

Urban Planning Between Economic, Social, and Environmental Standards Study Area: (The Center of Najaf Al-Ashraf District)

Ms. Saif al-deen mohammed olewi

*Regional planning / faculty of physical planning / University of Kufa / Najaf Ashraf / Iraq
saifuldeenm.alwaily@uokufa.edu.iq*

Ms. Ruqayah Basim Mohammed Al_Nuwaini

Environmental planning / faculty of physical planning / university of kufa / najaf ashraf / Iraq

Abstract: The city represents one of the most significant achievements of human civilization, serving as a practical outcome of the interaction between social and economic values on the one hand, and natural factors on the other. As such, the city has become a complex and dynamic phenomenon with multiple dimensions, where its form and structure act as a physical manifestation of these factors. Religious cities exemplify this interaction.

The patterns and structures of land use in religious cities quickly respond to the essential factors and values necessary for life. The interaction of these factors and values creates a level of life requirements and sustainability, which we refer to as a "lifestyle" or "way of life." This necessitates that master plans for land use in the city align and respond to the needs of its inhabitants.

Religious cities, including Najaf Al-Ashraf as a case study, face unique challenges in planning and design. These challenges stem from their significance, the concentration of their buildings and areas of religious, cultural, and commercial importance—particularly the holy shrines—and the surrounding environmental conditions. All of this highlights the need for specialized studies and plans that are translated into distinct land-use strategies for such cities. Revitalizing our religious cities fundamentally relies on planning them according to sound scientific principles and proper urban planning methodologies.

Keywords: Commercial services, educational services, religious services, healthcare services, and industrial services.

Research Problem:

Many cities suffer from a lack of reliance on economic, social, and environmental standards in urban planning. This often leads to the implementation of plans that result in various problems, negatively affecting human comfort and activities in the city.

Research Objective:

To create a more comfortable and enjoyable urban life by implementing economic, social, and environmental standards in city planning.

Research Hypothesis:

The research aims to achieve economic, social, and environmental standards within the city of Najaf Al-Ashraf.

Introduction

The city of Najaf is one of the most significant historical cities, shaped and developed by various factors over time. These factors have had differing impacts depending on their importance, starting with religious and political influences, in addition to natural and other variables.

The spatial characteristics of any location (its "location") encompass a comprehensive study of urban areas, residential zones, commercial districts, religious and tourist sites, industrial areas, transportation networks, and more. This also includes examining the environment, natural features like topography, climate, and native vegetation, as well as the space the city occupies. These elements play a critical role in influencing planning and design processes. Since its establishment, Najaf has been distinguished as a religious site, gaining its significance over time due to its association with the shrine of Imam Ali (peace be upon him). This has made it a center of attraction for residents and visitors. Initially, it benefited from migration from Kufa, which provided labor to build and develop the city. Over time, Najaf became a destination for thousands of visitors from Iraq and beyond.

1. Location and Naming

Historical sources indicate that the city of Najaf emerged in 791 CE (170 AH), after the Abbasid Caliph Harun al-Rashid identified the grave of Imam Ali (peace be upon him). The city then developed with buildings centered around the shrine of Imam Ali (peace be upon him) and was known for its series of surrounding walls. The old city, located at the heart of Najaf, surrounds the shrine, with city buildings constructed around it. The current shrine with its golden dome was built in 184 AH.

Najaf is located southwest of Baghdad, approximately 150–160 km away, on the edge of Iraq's western plateau, at an elevation of 70 meters above sea level. To the southwest lies the "Sea of Najaf," while to the north and northeast are Karbala (about 80 km away) and Abu Sukhayr (18 km away). To the east, it is connected to the district of Kufa, which is 15 km away. Historically, Najaf has served as a road station, acting as a route between Iraq and Najd, with caravans of pilgrims passing through it.

The name "Najaf" is of Arabic origin, meaning "a high place not submerged by water." It also signifies "a hill" and has been known by various names throughout history, such as Batheqia, Al-Judi, Al-Rabwah, Dhahr Al-Kufa, Al-Lisan, and Al-Tur.¹

2. Borders and Area of Najaf Province

Najaf Province is bordered to the west and southwest by Saudi Arabia and Al-Anbar Province, to the northwest by Karbala Province, to the east and northeast by Babylon and Al-Qadisiyyah Provinces, and to the southeast by Al-Muthanna Province. The western regions of Najaf are unsuitable for settlement, while the southwestern areas, including the Sea of Najaf, are suitable for development. To the east, the agricultural zone surrounding Kufa and the Middle Euphrates region is located. This geographical positioning has made Najaf reliant on external resources rather than its own.

The total area of Najaf Province is **29,029 km²**, representing 7% of Iraq's total area. The province is divided into nine administrative units, with the central district of Najaf covering an area of **1,338 km²**.

¹ - Wisam Al-Eisawi, "Iraqi Provinces Forum," Najaf Province Forum, 2008, p. 3, available online. <http://www.ihabun.inf/forur, arehive index. Hualt. 261, 181, 2008>

3. Historical Land Use in Najaf

During the early stages of the city's development, residential use was the primary form of land use, with housing stretching from the shrine's walls to the city center. The residential fabric was divided into four neighborhoods during Ottoman control in 1875, when authorities introduced compulsory military conscription. These neighborhoods surround the shrine and are:

- **Al-Amarah** (west of the shrine)
- **Al-Huwaysh** (south of the shrine)
- **Al-Mashraq** (north of the shrine)
- **Al-Buraq** (east of the shrine)

These divisions, particularly in old Najaf, remain recognizable today. Religious and cultural land use also played a significant role in the city, encompassing religious schools, mosques, private and public cemeteries, and religious libraries. These uses were concentrated around the shrine and often overlapped with residential areas.

Commercial and artisanal activities were also prominent, with a major market ("Souq Al-Kabir") connected to other markets in the four neighborhoods. Caravanserais (khans) were used to house visitors, as there were no hotels, and to store goods. Handicrafts, such as weaving abayas, goldsmithing, tailoring, confectionery, and manual textile production, were linked to the busy markets. Outside the city walls, to the west and southwest, industrial uses included gypsum production, pottery, brickmaking, and leather tanning, facilitated by available space and environmental conditions.

The transportation network reflected the city's environment, consisting of narrow, irregular streets and alleys. Two main public squares—**Fadhat Al-Mashraq** and **Fadhat Al-Huwaysh**, each about 3,000 m²—served as focal points for the city's internal movement.

As the city evolved, the traditional land use patterns centered around the shrine created an efficient mix of religious, commercial, and residential functions. This integration is natural in a city like Najaf, where religious functions strongly influence other activities, fostering the development of markets and urban growth.

However, by the end of this historical phase, the sixth and final city wall could no longer accommodate the need for new housing and public spaces. Residents breached the western side of the wall, creating an opening that eventually expanded. This marked the beginning of a new phase in Najaf's growth and development.

4. Social Aspects

Population Characteristics of Najaf

The population is a fundamental element of a city, as no vibrant city can exist without its residents. The population of Najaf City was estimated at about 6,000 people in 1765. According to estimates from the 1932 census, the population ranged between 40,000 and 45,000. In the 1947 census, it reached 57,941, and in 1957 it grew to 92,000. By 1965, the population increased to 128,961, and by 1977 it was 186,479. In the 1987 census, it rose to 304,832, and by 1997 it reached 424,262.

Between 1965 and 1970, the population increased by 15.4%, and between 1970 and 1977, it grew by 26.1%. The population of Najaf saw a significant increase between the 1974 and 1977 censuses, with an additional 128,538 residents, reflecting a growth rate of 221.8% and an annual growth rate of 3.9% over three decades.

The data indicates that the population growth rate in the city was high, exceeding 4.3% during the period 1947–1965, primarily due to migration from other areas to Najaf. However, the growth rate declined to 3.1% between 1965 and 1977. This decline is attributed to reduced

migration pull factors, such as religious and economic opportunities, after stability was achieved in various provinces due to balanced development policies and equitable distribution of material and human resources, which improved the economic conditions for Iraq's population.

Between 1977 and 1995, the growth rate rose again to 3.3%, aligning with the general population growth rates in Iraq, reflecting diminished migration to Najaf. When comparing population growth at the provincial level, the population of Najaf Province, according to the 1977 census, was 389,680. This number rose to 590,078 in 1987, then to 699,036 in 1995, and finally to 806,928 in the 1997 census.⁽²⁾

Najaf City ranked sixth in size among other major cities according to the 1977 census and future population estimates for urban areas in 1982 and 1987⁽³⁾. Despite lacking resources and the advantages of centrally located cities, the religious significance of Najaf is what granted it this rank and enabled it to attract large numbers of residents. The percentage of the province's population to Iraq's total population in 1987 was 3.66%, increasing to 3.79% in 1993.

The population of Najaf grew from 299,783 in 1965 to 1,075,053 in 2010, an increase of approximately three and a half times. In comparison, Iraq's population grew roughly fourfold, from 8,097,330 in 1965 to 32,437,949 in 2010. Regarding the population growth within the districts of Najaf Province, the population of Najaf Center District was 138,321 in 1965, increasing to 623,208 in 2010—nearly fivefold. The province's area accounts for 6.6% of Iraq's total area.

The population of Najaf further increased from 1,075,053 in 2010 to 1,425,720 in 2015. The population of Najaf Center District reached 751,779 in 2015, representing half of the total population of Najaf Province (all districts and subdistricts). This indicates that the center district offers more services and job opportunities compared to other districts within the province.

There are two main factors influencing population growth: the natural factor and the migration factor:

✓ **Natural Growth:**

Most statistics indicate a noticeable fluctuation in the natural increase of deaths from year to year in Najaf. The population growth rate in 1957 was 0.8%, but this decreased to 0.7% in 1965. The unusual increase in births in Najaf indicates rapid population growth in the city. The rise in births suggests improved health conditions, better child protection against diseases and malnutrition, and high fertility. Early marriages also contributed to this increase in births. In 1965⁽⁴⁾, the number of individuals married at the age of 15 or younger reached 684. It is well-known that early marriages prolong the reproductive period for women and increase the number of births for women married early. For moral and social reasons, religious leaders in Najaf encourage early marriage for both males and females.

Urban planners often use average population growth rates to estimate the city's future development. For instance, if the growth rate in Najaf remains at 4.7%, the population would reach 550,738 by the year 2000. Urban planners must consider this growth rate when designing the city's infrastructure, ensuring their plans address both current and future population needs while accounting for possible increases over time.

✓ **Migration Factor:**

Migration occurs in two forms: international and internal (within the country). Internal migration involves movements between cities or from rural areas to urban areas. It is difficult to accurately

² Central Bureau of Statistics – Department of Statistics and Population Studies / Urban Area Estimates by Gender and Provinces for the Period (1977–1987), p. 29.

³ Central Bureau of Statistics – General Census of 1997.

⁴ General Directorate of Civil Status, 1965 Census Tables, unpublished.

track internal migration patterns in Iraq due to limitations in census and population registration systems. Available statistics fail to provide a clear picture of the number of migrants. Additionally, not all migrants entering or leaving Najaf register with the civil affairs departments.

Researchers rely on statistics of Najaf residents born outside the city, based on census data from 1947 and 1965. These provide a comparative picture of migration into Najaf during the two periods. Karbala remains the leading source of migrants to Najaf⁽⁵⁾. By 1965, Baghdad surpassed Qadisiyah as the second-largest source of migrants, and births in nearby provinces began to decline while those in more distant provinces increased. Nonetheless, nearby provinces remain the primary source of migrants to Najaf.

Population is a critical element of any city, influencing and being influenced by urban dynamics. Studying population is as significant as analyzing institutions or housing in urban planning.

The city of Najaf began its modern phase by preparing a master plan for the period (1976-2000) and implementing it, marking a stage of rapid growth and tangible change in the urban fabric of the city. After significant improvements were made to the road network in the old city, and as a result of the continuous process of opening new streets within the traditional fabric of Najaf, many of which end at the courtyard circle, the movement pattern changed significantly in this phase. Roads that were once narrow passages, winding alleys, and closed streets became wide, straight roads, some one-way and others with two-way traffic. A tunnel was constructed to organize car traffic, and an underground parking lot with a capacity of 80 cars was established in the Square of the Field (Bab al-Wilaya). The price of land in the city center (commercial center) began to steadily rise without interruption, reaching 150,000 dinars per square meter in 1998, increasing to 300,000 dinars per square meter depending on the desired location⁽⁶⁾. The smoothness and ease of access achieved for large numbers of visitors who constantly arrive to visit the shrine, the cemetery, or accompany funerals has led to an increase and development in economic activities, and the expansion of the central area towards its surrounding regions. The land use pattern in these areas has shifted from residential to commercial and service use, responding to the growing regional role of the city and the increasing needs of those activities required by visitors.

In line with the guidelines of the city's master plan (1976-2000) and in light of the development plan for the old city of Najaf, residential neighborhoods west of the city, particularly in the areas of (Al-Thulmah and Al-Shawafi), were demolished by the Municipality of Najaf to implement development projects. Additionally, a large portion of the Al-Amarah neighborhood and part of the Al-Huwaysh neighborhood were expropriated and demolished to create the proposed Visitor City and Tourism Services Center in part of the Al-Amarah neighborhood and part of the Al-Thulmah and Al-Shawafi areas.

Moreover, urban growth, especially in residential use, was achieved through the utilization of spaces designated for housing according to the city's master plan (1976-2000). This led to significant residential expansion along the Najaf-Kufa and Najaf-Diwaniyah corridors, particularly the first, where this phase saw the connection of Najaf with Kufa and the merging of their urban areas.

5. Educational and Pedagogical Services in the City of Najaf Ashraf:

Economic and social development primarily depends on preparing an aware and educated elite of youth to enable society to undertake various tasks and essential services. In the last two decades, the city of Najaf Ashraf has witnessed significant population growth, accompanied by urban expansion. It is natural for this expansion and growth to extend to educational services in terms of required spaces as well as the number of students. These services occupy a considerable area

⁵ (General Directorate of Civil Status, 1965 Census Tables, unpublished)

⁶ (General Directorate of Civil Status, 1965 Census Tables, unpublished).

of the city's land, with an area of approximately (126.76 hectares) according to the 1997 census, averaging (300 m²) per individual. Educational institutions are distributed across the sectors and neighborhoods of the city. The education system in Iraq provides the following stages: kindergartens, primary education, secondary education (intermediate and preparatory, vocational), and university education (institutes, colleges, and graduate studies).⁽⁷⁾

1. Kindergartens: In the year 2005, there were (34 kindergartens) in the city of Najaf Ashraf, with an average of (3,646) seats for children, supervised by (192) male and female teachers. The Najaf Ashraf Education Directorate found that only one kindergarten was officially recognized out of 24, while the rest of the buildings designated for kindergartens were not registered, and the officials in the directorate did not provide any explanation for this. It was found that (17) of the (19) kindergartens were located in the southern part of the city, with only (2) kindergartens situated north of the cemetery. According to the 2016 statistics from the Najaf Ashraf Education Directorate, there were 26 kindergartens in Najaf city and one in the Al-Haidariya district, with an average of (6,127) seats for children and (192) teachers, averaging (32 children per teacher), which is higher than the standard of (18 children per teacher). The number of children leaving kindergarten reached 846.

2. Primary Schools: According to the 2016 statistics from the Najaf Education Directorate, there were 144 primary school buildings in the city. In other words, there were (104) schools serving as extensions to other school buildings, indicating the city's need for attention in constructing more primary schools due to the increasing number of students being admitted at this level. In the same year, the total number of students in primary education was (133,901), averaging (540) students per school. The total number of educational staff in Najaf was (5,304) teachers, leading to approximately (21.3) students per teacher, which is higher than the standard of (18 students per teacher).

3. Secondary Schools (Intermediate, Preparatory, Vocational): According to the 2016 statistics from the Najaf Education Directorate, the number of intermediate schools reached (92) distributed across various neighborhoods in the city. This meant that there were (68) schools as additions to other school buildings, highlighting the city's need for more secondary schools. The total number of students in these intermediate schools was (66,966), with a teaching staff of (3,948) teachers, resulting in approximately (17) students per teacher, showing a slight surplus in the number of teachers relative to their students. There is a need to improve the education situation and encourage students to engage in secondary education.

4. Higher Education: The city of Najaf Ashraf hosts Al-Kufah University, located in the eastern part of the city along the Al-Kufah road. Additionally, there are many religious institutions and private colleges. It is noteworthy that the number of students at Al-Kufah University reached (4,039). According to the standards, this is adequately aligned with the current reality, and it applies only to primary schools, while the design for secondary education or subsequent education standards was not addressed. The following table illustrates the standards adopted by the Iraqi Ministry of Education.

6. Healthcare Services in Al-Najaf Al-Ashraf

The primary goal of healthcare services is to ensure preventive and curative care for the population. These services are provided through hospitals and health centers located in sectors and residential neighborhoods. To deliver better services to the residents of Al-Najaf Al-Ashraf, healthcare institutions must consider placing hospitals and health centers within sectors and neighborhoods while addressing overcrowding, ensuring the availability of skilled medical staff, and making it easier for citizens to access these facilities for the healthcare services they need.

In 2006, it was found that there were fourteen health centers in Al-Najaf Al-Ashraf, one of which was located on the outskirts of the old city, while the remaining thirteen were evenly distributed

⁷ General Directorate of Civil Status, 1965 Census Tables, unpublished.

across other parts of the city. A total of 4,507 individuals worked in the medical sector, including 475 physicians, 65 dentists, and 150 pharmacies. According to the United Nations Environment Programme (UN Habitat), there were 773 individuals visiting each outpatient clinic, and the average time required for an individual to access services from a primary health center was between 15–20 minutes to reach the nearest pharmacy.

Regarding hospitals and public clinics, there are three hospitals:

1. **Al-Zahra Hospital**
2. **Al-Sadr Hospital**
3. **Al-Hakim Hospital**

These are located in the southeastern and northeastern sectors of the city. Al-Hakim Hospital is a general hospital, while Al-Sadr Hospital is a teaching hospital with a capacity of 87 beds. Al-Hakim Hospital has 200 beds, and Al-Zahra Hospital has 185 beds. Additionally, there are private hospitals, including Al-Ameer and Al-Ghadeer in Kufa. According to the United Nations Environment Programme, there is one hospital for every 129,637 residents in Al-Najaf Al-Ashraf and one hospital bed for every 84 residents.

It is evident that the ratio of residents to hospital beds in Al-Najaf is unusually high compared to other Iraqi cities. According to a survey of living conditions conducted on 1,100 families by the United Nations, 21% of Al-Najaf residents are within 15 minutes of the nearest public hospital, 47% are within 15–30 minutes, 87% are within 31–60 minutes, and 5% are more than two hours away from the nearest public hospital. The survey also indicated that the average time required for a citizen to reach any public or private hospital in Al-Najaf is 30 minutes.

The Ministry of Health has set a target of three hospital beds per 1,000 people. However, Al-Najaf currently has fewer than one bed per 1,000 residents, equivalent to one bed for every 1,592.75 residents in the Najaf district. The organized distribution of primary health centers across geographic areas is reflected in the fact that approximately 50% of the population can reach the nearest health center within 15 minutes, 39% within 15–30 minutes, and only 10% require more than 30 minutes to reach the nearest health center.⁸

7. Recreational Aspect:

1. **Green Areas and Proposed Green Spaces in Najaf City:** Most cities in Iraq suffer from a significant neglect of green spaces, which has led to an imbalance in the urban ecosystem, resulting in increased temperatures within the cities, distancing them from thermal comfort zones. The Hayy Al-Hanana district in Najaf City is characterized by wide main and secondary streets, with 35% of the area dedicated to streets, while the residential buildings make up 65% of the area. These buildings have large areas ranging from 600 to 700 square meters, with 70% of the total plot area occupied by the construction of a single residential unit, leaving 30% for gardens and open spaces. The overall open space in this sector will be around 55%, with 45% dedicated to built structures. In addition, the Hayy Al-Amir district in the city also has wide main and secondary streets, with 35% allocated to streets, and 60% of the space is occupied by buildings, with residential plot sizes ranging from 300 to 400 square meters. The ratio of constructed area to garden space in this district is low, with 60% of the space built and 40% designated for gardens and open spaces. Therefore, the general average for this district will be 60% open space and 40% built structures.

For model No. 3, an aerial map of the Al-Mutanabbi district shows that this sector has medium-width main streets with narrow secondary alleys, resembling the alleys of the old city in Najaf. This sector has 30% of its area dedicated to streets, and the building areas cover only 20% of the

⁸ 12UN-HABITAT with the Golbal urban Research Unit (2007). The state of Iraq cities Report. New castle school of architecture, planning and land scape.

total plot area (around 200 square meters), with 75% of the area taken up by constructed space and only 25% allocated for gardens and open spaces. Therefore, the general average for this district will be 47% open space and 53% built structures.

For model No. 4, an aerial map of the Al-Askari district shows this sector with relatively narrow main streets and narrow secondary alleys. This district allocates 25% of its area to streets, and the buildings cover 75% of the plot area (around 200 square meters). The built area is 20% of the unit's total space, with the garden and open spaces making up 20%. Thus, the general average for this district will be 40% open space and 60% built structures, as outlined in the table.

2. **Recreational Areas:** Najaf City lacks large recreational and tourist areas or parks, which could offer families and children a place to relax during holidays, festivals, and special occasions. The scarcity of public recreational spaces for children in Najaf has led many children to play on bridges, fountains, and public areas. Despite the city once being known as "Land of the Black," it now lacks green spaces and playgrounds.

There is only one amusement park (Al-Salam Amusement Park), as shown in the map above. Although it does not meet the needs of the entire city, many residents have complained about the high prices within the amusement park. The entrance ticket price has reached 3,000 dinars, which is considered a large amount, especially for families with many children. The park is crowded during the holidays (Eid al-Fitr, Eid al-Adha).

8. Economic Aspect:

The main reason for the establishment of Najaf City is the presence of the sacred shrine of Imam Ali (peace be upon him), which attracted people from all around the world, both those who loved the family of the Prophet (peace be upon him) and those who wished to live near the Imam (peace be upon him) to be buried next to him after their death. The founding of the first Islamic and jurisprudence schools made this city a center for attracting scholars, students of knowledge, and intellectuals from all parts of the Islamic world. This created a society in Najaf that was distinct from the general populace, comprising ascetics, scholars, and students of knowledge from various Islamic regions. They were united not by tribal or familial bonds, but by their shared devotion and renunciation of worldly life.

Tourism:

Tourism in Al-Najaf takes two primary forms:

1. **Visiting the Shrine and Cemetery** – Movements of visitors are usually connected to these sites and the surrounding commercial areas.
2. **Visiting Historical and Heritage Buildings** – Visitors come to explore historical structures, heritage landmarks, and the unique characteristics of the location.

According to a field study conducted in Al-Najaf in 1984, the average number of visitors was approximately **10,000 people** on regular days. On **Fridays and holidays (weekly visits)**, the number increased to about **43,000 visitors**. During **seasonal visits**, such as **Eid al-Adha** and **Ashura**, the number ranged between **70,000 and 100,000 visitors**.

The social and economic composition of visitors showed the following proportions:

- ✓ **Visitors from rural areas: 33%**
- ✓ **Foreign visitors: 12%**
- ✓ **Arab visitors: 5%**

The study further indicated:

- ✓ **43%** of visitors stayed only during the daytime.
- ✓ **52%** stayed for a period of **1–2 days**.

- ✓ 5% stayed for a period of 3–7 days.⁹

From the above, it is concluded that there is an urgent need to provide spaces to accommodate these numbers of visitors and to offer the necessary services during their stay in the city. It is essential to provide covered spaces or temporary accommodation near the shrine, especially since the overcrowding of visitors on the surrounding sidewalks creates a situation inconsistent with the religious and historical significance of the shrine.

Religious tourism is considered one of the most important types of tourism in the Islamic world. Among its etiquettes are avoiding prohibitions and adhering to the rules set by Islam. Therefore, it is necessary to work towards developing religious tourism in Iraq by establishing advanced programs to welcome groups of visitors. These programs should include, in addition to visiting sacred shrines, creating modern ways to enhance the experience, such as exploring different cultures, organizing exchanges of visits, hosting seminars and events, marketing festivals, and visiting landmarks in nearby cities. Furthermore, all necessary services and facilities required by visitors and tourists, such as restrooms, medical clinics, guidance centers, communication services, and tourist police offices, should be provided. There is also a need to rehabilitate, improve, and supervise hotels, restaurants, and other tourist facilities consistently.

One of the characteristics of Islamic peoples is their hospitality, warm welcome, and generosity towards visitors and tourists. This distinctive trait makes visitors or tourists feel as though they are among their family and loved ones. Many visitors even enjoy staying longer, especially in religious cities, to visit the shrines of the Imams from the Ahl al-Bayt (peace be upon them). Due to the kindness and good manners of its people, it is expected that in the coming years, the influx of visitors and tourists to Najaf and other religious cities will increase. For this reason, many urban, planning, and tourism projects must be executed, including the development of the old city, the expansion of Imam Ali's shrine (peace be upon him), the enhancement and improvement of other shrines and religious landmarks, and their surroundings. Additionally, the hospitality sector must be expanded, and new markets, particularly traditional ones, should be established. Building tourist cities around the old city and other necessary measures must also be considered.

Resources and the Development of Religious Tourism in Najaf Governorate:

In addition to the religious importance of Najaf Governorate, its historical significance is also evident, highlighted by the ancient history of Kufa, which served as the capital of the Islamic state for a period. It is rich in standing monuments and numerous historical sites and boasts significant cultural importance with the presence of the University of Kufa. These factors make it well-suited for the flourishing of tourism activities centered on visiting historical and archaeological sites. However, the city's tourism potential is not limited to religious and historical tourism; it also has natural resources that could support recreational tourism, especially along the banks of the Kufa River, as the Kufa District is a natural extension of Najaf.

Moreover, religious beliefs that favor burial in Najaf's cemetery and visiting the graves of relatives significantly attract visitors from all over Iraq.

Unexploited Natural Tourism:

The Bahr al-Najaf area, located on the edge of the western desert plateau southwest of Najaf city, relies on groundwater. These waters rise in the winter and recede in the summer, being used for agriculture. This area is home to various birds and fish and could be transformed into a tourist area if well-planned.

Planned Industrial Areas:

These are industrial zones designed to represent relatively large spaces, consisting of five industrial areas. Three of these are located in the southern sector of the city. The first industrial area is the "Industrial Services Area" and main storage, covering an area of approximately 51.63

⁹ Ministry of Local Government, General Directorate of Urban Planning, Visitors City Project, 1985, p. 13.

hectares. It is located about 6 kilometers from the city center along the Najaf-Kufa axis. This area includes mechanical workshops and artisan industries. The second industrial area is for services and storage, with an area of 171.625 hectares, where there is close interaction between new buildings and land usage changes in industrial professions related to cars.

Another area is the "Adan Industrial Area," covering 56.38 hectares, located within residential areas, and includes printing shops, textile factories, food factories, and construction workshops. There is also the northern sector, which includes two industrial areas:

- The first one is an industrial service area located 12 km from the city center, with an area of 238.96 hectares, positioned on the right side of the Najaf-Karbala axis. This site is designated for chemical and food industries as well as repair workshops.
- The second industrial service and storage area is located on the left side of the Najaf-Karbala axis, covering 171.625 hectares and includes a ready-made clothing factory on 3.21 hectares.

9. Commercial Use:

The importance of commercial activity has increased in recent years due to the growing population, increased purchasing power, and the increasing number of visitors coming for religious and social purposes. This has led to an expansion of markets and commercial establishments as the city grows.

In addition to the old traditional markets that continue to serve their commercial functions, new commercial streets have emerged, such as Al-Sadiq (a), Zayn al-Abidin (a), and Rasul (PBUH) Streets.

The expansion of Najaf city began in 1949, when the design of the city underwent significant changes. A circular street around the holy shrine was opened, removing old markets, shops, and buildings, and replacing them with new markets and buildings. Several streets were then built, connecting to the circular street around the shrine, including Al-Sadiq (a) and Zayn al-Abidin (a) Streets, which are parallel streets that start from the Square of Al-Midan and extend to the western edge of the city. In these streets, some of the city's largest and most modern buildings were constructed.

The oldest markets in the city, the largest being the "Grand Market," each of the city's districts has its own market, typically named after it. The Grand Market has six branches and serves as the city's economic lifeline. It includes shops selling jewelry, clothing, spices, shoes, bags, electronics, perfumes, etc. However, some smaller markets tend to specialize in specific goods, such as the butcher's market, gold market, and blacksmith's market.

Development of Commercial Infrastructure in Old Najaf:

1. **Wholesale Trade:** Wholesale trade institutions are essential to the city's structure, as they supply goods for retail trade and other commercial needs. It is difficult to precisely define wholesale trade, but it generally includes institutions that sell or supply goods to retail traders, manufacturers, distributors, exporters, and agents. Wholesale trade plays a significant regional role in Najaf, providing goods to meet the city's and its region's needs.

Currently, there are few studies on the structure of wholesale trade institutions compared to those concerning retail trade institutions. Wholesale trade in Old Najaf is represented by institutions dealing in bulk goods sold to customers. These institutions are concentrated in narrow zones within the city. The primary areas for wholesale trade are near the Grand Market and its surrounding streets. These include shops that sell a variety of goods, including fabrics, spices, shoes, and other goods such as flour, oils, and textiles used in making traditional clothing.

2. **Retail Trade:** This category includes shops selling a variety of goods directly to consumers, such as fabrics, ready-made clothes, jewelry, electrical appliances, food, books, and mobile phones. The retail trade sector in the city of Najaf has expanded significantly compared to previous years due to the increasing commercial demands of the population. As of 2005, the

number of retail shops in Old Najaf was approximately 1,380. Retail trade services also extend regionally, serving surrounding villages and nearby cities.

The distribution of retail businesses in Old Najaf has created a market structure consisting of several zones:

1. **Central Retail Trade Zone:** This is the area where retail businesses of various types are concentrated. It is integrated with service and industrial institutions and is located in the city's commercial heart around the Grand Market, Zayn al-Abidin (a) Street, and Al-Sadiq (a) Street. This region serves as the main access point for visitors, making it a hub for trade. Here, rental prices are high due to the heavy traffic of goods and services. Retail businesses are crowded and diverse, creating a complex but vibrant shopping area.
2. **Retail Trade Zone – Peripheral Areas:** This zone includes markets like Al-Huish, Al-Mishraq, and streets like Al-Tusi, Al-Rasul, Al-Khurnaq, and Al-Sadir. These areas, which extend from the central retail zone, serve as secondary commercial areas. In these zones, retail businesses still mix with service and industrial institutions. This type of distribution is typical of cities with a "shadow retail" pattern, where peripheral retail centers complement the central area, providing additional services.
3. **Isolated Retail Trade Zones:** These areas contain smaller clusters of retail shops and are located on the outskirts of the old city. One major cluster is found in the new residential areas, such as Al-Jadid, Hanun, and Barak Al-Jadid, and serves local residents. These smaller zones cater to daily needs and tend to be spread out across residential neighborhoods. The number of retail shops in these zones increases with the expansion of residential areas.

There are 20 commercial zones in the city of Najaf, the most prominent being Kufa Street, Al-Jawhari Street, the street dividing Al-Ghari and Al-Dhufat, Abu Sakhair Street, and the road dividing Al-Salam and Al-Ghari. Notably, Al-Jawhari Street has become one of the most commercialized streets in Najaf, with land prices reaching up to 7 million per square meter.

Al-Muhammad Mahdi Al-Jawhari Street, now known as Al-Rawan Street in Najaf, is one of the city's main commercial landmarks. It is popular among locals for shopping and dining, as well as among visitors from neighboring countries. During peak hours, especially in the evening, this street experiences unusual traffic congestion, with both pedestrians and vehicles creating a bottleneck, leading to significant disruption. However, the situation tends to clear up after rush hour.

Traffic Issues and Commercial Disruption:

Business owners in the area face significant challenges due to a recent decision by the Najaf Traffic Directorate, which converted a two-way street into a one-way road. This decision has caused a sharp decline in commercial activity by about 70%, with many businesses halting operations. The lack of proper parking facilities and the high volume of traffic along this street have led to substantial delays. Some businesses have even considered selling or renting out their premises due to the resulting slowdown in customer flow.

The Transformation of Commercial Spaces:

Over the years, some areas have witnessed a shift in their original purpose. For instance, Al-Sadiq (a) Street, once home to medical clinics, has now transformed into a commercial area filled with clothing shops and other retail stores. This change is a direct result of the increased number of visitors coming to Najaf for religious purposes, especially those visiting the shrine of Imam Ali (a). This influx of visitors has led traders, both local and from outside the region, to capitalize on the increased demand for goods. As a result, rental prices in these areas have risen dramatically, making it difficult for medical professionals to compete. Over time, medical services have been relocated to other areas, such as the Al-Iskan Street, which was originally a residential area but now hosts many of these clinics.

Distribution of Current Land Uses in Najaf Al-Ashraf

Land uses in the city of Najaf Al-Ashraf are characterized by their expansion from the center towards the outskirts, with a longitudinal extension along the Najaf-Karbala road. The city expands more towards the north than in other directions, particularly towards the northwest, where the Najaf Sea depression and the Wadi Al-Salam cemetery are located. Expansion in this direction is limited due to the obstacles that hinder this growth.

Type of Use	Percentage
Residential Use	51.4
Roads	12
Religious Uses	1.2
Industrial Uses (Service, Production)	9.9
Commercial Uses	2.7
Infrastructure	0.2
Educational Services	2.8
Health Services	2
Hotels	2
Governmental Uses	1.1
Parking Lots	0.5
Farms	3
Open Spaces	1.2
Public Cemeteries	6
Vacant Lands	5
Total	100%

Source: Directorate of Urban Planning, 2016

It is observed that residential land use is the dominant use compared to other land uses, occupying 51.4% of the total area of the city. Following that, the land uses for roads make up 12%. As for industrial uses (service, production, and storage), they account for 9.9%, with service industries representing 5.3%, production industries at 3.4%, and storage areas making up 1.2%. It is noteworthy that the production industries are represented by the ready-made clothing factory for Asas and the grain factory, along with some small industrial projects.

Although religious land use occupies a minimal share among the different land uses in the city, at 1.2%, it has a clear dominance on the urban landscape of the city. This land use has a spiritual dimension, which makes its presence deeply ingrained in the psyche of both the citizens of Najaf and visitors. It is the primary reason for the existence and continuity of the city.

Educational services in Najaf Al-Ashraf are characterized by their low percentage of 2.8%, spread across the entire city, despite the lack of these services in many neighborhoods. Health services account for 1% of the total area of the city.

Another important land use that clearly impacts the city is commercial use, which occupies 2.7% of the total land use and public activities in the city.

Conclusions:

1. The city of Najaf is expanding towards the Najaf-Karbala axis, after all axes were defined.
2. Population growth has led to urban expansion, with an increasing need for residential units. This expansion continues every year, and rapid population growth and rural-to-urban migration impact sustainable development, undermining urban and economic planning efforts.
3. The urban expansion shows that Najaf is attractive to residents.

4. The study revealed that the old city of Najaf, the central area, is growing rapidly due to the growth and development of this center and the increasing importance of commercial activity today.
5. The study found that the central business district of old Najaf includes institutions surrounding the shrine and other institutions surrounding the large market until the Bab Al-Wilaya. The central area is a zone of control or the main area where wholesale and retail shops are concentrated.
6. The study also confirmed that the secondary commercial area of old Najaf includes Al-Rasoul (PBUH) Street, Al-Tusi Street, Khornuq Street, Sadair Street, and Al-Huwaish Market. These streets are adjacent to the central commercial area, which mainly contains retail shops and some wholesale shops.
7. The study also confirmed that isolated commercial shops and warehouses in the outskirts of old Najaf include the second section of Al-Sadiq (AS) Street, the second section of Zain Al-Abidin (AS) Street, Al-Mishraq Market, and shops on the walls that mainly contain retail shops.
8. The reason for the expansion of commercial streets in the old central area is the increase in population, higher purchasing power, and the rise in the number of visitors for religious and social purposes. Consequently, markets and commercial institutions grew along with the city's expansion and development.
9. The expansion of these commercial areas has put pressure on essential services and infrastructure. The city suffers from numerous problems related to road planning, especially during religious events, where most of these roads do not meet the needs of incoming visitors. There is a need for a reevaluation of road planning based on the visitors' needs and regional cooperation (neighboring governorates) on a local and global level.

10. Educational services in Najaf, according to 2016 statistics, indicate:

- **Kindergartens:** There are 18 children per teacher, with 846 children leaving the kindergartens, which aligns with the standard adopted by the Ministry of Education.
- **Primary Schools:** There are approximately 21.3 students per teacher, which is higher than the standard of 18 students per teacher.
- **Secondary Schools (Intermediate, Preparatory, and Vocational):** There are approximately 17 students per teacher, showing a slight surplus of teachers compared to students. The educational situation needs improvement, especially in encouraging students to enroll in secondary education.
- **Higher Education:** The standards were adequately applied to primary education but did not consider secondary or subsequent education standards. The table below shows the standards adopted by the Ministry of Education.

11. The study shows that 21% of Najaf's residents are within 15 minutes of the nearest government hospital, 47% are within 15-30 minutes, 87% are within 31-60 minutes, and 5% are more than two hours away. According to the United Nations Environmental Survey, the average time for citizens to reach any government or private hospital is 30 minutes from Najaf.
 - Currently, there is less than one bed per 1000 people in Najaf, with one bed for every 1592.75 people in the Najaf district.
12. Najaf suffers from noticeable neglect of green spaces, leading to an imbalance in the ecological system, which has resulted in increased temperatures within the city, moving it beyond thermal comfort zones.

13. The main reason for the establishment of Najaf was the shrine of Imam Ali (AS), which attracted people from all over the world, and the city's economy depends largely on religious tourism.
14. The importance of commercial activity has increased due to population growth, higher purchasing power, and the rise in the number of religious and social visitors. This has led to an expansion of markets and commercial institutions.
15. The narrow and winding streets help reduce dust and heat, lowering temperatures by 3-5 degrees compared to the modern city layout with larger open spaces and building materials like steel, brick, and cement. The increase in private vehicles also leads to traffic congestion and environmental pollution.
16. Although religious land use occupies a small portion (1.2%) of total land use, it dominates the city's urban landscape. Its spiritual significance makes it deeply ingrained in the psyche of both citizens and visitors, and it is the fundamental cause of the city's existence and continuity.
17. Educational services in Najaf are low at 2.8%, spread across the city, despite the lack of these services in many neighborhoods. Health services account for 1% of the total city area.
18. The significant commercial use occupies 2.7% of the city's land and public activities.
19. Prices for commercial street spaces differ, with prices in the old city reaching 16-25 million IQD per square meter, and in Al-Jawahiri Street reaching 14 million IQD per square meter.
20. Residential areas vary in price, ranging from 0.5 million to 7 million IQD per square meter in the old city of Najaf.

Recommendations:

1. Residential units should be modern and well-planned to prevent random, unregulated construction.
2. Focus on constructing residential complexes and selling them to citizens with deferred payments (installments) to address the housing crisis and accommodate population growth.
3. Encourage vertical construction and educate residents on this approach, as Najaf is expanding along the Najaf-Karbala axis, which could lead to the integration of Najaf with the nearby Al-Hayderiya area.
4. Focus on central business areas in old Najaf, adjusting building heights gradually.
5. Focus on the educational sector, encouraging students to enroll in secondary schools, as there is currently a slight surplus of teachers compared to students, but enrollment in secondary education needs to improve.
6. Create recreational spaces for children, with a mini amusement park in the green belt area of Najaf, which will help accommodate a large number of visitors.
7. Invest in green spaces in residential areas, and allocate spaces for children's play areas and daily operational services.
8. Organize the spread of primary healthcare centers across geographical regions based on population density.
9. Focus on the number of hospital beds, as the Ministry of Health has set a standard of three beds per 1000 people.
10. Reduce the use of private vehicles and focus on public transportation to reduce high traffic density during peak hours.
11. Relocate heavy industries and factories to a designated industrial zone 60 km outside the city center, with a green belt surrounding it to reduce dust and strengthen the soil.