المشـاركة الشـعـبـية
في القاهرة التاريخية

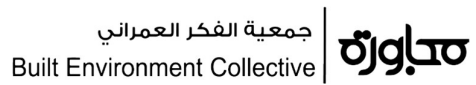# Citizen Participation
in Historic Cairo

PUBLIC HOUSING IN HISTORIC CAIRO

Team Members

Ahmed Borham	Tuqa Mumtaz	Hagar Abdulghany
Ahmed Badr	Mohammed Waheed	Omar Abutaleb
Rasha Emad	Fareed	Ahmed Sayed Wallan
Mariam Ouf	Youssef Oussama	Aya Nasr
Farah Sabbour	Anna Russel	
Abdulrahman Emad	Laila Nasser	
Ghaydaa Alaa	Rana Gabr	
Nihal Shihata	Yassmine al-Nawawy	
Marwa Shaykhun	Sandy Esmat	

OUTLINE

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I. Introduction

In Historic Cairo, public housing is often looked at as an intruder on its urban and social fabric. On the one hand, academics consider public housing to include a cluster of aesthetically unattractive and ill-designed buildings that contradict the beauty of the surrounding and culturally rich heritage buildings. On the other hand, however, the residents see them as beneficial given their central location and proximity to educational, health and social services as well as workplaces.

We believe there are common interests and needs that connect Historic Cairo with these public housing projects as they provide the area with benefits that did not exist before.

In this study, we review 12 public housing projects located in Historic Cairo. We explore their urban and social dimensions to understand how they are successfully integrated with the urban fabric of Historic Cairo, while also considering obstacles that may hinder such integration.

A. Aims and scope of this study

The aim of this research is to study public housing with reference to Historic Cairo and its effect on the everyday life of residents and hence on their sense of empowerment. This kind of study enables Built Environment Collective to use it as a foundation for improving and expanding its intervention in al-Khalifa that is carried out through Athar Lina Initiative and within the framework of National Organization of Urban Harmony (NOUH) and with Cairo Governorate and project-based agreements with the Ministry of Antiquities including:

1. Draws the attention to new building and urban typologies in Historic Cairo.

2. It widens the geographical boundaries of Athar Lina related studies to better understand urban and socio-economic patterns in al-Khalifa by grounding them in a larger and more comprehensive network of relationships that go beyond the Athar Lina Action Area.

3. The applied research component addresses topics that serve the existing intervention and potentially build on it or expand it:

   a) Management of al-Khalifa Street as a heritage zone with a focus on Athar Lina.

   b) Interventions such as the conservation projects and al-Khalifa Heritage and Environment Park.

   c) Expanding the scope of the groundwater research project and the dewatering and reuse component to include Zaynhum housing.

   d) Investigating the potential for new types of intervention, possibly outside Athar Lina Action area.

A secondary aim of this study is to propose ideas for intervention that help strengthen the integration of these public housing projects with Historic Cairo, and that respond to some of the dire needs of their residents by providing opportunities the residents can benefit from.

B. Action Area of the study

The focus of the study is the historic city core of Cairo, or what is referred to as Historic Cairo. The borders of the area of the study are determined in the following manner:

1.   Borders of Athar Lina Action Area (as the main zone of intervention) and URHC Action Area (as a well-documented zone with an intervention proposal): core area.

2.   Borders of al-Khalifa Municipality and the adjacent municipalities within Historic Cairo (Wasat, al-Sayyida Zaynab. Misr al-Qadima): surrounding zone of influence.

3.   Borders of Historic Cairo as defined by the URHC Project: as a reference zone public housing urban typology within Historic Cairo introduced in the second half of the 20th century.

C.   Activities

1.   Brief overview of the history of public housing in Egypt with reference to projects within the borders of Historic Cairo.

2.   Urban survey of the open spaces in public housing projects and its character.

3.   Study of the impact of open spaces in public housing projects in Historic Cairo in general and in al-Khalifa in particular.

4.   Study of neighboring public housing projects for comparative purposes.

5.   Study of groundwater issues of interstitial spaces between buildings.

6.   Propose ideas for intervention that integrates one of the public housing projects with Historic Cairo.

D.   Background

1.   Housing before 1952

Rich residents of rural areas and farmland owners controlled the economy before and during WWII. Farmland owners owned large villas similar to those in rural areas, and most of them owned villas and large houses in Cairo and other provinces. They mainly resided where industrial, commercial and financial capitalism existed. Later on, these buildings were confiscated and transformed into museums, schools and hotels.

Foreign presence impacted housing and social interaction between Egyptians and foreigners. The Italian, Greek and Jewish communities were in the high-class areas that aligned with their economic and social status. In contrast, middle-class Egyptians resided in multi-story small buildings, and were often employees or salesmen.

As for workers and low-income classes, they resided in popular areas building an emotional connection to them for hundreds of years. Such areas include al-Sayyida Zaynab, Bab al-Sha'riyya, al-Gamaliyya, al-Azhar, al-Qal'a and districts in old Cairo.

When deducting the period between the two world wars (1937-1927), and after analyzing the changes in urban growth in Cairo, we find that there occurred a significant drop in the growth of Historic Cairo. In contrast, new districts emerged such as Shubra, al-Wayli and Rud al-Farag. Due to the construction of textile factories in Shubra al-Khayma, according to the maps of 1956, informal dwellings appeared in the north of the city, especially in al-Matariyya.

During the decade between 1937 and 1947, Cairo's population doubled from 1.3 million to 2.8 million. By the end of WW2, many war-time factories were shut down, leaving thousands of workers without employment. This created an acute housing crisis and the emergence of informal urban areas.

According to the 1947 census, 49% of Cairo residents lived in a one-bedroom flat, with an average of 3 inhabitants per flat. Subsequently, residents of poor and deteriorated areas in central Cairo moved to al-Gabanat which led to a considerable rise in the number of residents in that area to 69.367, meaning that the number doubled since the beginning of the 20th century. The year 1947 was a turning point in the housing crisis in Egypt.

In the early 1950s, construction of the first two workers' public housing projects began. The first one was built in Imbaba and the second in Helwan. The workers' housing unit was independent and did not consist of a flat in a residential building, whilst the government built housing projects for senior employees.

Prior to the 1952 revolution, the private sector was the main supplier of housing in Egypt, providing for all economic classes. The founding of al-Ta'mir and al-Masakin al-Sha'biyya Company in 1953 enabled the government to gradually enter the housing market, providing mainly for the poor.

2.   Housing after 1952

During the period between 1952 and 1966, the government made significant interventions in the housing sector in the interest of the low and middle classes. It created a number of programs for the production of public housing projects. Construction started in the early 1950s, producing two housing projects for workers in Imbaba and Helwan, as well as one housing project for the middle class. It also sought to boost the interest rates of cooperative housing associations and enacted laws to reduce rents in 1952, 1958 and 1961 with a rate ranging between 13% and 15%. Despite such efforts, the housing crisis in Egypt worsened significantly.

There are numerous factors that contributed to this crisis, the 1952 revolution being a major one. The Free Officers Movement, led by Gamal Abdel Nasser, asked a group of planning specialists, that had just returned from PhD studies expeditions, to propose a vision for the planning of Cairo. They created the first spatial planning design of the city in 1953 which was ratified in 1956. One of the main outcomes of this vision was that Cairo was turned into a sovereign capital.

By concentrating industrial activities in the city, it turned into a major center for rural workers, attracting 80% of new immigrants from all over the county between the years 1960-1966. Furthermore, this generated the development of informal housing clusters on the western side of the Upper Egypt railroad, located on the west bank of the Nile. This came to act as a boundary separating the new middle-class housing projects built on farmland in Mohandisin, Dokki, Giza and Imbaba.

a)   Phase one: 1966-1976

During the period between 1966 and 1976, the urbanization of farmland started to become a major concern for the government and one of the most urgent problems that needed to be resolved in the new vision of Cairo in 1967, ratified in 1970. In this vision, the construction of new cities surrounding the Greater Cairo region on empty desert lands was proposed. As a result, central districts lost 200.000 of its residents between the years 1960 and 1976, while population numbers on the periphery increased, especially in districts located in the Giza and Qalubiyya governorates. Urban clusters grew substantially during this period, the predominant ratio was built on farmland (61%) in 1968, while 39% was built on desert land. However, the ratio dropped slightly in 1977 (59%) of newly built areas on farmland.

b)   Phase two: 1976-1993

In the mid-1970s, during the Infitah period, and amidst major political changes, the government was once again encouraging the private sector to play a larger role in the public housing sector. It targeted the upper and middle classes, while doubling its investments and decreasing its role in the construction of low-income housing. Later on, statistics indicate the failure of the private sector in this field, forcing the government to withdraw its previous decision.

During this phase, informal areas spread considerably on fertile farmland and on government owned desert land. The population of Greater Cairo grew from 1.600.000 in 1976 (20% of the region's residents) to 6.880.4000 in 1993 (46.5% of the region's residents). Moreover, the total built-up area grew notably. The reasons behind this growth can be summarized into two main points. The first is the complete withdrawal of the government from the subsidized housing production sector for the low-income class and some of the middle-class groups. The second is related to the restructuring of the private capital sector, which shifted from small commodity production in housing (residential buildings and villas) to expanded capital production (complete neighbourhood and tower buildings).

On top of the political changes that this period experienced, the economic 'opening' (*infitah*), initiated by president Anwar Sadat, led to extreme wealth being accumulated by the upper social classes. This change was reflected in the private sector becoming more invested in high income groups than it was in the 1960s.

Adopting the policy of economic openness had an impact on the real estate market, building and construction sector and urban growth forms. Moreover, the anticipation of Arab and foreign investments led to a sudden rise in prices of the built area within urban clusters, which in turn affected land prices in the periphery.

With this change, new forms of intervention in the real estate market emerged which had not existed in the 1960s. These forms were varied in terms of their target groups and building strategies depending on the building location being either central or peripheral. Land division and sales companies invested in the periphery, while private real estate development companies invested in central areas.

When we come to Mubarak's approach regarding public housing, one sees that it was completely different from Sadat's. Sadat was famous for his interest in satellite cities, however, Mubarak was more interested in building social housing in the city core. Zaynhum was one of the first projects to be titled an "informal development" project. Later, he created the "one million unit" project, building social housing inside Sadat's satellite cities, such as 6th of October, 10th of Ramadan and Obour cities. One of Mubarak's achievements was the "youth housing" project where the government aimed to be a housing provider, in contrast with the current state under Sisi's government which is mainly profit-oriented.

The number of built units by both the government and private sector reached 11,18710 units between 1952-1982, and 30,37363 units between 1982-2001. The number of units built by the government sector alone is 11,64115 whilst the private sector built 18,73248 units.

E.   Defining public housing

A general definition of public housing includes houses or flats owned, sponsored, or administered by a government at low rents for people with low incomes. Most public housing is built as clusters of apartments or townhouses, or as high-rise buildings in denser cities. Families that struggle to pay for housing can benefit from public housing that is funded by the city, state, or federal government. The first public housing was built in London around the turn of the twentieth century, but the idea did not become widespread until after World War II.

In Egypt, government housing projects varied as a reflection of varied ruling systems. As a result, the definition of government housing was often different from that of public social housing. After the 1952 revolution, a large number of programs related to public housing projects were funded by the government and were directed towards the lower and middle classes. The main housing unit type was a small flat in a residential building that did not have elevators. The land in which these projects were built on had services provided by the state and were exclusively owned by the government. The land was given to people free of

charge and in addition to its low rental value, its infrastructure was heavily subsidized by the government. This model became known as the Popular Housing Projects (Al-Iskan al-Sha'bi).

Post Sadat's economic openness (*infitah*), the government declared its withdrawal from the construction of public housing projects for the middle class. Subsequently, a new term emerged for public housing that became mostly used: low-income housing. The government gave ownership to the residents of government housing units, as well as the units that were built during Nasser's era.

Under Mubarak's rule, the government followed the footsteps of Sadat's economic openness and neo-liberal policies. The price of land and residential units increased substantially, and the rates of informal housing grew accordingly. The government aimed to get rid of informal housing, and the term "government housing" was used under the title of "informal development"· Up until today, the government uses the term "government housing" when referring to public housing.

F.   Criteria and methodology
1.   Selection criteria

The general criteria of choosing these projects include:

a)   Spatially:

Each project must lie primarily within the boundaries of Athar Lina's Action Area, and secondary within the Historic Cairo Action Area (Fig. 1).

b)   Temporally:

We focused on projects initiated during the Nasser era, starting from 1952 onwards, which fit the definition we adopted for public housing.
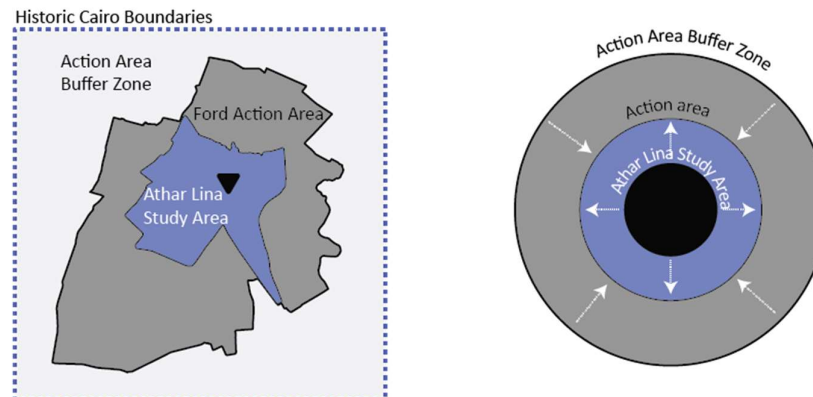
Figure 1 Spatial allocation of the selected projects within the range of the Action Area of Historic Cairo and Athar Lina.

According to the criteria of selection, the projects that will be studied in this phase include the following (in alphabetical order):

1. Zaynhum
2. 'Ayn al-Sira
3. 'Arab al-Yasar
4. Qaysun
5. Al-Abagiyya
6. Bab al-Wazir

7. Qawawir
8. Masakin al-Mahkama
9. Awqaf al-Qal'a
10. Al-Sawaysa
11. Awqaf Darb al-Labbana
12. Awqaf Port Said

<div align="center">(a)   Data Collection Criteria</div>

In order to be able to get an overview of these various projects and compare them, we adopted a data collection criterion as illustrated in the following:

<div align="center">*c)   Fabric driven:*</div>
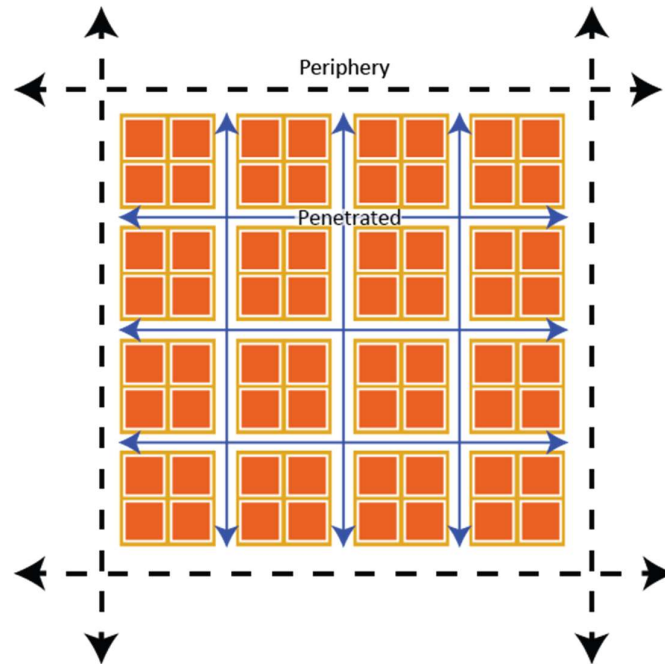
Figure 2 Urban fabric driven methodology.

Using figure-ground maps, we identified the unique fabric of each project and we tailored our routes accordingly in order to get the general impression of the project without getting into the details of surveying each building individually. Generally, we went around the main routes that surround the project and lead to it. We then restricted our internal routes to the penetrating ones in order to survey the whole blocks and not the buildings (Fig.2).

<div align="center">*d)   Physical:*</div>

In this phase, we restricted our observations mainly to the physical parameters of the projects in order not to get into too much qualitative details such as the social conditions of the dwellers, which will be the focus of our next step.

<div align="center">*e)   Quantitative:*</div>

We also restricted our data collection to quantitative parameters in order to make the comparison between the number of projects more manageable.

2. Investigation methodology

Figure 3 Investigation methodology.

We approached this problem through a process of multiple stages (Fig. 3):

- Observations through field visits and walks around the neighbourhoods.
- Interviews with the residents during these field visits.
- Collecting information on the projects, including the date of construction and the management entity, etc.

G. Research workflow

As previously mentioned, the objective of this study focusing on the public housing projects, in and near Historic Cairo, is to investigate the potential of the urban fabric of these projects, which is usually considered as a left-over space and not well studied. According to the previously mentioned criteria, the selected projects were: Zaynhum, 'Ayn al-Sira, 'Arab al-Yasar, Qaysun, Al-Abagiyya, Bab al-Wazir, Qawawir, Masakin al-Mahkama, Awqaf al-Qal'a, Al-Sawaysa, Awqaf Darb al-Labbana, Awqaf Port Said.

The problem was how to choose an area to focus our study on, amongst these 12 projects, in order to highlight the potential of the open space in-between the building block of these projects, with the intention of intervening in one of these areas to trigger the hidden potential of these in-between spaces. We approached this problem through a process of multiple stages as shown in the research map in Figure 4.

Context Map:
The objective of this component of the project, focuses on the public housing projects in and near Historic Cairo, is to investigate the potential of the urban fabric of these projects which are usually understudied dismissed as left-over space. The aim of the project is to highlight the potential of the open spaces found in-between the buildings of these projects, with the intention of intervening in one of these areas to trigger the hidden potential of these in-between spaces. This context map illustrates the location and relationship of each public housing project with one another and with the rest of the city.

Taxonomy Phase:
In this phase we attempted to create a taxonomy that gives and overview of the 11 projects in realtion to one another, and understand them more. The taxonomy includes general information, relationships to the context studied, buildings and open spaces.

Elimination Phase:
The taxonomy phase was followed by a categorization phase where the projects were classified according to their scale and the relation of the open spaces to the Historical Cairo urban fabric. The phase resulted in the elimination of some projects that did not include any open spaces where they mainly consisted of one building. the elimination was made with the aim to increase the depth of the study and move to a more qualitative criteria in the data collection.

1. where we attempted to breakdown the open spaces into typologies and study the changes in these typologies with time and the type of ownership and control.
2. The second component was to investigate the security and safety in the open spaces around these projects. in addition to the data collected during the interviews, the main parameters we took into consideration were:
a. The lighting during the night.
b. the shadows and greenery during the day.
c. the kind of activities that existed on the ground floor
d. and finally was degree of enclosure of these open spaces and to what extent they encourage flow and gatherings. A sample was taken from the fabric of each project where one of these parameters differs.
3. the last component was to study the relation of each project to the surrounding areas in order to highlight the impact of each project on the surroundings, and to evaluate which area will benefit from any intervention. The data collected during the survey and the results from the impact map helped us generate a matrix of Potential, Need, and Impact (PNI) for each of the remaining projects.

Area Focus Phase
The output of this phase of the study will be presented in a feedback session amongst groups of academic and practitioners who have experience in housing and public spaces. the session aims to show the data collected so far that spots any gaps in the methodology and resources used. It also aims to come up with the help of the invited group to reach a decision on the focus area that needs to be further studied in order to propose an intervention that can trigger the potential of its open spaces.
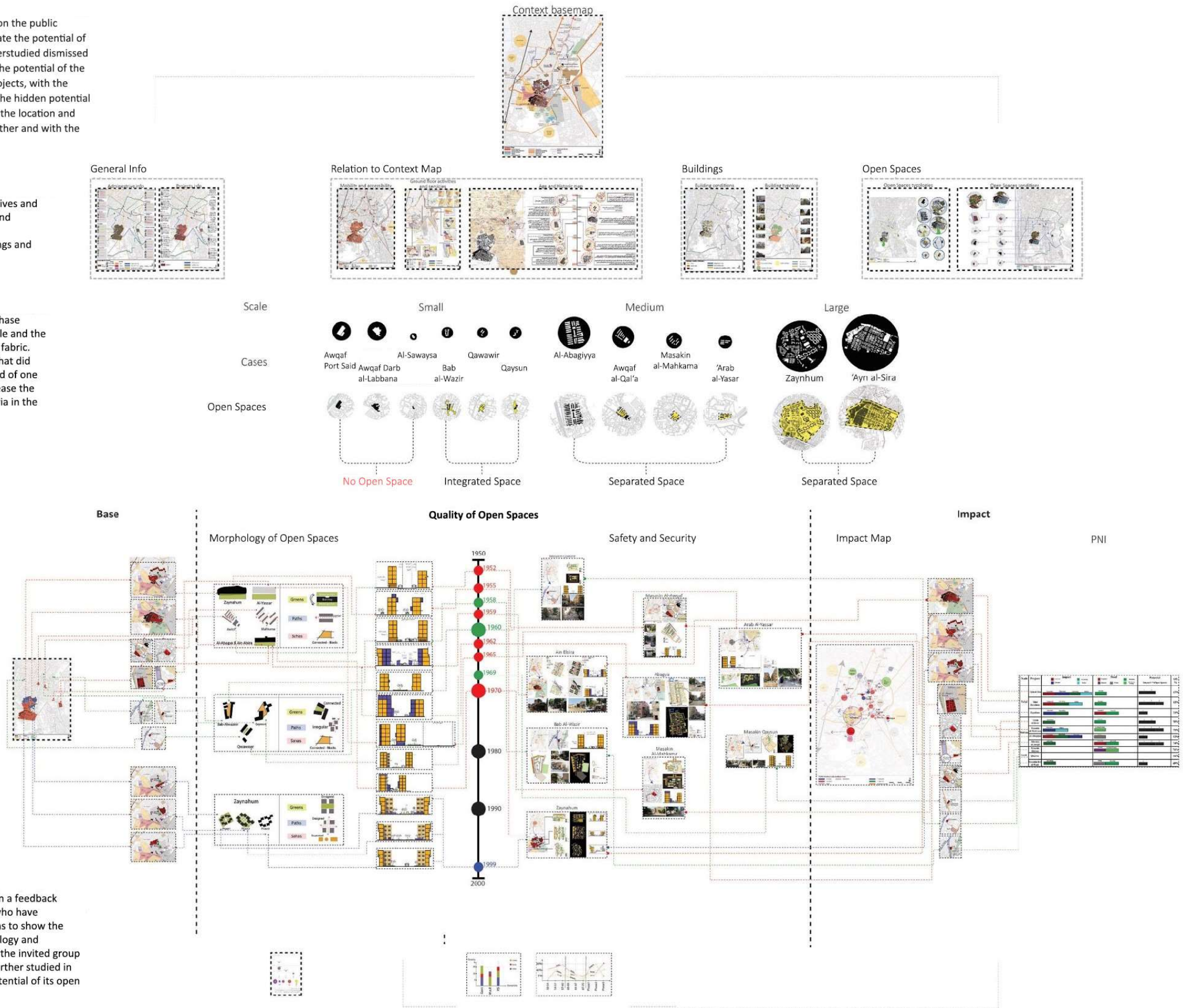
Figure 4 A map showing the research phases.

Figure 4 shows the progression of the initial process which included:

1. Contextualization of the selected projects

This is followed by the taxonomy phase to be explained in the next chapter.

2. Phase 01 Taxonomy:
   a) General information: About the projects
      (1) Scale, population and its density
      (2) Administrative information (management and ownership)
   b) Relation to context
      (1) Accessibility and mobility
      (2) Age and history

   3) Ground floor activities and surrounding services

   c) Buildings
      (1) Typology
      (2) Conditions
   d) Open spaces
      (1) Typology
      (2) Conditions
   e) Elimination

In the following chapters, the below phases of the research are further explained:

3. Phase 02 Closer look
   a) Morphology of open spaces
   b) Safety and security
   c) Impact and relations
   d) Character of open spaces
4. Phase 03 Case Study
   a) Behavior maps
   b) Intervention alternatives
   c) Design ideas workshop
   d) Intervention prototype and community feedback

II.   Contextualization

Starting from a general map of Historic Cairo and its buffer zone, we highlighted the public housing projects that fit the selection criteria mentioned earlier. We also showed the main routes connecting these projects with the rest of the city (Fig.5).

In order to show the relation of these projects to each other, in relation to Historic Cairo and to the rest of the city, the location of each project and the surrounding areas and services were studied in addition to the main

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routes that connect these projects to the rest of the city. The map shows us that most of the projects are engulfed between Salaḥ Salim Street and Port Said Street except for al-Abagiyya Project, which is mainly located on the Autostrad. Projects such as Qawawir are mainly accessible through Port Said Street. Al-Muʿiz Street acts as a main connector for projects such as Zaynhum all the way untill Masakin Qaysun, passing along al-Awqaf near the Citadel. Projects such as ʿAyn al-Sira and Zaynhum are very close to the metro line.
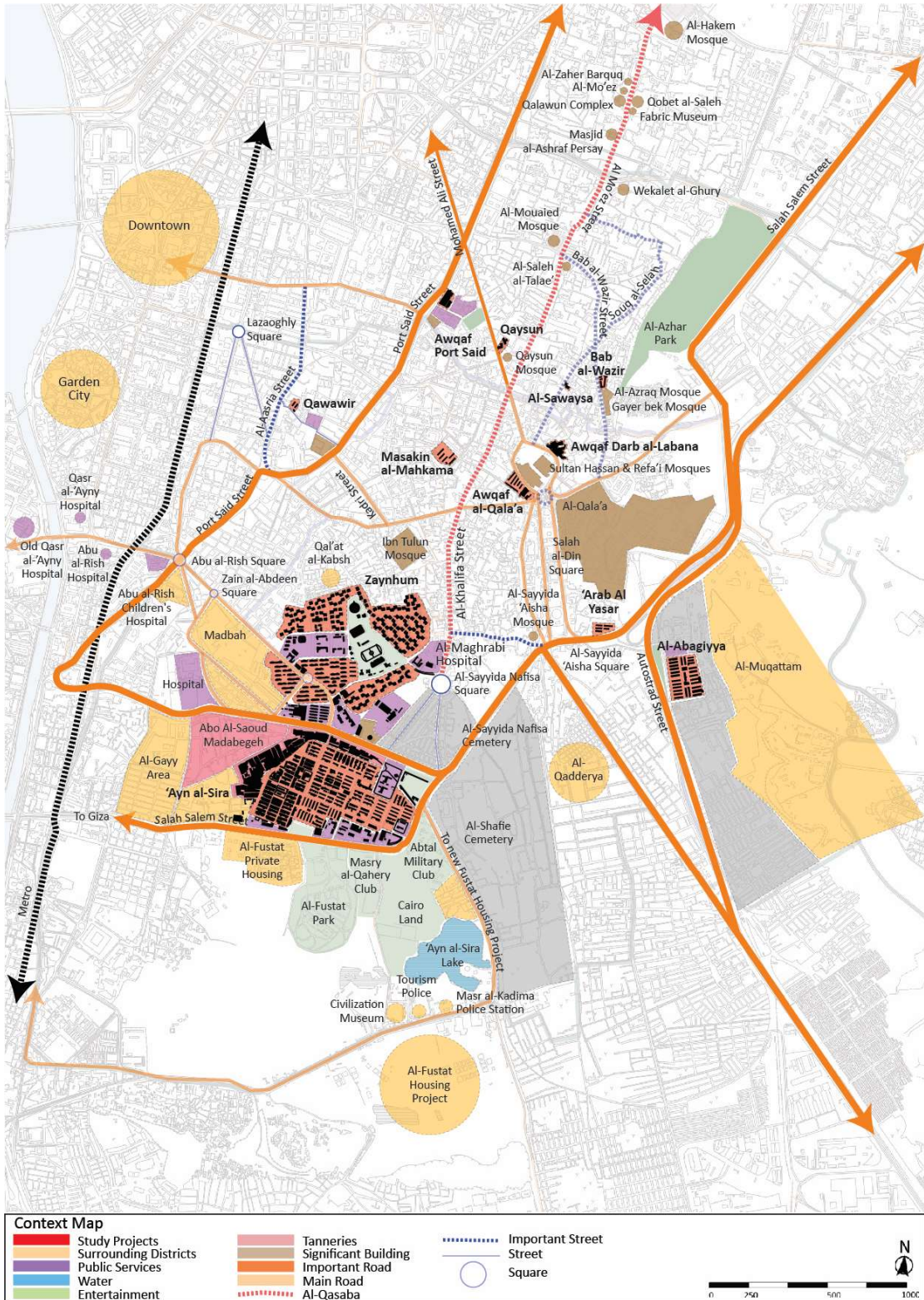
Figure 5 The selected projects to be studied in the context of Historic Cairo.

Blow ups

Large Groups:

Zaynhum
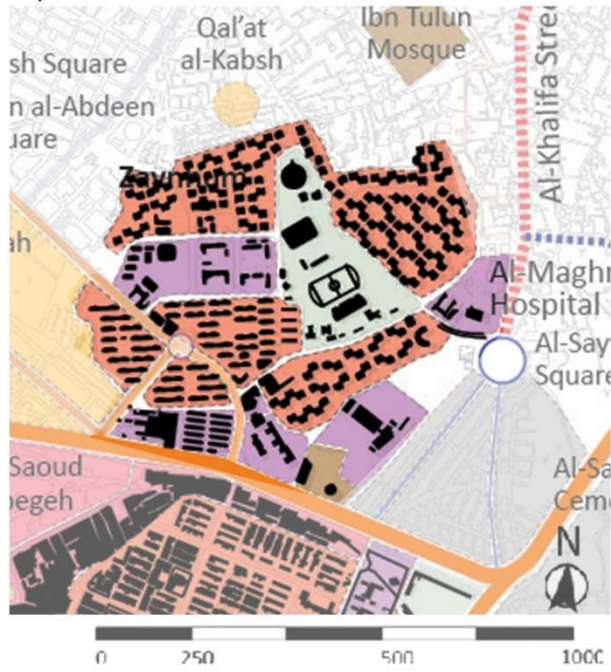
Ain al-Sira
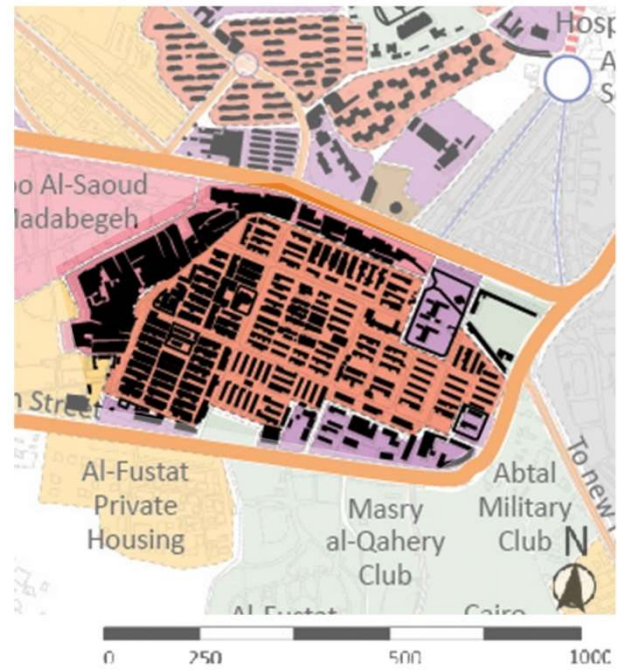
Medium Groups:

Awqaf el-Qala'a
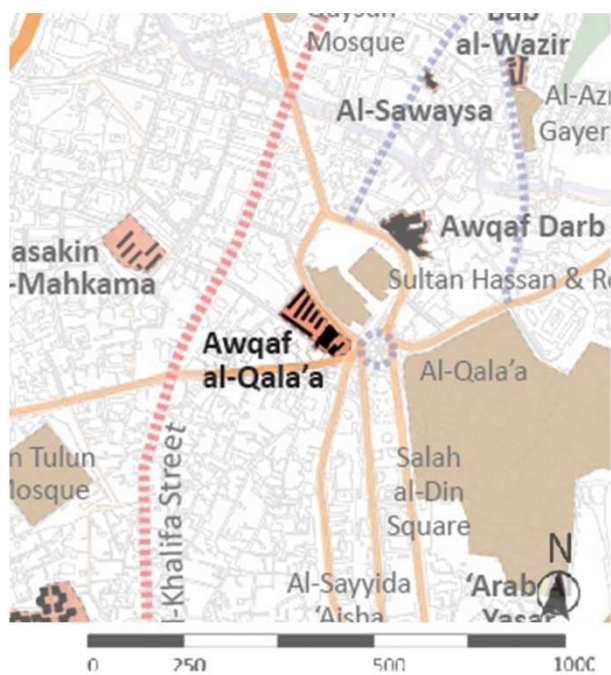
Masakin al-Mahkama
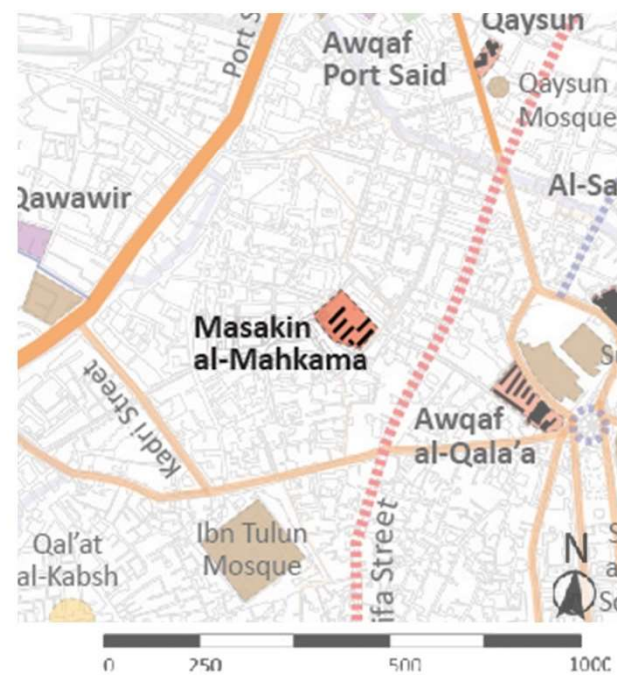
Blow ups

Medium Groups:

Al-Abagiyya

'Arab Al Yasar

Small Groups

Bab al-Wazir

Qaysun
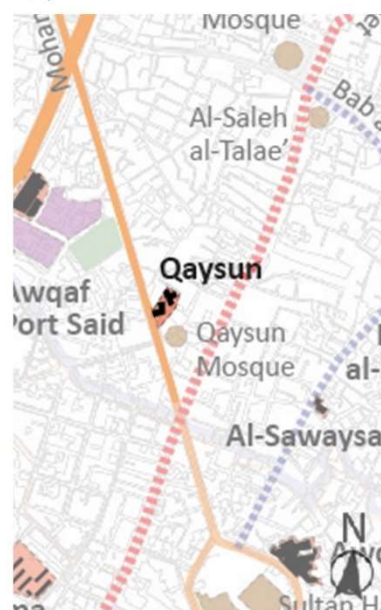
Qawawir
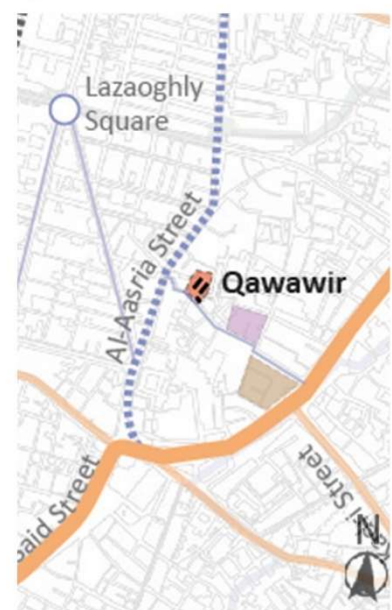
We then started developing a general taxonomy to be able to create a common comparative ground between these various projects. This taxonomy included:

- **General information**
    - Scale, population and its density
    - Administrative information (management and ownership)
- **Relation to context**
    - Accessibility and mobility
    - Age and history
    - Ground floor activities and surrounding services
- **Buildings**
    - Typology
    - Conditions
- **Open spaces**
    - Typology
    - Conditions
- **Elimination**

A.   General information about the projects

Some basic information on the projects such as their scale, population and density and management and ownership should first be highlighted.

1. Scale, population and its density

Awqaf Port Said
- 4.342km
- ??
- 95%
- 05%
- 3.387Km

Masakin al-Mahkama
- 9.732km
- 648
- 20.7%
- 79.3%
- 66.6p/km
- 1.65Km

Qawawir
- 1.315km
- 160
- 44%
- 56%
- 123 p/km
- 7.08Km

Zaynhum
- 364.7km
- 9,824
- 27%
- 73%
- 26.9 p/km
- 19.085Km

Tilal Zaynhum
- 72.48km
- 5,812
- 15%
- 85%
- 80 p/km
- 2.525Km

'Ayn al-Sira
- 416.8km
- 32,000
- 33%
- 67%
- 76.7 p/km
- 171.27Km

Masakin Qaysun
- 8.53km
- 200
- 74%
- 26%
- 23.4 p/km
- 1.205Km

Al-Sawaysa
- 0.268km
- 140
- 17%
- 83%
- 5.22 p/km
- 0.224Km

Masakin Bab al-Wazir
- 2.07km
- 256
- 49%
- 51%
- 123.6 p/km
- 1.371Km

Masakin al-Awqaf
- 8.53km
- 832
- 26%
- 74%
- 97.5 p/km
- 2.827Km

Al-Abagiyya
- 38.38km
- 1,320
- 48%
- 52%
- 34.4 p/km
- 12.99Km

'Arab al-Yasar
- 6.436km
- 560
- 25%
- 75%
- 87 p/km
- 1.285Km

Project Info
- Area
- Housing Projects
- Population
- B. Denisty
- Open Spaces Density
- Population Density
- Footprint
- Project Action Area
- Project Buffer Zone
- Adminstrative Boundries

N

0 250 500 1000

Figure 6 Scale, Population and its density map.

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The scale of the projects included[1]:

- Overall area of the land.
- Number of units.
- Footprint of the buildings.
- Total built up area.

As the map in Figure 8 shows with regards to scale, the largest project regarding the plot area is 'Ayn al-Sira followed by Zaynhum's three stages. The largest project in terms of open spaces is Zaynhum, compared to 'Ayn al-Sira which occupies a large built up area. The other projects are relatively small in size and are mostly composed of a few buildings such as Qawawir and Bab al-Wazir. Al-Abagiyya is one the medium scale projects that has more than 50% open spaces.

In terms of population, 'Ayn al-Sira is the most populated amongst the studied projects with almost 32,000 people living in a relative density over 75%. Zaynhum, which is a relatively large-scale project, is very low in terms of density and population. Telal Zaynhum, however, is one of the most densely populated medium scaled projects when compared to al-Abagiyya.

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[1] This information was mainly calculated in reference to satellite images traced using a computer.

2.   Administrative information

Awqaf Port Said
- Ministry of Endowments (Ownership)
- Ministry of Endowments (Construction)
- Ministry of Endowments (Control)

Masakin al-Mahkama
- Minstry of Housing (Ownership)
- Privat Sector (Al-Nasr Company) (Construction)
- Inhabitants (Control)

Qawawir
- Ministry of Endowments (Ownership)
- Ministry of Endowments (Construction)
- Inhabitants (Control)

Zaynhum
- Minstry of Housing (Ownership)
- Minstry of Housing (Construction)
- Ministry of Housing (Control)

Tilal Zaynhum
- Ministry of Housing (Ownership)
- Ministry of Housing (Construction)
- Inhabitants (Control)

'Ayn al-Sira
- Ministry of Housing (Ownership)
- Ministry of Housing (Construction)
- Inhabitants (Control)

Masakin Qaysun
- Minstry of Housing (Ownership)
- Ministry of Housing (Construction)
- Inhabitants (Control)

El-Sawaysa
- Minstry of Housing (Ownership)
- Ministry of Housing (Construction)
- Ministry of Housing (Control)

Masakin Bab al-Wazir
- Ministry of Endowments (Ownership)
- Ministry of Endowments (Construction)
- Ministry of Endowments (Control)

Masakin al-Awqaf
- Ministry of Endowments (Ownership)
- Ministry of Endowments (Construction)
- Inhabitants (Control)

Al-Abagiyya
- Ministry of Housing (Ownership)
- Ministry of Housing (Construction)
- Inhabitants (Control)

'Arab al-Yasar
- Ministry of housing (Ownership)
- Minstry of Housing (Construction)
- Inhabitants - Governorate (Control)

Ownership & Control

Roles
- Ownership
- Construction
- Control

Actors
- M.O.H
- M.O.E
- Individuals
- Project Action Area
- Project Buffer Zone
- Administrative Boundries
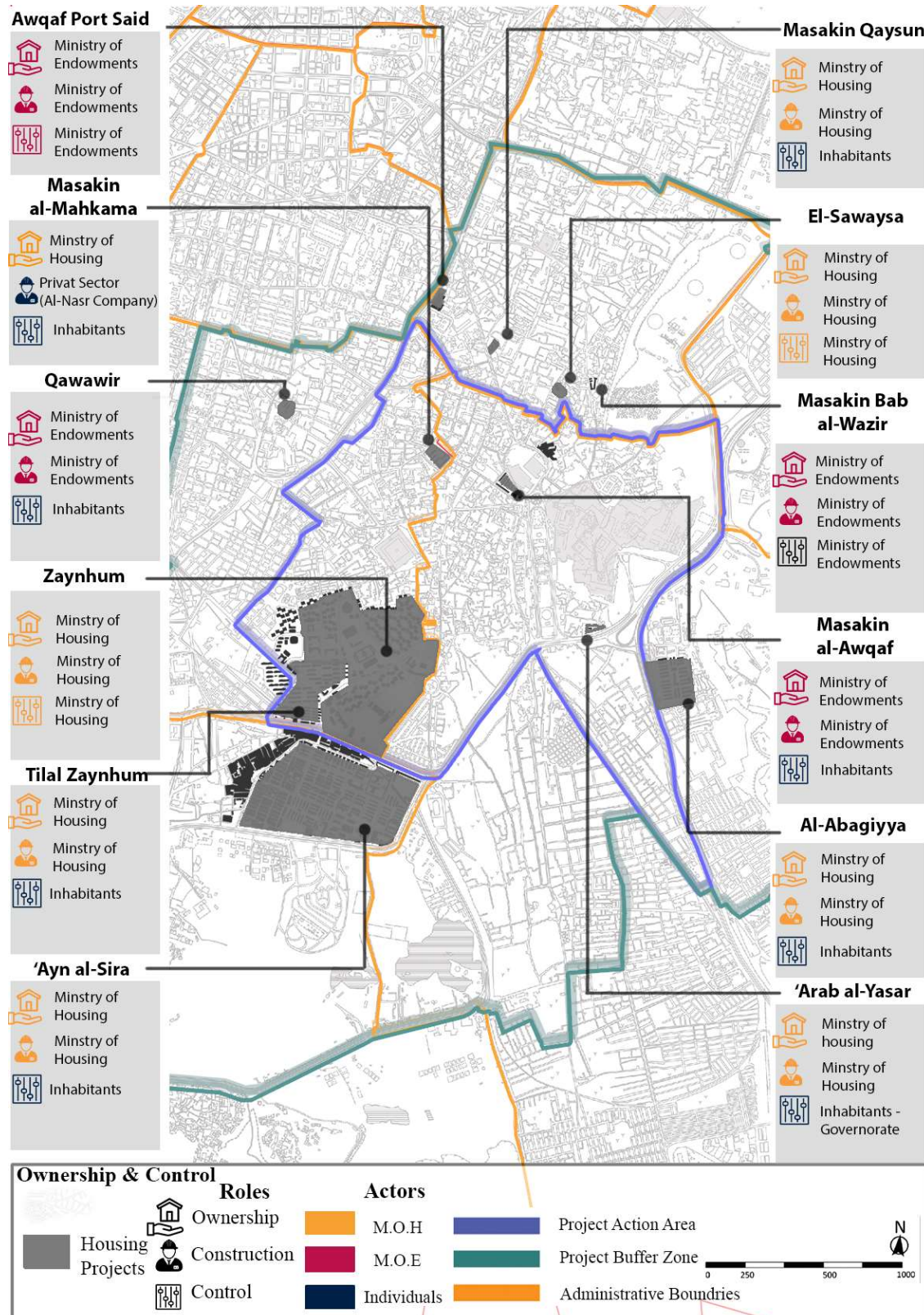
- Housing Projects

0   250   500   1000

N

Figure 7 Administrative information.

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Administrative information included:

- Which entity owns/owned the projects.
- Which entity was responsible for construction.
- Which entity controls and manages it.

In some cases, the three entities were all the same actor such as in the case of Zaynhum and Awqaf Port Said. In other cases, they are different stakeholders such as in the case of Maskin al-Mahkama, which is owned by Ministry of Housing, however, its construction was through a private contractor and it is currently managed by the inhabitants.

B.   Relation to context

In order to further understand the relation of the projects studied in the context of Historic Cairo and the rest of the city, the accessibility of each project was studied in addition to the age of each project and the story behind its existence within the fabric of Historic Cairo. The last component in this section is the study of the ground floor activities of each project in relation to the surrounding services.
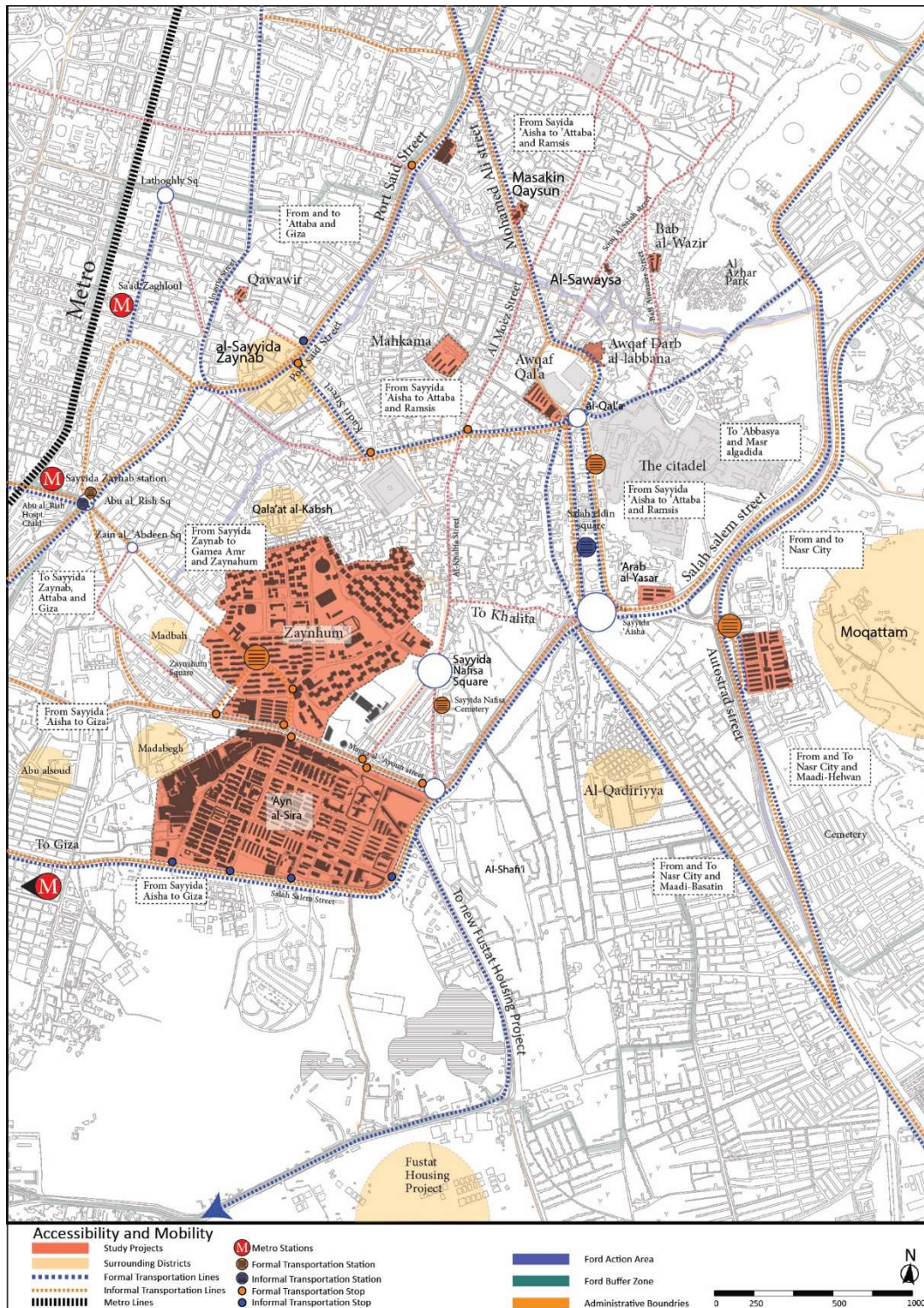
1. Accessibility and mobility


Figure 8 Accessibility and mobility.

As we can see from the map, the metro line connects projects such as Qawawir, Zaynhum and 'Ayn al-Sira to the rest of the city supported by the bus lines that go through Port Said Street. The rest of the projects are mainly accessible through Salaḥ Salim Street, whether through formal public transportation or informal transportation. For example, 'Ayn al-Sira has exact stops that are known for the residents on each of the penetrating streets passing through the project. Located between the metro line and Salaḥ Salim makes 'Ayn al-Sira one of the most accessible projects amongst the other projects. Al-Abagiyya, however, is the least

accessible as it is only accessible from the Autostrad. As for the other projects that are located in the heart of Historic Cairo, they are mainly accessible from al-Mu'iz Street and Port Said. The blow ups show pedestrian routes passing through each project to access public transportation on the main routes, or to connect to other neighbouring projects.
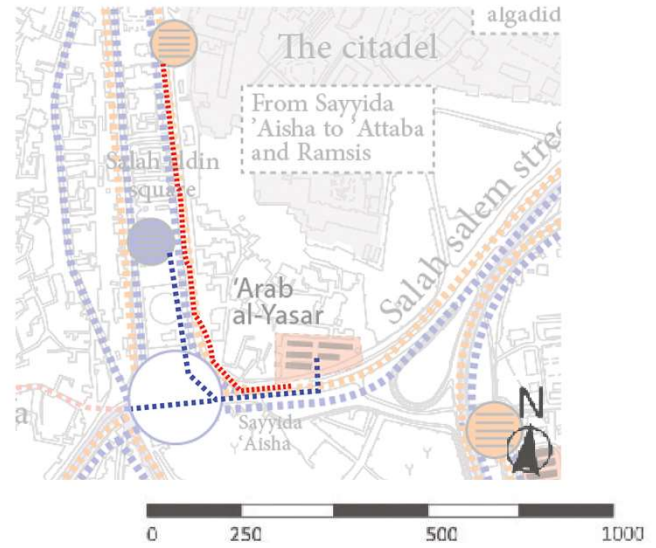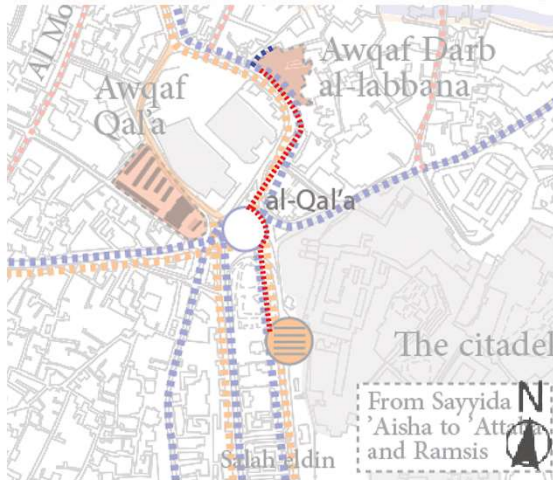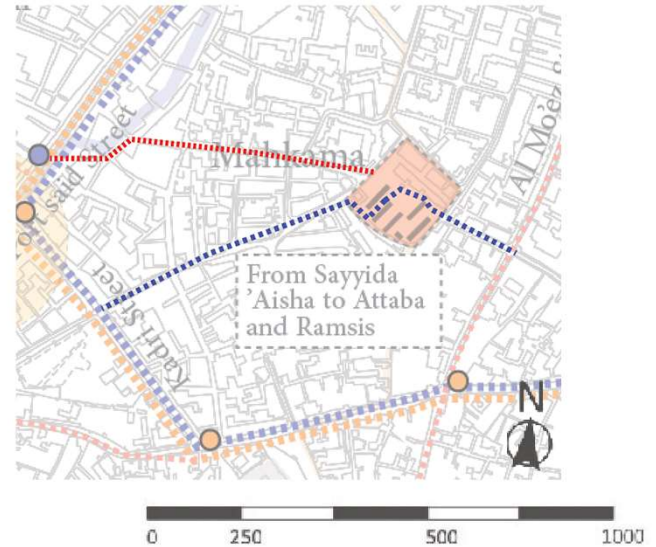

Zaynhum
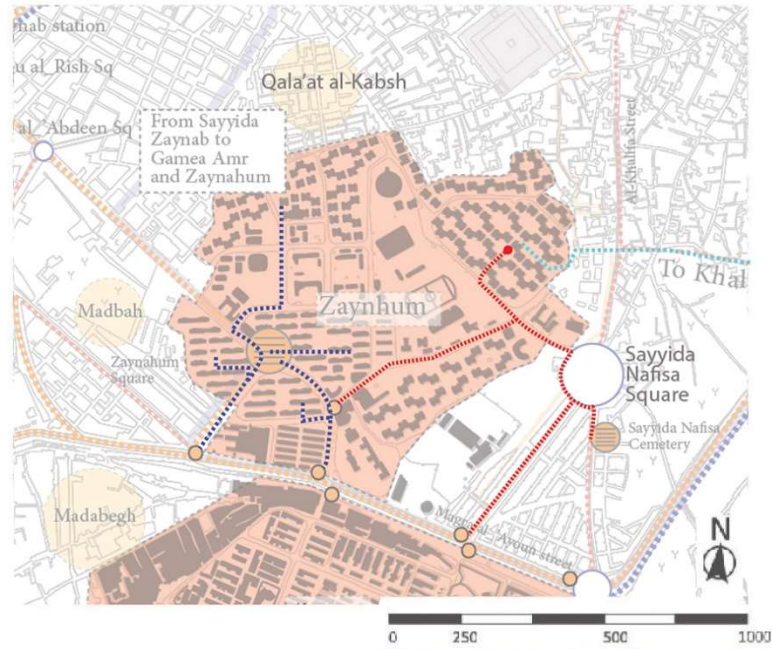
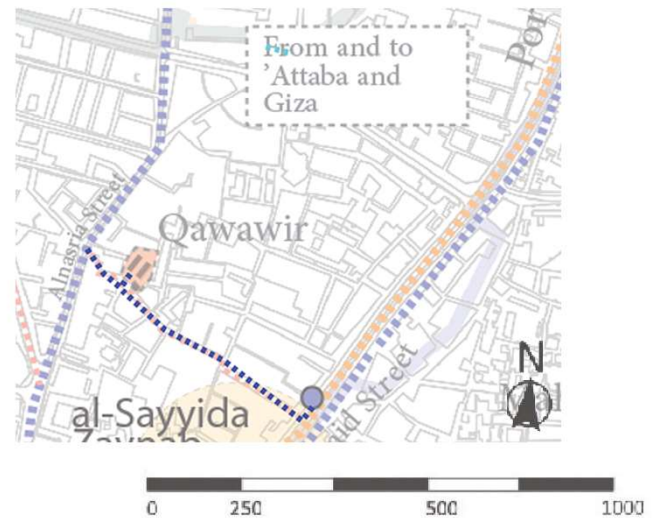Ayn' al-Sira
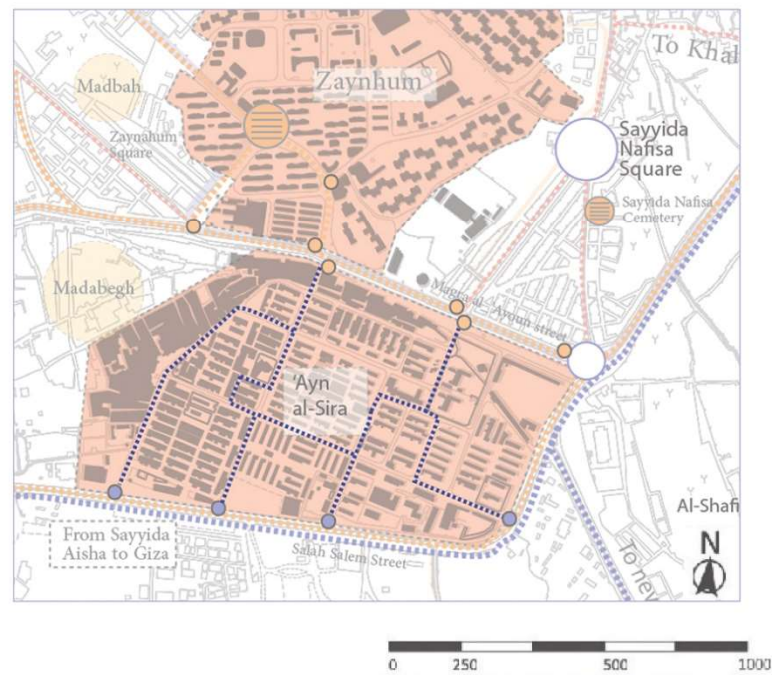
Al-Abagiyya

'Arab al-Yasar

Awqaf al-Qal'a

Masakin al-Mahkama

Bab al-Wazir and Qaysun

Qawawir

2.   Age and History

The age of each project and the story behind its existence within the fabric of Historic Cairo was traced. In the following map (Fig. 10) we overlaid the current footprint of each project on the cadastral maps of Historic Cairo in order to investigate what there was before. Through interviews with residents of each project, the stories were collected of when, how and why each project was introduced to the fabric of Historic Cairo, and whether the original fabric was demolished intentionally for the sake of the housing project or was reduced to ruins by time. These stories were presented in a timeline of the projects (Fig 11).

1
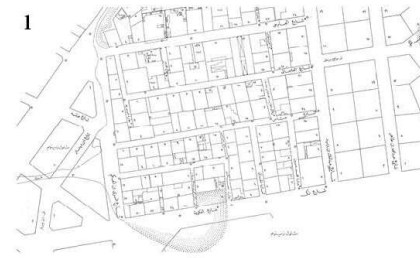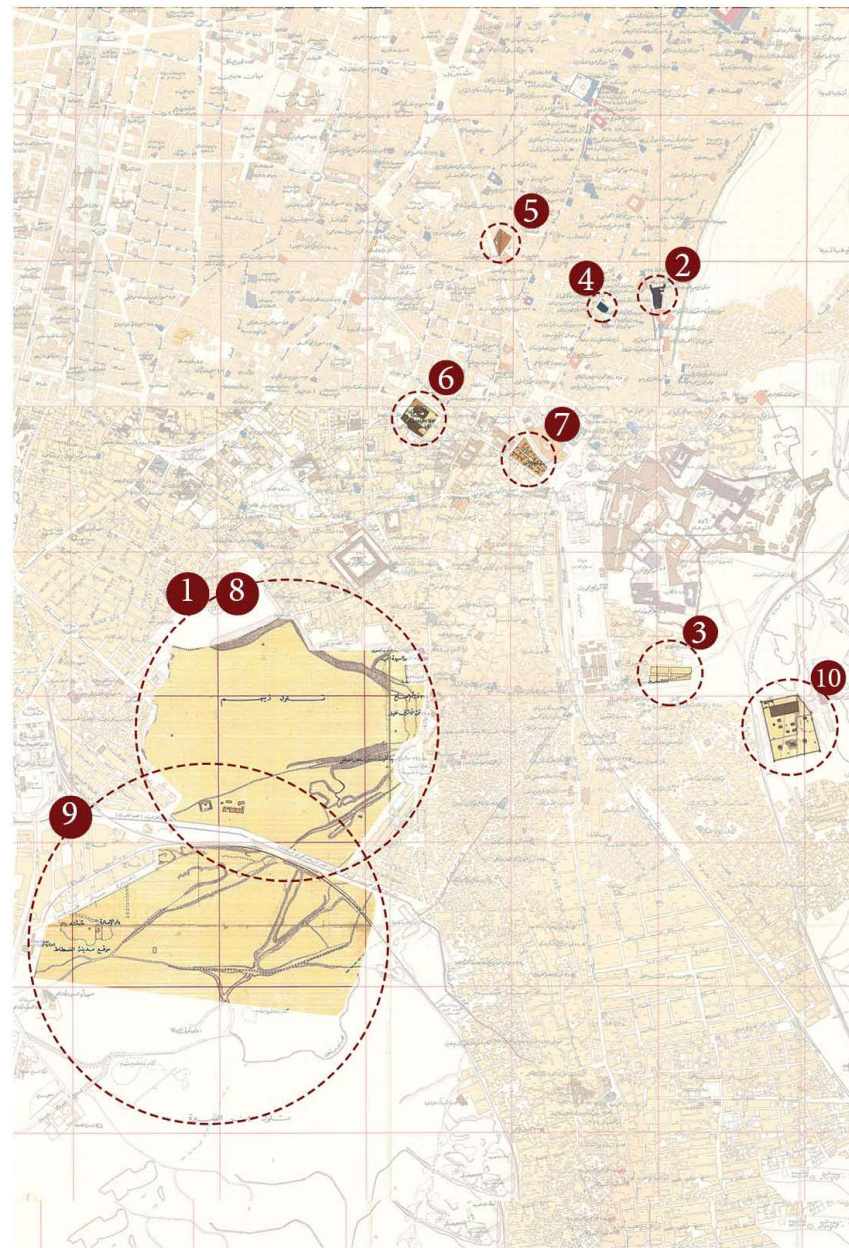
Tilal Zaynhum Housing - 1955
Built in the year 1955. The area was not a shanty town, like the new Zaynhum housing area.
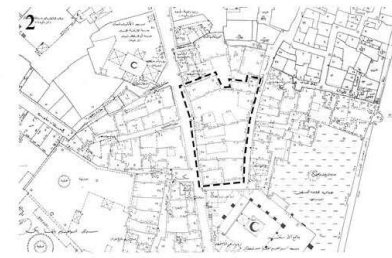
2

Bab al-Wazir - 1958
Built in the year 1958, and it was handed over to the people of the area in 1960. According to the map, the houses were built on the house of Ibrahim Agha. 'Alwi Hafez from the Free Officers was the person who helped convince the Awqaf to build the area.
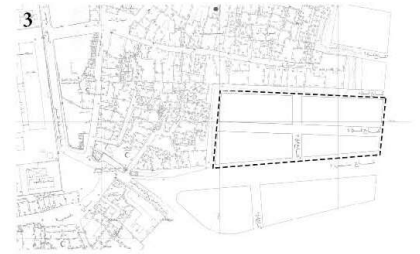
3

'Arab Al Yasar - 1965
Built in 1965 under the era of Gamal Abdel Nasser. The area was an abandoned mountain next to the tombs, and was established to accommodate the inhabitants from the destroyed houses in Old Kharta.
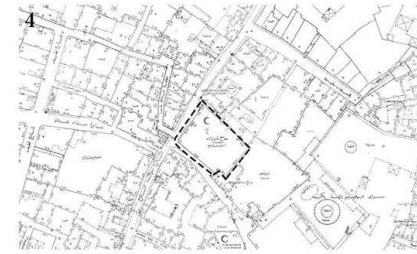
4

Al-Sawaysa Building - 1967
Built after the 1967 war to accommodate inhabitants coming from Suez to Cairo to settle after the war. According to the map, it was built in place of the Prince Sodon school building.
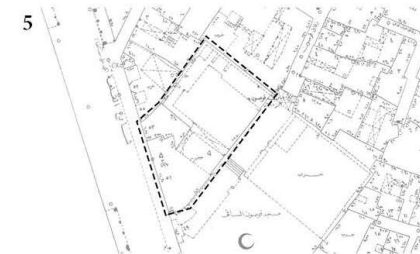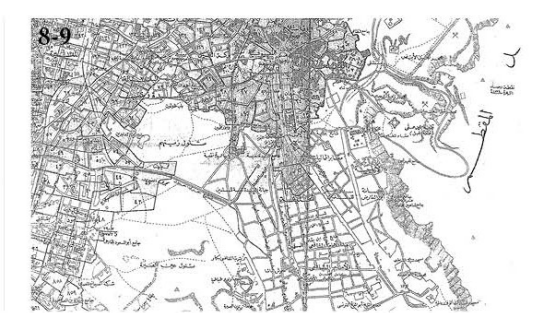
5

Qaysun - 1969
Built in the era of Abdel Nasser on the demolished part of the Qaysun Mosque during the era of Khedive Ismail to establish Mohamed Ali Street. Also, it was established after the war to accommodate the number of immigrants coming from Suez to Cairo.
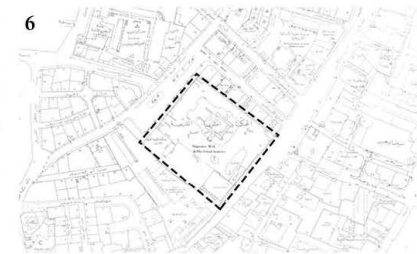
6

Masakin al-Mahkama - 1970
Built after the demolition of an arbitrator called the Supreme Court of Legitmacy. IIt was built by Al-Nasr Company for the Ministry of Endowments in 1965-1970.
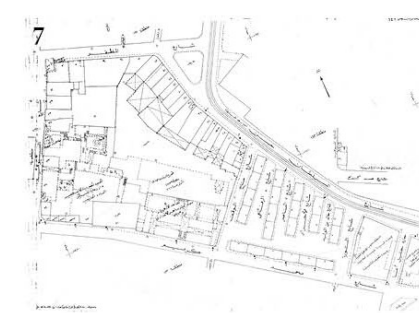
7

Awqaf Housing project - 1955
Built in 1952 under the regime of Gamal Abdel Nasser and Ali Al-Baqouri, the minister of Awqaf. Then It was then inhabited by members of the circus who also used the space to perform in it.

10- Al-Abagiyya - 1962
Built in the era of Abdel Nasser, and settlements began in 1964. The area was an old camp for the English Army, and after the English exodus it was built to accommodate the inhabitants coming from the old Abagiyya area.

8-9

'Ayn al-Sira - 1959
Built in the era of Abdel Nasser. The aim of building this housing was to end the problems of population congestion in the heart of Historical Cairo by pushing residents to the outskirts of the city. The old area was the hills of 'Ayn al-Sira before it turned into houses.

Zaynahum housing - 1999
It was built in three stages; the first stage started in 1999, the second and third stages started and were completed in 2003 and the people moved in. The area was a shanty town in the past, and became a place for people who were affected by disaster. In the era of Hosni Mubarak, they were transferred to other areas until this area was completed, and then they returned back after the housing phases was accomplished

Figure 9 History and age.

3. Ground floor activities and surrounding services

To further understand the relation of the projects with the surrounding areas, the services surrounding each project were mapped. In the large view map (Fig. 10), we highlighted the main services that exist on a large scale and serve more than one project, such as al-Madabh and al-Madabigh between Zaynhum and 'Ayn al-Sira, or the schools and hospitals surrounding Zaynhum. The blow-ups in (Fig. 12) show that the main ground floor activities in most of the projects are mainly residential, except for projects such as Zaynhum, 'Ayn al-Sira and al-Abagiyya which are mainly commercial and mixed with workshops.
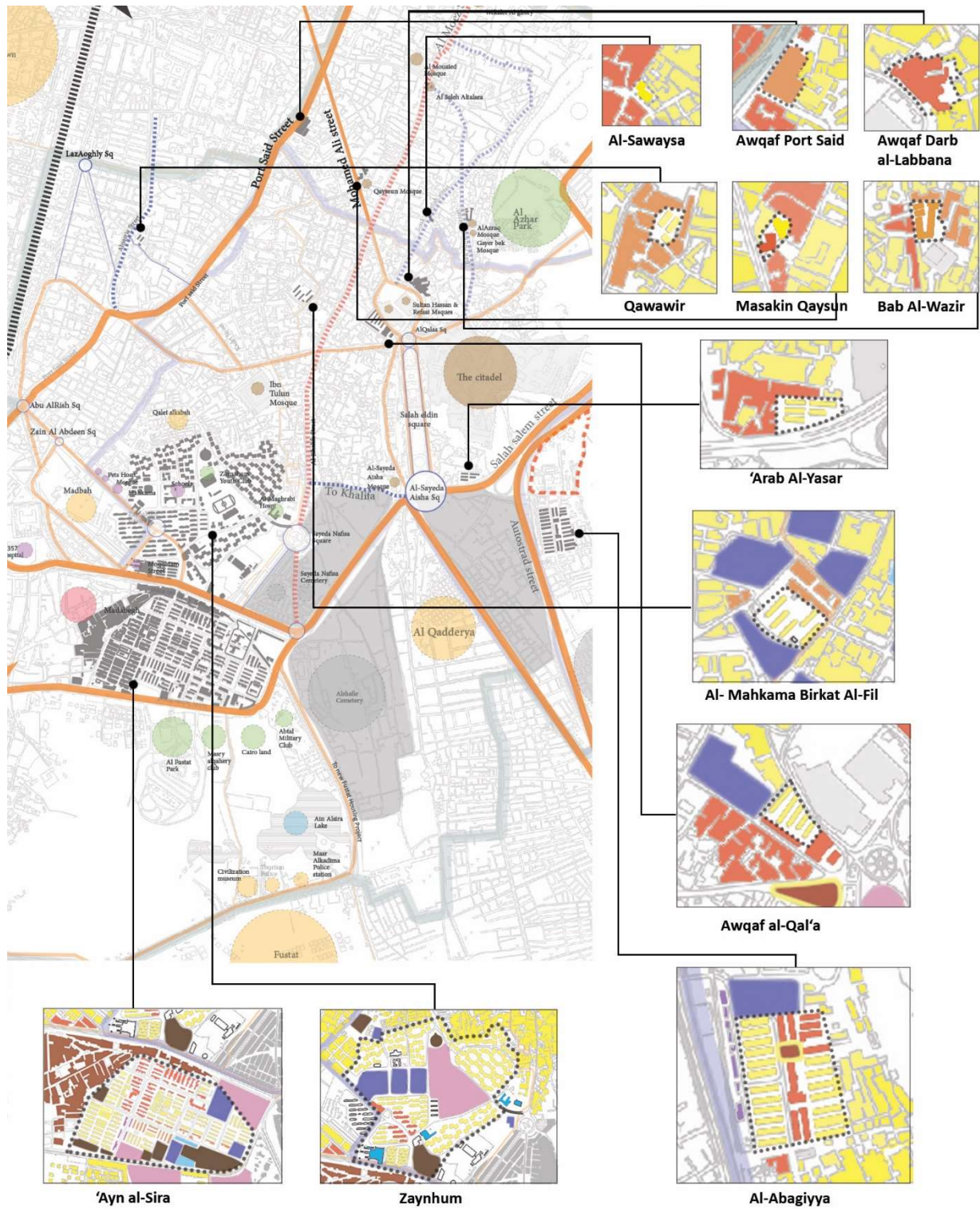
Figure 10 Ground floor activities and surrounding services.

Maps shown with labels: Al-Sawaysa, Awqaf Port Said, Awqaf Darb al-Labbana, Qawawir, Masakin Qaysun, Bab Al-Wazir, 'Arab Al-Yasar, Al-Mahkama Birkat Al-Fil, Awqaf al-Qal'a, 'Ayn al-Sira, Zaynhum, Al-Abagiyya

Ground floor Activities & Services

Legend	
Educational	Residential
Administrative	Commercial
Security	Workshops
Entertainment	Mixed uses
Services	Cemetery

- Project action area
- Project buffer zone
- Administrative boundries

N

0   250   500   1000

The blow-ups in Figure 10 also show the services in direct proximity with each project. We can clearly see from the zoom-ins that more diverse kinds of services exist within and around projects such as 'Ayn al-Sira and Zaynhum when compared to other projects such al-Abagiyya and al-Awqaf, which are mainly surrounded by either administrative or mixed-use services that combine residential and commercial uses.

C. Buildings

After the overall view of the projects and its relation to the city, we move to focus on the buildings. In order to gain an overview of the projects as a whole in comparison to one another, we will only focus on the buildings from the exterior and not from the unit design.
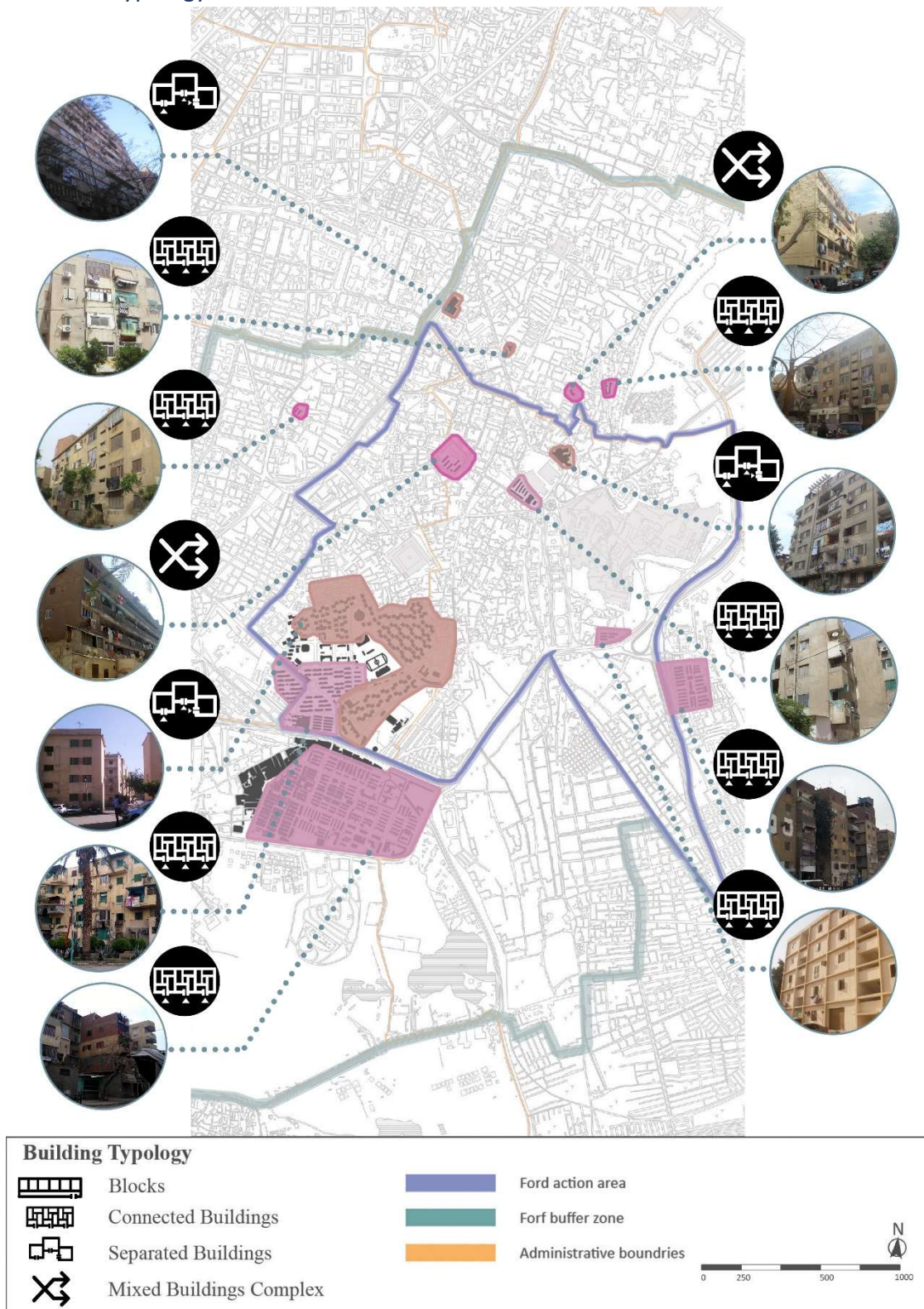
1. Typology

Figure 11 Buildings typologies.

From the preliminary walks we realized that housing projects in Historic Cairo can be categorized into certain building typologies:

| Typology	Description
Standalone walkups	These have a single entrance leading to a single vertical circulation core that leads to each apartment through the staircase landing. It does not have a shared space between the units. This typology has been adopted in recent housing projects such as the latest phases of Zaynhum.
Connected walkups	This typology looks like the housing block typology, yet it differs from it because it lacks the continuous shared space that connects the units together. It is merely multiple walkups attached together. This typology exists in 'Arab al-Yasar. It can be considered a transitioning between the block ear and the walkups.
Block typology	This is one of the oldest housing typologies worldwide. It is the dominant typology in the oldest projects in our study area, such as al-Sawaysa building and Telal Zaynhum. It is mainly characterized by the existence of a common shared space that connects the units together, and each unit can be accessed only through this shared space. It is linear and can host more than one vertical circulation core connected via a long corridor leading to the entrance of each unit.

2.   Conditions
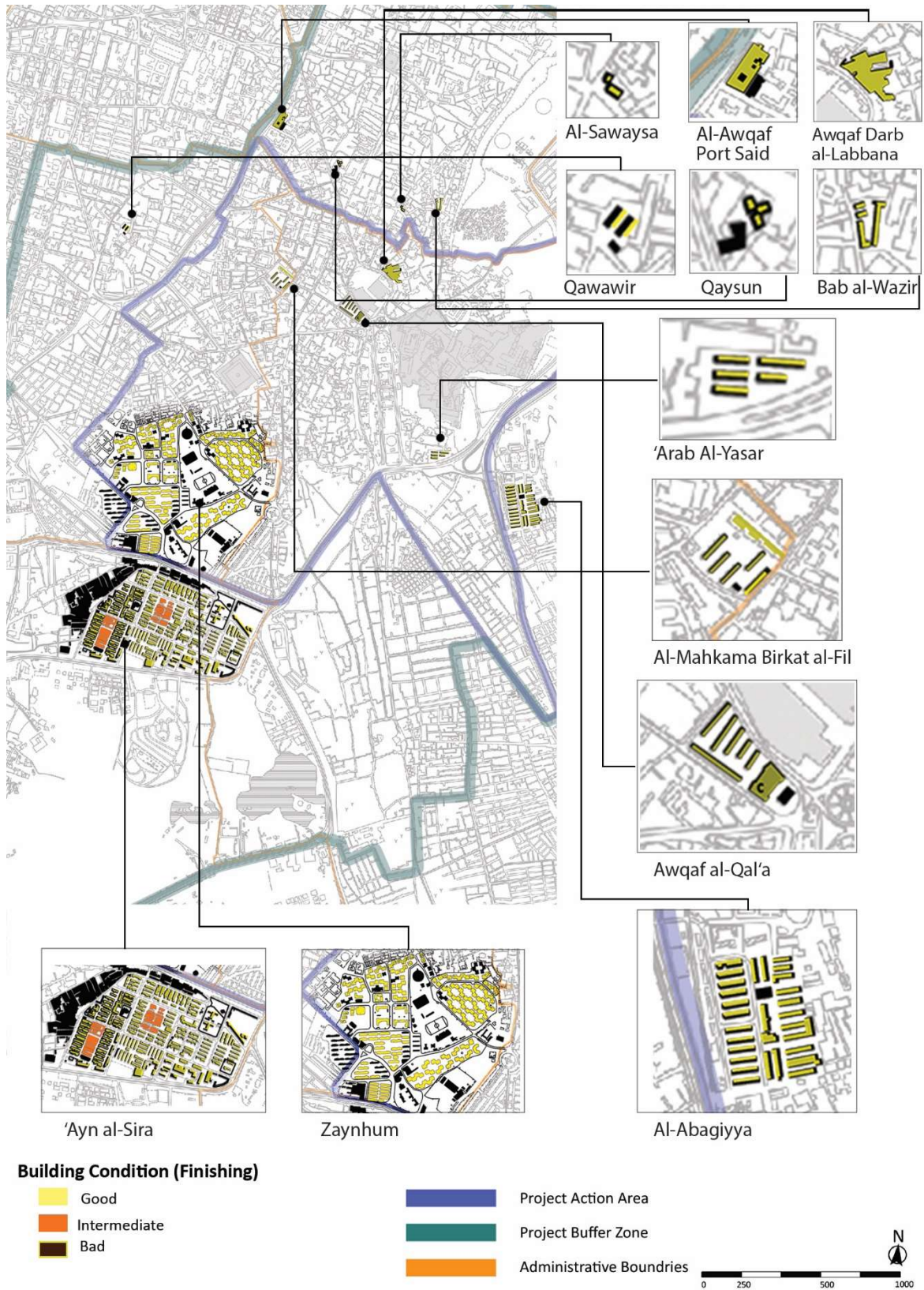
Figure 12 Buildings conditions (finishing).

Buildings conditions were evaluated across all projects as follows with regards to the finishing conditions:

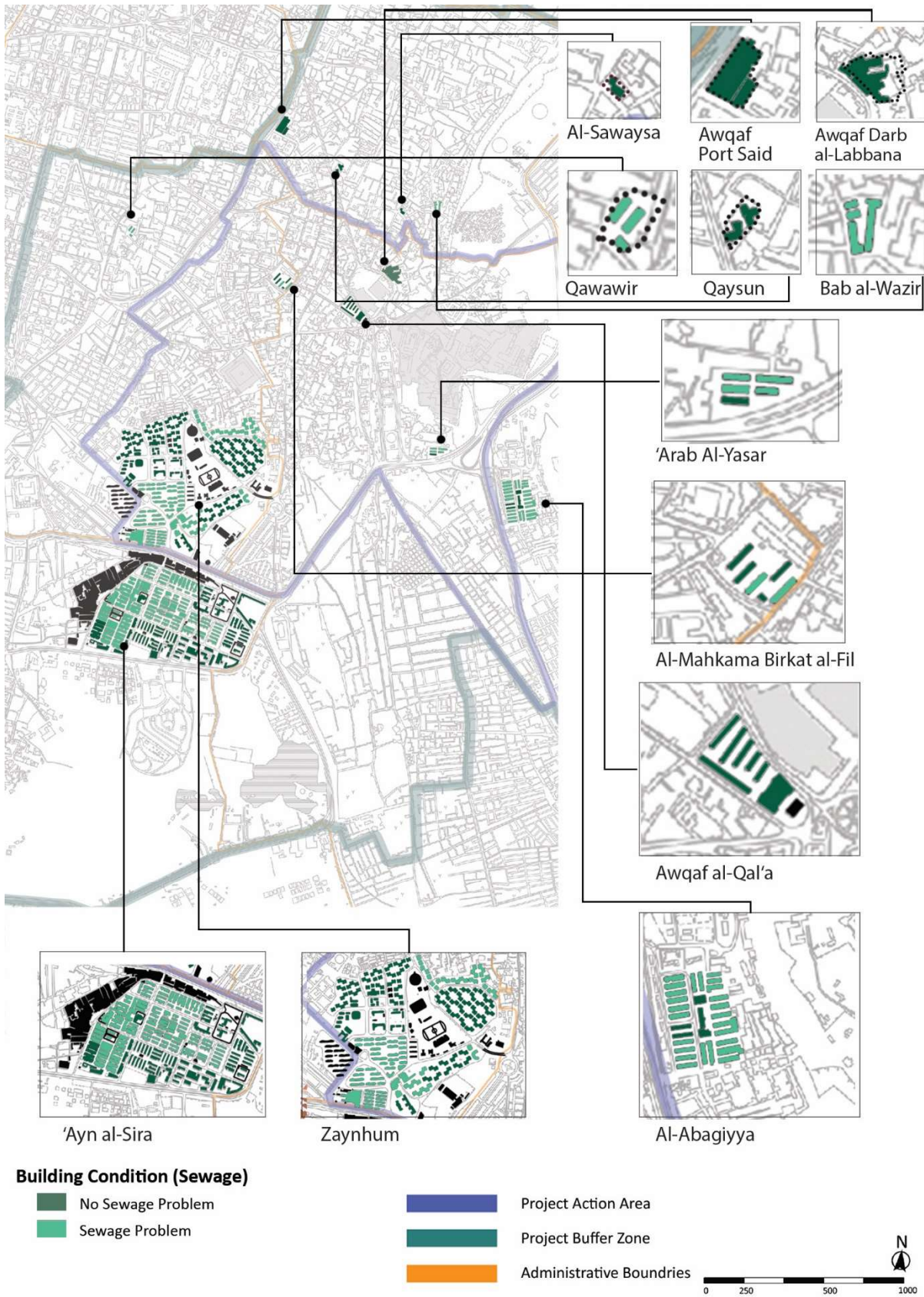| Evaluation	Criteria
Good	Buildings with properly finished facades that do not show any cracks.
Average	Buildings which have a finished facade that is deteriorating and showing cracks. Due to the limitation of the scope of the survey, we could not investigate whether these cracks are caused by moisture or structural reasons.
Bad	Buildings with facades that are not finished at all.

Al-Sawaysa

Awqaf
Port Said

Awqaf Darb
al-Labbana

Qawawir

Qaysun

Bab al-Wazir

'Arab Al-Yasar

Al-Mahkama Birkat al-Fil

Awqaf al-Qal'a

'Ayn al-Sira

Zaynhum

Al-Abagiyya

Building Condition (Sewage)

No Sewage Problem

Sewage Problem

Project Action Area

Project Buffer Zone

Administrative Boundries

N

0   250   500   1000

Figure 13 Buildings Conditions (sewage).

35

The building conditions were evaluated regarding sewage, and this was kept simple due to the limited scope of the study and the large number of buildings that will not allow us to investigate the scale of the sewage problem, its reasons and the depth of its impact on the structural integrity of the building.

Evaluation	Criteria
Problem	If there is an apparent problem that is affecting the appearance of the building.
No problem	There is no visible water problem affecting the appearance of the building.

D.   Open spaces

The open spaces that exist around each project and in-between the buildings were then studied in terms of their typology and conditions.

1.   Typology

A set of typologies was developed as follows covering the different types of open spaces existing in the projects:

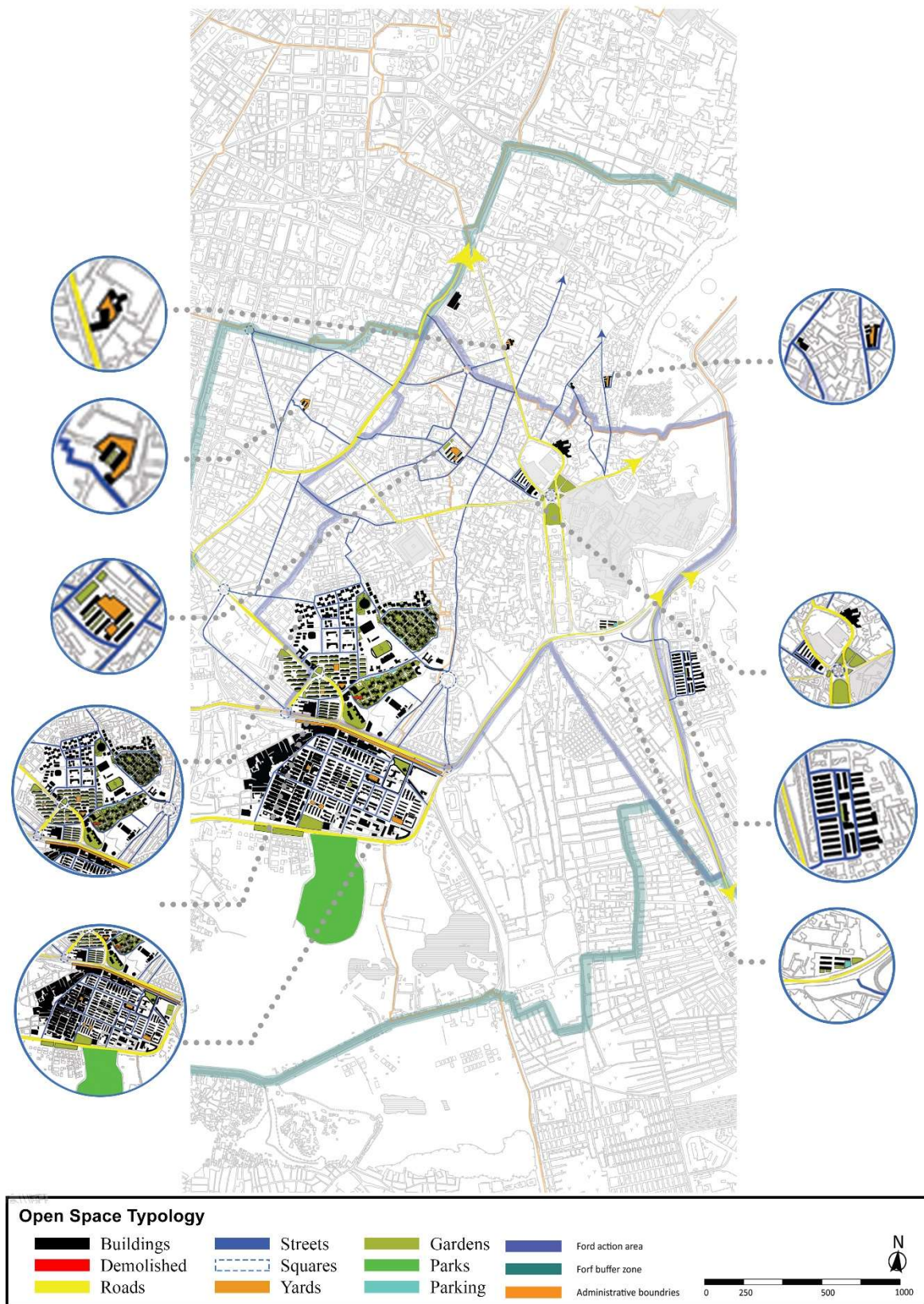| Typology	Description
Roads	The main routes that surround the project area and connects it to the city where main public transportation leads to the project.
Streets	The internal streets that penetrate the project area usually used by informal transportation and pedestrians.
Squares	The public areas existing in the intersection of the main streets of the project. They are usually hardscape and are the main gathering spots.
Yards	The open spaces that exist behind the buildings. These spaces are mainly used as storage or as an extension to some commercial and industrial activities in the ground floor area.
Private gardens	Green open spaces that are privately appropriated by the ground floor residents, and that are in proximity to their apartments.
Public parks	Green areas that are publicly used by residents of the whole project or residential block, and managed by the municipality.
Parking lots	Vacant plots in-between buildings that are being appropriated by the residents to park their cars in, or are being used by others as public parking lots during daytime.

Open Space Typology

■ Buildings	■ Streets	■ Gardens	■ Ford action area	N
■ Demolished	⊟ Squares	■ Parks	■ Forf buffer zone	
■ Roads	■ Yards	■ Parking	■ Administrative boundries	0 250 500 1000

Figure 14 Open spaces typologies.

2. Conditions

The conditions of these open spaces was evaluated according to the following aspects:

- The existing greenery in the space.
- Whether solid waste exists in the space.
- Whether there are visible water problems caused by sewage or irrigation.
- Whether these spaces are paved or not.

Evaluation	Criteria
Good	This is where all the above aspects are evaluated positively in the evaluated open space.
Average	When one aspect is not present in the evaluated open space.
Bad	When all four aspects are absent in the evaluated open space.
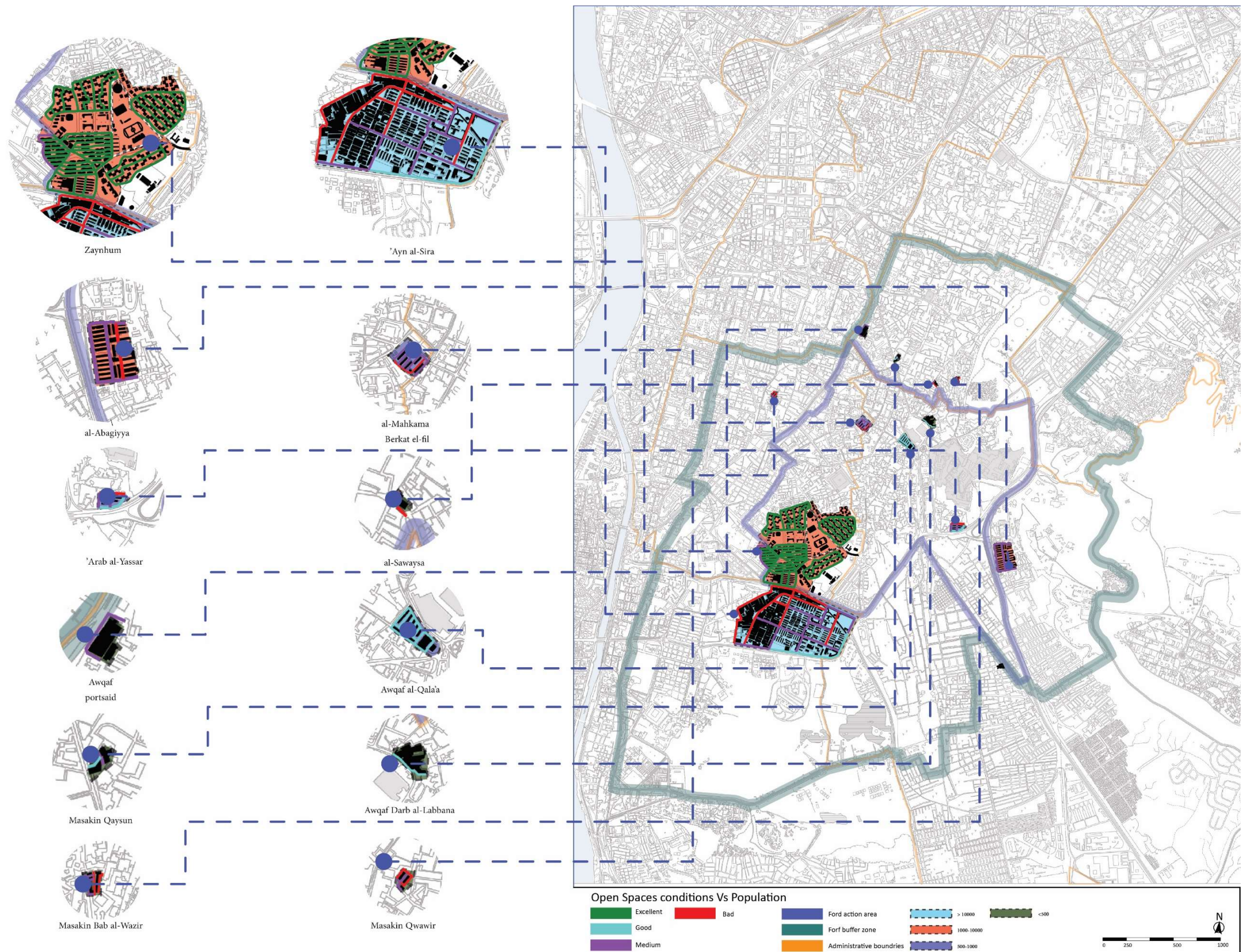
Figure 15 Open spaces typologies.

Zaynhum

'Ayn al-Sira

al-Abagiyya

al-Mahkama
Berkat el-fil

'Arab al-Yassar

al-Sawaysa

Awqaf
portsaid

Awqaf al-Qala'a

Masakin Qaysun

Awqaf Darb al-Labbana

Masakin Bab al-Wazir

Masakin Qwawir

Open Spaces conditions Vs Population

Excellent	Bad	Ford action area	>10000	<500
Good		Forf buffer zone	1000-10000	
Medium		Administrative boundries	300-1000	

N

0   250   500   1000

E. Elimination

The taxonomy phase was followed by a categorization phase where the projects were classified according to their scale and the relation of the open spaces to Historic Cairo's urban fabric.

Figure 16 Elimination diagram.

In order to further study in depth some projects, we needed to categorize them according to their scale and the relation of the open space to the urban fabric of Historic Cairo. With regards to scale, the projects were categorized as large, medium and small. Very small projects such as al-Awqaf and al-Sawaysa were eliminated.

This phase resulted in the elimination of some projects that did not include any open spaces and mainly consisted of one building. The elimination was made with the aim of increasing the depth of the study and moving towards a more qualitative criteria in the data collection.

The remaining projects to be further studied more in depth were:

1. Qaysun
2. Bab al-Wazir
3. Al-Abagiyya
4. Masakin al-Mahkama
5. Awqaf al-Qal'a
6. 'Arab al-Yasar
7. Zaynhum
8. 'Ayn al-Sira
9. Qawawir

Phase 02 A Closer Look

In this phase, more attention was paid to the open spaces rather than to the buildings. This phase starts with a study of the quality of the open spaces existing in the remaining nine projects, and then moves to the impact of the studied projects on the surrounding neighbourhoods. Its main objective was to select through these readings a case study to be studied more in depth.

A.   Quality of Open Spaces

This stage focused mainly on the quality of open spaces consisting of two main components; one is physical which is the morphology of open spaces, and the other is more qualitative which attempts to preliminary investigate the safety and security of the open spaces.

Quality of open spaces

Morphology of open spaces

Safety and security
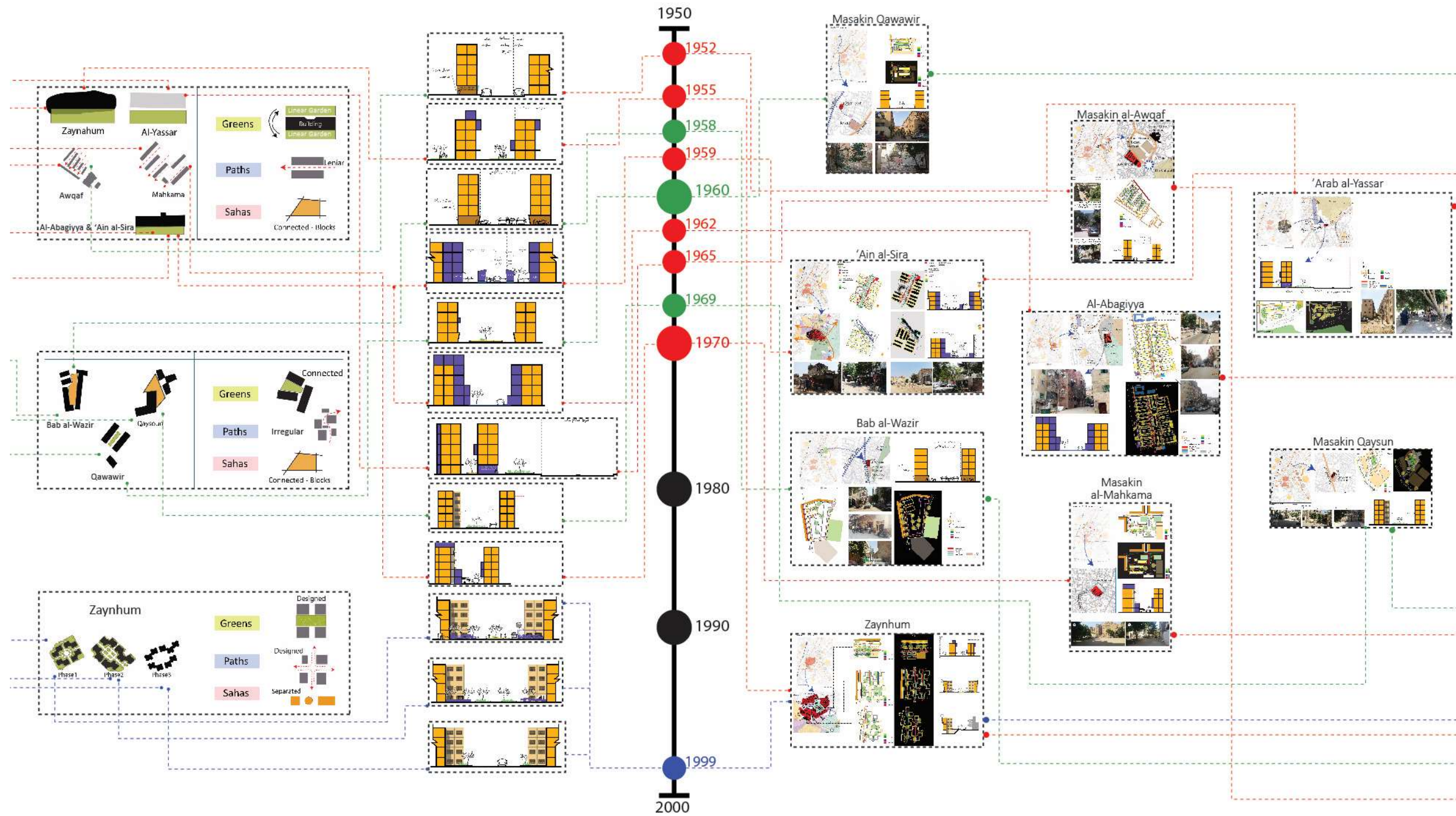
Figure 17 Quality of open spaces study flow.

1. The morphology of open spaces:

The morphology of open spaces was studied by mapping the design of the open spaces in-between the residential buildings of each project, as well as mapping how it was changed through time and with various managing entities (Fig. 18 & 19).
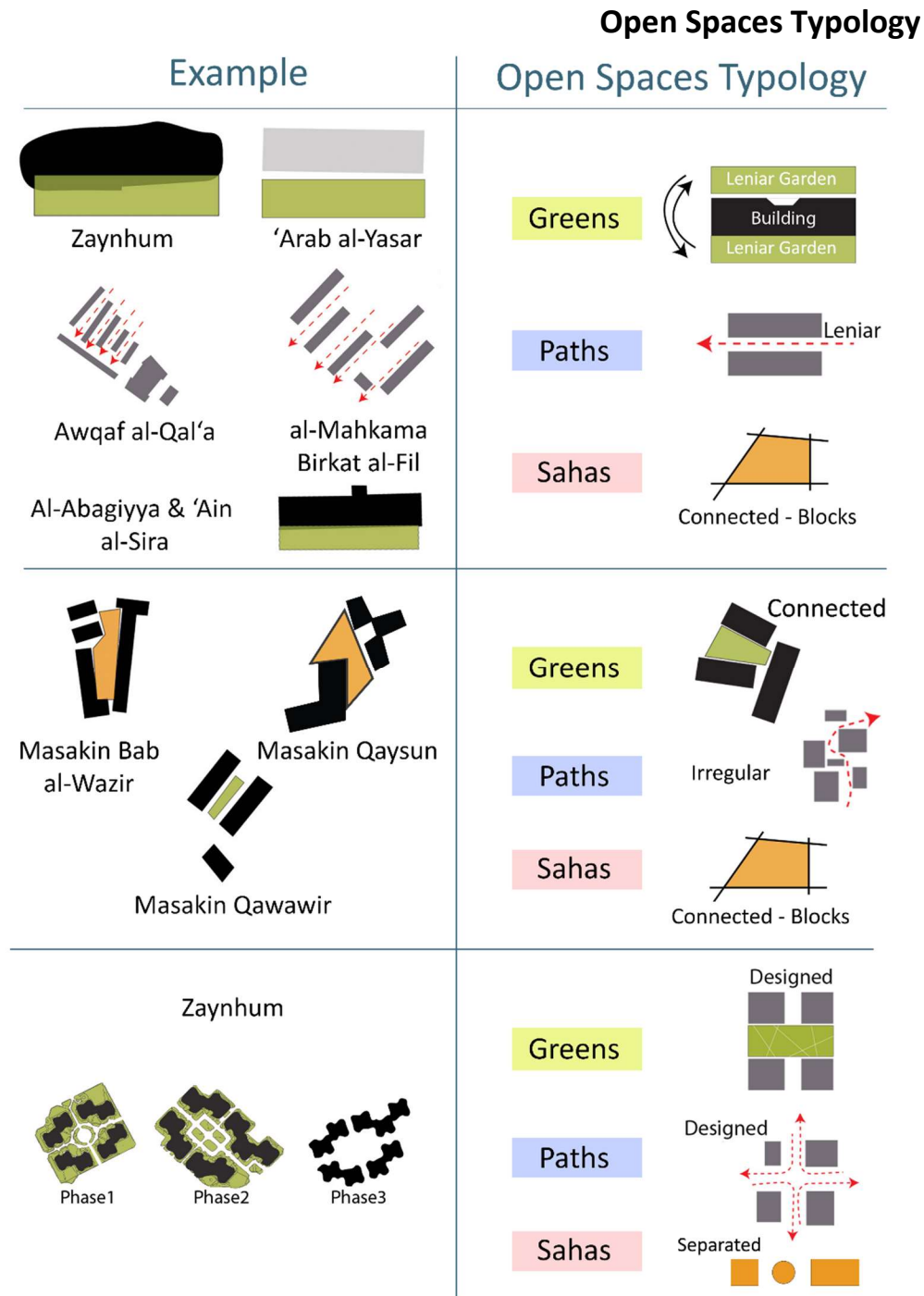
Figure 18 Morphology of open spaces.

In Figure 18, the studied projects are categorized according to the typologies of open spaces. Open spaces were dissected into different components including:

- Greens: The areas planted in each open space.
- Paths: Paved pathways mainly designed for pedestrian usage.
- *Sahas*: Gathering points which are not planted.

Through this dissection, the change in these open spaces is made visible over time. For example, Zaynhum shows more designed open spaces in comparison to older projects such as 'Ayn al-Sira.

No. of projects — M.O.E ● GOV ● P.S

1.3 Kmsq - 8.5 Kmsq

6.4 Kmsq - 317 Kmsq

4.3 Kmsq - 9.7 Kmsq

0.27 Kmsq - 38 Kmsq

233 Kmsq

6

4

2

50-60s   60s-70s   90s-2000s   Age

417 kmsq
183.5 Kmsq   6.4 Kmsq
38 kmsq
0.27 kmsq
233 kmsq
8.5 Kmsq   2.1 Kmsq
8.0 Kmsq   1.3 Kmsq
9.7 Kmsq
4.3 Kmsq

Gov. Projects scales

M.O.E Projects scales

Private Sector Projects scales

60%
40%
5%

Paths
Greens
Sahas
Paths
Sahas
Greens
Greens
Paths
Sahas

50-54   54-57   57-60   60-64   64-67   67-70   Phase1   Phase2   Phase3

Density %
40
20
5

Gvnt   M.o.E   P.S   Ownership

● Greens
● Paths
● Sahas

Figure 19 Cross analysis of the morphology of the open spaces with the ownership and control changes throughout time.

45

Afterwards, these components of open spaces were cross analyzed with the age of each project against the administrative entity that built it. This cross analysis showed that the greens occupy more of the open space in the projects built and owned by the 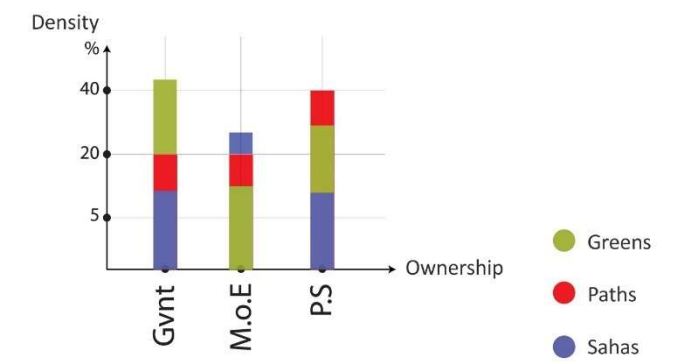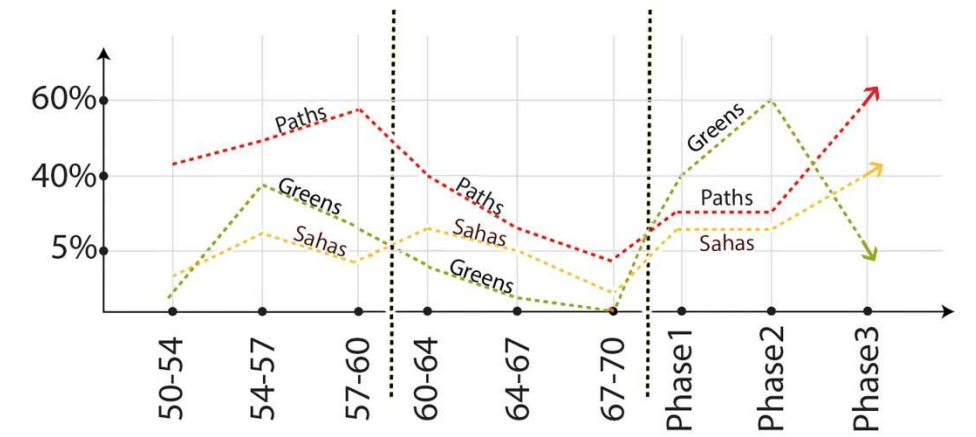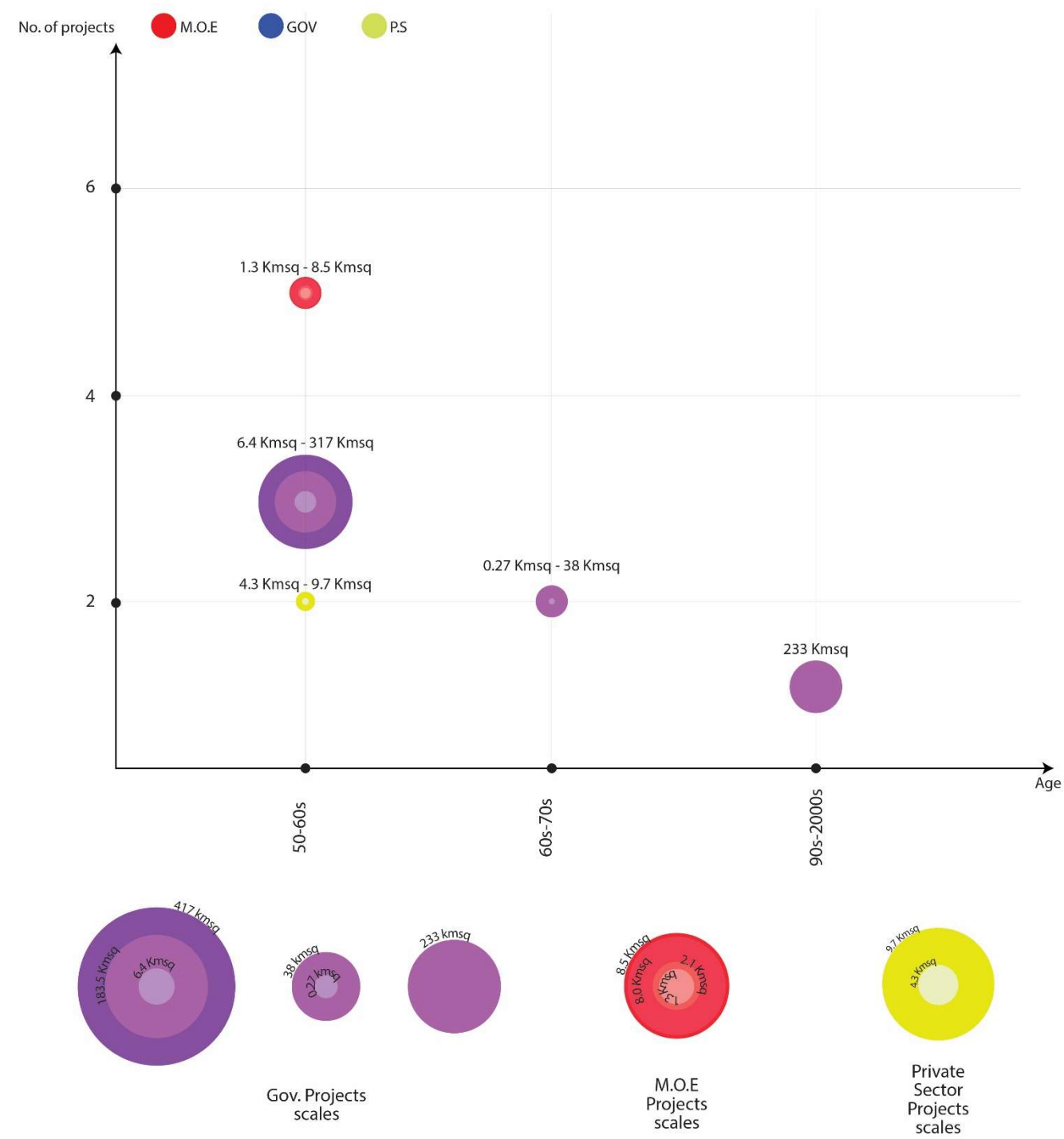Ministry of Housing (MoH), compared to the ones built by the Ministry of Endowment (MoE). In general, we realized that there was a withdrawal in building housing projects within the area around Historic Cairo (Fig. 19).

To further understand the morphology of open spaces, several sections[2] were drawn in field for different open spaces in each project. The locations of the sections were chosen according to how the nature of the open space, or its dimension, changed. The number of sections is meant to give an indication of the other open spaces that exist in the same project. This explains why projects such as Zaynhum and 'Ayn al-Sira have many sections, as they have a diversity of open spaces typology. In smaller projects such as Bab al-Wazir or Qaysun, one section was sufficient as there was only one open space that existed between the buildings of the project.

Area
Zaynhm   1st Phase
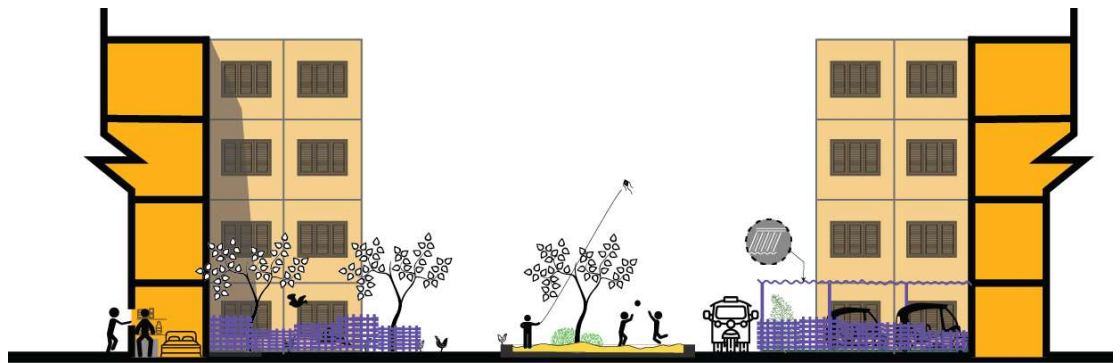
Figure 20 Different types of extensions in the open spaces (parking for tuktuks (rickshaws) - fenced private. garden. - place for breeding).

2nd Phase

Figure 21 The extensions are less than in the first phase: It is only shown in a fenced private.

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[2] These sections are built upon the assumption that the floor height is 3 meters.

3rd Phase
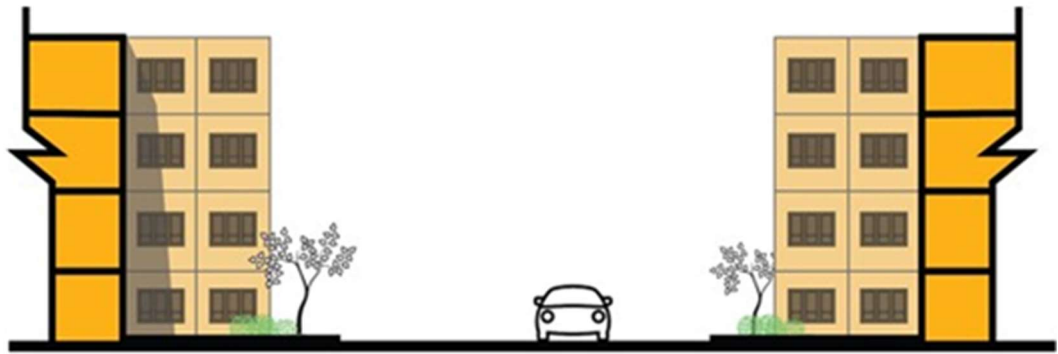
Figure 22 There are no extensions and people still keep the original design because the phase is still new.
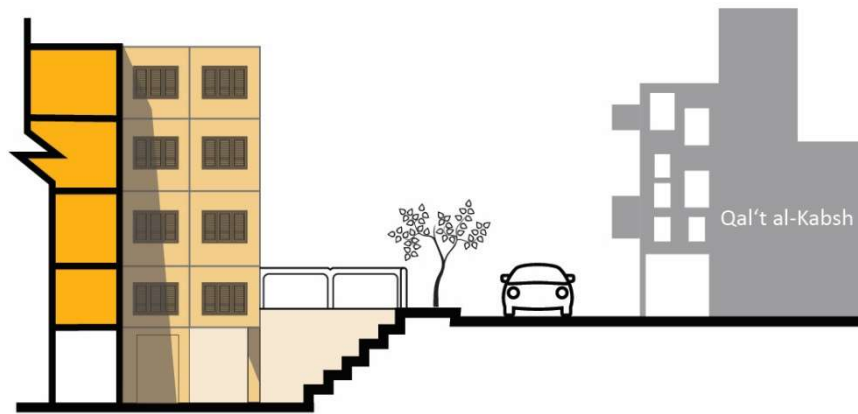
Figure 23 Another type of the third phase in relation to Qal't al-Kabsh which shows no extensions.

'Ayn al-Sira   Main Road Section
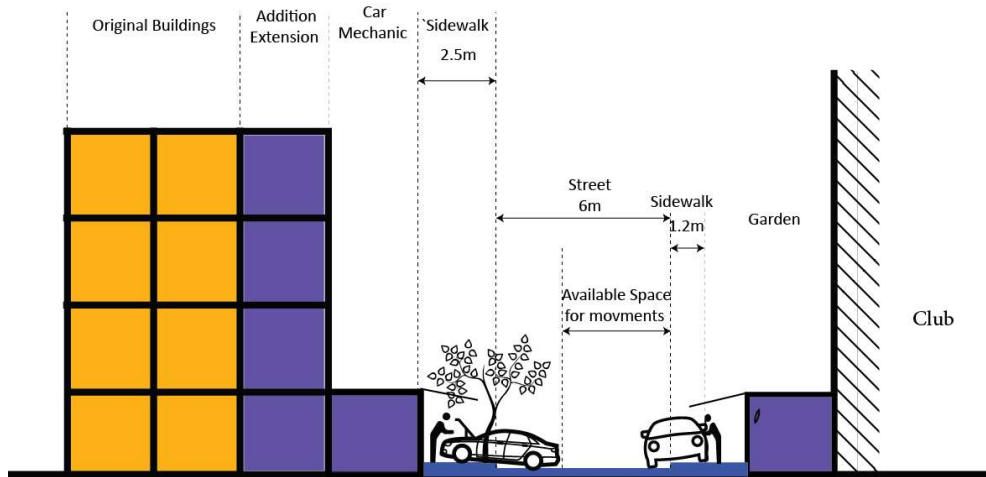
Figure 24 There are two types of extensions either on buildings and/or in open spaces: Residents of 'Ayn al-Sira expand the residential unit by adding extra rooms due to the small size of the apartment and the fact that the ground floor is occupied by car repairing workshops which use the front space.
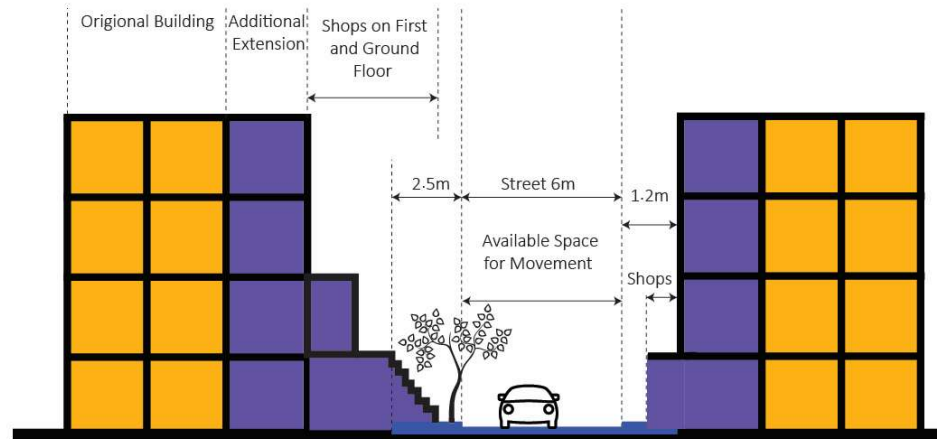
Figure 25 The extent of extension of the buildings in an old area such as 'Ayn al-Sira reached the extent of adding a whole strip to the buildings from both sides of the passage, leaving just enough room for a small sidewalk in front of the shops.
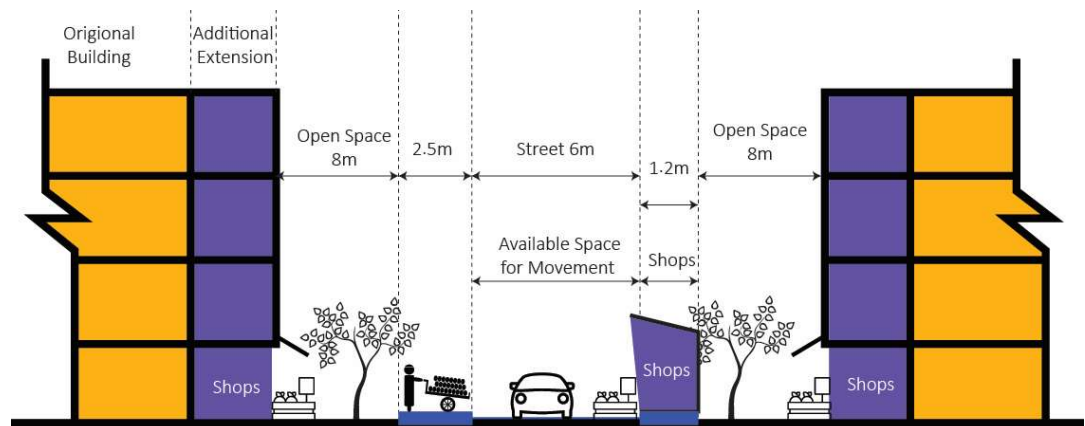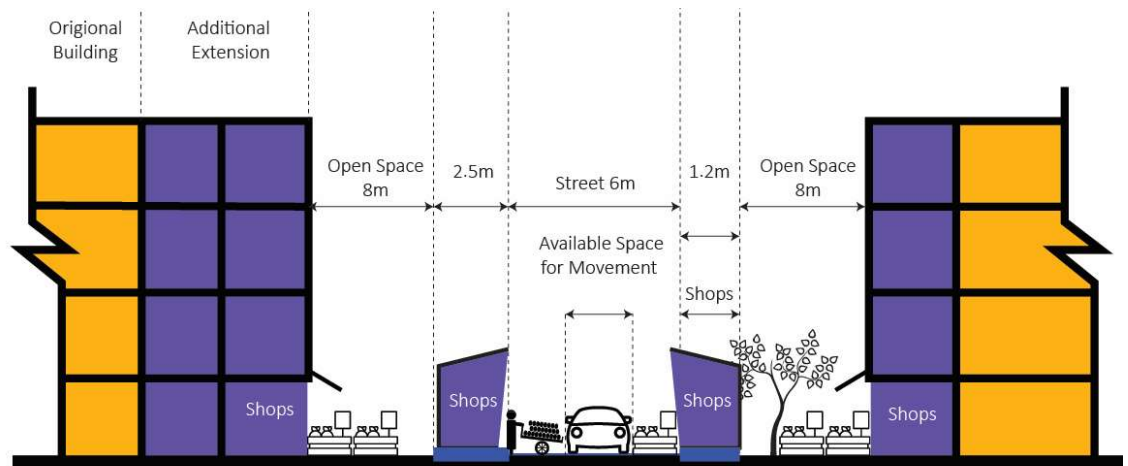
Figure 26 The extent of extension of the open spaces in an old area such as 'Ayn al-Sira.

Al-
Abagiyy
a
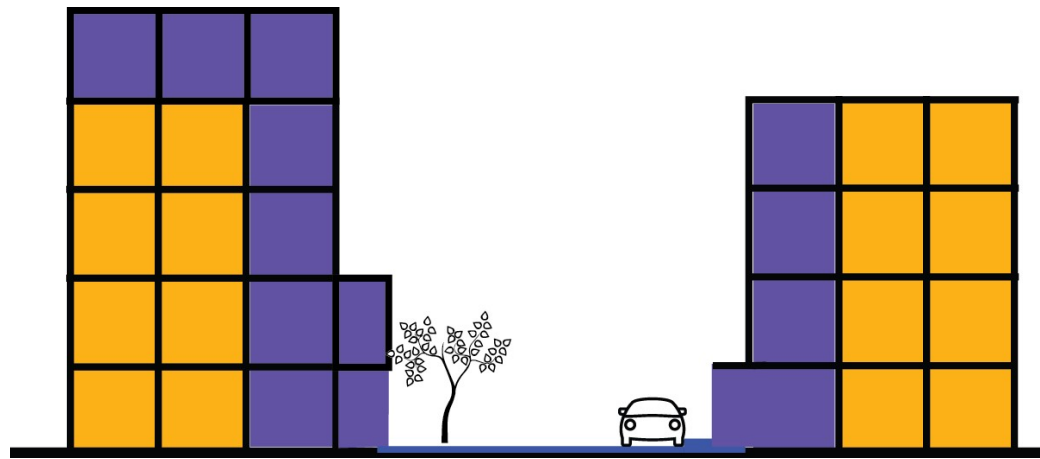
Figure 26 This section shows the amount of extensions on the building in al-Abagiyya as it is one of the oldest housing projects in the area of this study.

Masakin
Al-
Mahka
ma

Figure 27 This section shows that the extensions on the buildings in Masakin al-Mahkama are limited to minor additions to the ground floor, or protrusions to the balconies or make-shifts on the roof.

Masakin
Bab al-
Wazir
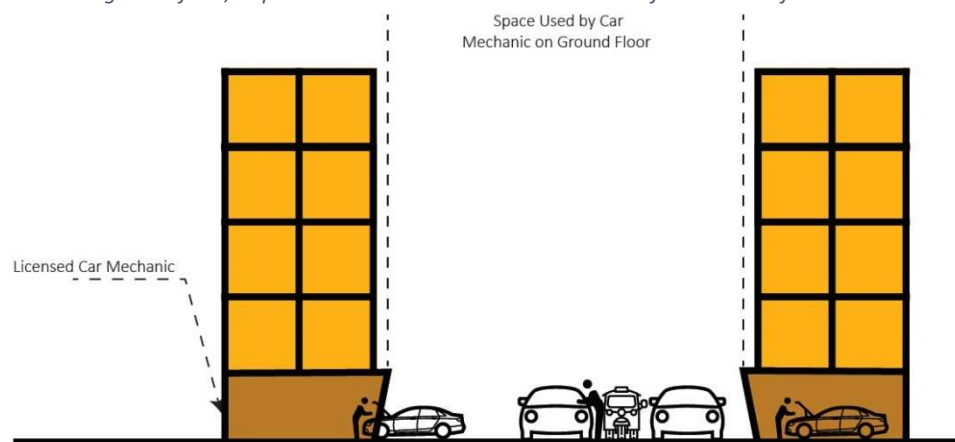
Figure 28 There are no extensions in Masakin Bab al-Wazir except for mechanical workshops on the ground floor that use public space without leaving space for pedestrians.

Masakin
Qawawi
r
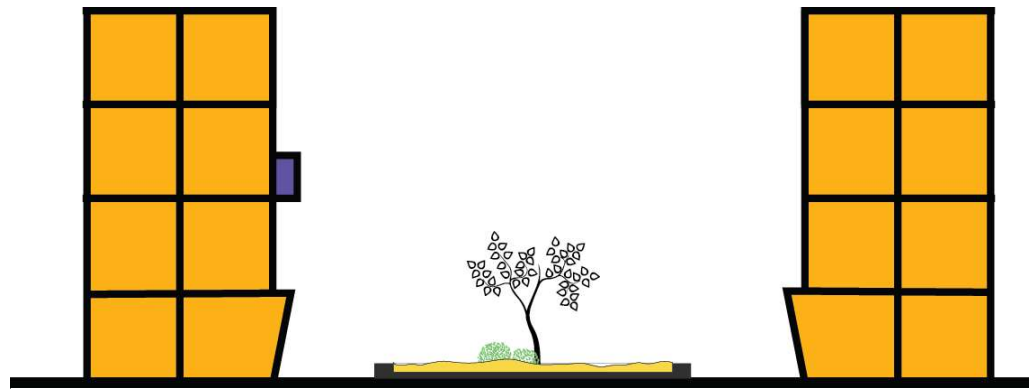
Figure 29 There are no extensions in Masakin Qawawir.

Masakin
Qaysun

1.2m

2.5m
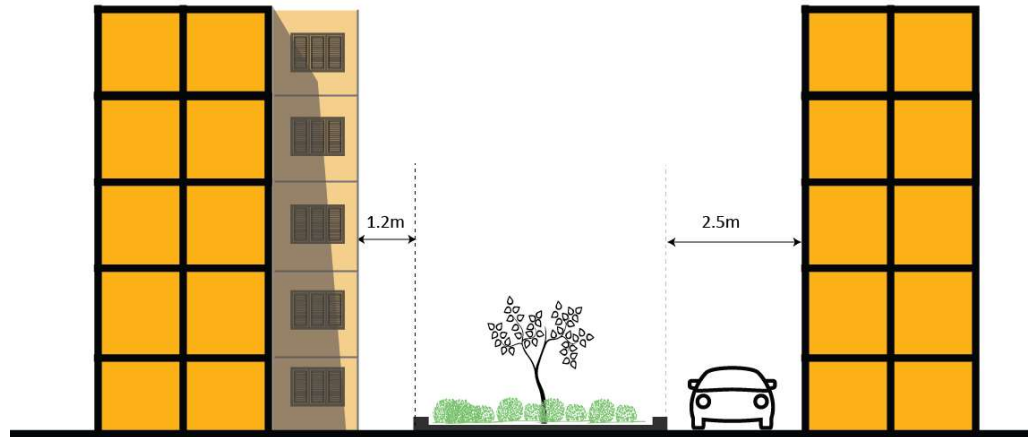
Figure 30 There are no extensions in Masakin Qaysun.

Masakin
Awqaf
al-Qal'a

Parking   Space Used   Parking
           by Car Mechanic
           on Ground Floor

Licences Shops
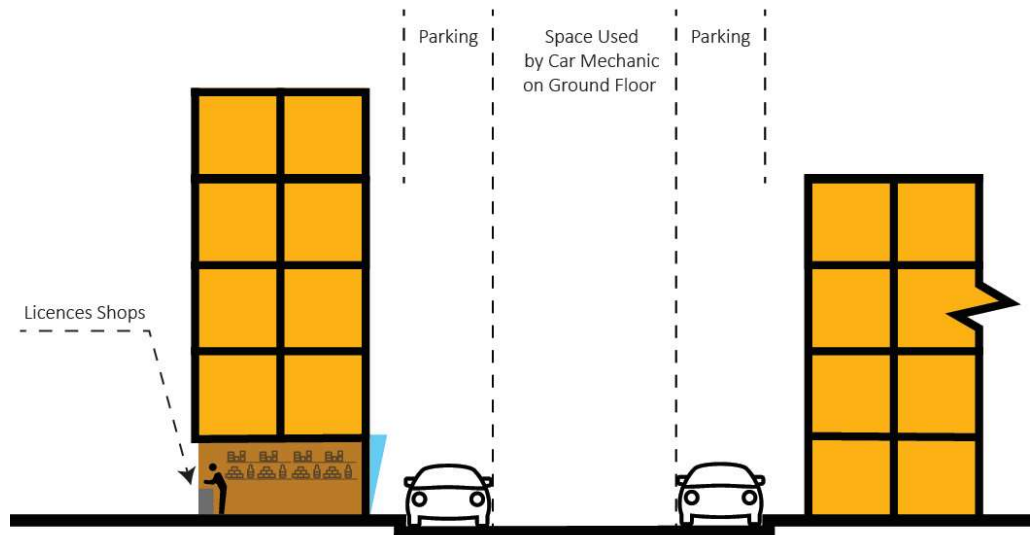
Figure 31 In al-Awqaf buildings there are no extensions or appropriations of open spaces, and most of the open spaces are used as parking places for the residents or employees from nearby.

50

'Arab Al
Yasar

Salah Salim street
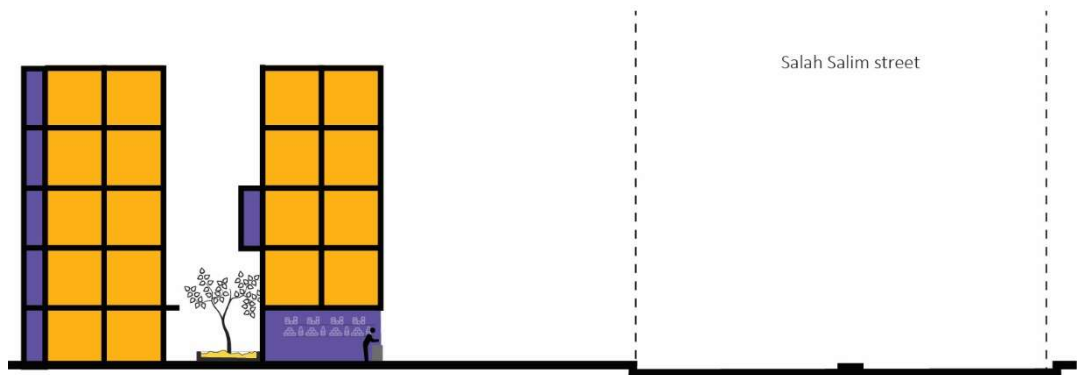
Figure 32 In 'Arab al-Yasar extensions on buildings are limited to additional balconies or changes in the original use such as turning the ground floor into a workshop.

By organizing the sections of each project chronologically, it shows that there is a correlation between the age of the project and the extent of appropriation of its open spaces. For example, the open spaces in older projects, such as 'Ayn al-Sira, are more appropriated if compared to relatively new projects such as the later phases in Zaynhum.

2. Security and Safety

The other aspect to examine in order to understand the quality of open spaces is more qualitative. Safety and security were observed during night and day in one or more of the open spaces of each project, depending on the scale of the projects and the diversity of the open spaces they contain. This was followed by a set of observations conducted by the research team and supported by a set of open-structured interviews with the residents of the projects.

a) Criteria

Due to the relatively large number of projects that are still being studied, this study focused mainly on the physical aspects as seen in the criteria below. The main parameters that were taken into consideration include:

(1) Lighting during the night.

(2) Greenery and the amount of shading during the day.

(3) The kind of activities that existed on the ground floor.

(4) The degree of enclosure of these open spaces and to what extent they encourage flow or gatherings.

b) Studied locations

(1)   Zaynhum

Figure 33 A study during daytime.
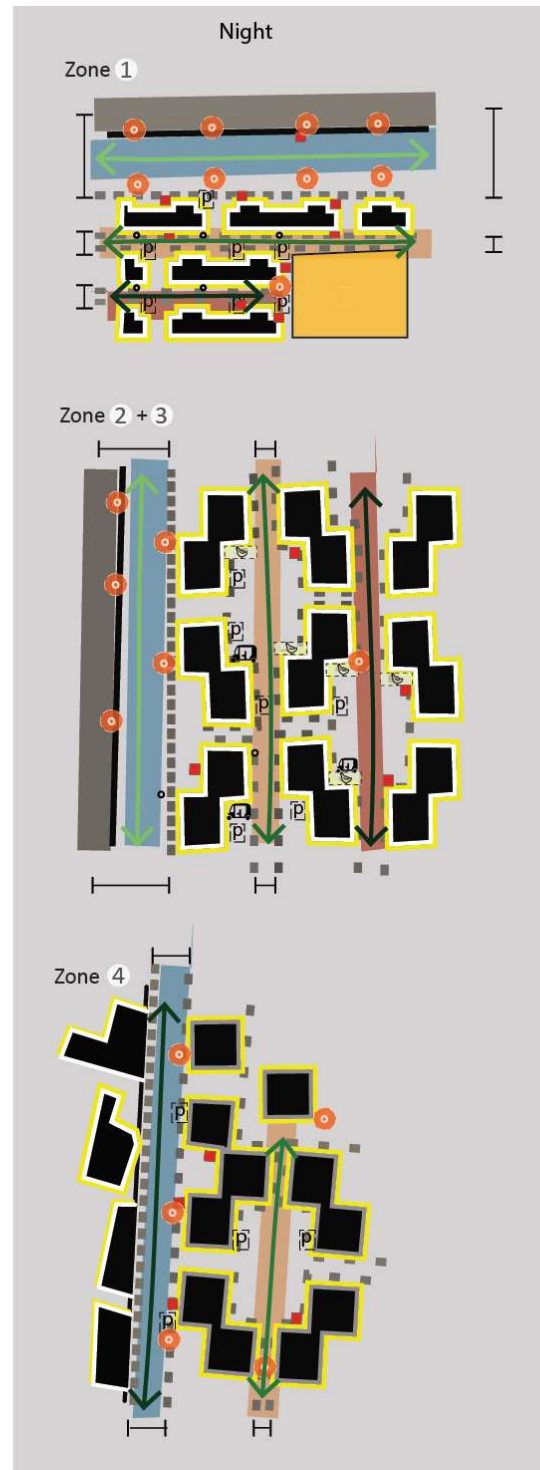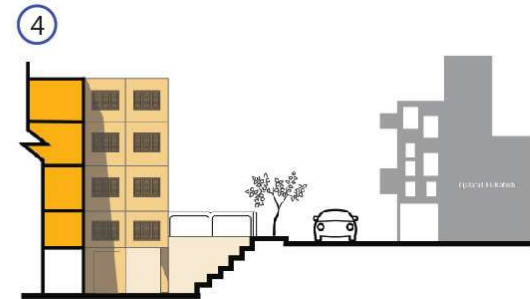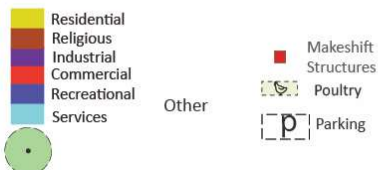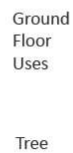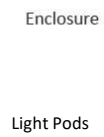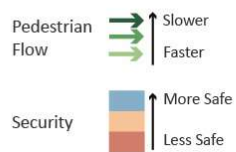
Figure 34 Studying safety during night-time.

Four locations were selected to observe the above mentioned criteria. The four spots were selected according to the variation in their degree of enclosure and relation to the accessibility routes, usually taken from the main public transport stops. Each area was studied during both daytime and night-time. For daytime, the focus was on the elements that provided shade (such as trees) in relation to the degree of enclosure of the open spaces and how they affected the degree of flow.

The maps show that areas with high degree of enclosure (such as fences) were spaces of high rate of flow, especially if they lacked shading such as in zones 2 and 3. On the contrary in-between spaces that were pretty shaded with trees in zones 2 and 3 encouraged gathering and the flow rate was low. For night-time, our focus shifted to areas with good lighting in relation to the degree of enclosure.

For example, in Zaynhum in-between locations that are not well lit showed lower rate of flow when compared to well-lit paths. Not so well lit locations are also quite enclosed making them feel a bit like a trap.

In addition to the study of the spaces according to the mentioned criteria, some observations were supported by the residents with regards to the impact of some elements (such as the gates or exposure to the sun) on the use of the space as shown in Figure 36.

The area around the gate near Al-Maghrabi Hospital is very active as direct transportation is found there. However, and according to the residents, it is full of robbery cases and drugs.

The three phases are mostly residential and quiet, which makes people feel unsafe. The area is not walkable, forcing residents to use *tuktuks* on the right handside of the buildings.

The zone near the school complex in phase 3 is livelier in the morning but unsafe at night. This is mainly due to the presence of the fences surrounding the schools and the club.
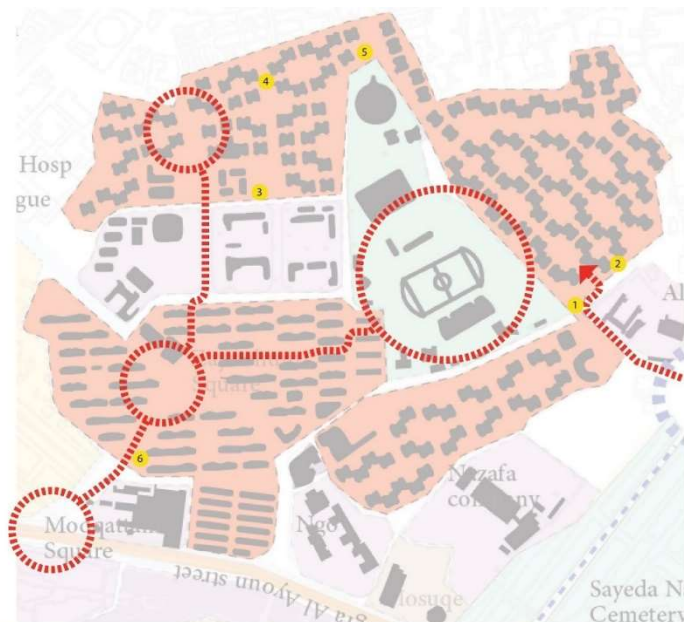
The zone near the school complex in phase 3 is a bit livelier in the morning but unsafe at night because of the fences surrounding the schools and the club.

Regarding the oldest phase in Zaynhum, residents consider it much safer than the other three phases as it is livelier from the presence of services and greenery.

Figure 35 Further field observations and notes from random interviews with residents.

(2)   'Ayn al-Sira

'Ayn al-Sira

Zone 1

Zone 2

Legend

Pedestrian Flow	Slower / Faster	Enclosure	Less Enclosed / More Enclosed	Ground Floor Uses	Residential / Religious / Industrial / Commercial / Recreational / Services	Other	Makeshift Structures / Poultry / Parking / *Tuktuk* Flow / Trash
Security	More Safe / Less Safe	Light Pods	Broken / Functioning	Tree			

Figure 36 A study of the selected spot during daytime supported by photos of the space.
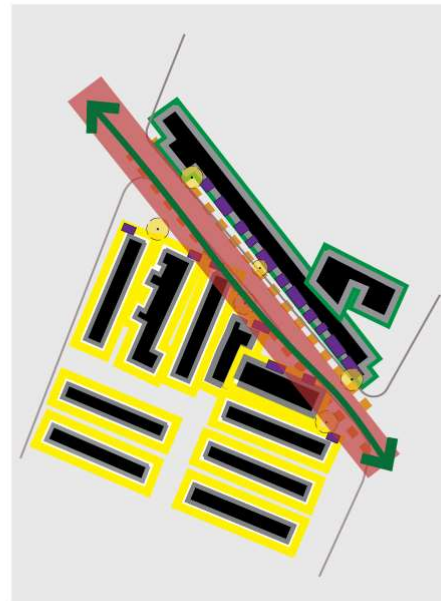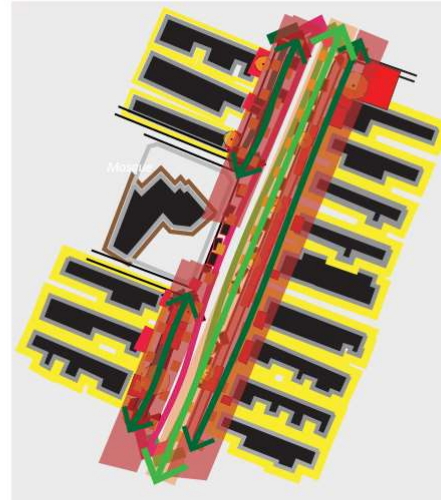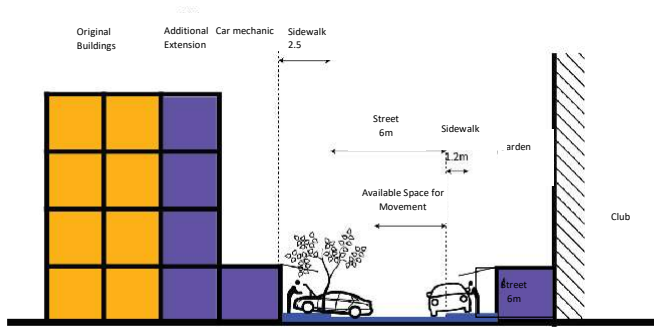
Legend

Pedestrian Flow
- Slower
- Faster

Security
- More Safe
- Less Safe

Enclosure
- Less Enclosed
- More Enclosed

Light Pods
- Broken
- Functioning

Ground Floor Uses
- Residential
- Religious
- Industrial
- Commercial
- Recreational
- Services

Tree

Other
- Makeshift Structures
- Poultry
- Parking
- Tuktuk Flow
- Trash

Figure 37 A study of the selected spot during night-time.

We can see the impact of ground floor activity on the safety of the public space, in addition to factors shown above such as the degree of enclosure as well as lighting or shade. Areas with commercial and residential uses give off a more sense of safety when compared to paths of industrial uses such as workshops.

The most used entrance is the one at Majra al-'Uyun, despite the presence of trash and the height of the arch. It is used by a large proportion of the residents as it is the entrance to the main market and it is an active path all day long. Regularly, trash carts come in the evening to pick up the garbage.

A corridor that is known as the entrance from al-Sayyida Nafisa. More than before, it is now used by cars and motorcycles as a paved road and the residents use it to wait for the bus at al-Sayyida Nafisa Station. It is considered by more than one resident to be unsafe, especially during night-time given the lack of lighting, walls of the school and the abandoned public library.

An exit for cars on Salaḥ Salim Street. It is famous for its mechanical workshops and coffeeshops, and it is used more than before by people from outside the area. It is more dangerous at night due to the lack of lighting.
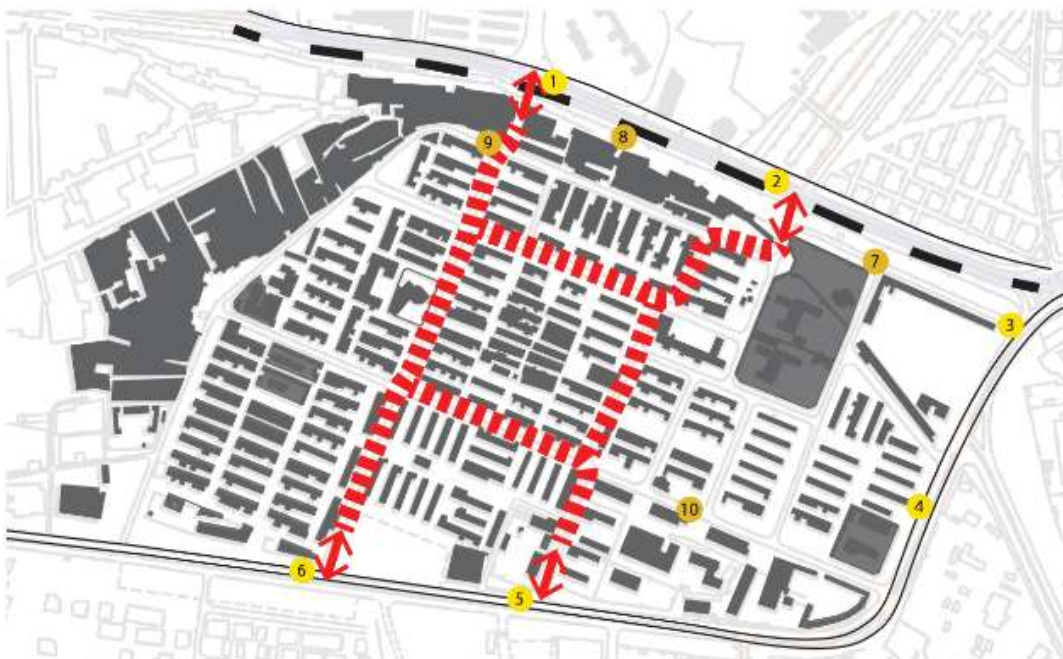
The pathway from the side of Salaḥ Salim Street is very lively during the day, where there are many activities and parking for microbuses. On its corner as well lies a juice shop, a kiosk and food shops. It is unsafe for young adults to gather during the evenings.

A walkway from the side of Salaḥ Salem Street is very lively during the day, where there are many activities and parking for microbuses. On its corner, there is a juice shop, a kiosk and food shops. During the evenings, it is unsafe for the youth to gather and it lacks activities.

The entrance to 'Ayn al-Sira from Salaḥ Salem Street, and at the extension of the market, is an important position for the Giza microbuses. On its corner, there is an abandoned garden. It is considered to be an unsafe place for women during the evenings.

(3)   Al-Abagiyya

Al-Abagiyya Quality of Space

Day Study

Night Study

Legend

Pedestrian Flow
- Slower
- Faster

Security
- More Safe
- Less Safe

Enclosure
- Less Enclosed
- More Enclosed

Light Pods
- Broken
- Functioning

Ground Floor Uses
- Residential
- Religious
- Industrial
- Commercial
- Recreational
- Services

Tree

Other
- Makeshift Structures
- Poultry
- Parking
- *Tuktuk* Flow
- Trash

Figure 38 A study of the selected spot supported by photos of the space.

61

The urban fabric of this area is mostly divided by an internal spine, which is a market street with a rate of flow. It is, however, perceived as a safe street (especially during the daytime) given its wideness. The area lies in-between two main roads that are pretty exposed, which makes them relatively safe with a high rate of flow.

(4) ʿArab al-Yasar
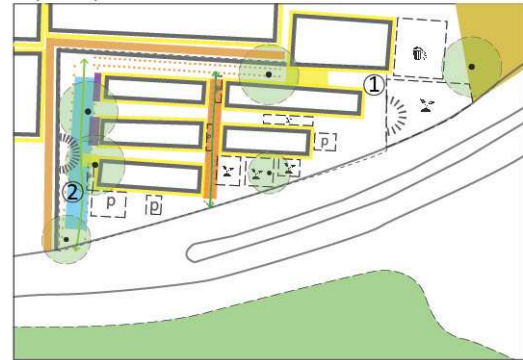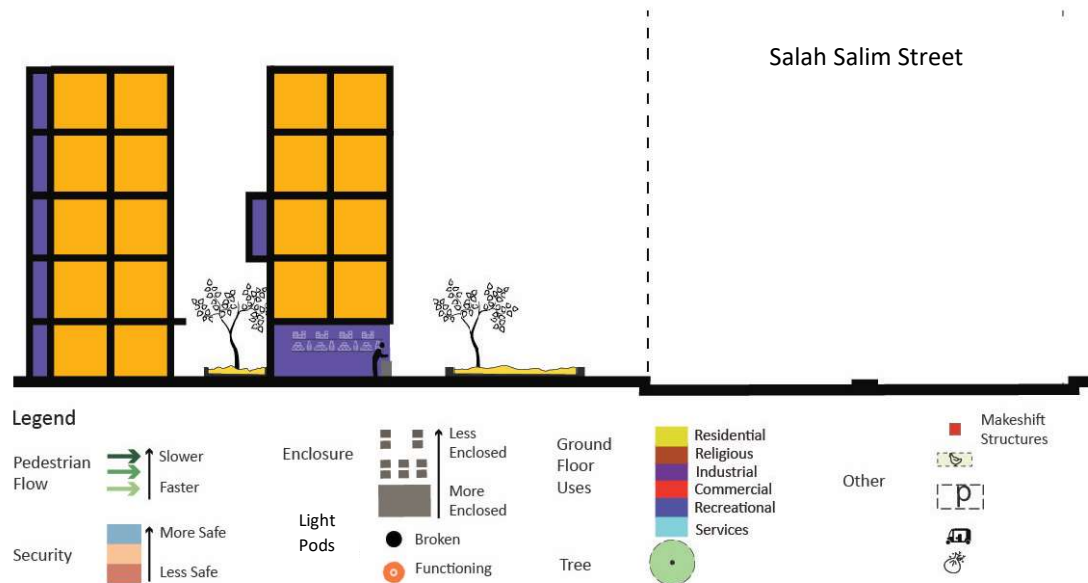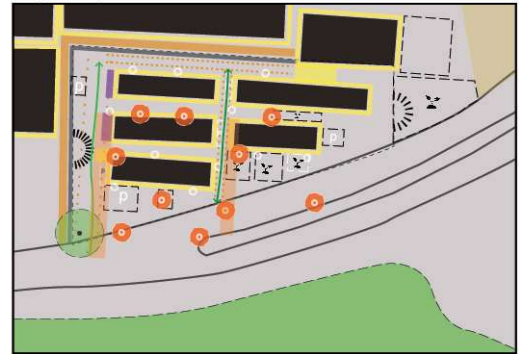
Figure 39 A study of the selected spot supported by photos of the space.

This is a relatively small area that is adjacent to Salaḥ Salim Street. The public housing buildings were located in-between Salaḥ Salim Street and the old neighbourhood of 'Arab al-Yasar. The old neighborhood was recently demolished for it was located in the buffer zone of the Citadel. The vacant ruins and debris make the main street passing, located at the back of the housing project, unsafe for residents when compared to the main gathering spots located in-between the buildings.

The open space facing the main street is being taken care of while the spaces inside are being neglected. There is, however, interest in improving the image of the buildings' facades due to the Citadel.

This area is considered the border between 'Arab al-Yasar's public housing and the informal houses. It is becoming an unsafe area as it is abandoned, not suitable for walking and full of garbage.
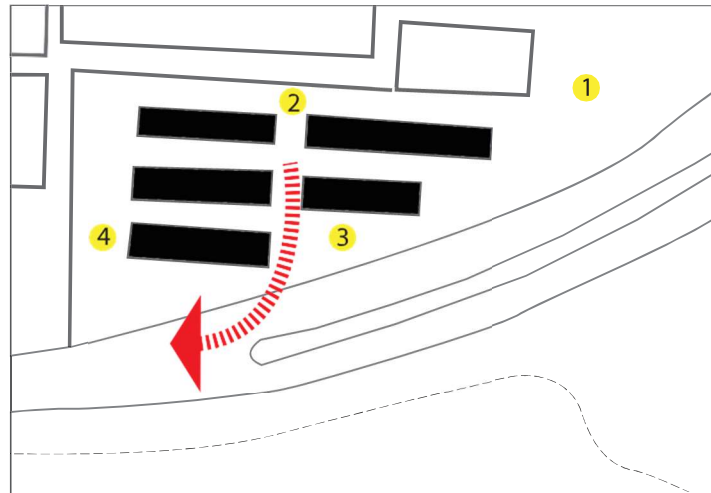
Spaces between buildings, that are meant to be green, are neglected and used as parking lots.
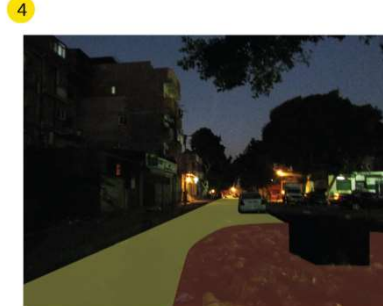
This area is considered the liveliest zone in the neighbourhood given the shade provided by trees there as well as its accessibility to Salaḥ Salim Street and al-Sayyida 'Aisha Market. It therefore attracts different target groups including women, children and men.

(5)   Bab al-Wazir
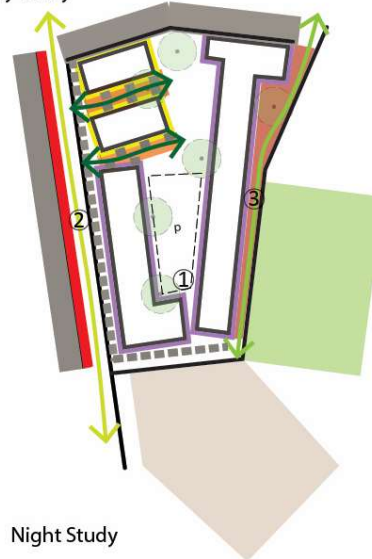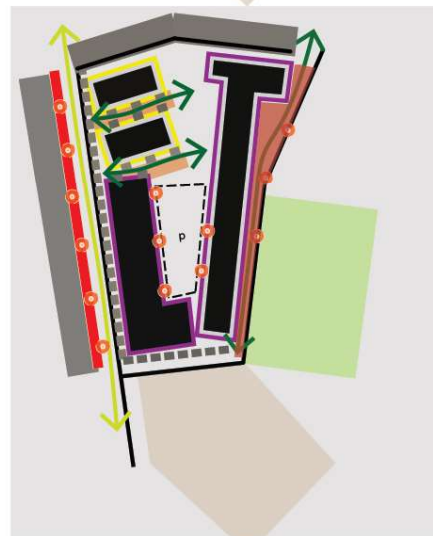
Figure 40 A study of the selected spot supported by photos of the space.

66

The open space located in-between the housing project is totally occupied by workshops. This makes it peculiar as it becomes a gathering point for workers and customers rather than residents. It, also, has a high flow of vehicles instead of pedestrians.

This is the main spine where all main services are located. Commercial services are mostly located on one side and the workshops on the other. The spine is well accessible by transportation and well-lit by night.

The entrance of the residential block where the open space enclosed by the residential building meets the main street. It is the main accessibility point for cars and pedestrians.
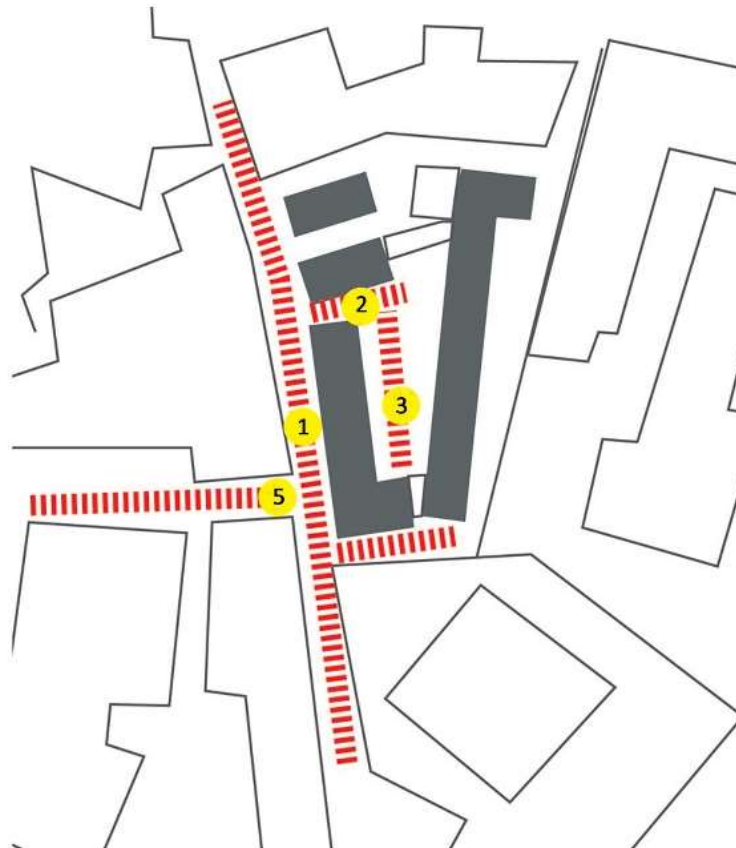
The semi-enclosed space between buildings is mainly dominated by workshops and parking lots for the residents of the block or nearby neighbours. The space is mainly occupied by men, and is also occasionally occupied by kids who play within it. Its high-level enclosure and livability makes it a safe place.

The photo above shows one of the alleys used by the residential block, and is considered safe during the night.

(6)   Masakin al-Awqaf

Awqaf al-Qala'a

Day Study

Night Study

Legend

Pedestrian Flow
→ Slower
⇒ Faster

Security
More Safe
Less Safe

Enclosure
Less Enclosed
More Enclosed

Light Pods
● Broken
⊙ Functioning

Ground Floor Uses
Residential
Commercial
Industrial
Administrative
Services

Tree

Other
■ Makeshift Structures
Poultry
P Parking
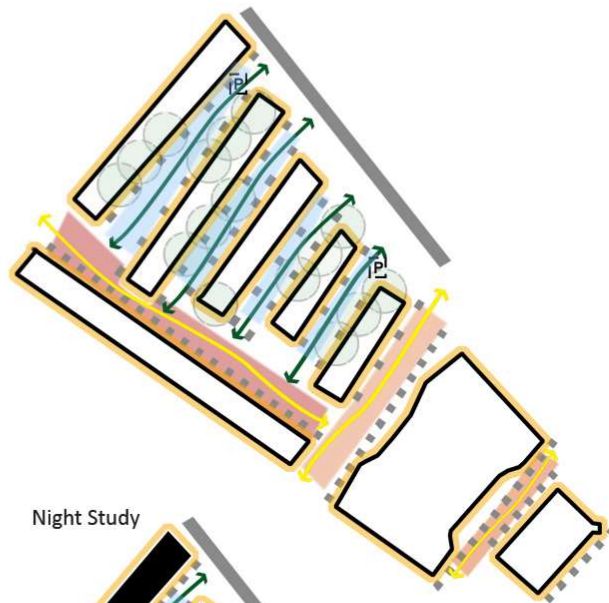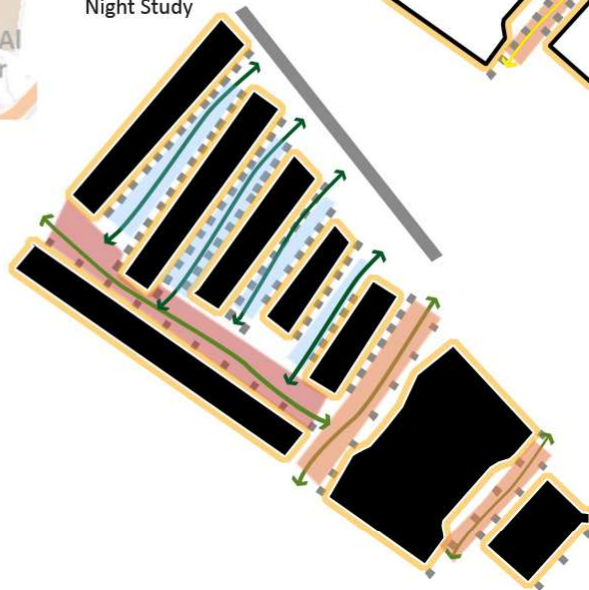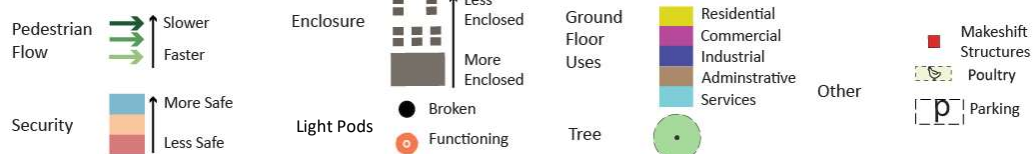
Figure 41 A study of the selected spot supported by photos of the space.

The location of the projects makes it a pass through with a high flow of pedestrians. During the night, it is very quiet and not well lit. Most of the open spaces are used as public or private parking lots.

The entry nodes for this neighbourhood are very lively. The workshops and commercial uses are mostly located around these nodes. This makes them well-lit during most of the night. They are lit by either officially installed lighting posts, or by informal lighting means installed by the residents themselves. Passersby of both genders are present in the area indicating that it is considered safe.

This spot is considered the main spine of this project. It is occupied by various age and gender groups which makes it very lively. It is used as a playground for children, and young adults usually hang out there as well. Women chat from their balconies or at the entrances of their buildings. In addition to the livability of the area, it is well-lit during the night which makes it even safer.
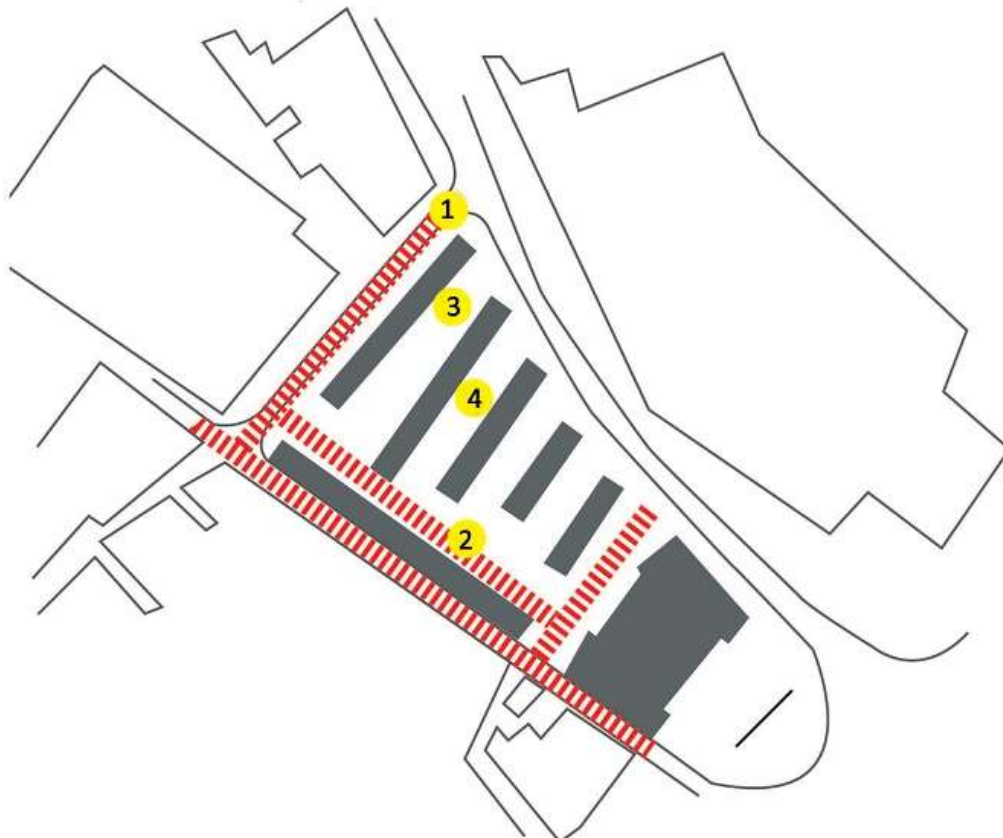
These in-between corridors between buildings are mainly used for parking and are only accessed by cars. These paths vary in the degree of how well-lit they are, making them of various degrees of safety.
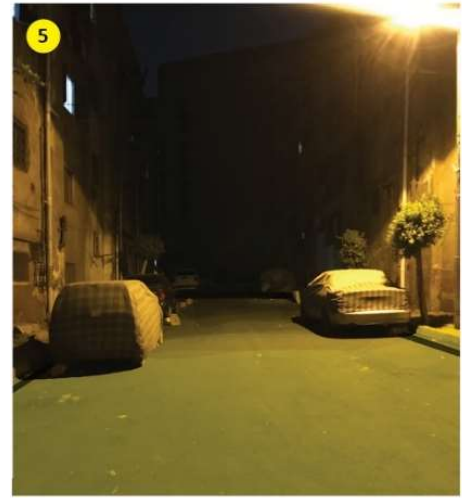
The dark passageways are not very safe with the exception of the areas connected to the main street.

(7)   Masakin al-Mahkama

Masakin al-Mahkama

Day Study
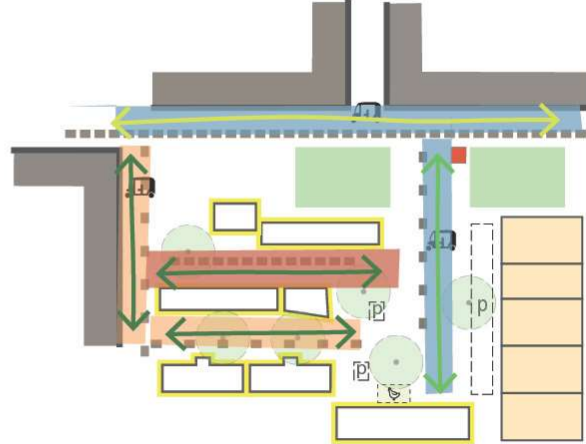
Night Study
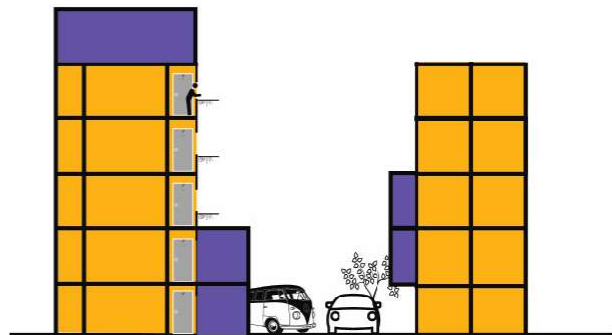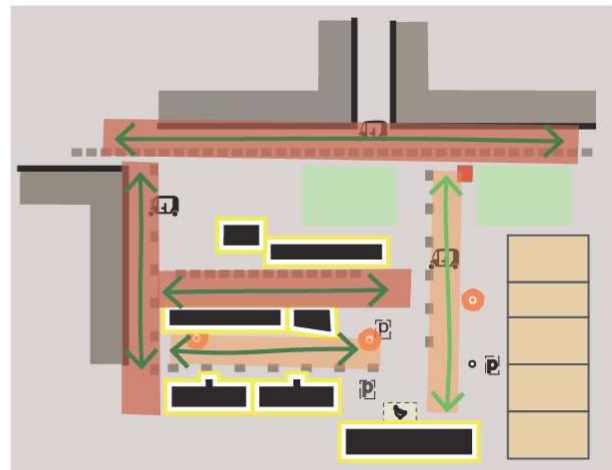
Legend

Pedestrian Flow — Slower / Faster

Security — More Safe / Less Safe

Enclosure — Less Enclosed / More Enclosed

Light Pods — Broken / Functioning

Ground Floor Uses — Residential / Religious / Industrial / Commercial / Recreational / Services

Tree

Other — Makeshift Structures / Poultry / Parking / Tuktuk Flow / Trash

Figure 42 A study of the selected spot supported by photos of the space.

his is another relatively small housing pocket in the middle of Historic Cairo. The rate of flow is medium, especially during the night, given that it is surrounded by a couple of schools and no main vehicular routes.

This spot is used as a parking lot for outsiders during the daytime, which usually makes it possible for residents to use as a public space. Some residents complained that it is a source of disturbance.

In-between corridors are considered by residents the safest spots for them to walk or park their cars in.
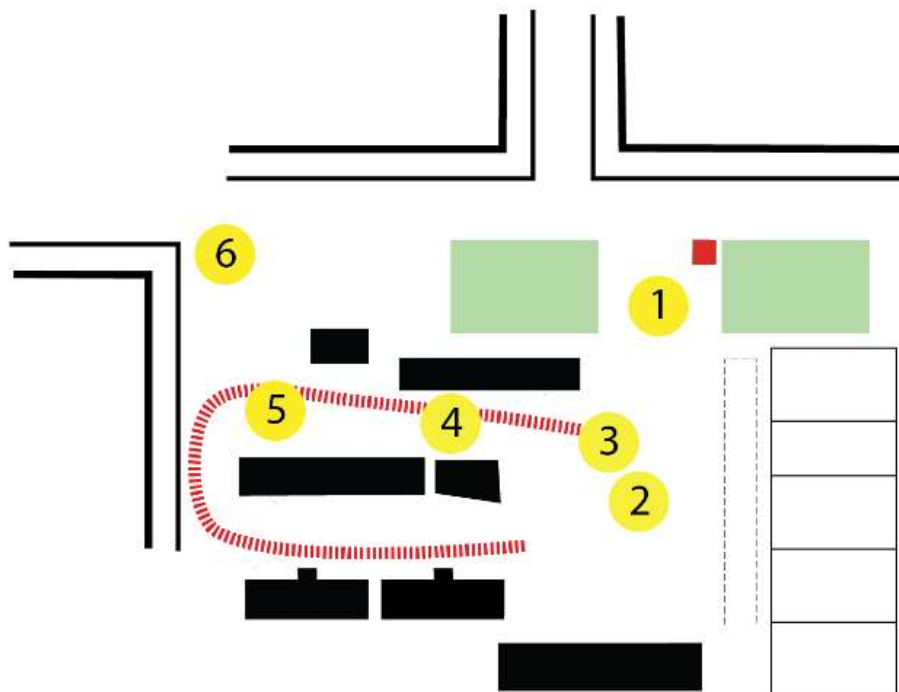
There are still in-between spaces that have the potential to host new activities and which are not yet used by the residents.

These in-between corridors between buildings are the safest paths for residents to use in order to reach their destination, as they are far away from the paths of public parking lots.

This the main entry and exit point for the project. It is, however, mainly used as a parking lot for outsiders.

(8)   Masakin Qaysun

Qaysun
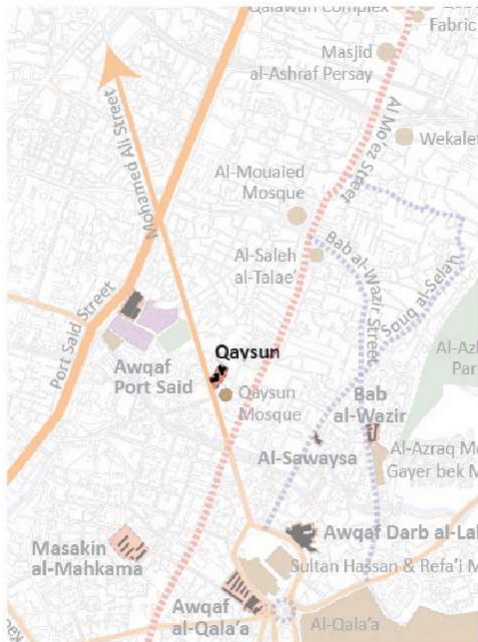
Day Study
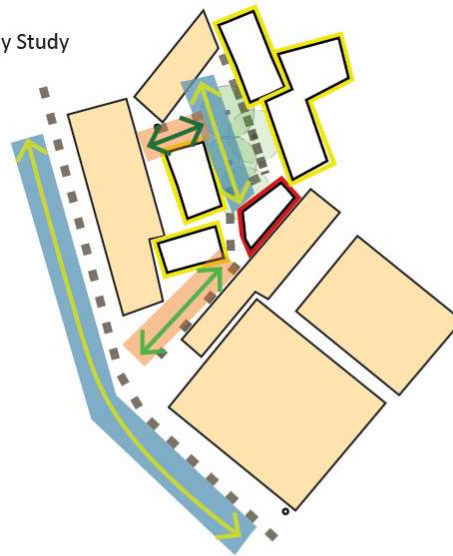
Night Study
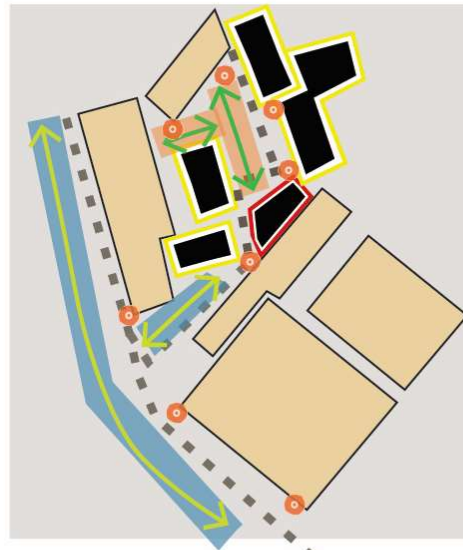
Legend

Pedestrian Flow		
	→	Slower
	⇒	Faster

Security		
		More Safe
		Less Safe

Enclosure		
		Less Enclosed
		More Enclosed

Light Pods		
	●	Broken
	⊙	Functioning

Ground Floor Uses	
	Residential
	Religious
	Industrial
	Commercial
	Recreational
	Services

Tree

Other		
		Makeshift Structures
		Poultry
	P	Parking
		Tuktuk Flow
		Trash

Figure 43 A study of the selected spot supported by photos of the space.

The case here is a mix between the case of Bab al-Wazir given that the open space is occupied by furniture workshops. It is also similar to the case of Masakin al-Mahkama given that it is used as shortcut to al-Mugharbilin neighbourhood.

The open space in-between the buildings of this project is mainly used as a shortcut to al-Mugharbilin Market. This enables a lot of strangers to pass through it. Due to drainage problems and uneven paving levels, elderly residents find it hard to move in this space. Previously, a lot of children used to play in this area.

Furniture workshops on the ground floor are responsible for the livability of this area. The area is kept clean and safe for the purpose of exhibiting the products of these workshops. Children work in these workshops during summertime, and occasionally play football in the area.

IIIIIIIII Safe Path
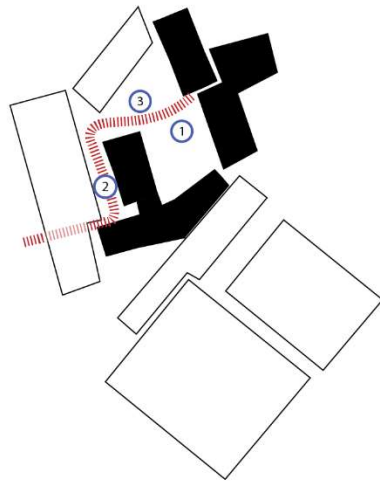
The in-between spaces is rarely used by residents as it is occupied by furniture workshops most of the time.

(9)   Masakin Qawawir
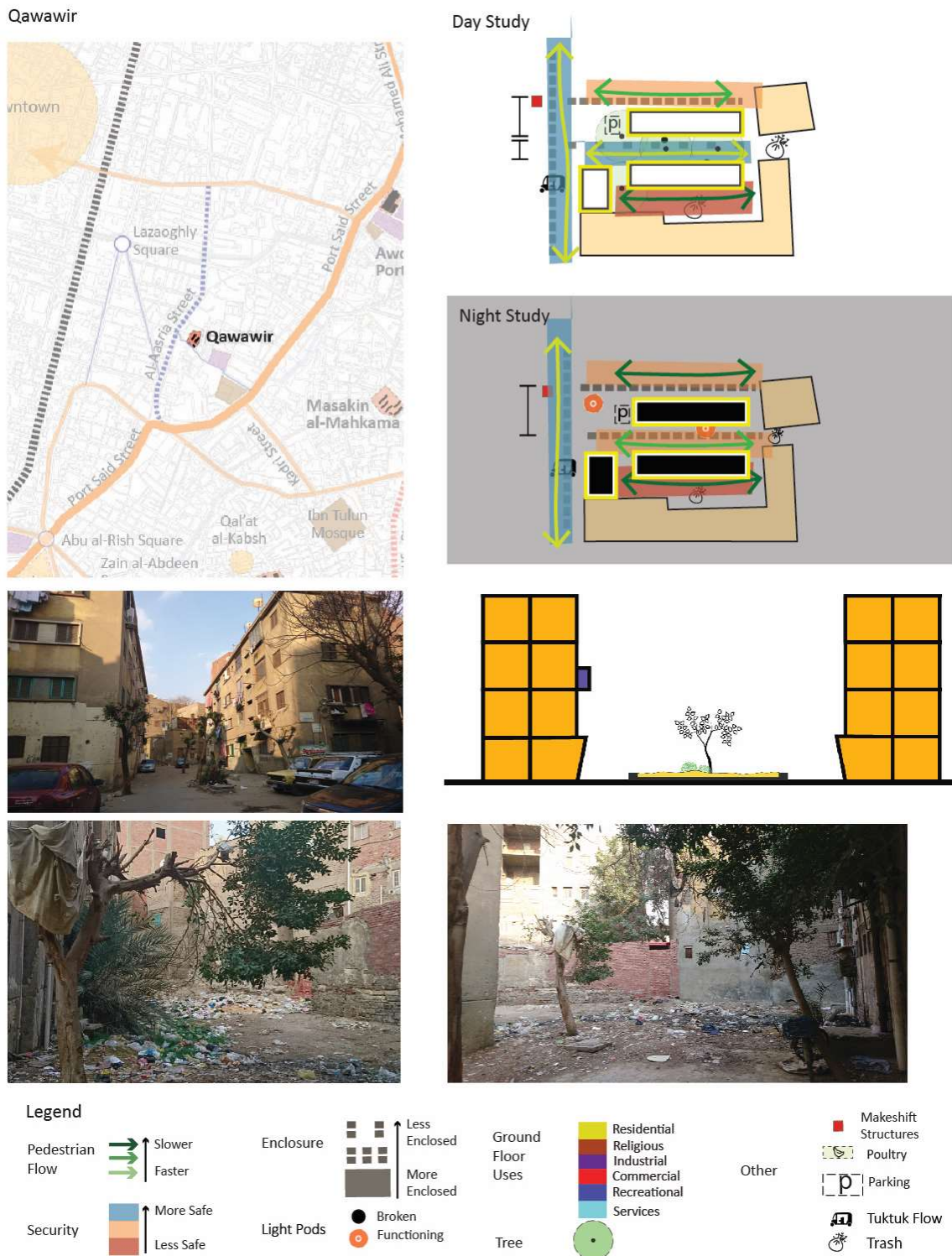
Figure 44 A study of the selected spot supported by photos of the space.

This is also another small housing pocket within Historic Cairo's urban fabric. When compared to the amount of flow in the surrounding streets that lead to Port Said Street, there are medium to low rates of flow through the internal open spaces in-between the buildings. The area, also, does not encourage many gatherings in the morning due to the lack of shading.

The area between the two blocks is quiet. Due to its lack of activities, it can be an unsafe area for some residents. It is mostly shaded during the day. It occasionally gets lit by the neighbours. It is mainly used by residents to park their cars.

This empty plot behind one of the residential blocks is considered a threat. It is filled with garbage and sewage problems. During night-time, it is completely dark making it a place for drug consumption.
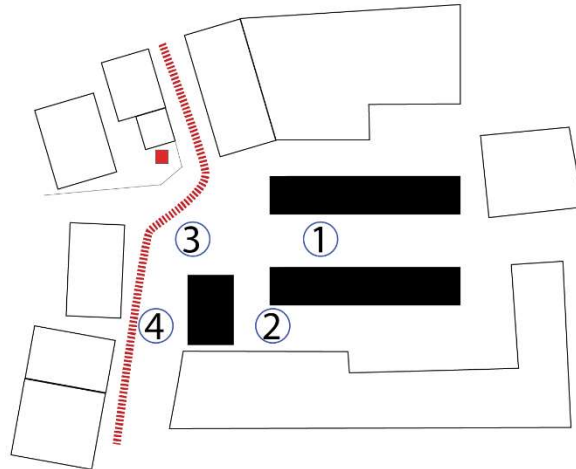
The in-between open spaces are only lit by the residents themselves, and thus are not always well-lit and safe for activities during the night.

Generally speaking, for each of the studied projects there seems to be an inverse relation between safety and flow. The more the rate of flow increases, the less sense of safety and security there is in the place. However, this is not a general rule. These indicators cannot totally measure the safety and security of the open spaces. For example, issues that still need further investigation include how these spaces encourage gatherings and behave towards passersby, as well as how different gender groups perceive safety differently.

B.   Impact and relations

The last component was to study the relation of each project to the surrounding areas in order to highlight the impact of each project on its surroundings, and evaluate how each area can benefit from specific forms of intervention. The kind of services we focused on were mainly public services including educational, medical, recreational and entertainment services. The map shows that there is an in-balance in the distribution of services amongst the different areas. There is an over saturation of services in 'Ayn al-Sira as it is the largest and oldest housing projects around Historic Cairo, followed by Zaynhum.
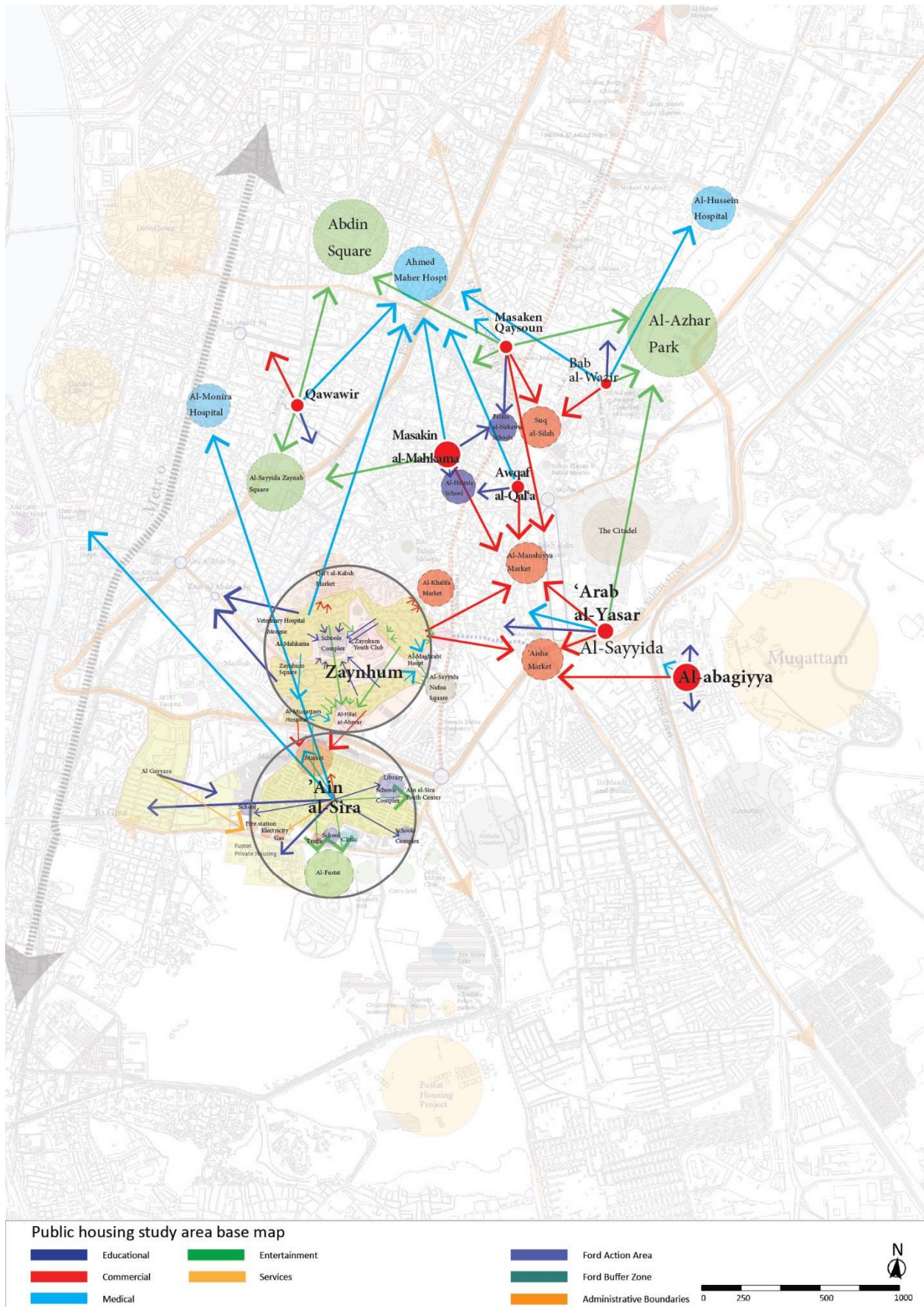
Figure 45 A study of the impact of each project on the surrounding area.

These are the only housing estates that include services that provide for the surrounding areas. The projects and surrounding areas are therefore dependent on them to some extent as indicated by the above map. The data collected during the survey and resulting from the impact map helped us to generate a matrix of Potential, Need, and Impact (PNI) for each of the remaining projects.

Zaynhum, for example, includes three major medical facilities such as al-Muqatam Hospital, the Egyptian Red Crescent and al-Maghrabi Hospital. The area also has a big recreational facility which is the Zaynhum Youth Club. For the surrounding neighborhoods, the youth club acts as a major attraction force to the area, however, few of the actual residents of Zaynhum itself actually benefit from it.

Zaynhum
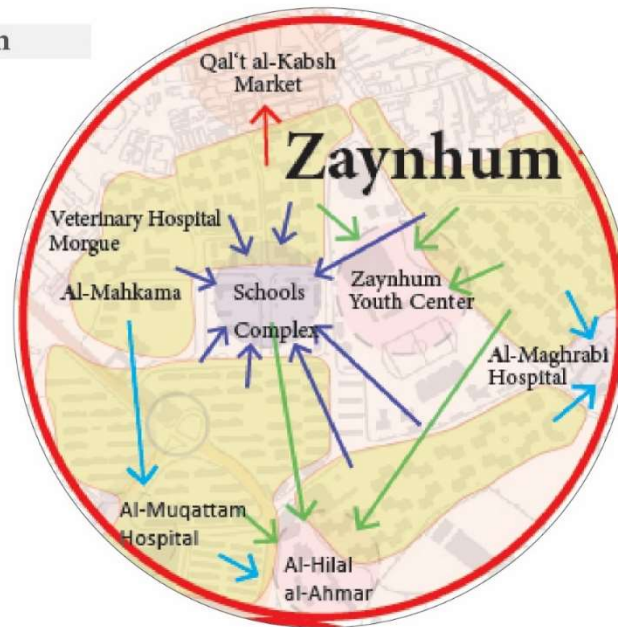
'Ayn al-Sira
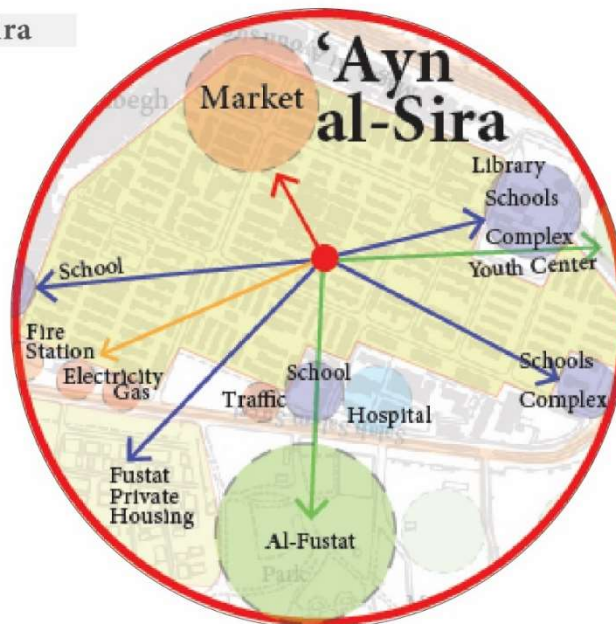
Public housing study area base map

▮ Educational	▮ Entertainment	▮ Ford Action Area
▮ Commercial	▮ Services	▮ Ford Buffer Zone
▮ Medical		▮ Administrative Boundaries
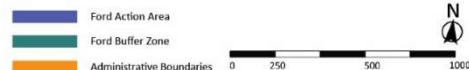
The other two maps show how services that exist in both Zaynhum and 'Ayn al-Sira partially serve the residents of each area as well as the surrounding area.

The output of this phase of the study was presented in a feedback session amongst a group of academics and practitioners with experience regarding housing and public spaces. The session aimed to show the data collected for this stage in order to highlight any gaps in the methodology or the resources used. Furthermore, with the help of the invited group, the feedback session aimed to reach a decision on the focus area that needs to be further studied in order to propose an intervention that can trigger the potential use of its open spaces.

C.   Character of open spaces

In addition to the previous steps, the character of the open spaces for each project was studied. The main objective of this stage was to highlight the essence of the open space for each project, helping us decide on the case study to be examined in the next phase. In order to highlight the essential character of the open space, three aspects were taken into consideration. Firstly, the circulation pattern through these open spaces and how it relates to the surrounding urban fabric. Secondly, the location of each project, highlighting its obvious potential. Finally, a photo collage using photos of the open spaces was created in order to visually represent the character of the open spaces for each project. The character was described using one keyword (i.e., enclosed or permeable) depending on the organization of the open spaces within each project.

1.   Zaynhum

In Figure 47 Zaynhum Project with its three phases has a distinct circulation pattern differing from one phase to the other. Because the project is surrounded by major roads, it is connected via some nodes to the outside regions of the area.
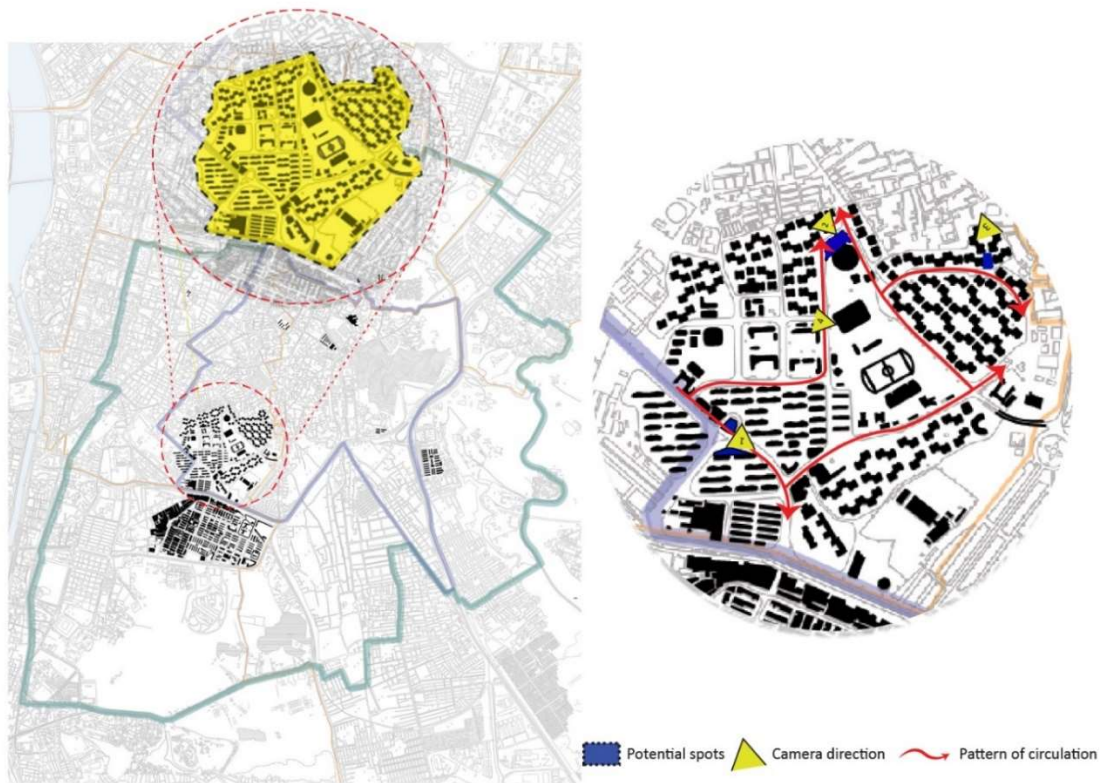
Figure 46 A study of the selected spots supported by photos of the space.

A few of the locations showed some potential for intervention including:

1. Zaynhum Square: This is a main node of transportation. It connects Zaynhum to al-Sayyida Zainab metro station and al-Muqattam Hospital. A large spot of greenery exists in this spot, which is partially maintained by the municipality and some members of the community. The green spot is not totally active. It is mainly used during daytime by passersby going from the bus station to the hospital or the courthouse nearby. By nighttime, if the weather is good, the residents sit around and on the lawn. Otherwise, the spot is fairly quiet.
2. The second location is the open space behind the water storage tank. This area is relatively huge which makes it a potential for intervention. However, it is not considered safe, especially during nighttime, as it is on the edge of the project.
3. The third location is the staircase and narrow path that connects al-Khalifa to Zaynhum. Although it is narrow and not well paved, it has the potential of connecting al-Khalifa Garden to Zaynhum, making it more accessible to the residents of the projects.
4. The open space between the school and youth center has the potential of being further activated and of connecting the two institutions.

Zaynhum- A dual identity

Figure 47 A photo collage that captures the essence of the character of open spaces in Zaynhum.

Although Zaynhum lies on the border of Historic Cairo, there is this huge contrast between its urban fabric and that of Historic Cairo. However, this does not hold it back from having a strong connection to al-Khalifa and other neighbourhoods, such as al-Sayyida Nafisa and 'Ayn al-Sira. Zaynhum has a variety of urban voids that could be reused to benefit the community. Its garden irrigation system could also be used when making an intervention with regards to the usage of water.
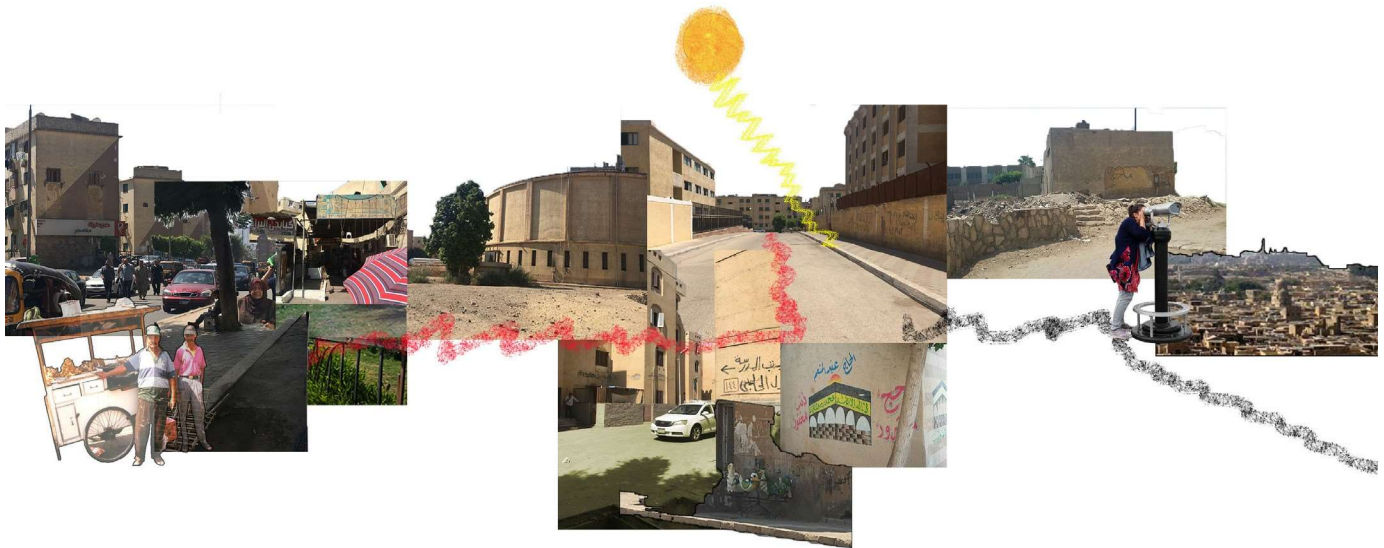
Figure 48 A photo collage that captures the essence of the character of open spaces in Zaynhum.

Zaynhum can be described as a large residential area in the middle of Historic Cairo that is, however, visually separated from Historic Cairo itself. There are identical buildings with bulky deteriorated elevations, vacant urban spaces, chaotic traffic, wide but un-walkable streets, as well as many green areas that are gated or un-designed.

2. 'Ayn al-Sira

Potential spots — Camera direction — Pattern of circulation
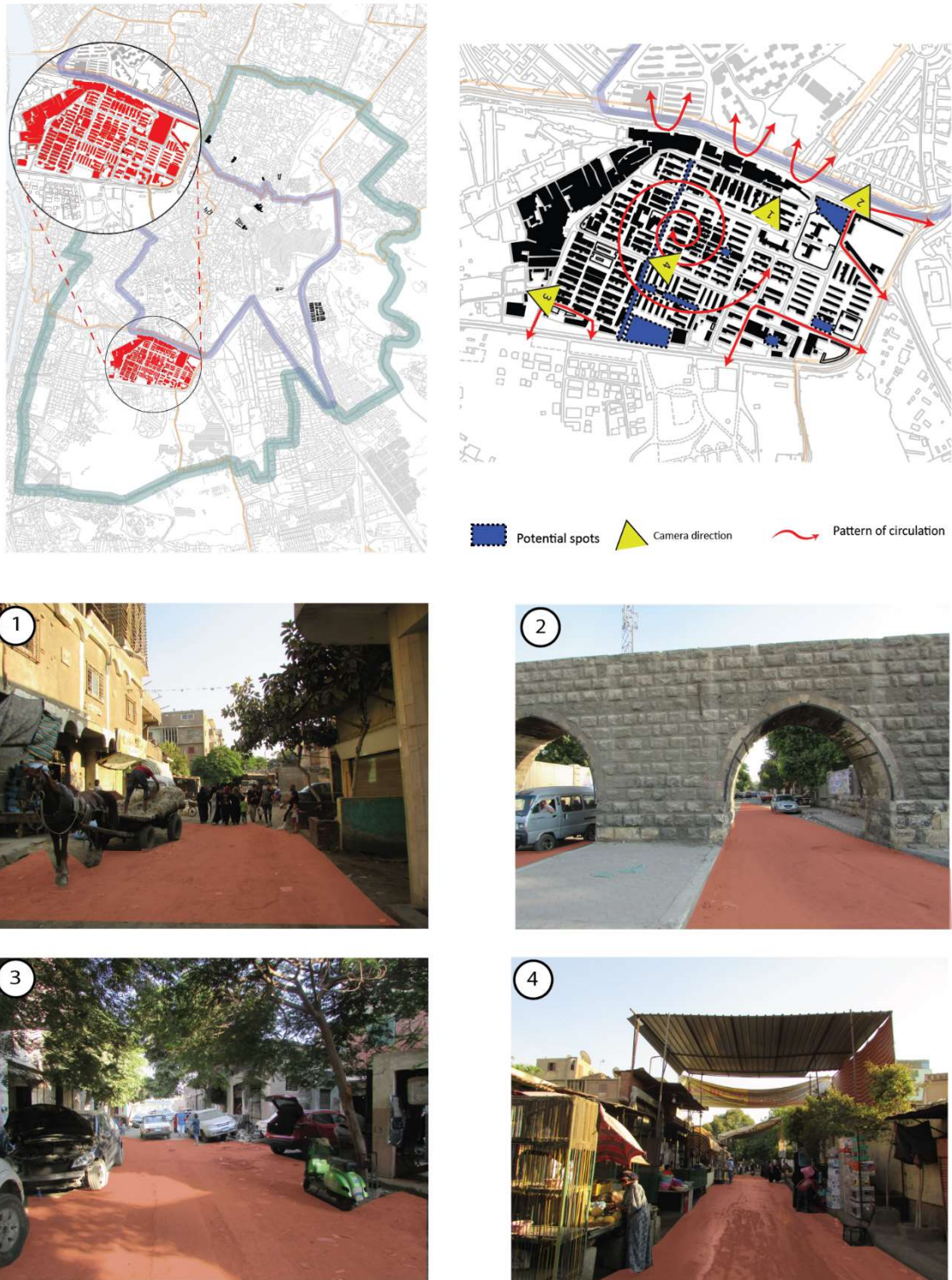
Figure 49 A circulation pattern diagram and photos of the significant open spaces in 'Ayn al-Sira.

As illustrated in Figure 40, 'Ayn al-Sira is almost a self-sufficient neighbourhood. This fact makes the circulation pattern almost looping inside the area. The existence of continuous residential blocks on the edge of the project further emphasizes this pattern.

Four locations demonstrated potential for intervention that can be relevant to the project itself as well as the surrounding areas.

1. The first location is the open space located on the street which is considered the second axis of the project parallel to the market street. The area is currently used as a parking lot. It faces the Bilal Mosque and its services.
2. The second location is on the northern edge of the project onto Majra al-'Uyun Street. The spot is near another mosque and is connected to the entrance of the market street.
3. On the southern corner of the project, is another location that overlooks Salaḥ Salim Street. It is currently mainly occupied by workshops and coffee shops. It is shady and relatively wide, and is one of the access points to the project from Salaḥ Salim.
4. This location is accessible from the market street, yet it is one of the few remaining open green spaces overlooking the residential streets.

Figure 50 A photo collage that captures the essence of the character of open spaces in 'Ayn al-Sira.

'Ayn al-Sira – Saturated

'Ayn al-Sira is characterized by its self-sufficiency, variety in housing typologies and the existence of all essential services. In the east lies an area which is dominated by mechanical workshops, and is therefore excluded from the rest of the project. The housing style of the other parts of the area is characterized by informal additions. 'Ayn al-Sira is surrounded by main roads including Salaḥ Salim Street.

3. Al-Abagiyya

Potential spots Camera direction Pattern of circulation
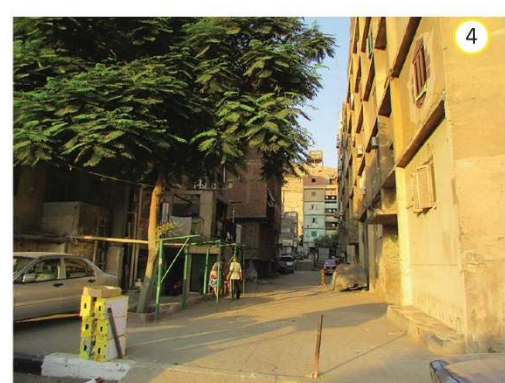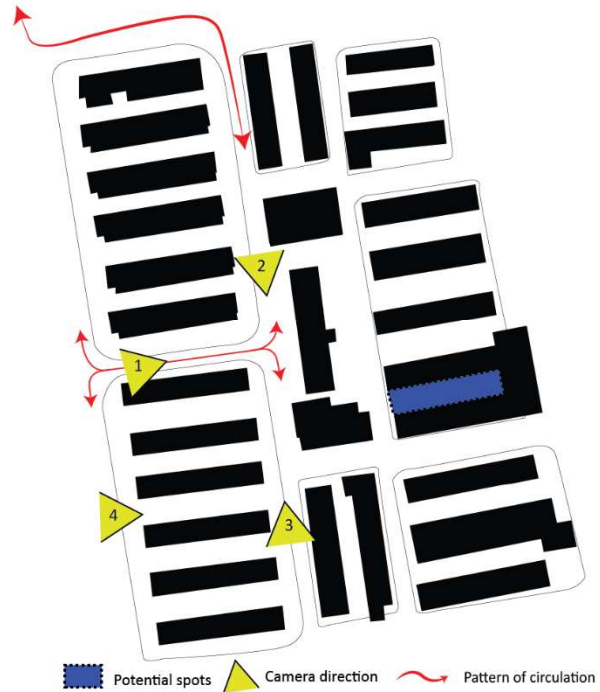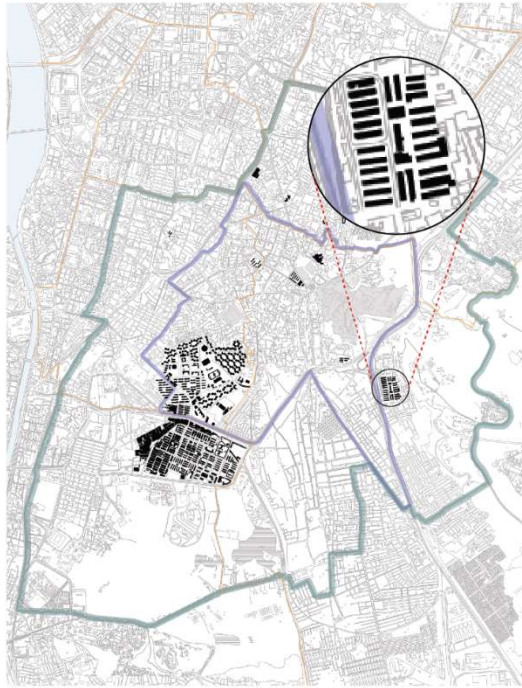
Figure 51 A circulation pattern diagram and photos of the significant open spaces in al-Abagiyya.

As illustrated in Figure 52, the project's organization is linear and the street networks are perpendicular and parallel to Salaḥ Salim Street. As shown in the circulation pattern diagram, the project is penetrated from different spots. There is a main axis which is mainly occupied by the market.

The locations of the open spaces with potential for intervention within this project are:

1. The main gate of the project located between two clusters of residential blocks with access to the main street that leads to the market.
2. The second and third locations are located in the middle of the market street on the opposite sides of the main center of this area. Both of these locations were chosen as the spine is the widest in this area.
3. The fourth location was chosen in one of the open spaces between the residential buildings. It has been appropriated into a children's playground which can be further developed as well as replicated in other locations in the project.
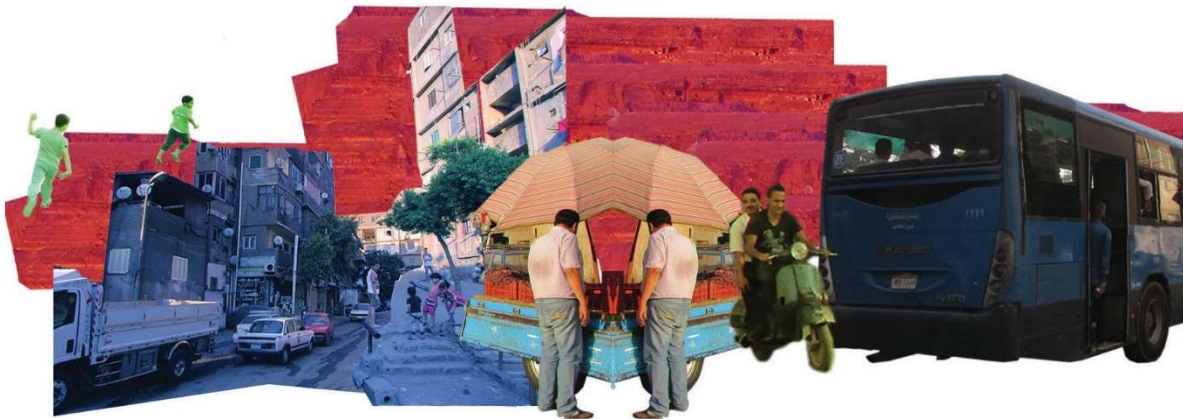
Figure 52 A photo collage that captures the essence of the character of open spaces in al-Abagiyya.

Al-Abagiyya - Isolated/besieged

As shown in the map in Figure 52, the project is isolated from Historic Cairo by the Citadel and the cemetery. Due to the linear organization of the residential buildings, most of the open spaces are penetrated and exposed. They are being appropriated by street vendors, transportation as well as built extensions from residential buildings. The only open spaces with some social activities, for children, women and men to gather around, are the spaces under the hill.

4.   'Arab al-Yasar
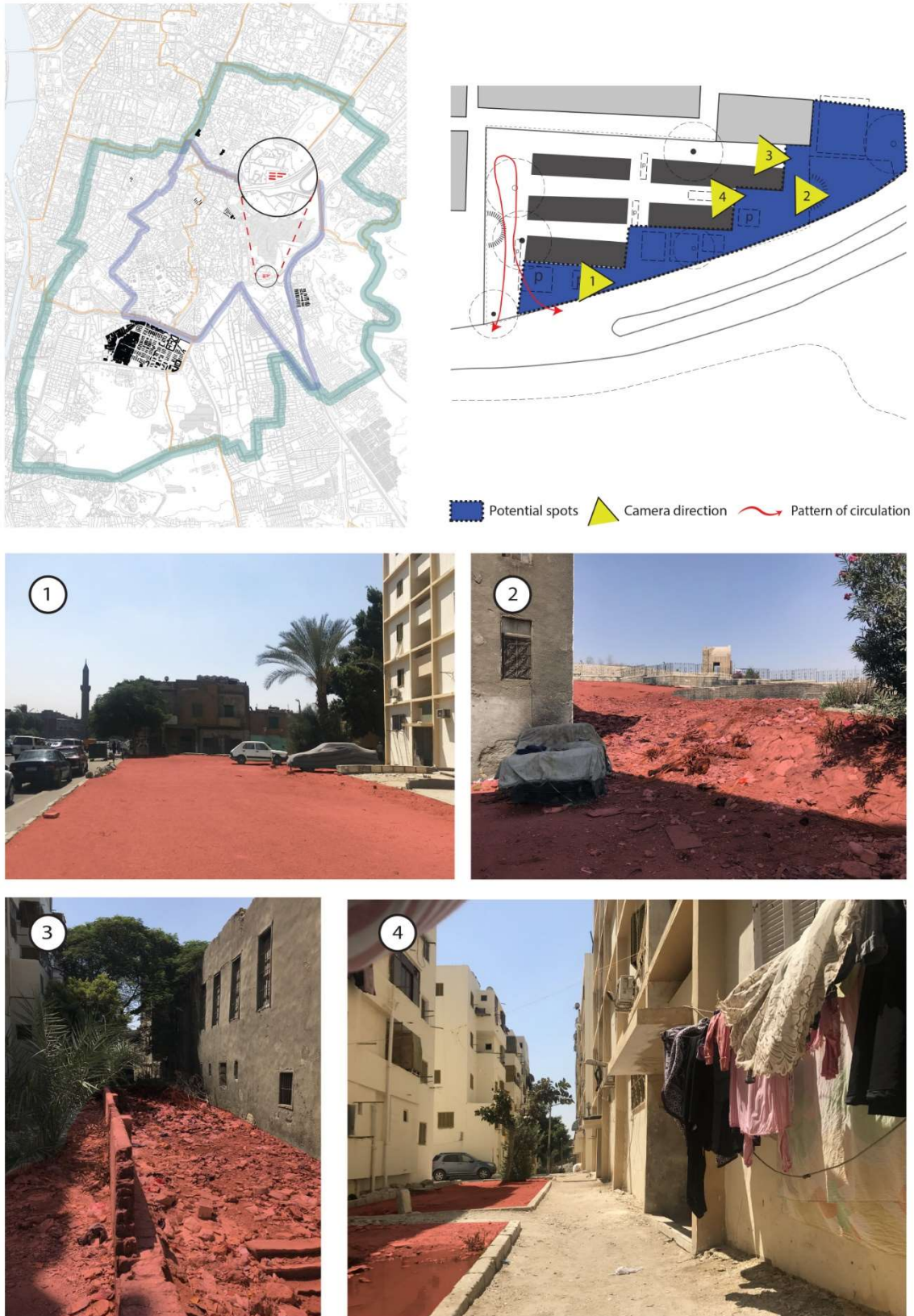
Figure 53 The circulation pattern and significant open spaces with potential.

'Arab al-Yasar - Exposed

Situated to the south, 'Arab al-Yasar Housing Project is a relatively small project overlooking Salaḥ Salim, the major street which acts as a strong and noisy border (location 1, Fig 54). This border, and its sense of exposure, is further increased by a large unused space (location 3) and the monotony of the block's facades (location 1). This situation limits alternative ways for the circulation pattern parallel to the road. To the north, a dilapidated area of the housing estate and empty plots that have accumulated rubbish (location 2) further isolate the site from its historic context. A narrow and shaded path to the west acts as a communal meeting point (location 4).
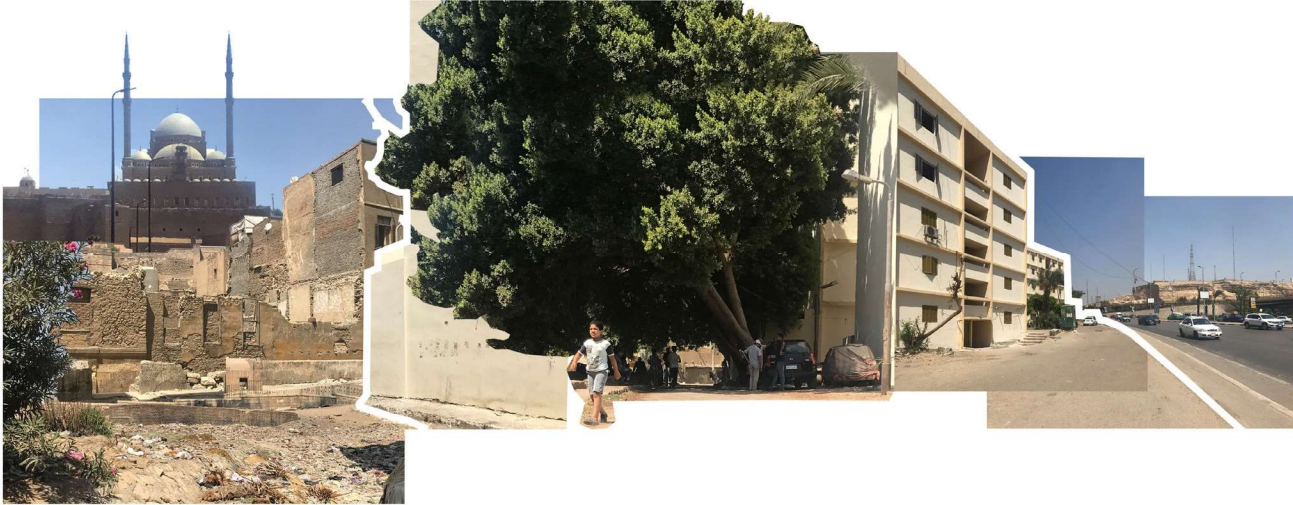
Figure 54 A photo collage showing how residential blocks are exposed to both Salah Salim and the ruins of the old neighbourhood.

5.   Bab Al-Wazir
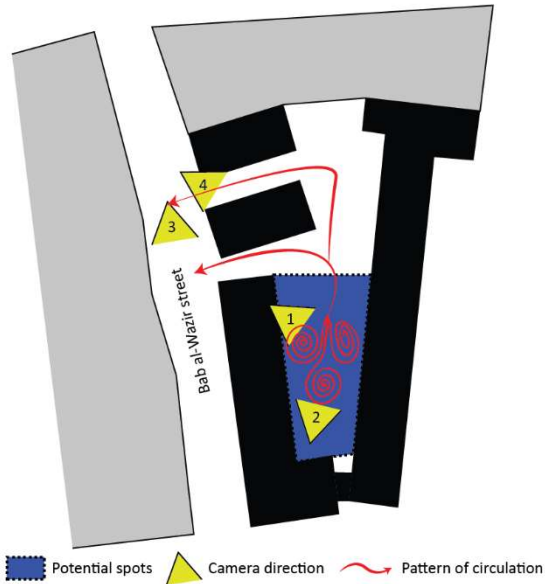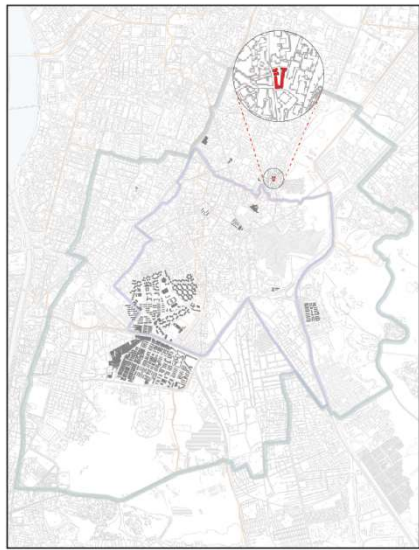
Figure 55 The circulation pattern and significant open spaces with potential.

Figure 56 shows that due to the semi-enclosed nature of the residential block in Bab al-Wazir, the circulation pattern is continuously looping towards the center rather than going outside. This is mainly due to the fact that workshops have totally occupied this space.

Figure 57 A photo collage showing the impression of the open space in Bab al-Wazir mainly charterized by workshops.

Bab Al-Wazir - Enclosed

Most of the ground floor activities make use of the in-between spaces, and thus the residents of Bab al-Wazir cannot use the public space on most weekdays except on Sundays when the workshops are closed. This makes the open space feel enclosed and private and not very welcoming to new activities and users.

6.   Masakin al-Awqaf

Potential spots   Camera direction   Pattern of circulation
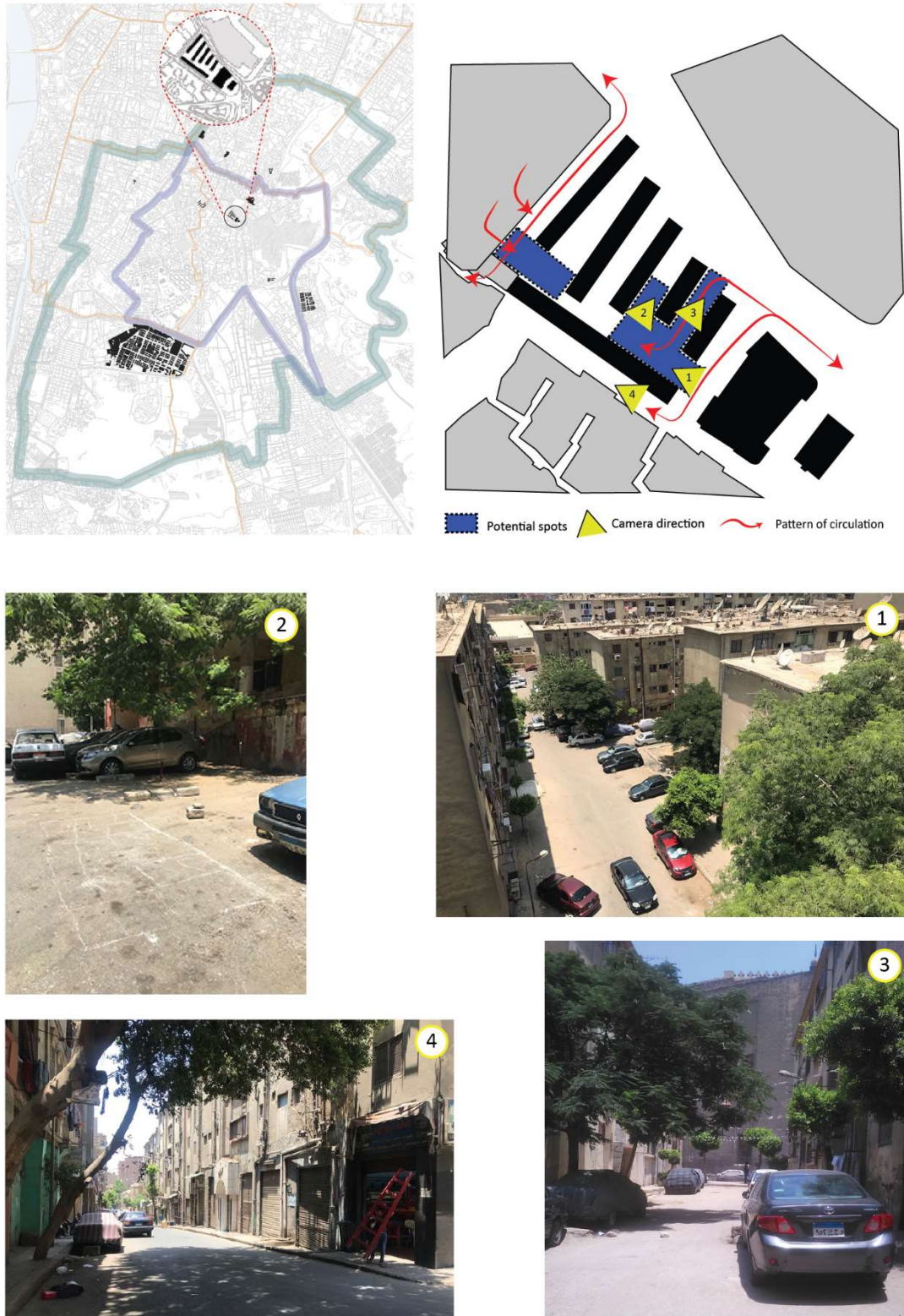
Figure 56 The circulation pattern dictated by the organization of buildings in Masakin al-Awqaf and the significant open spaces.

Figure 57 A photo collage showing the situation of Masakin al-Awqaf as a short cut between two neighbourhoods.

Masakin al-Awqaf - Permeable

In the heart of Historic Cairo lies Masakin al-Awqaf overlooking the Citadel and al-Sultan Hasan Mosque from one side, and al-Hilmiyya from the other side. The neighbourhood's design makes it permeable for people to pass from one side to the other as shown in the circulation pattern diagram in Figure 58. Although the neighbourhood lacks services (such as shops, grocery, etc.), making it a very quiet place, the residents, however, make the neighbourhood lively by playing football on the street or by simply exchanging conversations with one another out in the public.

7.   Masakin al-Mahkama

Character of open space: Masakin al-Mahkama

Figure 58 A circulation diagram of the open spaces in Masakin al-Mahkama which are fairly quiet and mainly used as parking lots for residents or outsiders.

Figure 59 A photo collage showing the nature of the open spaces in Masakin al-Mahkama.

Masakin al-Mahkama – Un-activated

The character of the buildings in Maskin al-Mahkama is characterized by additional extensions despite its proximity to historical buildings. The atmosphere is defined by quietness and emptiness. The project possesses a residential quality and is relatively safe even during the night. The open spaces need to be further activated, and the issue regarding overusing the spaces as parking lots needs to be addressed.

8.   Masakin Qaysun

Figure 60 The circulation pattern in Masakin Qaysun showing how it is used as a short cut to al-Mugharbilin neighbourhood (similar to Masakin al-Awqaf). The photos of the open spaces show how that they are wide and have great potential, yet are enclosed and temporarily used by furniture workshops.

Figure 63 A photo collage showing the competing uses of the open spaces in Masakin Qaysun as a playground on one hand and as an exhbition space for furniture on the other.

Masakin Qaysun – Enclosed

The ground floor in the buildings of Qaysun is mostly occupied by furniture shops. The shops also use the open space that exist in front of them and thus take up most of the space. This, however, does not prevent children from gathering and playing together in the rest of the available space.

IV.   Case Study

After we ended this stage with the selection of a focus area, we started digging deeper in order to understand the dynamics of two case studies that may have a spillover effect in the case that we introduced a certain intervention. In order to determine this intervention, we embarked on a series of observations and behavioral mappings that will be further explained in the following section, followed by our readings that emerged from these studies and how they affected the intervention process.

A.   Selection criteria of the case studies:

1.   Location in relation to Historic Cairo and the spillover potential.

2.   Relation of the open spaces to the context.

3.   Percentage of open spaces.

Character of Open Spaces
in Historic Cairo

'Ayn al-Sira

Awqaf al-Qal'a

Bab al-Wazir

'Arab Al Yasar

Masakin al-Mahkama

Qaysun

Al-Abagiyya

Zaynhum

Zaynhum

Final Selection

Zaynhum

Zaynhum was selected due to its diversity in open spaces and for its urban fabric's architectural and historical qualities.

Masakin al-Mahkama

Masakin al-Mahkama was selected because it lies in the heart of Historic Cairo and because of its proximity to the other projects. Its development could provide in its open spaces potential services for both its residents and for the residents of the neighbouring projects as well.

Linear Urban Fabric 1955 .... Located in the Heart of Historic Cairo

Urban Fabric Designed in Newer Phases of the Project .... Non-Homogenous with Urban Fabric of Historic Cairo

Large Open Spaces .... Large Open Spaces

Planned Intervention

Figure 61 Case study selection diagram.

B.   Behavioral maps
1.   Methodology

In order to reach a further understanding of the case studies, a set of behavioral maps was created. According to Jan Gehl:

> *"Mapping behavior is simply mapping what happens on a plan of the space or area being investigated. This technique is typically used to indicate stays, that is, where people are standing and sitting. The locations of where people stay are drawn at different times of day or over longer periods. The maps can also be combined layer on layer, which gradually provides a clearer picture of the general pattern of staying activities."*[3]

In the study in hand, the behavior in certain locations which were highlighted in the previous step of the staying illustrates the character of open spaces. The mapping activities took places during three timings. The first timing was early in the morning at 11 am. The second timing was at 3 pm, a time when almost every household member was heading back home, the sun was less intense and when most shops were expected to extend their activities. The last timing was around 8 pm during which open spaces are expected to be occupied by people sitting around and chatting, and children playing within them, given that the sun is gone by then and the weather is usually nice especially during the summertime. The mapping activities were repeated during weekdays and weekends, including Fridays and Sundays (i.e. when workers are off).

The mapping took into consideration the setting which is mainly composed of fixtures and mobile objects. In addition, the base map included the trees and shading devices in order to be able to trace the pattern of sitting in relation to the sunlight and shaded areas. The second set of mappings focused on the flow for vehicles and pedestrians. In each category, the flow was further classified and counted over the period of investigation. In the case of vehicles, subcategories included:

- Cars
- *Tuktuks*
- Motorcycles and vispas
- Buses

As for the pedestrian subcategories these included:

- Males
- Females
- Children

The counted numbers were visualized as arrows of different colours pointing to the direction of the flow. The arrows of different subcategories combined gave an indication of the overall flow intensity.

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[3] Gehl, Jan and Birgitte Svarre. *How to Study Public Life*. Washington, D.C., Island Press (2013).

2. Case study 1 Zaynhum

The maps in Table 1 show that during the early hours of the day there is a dominance of cars from the presence of the hospital and court nearby. Due to the heat factor from the sun, and the absence of shaded areas, it is after sunset that there is a moderate flow of vehicles, and that more activities start to occupy the sidewalks and parts of the streets.

Time of day	11am	3pm	8pm	legend

Setting (fixed/mobile)

Legend:
- Bus
- Car
- *Tuktuks*
- Motorcycle
- Kiosk
- Bus station seat
- Street vendors
- Bread vendors
- Cafe Seats
- Street cleaning equipments

Flow — Vehicles
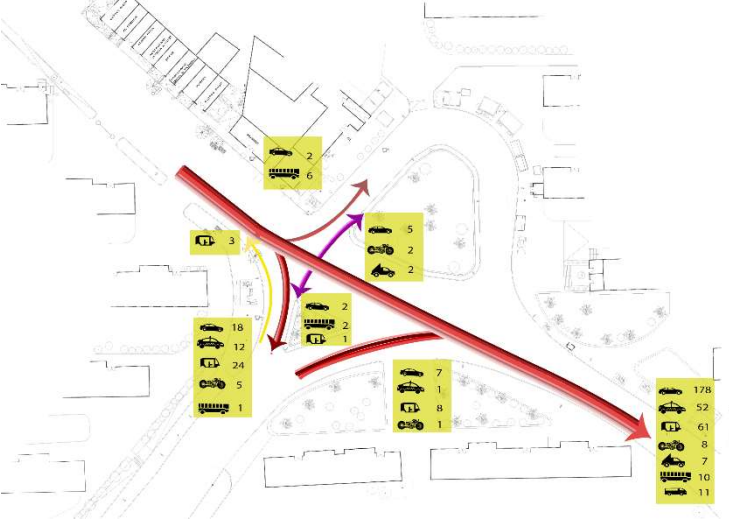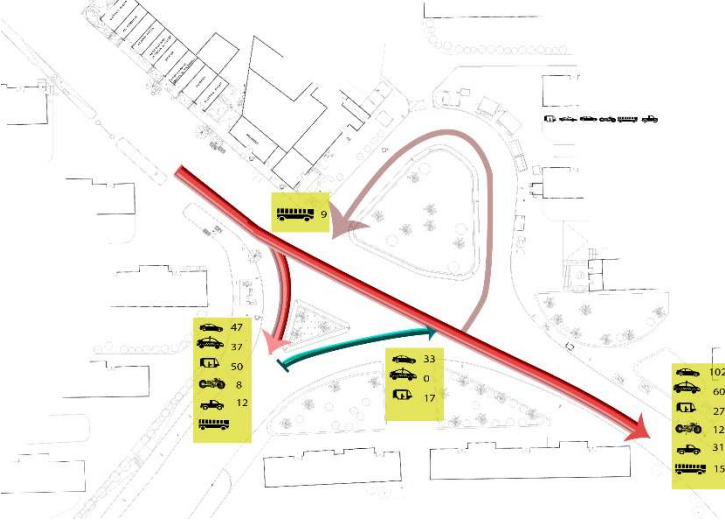
From al-Mahkama
From al-Madbah

Pedestrian
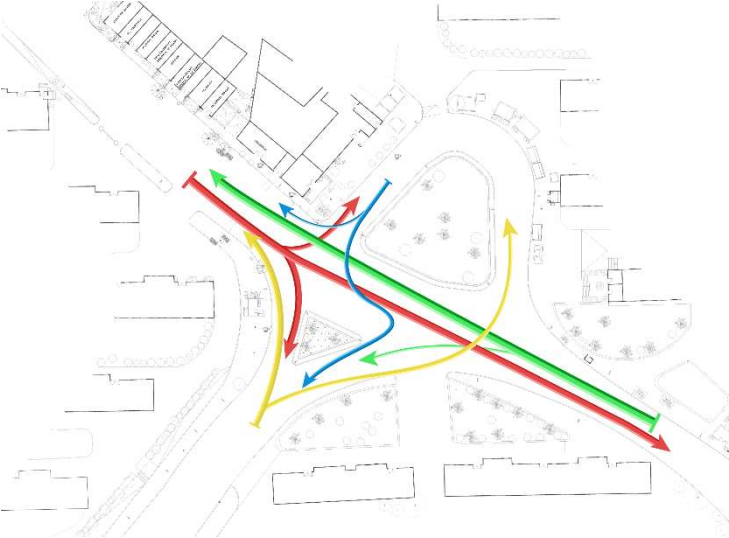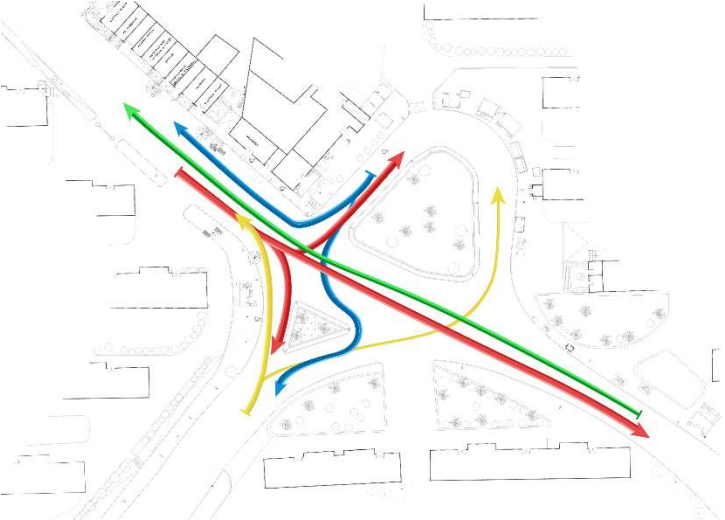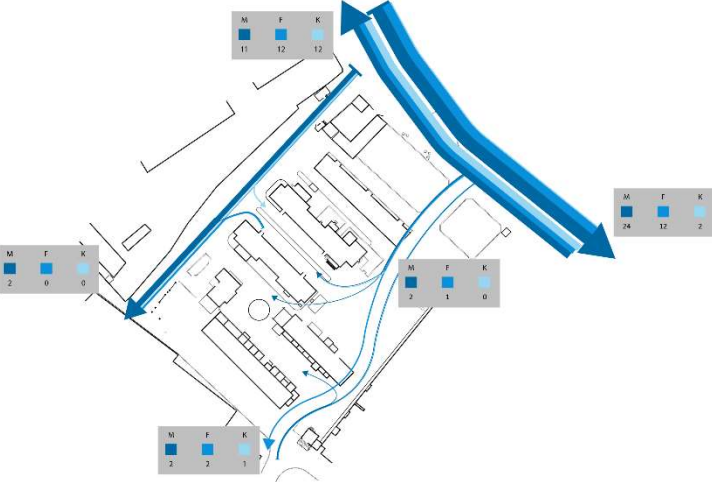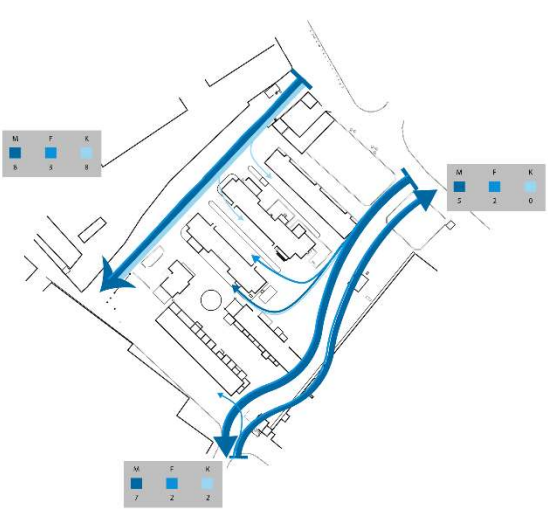
F M K
- From al-Mahkama
- From al-Masakin
- From Majra al-'Uyun
- From Madbah

Table 1 Zaynhum's behavioral and flow maps.

3. Case Study 2 Masakin al-Mahkama

The other case study that was studied in more focus was Masakin al-Mahkama. As shown in Table 2, the flow studies show clearly that the area is mainly used as a short cut whether by pedestrians or by vehicles. No incentive for gathering or rest was noted. Also, no services such as kiosks or markets were found in the area. This was mainly due to the area's proximity to Port Said Street and al-Hilmiyya from one side and al-Hattaba from the other, as well as its central position in Historic Cairo. As shown in the map, the area has very low level of activities and these activities do not vary much throughout the different times of day. The main activity is in the form of a parking lot that is occupied by cars belonging to the residents as well as cars that are temporary there for the day used by the daily visitors of al-Mahkama nearby.

We can clearly see that the amount of vehicle outflow from the designated parking areas that surround the residential block increases around 3pm when most of the employees of al-Mahkama start leaving. The other side of the square 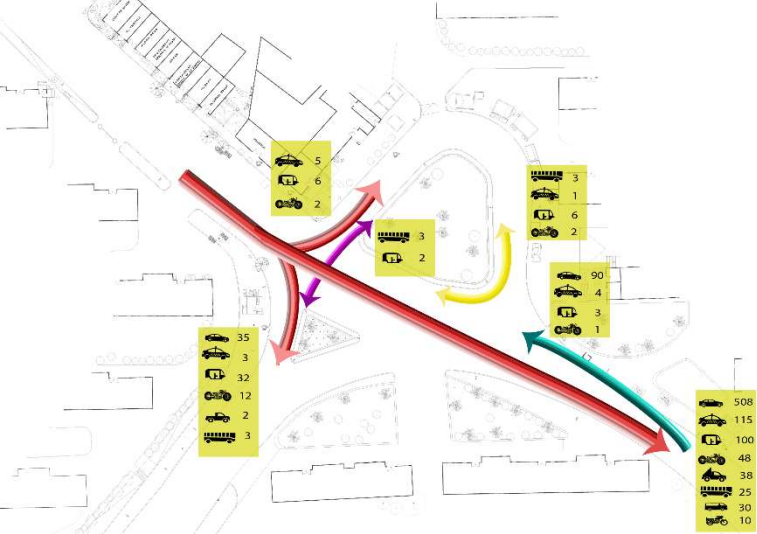has two schools making the pedestrian flow increase significantly during the afternoons. This also means the two empty plots on the edge of the block have potential for intervention that could target young students from both schools.

Time of day	11am	3pm	8pm	Legend

Setting (fixed/ mobile)

Flow — Vehicles

Vehicular flow 3 pm

Pedestrian

Pedestrian flow 8 pm

Table 2 Masakin al-Mahkama's behavioral and flow maps.

C.   Intervention alternatives

It was decided at this stage to take these observations and studies and use them as tools for a student design workshop in order to generate ideas regarding potential intervention.

1.   Zaynhum Square

We tried not to limit the possibilities yet we presented to the workshop participants with two main alternatives for Zaynhum Square. Due to the limited time and resources available, we decided to postpone further work on al-Mahkma and just focus on Zaynhum given its proximate relation to al-Khalifa.

Figure 62 A digitally constructed model of Zaynhum Square showing the relation between the open spaces, buildings and the transportation hub located in the middle.

Figure 63 Alternative 1 for Zaynhum Square merging open spaces with the relocation of the bus station.

Figure 64 Alternative 2 for Zaynhum Square.

The two main alternatives were mainly related to and based on the bus station in the heart of the square.

a) Alternative 1

As Figure 66 illustrates, one of the alternatives proposed relocating the bus station and using that space to maximize the public area instead.

b) Alternative 2

_As Figure 67 illustrates, the other option was to leave the station as it is but try to designate clear activities for the remaining open spaces.

2. Open spaces between residential buildings
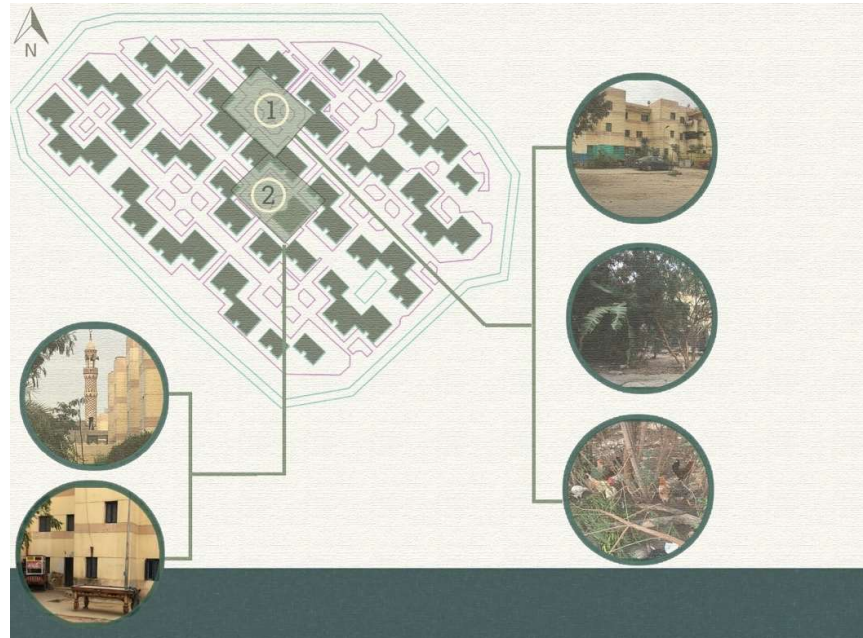
Figure 65 The choice of open spaces in-between the residential buidlings of Phase 3 in Zaynhum project.
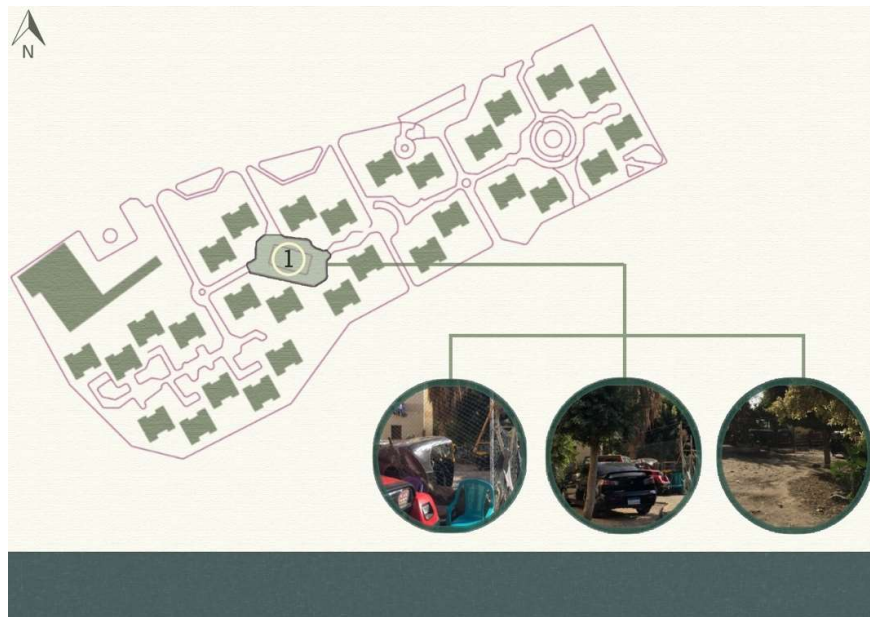
Figure 66 The choice of open spaces in-between the residential buidlings of Phase 3 in Zaynhum project (continued).

Group 1   Group 2   Group 3

1.   Activities

After a guided tour in the area, we presented the research flow and studies to the participants concluding with potential locations for intervention. Based on their very brief field observations and interviews that were conducted during the day, the participants were asked to propose different activities in the open areas for different target groups. They were also asked to gather the general opinions of different users of the square on the current location of the station, and the effects of its relocation on ground floor residents and vendors around the station.

2.   Outputs
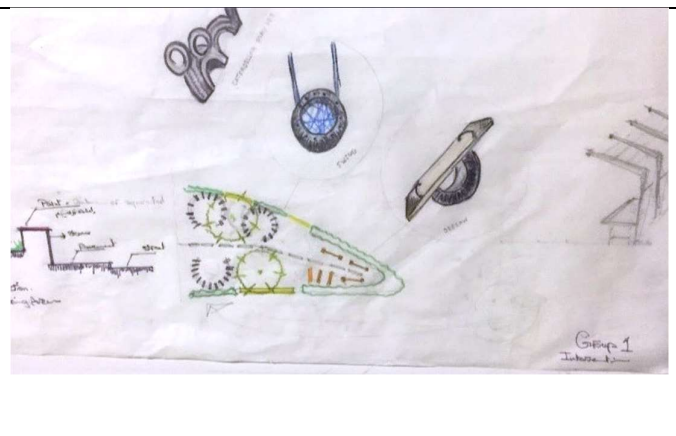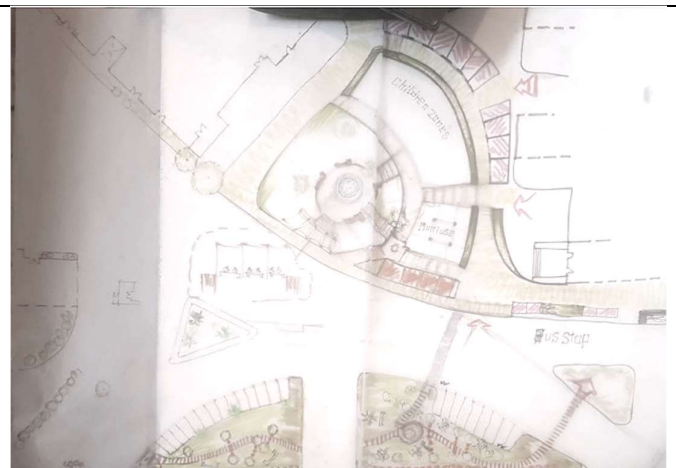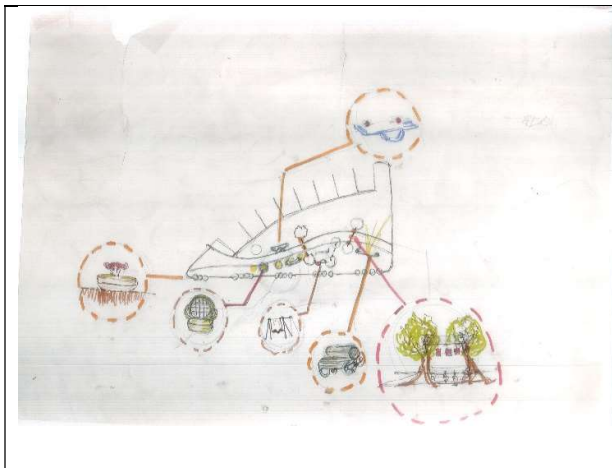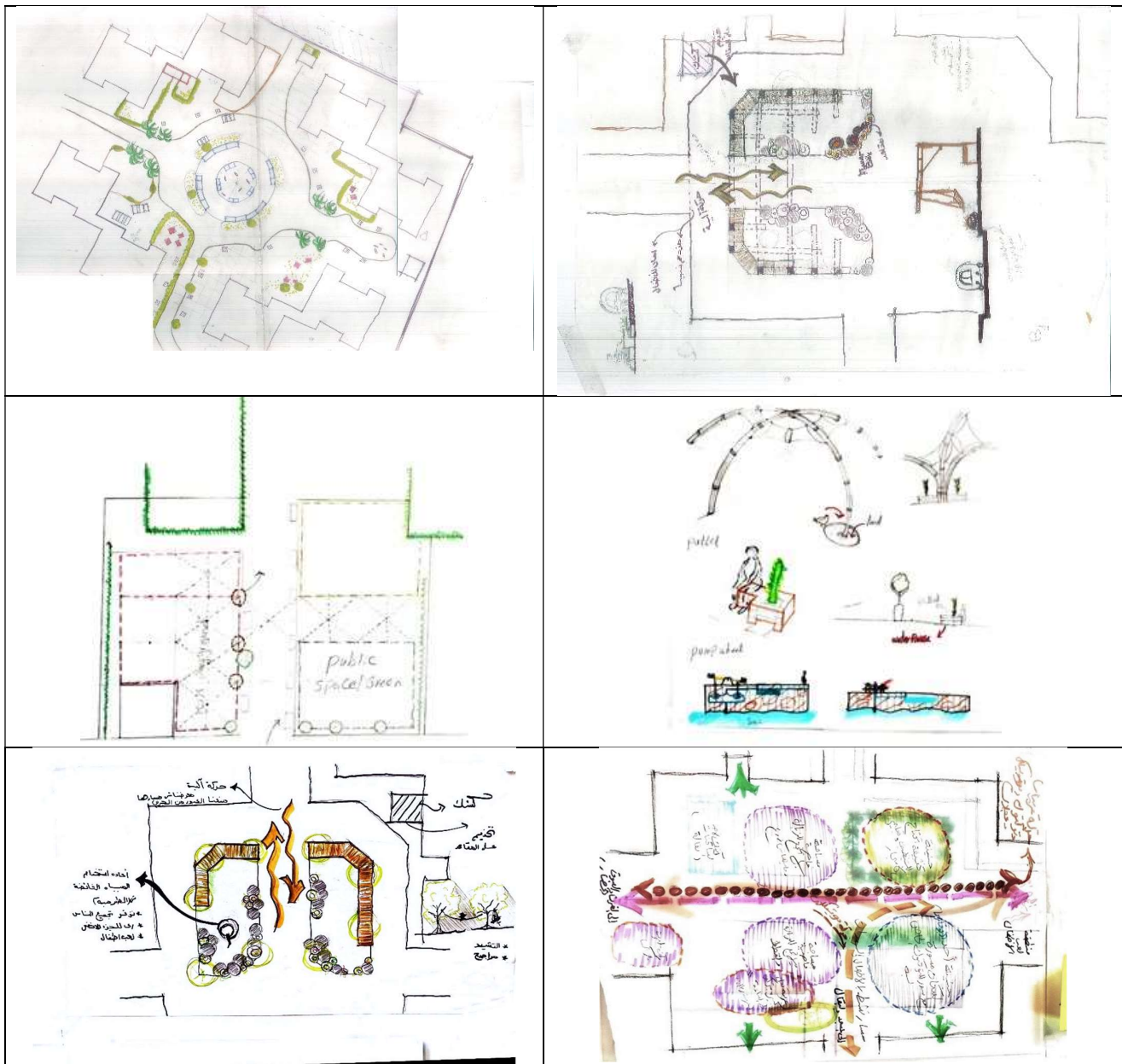
Table 3 Different outputs of the Design Ideas Workshop.

Some groups focused on the area around the square dealing with different target groups in proximity to the heavy flow of vehicles. They proposed different ideas of how the vast open area can be used for different target groups and linked effectively with the residential blocks. Other groups focused on the in-between open spaces that are located between the residential buildings. They spent part of the allocated time of the workshop observing how residents are using the space during different times of the day. They observed whether the children were playing within the space, the residents were parking their cars in it or whether the space was left unused instead. Based on their observations and brief interviews with the residents, they came up with various design ideas on how to activate these areas utilizing the potential ground water in Zaynhum that is negatively affecting other areas such as al-Khalifa.

After we filtered the ideas generated during the design workshop, we attempted to introduce a temporary intervention as a way of testing the validity of the ideas and observations, and initiated a dialogue with the residents to gather their initial impressions.

1.   Selection criteria

Figure 67 The condition of the selected open space for intervention.

We chose this internal open space given its contained nature. This therefore meant we would only be dealing with a specific target group made up of the residents of the four residential blocks.

The first square is attributed to the neighbouring architecture in which one of its residents is called Abu Faris and who is amongst those who are interested in intervening in the region. The area is considered to be in better condition in comparison to other cultivated areas as it contains banana, lemon, guava and grape trees in addition to some palm trees. However, these trees do not receive regular maintenance as you can find many overlapping trees completely collapsed on the ground.

2.   Methodology of intervention

Doing it Together[4] poses some questions about common public spaces:

> "*Is it possible to share management of common public spaces in cities in a way through which macro and micro-urbanisms can communicate? What negotiations allow a public space in the city to be characterized by the protagonism of its spontaneous use? What is needed for the lessons learnt from successful prototypes to be replicated, improved or even extended to shape public policies for the entire city*?"

Inspired by these questions and that "temporary uses are an opportunity for urban planners and residents to get to know what the various groups think and in turn for these groups to learn to accept each other"[5], we attempted to design an intervention methodology that incrementally intervened in one of the in-between spaces in phase 3 of the Zaynhum Project.

The choice of the space was based on the potential for multiplying the experiment in other similar in-between spaces keeping in mind that "being a catalyst for a city's development and quality of life, public space interventions acquire in this sense a multiplier effect in the delivery of economic, social, and environmental objectives for the city."[6]

The intervention was designed to engage different sectors of the residents on a step by step basis during the course of many days, building up to a community meeting during the Spend Your Day in Al-Khalifa event. The process included the following illustrated steps with their explanations below.

3.   Process

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[4] Sobral, L. *DOING IT TOGETHER: Cooperation Tools for the City Co-Governance*. Berlin: ZK/U Press (2019). Doing it Together – Cooperation Tools for the City Co-Governance is a publication that aims at assisting local authorities and community groups to co-create cooperation tools for community-led management of public spaces.
[5] Ibid, P.11.
[6] Ibid, P.17.

Figure 68 The incremental process of intervention.

The steps illustrated above included the following:

1) Cleaning and refining the two cultivated squares: the agriculture of the fenced square from within and the cultivation of some of the empty spaces in the neighbouring square of Abu Faris' residential block.
2) Paving a space from the other squares for a meeting with the community, and testing the possibility of creating a suitable place for the community to walk in. This was done by forming seats using car tires, where the tires were also made in a shape that was suitable for children to play on and create ideas for games around them.
3) Planting with children.
4) During a community meeting, a 3D model was used to demonstrate the impact of this open space and that people live in the neighbouring area of al-Khalifa. The model was well received and initiated many discussions primarily revolving around the administrative absence of the municipality. These discussions also dealt with the need for technical assistance regarding the irrigation of the green areas, and the difficulty of joint management of the open spaces. It was concluded that it is better to assign responsibility for each open space to the residential block that directly faces it.

V.   Concluding remarks
A.   Summary

The process that this research underwent was very ambitious and somehow unprecedented with regards to social housing, where the focus is usually the residential unit. It was also not in any way deep or exhaustive. It only scratched the surface of a longer process that needs to be further built upon. It laid the ground for a comparative analysis between different social housing projects from different times and scales.

This study focused on the street-home relation and the open spaces in-between the residential units. These open spaces are usually regarded as left over spaces, however, the study saw them as potential factors on more than one level. On a very specific scale, the use of these spaces has a direct impact on the ground water level of the rest of Historic Cairo. On a broader level, these open spaces can act as alternatives to the very few common open spaces in the historic area, which possesses a very compact urban fabric.

The process was experimental in many aspects building upon previous studies done on Historic Cairo. It included the following steps:

1. Contextualization of the selected projects
2. Phase 01 Taxonomy:
    a) General information: About the projects
        (1) Scale, population and its density
        (2) Administrative information (management and ownership)
    b) Relation to context
        (1) Accessibility and mobility
        (2) Age and history
        (3) Ground floor activities and surrounding services
    c) Buildings
        (1) Typology
        (2) Conditions
    d) Open spaces
        (1) Typology
        (2) Conditions
    e) Elimination
3. Phase 02 Closer look
    a) Morphology of open spaces
    b) Safety and security
    c) Impact and relations
    d) Character of open spaces
4. Phase 03 Case study
    a) Behavior maps
    b) Intervention alternatives
    c) Design Ideas Workshop
    d) Intervention prototype and community feedback

B. Reflections

In contrast to the usual complaints that children are the source of destruction to any intervention implemented by adults, after the meeting, the children used the model to demonstrate their understanding of the potential of this open space as well as the surrounding open spaces in relation to one another. They proposed different ideas of distributing the playgrounds around the area in order to decrease the amount of noise generated (which had eventually made the adult residents remove the tires that we fixed and that were used by the children as a playground). It is worth mentioning that the plants were mainly guarded by the children, and that after almost a month it was the adults who removed them from their places and relocated it them to their private gardens. This raises a question that needs to be further investigated regarding how the residents perceive public vs. private property.

C. Lessons learnt

The gradual intervention strategy that we used initiated a dialogue with the residents on a daily basis, and created a sense of ownership to what was being built. It also made us rethink what we are introducing on a

daily basis based on the reaction of the residents. This is a very useful strategy as opposed to the sudden intervention that gets introduced in one day without first interacting with the residents. However, this strategy did not prevent the partial collapse of the temporary fixations such as the tires that were meant for seating and play, and the removal and destruction of some of the plantings that were introduced. This requires a further investigation on how the residents of this block relate to one another.

D.   Potential and further action

After revising how the process went, filtering the discussion during the community meeting and conducting interviews after the collapse of the temporary intervention, we came up with many potential actions that can increase the potential of success for a future intervention, and that can be replicated in other open spaces of Zaynhum and have a positive impact on neighbouring areas such as al-Khalifa:

•   Socially:

o Inclusion of women and children in social activities that make them more aware of the environment they live in and its neighbouring surroundings.

•   Technically:

o Taking further action in the study of the potential use of ground water in irrigation.

o Experimenting with low-tech irrigation systems that can be managed by the residents.

•   Administratively:

o Including in the process other stakeholders such as the Red Crescent (al-Hilal al-Ahmar) and the municipality, highlighting how improving the quality of open spaces in-between buildings can greatly improve their efforts in the area regarding beautification or social inclusion.

o Attempting to initiate collaboration between the residents (at least on the scale of the block) in order to co-manage the open space facing them instead of relying solely on individual initiatives.

•   The discussion with children that followed the community highlighted to us the role of children in the process and how they have a holistic view of the neighbourhood given their continuous mobility. There is an attempt to organise a long term weekly design workshop with the children in order to generate ideas regarding the types of activities they would like to have in each of the open spaces around Zaynhum in relation to their block, tracing their movement around the neighborhood from one open space to another. This will greatly increase our understanding of the area from a different perspective and will generate more ideas for future mini-interventions on a larger scale with the help of the children themselves.

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