

# **DIPLOMA THESIS APPENDICES**

STUDENT: SIWAR LAMARI

2024

## TABLE OF ILLUSTRATIONS

<b>Figure 1</b>	Table of illustrations	
<b>Figure 2</b>	Photo of Victory square in 2023 , source : Mouhamed belakial .....	4
<b>Figure 3</b>	Photo of Victory square in 1950 , source : alamy .....	4
<b>Figure 4</b>	Perspective of avenue Habib bourguiba in 2023 , source : lost in Tunisia... 5	
<b>Figure 5</b>	Perspective of avenue Habib bourguiba in 2023 , source : lost in Tunisia... 5	
<b>Figure 6</b>	Perspective of avenue Habib bourguiba in 1950 , source : alamy .....	5
<b>Figure 7</b>	Perspective of avenue Habib bourguiba in 2023 , source : ZH photography7	
<b>Figure 8</b>	Photo of avenue Habib Bourguiba, source : Alamy .....	12
<b>Figure 9</b>	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 .....	16
<b>Figure 10</b>	Innovative streets as an integrative urban practice .....	17
<b>Figure 11</b>	Tunisia map , source : mapofindia.com .....	17
<b>Figure 12</b>	Tunis map , source : Google map .....	18
<b>Figure 13</b>	Tunisia map, source : Tunis histoire d'une ville .....	18
<b>Figure 14</b>	Photocollage of the medina, source : Tunis histoire d'une ville .....	18
<b>Figure 15</b>	Tunis map 1893 , source : Tunis histoire d'une ville .....	19
<b>Figure 16</b>	Tunis map, source : Tunis histoire d'une ville .....	19
<b>Figure 17</b>	Avenur Jule FERRY , source : Tunisie CO .....	19
<b>Figure 18</b>	Tunis map, modern city, source : Cad mapper .....	20
<b>Figure 19</b>	Site delimitation, source : Custom map.....	20
<b>Figure 20</b>	Aerial view of the Avenue, source : Alamy .....	20
<b>Figure 21</b>	Street hierarchy map, source : Custom map .....	21
<b>Figure 22</b>	Transportation map, source : Custom map .....	21
<b>Figure 23</b>	Circulation map, source : Custom map.....	22
<b>Figure 24</b>	Traffic and circulation, source : Custom photos .....	22
<b>Figure 25</b>	Functions map, source : Custom map .....	23
<b>Figure 26</b>	Photo collage of architectural styles, source: Custom photo .....	24
<b>Figure 27</b>	Typical functions photo, source : Custom photos.....	24
<b>Figure 28</b>	Water element in the sea gate source: Custom photo.....	25
<b>Figure 29</b>	Water element in the clock tower, source: Custom photo.....	25
<b>Figure 30</b>	Small sitting area in the square in front of the Sea Gate, source: Custom photo.....	26
<b>Figure 31</b>	The restaurants on the sidewalk block the pedestrian crossing, source: Custom photo.....	26
<b>Figure 32</b>	Section A-A, source: Custom section .....	26
<b>Figure 33</b>	Section B-B, source: Custom section .....	27
<b>Figure 34</b>	The restriction of car passage, source: Custom photo .....	27
<b>Figure 35</b>	The central area, source: Custom photo .....	27
<b>Figure 36</b>	lack of seating area, source: street view google map.....	28
<b>Figure 37</b>	Vegetation map, source: Custom map .....	29
<b>Figure 38</b>	Section B-B, source: Custom section .....	29
<b>Figure 39</b>	Ibn Khaldoun square, source: ambiance à Tunis .....	29
<b>Figure 40</b>	Section A-A, source: Custom section .....	29
<b>Figure 41</b>	lack of vegetation layers, source: street view google map.....	30

<b>Figure 42</b>	Memorable perspective of the avenue, source: alamy .....	30
<b>Figure 43</b>	LAKE PROJECT, source: SPLT Tunis .....	32
<b>Figure 44</b>	Tthe 3D of the lake project, source: SPLT Tunis.....	33
<b>Figure 45</b>	Bike line in 'A' sector, source: SPLT Tunis .....	33
<b>Figure 46</b>	A sector, source: SPLT Tunis.....	33
<b>Figure 47</b>	summary section, source: Custom schematic section .....	35
<b>Figure 48</b>	Map of car traffic solutions, source: Custom map.....	38
<b>Figure 49</b>	Map of new bus line, source: Custom map .....	39
<b>Figure 50</b>	Section A-A of the avenue ( before) .....	39
<b>Figure 51</b>	Map of new bike lines, source: Custom map .....	39
<b>Figure 52</b>	Section A-A of the avenue ( after) .....	39
<b>Figure 53</b>	Section B-B of the avenue ( before), source: Custom section .....	40
<b>Figure 54</b>	Section B-B of the new avenue ( after), source: Custom section .....	40
<b>Figure 55</b>	Bubble diagram, source: Custom map .....	41
<b>Figure 56</b>	Master plan , source: Custom map .....	41
<b>Figure 57</b>	Master plan, source: Custom map .....	42
<b>Figure 58</b>	Zoom in master plan existing, new project and function map , source: Custom maps.....	43
<b>Figure 59</b>	Section A-A in the pedestrian street, Custom section.....	44
<b>Figure 60</b>	Master plan, source: Custom map .....	46
<b>Figure 61</b>	Zoom in master plan existing, new project and function map , source: Custom maps.....	47
<b>Figure 62</b>	Section B-B in the central allee, source : custom section.....	48
<b>Figure 63</b>	Actual situation of the tree line without seating benches ( before).....	49
<b>Figure 64</b>	Benches with lighting .....	49
<b>Figure 65</b>	Tree line with seating benches ( new project).....	49
<b>Figure 66</b>	Pocket parkin 1/200 , source: Custom map.....	50
<b>Figure 67</b>	Plantation in pocket park , source: Custom map.....	52
<b>Figure 68</b>	Pavement in pocket park , source: Custom map .....	53
<b>Figure 69</b>	Planter with benches in avenue , source : custom photo .....	53
<b>Figure 70</b>	Typical section of permeable pavers, source paving expert.....	53
<b>Figure 71</b>	Planter with benches in victory square , source : custom photo .....	53
<b>Figure 72</b>	typical elevation of benches & planter , source : custom layout.....	54
<b>Figure 73</b>	typical Plan of benches & planter , source : custom layout.....	54
<b>Figure 74</b>	typical sectionpf benches & planter , source : custom layout.....	55
<b>Figure 75</b>	Memorable perspective of the avenue, source: alamy .....	57

## 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.

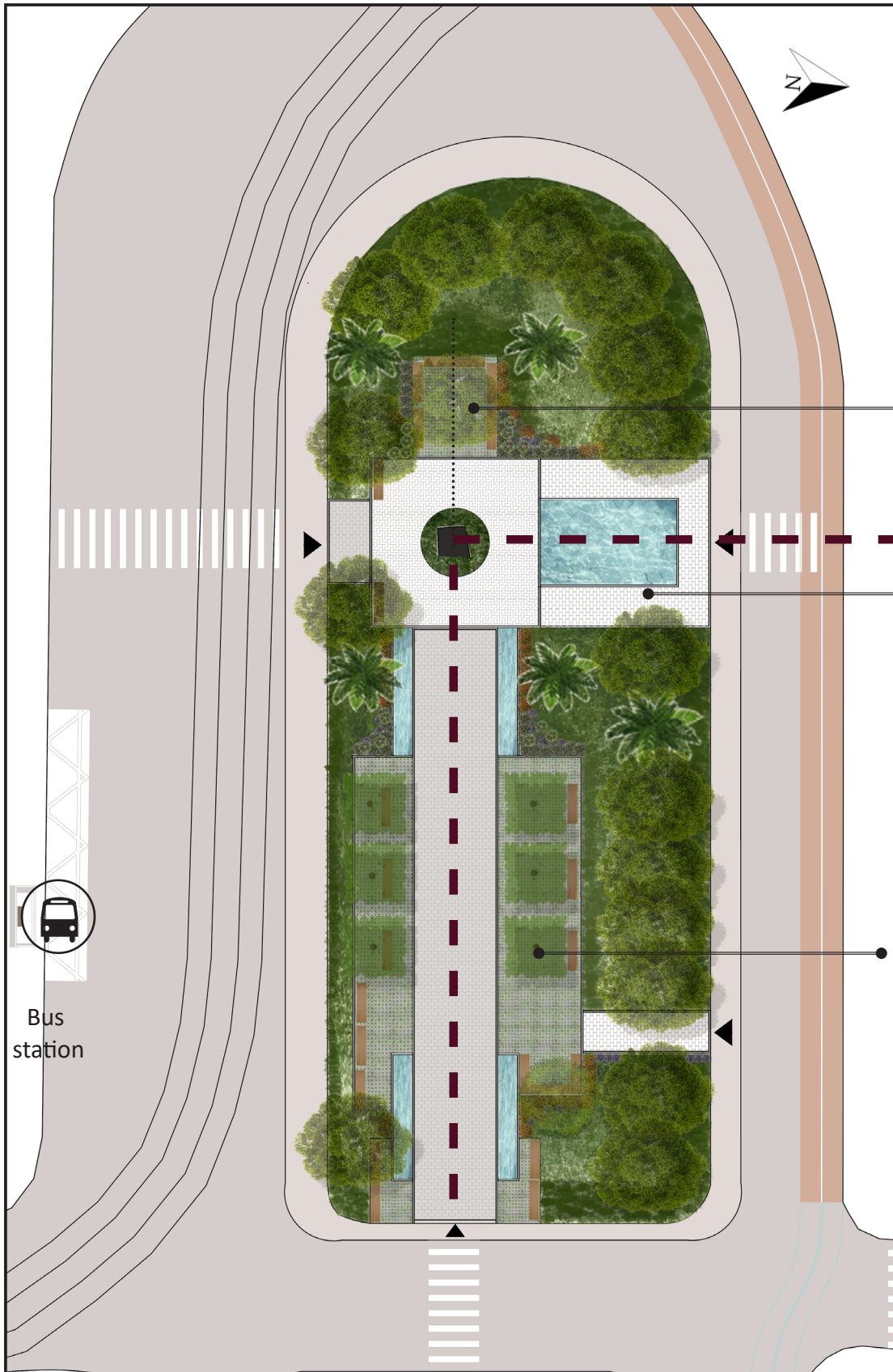
- ABDELMALEK, Bilan de l'urbanisation du Grand Tunis. Rapport de l'Agence d'Urbanisme du Grand Tunis 47 p.
- WEBER C. et PUISSANT A. - Urbanization pressure and modeling of urban growth: example of the Tunis Metropolitan Area. Remote Sensing of Environment.
- ZOUALI-LAIDAN- Le lac de Tunis : facteurs 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://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



Iben 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

HISTORICAL OVERVIEW

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.

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

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

URBAN ANALYSIS

URBAN ANALYSIS

**D. SPACEWALLS AND SURROUNDING FUNCTIONS**

**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

The restaurants on the sidewalk block the pedestrian crossing

URBAN ANALYSIS

URBAN ANALYSIS

**Part 4**

The installation of cultural events in the central area: walkability problem.

The restriction of car passage.

**VEGETATION ANALYSIS**

151 Ficus microcarpa (2003)

3 Palm trees (1995)

4 Palm trees (2003)

203 Ficus microcarpa (1950)

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

NO VEGETATION LAYERS

URBAN ANALYSIS

URBAN ANALYSIS

**1. Historic landmarks**

**2. Economic Activity**

SOCIAL ANALYSIS

EVALUATION OF ANALYSIS

**DISADVANTAGES**

- WALKABILITY PROBLEMS
- TRAFFIC CONGESTION
- MISSING REST AREAS
- NO VEGETATION LAYERS

**ADVANTAGES**

- ECONOMIC ACTIVITIES
- DOMINANT CHARACTER OF VEGETATION
- HISTORIC SIGNIFICANCE

EVALUATION OF ANALYSIS

EVALUATION OF ANALYSIS

**HABIB BOURGUIBA AVENUE**

EVALUATION OF ANALYSIS

EVALUATION OF ANALYSIS

EVALUATION OF ANALYSIS

EVALUATION OF ANALYSIS

**SIWAR LAMARI**

siwarlamari77@gmail.com

DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN

EVALUATION OF ANALYSIS

EVALUATION OF ANALYSIS

**MATE**

INSTITUTE OF LANDSCAPE ARCHITECTURE, URBAN PLANNING AND GARDEN ART

LANDSCAPE ARCHITECTURE AND GARDEN DESIGN MA PROGRAMME

EVALUATION OF ANALYSIS

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

CONCEPT

**ENHANCING URBAN AVENUE LIVABILITY**

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**

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

**03 GREEN COVERAGE AND PERMEABLE SURFACE DEVELOPMENT**

- 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

**WIDER CENTRAL ALLEY OF THE AVENUE**

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**

230m

**MASTER PLAN**

230m

SCALE BAR 1:1000

0 20 50 100 200

**Legend:**

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

OPEN PLAZZA

PEDESTRIAN PROMENADE SITTING AREA

POCKET PARK

EVENT SPACE

SEATING AREA

PEDESTRIAN PROMENADE

MUNICIPAL THEATER

**SIWAR LAMARI**  
 DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN

BAKAY ESZTER

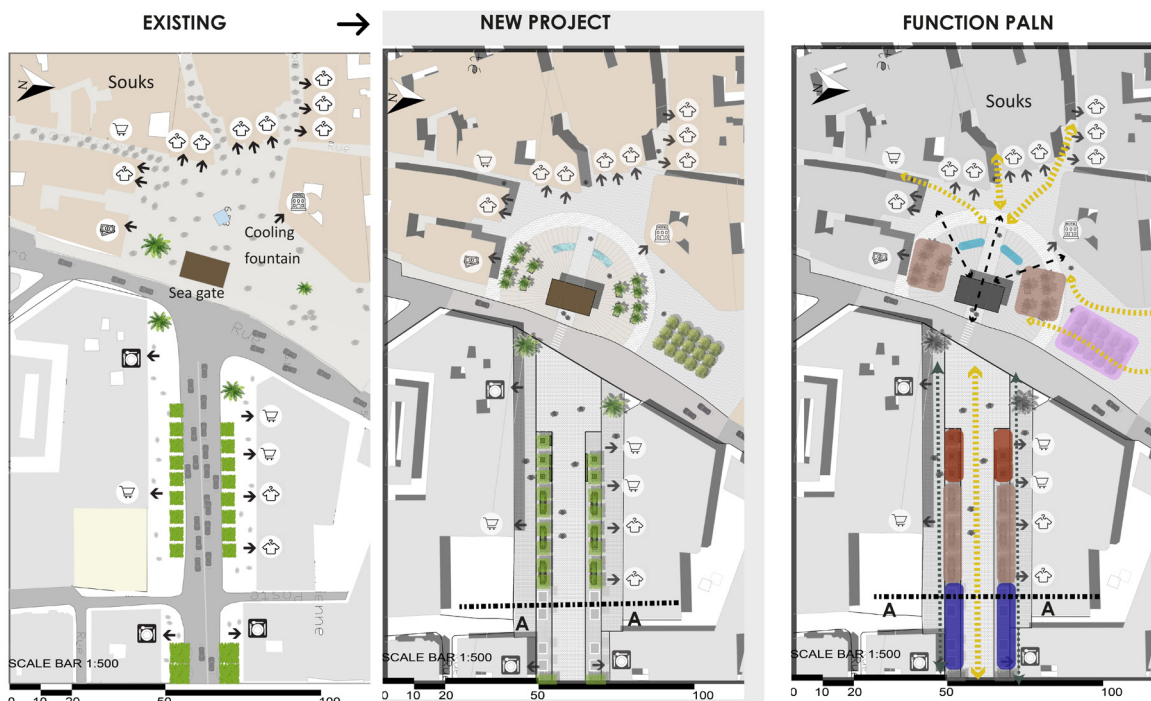
**MATE**  
 INSTITUTE OF LANDSCAPE ARCHITECTURE, URBAN PLANNING AND GARDEN ART  
 LANDSCAPE ARCHITECTURE AND GARDEN DESIGN MA PROGRAMME



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

ZOOMS IN MASTER PLAN

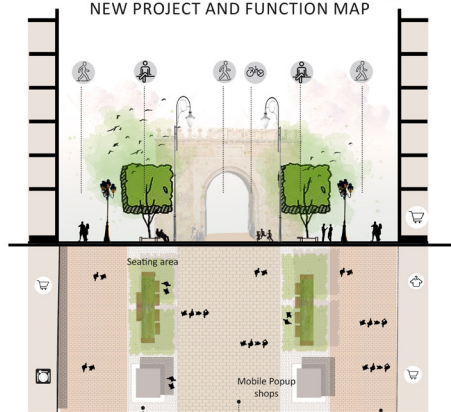
1. VICTORY SQUARE AND PEDESTRIAN STREET



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



**SIWAR LAMARI**

siwarlamari7@gmail.com

DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN

BAKAY ESZTER

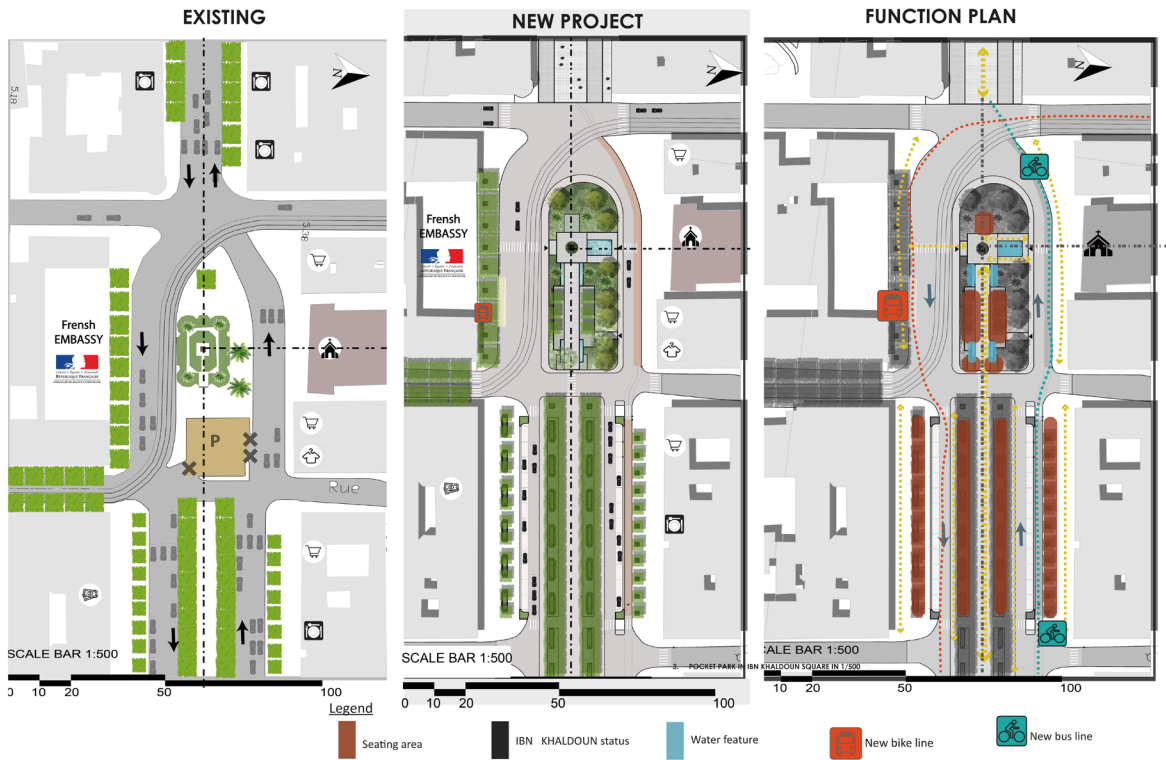


INSTITUTE OF LANDSCAPE ARCHITECTURE, URBAN PLANNING AND GARDEN ART  
 LANDSCAPE ARCHITECTURE AND GARDEN DESIGN MA PROGRAMME

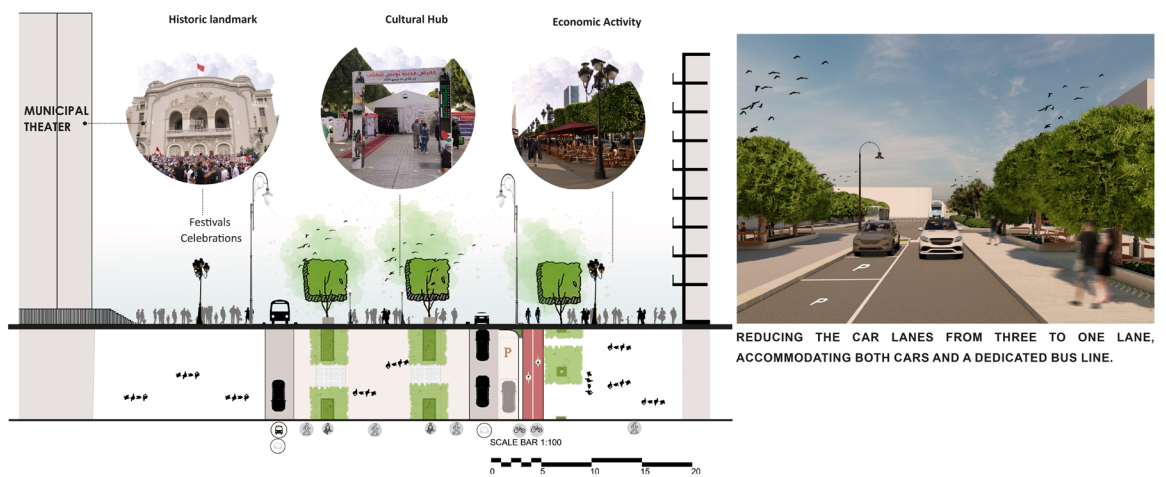
DIPLOMA 2024 *ENHANCING URBAN AVENUE LIVABILITY*  
*A CASE STUDY OF AVENUE HABIB BOURGUIBA TUNIS, TUNISIA*

ZOOMS IN MASTER PLAN

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



SECTION B-B IN THE CENTRAL ALLEE



**SIWAR LAMARI**

siwarlamari7@gmail.com

DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN

BAKAY ESZTER



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

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

III. GREEN COVERAGE AND PERMEABLE SURFACES DEVELOPMENT

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

**GREEN COVERAGE**

- Pennisetum setaceum
- Lantana camara
- Lavandula angustifolia
- Rosmarinus officinalis
- Pittosporum tobira
- Pistacia lentiscus

A collection of shrub plants to set a limit

**PLANTATION IN POCKET PARK**

- Ficus microcarpa FM
- Olive Trees (Olea europaea) OE

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 m<sup>2</sup>**, compared to the previous green area of **300 m<sup>2</sup>** in front of the cathedral. Additionally, the parking area, which was previously **359 m<sup>2</sup>**, 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**

- Turfstone pavers
- Camino Permeare
- Permeable concrete Pavers - Gray-black

**dewatering in pocket park**

**dewatering in sea gate and pedestrian street**

**Gutter line details**

**typical Plan of benches & planter**

**Typical elevation of benches & planter**

**Typical section of benches & planter**

**Typical section of permeable pavers**

Block paving  
 Jointing material  
 Laying course  
 Upper geotextile (optional)  
 Permeable sub-base  
 Lower geotextile  
 Subgrade (ground)

**Legend:**

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



**SIWAR LAMARI**  
 siwarlamari7@gmail.com

DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN

BAKAY ESZTER



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*

VISUALIZATIONS



VICTORY SQUARE - SEA GATE



PEDESTRIAN STREET



POCKET PARK - ENTRANCE 1



ILLUMINATION AT HABIB BOURGUIBA'S POCKET PARK



POCKET PARK - ENTRANCE 2



CENTRAL ALLEE OF HABIB BOURGUIBA AVENUE



**SIWAR LAMARI**

siwarlamari7@gmail.com

DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN



BAKAY ESZTER



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

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 4.1: Consultancy statement

### DECLARATION

SIWAR LAHADI (name) (student Neptun code: C7M08M)

as a consultant, I declare that I have reviewed the final thesis/thesis/dissertation/portfolio<sup>1</sup> and that I have informed the student of the requirements, legal and ethical rules for the correct handling of literary sources.

I recommend / do not recommend<sup>2</sup> the final thesis / dissertation / portfolio to be defended in the final examination.

The thesis contains a state or official secret:                      yes    no<sup>\*3</sup>

Date: 2024 year 04. month 24 day

Wahyuni dr. Baray Pulit  
insider consultant

<sup>1</sup> The other types should be deleted while retaining the corresponding thesis type.

<sup>2</sup> The appropriate one should be underlined.

<sup>3</sup> The appropriate one should be underlined.

**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/portfolio<sup>1</sup>**

Student's name: Siwar LAMARI

Student's Neptun code: C7MO0M

Title of thesis: ENHANCING URBAN AVENUE LIVABILITY  
A CASE STUDY OF AVENUE HABIB BOURGUIBA, TUNIS, TUNISIA

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

I declare that the final thesis/thesis/dissertation/portfolio submitted by me is an individual, original work of my own intellectual creation. I have clearly indicated the parts of my thesis or dissertation which I have taken from other authors' work and have included them in the bibliography.

If the above statement is untrue, I understand that I will be disqualified from the final examination by the final examination board and that I will have to take the final examination after writing a new thesis.

I do not allow editing of the submitted thesis, but I allow the viewing and printing, which is a PDF document.

I acknowledge that the use and exploitation of my thesis as an intellectual work is governed by the intellectual property management regulations of the Hungarian University of Agricultural and Life Sciences.

I acknowledge that the electronic version of my thesis will be uploaded to the library repository of the Hungarian University of Agricultural and Life Sciences. I acknowledge that the defended and

- not confidential thesis after the defence
- confidential thesis 5 years after the submission

will be available publicly and can be searched in the repository system of the University.

Date: 2024 year 04 month 19 day

\_\_\_\_\_  
Student's signature



DIPLOMA THESIS

STUDENT: SIWAR LAMARI

BUDAPEST 2024