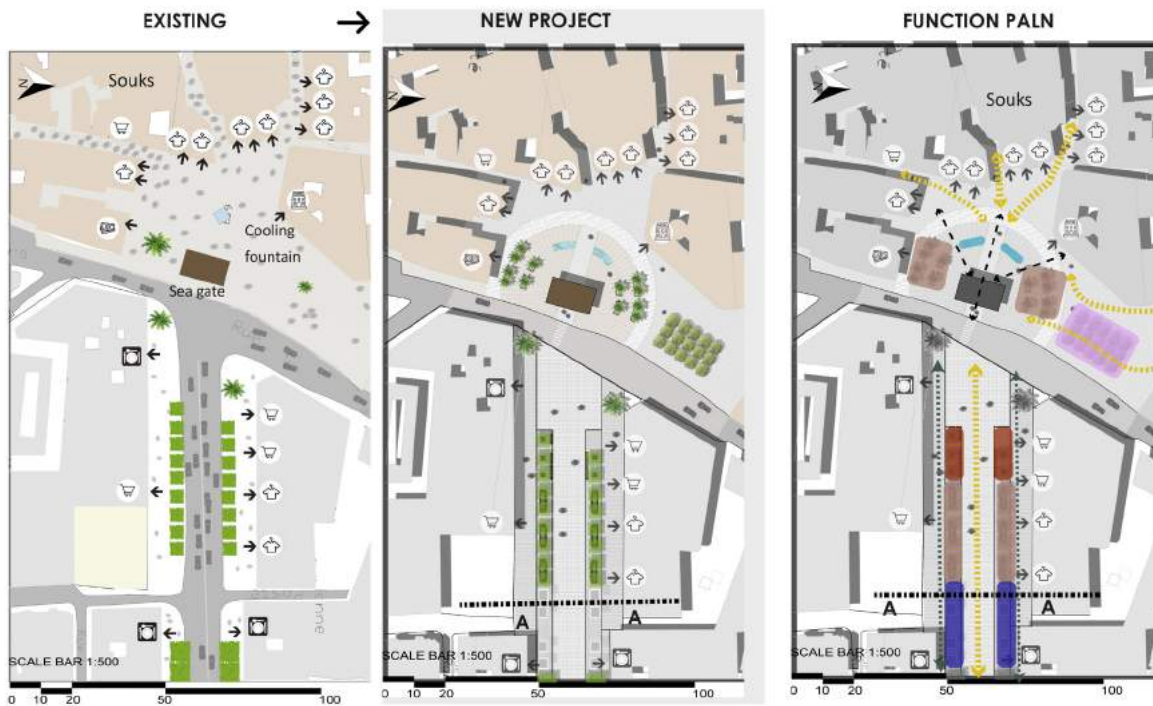
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ZOOMS IN MASTER PLAN

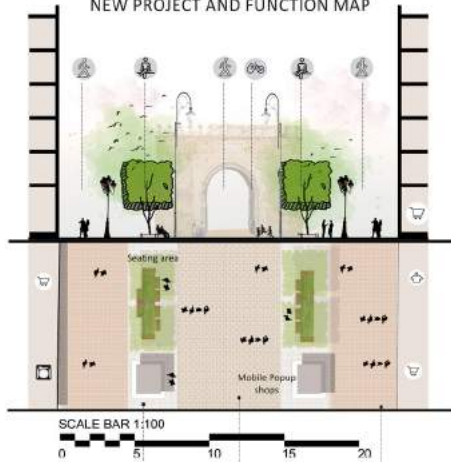
1. VICTORY SQUARE AND PEDESTRIAN STREET



Legend

- Seating area
- Arboreal shelter
- Cooling fountain
- Street-side dining
- Mobile Popup shops

ZOOM IN MASTER PLAN EXISTING, NEW PROJECT AND FUNCTION MAP



FURNITURES AND LIGHTING



PAVEMENT



PEDESTRIAN STREET



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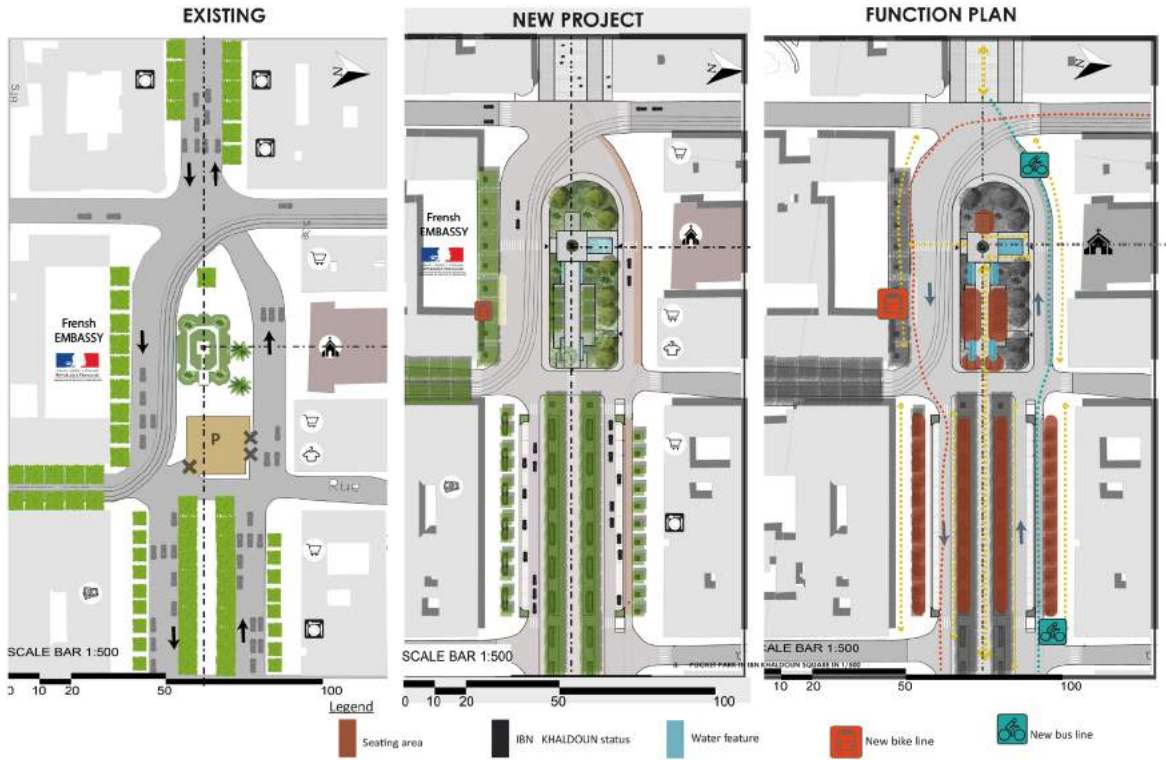


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ZOOMS IN MASTER PLAN

2. POCKET PARK IN IBN KHALDOUN SQUARE IN 1/500



SECTION B-B IN THE CENTRAL ALLEE



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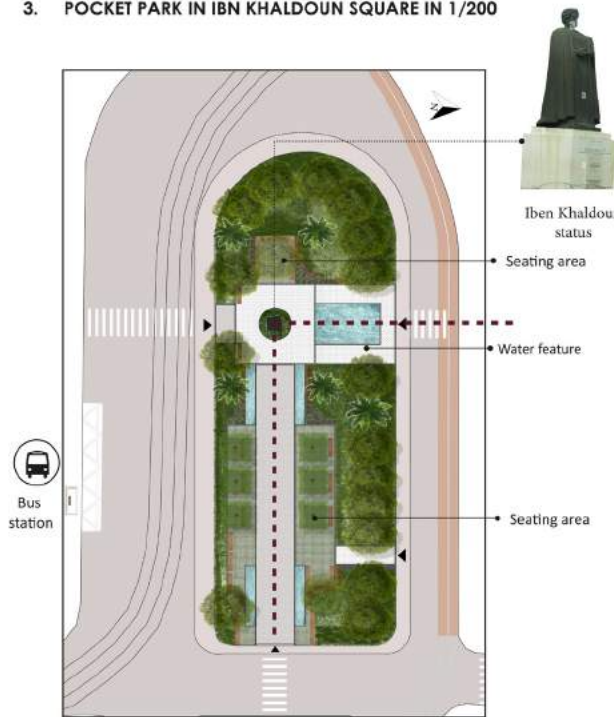


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III. GREEN COVERAGE AND PERMEABLE SURFACES DEVELOPMENT

3. POCKET PARK IN IBN KHALDOUN SQUARE IN 1/200



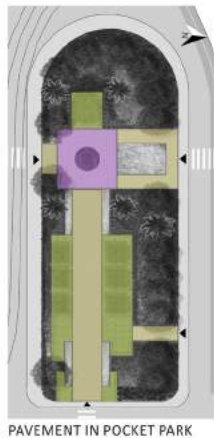
GREEN COVERAGE



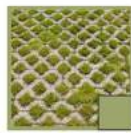
Existing tree:
 5 Palm trees
 1 Ficus microcarpa

In the new design, the green surface in the pocket park has been significantly expanded to 711 m², compared to the previous green area of 300 m² in front of the cathedral. Additionally, the parking area, which was previously 359 m², has been transformed as part of the new pocket park, contributing to the increased green space and overall enhancement of the urban landscape.

PERMEABLE SURFACE DEVELOPMENT



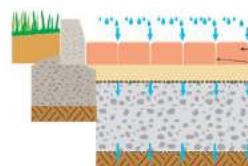
PAVEMENT IN POCKET PARK



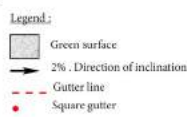
dewatering in pocket park



dewatering in sea gate and pedestrian street



Typical section of permeable pavers



Gutter line details



typical Plan of benches & planter



Typical elevation of benches & planter



Typical section of benches & planter



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VISUALIZATIONS



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MATE Organizational and Operational Regulations**III. Requirements for Students****III.1. Study and Examination Regulations****Appendix 6.13: The MATE Uniform Thesis /****thesis / final thesis / portfolio guidelines****Annex 4.2: Declaration of public access and authenticity of the thesis/thesis/dissertation/portfolio****DECLARATION****the public access and authenticity of the thesis/dissertation/portfolio¹**

Student's name: Siwar LAMARI

Student's Neptun code: C7MO0M

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Year of publication: 2024

Name of the consultant's institute: Hungarian University of Agriculture and Life Sciences

Name of consultant's department: Landscape architecture , urban planning and garden art

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DIPLOMA THESIS

STUDENT: SIWAR LAMARI

BUDAPEST 2024