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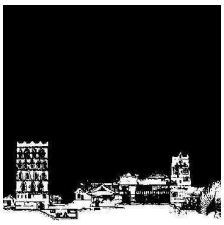

TRADITIONAL DWELLINGS AND SETTLEMENTS WORKING PAPER SERIES

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Traditional Dwellings and Settlements

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CAIRO BETWEEN REPRESENTATIONS OF AUTHORITY AND SOCIETY

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CAIRO BETWEEN REPRESENTATIONS OF AUTHORITY AND SOCIETY

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This paper will critically This paper will critically revolve around the nature of neo-Mamluk architecture style and how it influenced the mentality of the authority in Egypt at this time and to what extent is it was represented in society as an architectural style that has complete authority visually and spiritually, which was reflected in the history of Mamluk Egypt itself, society's behavior and the Egyptian authority with it.

1. INTRODUCTION

In the last quarter of the nineteenth century and the first half of the twentieth century, Egypt in general and Cairo in particular witnessed an architectural style called neo-Mamluk Style. The buildings that were built in the streets of Khedivial Cairo in that period expressed this type of architecture, in addition to the cemetery of Cairo, which witnessed an architectural renaissance. Huge and enormous during that period, most of the buildings that were built were in this architectural style, in which foreign and Egyptian architects alike participated. It represented a model that mixed elements of Mamluk architecture with some elements of Andalusian architecture with great harmony between them.

The cities of Egypt also had this architectural style. Tanta, the capital of Gharbia Governorate, carried among its streets a large number of these buildings, especially mosques. The most famous of these models was al-Sayyid al-Badawi Mosque, the most famous religious center in the Delta, in addition to other models such as Ibrahim al-Desouki Mosque in the city of Desouk, Kafr el-Sheikh. This model reached Upper Egypt itself, where Abd al-Rahim al-Qenawi Mosque was built there.

This style was sponsored by the Egyptian authority at the time, as it was taken as an architectural model expressing the national identity of the state, especially during the period of Khedive Abbas Hilmi II, Sultan Hussein, King Fouad, until the end of king Farouk's era, which started during the era of Khedive Ismail.

There was no specific beginning for this distinctive architectural style, as Ottoman Cairo itself witnessed Mamluk models, in addition to some prototypes by architects who worked in Egypt and recorded their observations on Cairo's architecture and began to imagine a new architecture based on it. But the real and actual beginning of this style, which had the greatest impact after that, was in the international exhibitions in which Egypt participated, where Egypt was represented through certain architectural models, in which the newly developed Mamluk architecture was the pioneer and main one.

These exhibitions were the first nucleus to revive what was called the neo-Mamluk style in Cairo at the end of the nineteenth century, especially in the era of Khedive Abbas Helmy II. Therefore, I assume that the Revival Style began in Europe before Cairo itself. Cairo represented its image that it had drawn for itself in the West, as a city of a Neo-Mamluk style, through the buildings which were built by the Muhammed Ali's family from this date until approximately the middle of the twentieth century. It was not confined to Cairo only, but it was exported to other cities and governorates in Egypt until it reached Upper Egypt.

2. HISTORICAL BACKGROUND

The Mamluks took overpower in Egypt, the Levant, and the Hijaz for more than two centuries. Throughout that period, the Mamluks were able to impose their architectural presence in the main cities of the Sultanate. The most significance of these cities was, of course, the main capital of the Sultanate, Cairo. Mamluk architects produced wonderful and inspiring models of architecture in Cairo, which distinguished themselves from other cities and buildings. Starting from the first establishments, such as Al-Zahir Baibars Madrassa, which is located on the great Street, through to the establishments of the Qalawun family, which had the most essential and dominant presence in the city, all the way to the era of Qaytbay, the peak era in which buildings reached their highest level.

There were some main features that distinguished Mamluk buildings in Cairo, such as the stone facade, minarets, and domes. The common factor for all of these main features was that they were located on the facade in order to visually take over the city and its streets, in accordance with the Mamluk philosophy of urbanism.

> "Rather than being the implementation of a theoretical concept or an abstract vision generated in an architectural workshop, the religious monuments were essentially a flexible composition of modules combined ad hoc, according to the requirements of each site. Ideas were pragmatically subordinated to the particular circumstances of a building's location and its patronage. Because each monument was designed to take account of a variable street perspective and other urban requirements, its layout was singular".
>
> Behrens Abouseif, Cairo of the Mamluks, 73.[1]

The Mamluk political system was complex and unique in the region. A military elite of white slaves was able to impose strong control and authority in the region, to the point that it became undisputedly the holder of

[1] Doris Behrens-Abouseif*: Cairo of the Mamluks a History of the Architecture and Its Culture.* The American University in Cairo Press, 2008.

the strongest and highest authority in the Islamic world, as it served the three holy cities in Islam, Mecca, Medina, and Holy Jerusalem.

> "Its system of governance and centralization of authority represented departures from hierarchies of power and collective rule characterizing the regimes that antedated it".
>
> Carl Petry, Mamluk Sultanate, 5.[2]

All of this intersects with an inspiring production of architecture and arts in the most important Mamluk city of Cairo, which is usually called "Mamluk Cairo" despite its Fatimid origins, still carries among its streets remaining archaeological monuments which reflect the success of the Mamluk Sultanate in producing distinctive architecture.

In the year 1517 AD, Selim I conquered Cairo, eliminating the Mamluk Sultanate. The Mamluk Sultanate was one of the most significant authorities in the world at that time, in terms of the depth of its political and economic influence. When Selim conquered Cairo, he did not hide his great fascination with the architecture which Mamluk left behind, however, Cairo lost its independence and became part of the Ottoman empire.

In the year 1805 AD, Muhammed Ali Pasha became a ruler of Egypt as an Ottoman governor, he was able to be semi-independent from the Ottoman Empire, and to make the authority of Egypt for himself and his sons. Muhammad Ali's family ruled for a century and a half until the year 1952 AD. The main feature of the architecture of Muhammad Ali's family was the revival, whether of European buildings, Cairene buildings, or as happened with Muhammad Ali himself, Ottoman buildings.

Khedive Ismail, grandson of Muhammad Ali, was fascinated by Paris, its urban system and its infrastructure as well, so he was eager to build a new city in Cairo that was not independent of it, but rather was a natural and urban extension of Cairo as a city with a long history and large population density. Khedive Ismail founded the city of Ismailia under the supervision of Ali Pasha Mubarak, and began expanding a large number of streets within the neighborhoods of Old Cairo to serve public health. Khedive Ismail implemented extensive projects inside Cairo and in other cities such as Ismailia, which was also named after him. This was a real and tangible beginning for European architects who focused on studying Islamic arts within Cairo's neighborhoods and ancient buildings. Among them was František Schmoranz, for example. It is true that the innovative Mamluk architecture did not have a strong presence during the reign of Khedive Ismail in Cairo, but it represented Egypt in the international exhibitions in which Egypt participated during his reign.

[2] Carl Petry*: The Mamluk Sultanate.* Cambridge University Press, 2022.

Khedive Abbas Hilmi II sponsored this architectural style inside Cairo. He became the main representative of the state, as many buildings were built inside the streets and neighborhoods of Cairo in the neo-Mamluk style. The architects of this style were foreigners at first and then Egyptians as well. This style continued to be the style The official building of the state in most of its buildings until 1952 AD during the reign of King Farouk. After that, the Republic of Officers began to adopt an urban and architectural style different from what was before that.

3. NEO-MAMLUK: ORIGINS AND DEVEOPMENTS

The style of neo-Mamluk architecture reflects Mamluk Sultanate architecture itself but in a different way. It represents a deep understanding of Mamluk architecture. Even though it is a copied and reproduced architecture, the factors that led to its creation express a deep understanding of Mamluk architecture and its components.

> "The neo-Mamluk style owed its creation to the confluence of various intellectual, architectural and political currents which developed over the course of the nineteenth century".
>
> Nasser Rabbat, Mamluk history, 73. [3]

The pinnacle of this architectural style was the interest in ancient arts that spread in the nineteenth century. It was a movement to try to understand ancient arts in general and oriental arts in particular, which then produced the neo-Islamic style. The century in which the wave of revival of ancient arts became widespread. Despite Islamic art gained a bad reputation in Europe at this time, it was able to compete strongly in imposing its artistic style in the modern arts movement, based on the study of European architecture. Islamic arts, specifically in Cariene Mamluk and Nasrid Granada, and this style relies mainly on repurposing these artistic and decorative elements based on a specific view of each architect in order to employ them in a way that is appropriate for his architectural works at this time.

> "Also, they were able to play on the street perspective and the elements first seen from the main road. The layout also varied greatly by the architects and the final design was based on both aesthetics and convenience".
>
> Marei, Revival of Mamluk architecture in the 19th & 20th centuries, 13.[4]

[3] Nasser O. Rabbat*: Mamluk History through Architecture: Monuments, Culture and Politics in Medieval Egypt and Syria (Library of Middle East History*. Library of Middle East History. 2010.

[4] Laila Kamal Marei*: Revival of Mamluk architecture in the 19th & 20th centuries*. Master's Thesis, the American University in Cairo, 2012.

The Cariene mamluk architecture have certain features that distinguished it from other architectural styles. Details in the facades, minarets and domes, these three main elements were the standard of neo-Mamluk architecture. The focus was on the style of the building from the outside, in its facade, minaret, and dome. It was impossible to work on reviving Cairene or Mamluk architecture except by making successive visits to these historical buildings within Cairo's neighborhoods. We can trace the movement of citations by different architects who worked in this style.

By tracing the biography and working of the architects who worked and applied this architectural style, we can understand how this style was born, under what circumstances it was created, and most importantly from which buildings it was adapted. I will mention four main models. The first is Pascal Coste, the French architect who worked with Muhammad Ali Pasha in Cairo, then Owen Jones, the English architect who worked on Islamic art, František Schmoranz, who designed the Egyptian Pavilion in Vienna, and finally, the Egyptian architect Saber Sabry, who He established very important architectural models built in the neo-Mamluk style, such as the Ministry of al-Awqaf and the Awlad 'Anan Mosque.

In the early nineteenth century, Muhammad Ali asked Pascal Coste to design two mosques for him, one in Alexandria and one in Qalaat al-Jabal, but at the last moment the plan was changed and Pascal Coste's plan was replaced with a plan for another mosque in the Ottoman style, which is what is now built in the Qalaat al-Jabal. Fortunately, we now possess those plans drawn by Pascal Coste, and through a quick reading of them before going into any technical details, we can conclude that they were built in the neo-Mamluk style. In that historical period, this style that way seemed completely new to the architectural scene, not only in Cairo but in the whole world.

Pascal Coste (1787-1879) is one of the most essential architects who worked on this style, despite the scarcity of his legacy that embodies the revival of this art. However, he was fond of analyzing Islamic architecture, whether in Iran and Cairo. He left us a huge and significant legacy of works that originally helped move European architects. Towards discovering this hidden side of the architecture of the East, but the main goal of making these paintings and raising those dimensions of Cairo architecture was Muhammad Ali Pasha's mission, so it was necessary to get to know Cairo's religious architecture in order to derive from it what suits him in his project, and this supports the point of view on which this style of architectural Orientalism was founded is that the architect does not work in this style except for the purpose of employment and to serve his subsequent architectural idea. [5]

[5] Dominique Jacobi (ed.), Pascal Coste, toutes les Egypte, Marseille: Parenthèses/Bibliothèque municipale de Marseille, 1998..

By tracing the biography and life of Pascal Coste, he did not begin his project until after Muhammad Ali commissioned him to do so. We even notice in the correspondence between him and Muhammad Ali indicated that he was having difficulty entering the Cairene mosques until Muhammad Ali authorized him with a written decree that made the issue of entering the mosques easier and freer than before.

Fig. 1: Pascal Coste, Vue De La Porte Et Détails des Boutiques De lOkél De Qayd-Bey. (Source: collection of Victoria and Albert Museum).

On this panel, we can understand the nature of what is happening through the painting he painted of the facade of Qayd-Bey's caravansary. The Mamluk entrance, which Pascal Coste later quoted, was a major landmark in neo-Mamluk architecture. The main goal of making these paintings was to try to understand Islamic architecture, which is supported by the fact that these paintings were later used as an important reference for understanding the philosophy of Islamic architecture when Pascal Coste taught in the Department of Architecture at the School of Fine Arts in Marseille, and as Eugène Viollet-le-Duc said about Pascal Coste: "he was the first to highlight, and in a fairly complete manner, the remarkable architecture of this part of the Orient".[6]

Owen Jones (1809-1874), who wrote a book entitled "The Grammar of Ornaments", which he finished writing in 1856 AD. It is a book that laid out the rules, philosophy, and analysis of ornamentation, primarily in order for it to be employed and used in architectural elements. After that, an architect who belonged to this

[6] Maryse Bideault. *L'iconographie du Caire dans les collections patrimoniales francaises.* Paris, 2017.

style and thought also participated with him in this book, the English architect James Wild, who drew most of the drawings. Which concerns the buildings of Cairo. Joseph Bonomi also shared with him.

In 1868 AD the Czech architect František Schmoranz the Younger (1845-1892) arrived in Cairo in purpose to study Islamic art as well as working on Al-Gazira palace with the German Julius Heinrich Franz. He visited the streets of Cairo to study Cairene architecture, documenting this through panels and writings. The aim of these visits was to study Islamic arts and architecture for later use in his construction works. Through the paintings of František Schmoranz, we find that he often did not specify the aforementioned verse from which he took those decorations and those elements. We find that in one painting he may have included more than one artistic element in a random and unorganized manner. He used those decorations and those elements in the Arab Arts Room at the Museum of Arts applied in Vienna later. [7]

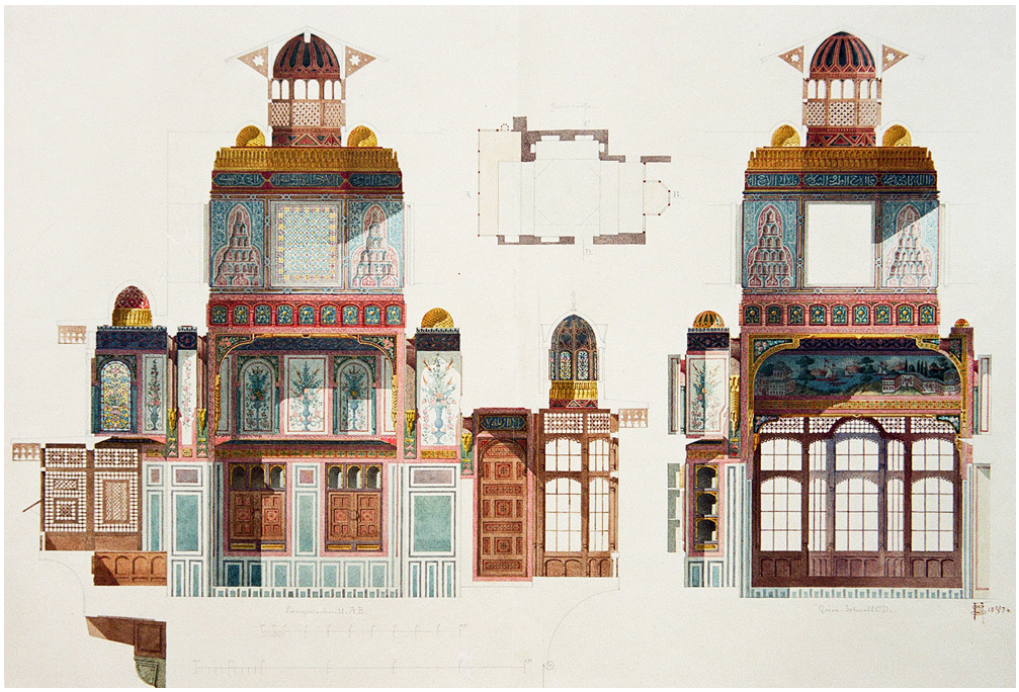

Fig. 2: Chrudim (République tchèque), SOkA Státní okresní archiv (Archives nationales du district).

[7] Milan Němeček. *František Schmoranz le Jeune (1845-1892 Le Caire dessiné et photographié au XIXe siècle*, 2016.

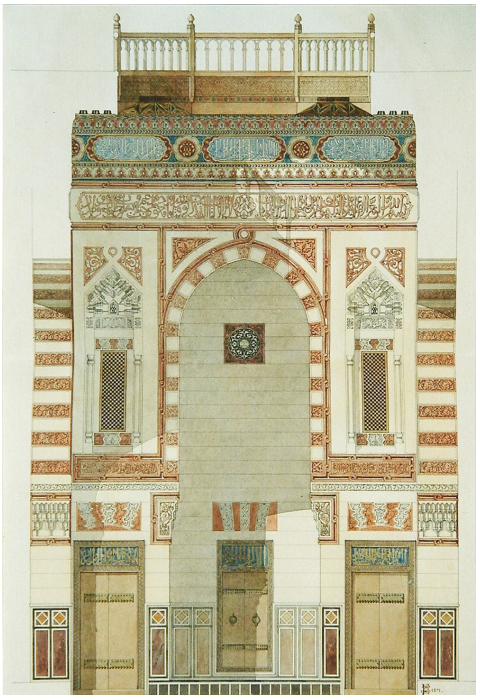

Fig. 3: Chrudim (République tchèque), SOkA Státní okresní archiv (Archives nationales du district.

That panel that he painted of the Azbek al-Yusufi Madrassa, which is the location of the mosque and an accurate longitudinal section of its artistic elements, was aimed at knowing the philosophy and planning of Mamluk architecture so that he could imitate it in his subsequent work in Vienna, which was the Egyptian Pavilion within the World Exhibition Project in Vienna in 1882.

It seems to me that this matter is that the issue was not for the purpose of documenting the impact in its image, which was It was painted for an academic purpose to serve the impact, but it was for the purpose of employing it later in similar religious architecture.

In the year 1870, architect Saber Sabry (1845-1915) graduated from the Muhandis-khana, the school that mainly sponsored architectural thought in Egypt. Sabry worked as the chief al-Awqaf architects at the ministry, and thus supervised the construction of a very large number of buildings that were built during the same period in which he took over. This position, during which the Khedive Abbas Hilmi II ruled. [8]

[8] Mercedes Volait, Appropriating Orientalism? Saber Sabri's Mamluk Revivals in late 19th c. Cairo, Brill 2005.

Saber Sabry designed and constructed a number of significance and major buildings in Cairo that were built in the style of neo-Mamluk architecture. The most important of these buildings was certainly the building of the Ministry of al-Awqaf itself, located in the downtown area, which is an official state building built in the style of neo-Mamluk architecture. He designed the Awlad Annan Mosque in the same style, the mosque that was later moved to Sayyida Aisha Square to be named after her, the Sayyida Nafisa Mosque, and its tomb located in the Imam al-Shafi'i Qarafa as well.

The life and works of Saber Sabry are very important, for two main reasons: he represents the state, as he worked in a position that oversees the construction of state buildings, and thus he represents the official direction of the state. The second reason is that he is an Egyptian person. From what he built; it can be deduced that he was the son of the school that constructed important buildings during the period preceding his reign.

3. HOW DID CAIRO REPRESENT ITSELF?

In the nineteenth century, Egypt participated in five international exhibitions, the first one was in Paris, then Vienna, and Paris twice more, and finally Chicago. Egypt represented itself in those exhibitions almost in a uniformly way, as the main common feature in the Egyptian pavilions that were built in those exhibitions were buildings in the Brurji Mamluk style. the state at that time which were represented by Khedive Ismail, took into consideration this view and supported it strongly from the first exhibition in Paris in the year 1867 AD, till the last exhibition in Chicago at the end of the eighteenth century, even though this style which was imagined of Egypt was different from what was the architecture in Egypt at the same period of Khedive Ismail, but it was the most famous image of Cairo at that time.

In the year 1867 AD, Egypt represented itself independently at the Paris Exposition Universelle of 1867. A number of Muslim countries (or as it was said at the time, oriental) participated in this exhibition, the most critical of which was the Ottoman Empire, but according to the opinion of orientalists and artists who participated in the exhibition, the Egyptian pavilion, which Khedive Ismail himself was a part of it, was the most attractive in the oriental pavilions. The Egyptian pavilion contained four architectural structures comprising a temple, a selamlik (men's reception pavilion), a caravansary, and stables encapsulated its ancient, medieval, and modern history.

At the Vienna Exhibition, which was constructed in the year 1873 AD. It was the second exhibition which Egypt participated in it, sponsored by Khedive Ismail as well. Egypt represented itself more clearly, as Khedive Ismail entrusted the task to the Czech architect František Schmoranz the Younger (1845-1892), who was in

Cairo at the time alongside Khedive Ismail. Schmoranz made multiple and extensive visits to the streets of Cairo, in particular, its Mamluk buildings. We can see through his notes some details about Mamluk architecture which he recorded in his private notebook. The dense and numerous architectural and artistic works that he wrote down and drew from Mamluk architecture. However, the result in Vienna was impressive, a distinctive mixture of Mamluk architecture that he borrowed from Cairo, where he created minarets identical to the minarets of the Khanqat of Faraj ibn Barquq, which were established in the year 1399 AD, in the Mamluk cemetery, in addition to an important and wonderful quote from the dome of the Qaytbay Madrasa, which he created year 1474 AD, in the same area.

4. CONCLUSION

It is concluded from the following that the neo-Mamluk architectural style is essentially a product of a movement of European architects that was sponsored by the Egyptian state at that time, starting from Muhammad Ali until the era of Farouk, to be the main facade and official architecture of the state. The choice of Mamluk architecture in particular over any other architecture in Cairo, despite the presence of distinct styles such as the Fatimid and Ayyubid style, was because the Mamluk style was the most complete, in addition to the fact that it was always treated as the golden age of arts in Islamic history.

The result in the end was impressive, not so much in form as in content, as these architects understood Mamluk architecture so accurately that they were able to express it with such power. However, this architecture was accompanied by some defects, including reproduction and repetition, which is a style that is not compatible with architecture that is primarily built on the idea of innovation and invention from the ground up. In addition to another defect that was disastrous for other non-Cairo cities, which is that it was not compatible with the environment in it.

For example, in a city like Siwa, which is located in the Western Desert in Egypt, this architectural style was built recently, while the local construction that was more compatible was completely dispensed with. With the dry environment of the desert. Also, in the cities of Upper Egypt where the state-built mosques in this style during the period of King Fouad and King Farouk, these buildings were out of the ordinary and did not fit in with the urban environment.

This architectural style can be studied only as a historical period, and it is also an important aspect of the many aspects of understanding the dazzling Mamluk architecture in Cairo. In the end, Cairo possessed a great and multiple legacy throughout the line that made it the focus of attention of architects.

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ADVOCACY AND THE POWER OF SOCIAL MEDIA IN EGYPT`S URBAN CONTEXT: URBAN STRUGGLES VERSUS STATE TRADITION

Amr Essam

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ADVOCACY AND THE POWER OF SOCIAL MEDIA IN EGYPT`S URBAN CONTEXT: URBAN STRUGGLES VERSUS STATE TRADITION

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There is no doubt that tradition is inconstant and dynamic process, but what about traditions that are reproduced from time to time through up-bottom approach with complete absence of community participation? How can people deal with these traditions through developing new tools and techniques?

This paper will critically contemporary urban context in Egypt by tracking some projects that were implemented at an accelerated pace in the past few years through urban policies and procedures that represented as an integral part from the traditions of the ruling regime since the past, ignoring the difference in time between the past and the present!

1. INTRODUCTION

> How are these tombs not listed as monuments!!! They are more beautiful and much better than the others that the ministry of antiquities listed them. "An officer from the engineering authority of the Egyptian armed forces speaking with his colleagues while visiting the necropolis of historic Cairo after a big debate on social media platforms denouncing the huge negative impacts of the new proposed highways on this distinguished heritage" – narrated by one of tombs keepers in historic Cairo, Winter. 2021

Other than the well-known fact that Egypt is the oldest country in history, it can also be described as one of the most central government and bureaucratic countries in the world. This centralization reflected on development process since the beginning of its civilization in which many projects have been accomplished based on supreme authority with lack of community engagement. Recently, many national projects with glamorous names and very accelerated pace appear in the Egyptian urban context in complete absence of official information and community participation, which leads to resistance and negative reactions denouncing these projects and its importance for the local communities. This paper addresses a new perspective on dealing with tradition through the vital role that social media platforms can play in advocacy and spreading urban awareness among the wide range of non-professionals. The author highlights on his role in communicating with decision-makers in Egypt through discussing some projects that have faced criticism by architects and urban specialists in the last few years. Three situation assessment papers focusing on the major negative impacts of these projects on the quality of urban life in Egypt have been prepared and presented to the presidency of the Arab republic of Egypt. The first and the second papers focused on extensive technical information only, while the third one included simple illustrations mixed with some technical information, both the first and the second papers failed to make a change, but the last paper succeeded in pushing forward towards cancelling suggested entertainment project in Zamalek, which called Cairo eye. So, the main problem of this topic is determined in the rapid changes of urban & real estate development led by the Egyptian sovereign governmental institutions in the last few years, and this certainly

requires new roles that urbanists can play in their communities from two perspectives: Firstly, urban knowledge and how can be presented in simple multimedia forms including, graphics, videos and artworks… etc. Secondly, the necessity of adapting urban curriculum to achieve this idea. In such a case social media platforms can play a crucial role in spreading urban awareness among wide sector of people and this definitely will lead to paradigm shift on urban decision-making in Egypt through influencing and pressuring from the new actors.

This paper begins with historical overview, then describing the definition of national tradition in Egypt and addressing existing situation. The paper ends with the final discussion and concluding remarks.

2. REVOLUTIONARY URBANISM IN EGYPT

In less than three years, Egypt witnessed two revolutions that had great impacts on Egyptian society. After the revolution of 30th June 2013, there have been drastic changes that directly affected many sectors and urban growth specifically, accompanied by the political changes stemmed from the necessity of restoring the dominant historic role of the state which has become fragile after the revolution of 25th January 2011. By the end of 2014, big transformations took rapid steps with the beginning of the new political regime after three years of instability and several decades from the decline of integrated development and almost complete deterioration of public facilities and services, which directed the new regime to handle these challenges through mega projects in all sectors, especially those with a quick investment return, but what was the method used to achieve this? According to the state`s official discourse, this would have been possible without involving the sovereign institutions in development and making army the main supervisor of all mega projects, regardless the rapid pace these institutions operate and the conflicts that can occur due to some specific projects that need integrated and comprehensive studies before and during implementation. For this reason, many projects have been met with criticism, resistance and rejection from professionals denouncing its importance for local communities and the way in which those are implemented. Although the criticism and resistance focused mainly on social media platforms, they were also embodied in many ways such as discussions between specialists in parallel with online advocacy campaigns, which varied according to each project separately and its impact on city identity, urban character and historic image. This was clearly shown in projects that aimed expanding streets to make traffic flow easier and motorized movement faster with less considerations to environment and limited green spaces which Egypt has and the necessity of preserving it. On the other side, there were more serious threats, such as those that appeared outrageously with the start of the implementation of Al-Fardous traffic highway that penetrates the historic necropolis of Cairo and its huge negative effects on the city's heritage. This project has been implemented, although the criticism and rejection was too great. After that, In Heliopolis (Masr el-gededa – one of Cairo's distinguished districts), there was a

proposed bridge in front of the Basilique church (historic and the most dominant building there), but it was stopped after the big and impactful rejection campaign that arose against this project after the beginning of construction work on site.

Holistically and briefly, we can define some differences between advocacy campaigns according to each particular case, despite the success in stopping Cairo eye project in Zamalek district (the most distinguished Nile islands in Cairo). After the official announcement of launching the project instead of Andalusia heritage garden in front of Cairo tower (one of City's political symbols and iconic landmarks). Except that bias was very evident in the advocacy of this case and its negotiation process, both the decision makers and the wider public sided very clearly with the residents of Zamalek in their fight to defend for the urban memory of the city. By comparison, the Awsati Highway project, which was announced around the same time and encompassed the construction of a new ring road highway cutting through the historic Sakkara area in Giza (the macro context of the ancient city of Memphis) was met with very little organized resistance from the wider public and residents. But if each case is analyzed on its own, it becomes evident that successful campaigns are enabled through widespread public support and the endorsement of public figures and celebrities. It is also helpful when the campaigns are supported by various tools including graphics, simplified technical information, and good visuals which urban experts can use to disseminate relevant information quickly among vast segments of the population through social media, elements that the Zamalek campaign had and the Awsati one lacked. This is where the importance of simplified academic knowledge from the fields of urban studies must come in: to simplify and transform vital information to the public using art, graphics, etc. and engage in meaningful knowledge production for a wider audience to ultimately influence the urban decision making process in Egypt. The author focuses here on three projects, that have been announced as part of Egypt`s national projects in the past few years. Explaining the negative effects of these projects would not have been possible without situation assessments papers that were submitted to the authority and decision-makers in Egypt as follows:

3. AL-FARDOUS HIGHWAY- A CRAK IN THE HEART OF CAIRO`S NECROPOLIS

On the morning of Sunday 19/7/2020 a massive reactions arose on social media platforms denouncing starting work on a project called Alfardous highway[1], that connects El-Moshir highway in the east with Alfardous Square on the west, penetrating the eastern cemeteries of historic Cairo necropolis (Al-Qarafa - city of the dead).The Cairo necropolis site includes the Mamluk desert which locates within the boundaries of historic Cairo. It is listed as a world heritage property since 1979 by UNESCO and as an area of historical values according to the Egyptian law no. 119 of 2008 before the official approve from the supreme council for planning and urban development in July 2009. After that the national authority for urban harmony

(NOUH), affiliated to the ministry of culture has published a booklet of general regulations and guidelines to define zones of protection in historic Cairo, including development standards and conservation boundaries, which were also approved by the supreme council for planning and urban development in 2011. Generally, negative reactions and rejection were not for this project, but it was focused on its proposed section that passes through the heart of eastern cemeteries in historic Cairo and the threats of splitting its urban fabric that has existed for hundreds of years and the destruction that will happen for the distinguished architectural heritage of this area, such as the dome of Qanswa bin Said, located directly in the vista of this highway, which no other dome has the beauty of its geometric proportions and its ornaments quality. Some specialists classify it the most valuable Mamluk dome in the world and it cannot be compared to any other one in terms of its uniqueness except the dome of Sultan Qaitbay in Al-Qarafa as well. It is worth mentioning that the necropolis of historic Cairo includes more than 15 percent of the Arab monuments in Egypt, which was documented by the committee for preservation of Arab monuments for more than a hundred years, headed by the famous architect Hertz pasha. Al-Fardous highway was previously proposed but it is rejected from the national organization for urban harmony (NOUH), according to its official responsibility in setting development regulations and guidelines for heritage sites in Egypt, regardless of its confined authority and limited financial resources since its inception in 2001, this makes their ability to protect Egyptian heritage very limited. On the other side, UNESCO puts strong restrictions on countries that have world heritage sites and intend to start any projects to inform the organization through its regional offices around the world to define the most appropriate development regulations and implementation mechanisms for each case with full coordination with those countries, but as a global institution, they don`t interfere to prevent encroachments on world heritage sites[2].. It is assumed that the countries that own these legacies are keener to preserve their historical sites, considering that heritage is a great soft power and one of national income sources for them. What only UNESCO can do is threaten to list these historical places in the category of threatened and at-risk sites, giving them a classification according to the degree of danger, and then deleting them from the world heritage lists for non-compliance with the binding charters of dealing with heritage. Some of this happened after this project, neither advocacy campaigns nor situation assessment paper that I prepared and produced it to decision makers did not succeed in preventing it, but the great argument that happened on social media platforms played a vital role in stopping the expansion of surrounding streets which was scheduled before.

4. INTERNATIONAL PARK IN ALEXANDRIA – FROM ENTERTAINMENT TO REAL-ESTATE INVESTMENT

On the morning of Tuesday 19/7/2020, a little reaction arose on social media platforms denouncing the decision to expropriate the 116.9 acres of land, located occupied by the international park in Alexandria. Objections against this decision started from architects, urban experts, and those concerned with quality of

life, environmental and sustainability issues, then moved to non-specialists, especially those interested in public sphere and Alexandrians, whose park is located within their geographical location. A few kilometers from the entrance of Alexandria in the direction of international coastal road and Cairo-Alexandria desert road, the international park, located in the south of the city in front of Carrefour hypermarket, and close to Al-Nozha airport and its famous natural lake, which make its place unique and highly accessible. Alexandria`s international park also known as downtown, consisted of some recreational activities (amusement & aqua park), in addition to clubs, tourist restaurants and weddings and conferences halls. Only the zoo of Alexandria and Al-Montazah gardens are the competitors of this international park, but if we exclude Al-Montazah due to its sensitive nature and unstable operating conditions, it becomes clear that the International Park and the Zoo together constitute the green heart of Alexandria and its living lungs. On the other side, the current conditions of the park is miserable after deducting large parts of green spaces and converting them into commercial activities which did not add much value to the place as much as they negatively affected the visual image of city`s entrance and historical identity of Alexandria as one of the oldest capitals of the Mediterranean Sea. Holistically, the existing conditions of the park as a green open space for the citizens of Alexandria has become degraded, as there are no visits to it except for one day per week, which is Friday, after many years of deterioration and lack of maintenance. Now, the land of this Park has been allocated for real estate investment through the engineering authority of the armed forces. The name of the proposed project is JANAT (Paradise in Arabic), including almost 3,600 apartments in addition to commercial and entertainment activities. According to the proposed master plan that was promoted through a promotional video on social media, titled Alexandria gate, it is noted that this project is a complex of residential towers with high densities and limited open spaces[3]. Other than this data, there is no extra official information about this project, but the construction work has not started yet, and the park is still standing.

5. CAIRO EYE - A WHEEL ON THE NILE OF ZAMALEK

At the beginning of 2021, the Cairo eye was announced as a revolving wheel project on the Nile of Zamalek for tourist entertainment that allows visitors to see the landmarks of Cairo from a unique location where the Andalusia historical garden is located and a few meters away from another landmark, performing the same function, which is the Cairo tower. Regardless of the direct negative political impacts of this project on the Cairo tower as a symbol of the modern Egyptian republic in the fifties of the twentieth century. This project was presented in the media as a civilization paradigm shift towards a new future for the city. It is worth mentioning that Cairo eye as a project was previously proposed within the urban development plan of Cairo downtown, which was prepared as an international competition before the 25th January revolution. The whole project of revitalization Cairo downtown was stopped after the revolution, but at that time the jury commented that this project (Cairo eye) was inappropriate in terms of location and has no relation with the

history of the city. A few days after the announcement of this revolving wheel, many questions were raised about the necessity of conserving heritage and reviving historical gardens, especially the current huge lack of public open and green spaces in all Egyptian cities. Holistically, Cairo suffers from extreme decline and poverty in green spaces and public gardens, in addition to high traffic volumes and trips that will be generated from a project of this size in this very crowded area, which makes it the wrong project in the wrong place[4] and this is what happened after many discussions that took place in the Egyptian parliament against the importance of these commercial activities in this historical and crowded place, then the decision was to stop this project immediately.

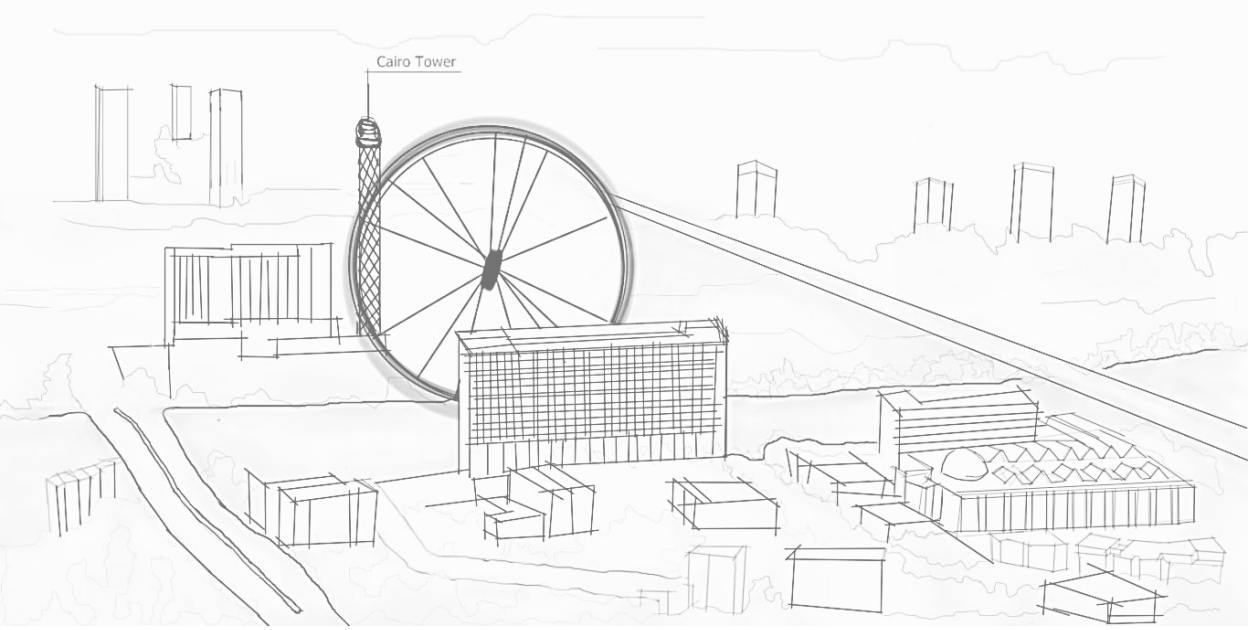

Fig. 1: Sketch drawing shows the negative effects of Cairo proposed wheel on the exposure of Cairo tower. (Source: Author).

6. CONCLUSION

Throughout situation assessment papers that I prepared and after tracking reactions that came from specialists and others against these projects on social media platforms, I noticed that there are some differences that vary according to each case separately, where a set of factors are came together to determine the path of each project. One of them was geographical location, where the social media advocacy campaigns in Cairo got more support from Alexandria. Recently and for example, in Mansoura (an important city on the Nile in Egypt) a real estate investment project was announced on city`s Nile instead of existing garden called happy land and the city`s heritage culture palace. This campaign did not get enough support from residents or specialists, which refers to the singularity of Cairo from other cities in Egypt, perhaps this is because the media focus all the time on Cairo and the great exposure which city has, or it may be because of the historical

role of Cairo in architectural education and as the main labor market for architects and planners which make them in constant defense for their city? Public and influential figures have a prominent role in advocacy campaign, the credit of stopping Cairo eye project and the success of advocacy campaign goes first to the rejection from community stars and champions, those who clarified this clearly through their personal accounts on social media platforms, and it also goes to simple illustration (see fig1) that were mixed with some texts and presented to one of decision maker in Egypt to clarify quickly the negative political effects of this project without technical information. The same happened with the Basilica bridge project, which was proposed in front of the dominant historic landmark of Heliopolis (Basilique Church). This also appeared recently with the beginning of announcing a new traffic highway that penetrates the heart of Maadi and divides it into two separates parts. The project has been postponed after the very successful and well organized rejection campaign led by community public figures in various fields, denouncing the huge negative effects of this projects on the identity and history of Maadi. Projects announcement timings also played an important role in the success and failure of advocacy campaigns, but the pivotal factor from the author`s point of view lies in the ability of experts from architectural and urban planning backgrounds to simplify their technical knowledge and raising awareness among non-specialists through illustrations, multimedia, etc., which had a clear impact on the success of advocacy campaigns in Basilique bridge and Cairo's eye through the author`s personal experience, so can urban specialists and students in the near future have the ability to practice and research as well as advocate through education curricula that strike a balance between all of this?

NOTES AND REFERENCES

[1] Later, in mid of 2021, it was changed to Jihan El-Sadat highway after the death of Jihan El-Sadat, the wife of the previous president of Egypt, Anwar El-Sadat..

[2] Essam, Amr, t*he negative impacts of Al-Fardous highway on the necropolis of Historic Cairo, situation assessment paper,* Presidency of the Arab Republic of Egypt, July, 2020. (un-published)

[3] Essam, Amr, *transforming International Park in Alexandria into high-density real-estate investment project, situation assessment paper*, Presidency of the Arab Republic of Egypt, September, 2020. (un-published)

[4] Essam, Amr, *the negative impacts of Cairo eye project on the identity of the city, situation assessment paper*, Presidency of the Arab Republic of Egypt, January, 2021. (un-published)

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DISRUPTING AUTO-CENTRIC PLANNING TRADITIONS: GENTRIFICATION AND PERSPECTIVES ON CHILDREN'S ACTIVE MOBILITY IN THE AMERICAN SOUTH

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DISRUPTING AUTO-CENTRIC PLANNING TRADITIONS: GENTRIFICATION AND PERSPECTIVES ON CHILDREN'S ACTIVE MOBILITY IN THE AMERICAN SOUTH

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This paper examines community perspectives of gentrification through the proxy of children's active mobility within the context of the American South. A.J. Whittenberg Elementary in Greenville, South Carolina offers a unique opportunity as a special public school on the edge of a historically low-income black community undergoing rapid and aggressive gentrification. Through observations, behavior mapping, and interviews we describe the perceptions of neighborhood change that architectural interventions like Safe Routes to School infrastructure elicit from the local community. Our mixed methods analysis reveals complex tensions between active mobility design goals and community traditions that evoke a type of gentrification that seeks to erase and revitalize the existing community along racial lines.

1. INTRODUCTION

Gentrification is a popular phenomenon receiving heightened attention in an era of increasing social and spatial inequality. In this paper, we craft a definition of gentrification based on urban scholarship as the influx of capital and higher-income residents into historically disadvantaged and lower-income neighborhoods, which, in many cases, starkly transforms the built environment and social fabric of communities.1 While many scholars have addressed community perceptions of gentrification, and others have suggested architectural interventions to promote equity restoration, such as sidewalk upgrades, few have addressed community perspectives of the architectural interventions.[1,2, 3, 4, 5, 6] In this paper, we focus on well-accepted architectural interventions that support active mobility (e.g., bike lanes, street lighting, sidewalk upgrades, traffic calming, etc.) through a Safe Routes to School (SRTS) program and leverage perspectives of children's active mobility as a proxy for understanding gentrification. Active mobility refers to human-powered modes of getting around, primarily walking and bicycling. A proxy is needed because of the sensitive political and social nature of gentrification and the scarcity of evidence to verify residents' "true" feelings. By directing conversations and data collection toward children's active mobility, we can assess and substantiate behaviors around controversial themes of race, property value fluctuations, environmental neglect, new neighborhood actors, and the tensions produced by selective community investment. Through a comprehensive analysis of community interviews, behavior maps, and observations, we reveal a range of tensions behind these seemingly benign architectural interventions, and we draw attention to professionals' blindness toward spatial traditions. This paper concludes by asking, under what conditions does SRTS infrastructure instigate gentrification and then describes the possible transferability of our results to other gentrifying communities across the American South.

This paper calls attention to the misunderstandings that often arise between design professionals' intentions versus community members' perceptions when implementing architectural interventions to promote equity through active mobility. Despite well-meaning planning efforts to expand active mobility options through interventions like SRTS, a disconnect often exists between planners' goals and residents' experiences in historically marginalized neighborhoods undergoing rapid revitalization. Professionals might overlook the cultural and historical aspects that influence how people in the American South embrace new infrastructure, particularly in areas marked by racial and economic segregation. Without considering local perspectives, even beneficial projects like walkability could increase the risk of accelerating displacement and disintegration of community identity. The forms of gentrification in the American South are more extreme; in historically black neighborhoods strong social bonds and cultural traditions are prevalent, making gentrification a threat to community identity and social cohesion.5 Additionally, according to Jonathan Levine, a professor of urban and regional planning at the University of Michigan, zoning policies that encourage suburban sprawl have made walkable urban neighborhoods rare in many areas. The high demand for walkable communities and limited supply intensify gentrification in the few neighborhoods that have short block length even when the architectural infrastructure is not present.6 These urban neighborhoods are typically dynamic places undergoing demographic, economic, and physical changes over time. While gentrification takes many forms and cannot be reduced to a single definition it is distinct in the American South because of the pervasive intersection between race and income yielding spatial traditions of low-income historically Black communities displaced by middle-income predominantly white communities.

1.1. Greenville, South Carolina's Historic West End Neighborhood

Greenville is a mid-sized city in the upstate region of South Carolina, situated along the Reedy River with a historic downtown core. In the past few decades, the American Planning Association has given Greenville planning professionals awards for several public infrastructure projects such as the rail-to-trail program (the Swamp Rabbit Trail), Unity Park, and the historic modernization of downtown by the famous architect Lawrence Halprin. Nowhere are the impacts of these three public infrastructure projects more apparent than where they coincide in the West End neighborhood. In part due to the city's reputation for quality public spaces, the West End and surrounding neighborhoods are experiencing exponential growth with a shortage of affordable housing subjecting them to speculative pressures. Greenville City Councilman, Russell S. explains the stakes:

> "The main thing that's going to impact [gentrification] on or near the park is on the left side of Hudson [street], we're doing mixed use development. So probably a hotel. The USC School of Nursing is talking about moving there. **There'll be condos and that will be very high end. Because that's what we're using to pay for the park.** And sad, I guess,

> consequence of development of Unity Park as more and more people start using it, it's gonna put more pressure on [AJ] Wittenberg and the parking in [AJ] Wittenberg."

The quote acknowledges higher end development gentrifying the historically black low-income community happening around Unity Park, which the interviewee sees as a "sad consequence" even though it is being used to fund the park development. These changes will influence the school's parking accessibility too.

In this paper, we go to the West End and leverage an SRTS pilot program developed for A.J. Whittenberg Elementary School (AJ Whit), a magnet academy at the intersection of Unity Park and the Swamp Rabbit Trail. The introduction of the SRTS program in a starkly gentrifying neighborhood provides a compelling context to investigate the complex intersection of active mobility architecture, community perception, and equitable development. Our investigation questions standard urban planning assumptions and the application of best practices. The West End is a Special Emphasis Neighborhood (SEN). Planning officials and politicians recognized the importance of distributing urban renewal benefits across neighborhoods, so they identified and targeted 13 historically low-income black neighborhoods--three of which are adjacent to AJ Whit. An SEN is defined as having at least 51% or more households that earn less than 80% of the area's median income. These neighborhoods receive additional protections and support in zoning and planning decisions because they are considered high risk for displacement resulting from new development.7 The consequences of gentrification for Greenville's SENs have been mixed. In the past 30 years, the number of black residents in SENs has declined by 53% raising questions about the effectiveness of the purported planning protections.[7]

Figure 1: Special Emphasis Neighborhood (SEN) map (Source: City of Greenville GIS Division with Author edits 2023).

Started in 2010, AJ Whit stands out as a groundbreaking institution with a comprehensive engineering-focused curriculum, a distinction making it the first of its kind in the state and a rarity in the nation. Due to its distinctly urban location, the school is considered appropriate for active mobility by American planning standards, however, the school provides limited bus services for students between 1-mile and 5-miles from the school and many parents choose to drive their children to and from school.

For the 2023-24 school year, the total student enrollment is 536.[8] The rich racial diversity can be attributed to its unique enrollment targets. This "Public School of Choice" sets admissions targets with at least 50% of students drawn from within a 1-mi radius of the school and the remaining 50% of students selected through a lottery system from families residing across the district. As shown in Figure 1, the local student basin includes seven SENs: the West End, Southside, Viola Street, Green Ave, Sterling, West Greenville, and Greater Sullivan. During our data collection process, some interviewees advised that these targets are changing along with gentrification. As SEN neighborhoods change demographically from families with children to childless renters there are fewer local students to drawn from and thus a larger proportion of seats are allocated to the lottery system. The Shi Institute at Furman University found that in the West End, property values rose 53% from 2000-17, while the black population declined from 65% to 35%, primarily because of increased property taxes.[7]

The West End neighborhood and specifically the SRTS architectural interventions at A.J. Whit present a stark case for studying community perceptions of gentrification at the intersection of race and income. In the next section, we review relevant gentrification scholarship including current scholarship on community perceptions of gentrification and the research that connects architectural interventions with equity through community cohesion.

2. LITERATURE REVIEW

2.1. A Review of Gentrification and Neighborhood Equity

From a socioeconomic standpoint, gentrification refers to the influx of capital and higher-income residents to working-class neighborhoods, transforming the demographic makeup and built environment.[9] Miriam Zuk, cofounder of the Urban Displacement Project, and her team found that these socioeconomic shifts happen, in part, when there is a significant gap between the current rental income in a neighborhood and the potential rental income if properties were improved and rents increased due to larger urban planning decisions.[10] The "rent gap" creates an opportunity for speculators to make money by buying properties cheaply, fixing them up, and renting or selling at higher prices, often purchases in large development tracks. However, gentrification is not the normal cycle of home improvement. Redevelopment is instigated through public

policies and plans that create district-level opportunities such as city investment in a public park, rerouting a transit corridor, or revising a zoning code. These interventions often bring district-level redevelopment opportunities to a neighborhood that the city had historically ignored or intentionally blighted, rendering a significant "rent gap." In gentrifying communities, developers and more affluent residents move into historically underserved neighborhoods to take advantage of the gap between low rents and high potential rents. The influx of investment and higher-income residents drives up rents and property values and changes the culture of the community, displacing lower-income residents.[11]

Research examining the extent of displacement by comparing in-movers to out-movers found that gentrifying areas typically experience demographic turnover as lower-income residents exit. Beyond physical displacement, concerns exist over the loss of social capital and community identity. Gentrification brings unfamiliar signifiers of difference – changed street names, public art, bike lanes, coffee shops – that recode place identity.[4] And the disruption of social networks through cultural displacement can be equally significant for marginalized groups.[10]

Strategies to mitigate gentrification center on affordable housing preservation and community stabilization. Inclusionary zoning is a planning strategy that mandates mixed-income housing in new developments. Housing trusts acquire property to maintain affordability. Rent regulations limit increases. Targeting investment in existing residents through job training, small business assistance, and wealth building can help neighborhoods share in renewed vitality.[1] Community land trusts, limited equity cooperatives, and renter protections support incumbent resident's right to stay.[10] While balancing revitalization with social justice remains challenging, not all communities view gentrification in the same way. Further, within a community, groups coalesce around different issues.

2.2. Community Perceptions of Gentrification

Zuk et al emphasized the nuance of gentrification to the historical context of an individual community. On one hand, her work shows how rapid neighborhood changes can displace vulnerable residents and undermine social stability while on the other hand she explains that community redevelopment can bring opportunities and improvements if properly managed.[10] Echoes of Zuk's dialectic can be found in community perception research. Proponents of gentrification argue that redevelopment often brings improved retail, restaurants, parks, and other amenities to disinvested neighborhoods.[12, 13] Additionally, many gentrifying neighborhoods see reduced crime rates as new residents demand greater security.[14] Furthermore, housing rehabilitation improves deteriorated units, and influxes of higher-income groups could theoretically reduce concentrated poverty and segregation.[12]

In contrast, some of the strongest arguments against gentrification emphasize the harmful consequences for already disadvantaged communities. Gentrification frequently results in the direct displacement of low-income renters who can no longer afford rising housing costs. Further, residents who remain also face exclusionary displacement from neighborhood resources, networks, and political power.[5, 10] More broadly, gentrification disrupts community cohesion, replacing existing cultures and undermining residents' sense of belonging. Market-driven gentrification relies foremost on attracting flows of capital and higher-income residents into a neighborhood, not on equitably meeting the needs and aspirations of struggling incumbent communities.[5] Existing scholarship working with communities presents a broad spectrum of perspectives that in-and-of itself suggests nuance tied to place, history, and culture. However, recent design research suggests that architectural interventions might counter the negative impacts of gentrification by restoring equity.

2.3. Architectural Interventions to Restore Equity

Design professionals have identified architectural interventions to promote community cohesion and support opportunities to restore and/or bolster equity. These interventions follow the logic that certain behaviors lead to restored equity through increased community cohesion. Relying on environment behavior theory and affordance theory,[15, 16] the built environment can support or inhibit community cohesion with architectural interventions that afford cohesive behaviors. While there are a range of behaviors that promote community cohesion, design professionals consistently promote three behaviors more than others: walking, biking, and socializing in public space. While architectural interventions take a broad approach to promoting community cohesion, research has shown that kids' active mobility, in particular, can have a significant impact on bringing communities together and addressing inequities.[17] Studies have found that promoting walking, biking, and time spent in public spaces for kids provides measurable benefits for community cohesion and equity. For example, a study by Rebecca Jones and team found that neighborhoods with infrastructure and programs that encouraged kids to walk or bike to school and parks had higher levels of social capital and integration across economic and racial lines.[17] The researchers theorized that kids' active mobility facilitated casual interactions and connections between diverse community members, restoring equity through bottom-up community building.

Active mobility refers to transportation methods that rely on human-powered physical activity, primarily walking and biking. It is distinguished from automotive transportation modes that are more sedentary.[18] Active mobility promotes health through physical activity while also facilitating social interactions and connections within a community. By getting kids outdoors and mingling with neighbors, active mobility restores equity through inclusive community spaces and relationships.[19] Christopher Alexander's theory of "a

pattern language" has gained widespread acceptance as a method for guiding architectural design by offering a collection of interconnected design patterns to facilitate the creation of environments conducive to specific behaviors and activities.[20] Key items we identified as relating active mobility infrastructure to community cohesion include wide sidewalks accommodating street life and pedestrian activities; places for rest like benches and ledges where people can pause and socialize; continuous, active building fronts reinforcing the public realm; highly visible crosswalk markings for safe crossing; street lighting enhancing safety and night use; shade from trees and overhead structures for comfort; protected bike lanes separating cyclists from traffic; and ground floor shopfront windows supporting visual connecting and soft surveillance. Contemporary programs like SRTS fund the design and implementation of architectures that follow many of Alexander's patterns, relying on designers to tailor them to the local context.

SRTS refers to planning, programs, and projects that enable children to safely walk and bike to school. Research demonstrates that SRTS initiatives can significantly increase the percentage of students walking and biking to school in an era of rapidly declining active mobility.[21] The percentage of U.S. students walking or biking to school dropped from approximately 50% in 1969 to 13% in 2009. [21] Marlon Boarnet, Professor of Urban Planning and Public Policy attributed the decline to factors as urban sprawl (which leads to school consolidations and closures), parental safety concerns about traffic and crime, and growth in school busing and personal vehicle trips.[22] In response, planners implement SRTS initiatives to make walking and biking to school safer and more appealing.[23] SRTS began in the 1970s to address high rates of child pedestrian accidents. A well-designed SRTS program can deliver comprehensive benefits ranging from improved safety and health outcomes to reduced congestion and long-term mobility education for students.[21]

Despite the lauded benefits scholars also suggests that SRTS initiatives have disproportionately benefited middle-class and affluent communities over low-income communities.[23] SRTS infrastructure improvements like sidewalks and crosswalks are more likely to be implemented in higher-income areas than in lower-income ones.[24] The disproportionate application exacerbates inequities since children in lower-income neighborhoods continue to lack safe walking and biking infrastructure. Other studies indicate that SRTS programs have smaller effects in low-income schools.[25] Researchers theorize this could be due to challenges like longer travel distances and parents' complex work schedules.[35] More targeted outreach and engagement strategies may be needed to promote active mobility and achieve equity goals through SRTS initiatives. Boarnet argue that an intentional focus on equity is critical for SRTS interventions to benefit all children and communities equally.[22] Beyond school-focused programs, urban planning approaches such as New Urbanism also aim to promote walkability and active mobility through neighborhood design, development patterns, and architectural infrastructure.

New Urbanism is a movement that emerged in the 1980s and 1990s, advocating for walkable, mixed-use neighborhoods as an alternative to auto-oriented suburban sprawl.[26] New Urbanism supports active mobility by encouraging design features that create walkable environments, such as defined public space, safe and comfortable streets, and appropriate development density. New Urbanist developments emphasize dense, compact communities with accessible destinations by foot or bike. They are designed at the human scale with pedestrian-oriented streetscapes. Promoted features include narrower streets, wider sidewalks, street trees and vegetation, lighting, benches, public art, and amenities to create an attractive and comfortable environment for walking and lingering.[27]

While New Urbanism's key principles promote active mobility through compact, walkable community design.[3, 28] Research by James Sallis and Brian Saelens demonstrate the positive impacts of New Urbanism in promoting functional and recreational physical activity. Residents walk more for transportation and leisure compared to conventional suburban developments. While the built environment sets important parameters, individual and social attitudes ultimately shape mobility behaviors in a neighborhood.[19, 29] In addition to public health impacts, New Urbanist's support for active mobility is linked to environmental sustainability goals. Shifting trips from automobiles to walking and cycling reduces greenhouse gas emissions and local air pollution.[2]

However, Cliff Ellis and Daniel Trudeau critique New Urbanism as promoting economic segregation and thus gentrification due to higher upfront costs and improved quality of life. Early projects were perceived as affluent suburbs or "gated communities" with exclusive residences.[3, 28] New Urbanist projects may contribute to gentrification that reduces lower-income families' access. Criticism about New Urbanism raises questions about the SRTS program's influence on equity. The City of Greenville's overlay plan for the West End incorporates New Urbanist design principles and patterns.[26] Understanding New Urbanism's relationship to active transformation will contextualize the study and reveal new questions about the impacts of gentrification on children's active mobility. However, few studies evaluate these interventions in the context of the American South, where rapid gentrification is trending and deeply embedded with race. The next section outlines our methodology for exploring how residents view the West End's transformation, including impacts on children's mobility and equity in the community.

3. METHODOLOGY

3.1. A Conceptual Framework for Navigating Gentrification Through the Lens of Active Mobility

We employed "children's active mobility" as a proxy variable to examine the perception of gentrification in the American South communities. This approach respects resident sensitivities and privacy, indirectly

assesses gentrification through behavioral indicators, engages the community, and evaluates environmental influences.[11, 19] Specifically, this paper offers a unique perspective of gentrification through the lens of active mobility to address the gap in scholarship for how communities and urban planners perceive gentrification.

3.2. Observations, Behavioral Mapping, and Interviews

Qualitative data collection techniques are widely used in research to explore personal opinions and social experiences. They prove efficient for assessing attitudes, perceptions, and needs, even with a small number of participants, allowing for data aggregation and comparison.[30] Observation offers direct, objective insights into understanding students' behavior concerning active mobility. We found observational data to be instrumental in crafting relevant questionnaires tailored to the context of active mobility in the West End community. We documented observations to analyze student transportation modes at A.J. Whit during ten school days across two weeks in April and May 2023. At a fixed spot near the school entrance, as shown in Figure 2, our researcher tracked travel methods (walk, bike, family vehicle) and demographics (perceived race, gender, and age), in five-minute increments during peak arrival (7-8 AM) and dismissal (2-3 PM) times.

Conceptually, this study leverages Ibram X Kendi's definition of "race" as a quality of skin color distinct from ethnicity.[35] We acknowledge that the concepts of "black" and "white" skin color are artefacts of European colonization and do not exist. Human skin cannot be "black" or "white" but rather is a spectrum of saturation of brown melanin. Due to the intersection of race and income for this case study, race is a critical component. Therefore, we visually assessed the race of parents and students to one of three categories: black, unknown, and white. We acknowledge the speculative problems with a visual assessment of race but due to our institution's research board requirements we were not able to collect sensitive data by asking children their race and further we felt that direct engagement would bias their natural movement and behavior. To reduce our error, we developed the "unknown" category for people who presented strongly in the middle of the melanin spectrum. Using recent census data, we suspect that many of the "unknown" race people would describe themselves as having Hispanic ethnicity and live in the local low-income black neighborhood. Thus, in the findings section, "unknown" race people are included with "black" people. Combining observations with quantitative data creates a comprehensive dataset for in-depth analysis of the complex relationship between gentrification and active mobility.[31]

Behavioral mapping included annotating specific behaviors onto scaled area maps in order to visually analyze student traffic patterns, routes, and trends around the school. These maps provided spatial insights to complement our observational and interview data.[31] We used behavioral mapping techniques outlined by Cosco et al. to capture pedestrian, bike, and vehicular traffic patterns, routes, and behavioral trends around A.J. Whit.[33] Through behavioral mapping analysis, we identified demographic variations associated with

behaviors, namely race. Summarized findings highlighted pertinent issues and potential improvements regarding transportation choices.

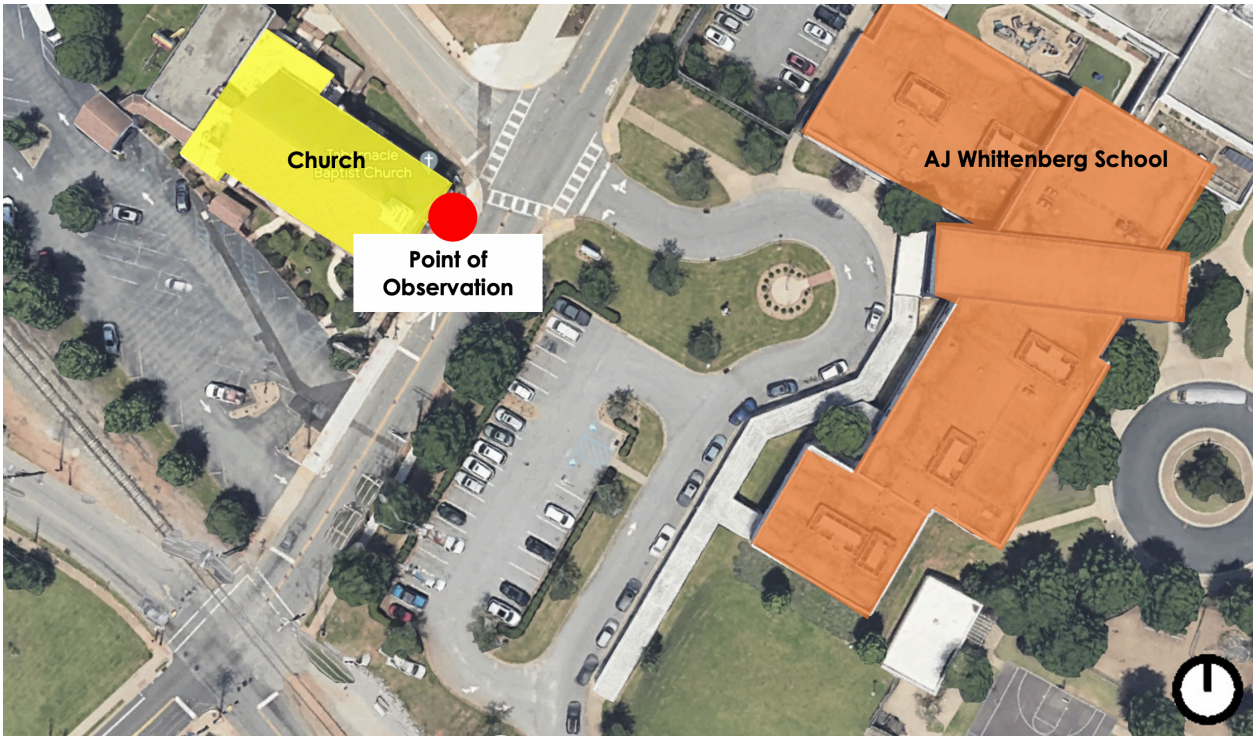

Figure 2: Map indicating the location of the researcher during observations and behavioral mapping in relation to the school (Source: Author 2023).

According to Patton, interviews allow researchers to identify vital issues and barriers, drawing from the firsthand experiences and perspectives of those directly impacted.[32] We conducted semi-structured interviews with 25 parents and community stakeholders. Parents provided perspectives on motivations, barriers, and experiences influencing transportation choices. Stakeholders discussed neighborhood trends, infrastructure changes, and equity impacts on active mobility. All interviews were recorded, transcribed, and analyzed using inductive coding and thematic analysis techniques to identify perceptual patterns relevant to the research questions. The customized guides focused on gaining insights from parents' specific experiences as well as community members' broader neighborhood and regional perspectives.

We conducted sequenced interviews starting with A.J. Whit leadership, including the principal, parent-teacher association president, and school advisory council. Their insider perspectives grounded the research in the school's active mobility priorities and helped identify parents for interviews based on where they live. Secondly, we interviewed city officials, neighborhood associations, advocacy groups, and scholars of gentrification in this area. These interviews contributed valuable insights on relevant policies, the infrastructure context, community-specific mobility challenges, best practices, and scholarly analyses. This

comprehensive engagement across school leadership, government, community organizations, advocates, and experts provided well-rounded insights on children's active mobility and safety in the West End. Finally, we interviewed parents and guardians using a semi-structured interview guide that we developed using best practices from Brinkmann, Kvale, Braun, and Clarke.[34] Parent questions established rapport, then gathered demographics and perspectives on influences, motivations, concerns, and experiences related to their child's school transportation. Analyzing the data collectively, we developed a broad list of important findings. The next section, results, describes the findings most relevant to this paper's focus on gentrification, race, and equity.

4. RESULTS

The results have been organized into themes of racial disparities, high parent engagement, parental social capital, cultural shifts, "enough" safety architecture, the image of children's active mobility, and the use of public space.

4.1. Racial Disparities

AVERAGE AFTERNOON OBSERVATIONS OF PARKING LOT USE				
Race	Age	# Participants	Church Parking Lot	School Parking Lot
White	Under 5	17	1	16
	6-9	78	18	60
	Over 10	48	12	36
			31	**112**
Black	Under 5	19	13	6
	6-9	73	54	19
	Over 10	37	27	10
			94	**35**
Unknown	Under 5	18	9	9
	6-9	11	7	4
	Over 10	4	2	2
			18	**15**

Table 1: Adjacent parking lot usage (Source: Authors 2023).

We found a clear pattern of racial segregation dividing the use of parking lots and the means of transportation during behavior mapping. White families predominantly used the school parking lot; an average of 112 white students parked in the lot in the afternoon compared to just 35 black students. In contrast, the church parking lot had heavier use by black and unknown-race families, with 94 black and 18 unknown-race students parking there versus only 31 white students. This divide extends to drop-offs, with 39 black students and 38

unknown-race students dropped off on the street, violating posted signs, while just two white students were dropped off on the street. Moreover, the school drop-off routine, with apparent divisions along racial lines, provided opportunities for parent involvement and community engagement. On Mondays, nine Black community volunteers assist with facilitating morning arrivals. Occasionally white community members participated as well; however, observations showed that these two groups remained separated during drop-off. The separation raises questions about safety and SRTS architecture infrastructure linking the church parking lot to the school.

Racial disparities in walking versus biking were another emerging trend differentiating white families and other races at the school. One white parent was noted arriving at school three times with their children riding bikes--a 5-year-old girl, a 6-year-old boy, and a 3-year-old. During the observation window, this parent commuted via walking on two mornings and biking on another. A similar pattern was observed with a second white parent of another 6-year-old girl and a 5-year-old boy. On two different afternoons, two separate white fathers were observed bicycling to school to pick up their sons. Among parents who walk for transportation, some utilize the local Swamp Rabbit Trail.

AVERAGE OVSERVATIONS BIKE TO SCHOOL WITH PARENTS			
Race	Age	MORNING	AFTERNOON
White	Under 5	5	2
	6-9	10	10
	Over 10	1	0
		16	**12**
Black	Under 5	0	0
	6-9	0	0
	Over 10	0	0
		0	**0**
Unknown	Under 5	0	0
	6-9	0	0
	Over 10	0	0
		0	**0**

AVERAGE OVSERVATIONS WALK TO SCHOOL WITH PARENTS			
Race	Age	MORNING	AFTERNOON
White	Under 5	1	6
	6-9	4	9
	Over 10	0	5
		5	**20**
Black	Under 5	0	3
	6-9	0	4
	Over 10	0	1
		0	**8**
Unknown	Under 5	0	2
	6-9	0	0
	Over 10	2	1
		2	**3**

Tables 2 & 3: Bike/walk to/from school (Source: authors 2023).

4.2. High Parent Engagement

The observations revealed extensive parent engagement in school transportation--automotive as well as active mobility. Only children who rode the school bus were unescorted by adults. A long queue of parents driving vehicles formed twice daily, beginning about one hour before school started and again when school ended. Car-line traffic persisted for about 30-minutes after school started and about 60-minutes after school let out in the afternoon. The substantial time commitment and coordination required for this routine suggests that transportation plays a pivotal role in the parent experience and greatly impacts their daily schedule. The time commitment for car transportation ranges from one to three hours per day, most of which is spent in an idling vehicle queue. When reflecting on household income, the ability to drive children to/from school should be seen as a privilege afforded largely to middle-income households. The extensive time demands are relatively inaccessible for single-parent households, for parents who work 2nd and 3rd shift, for parents without access to private vehicles, and for parents who have inflexible work schedules.

Parent engagement was not limited to driving children to/from school; all children walking and biking to/from school were escorted always by parents. According to the parents we interviews, escorting kids always took longer than driving them to school. During interviews all parents who escorted their children through active mobility lamented the extensive time demands.

> "I wish I could walk with my child in the mornings and the afternoons but the schedule in the mornings doesn't work. I must get to the office by 8:30 and it takes me about 45 minutes to walk with her to school and back so **I cannot get home in time** to then drive to work."
>
> Parent Jennifer B.

This perspective was echoed by other parents who longed to support their kids to develop patterns of active mobility but felt restricted by work and other domestic obligations.

4.3. Cultural Shift

The danger associated with elementary school-aged children independently walking/biking is a relatively recent perspective. Our interviews revealed a cultural shift in the perspective of what age kids can make independent mobility decisions from 2nd/3rd grade in earlier generations to middle school (post-5th grade) today. Most parents described growing up in similarly planned neighborhoods to the West End and regularly walked or biked to school on their own. However, they expressed that while the planning framework is the same, the cultural conditions and norms are not.

> "The major barrier [to walking to school] is that [AJ Whittenburg] is an elementary school. **No one can walk at that age. I** walked from 3rd grade as a child, but it was a different time

> and era and social status. My parents just wanted me to get out of the house. Our goal is by 5th grade to have our son [walk to school]. We want him to go escorted."
>
> Parent Jennifer B.

> "I think also, if the perceived safety of walking to school is, is there, the apparent might feel more comfortable. And **I got older students to walk by themselves**, okay. Like High School. Yeah, maybe high school or middle school."
>
> City of Greenville Planning Department, Hannah S.

Parents also attributed their perspectives to the mental capacity of elementary school aged children suggesting that young children do not possess the responsibility and decision-making abilities to safely cross-streets without supervision. One parent liked the idea of her child learning independence but the high vehicular traffic surrounding AJ Whitt did not allow room for error. A single distraction or not carefully looking before crossing the road could result in a fatal injury. Ultimately, it was not worth the risk. Hannah S. continues,

> "I think it has to do with a safety perception. And also maybe just a parent's availability, right. So if a parent has to work, you know, an early shift, it might make more sense for them to either drop their students off their children off, you know, as on their way to school, or, you know, and they can't really monitor their ability to walk to class, because whenever sometimes parents feel like it's unsafe to let their children to walk by themselves."

4.4. Parental Social Capital

An unexpected finding was the influence of social capital on active mobility in terms of peer-pressure and the optics of "good parenting." Several parents that we interviewed said that they felt comfortable allowing their children to walk or bike to school without a parental escort but would not allow their child to do so because other parents who felt it was unsafe criticized them as being "bad parents." They ultimately felt that advocating for independent active mobility was not worth the cost of their social capital within the framework of the school. They relied on parent social capital, which was contingent on their image of being "a good parent" for many reasons including favors, insider information, supporting their children's friendships, assistance during emergencies or unexpected events, and teacher rapport.

> "I walked home from elementary school by myself. And that's fine. But I feel like there's this whole, like, stigma, like, you would be **the worst parent ever**. And this would be like, the most horrible thing to ever happen in the entire world, if your elementary school child would like ever want to go by themselves ever. Like, I mean, seriously, like, it's like, a whole thing with the other parents."
>
> Parent Sarah S.

One parent explained that "other parents are not doing it, so I don't feel comfortable." Another parent told us that her family moved from a New Urbanist community outside of Seattle and that her kids had independently walked to and from school without issue in their prior neighborhood. But, she continued, the

cultural perception of children's independent active mobility in the American South is that you're a "bad parent" (e.g., uncaring and exposing the child to risk) if you let your child go alone. While her and her partner's family values included supporting active mobility and fostering their child's independence, they felt that as "new" members of the community they were constantly being assessed for their "fit" in the West End and could not risk their reputation.

4.5. The Image of Children's Active Mobility

Community perceptions extended beyond intra-school cohesion to the West End community. Interviews with parents residing in the West End community consistently rejected children's active mobility because of the image it presented to their neighbors. In low-income communities, walking and sometimes biking are necessary forms of transportation when driving is not accessible mostly due to economic constraints, e.g., you can't afford a car, your car broke down and you cannot fix it, you don't have time to drive your kids, etc. Therefore, in the West End, the image of children walking and biking to school was linked with not having enough resources. Jessica, from a local active mobility NGO explains,

> "Some parents may have a negative perception of children walking and biking to school because it can be associated with economic hardship, similar to how underprivileged families in New Zealand were disinterested in outdoor activities like backpacking due to their homelessness. While not an exact parallel, it underscores how children's exposure to cycling or biking can affect their comfort and involvement in such activities, especially in families where these modes of transportation are essential due to economic constraints."

Further, in addition to linking active mobility to poverty, parents in the West End generally rejected the concept of active mobility on a cultural basis. As they explained, in the American South, "people don't bike around here" and continued to express cultural concerns in terms of automotive drivers not being aware or defensive of bikers.

> "I think parents see that when they're driving in their cars, the lack of regard to cyclists, and that makes them not want to, like have their kids ride their bikes just."
>
> Active Mobility NGO, Frances S.

A few parents said that climate variability (in this area of the country the weather changes rapidly) was an issue and other parents said that they didn't know anyone who did bike so it "felt weird" to consider active mobility as a regular form of transportation.

4.6. "Enough" Safety Architecture

We also found inconsistencies in the types and quantities of active mobility architecture infrastructure that constitutes "enough" to provide a safe route to school.

> "A couple of years ago, we did a West End small area plan. So, we worked with the community really closely over there to identify their development goals and vision for that area. And that helped them formed a lot of the zoning that was adopted under the new code… I think we heard a lot from certain people. And there was a lot of support for the infrastructure improvement side of what we're looking at doing but it was scattered.
>
> City of Greenville Planning Department, Michael F.

Planners expressed the challenges of working through participatory charettes to identify the most meaningful active mobility architecture as some residents were more vocal and insistent than others. They also found it challenging align community desires with fiscal constraints. For example, the community agreed that they wanted fully protected bike lanes, but the city did not have the budget for that level of architectural infrastructure, so they settled on painted, designated bike lanes. Later, parents lamented that they felt like the city didn't hear/care about their demands because their ideas were not fully implemented.

Further, planners pointed out that despite their on-going efforts and the SRTS program, the West End was historically on the periphery of the city and thus had a large industrial footprint with active railroad crossings. A train hitting a child is a highly unlikely but possible fatal risk. Therefore, many parents said they would not take the risk. In turn, planners said that the West End requires significant amounts of architectural infrastructure such as manned railroad crossings and pedestrian bridges over high-traffic roads to bring the area to full compliance with the SRTS program's best practices, many of which are out-of-scope for city resources.

> "It is just the [perception of] safety, I think because even though that train track might not be active at all times a day and that [road] connection there on Mark Lee, Burnie, and Hudson is not super active in terms of traffic, **it's just the idea of crossing that railroad track right is kind of fearful**, especially for young children."
>
> City of Greenville Planning Department, Hannah S.

4.7. The Use of Public Space

When we asked the residents of the West End about the types of active mobility infrastructure they would like in their community, many said "none." Most residents in the West End are renters with high occupancy households. Houses are small (1-2 bedrooms) without garages on small lots. Often, households have multiple vehicles and use the street for parking as well as the driveway. Many residents do not know that technically the city owns the grassed area six feet on either side of the street. They believed that was part of their lot and use it for parking and in some cases, for hosting community or family events. Active mobility architecture such as sidewalks would commandeer the sides of the street resulting in a loss of parking and public space. Mike W. from Furman University's Shi Institute explains,

> "But in talking to residents as well as some of the city planners, they've noted that the residents have a lot of distrust with the city and taking the sidewalk or places. Even though there is a zone of right-of-way by the city because it's not currently built as a sidewalk. Most residents have enclosed that as part of their yard. And so, the putting in of sidewalks means that that would feel like taking more property taking property from residents. A lot of the residents said like, it's not worth it."

5. DISCUSSION

These findings, in conjunction with current scholarship, suggest tensions between promotion of activity mobility architectures, cultural traditions tied to race and income, and the process of gentrification. While the SRTS program focused on supporting children's active mobility, the application in the West End did not align with existing community values, patterns of space use, and the city was not able to fully realize the architecture needed for parents to trust the route as "safe." Reflecting on the findings, the SRTS program appears to primarily serve middle-class families and in the context of a gentrifying community, is possibly exacerbating the rate of changing actors.

Ultimately, we found that children walking and biking to school was a direct reflection of economic status because their behavior predominantly depended on if they were escorted by an adult which, with a lack of community programs, functionally implies a parent or guardian. Cultural shifts have changed the age acceptable for children to independently walk or bike to school but even still, parents implied that only certain neighborhoods had the right architecture and conditions.

> "It's socially acceptable to for kids to have independence over their mobility by high school, obviously. And, yeah, I think it's middle school maybe is where it starts. I would be a middle school student and be a walker and actually just walk home. **If you live on the right side of the street or back anyway, then [the parents will] allow it.** And I'm like, wow, this is amazing. Um, so yeah, I think it's probably middle school. I mean, yeah, elementary school - definitely not."
>
> Parent Jennifer B.

Parents talked considerably about the changing demographics and the functional impacts of new actors on the street. As Zuk et al described, gentrification predicates on speculation and ultimately displaces families through increasing rents.[10] In addition to changing actors, gentrification in the West End also promotes rental communities, which have been shown to have lower levels of community cohesion.

> "It's People who are not originally from this neighborhood. The people who like, you know, **we're the "infill people"** --like us. They have kids, and then they moved to the suburbs, and they either rent their houses or sell them."
>
> Parent Sarah S.

Research from Furman University supports parents' observations that the SEN communities such as the historic residents of the West End are being displaced. They found that the black population is declining in Greenville but growing in the surrounding county, indicating displacement from the urban core. Therefore, gentrification in the city is displacing lower-income black residents. Mike W. explains the fears:

> "I think the big fear amongst residents is that it's inevitable. So, I think, you know, just the pressure on renters, so many things going on, LLCs, buying up rental property, evictions, all this thing that pushes the dynamic and pushes long term residents out."

These demographic changes negatively impact community cohesion and may contribute to the resistance of West End residents from participating in active mobility.

5.1. Limitations

This study had several limitations primarily on recruiting interview participants, inability to fully verify self-reported data, and the truthfulness/completeness of information provided may be impacts by the positionality of the research team. We had difficultly recruiting parents who live in the West End neighborhood for interviews and thus went through several types of recruitment and leveraged snowball sampling while controlling for race and self-reported income. We believe this was partially due to the intimidating nature of the IRB's formal administrative requirements (parents were required to sign a 5-page document, separating enrollment from the interview process, etc.) and partially due to parent's limited time. To mitigate this limitation, we increased recruitment methods and styles and controlled for race and income level. We were limited in our ability to verify information provided by parents, especially with respect to their personal demographic information such as income, number of children/adults in the household, and education level. To mitigate this limitation, we relied on multiple sources of data including census data, city planning data, and representatives from local community organizations who have embedded knowledge of the culture and traditions of the neighborhoods. Finally, parents presented uncomfortable body language when asked personal information about their household. We attempted to pacify concerns by emphasizing the secure nature of our conversations and the use of the data. However, parents may have adjusted or not fully known the answers to our questions.

6. CONCLUSION

Our research suggests that SRTS can instigate gentrification when the architectural interventions are not valued by the vulnerable (historically marginalized, black) community and when the architecture displaces or removes existing useful space, infrastructure, or environments. The West End's reasons for not value walking and biking infrastructure ranged. Some participants revealed traditional stigmas linking walking and biking

with low income. Other participants expressed distrust; they believed walking and biking infrastructure would not fully resolve their safety concerns. In addition, most participants said that walking and biking infrastructure, at best, reflects a tradition of cultural misunderstanding by city planners and design professionals and, at worst, is evidence of attempts to control and redirect their community values toward "middle-class white" values. Thus, community members felt that not-participating in SRTS programs and resisting these values could help preserve their distinct culture. Considering the spaces identified for walking and biking infrastructure currently have important community uses such as parking and gathering for BBQs, application of SRTS into the West End does result in displacement or erasure of existing cultural behaviors – many linked to community cohesion.

> "The city did thankfully purchase a bunch of land before [Unity] Park went into construction and set it aside for affordable housing. So that we could at least try to preserve what we had under our control. But, yeah, I mean, I think definitely the challenge is always whenever you see improvements in an area, you know, private development follows. And the downstream effect is that folks who have been living there at a more affordable rate, you know, starting to get kind of pushed out.
>
> And being in my line of work, it's interesting. You know, my personal opinion is, I want people who have always lived in that neighborhood to be able to continue to live in that neighborhood. And I think we, as a department, have a philosophy that's our goal, right? We're here for the people who live here. So how do we make it more livable, more affordable, so that everybody has an opportunity to thrive?"
>
> City of Greenville Planning Department, Berrett A.

The tradition of "knowing best" is a common theme that white, middle- and higher-income professionals have historically applied to black, lower income communities across the American South. Design organizations such as CNU promote architectural infrastructure supporting walking and biking but do not account for the displacement and erasure required for implementation. This research challenges the framework of tightly held and supposedly progressive notions of community health — namely the benefits of walking and biking as evenly applied without regard to the cultural context of the community. In conclusion, we suggest environmental designers and planners consider the gentrification-potential of active mobility plans and architectural infrastructure such as SRTS by incorporating place history, context, and community traditions.

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Traditional Dwellings and Settlements

Working Paper Series

UNPACKING THE KEY DRIVERS OF SHAPING THE SPONTANEOUS AREAS IN MAKKAH CASE STUDY: AL- KHALIDIYAH DISTRICT

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UNPACKING THE KEY DRIVERS OF SHAPING THE SPONTANEOUS AREAS IN MAKKAH CASE STUDY: AL- KHALIDIYAH DISTRICT

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There are several urban approaches that might contribute to shaping the built environment including the residential areas inside cities. In the urban context of Saudi cities, the most used approaches are "Top-down" and "Bottom-up". The "Top-down" approach is the major strategy for shaping residential areas over decades in Saudi cities including Makkah. However, there are some "Bottom-up" urban initiatives that were developed by residents. For example, more than 60 residential areas have been developed in Makkah in the last fifty years. There were a variety of factors that mainly led to shaping these areas including economic aspects, socio-cultural values and practices, environmental aspects, and planning and building regulations. This paper reviews the spontaneous settlements in Al-Khalidiyah district in Makkah to investigate "Bottom-up" urban initiatives and assess the quality of the built environment. Thus, three main methods were used to collect the data. Firstly, structured interviews using a questionnaire were used to interview the residents in Al-Khalidiyah. Secondly, archival data including aerial pictures were used to track urban growth. Thirdly, observations were used to explore the economic aspects, socio-cultural features and practices, and urban and architectural characteristics. The paper concludes there is a mix of views from residents about how economic aspects and socio-cultural features and practices are considered and expressed in shaping the physical forms and structures in Al-Khalidiyah. The residents in Al-Khalidiyah came from different cultural backgrounds. Thus, they have different views regarding the built environment and the surrounding contexts. However, all residents are equal in the decision-making processes of shaping the built environment that considers economic aspects, socio-cultural values, and their place in the city.

1. INTRODUCTION

Population growth is one of the essential factors that change the urban morphology of global cities. For example, the global population has rapidly grown from one billion people in 1800 to eight billion people in 2023. The latter is accompanied by an extraordinary increase in urban population in cities. Under these conditions, cities faced challenges in ensuring affordable houses for residents.[1] In addition, planning strategies, policies, and rules failed to handle the growth of spontaneous settlements. For decades, planning strategies, policies, and rules were developed by local government and enforced in the built environment. For example, there are two ministries responsible for planning Saudi cities. First, the Ministry of Economy and Planning developed economic and development plans. Second, the Ministry of Urban and Rural Affairs and Housing has passed a broad set of rules, laws, processes, and strategies to govern spatial planning and housing projects at the different planning levels in Saudi Arabia. These strategies and regulations mainly aim to apply the national policy of developing cities and building practices in the country.[2]

The previous is described as the "top-down" urban approach. However, due to the rapid urban sprawl, some spontaneous settlements were created in major cities such as Makkah.[3] These settlements had developed to deal with economic aspects, socio-cultural values and practices, and environmental aspects. First, most of the residents who are living in these areas are classified as low-income. So, Saudi residents cannot afford the price of lots in the formal settlements. Second, most residents (expatriates) illegally live in the country, so they

cannot officially afford to buy houses. As a result, they rent illegally constructed homes instead. Third, socio-cultural values and practices are other significant factors in creating spontaneous areas. Residents who live in these areas are generally expatriates who brought their original values and social practices to these areas in Saudi cities such as Makkah. Thus, social practices and other aspects have been expressed in the built environment, including urban morphology, building styles, street markets, gathering areas, and lifestyle. The previous is described as the "bottom-up" urban approach.

Thus, it can be argued that the "bottom-up" approach is more 'man-centered' than the traditional "top-down" approach. Because in the "bottom-up" approach, residents can clearly express their needs to the local government to develop effective urban strategies and sustainable future development. The "bottom-up" approach can strongly accelerate the process of decision-making as well as effectively solve urban issues in residential areas. Furthermore, this approach might contribute to minimizing the local government's burden. Thus, more central resources could be utilized for macroeconomic development. At the local level, each residential area might have different local resources and contexts that can be considered in developing the planning strategy. The latter can enhance the quality of the built environment in the residential areas. So, considering the surrounding contexts can improve the quality of life, meet the sociocultural needs of the residents, and enhance the local economy in the residential areas. However, this kind of urban initiative happens in the local context of Saudi cities such as Makkah without the participation of all stakeholders. For example, expatriates shaped spontaneous settlements illegally without discussing the development plans with local agencies.

2. MAKKAH URBAN PRROFILE

2.1. Formal and Spontaneous Settlements

Makkah is one of the largest provinces in Saudi Arabia situated at the heart of the Islamic world. Makkah covers around 114000 hectares of the total area of Saudi Arabia which includes formal and spontaneous settlements. However, Makkah has been planned to facilitate religious practices and offer adequate housing and infrastructure for pilgrims.[4] Besides that, permanent residents' services have also been developed, such as creating residential districts and launching essential infrastructure.[5]

These mixed planning strategies took place in Makkah because the two sides have the same importance. However, at the planning level, there is no separation between the locations of pilgrims' accommodation and the residential districts in Makkah. Thus, the urban sprawl started from the center of the city around the Grand Mosque toward the outside.[6] This sprawl happened due to several aspects: (i) economic, (ii)socio-cultural, (iii) environmental pressure, and (iv) planning strategies. Thus, most of the formal settlements are

located outside the city center.[7] On the other hand, the Grand Mosque is surrounded by spontaneous settlements except for some emergent urban projects. Makkah has more than 60 residential districts containing formal and spontaneous areas. First, formal settlements. The total area of these settlements is around 120,600 hectares. These areas have been developed for decades according to the strategic plan strategies of MOMRA to meet the national aims. Thus, land uses, and infrastructure have been allocated in the master plan of the city to serve both pilgrims and residents. In parallel, MOMRA has launched the planning rules and building regulations that define the urban morphology of the formal settlements.

The planning rules include several aspects: (i) the proportion of the land uses, (ii) the service range, (iii) road networks, and (iv) the location of the infrastructure such as bus stops, schools, mosques, and health centers in the formal areas. The building regulations clarify essential aspects in designing the lots: (i) the proportion of the ground floor and the upper floors from the total land area, (ii) the design of the building outline, (iii) the setback system, (iv) interior spaces design requirements and (v) the number of parking. As a result of the fixed planning rules and building regulations, the outlines of the formal areas are widely similar. Second, the spontaneous settlements. These settlements have been referred to as "slum" by several researchers. Other researchers have used alternative expressions to characterize slums depending on the causes or the conditions that led to their induction.[8] The spontaneous settlement is one of the major urban issues in major Saudi cities such as Makkah and has been linked to several political, economic, and social factors.[9] According to their historical developments, spontaneous settlements in Makkah may be divided into three types. These types have comparable built environment characteristics. Thus, comparing spontaneous settlements can be achieved by looking at the factors that led to their emergence.

Spontaneous settlements within the province's administrative boundaries emerged without purposeful division of the land based on public or private property. This has resulted in haphazard urban growth in the spontaneous settlements. In these settlements, there is no necessity for having certain boundaries for spaces. Thus, these areas could consist of either a group of tiny houses or neighborhoods that vary in urban characteristics and do not follow urban rules and building regulations. The spontaneous settlements offer several advantages for the expatriates: (i) affordable houses, (ii) proximity to the city center, and (iii) access to essential services and infrastructure such as electricity and water. On the other hand, there are some disadvantages. The disadvantages include the shortage of easy access to public transport, not having schools and health centers, and hygiene problems due to improper waste and sewage disposal. There are 65 spontaneous settlements in Makkah. The total area of these areas is 6116 hectares. This area includes the inner and outer parts of the province. However, the inner part of Makkah is home to 6102.98 hectares of spontaneous areas.[10] Thus, most of these areas have appeared around the city center.

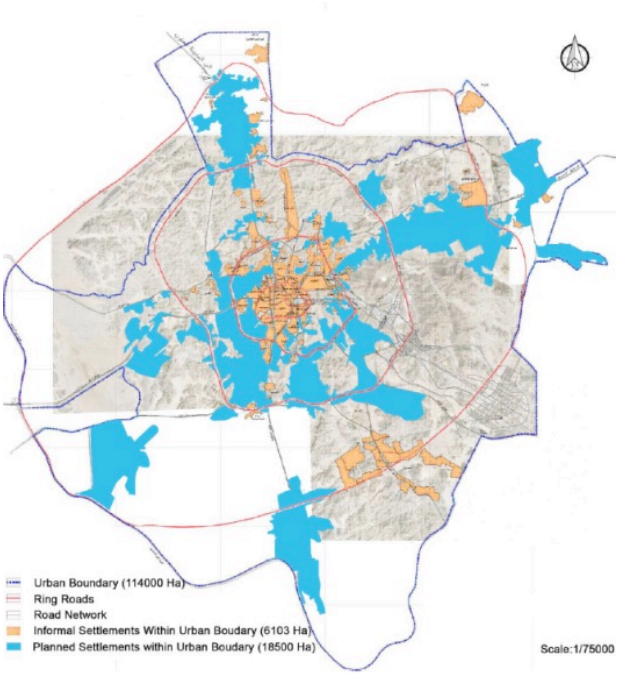


Fig. 1: Shows the locations of spontaneous settlements in Makkah. (Source: Mustafa, 2007).

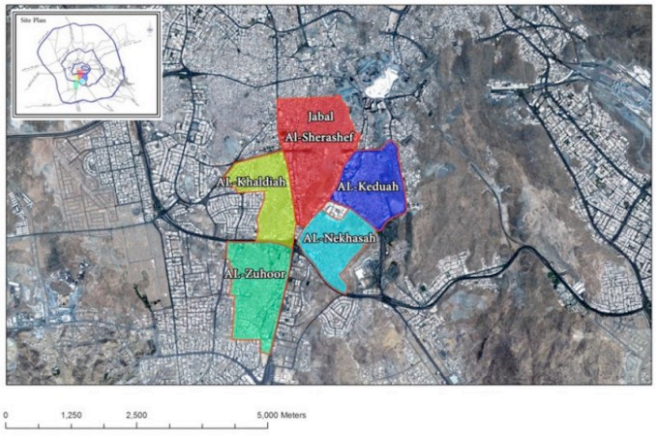


Fig. 2: Shows the locations of spontaneous settlements around the city center in Makkah. (Source: Majrashi, 2107).

2.2. The Urban Pattern of Makkah

The geographic location and the nature of topography have essentially contributed to shaping the urban morphology of Makkah.[11] Thus, urban development has grown between the mountains due to economic, socio-cultural, and environmental factors.[12] Between 1518 and 1925, the urban development process started close to the Grand Mosque, and the pockets of growth expanded to the Northwest and Southwest parts of Makkah. In the following decades, the expansion and enhancement of road networks have played a

significant role in urban development. Thus, between 1926 and 1956, urban sprawl started in the Northwest, especially in the flat geographic parts.[13]

Similarly, between 1972 and 1983, essential developments happened in the northern and southern parts of the city. All these phases highlight the urban transformation in the city. For example, the emergence of high-rise structures dedicated to housing pilgrims surrounding Al-Masjid Al-Haram and elsewhere around the town signified a shift in development patterns and significant alterations in architectural typologies and urban design. Between 1983 and 1990, a process of neighborhood redevelopment works began in the regions surrounding the Grand Mosque, with older buildings destroyed and rebuilt with newer, higher structures. Urban growth was characterized by outward growth along the principal highways leaving Al-Masjid Al-Haram. Most of this expansion launched north along Madinah Road, east along Makkah-Jedah Road, and southeast along Al-Taif Road, where new tunnels linking the new growing regions to the Central Area made it easier to launch new urban development. Between 1990 and 2003, Makkah expanded to the west, south, and southeast according to the most current urbanization patterns. However, it is significant to note that urban growth in other parts of the city has centered on landfilling previously neglected unoccupied land. The latter is a unique phenomenon compared to other Saudi cities. In the North, East, and South of Makkah, some pockets of urbanization had emerged that were isolated from the urban fabric, causing sprawl and thwarting attempts to build up the city's density over accessible empty territory.[14] However, in the last decades, Makkah witnessed a demolishing process for spontaneous settlements to pave the way for new urban projects such as housing, infrastructure, and transportation.

2.3. Background on the emergence spontaneous Settlements in Makkah

Saudi Arabia has seen high rates of rural-urban migration in recent years. King Saud University in Riyadh reports that 74% of individuals who had been living in rural regions moved to cities in search of employment and attractions that they were unable to reach owing to the geographical distribution at the time. Like other major cities in Saudi Arabia, Makkah is seeing the emergence of several spontaneous settlements on the outskirts of the city and in the central mountainous regions. There are over 65 spontaneous communities in Makkah, which make up about 40% of the city's total population and are dispersed throughout 16 main areas. By 2040, there will be an estimated 1.5 million people living in spontaneous settlements in Makkah. Due to several historical factors, most of which are connected to Hajj and Umrah, a sizable number of people live in spontaneous settlements in the Makkah region. The following are some typical traits of these unplanned areas: (i) poorly constructed and frequently dangerous housing, (ii) the lack of essential facilities and services, including access to water, sewage, trash collection, street lighting, paved walkways, and roads for use in an emergency, and (iii) local urban and architecture morphology are not preserved due to violating the local building regulations.[15]

There are 65 spontaneous areas in Makkah. The total area of these areas is 6116 hectares. This area includes the inner and outer parts of the province. However, the inner part of Makkah is home to 6102.98 hectares of spontaneous areas.[16] Thus, most of these areas have appeared around the city center. Spontaneous settlement has been referred to as a "slum" by some researchers. Other researchers have used alternative expressions to characterize slums depending on the causes or the conditions that led to their induction. The spontaneous settlement is one of the major urban issues in major Saudi cities such as Makkah and has been linked to several political, economic, and social factors. According to their historical developments, spontaneous settlements in Makkah may be divided into three types. These types have comparable built environment characteristics. Thus, comparing spontaneous settlements can be achieved by looking at the factors that led to their emergence. The emergence of spontaneous settlements could be classified according to three main phases: (i) pre-oil, (ii) pre-planning, and (iii) planning stages. These phases have essentially changed the urban morphology of major Saudi cities such as Makkah and led to the development of spontaneous settlements.[17] Based on these stages, spontaneous settlements in Makkah can be divided into three essential types. These types have been summarized in the following:

(i)The pre-oil phase: this era is seen between 926 and 1956. That era witnessed the encouragement of the Saudi government to urbanize nomadic tribes. This includes motivating them to migrate from traditional settlements toward major urbanized cities such as Makkah. The economic factor was the main driver for this migration. Thus, local migrants can benefit from offered employment in major cities such as Makkah. The latter led to an essential increase in the number of local migrants who aimed to improve their income by getting offered jobs in Makkah.[18&19]

However, the number of migrants from the rural areas and peripheries toward Makkah has continued to increase due to the cut of food supplies in these areas during World War II. This led to the shape of the first unplanned settlements in Makkah by nomadic tribes who centralized around the ruling castle. In this era, most Saudis depended on agriculture and livestock grazing as the only source of income. Thus, these industries shaped the urban morphology of Saudi cities, especially in the central and eastern parts of Saudi Arabia. However, the existence of the two holy mosques in Makkah and Al-Madinah of the country contributed to the diverse economics of these two cities. This led to transferring these cities to trading hubs during the hajj season. Thus, locals and expatriates started to emigrate to these cities, searching for jobs and better living conditions.

(ii)The pre-planning phase: between the 1950s and 1970s, the country witnessed a fast economic transformation due to exploring the oil in the eastern parts.[20] Huge revenue coming from oil production and trade has encouraged the government to modernize Saudi cities such as Makkah. In Makkah, the government

has expanded the holy mosque to accommodate the growing number of pilgrimages during the hajj season. As a result, the city started to expand horizontally, and modern districts were planned to evacuate the locals from the city center to the outskirts to pave the way for the holy mosque's expansion. However, this era witnessed a marked creation of spontaneous areas in Makkah. At this time, Saudi cities witnessed a marked development due to increasing oil revenue. This development includes several sectors such as education, health, infrastructure, and developing the master plan of cities. Thus, due to the emerging construction projects in Makkah, the number of migrants started to increase. The fast urban growth in Makkah attracted skilled labour (expatriates) to work on the new infrastructure projects. However, during this era, Makkah has witnessed accelerated growth for spontaneous settlements due to several factors. First, the number of migrants has suddenly increased. Migrants (locals and expatriates) came to Makkah for several purposes, such as religious, trading, and searching for jobs. Second, building regulations, planning rules, and land subdivision regulations were under development. Thus, migrants started to develop spontaneous settlements around the city center.[21]

(iii)The planning phase: Between the 1970s and 1990s, the Saudi government launched the five-year development plans due to the massive increase in oil revenue. These plans mainly focused on developing the infrastructure in major Saudi cities such as Makkah. Thus, water, sewage, and road networks have been created. Saudi Arabia became one of the most urbanized countries in 1990.[22] Thus, the proportion of urban areas increased from 10-16% in 1950 to 77.3% in 1990.[23]

However, during this era, the spontaneous settlements in Makkah have massively grown due to the following:

- The continuous growth in the number of migrants.
- The lack of have effective regional planning system.
- The lack of affordable houses for the migrants.
- There was an incompatibility between migrants' income and renting prices for houses.
- The failure to control the continuous growth of the spontaneous settlements and not offering adequate residential areas for the migrants.

Fig.3: Shows the phases of shaping spontaneous settlements in Saudi Arabia. (Source: Al-Mubarak, 2014).

2.4. Attributes of spontaneous Settlements in Makkah:

Economic and Social attributes: The spontaneous settlement is one of the major urban issues in major Saudi cities such as Makkah and has been linked to several economic and social features. Most of the residents in the spontaneous settlements are non-Saudis, with 74%. According to their historical developments, spontaneous settlements in Makkah may be divided into three types mentioned above.[24] These types have comparable built environment characteristics. Thus, comparing spontaneous settlements can be achieved by looking at these characteristics. Most of the residents in the first type are Saudis. This type emerged during the pre-oil era when nomadic-rural tribes came from rural areas to Makkah. However, in the second and third types, residents are non-Saudis who came from Africa, South and East Asia. Thus, in the second type, the proportion of non-Saudis residents dramatically increased to 84%. However, in these types, similar nationalities are centralized in specific settlements. For Example, in the second type, residents migrated from Southeast Asia. Thus, residents from Porma are 38%, 32% Pakistani, and 9% Bangladeshi. On the other hand, most of the residents in the third type came from sub-Saharan Africa. Most residents of these types have illegally immigrated from their countries. Thus, they overstayed their legal migration periods after coming to Hajj, Umrah, and work. As a result, they started to develop spontaneous settlements, which were suitable for hiding due to social, economic, and environmental factors.

About the monthly income, most of the residents are classified as low-income. However, the monthly income varies in each type of spontaneous settlement. In the first and second types, the monthly average income for a

single household is less than 2,000 SR. For example, around 58% of the residents in the third type have a monthly income below 1000 SR compared to more than 4000 SR in the first type. The latter represents 45% of the residents in the first type. On the other hand, 63% of the monthly average income for Saudis is 8,500% SR. However, according to Al-Shareef, 2003 around 74% of residents in these types are own cars.

Land ownership: The land ownership situation in spontaneous settlements is varied and witnesses a social conflict between the two groups. In the first group, the landlords struggle to approve their ownership. On the other hand, residents in the second group have occupied lands in these settlements without having legal documents.

Public Safety: According to the local government, safety in spontaneous settlements is problematic due to increased crimes and drug trading. As mentioned above, due to the population demographic of the second and third types of spontaneous settlements and the monthly income average of households, these types witness an increase in the number of crimes and drug trading compared to the first type. As a result, these areas have been classified as dangerous settlements, and the local government has launched development plans to demolish these settlements. At the time, some of these settlements had already been demolished to pave the way for new urban development, such as Al-Nakasa and Al-Tundobawi.[25]

Forms and Structures: Forms and structures in the three types of spontaneous settlements in Makkah have shared urban and architectural attributes. First, forms and structures shape complicated patterns due to no commitment to urban codes and building regulations. For example, there is no balance in distributing the land use. Thus, most of the land had been reserved for residential use, responding to the high demands of migrants and not considering other essential land uses.[26] Second, the visual distortions are shared characteristics in these settlements due to not applying a unified architectural style, absence of maintenance, and use of poor construction materials. For example, most of the buildings' facades witness a lack of finishing materials and use metal and plywood to construct rooms and cover some parts of buildings' roofs. In this respect, around 70% of the buildings in the second and third types of spontaneous settlements are in poor condition. However, this proportion has dropped to 35% in the first type of spontaneous settlements because most residents are Saudis who benefit from the Saudi Real Estate Development Fund to renovate their houses. This governmental program offers interest-free loans for Saudis to build or renovate property. Around 85% of the buildings in the spontaneous settlements consist of 1-2 stories. However, a variety of building materials have been used in the buildings. Thus, buildings were constructed using reinforced concrete, wood combined with bricks, and metal with plywood. Reinforced concrete is the most spread with 65%, second wood and bricks with 32%, and last metal including plywood with 3%. Third, the infrastructure is poor, such as streets, services, education, health, and sports fields. Thus, these settlements always suffer

from traffic congestion due to the narrow alleyways (3-5 meters) and the absence of parking spots. In addition, services, education, and health services do not exist. Thus, residents should go to surrounding districts to access these services. Finally, youth started to use open spaces and buildings' roofs to play soccer due to the shortage of soccer fields.

In conclusion, according to the previous context, there is no doubt that spontaneous settlements are a critical issue in the urban context of Makkah because they represent one-third of the built environment in the city. Because they have been grown and spread in several locations inside the urban boundaries of Makkah. Thus, spontaneous settlements have been created in different spots in Makkah. The first type was developed between the mountain enclaves, the second type close to the main roads, and the third type in the western part of the city close to the main entrance to the holy mosque from Jeddah.

3. Methodology

The case study in this paper is the spontaneous settlements in Al-Khalidiyah District. The district is located in the western part of Makkah. The total area of these settlements is 24.177 hectares. These settlements witness a shortage in essential land uses such as education, commercial, and health. In addition, these settlements have several characteristics, including dense urban morphology, narrow alleyways, and dangerous topographical slopes. Thus, this paper focused on investigating these settlements in Al-Khalidiyah. Three main methods have been used to collect the data to achieve the research aim. First, structured interviews using a questionnaire were used to interview the residents in Al-Khalidiyah. Secondly, archival data such as aerial pictures, photos, and reports. Thirdly, observations.

The number of residents who participated in the structured interview was 200 people. The structured interviews aim to collect evidence about three main themes: (i) baseline information about the residents, (ii) economic and socio-cultural data, and (iii) the satisfaction of the residents with the built environment and surrounding services. Second, archival data such as aerial pictures, photos, and reports. This method was used to track urban growth and change. Third, the direct observations. The latter was used to explore (i) the economic aspects, (ii) socio-cultural features and practices, and (iii) urban and architectural characteristics. The total area of the study area in Al-Khalidiyah is around 24 hectares. The study area has been divided into five main regions when collecting the evidence to ensure the validity of the data and collecting detailed information about each region.

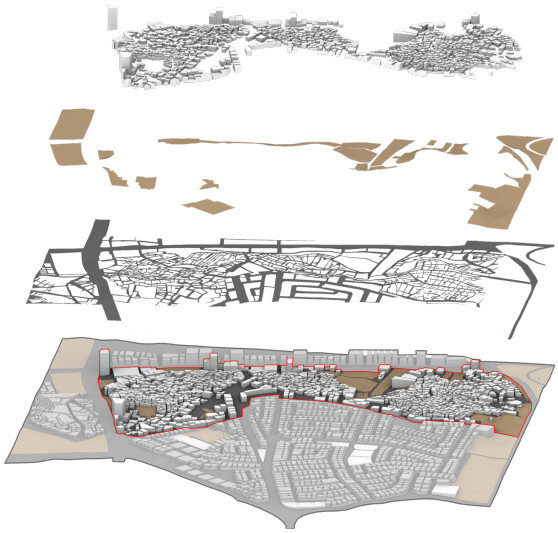


Fig.4: Shows the spontaneous areas in Al-Khalidiyah. (Source: Author).

4. Discussion

The outcomes of the structured interviews have been classified into three main themes: (i) baseline information about the residents, (ii) economic and socio-cultural data, and (iii) the satisfaction of the residents with the built environment and surrounding services. About the first theme, the structured interviews showed that most residents are expatriates, representing (97%) of the total number of residents in the area. In addition, the residents in the study area came from different countries. However, the highest number of residents is from Burma (around 67%). As a result, most residents get their income from daily jobs such as builders, plumbers, electrical technicians, carpenters, and hawkers.Most residents are working builders (34.2%), while the hawkers represent only (5%) of the total population. Thus, the number of tenants is high in Al-Khalidiyah (81%) who are expatriates, while Saudi owners represent the lowest proportion (3%). Although residents came from different socio-cultural backgrounds, the data shows that social relationships are vital. Thus, around (90%) of the residents described the social relationships as solid in Al-Khalidiyah. The latter is due to several reasons.

First, several social practices and activities happen between the buildings, such as running night markets, gathering in open spaces, and playing football in open spaces. Second, most residents come from South Asia. As a result, they have the same socio-cultural values and practices. Third, most residents have formed working groups based on their skills and knowledge. Third, most residents have formed working groups based on their skills and knowledge. For example, when there is an opportunity to renew a building, the main contractor can invite neighbors, relatives, and friends who are plumbers, carpenters, and others to join the work.

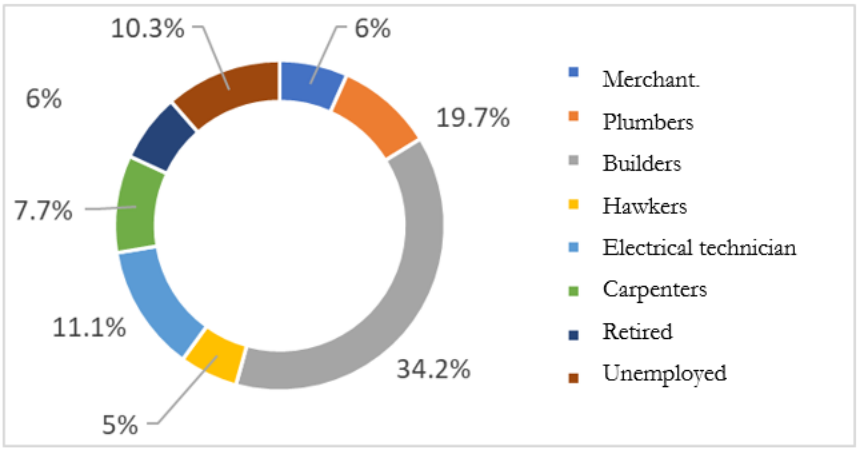


Fig.5: Shows the breakdown of residents' professions in Al-Khalidiyah. (Source: Author).

About the third theme, the outcomes of the structured interviews show that (75%) of residents are generally satisfied with the services in the area. However, they have classified the satisfaction with the essential services from the best to the worst as follows: religious services (67%), commercial services (28%), education services (3%), and health services (2%). This classification is due to the nature of the land use in the area because most of these parts had been illegally created. Thus, residential and commercial land uses were essential to meet residents' desires to find homes and work without considering the education and health services that require official accreditation from the government.

In addition, (65%) of residents are satisfied with the safety indicators in the area. The latter could be first because most residents are Burmese, which could help ease social tension. Second, most residents show respect to each other because they are relatives and work together. In this respect, they live with extended families in the same accommodation. Third, residents highly respected the mosque's imam in each area. As a result, he oversees resolving disagreements among residents. Fourth, residents might not honestly express their safety condition due to their illegal status.

The outcomes of the archival data have shown the following. First, back in the sixties, aerial pictures of the area show the start of the creation of scattered houses in Al-Khalidiyah. Residents have chosen these locations due to their topographic nature and because they are out of the boundary of the formal area. The scattered houses continued to grow until they started to shape small residential areas in 2005. Between 2010 and 2015, the footprint of these areas continued to grow until it could be visually recognizable due to the cumulative increase in the number of dwellings, the urban density, and the compact urban fabric that is essentially different from the formal areas.

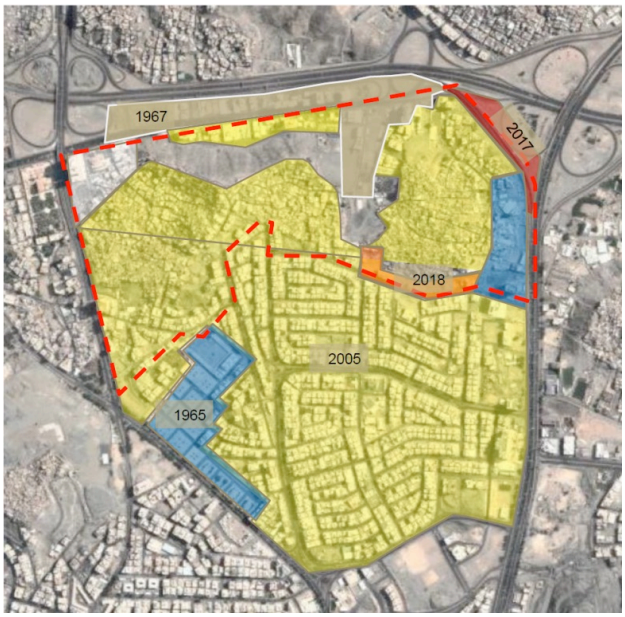


Fig.6: The aerial photograph shows the creation of spontaneous areas in Al-Khalidiyah between 1967 and 2018. (Source: Google Earth).

Based on the aerial pictures and other collected data, a 3D model has been developed to conduct several investigations of the built environment. The 3D model shows different types of urban fabric that have been created due to several reasons. First, as mentioned above, residents have chosen the locations of the houses in spontaneous settlements due to their topographic nature, which does not have high contour lines and dangerous slopes. So, the urban fabric in these areas is consolidated. Second, the legal status of buildings. Most of the buildings that are constructed according to building regulations are located on the main streets. So, they shape together a linear pattern. However, some of these buildings are not residential, and they have been used to be occupied by pilgrims during hajj season.

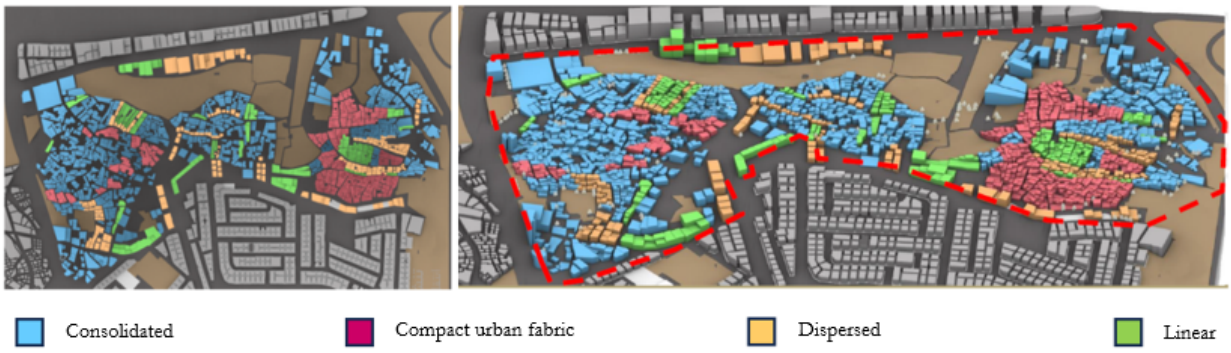


Fig.7: The 3D model of the area shows the different types of urban fabric in Al-Khalidiyah. (Source: Author).

The outcomes of observations have shown the following. First is the economic dimension. The structured interviews with the residents highlight that around (80%) of the households have monthly income below 3000 SR. Thus, they are not afforded the daily expenses of tenancy, life, electricity, and healthcare. For example, residents face issues of paying

rent and electricity bills on time. In addition, some residents operate night markets and illegal grocery shops to sell fruits, vegetables, meats, chicken, and fish at low prices but poor quality.

Finally, residents face issues with having adequate health care due to several aspects such as legal status, the low quality of nutrition, the poor lifestyle, and the large number of family members. For example, around (50%) of the residents have more than six family members. This could be because residents live with extended family to share living expenses and enhance social ties.

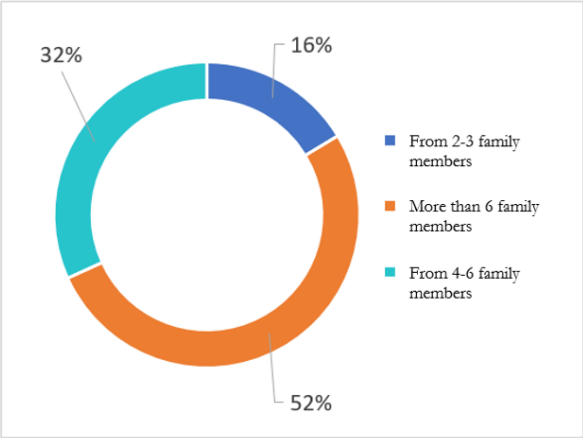


Fig.8: Shows the average number of family members in Al-Khalidiyah. (Source: Author).

Fig.9: Selected photographs show illegal grocery shops in Al-Khalidiyah. (Source: Author).

Second, socio-cultural features and practices. The outcomes of structured interviews show that (55%) of residents prefer to spend their free time gathering with friends in streets and open spaces. However, around (45%) of the youth play football in open spaces and streets. Regarding gathering spaces, residents use open

spaces and alleys to meet due to several factors. First, the area of the houses is generally limited, and the number of occupants is high. Second, women usually meet their friends and relatives inside their homes.

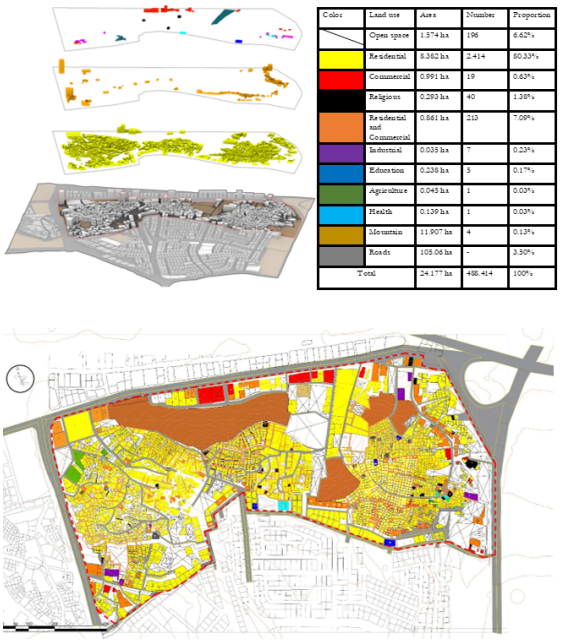
Fig.10: Shows several locations for gathering in Al-Khalidiyah. (Source: Author).

Third, the socio-cultural background of residents from South Asia led to the application of their social practices in such spaces. So, they started to apply original social practices in these spaces and streets to enhance social ties. Fourth, night markets are created in alleys to enhance opportunities for social interaction. On the other hand, youth tend to play football and football in open spaces and streets due to the shortage of parks and courts in this area. So, they started to use vacant open spaces to play. Moreover, they changed the nature of using some urban spaces, such as streets, to become football courts.

Fig.11: Shows youth playing football in open spaces and streets in Al-Khalidiyah. (Source: Author).

Third, urban and architectural characteristics. Direct observation shows that around (80%) of lots in Al-Khalidiyah are reserved for residential use. In comparison, residential commercial use is second with (7%). These figures highlight the shortage in other essential land uses such as health, education, and recreation. In addition, around (40%) of the buildings are more than thirty years old. However, only (11%) of the buildings are less than fifteen years old. Thus, most of the buildings are rickety. The proportion of these buildings is (45%), while only (15%) are in good condition. However, the urban fabric is soft. Thus, most buildings' heights are between two and four stories. According to the residents' statements, they did that to meet several aspects. First, to build houses as fast as possible at a low cost. Second, to meet

sociocultural values such as privacy. Because women mostly use the roofs of the buildings for meeting and cooking. On the other hand, men mostly meet in public spaces during weekdays, weekends, funerals, Eid, and marriage occasions.



Color	Land use	Area	Number	Proportion
	Open space	1.574 ha	196	6.62%
	Residential	8.382 ha	2.414	80.33%
	Commercial	0.991 ha	19	0.63%
	Religious	0.293 ha	40	1.38%
	Residential and Commercial	0.661 ha	213	7.09%
	Industrial	0.035 ha	7	0.23%
	Education	0.236 ha	5	0.17%
	Agriculture	0.045 ha	1	0.03%
	Health	0.139 ha	1	0.03%
	Mountain	11.907 ha	4	0.13%
	Roads	105.06 ha	-	3.50%
Total		24.177 ha	488.414	100%

Fig.12: Shows the land use in Al-Khalidiyah. (Source: Author).

Fig.13: Shows buildings' age in Al-Khalidiyah. (Source: Author).

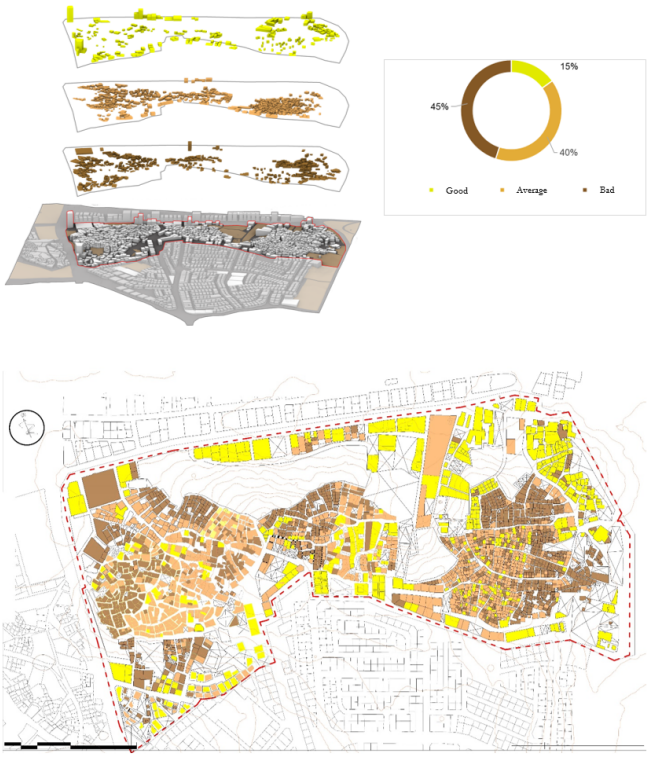


Fig.14: Shows buildings' condition in Al-Khalidiyah. (Source: Author).

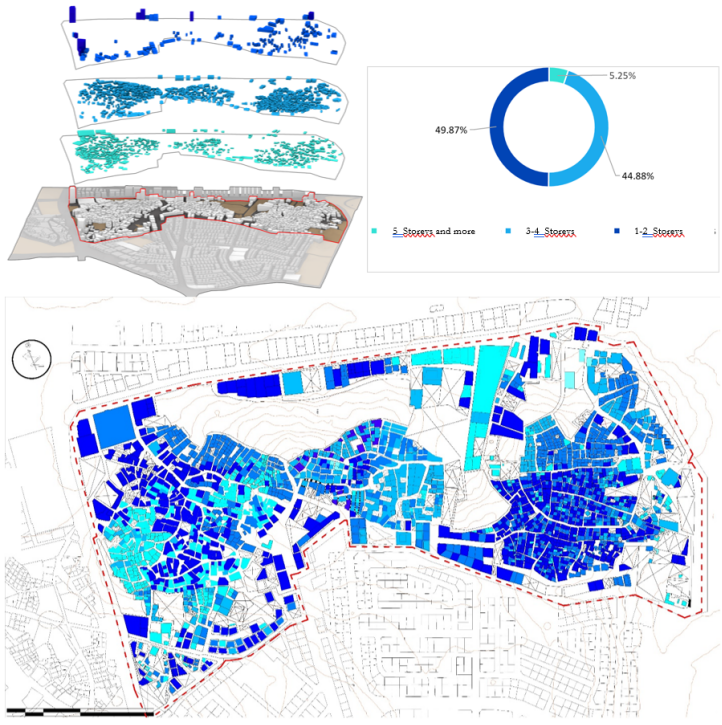


Fig.15: Shows buildings' heights in Al-Khalidiyah. (Source: Author).

Fig.16: Shows social activities on streets during Ramadan and Eid in Al-Khalidiyah. (Source: Author).

The urban fabric of Al-Khalidiyah is consolidated because the proportion of the built area is (59%), the open spaces are (3%), and the streets represent (38%). Most of these streets are narrow alleys due to the low percentage of residents who own cars. However, this percentage has slightly increased from (2%) to (8%) which causes problems in finding parking spots. Thus, most residents park their cars on vacant land and walk to their homes. However, this urban morphology enhanced dealing with high-temperature degrees during summer.

On the other hand, the architectural characteristics are fray. There is no specific architectural style applied to the buildings' facade. In addition, most buildings' finishing is not completed. However, some imported architectural styles, such as shophouses and vertical mosques, were used. First, the shophouse is not popular in the local modern architecture in Saudi Arabia. The locals who immigrated from South Asia brought this style.

Fig.17: Shows a residential building with an incomplete finishing on the facade in Al-Khalidiyah. (Source: Author).

Vertical mosques are the second. Saudi Arabian mosque interiors are arranged horizontally. As a result, restrooms, open courts, and parking lots are located around the main prayer hall. Al-Khalidiyah's mosque,

however, has a unique design for several reasons. First, not having vacant land inside the area. Second, the harsh topography in the area. Thus, they placed the main prayer hall on the ground floor and the women's prayer hall on the second floor. Finally, the third floor is designed as a house for the Imam.

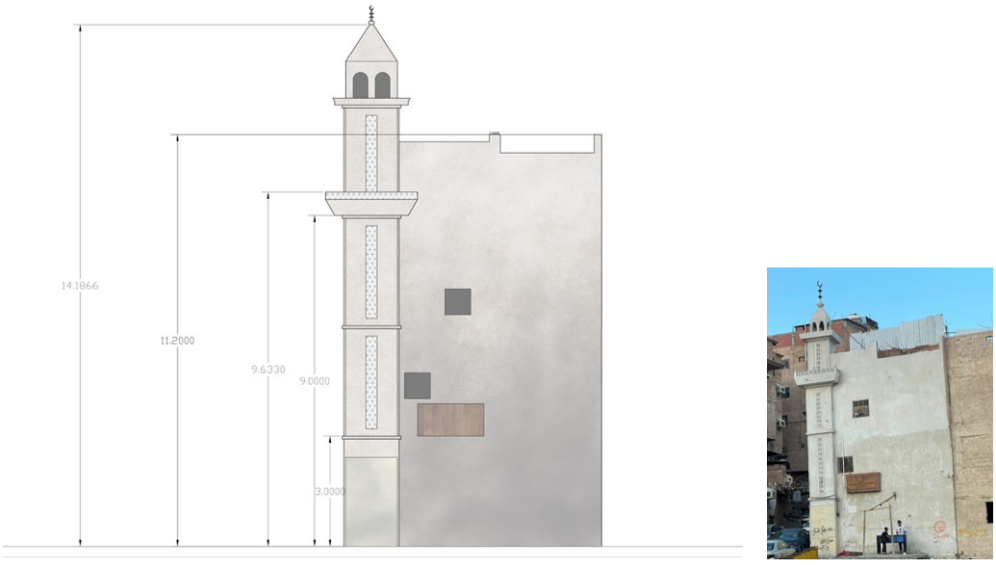


Fig.18: Shows a new architectural style for mosques in Al-Khalidiyah. (Source: Author).

5. SWOT ANALYSIS

According to the above analysis, spontaneous settlements in Al-Khalidyah provide a local framework for developing these settlements in Makkah. SWOT analysis has been used to evaluate this framework and to explore strengths, opportunities, weaknesses, and threats. Thus, considering strengths and opportunities is essential when launching upgrading plans. In addition, weaknesses and threats are essential indicators for finding practical solutions to this phenomenon. These solutions should meet economic, social, and environmental aspects to provide holistic planning development plans.

SWOT Analysis				
Strengths		**Weaknesses**	**Opportunities**	**Threats**
Economic	Affordable houses. Proximity to work.	Lack of commercial uses. Limited job opportunities.	Proximity to the Grand Mosque.	Having economic Plans for developing spontaneous settlements that are close to the Grand Mosque.
Social	Enhance social ties. Multicultural society.	Increasing the crime rate.	Raise public awareness toward developing these settlements. The necessity of having planning models for developing spontaneous settlements that enhance the socio-cultural values, activities, and practices.	The absence of a planning framework that deals with socio-cultural activities and practices in future developments.
Environmental	Dealing with high topographic contours. Control alley exposure to solar radiation.	High rates of pollution. Random waste dumps.	Possibility of applying the environmental positive outcomes of these settlements in future development projects.	The absence of a planning framework that deals with environmental surrounding contexts.
Urban	Compact pattern effectively deals with high temperature.	Overcrowding population. Poor infrastructure, services, and Buildings. New Architectural styles. Lack of Adequate public spaces. Absence of parking spots. Narrow alleys are not suitable for cars.	Benefit from existing planning strategies. Possibility of sustainable development for these settlements. Possibility of applying the urban positive outcomes of these settlements in future development projects.	Existing gaps in the existing planning strategies and policies for upgrading spontaneous settlements. Marginalization of spontaneous settlements.

Table.1: SWOT analysis of spontaneous settlements in Al-Khalidiyah. (Source: Author).

6. CONCLUSION

There is no doubt that spontaneous settlements have become an essential challenge threatening global cities. The local governments establish policies, laws, and procedures to direct spatial planning and building activities. In such circumstances, urban choices and procedures were Top-down. In contrast, in spontaneous settlements, decision-making has become Bottom-up and co-evolved. In the local context, (50%) of the residential settlements in Makkah are spontaneous and suffer from a series of urban issues, such as population overcrowding, poor infrastructure, deteriorating buildings, safety concerns, and environmental pollution. On the other hand, the research outcomes show that these settlements also have some advantages, such as offering affordable houses and enhancing social ties.

Concerning this, the local government bodies and organizations in Makkah put an outstanding effort into studying and evaluating the spontaneous settlements to stop their growth and find solutions to rehabilitate them. Some rehabilitation projects are on the ground now; they have been supported by new planning policies, strategies, and rules to facilitate the redevelopment and upgrading process. However, additional work should be done to improve the planning legalizations to make them more effective and flexible to adapt to rapid changes and face challenges.

In this context, this paper highlights the strengths, weaknesses, opportunities, and threats of the spontaneous settlements in Al-Khalidiyah to consider these aspects when launching redevelopment or upgrading plans for these settlements. These plans should be holistic by trying to protect the urban identity of the spontaneous settlements and fairly treat the economic, socio-cultural, and environmental aspects.

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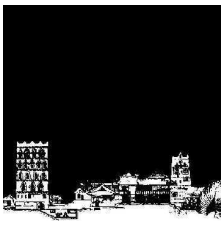

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