

VERTICAL MEDINA

Xinyi Li 200058



Vertical Medina

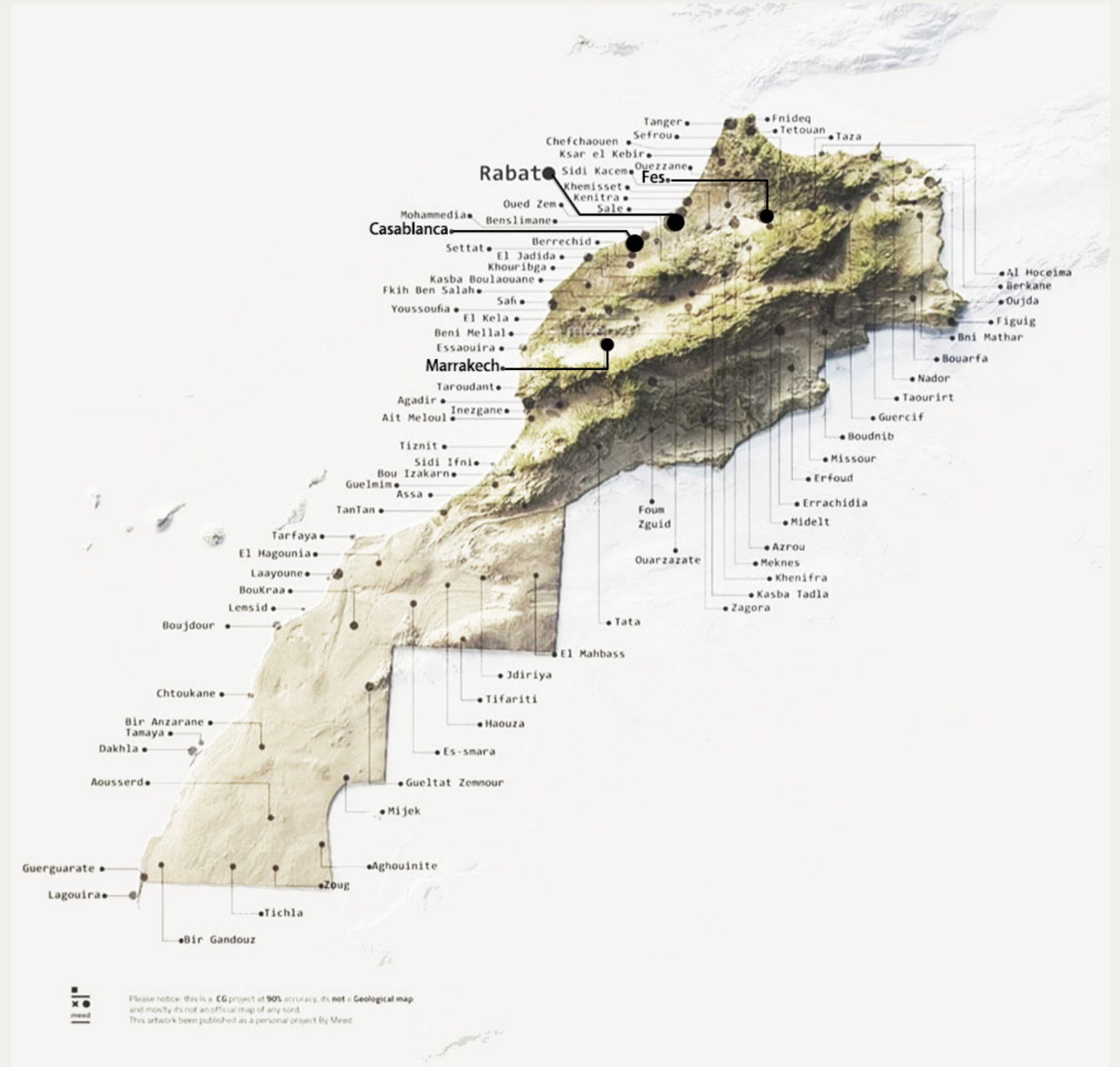
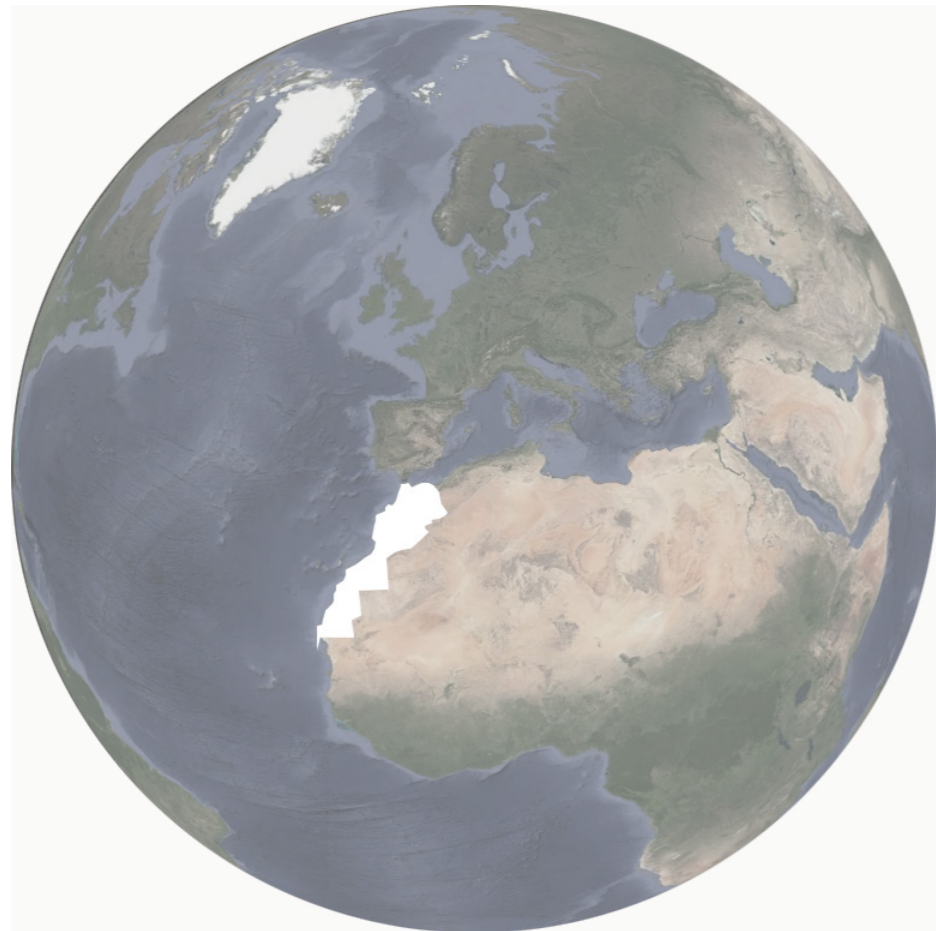
Masters Thesis Program

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Morocco Key Facts

Location: North Africa
Capital: Rabat
Altitude: averaging 800m
Weather: 18°C- 41°C
Language: Arabic; Tamazight
 French, Spanish, English

Area(km²): 410,000km²
Water(%): 730 m³/capita/yr
Population: 35,731,000
GDP Total: \$111,866 billion
GDP P/C: \$2,980

King: Muhammad VI
Urban-Rural Population:
 Urban:62.5% Rural:37.5%
Religion: Islam

Land use

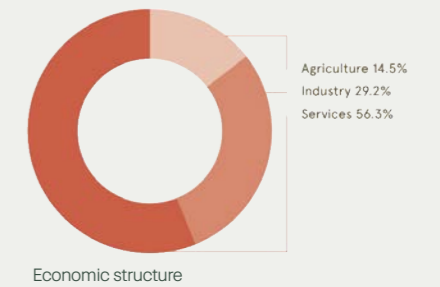


Image from: <https://mediterraneanews.org/2021/09/gigantesca-sconfitta-per-gli-islamisti-alle-elezioni-legislative-regionali-comunali-in-marocco/>

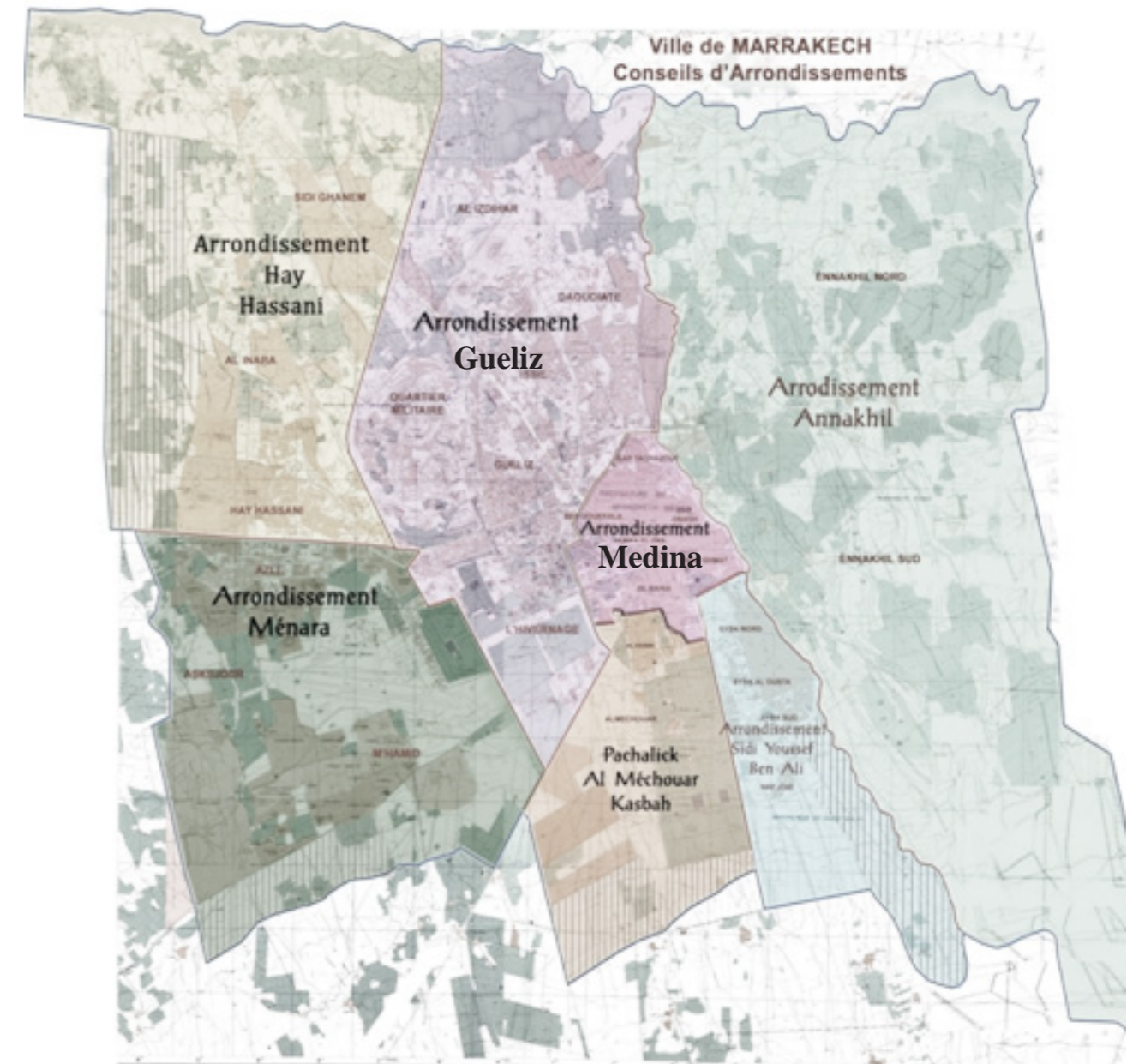
DataEconomic structure from: http://www.internationalbusiness.infoalbum.com/269-1734684910/IB_Morocco_17.v02.pdf

_Marrakech, Morocco

Marrakech is the fourth largest city in Morocco after Casablanca, Rabat and Fez, it has about 900,000 inhabitants (2009 estimates) with an area of 230 km². The population density reaches 350 inhabitants per hectare in the oldest part of the city, the Medina.

The city is located in the plain of Haouz, at the foot of the northern slope of the High Atlas, dominated by Jbel Toubkal which culminates 4,165 m. The Haouz of Marrakech extends over approximately 400,000 ha between the dir of the High Atlas to the south, the Jbilet to the north, Oued Rdat to the east and the hills of Mzoudia to the west. The climate of Haouz is arid with temperate winters. The city falls under the Prefecture of Marrakech. Capital of the Marrakech-Tensift-Al Haouz region Marrakech is divided into 5 districts: Annakhil Guéliz Medina Menara Sidi Youssef Ben Ali (SYBA) as indicated in the map below.

The supply of the Haouz aquifer comes from water from the Atlas, precipitation and reinfiltration of water used for irrigation. The aquifer would flow from the South to the NW towards the Tensift and Tessaout wadis. The water table is generally fed from flood waters, which is therefore highly dependent on rainfall, which is irregular.



Administrative division of the city of Marrakech

Arrondissement		Annakhil	Gueliz	Medina	Menara	SYBA	Together
Areas	Total (ha)	7,478	227	570	6,060	690	15,025
	% built	53%	70%	56%	38%	65%	48%
Population		54 111	173 101	167 223	281,663	124,935	801 033
Households	Total	10,968	37,030	35,929	57,403	23,776	165 106
	Average number of people / household	4.9	4.7	4.7	4.9	5.3	4.9
Inhabitants/ha		7	763	293	46	181	53
unsanitary housing	douars	46	20	6	32	20	124
	Households	2,955	1,291	1,698	3,946	1,921	11,811

Summary presentation of the arrondissements

_Climate

A city is a human settlement with a large population. A city centre is the area of a city where significant commerce, political, cultural and power is concentrated. It is often also the geographic centre of a city. Typically,

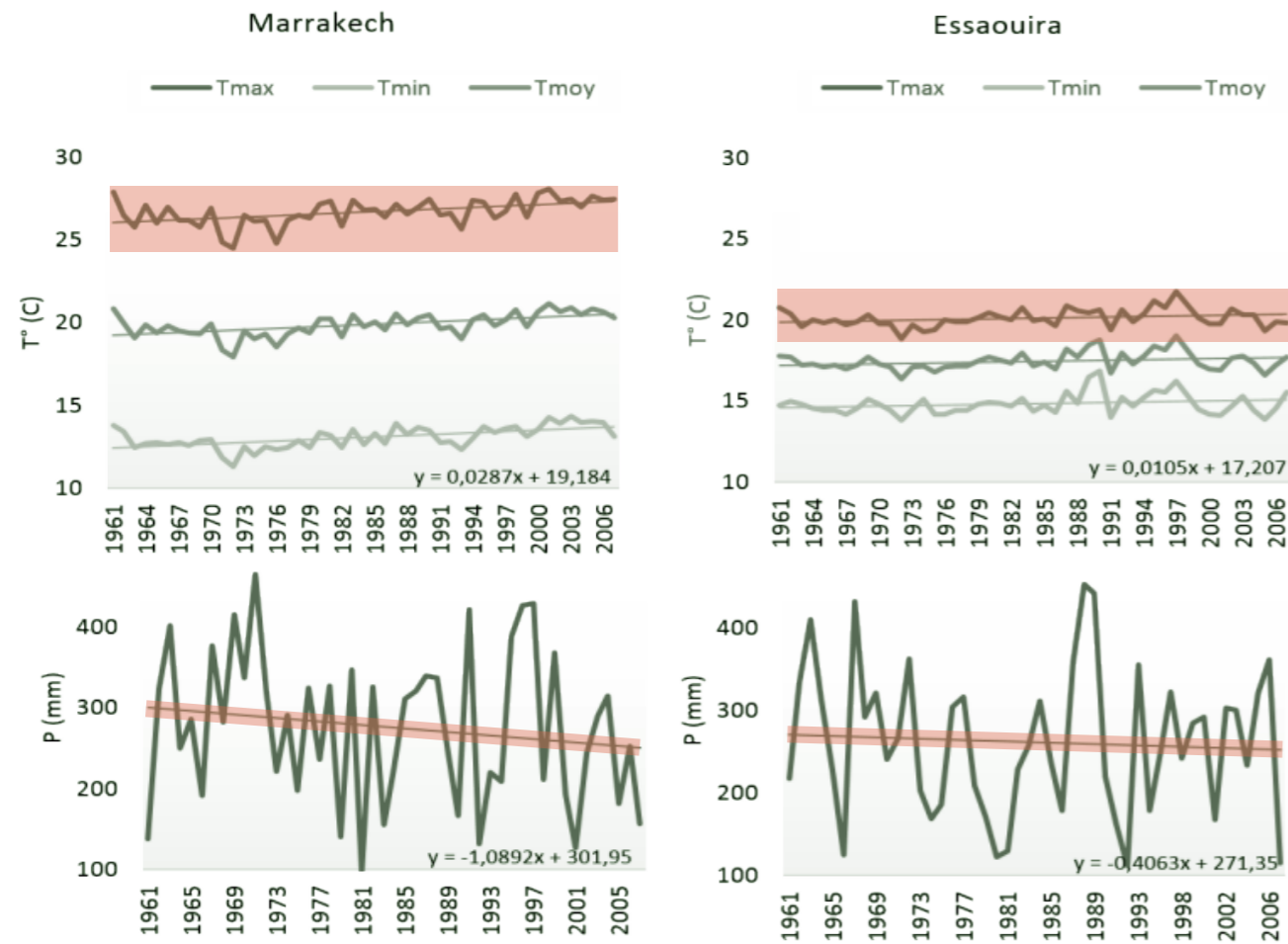
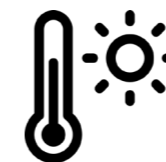


Figure: Annual trends of temperature and precipitation in Marrakech (left panel) and Essaouira (right panel).



-0.64 cold days

This decrease of FD10 is of -30days over the period 1961-2007 years in Marrakech, which means -0.64 cold days/year.



40 °C

During the summer, temperature exceeds 40 °C in the daytime, with a record high temperature of 49.6 °C recorded in July 2012. In terms of precipitation, the annual average is 261.3 mm.

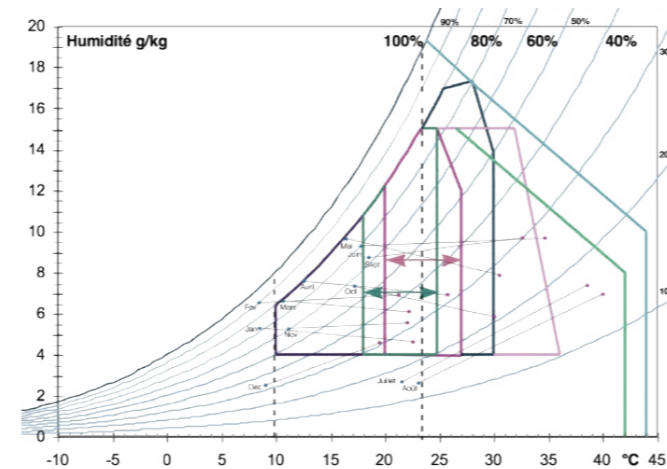


Figure: Marrakech 2016.

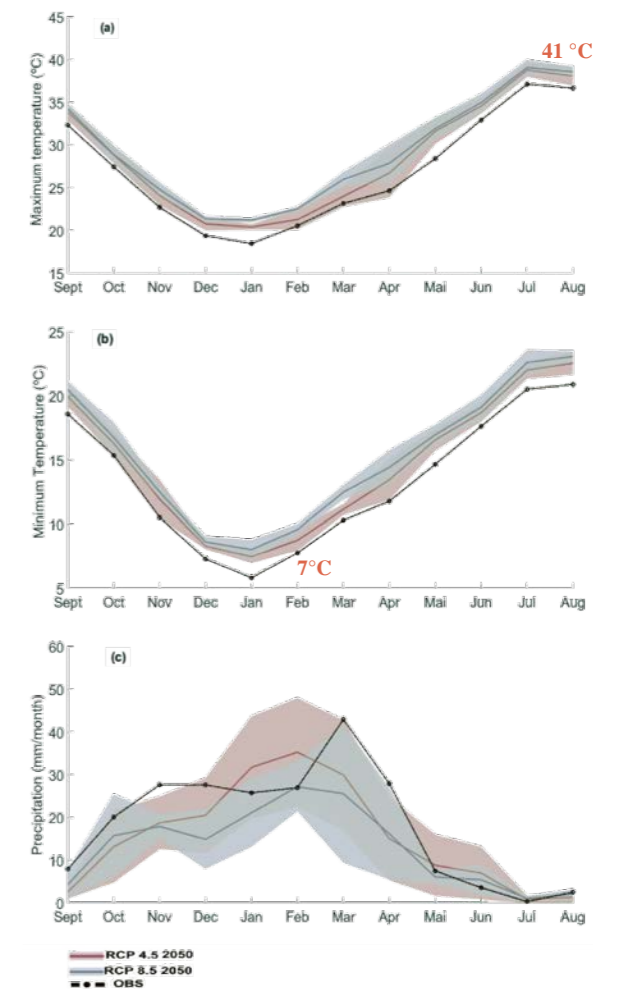


Figure: The future projections of minimum and maximum temperature and precipitation at the Marrakech (left) and Oukaimeden_CAF (right) stations according to the two scenarios RCP4.5 and RCP8.5 for 2041–2060.

Vertical Medina

My thesis project will be a series of design proposals while attempting to uncover architectural paradigms adapted to the local Moroccan climate, located in Marrakech, one of the largest cities in Morocco. The project will propose a vision of an artificial ecosystem that explores the possibility of efficient use of resources while maintaining the functionality of the building. Wastewater from the site is utilised 100% and reintroduced back into the natural water cycle. The building will be developed as a commercial building incorporating a wastewater purification facility.

This thesis project will be called Vertical medina.

继续写多一点



Medina



Vertical Souk in Gueliz

My prototype is about purifying water and reusing it. Souk in Medina include all types of shop, restaurant, every shop that don't have direct access to water have a bucket as a water container and they sprinkle the water to wet the entrance of their shop to prevent dust, some small traditional leather factories are also located around souks, regarding to the restaurant, they pure their wastewater directly to the sewer. Since the souk is the most crowded place in the old city, this has caused a huge waste of water. There might be a way for them to make better use of the water they have. I'm planning to transform souk into a vertical version, design a shopping mall that uses water properly.

Image from: <https://www.semanticscholar.org/paper/AN-URBAN-GRAMMAR-FOR-THE-MEDINA-OF-MARRAKECH-Duarte-Ducla-Soares/be82a7e23e5de9ccb571d3f62627031d74d0a101>

SEATTLE — High levels of youth unemployment in Morocco hinder the nation's ability to alleviate poverty and reduce inequality. To combat this issue, USAID has implemented a youth vocational training and career services program, benefiting thousands of youth to date.

Comprising one-third of North Africa and the Middle East's population, youth represent a powerful engine of growth for the region. However, approximately forty percent of Moroccan youth are out of school or work, leaving this population group's economic potential largely untouched.

Unemployed youth are excluded socially as well as economically. The majority of unemployed youth have no education or less than a secondary education. A weak and overcrowded education system leaves those that do graduate without a sufficient skill set to enter the workforce.

_Unemployment

Youth employment challenges are a global policy issue, but the situation is of serious concern in north Africa, which has one of the highest rates of youth unemployment in the world. Underemployment and job informality also affect young people.

In Morocco, four out five unemployed people are aged 15 to 34. Although the unemployment rate has declined over the past decade, youth unemployment is still twice that of the total population. In 2003 youth unemployment was 19.3% and general unemployment was 9.2%.

There are variations according to gender, age, area of residence and education. Urban youth are more likely to be unemployed than rural youth. Girls and women are even worse off, even though Morocco is better than some neighbouring countries for female youth employment.

On the other hand, university graduates tend to have higher levels of unemployment compared to people with middle-level education and people without a high-school diploma.

What are the main causes?

Joblessness is a structural problem with several factors driving it. Population is rising beyond the economy's capacity to create jobs. There is insufficient decent-job creation in the private sector. The inadequate supply of skills by the education system is also a major hindrance to youth accessing the labour market.



10 Times

The buildable surface area increased from 2000 ha in the beginning of the 1970s to almost 20,000 ha in 2020.



22.3%

In 2019 youth unemployment was 22.3% and general unemployment was 9.2%.

Dual-city

In 1912, France became joint Protectorate of Morocco, and, over 44 years, used urban planning and architecture as a tool of domination and control. However France adopted a different approach in Morocco to Algeria or Tunisia. Traditional medinas across nine major towns were preserved, with exclusive western-style neighbourhoods built beyond the boundary walls. This became known as the 'dual-city' where local services were doubled-up, creating two distinct centres and effectively separating wealthy Europeans from local Moroccans.

Medina

Wall

Gueliz

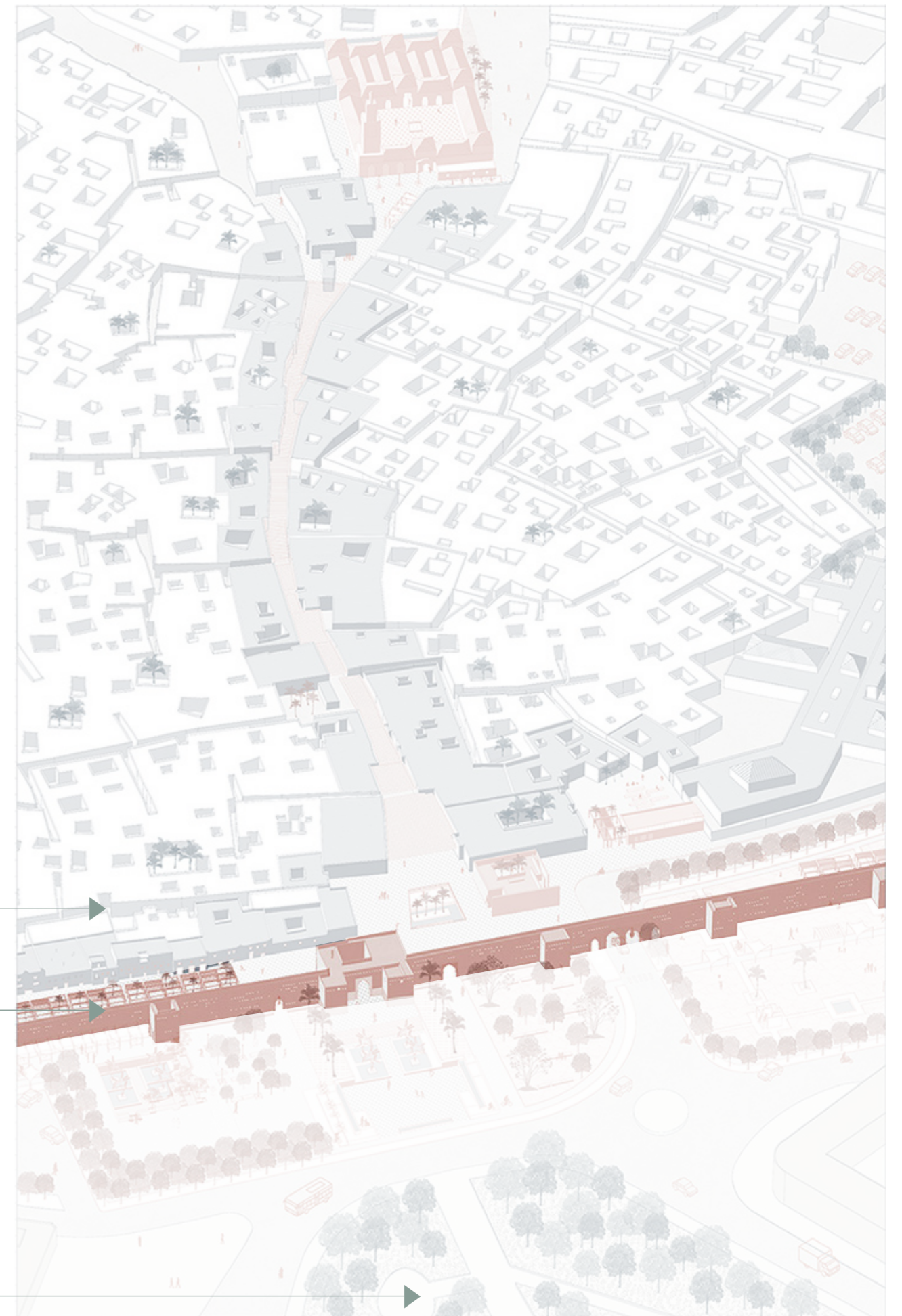




Figure. Localization of major Mosques and religious buildings within Marrakech.

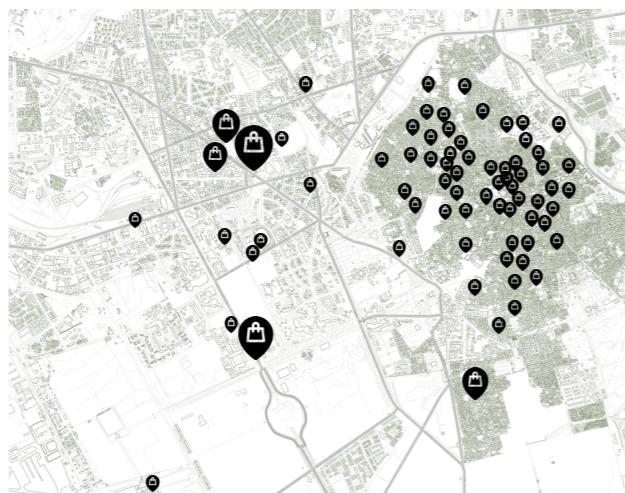


Figure. Localization of major mall within Marrakech.

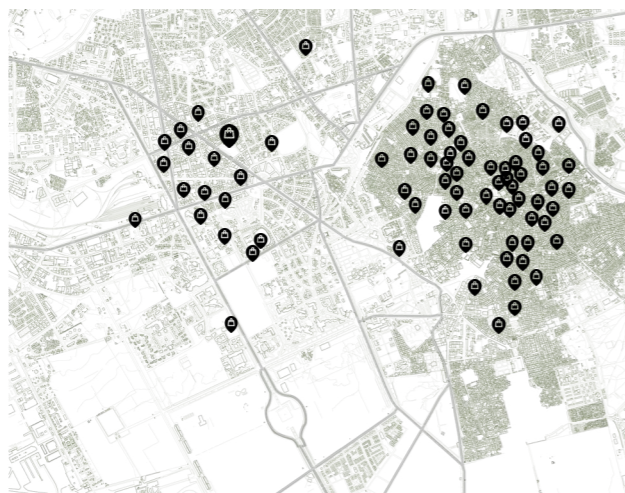
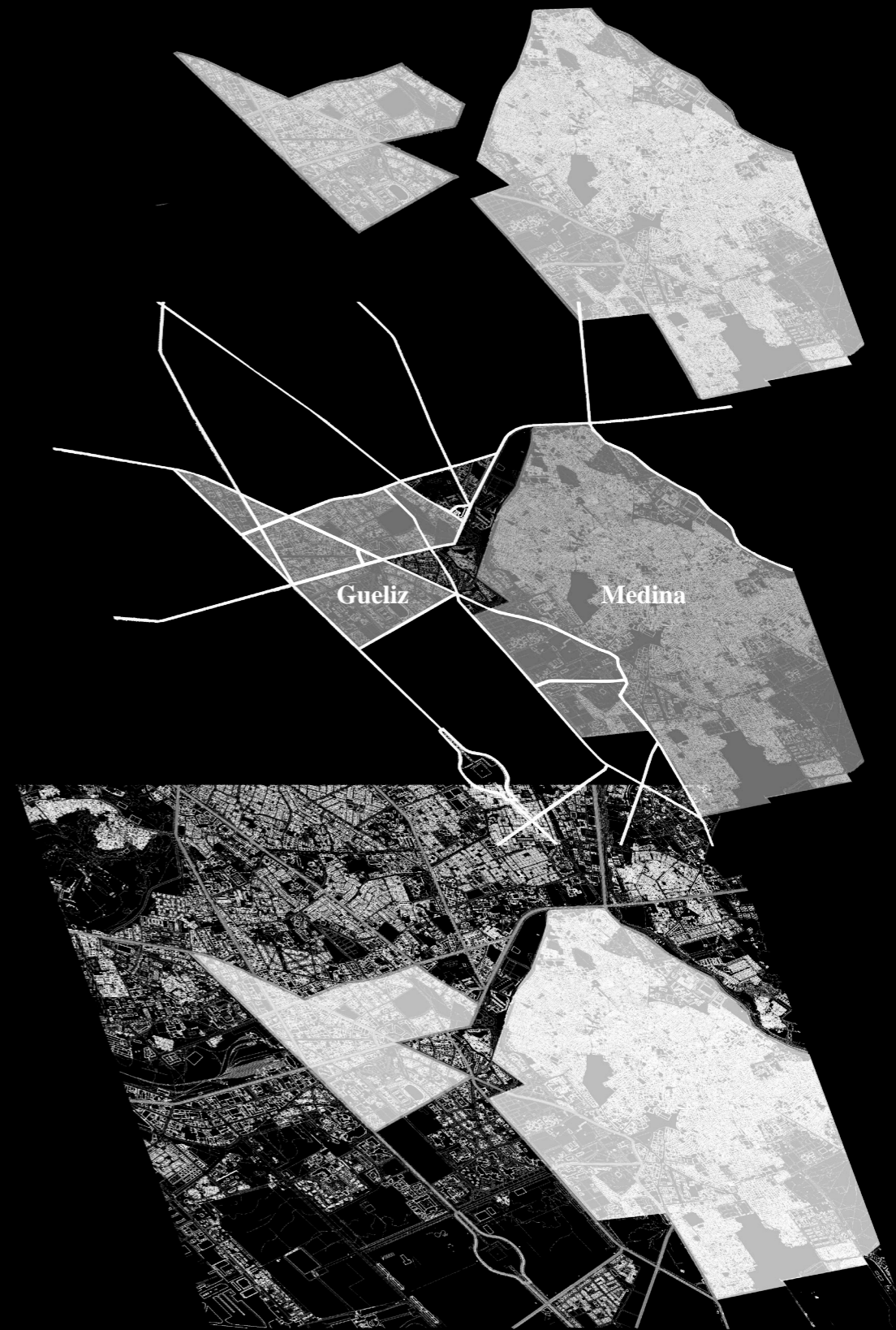


Figure. Localization of major residential area within Marrakech.





Menara Mall is the largest commercial centre in Marrakech, boasting over **100 retail outlets** covering over **13,000m²** of floor space.

On the first floor of the Menara Mall Marrakech is an interesting concept, **Le Souk**, which seeks to capture the scents and colours of the souks in the ancient medina. A selection of shops represent the craftsmanship of some of the finest artisans of Marrakech.





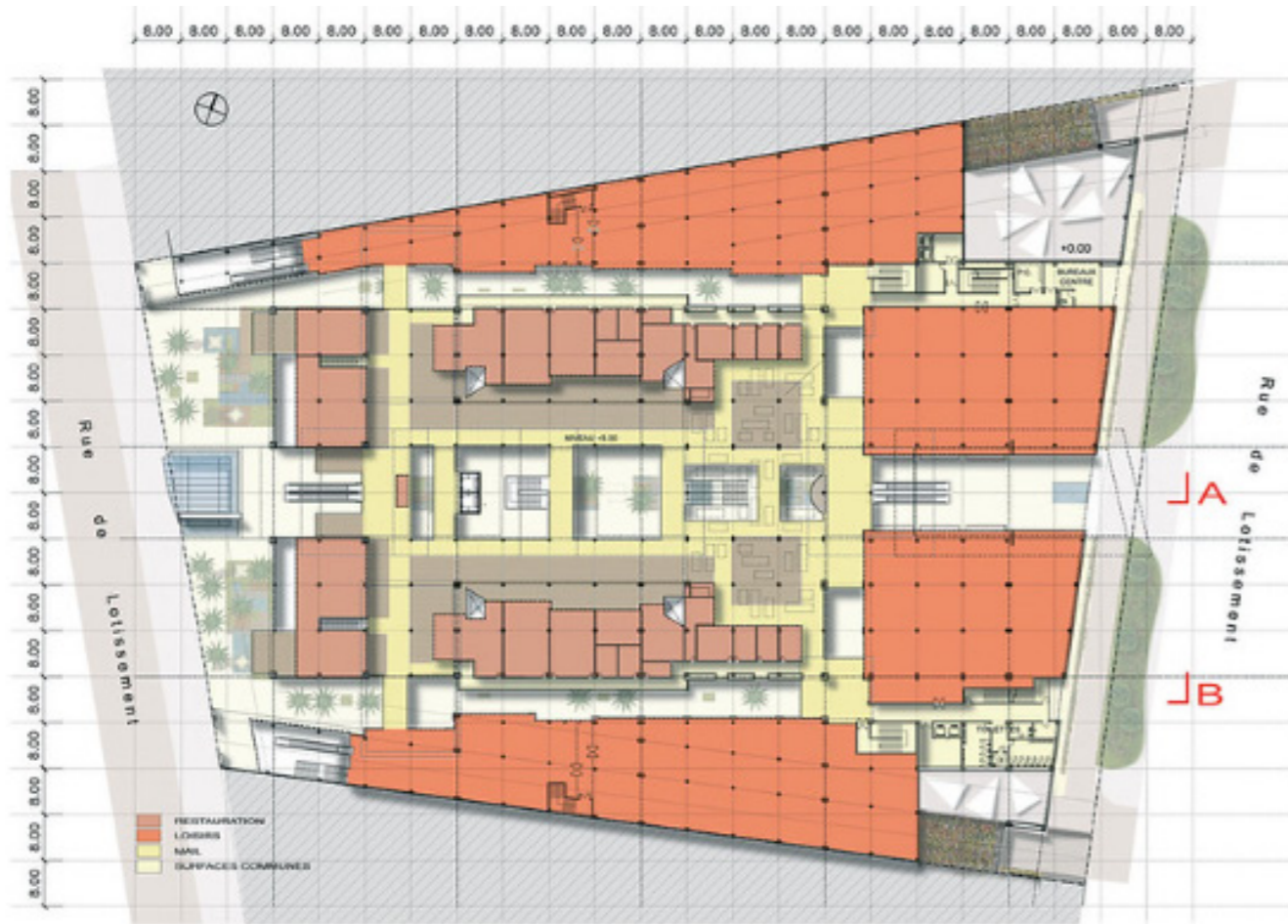
Carré Eden shopping center mall has probably the best list of shops and restaurants in Marrakech. It is, however, half the size of AlMazar. However, it has the advantage of being more recent and better placed. The Carré Eden offers a commercial area of **15,400m²** spread over three floors with **56 shops**, to which is added a vast underground **car park with 700 spaces**.



Signs [\[edit \]](#) [\[modify the code \]](#)

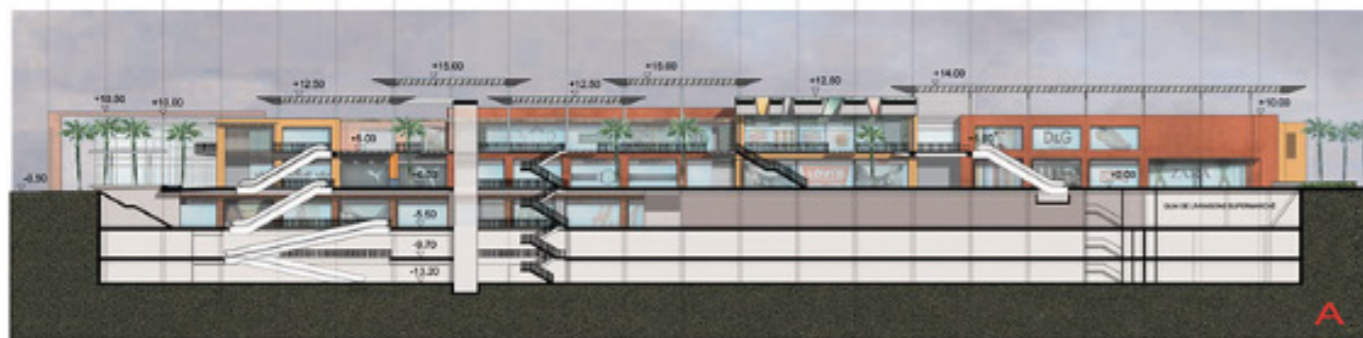
List of Carré Eden brands (as of July 2020) ² :

- [Adidas](#)
- [Burger King](#)
- [H&M](#)
- [Orange](#)
- [LC Waikiki](#)
- [Orchestra Prémaman](#)
- Oliveri
- [BMCE Bank](#)
- [Carrefour Market](#)
- City Sports
- Diamantine
- [Dominos Pizza](#)
- [Lacoste \(company\)](#)
- Glove
- beauty secrets
- [Starbucks Coffee](#)
- Stepin
- [The Body Shop](#)
- [Diesel](#)
- Elite
- Keito
- Cotton
- [Lee Cooper](#)
- Morocco
- Llaollao
- Cafe Lobo
- hunkemoller
- Flomar
- [Marwa](#)
- Macrosec
- MissParis
- Moroccan Touch
- multi-optical
- [Nespresso](#)
- Planet Sports
- Da Gino
- [Celio](#)
- [Undiz](#)
- Sushi Club
- Lyon Tacos
- Wok To Walk
- Exist
- Beautiful angel
- The Market Table
- [Optical 2000](#)
- Time Road
- Bigdil
- [Yves Rocher \(company\)](#)
- xtrem 360
- KinderClub
- Nayomi
- Epiltech
- sun-planet
- [Mauboussin](#)
- Sultan Kabab
- Defacto



The Almazar shopping center located in the tourist area of Aguedal on the road to Ourika . It has an area of 100,000 m² including 40,000 m² for commercial use 1 . It has 3 levels with free parking for 1200 spaces.

The shopping center also has two specialized and exclusive medium-sized surfaces in the city of Marrakech: A Carrefour hypermarket of 6,000 m² , a Virgin Megastore of 600 m² , a Kiabi of 1,200 m² , an Adidas Outlet of 1,000 m² , a Biougnach Electro on 1,000 m² and since April 2018 a 600 m² Miro Home . The center has a leisure activity developed with a FunPark children's leisure area on 1,200 m² .



Old City Medina



Medina

New City Gueliz



Wall

Gueliz

Site

_Thematics

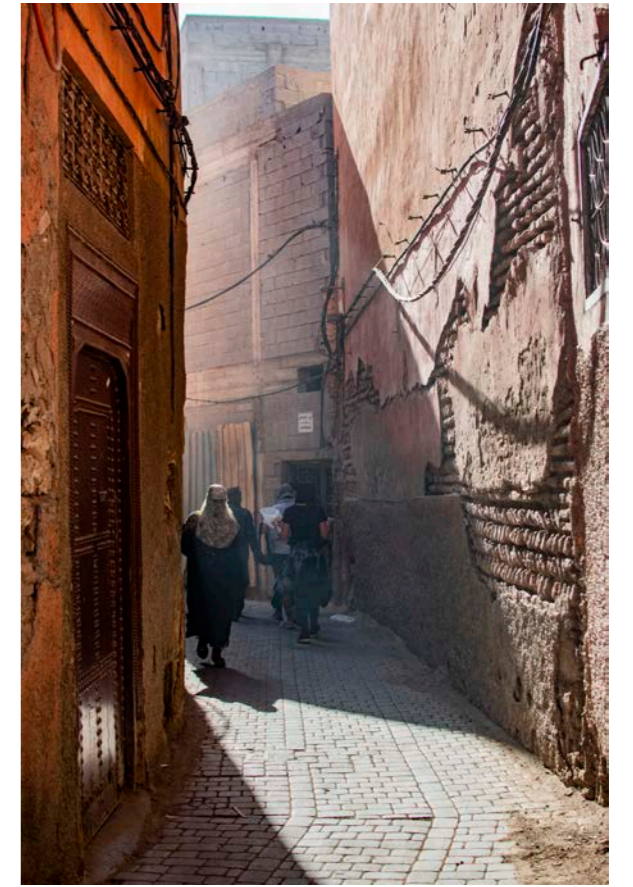
Urban space Guliz and old city Medina, in between a ribbon that connect two area together.



Gueliz



Medina



?

_Shopping Activity

"It is not only the shopping activities that are integrated into the events, but also the events that eventually merge into the shopping activities."

Architects such as Koolhaas see shopping as the last and most widespread public activity of the 21st century. Shopping has permeated, cloned and even reset every aspect of modern urban life: from city centres, main streets and residential communities to airports, hospitals, schools and museums. It is by examining the spaces, people, technologies and ideas of consumption that The Shopping Guide analyses how shopping is renewing urban spaces.

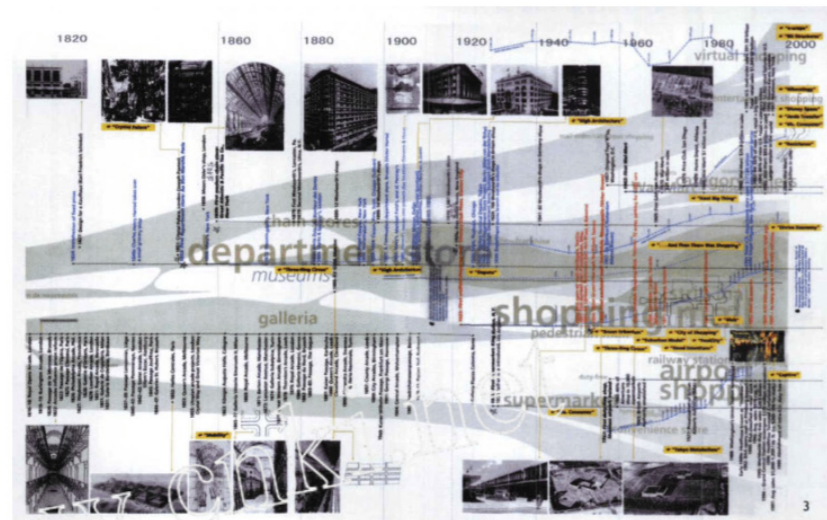
The autonomous renewal of shopping behaviour has led to two trends in consumer space: firstly, the increasing scale and function of commercial buildings such as malls and department stores, resulting in the degradation of other commercial buildings; secondly, the small-scale reconfiguration of public space by individuals, which will lead to the gradual penetration and encroachment of shopping activities into public space.

Retail area per person



- 1. 库哈斯主编的《哈佛设计院的购物指南》
 - 2. 个人购物空间
 - 3. 消费空间与城市
- 1. The Harvard Design School Guide to Shopping edited by Rem Koolhaas
 - 2. Personal consumption space
 - 3. Consumption space and the city

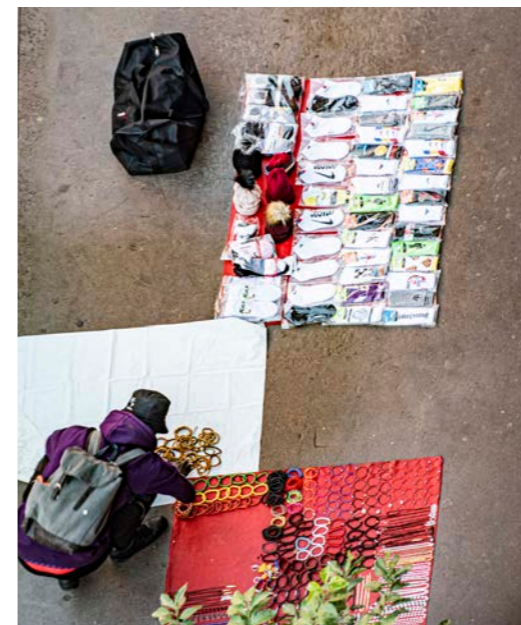
2



3



Small-scale Shopping reconfiguration of public space



Reference : Koolhaas, Rem. 2000. The Harvard Design School Guide To Shopping. [East Rutherford, NJ]: Monacelli Press.

Medina is a city with a dense building fabric. Its streets are narrow (between 0.5m and 5m) and buildings (single-story to 4-story) cover a vast amount of its surface (100% of the total surface is developed). Although there is only one large public square there are plenty of small improvised squares created in the residual space of the irregular urban grid. Most of the socializing happens in the streets and in other public spaces such as the mosque, the hammam and the marketplace.

**STREETS DUAL PURPOSE:
SOCIAL INTERACTION
AND MOVEMENT**



Ever since the founding of Marrakech by the Almoravid dynasty in 1070, the city became a major center of trade. It became an important stop along the Trans-Saharan trading route and commodities like gold, ivory, leather, metalwork, and ceramics passed through en route to and from the Saharan regions.

As the population of Marrakech grew, further souks developed in a linear pattern along the narrow streets of the medina. These souks soon turned into covered walkways and became places for locals not only to shop but also a regular meeting point for gossip and chitchat.

Even today, trade continues to be the Marrakech's mainstay and the souks are a beehive of economic and social activity. The souks are arranged according to the type of goods that they offer, and the location of each souk reflects a hierarchy dictated by the value placed on the assorted products on offer in each of them.

Text from: <https://www.nomadepicureans.com/morocco/marrakech-souks/>



Figure. Bottom-up derivation of the Zaouit Lakhdar zone.



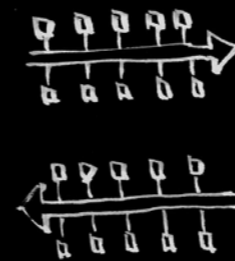
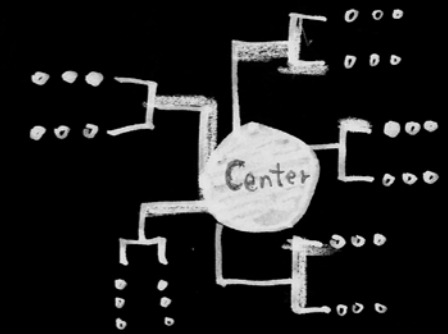
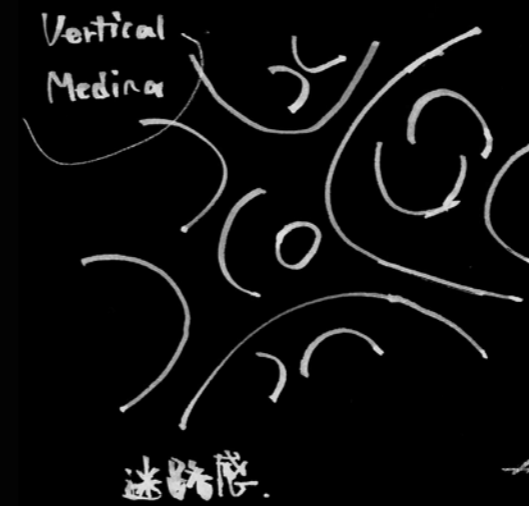
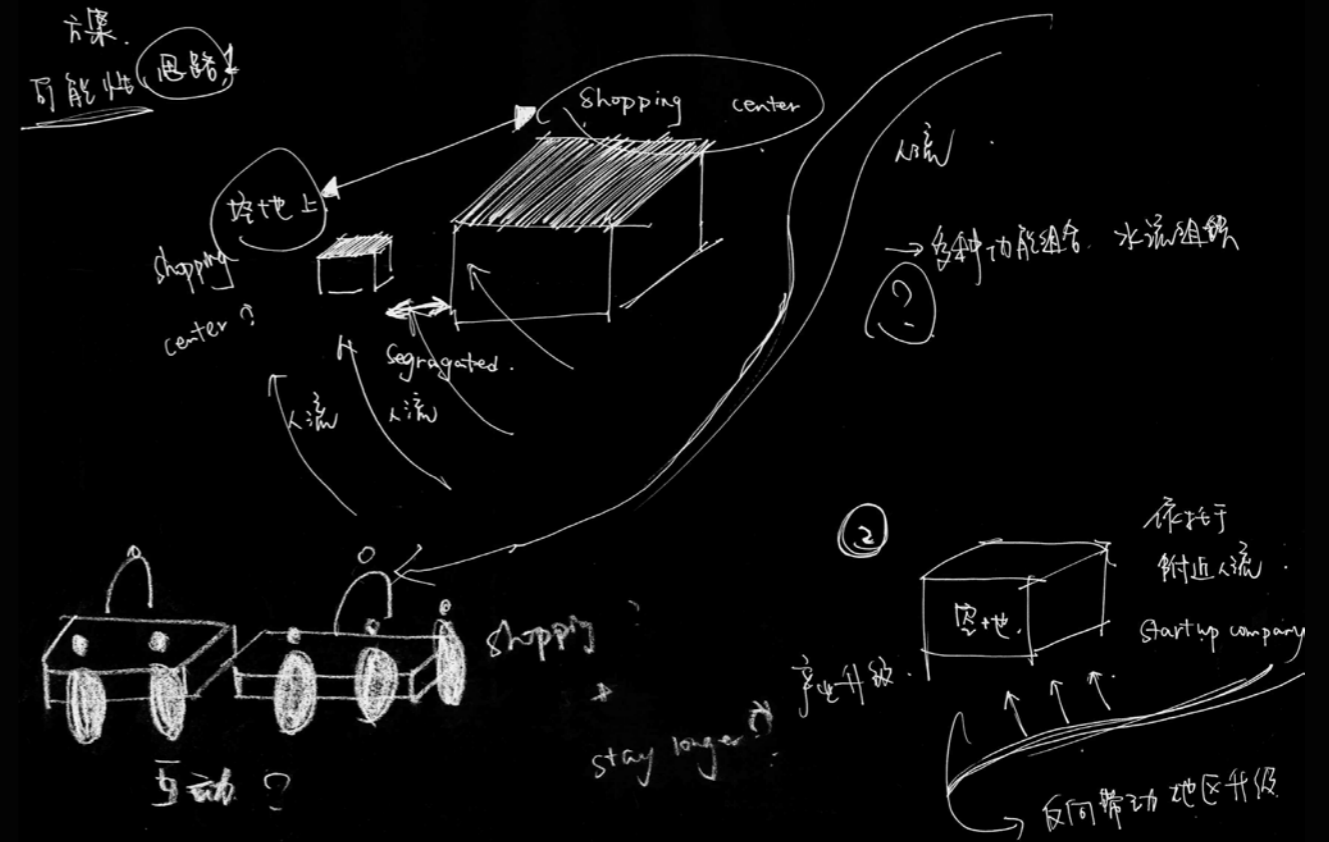
Figure 3. Plans of Zaouiat Lakhdar based on collected information showing the main directions of the urban fabric, and the location of derbs, sabbats, lots, house entrances, and patios (left), and which lots are accessed by which derbs (right).

Image From: <https://www.semanticscholar.org/paper/AN-URBAN-GRAMMAR-FOR-THE-MEDINA-OF-MARRAKECH-Duarte-Ducla-Soares/be82a7e23e5de9ccb571d3f62627031d74d0a101>

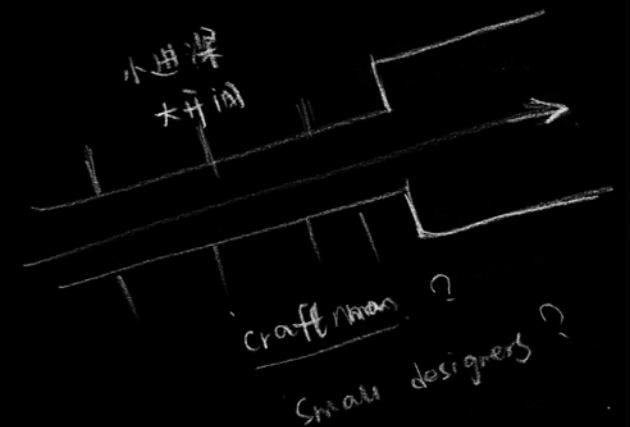
_Intentions, Morocco

My thesis project will be a series of design proposals while attempting to uncover architectural paradigms adapted to the local Moroccan climate, located in Marrakech, one of the largest cities in Morocco. The project will propose a vision of an artificial ecosystem that explores the possibility of efficient use of resources while maintaining the functionality of the building. Wastewater from the site is utilised 100% and reintroduced back into the natural water cycle. The building will be developed as a commercial building incorporating a wastewater purification facility.

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小空间
店面 → 面宽作为展示面

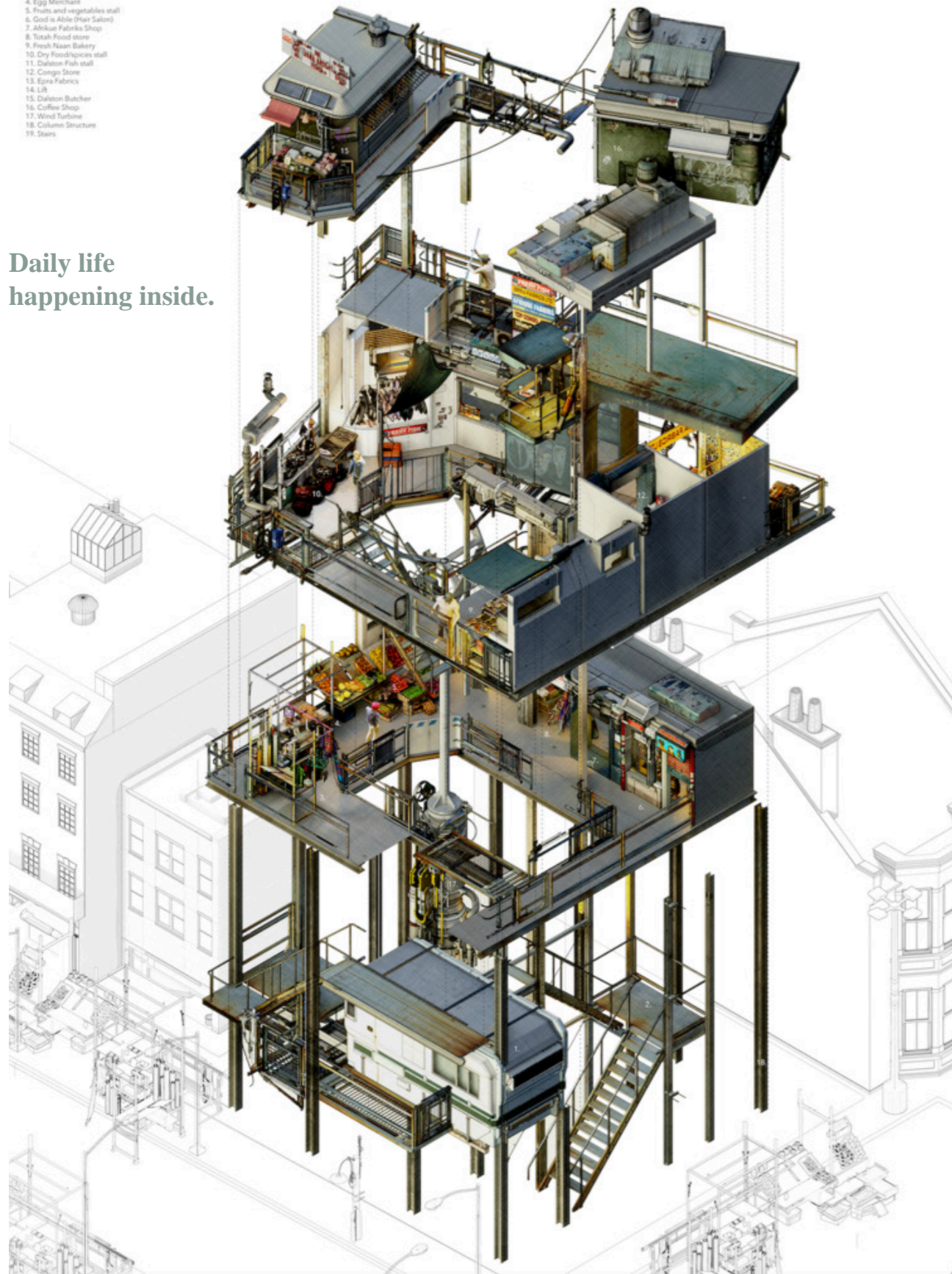


craftsman?
Smart designers?

Axometric

1. Caravan
2. Stairs
3. Fabric Stall
4. Egg Merchant
5. Fruits and vegetables stall
6. Godia Akle (Hair Salon)
7. Akle's Fabric Shop
8. Turkish Food store
9. Fresh Nisan Bakery
10. Dry Food/Spices stall
11. Dalston Fish stall
12. Congo Store
13. Epea Fabrics
14. Lift
15. Dalston Butcher
16. Coffee Shop
17. Wood Turbine
18. Column Structure
19. Stairs

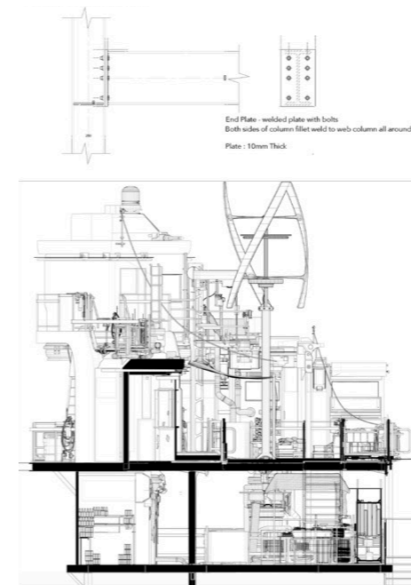
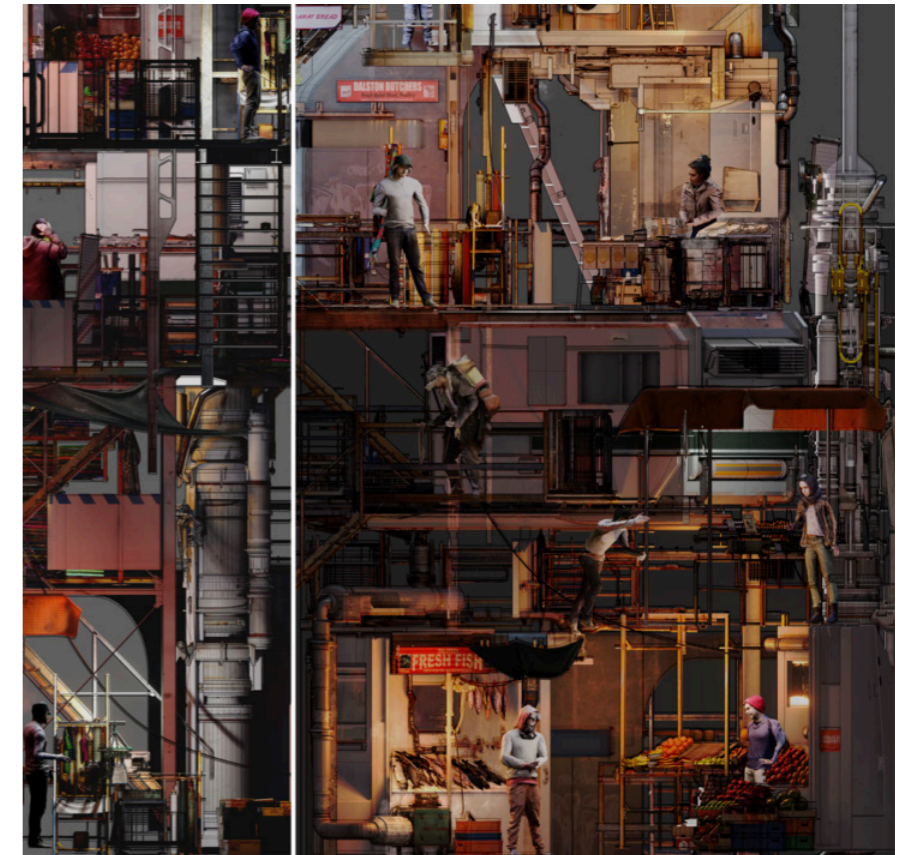
Daily life happening inside.

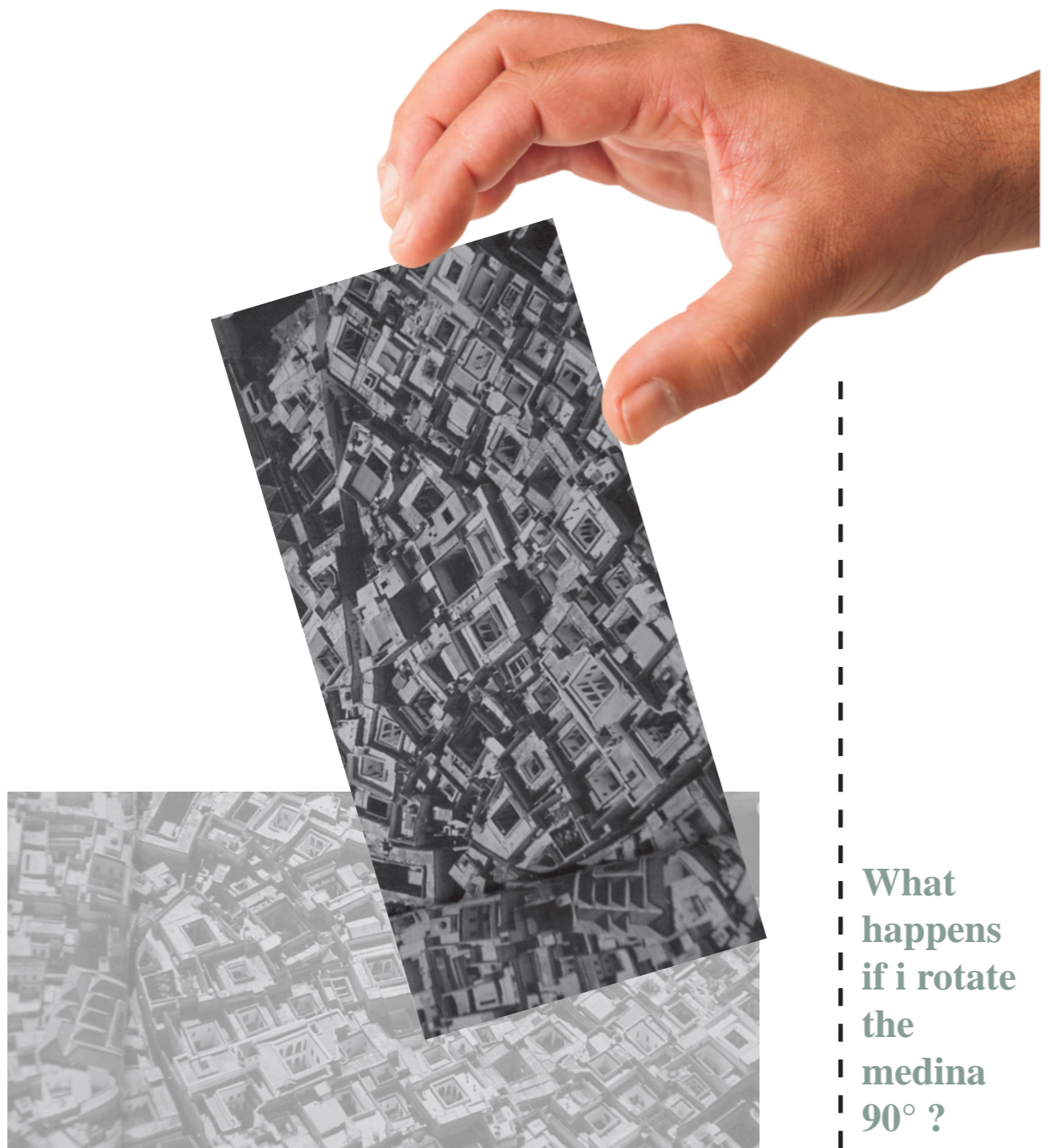


Dalston Hub

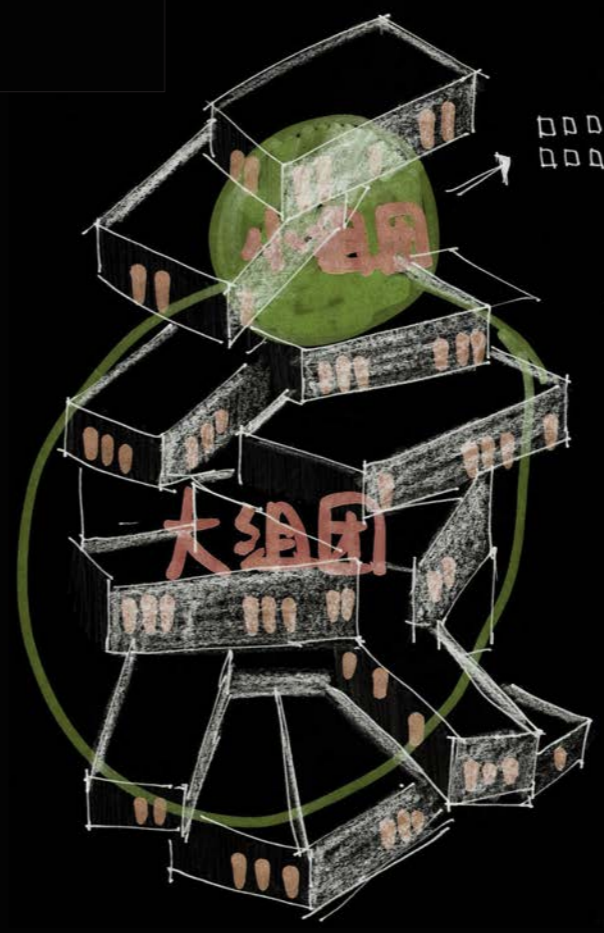
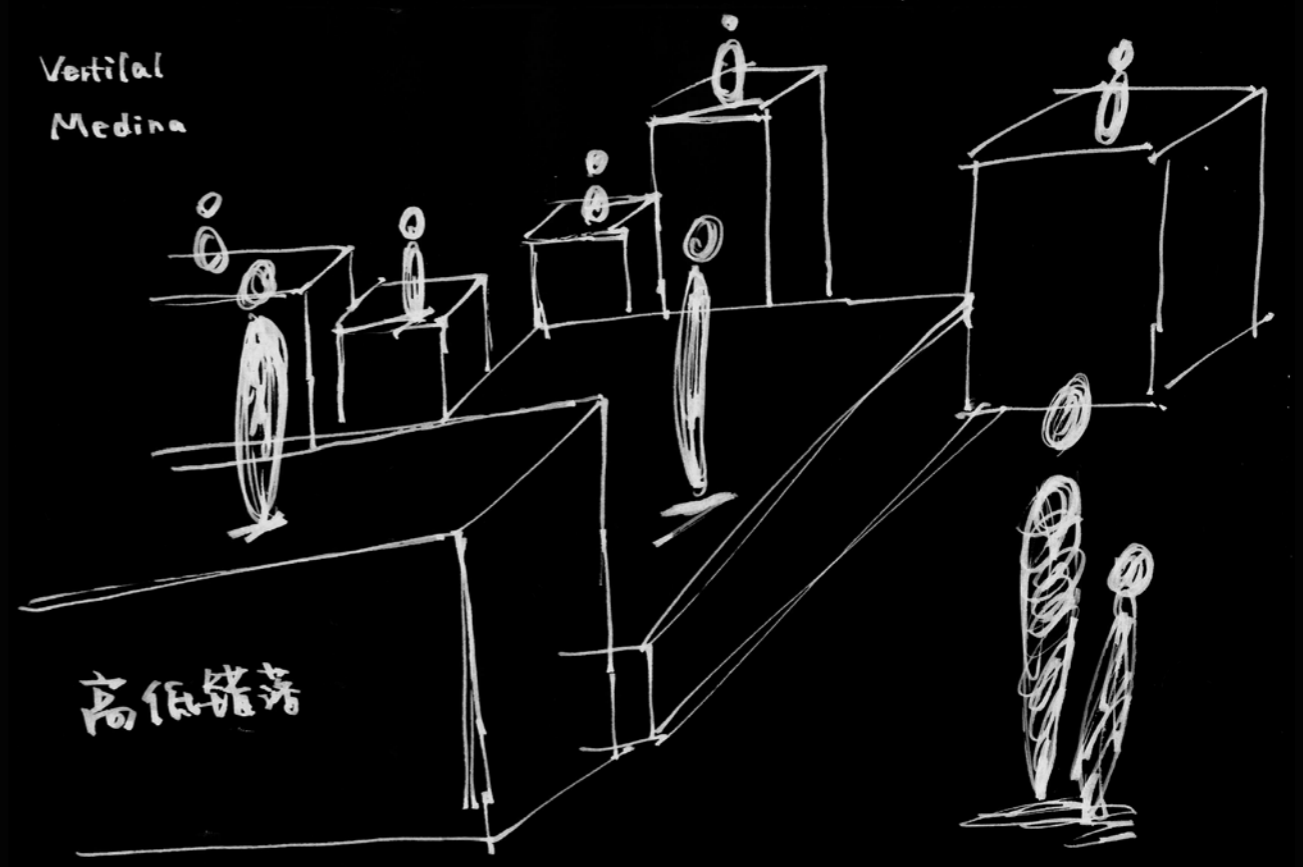
A Vertical Market

The Dalston Hub is the beating heart of Hackney, run by traders' activist, the vertical market proclaims a new social order and system of measure of trading in the expression of retaining and saving Ridley Road unique characters and culture.





What happens if i rotate the medina 90° ?



小功能团体内部组织
层叠
大功能团体之间相互联系








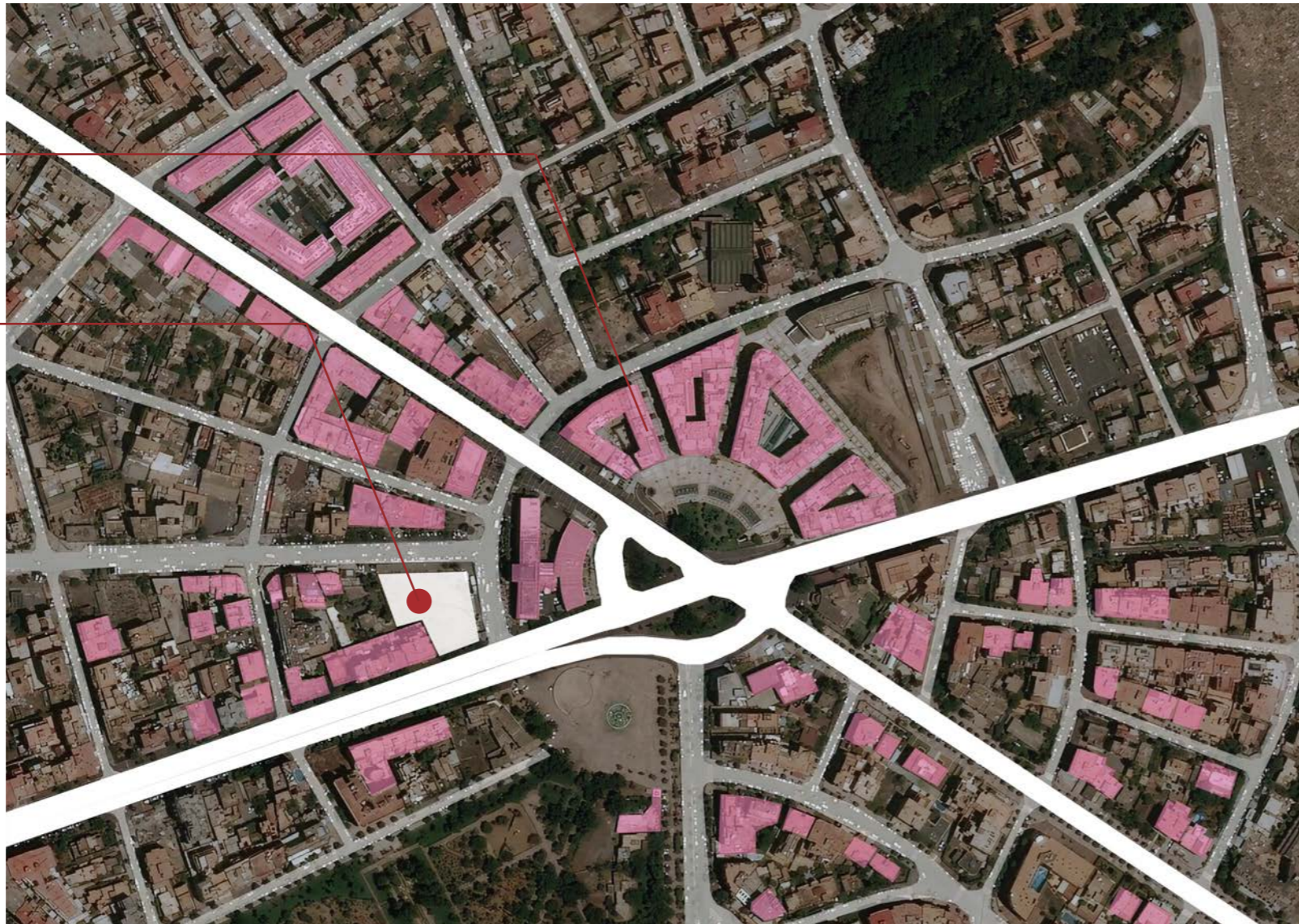
Site Analysis

The reason I choose this site to design a shopping mall is that it is located in the center of Gueliz, and close to the existing shopping center, this means high traffic flow here, and the old shopping mall donot have much option like Medina. A multi-story shopping mall here will contain more shops and attract more customers. And I will integrate the idea of water recycling during the entire design, which will be related to the arrangement of stores, like restaurants, shops, and local hammam.

Function :
Commercial

Future Function :
Vertical Mall

- Site 
- Road 
- Commercial 





Site

Post Office

Mall

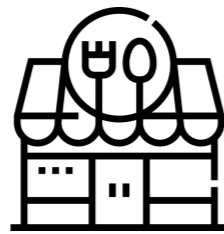
Shopping Mall

Square

_Function



Public Market Places



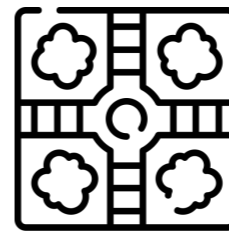
Restaurants



Hammam



Mosque



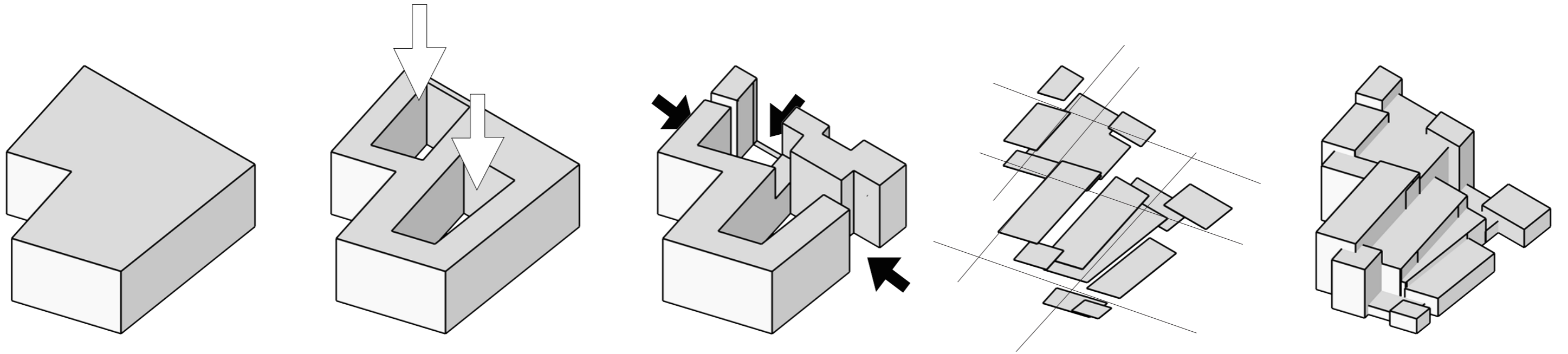
Public Space

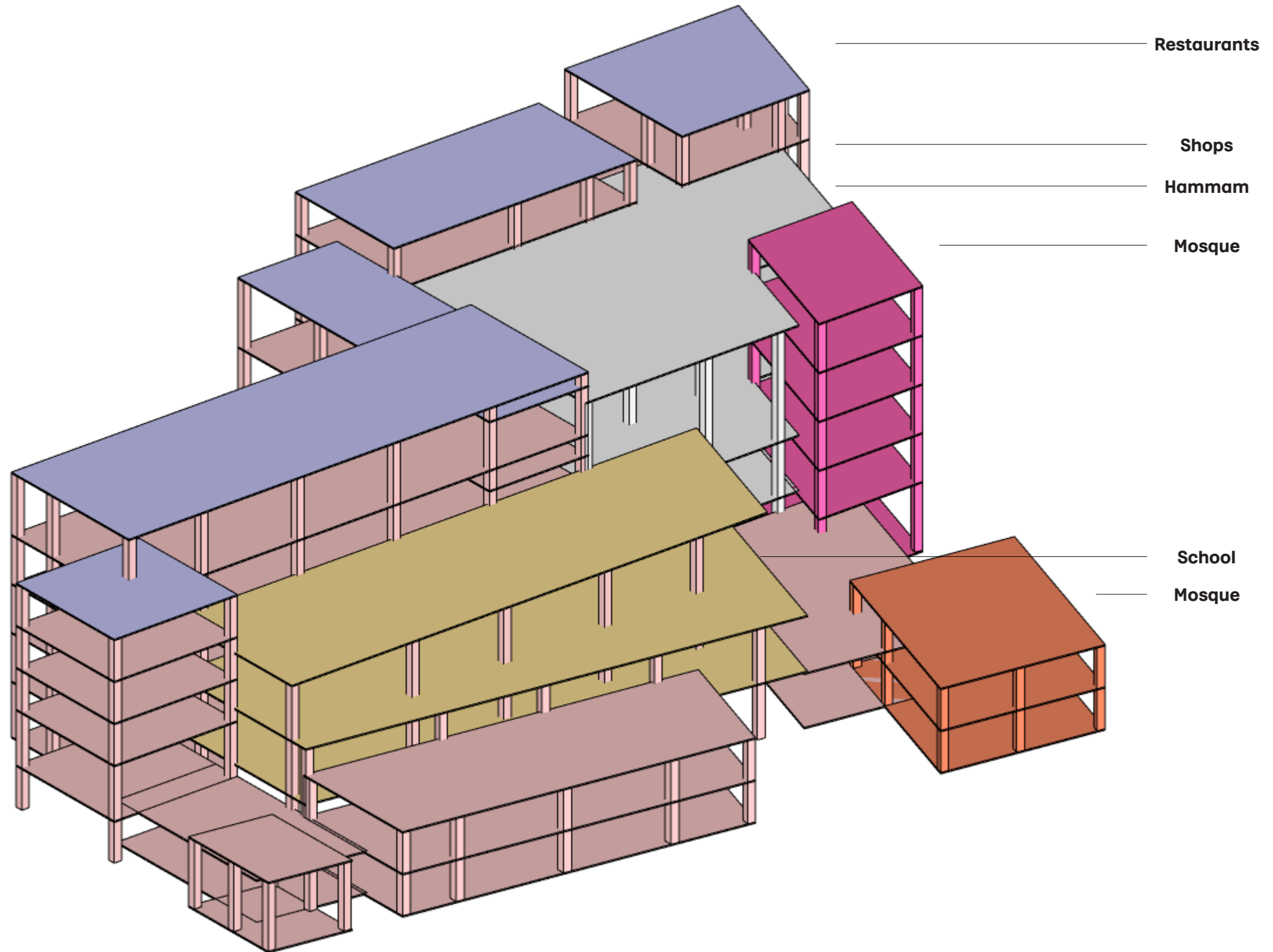


Workshop

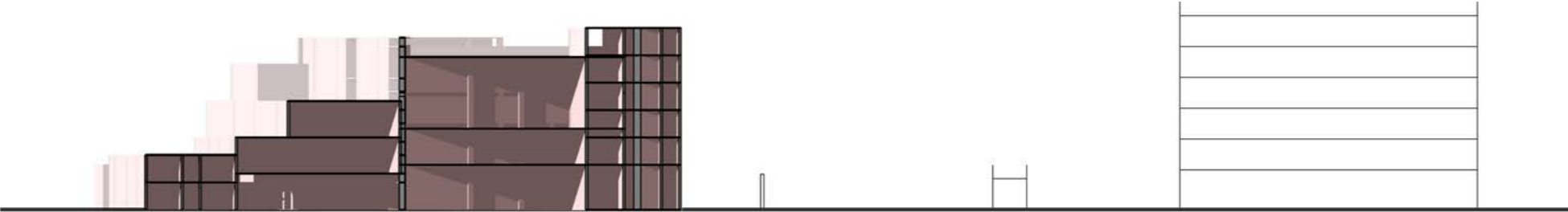
Youth School

Generative Logic

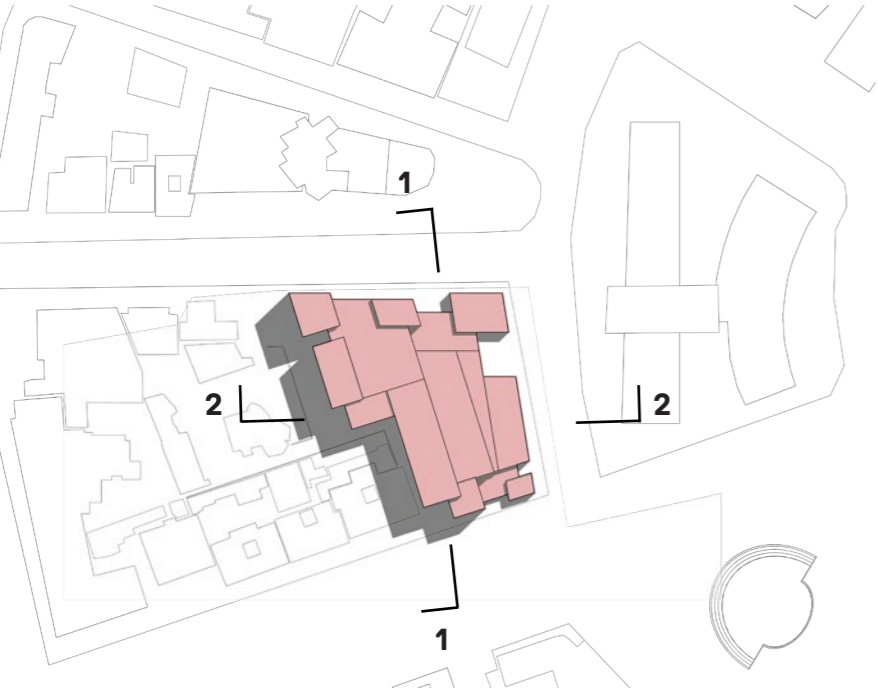




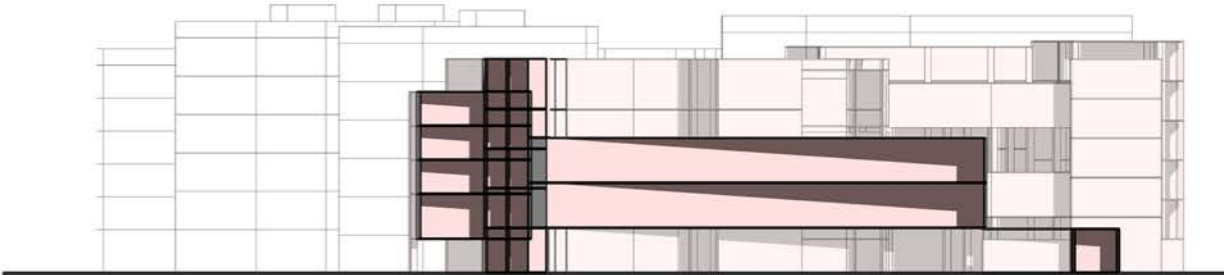




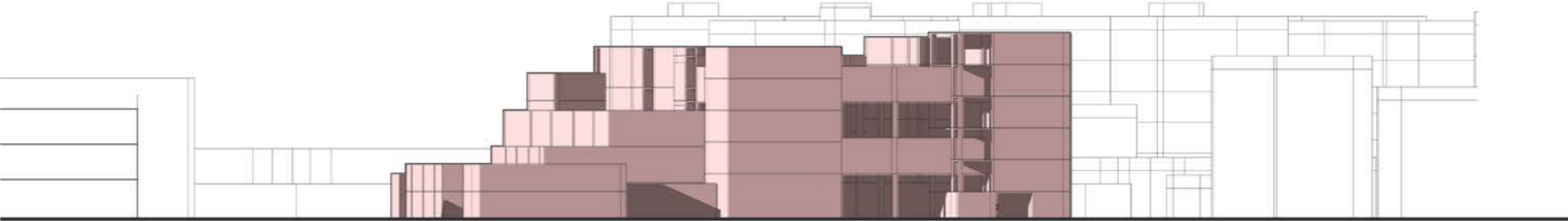
1-1 Section



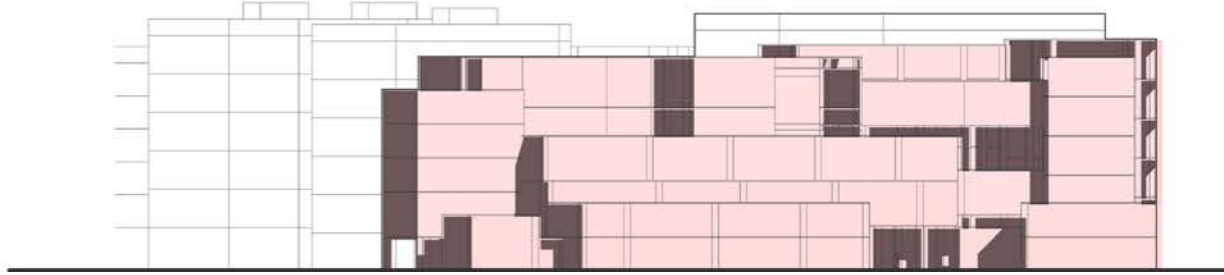
Site Planning



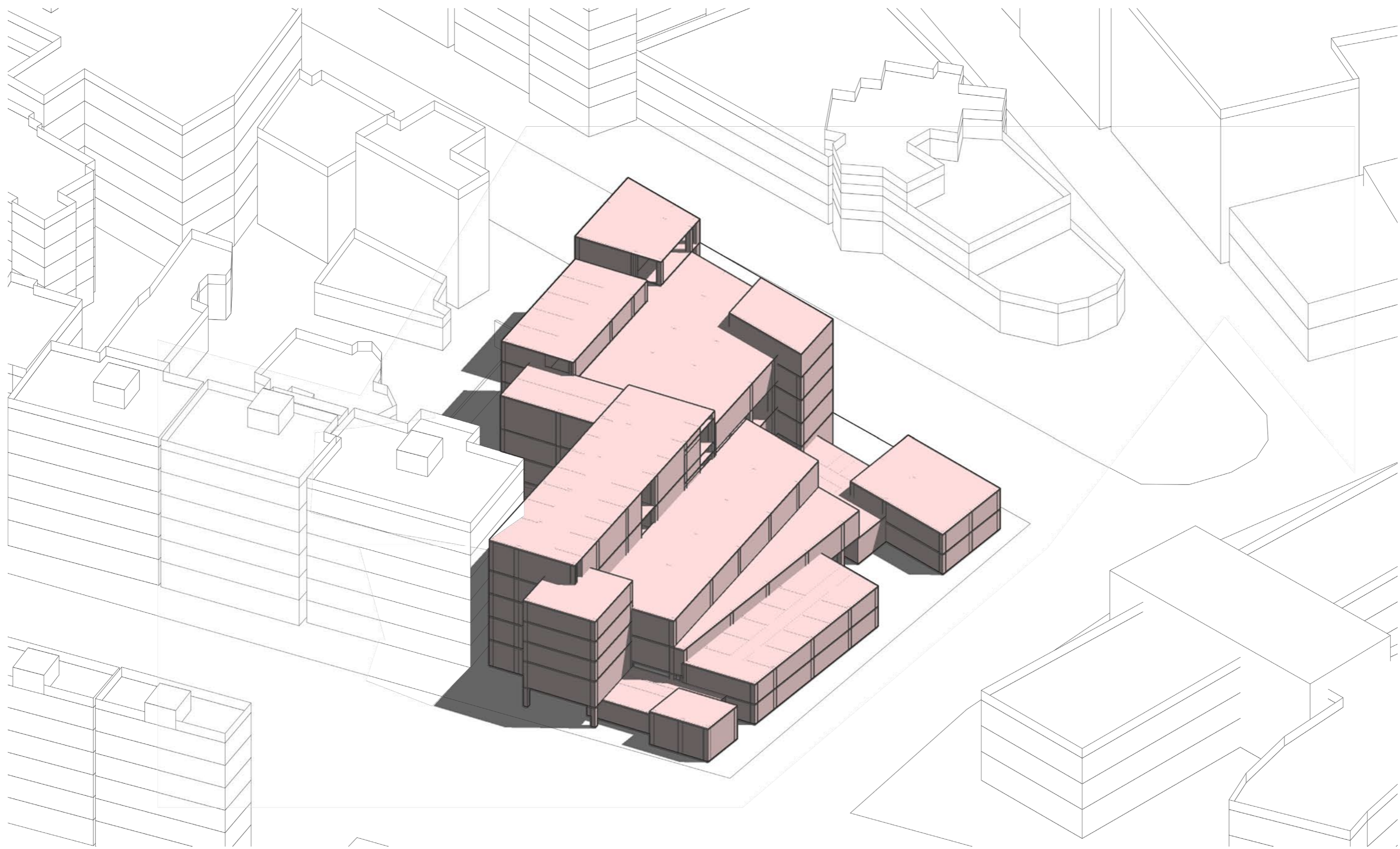
2-2 Section



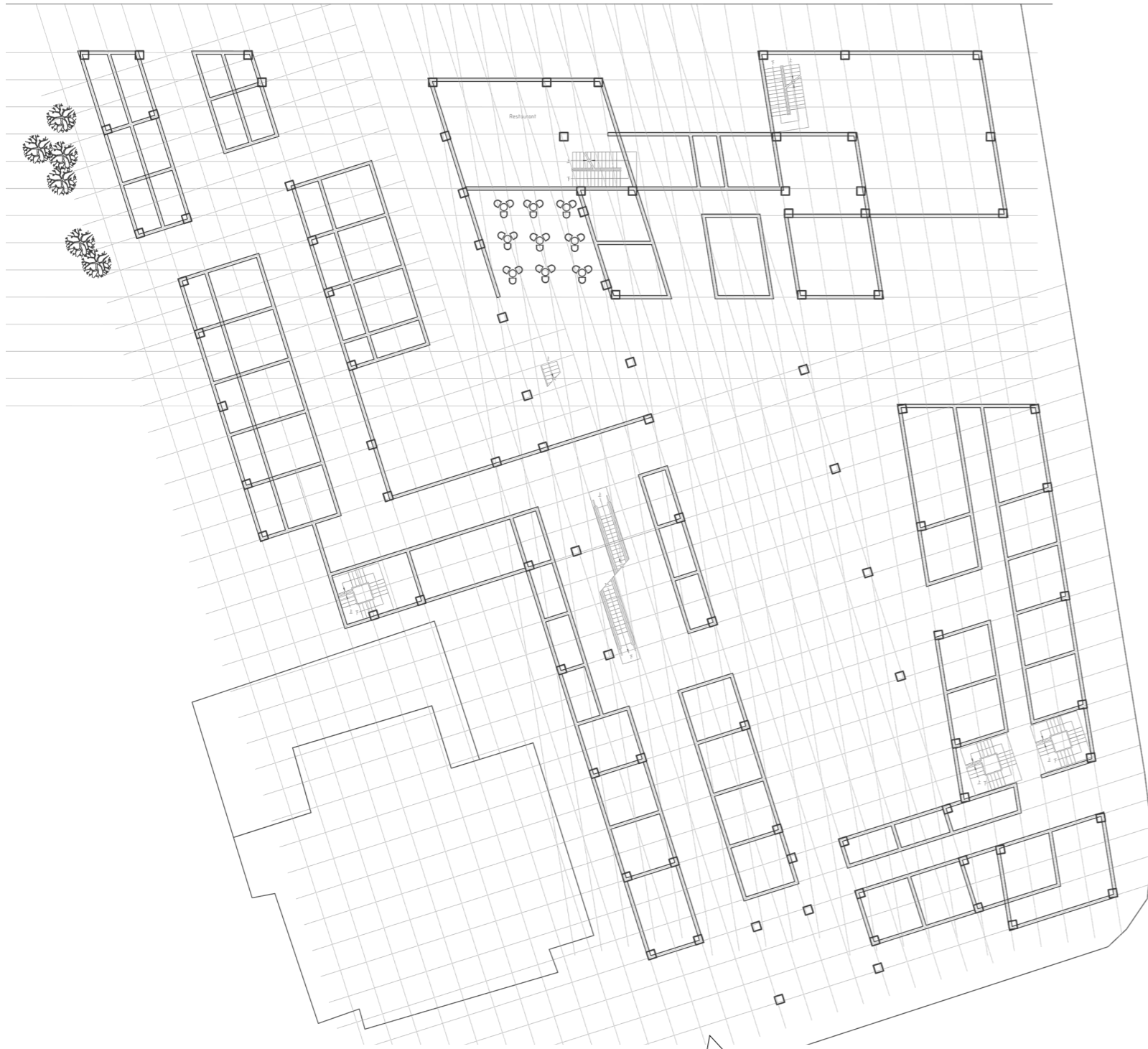
East Facade



North Facade

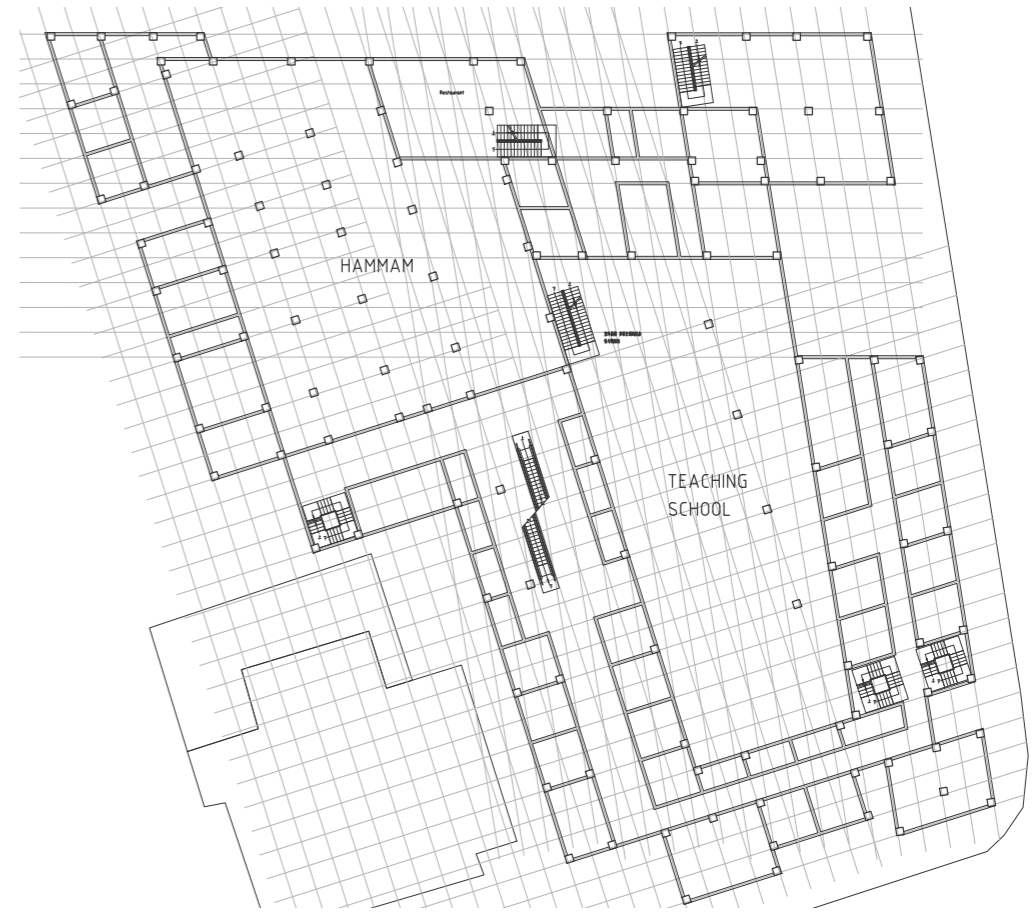


70m

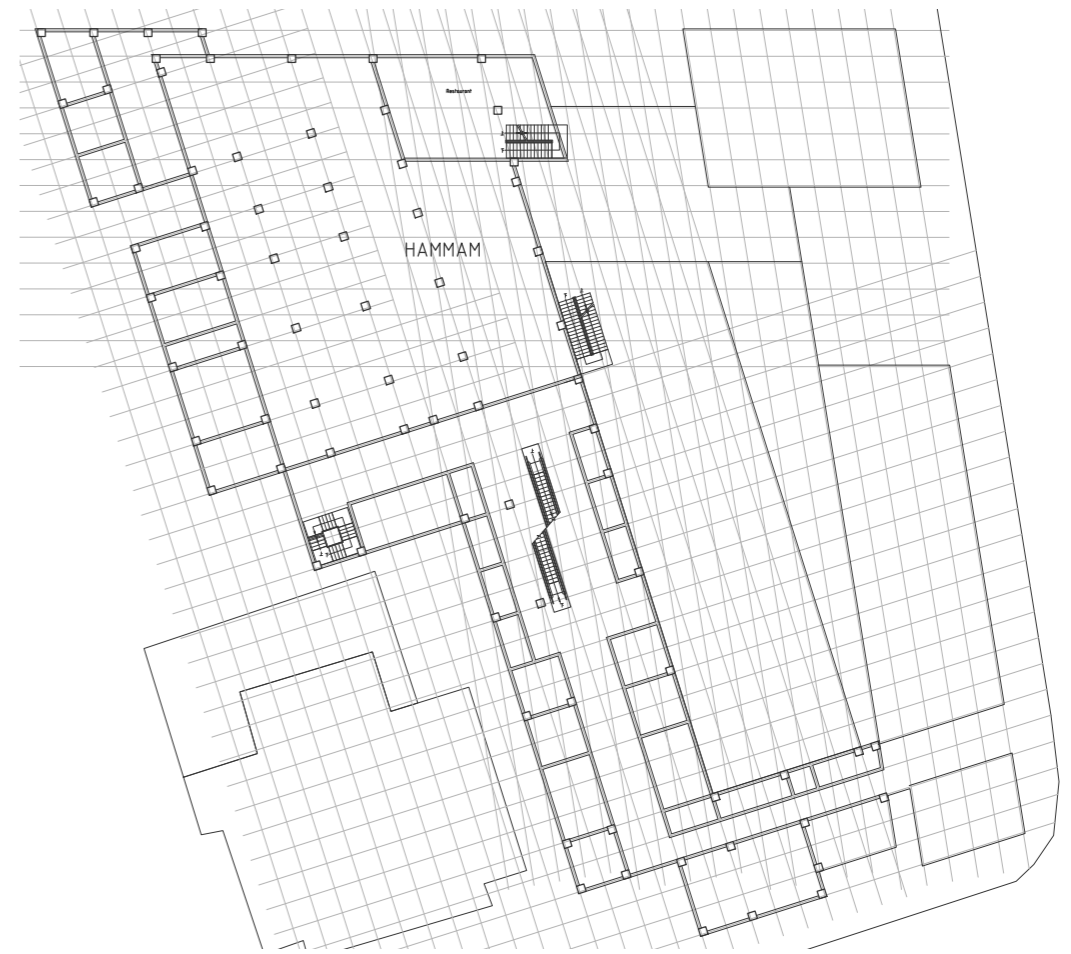


Ground Floor

↑
Underground
Parking



1 Floor



3 Floor

Context

Climate

A city is a human settlement with a large population. A city centre is the area of a city where significant commerce, political, cultural and power is concentrated. It is often also the geographic centre of a city. Typically,

