

# Sustainable Urban Planning as an Effective Means for New Urban Communities Development (An Introduction to Charting Future Urban Planning Strategic Trends) Case Study City of Najaf

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**Abstract:** *The notion of urban planning along with the process of urban development has been, for long periods of time, remote from the interests of those responsible for the planning process in developing countries, which led to the cities of these countries to lie under a heavy burden of problems that resulted from improper planning that began to accumulate continuously to till it reached an extent not to be overcome. It is noteworthy that the site of the city is studied in terms that are economic and social, even political. Also, the land uses and the internal structure of the city along with the new plan of the site do all affect and get affected by the expansion to the north or to the west or by stopping the expansion. The city's location and interior design are influenced by the importance of city as a political, industrial, commercial and agricultural center, beside the need for water, energy, transportation and natural resources. The city is expanding in specific directions according to its urban design. The aim of the research is to identify the possibilities of urban expansion of Najaf and what are the determinants of this expansion in order to develop solutions and planning treatments that are in line with the population increases of this city and the possibility of putting different services to the population and to enjoy the best infrastructure services to provide the requirements of living and economic and social wellbeing. Reasons for Urban Expansion is Population increases 'Social factors 'Economic factors and Axis of growth and urban expansion is Najaf – Kufa corridor 'Najaf - Abu Sakhir corridor' Najaf – Karbala corridor. Determinant Factors of Urbanization in Najaf is The direction of Najaf urbanization turned out to be towards one corridor, namely the Najaf Karbala and Najaf Abu Sakhir. This corridor does not have the potential for urbanization as in the Najaf-Karbala corridor, which is characterized by the existence of large areas of land that allow the extension of housing, The situation in the direction of Najaf - Kufa and Najaf - Abu Sakhir. The factors behind this were identified as follows The Valley of Peace Cemetery ' The city of Kufa ' The city of Abu Sakhir Sea of Najaf Through this study, the following conclusions were reached The city of Najaf expands towards the corridor of Najaf - Karbala after the identification of all corridors and The population increases in the city led to its urbanization and the need for housing units which it shows a need for each year and The urbanization of the city shows that the city Najaf is attractive to the population. The study recommends to the authorities, namely The Urban Planning Unit and the Municipality Directorate, both in Najaf, the following The need to have suitable housing units that are modern, urban and systematic to reduce the construction of random and unplanned housing units and The tendency to build residential complexes and selling them to citizens with deferred amounts (installment) to solve the housing crisis and to accommodate population increases and The tendency for vertical expansion and to sensitize the population of this matter which calls for investment areas that are less in proportion than the horizontal expansion.*

**Keywords:** city of Najaf ' Urban planning ' sustainable development

## 1. Introduction

The notion of urban planning along with the process of urban development has been, for long periods of time, remote from the interests of those responsible for the planning process in developing countries, which led to the cities of these countries to lie under a heavy burden of problems that resulted from improper planning that began to accumulate continuously to till it reached an extent not to be overcome. (Dulaimi , 2002 , p.p 16 – 17 )

Urban planning or cities planning up till the 1960s was the work of architects and engineers only as they set the urban plans by developing master plans that focus on the apparent aspects of urban design. These were conceived as architectural ideas of infrastructure supported by utility networks as in the case of public buildings or complexes construction. (Aboudi , 2005 , p.p. 46 -47 )

The architect, who is responsible for planning and design, can not provide the diverse information that is essential for the preparation of basic designs suitable for all natural and

human aspects, limited, general and superficial as they are. Therefore, a lot of mistakes occur for which the city inhabitants have to bear.

It was not realized then that the structural structure of cities has no specific finite state. It is more like a living organism that is constantly changing, in order to adjust its structure and content according to new requirements and conditions. (Makki , 2010 , p. 36 )

The process of urban planning or urban development has become a multi-dimensional process. It represents a strategy with a wide range of goals and objectives. It is rooted in all aspects of life, with its values, customs, and methods whether social, economic, political, scientific or technological with the aim of achieving different requirements of the population for a better situation.

The aim of urban planning is to transform the society from the present existing situation to more advanced conditions in order to achieve specific goals and raise the standard of living for the society as a whole in all its aspects; economically, socially, economically and aesthetically. This

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is achieved by exploiting all the available resources to solve urban problems in various urban environments (Dulaimi , 2002 , p.p 29 - 30 )

The idea of sustainability continues to affect the thinking of all planners at the present time. Some people believe that modern lifestyles consume many natural resources; this method pollutes and destroys the ecosystem, increases the social gap and causes climate change. Many planners call for the creation of *sustainable cities*. (Riemann , 2012 , p.p 19 – 20 )

The city of Najaf, that dates back to the year 170 AH - AD 786, when the dome was erected on the shrine of Imam Ali, grew and developed because of the religious factor, which is the very resting place of the venerable Imam Ali bin Abi Talib, which encouraged many people to move to this city from different cities inside and outside Iraq over the years. Najaf has become a spiritual factor as well as an economic factor because it has been receiving huge numbers of visitors from inside and outside Iraq. These people need hotels, restaurants and supplies which they take with them when they return to their families. This means that there are jobs available for those who move to this city . Immigration has already occurred in the form of individuals or families, which stressed the urgent search for housing units for these families over the years since the 1970's, 1980s and 1990's of the last century till today. This created pressure on the city (pressure on services such as housing, electricity, water and transport ..) with a population of 563000 people in 2015

## 2. Statement of the Problem

Urban planning depends on the availability of information and studies of the city in terms of location, geographical nature, economic as well as social studies, the piece of land to be owned in each city area, the preferred expansion of facilities, the access possibilities, pollution (of water or air), military defense and future land tenure. Obviously, there is a strong relation between the site and the functions available in the city in terms of using the lands for industrial or commercial purposes, green areas and their relevance to the internal transport network which can not be planned without taking the relation between these activities and the size of the expected population into consideration. (Ogniz , 2014 , p.p. 25 -27 )

It is noteworthy that the site of the city is studied in terms that are economic and social, even political. Also, the land uses and the internal structure of the city along with the new plan of the site do all affect and get affected by the expansion to the north or to the west or by stopping the expansion. . (Riemann , 2012 , p.p55 - 54 )

The city's location and interior design are influenced by the importance of city as a political, industrial, commercial and agricultural center, beside the need for water, energy, transportation and natural resources. The city is expanding in specific directions according to its urban design.

The far-reaching goals of planning are social in nature, although the plans themselves relate to natural aspects and natural places. The plans are based on long-term and

medium-term economic values that in turn affect the production, distribution and utilization of wealth (Aboudi , 2005 , p.p. 79 – 80 )

The urban planning represents the final configuration of the role, schools, transport routes, industrial centers, commercial parks and multi-elements of the urban environment, so that they are more competitive, productive and suitable for all. The three-dimensional result combines architectural, urban design and urban landscape.

At the present time it is very important that the geographical focus of the city's urban design in terms of the city's relationship to economic and social activities to be developed and the impact of natural factors on the development of cities or the expansion of their design in relation to the local climate direction and speed of wind and the nature of the soil and its suitability for construction or economic exploitation and degree of water and air pollution. .( Makki , 2010 , p.p 53 - 54 )

## 3. Objectives of the Study

The aim of the research is to identify the possibilities of urban expansion of Najaf and what are the determinants of this expansion in order to develop solutions and planning treatments that are in line with the population increases of this city and the possibility of putting different services to the population and to enjoy the best infrastructure services to provide the requirements of living and economic and social wellbeing .

## 4. Methodology of the Study

The study followed the collection of data on the number of population and the number of housing units from official departments such as the Central Statistics Department in the governorate and the Directorate of Urban Planning. The study was used to analyze its data and achieve its objectives on a number of statistical and descriptive statistical tools and methods

## 5. Terminology

### • Urban Planning

It is the objective creative process of how to make human life easier and to facilitate its tasks so that the maximum measure of freedom, for the individual and the community, is achieved and, accordingly, people can live in peace and security. (Dulaimi , 2002 , p.62 )

A strategy or set of strategies by the responsible authorities to make decisions as to what will be developed, directed and controlled of the urban expansion so that urban activities and services have the best geographical distribution and the population has the greatest benefit. .( Makki , 2010 , p. 19 )

The future image of the shape and size of the city by determining the appropriate areas for the establishment of new cities as well as the expansion of the existing cities, the optimal way to grow (vertically or horizontally) in a way that is appropriate to the natural, social, economic and

political variables, addressing the existing cities problems that cause a change in the use of the existing land. Thus is done through mapping the necessary designs. . (Riemann , 2012 , p33 )

It is a scientific discipline that addresses all the aspects of the urban area and includes various disciplines such as administration, politics, law, economics, sociology, engineering, environment and others. Regional planning is similar to it but includes a wider area of urban or urban planning. ( Aboudi , 2005 , p.124 )

These definitions of urban planning identify it as a broad discipline that combines several natural, social, economic and engineering variables to guide the growth of a city. It also addresses its problems for the benefit of its inhabitants and provides them with the requirements of a healthy and safe urban life.

- **Sustainability**

It is the optimal use of available resources to meet the needs of the current generation without affecting the needs of the posterity.

- **Sustainable Urban Planning**

It is the application of sustainability theories and flexibility in the design, management and control of urban communities. There are many organizations that support and look at urban planning, including governmental and non-governmental organizations, in addition to professional institutions around the world. .( Makki , 2010 , p. 79 )

Sustainable planning is associated with so-called "environmental cities", also known as environmental architecture, which specifically aims to make cities based on environmentally friendly principles while cities are flexible in design so that resources are saved from access through appropriate distribution and use to replace global consumption of environmental resources which is in turmoil and disorderly organization. . (Riemann , 2012 , p.p. 72 -73)

- **"Green" urban planning**

It is another common term for sustainable urban planning. Sustainable development is a general term to make both urban planning and the economy more sustainable but basically it is not specifically created for city urban planning. Sustainable planning involves closing the cycle by eliminating the environmental impact of urban development by providing all its needs locally. It includes all aspects of the productive cycle to ensure the sustainability of all phases. Sustainable planning ensures that urban water,

electricity and food needs are provided to all parts of the city. The continuity exists in itself (Dulaimi , 2002 , p.74 )

- **Constructional Planning**

It is an attempt to create a climate which is appropriate that helps the communities to find the necessary means to achieve a suitable living framework for its residents, with amenities and luxury within the cities. .( Makki , 2010 , p. 65 ). It is difficult to classify constructional planning into a single classification due to its multi-disciplinary nature so it is academically classified as a built-up or engineering environment. Constructional planning aims at assessing the urban and rural life and finding engineering solutions to urban problems such as population growth, slums, traffic crises, movement regulation among population and services. There are multiple theories of regional and urban planning aimed at organizing urban life (Aboudi , 2005 , p. 143 )

## 6. Findings of the Study

### Reasons for Urban Expansion:

We can address this issue through the factors and reasons that impacted urban expansion in Najaf as a process, namely:

#### 1) Population increases

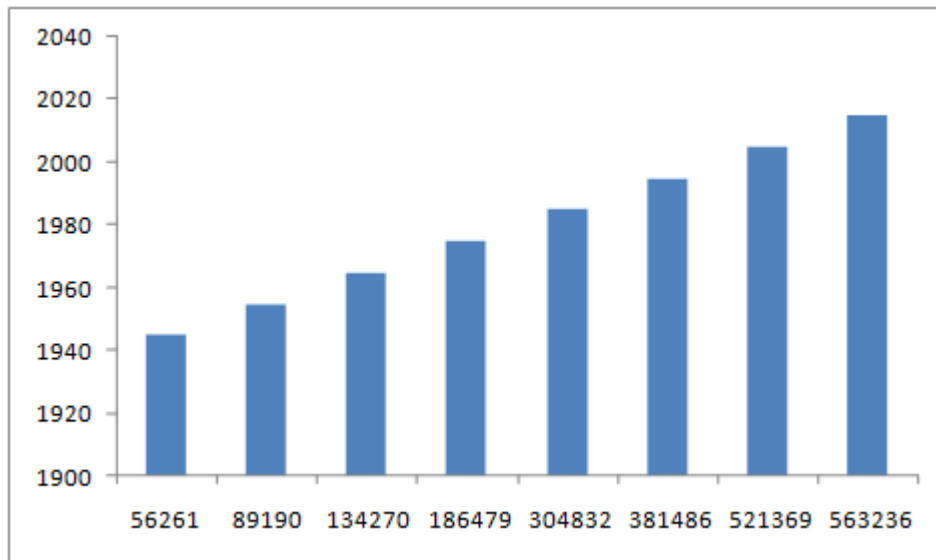
If we examine the population increases that occurred to the city population during the years from 1945 to 2015, we note the extent of the development of the population. In 1945 the population was (56261), while in 2015 (563236), a population increase of (506975), that is, up to ten times (Table 1)

**Table 1:** Population of Najaf from 1945 - 2015

Population	year
56261	1945
89190	1955
134270	1965
186479	1975
304832	1985
381486	1995
521369	2005
563236	2015

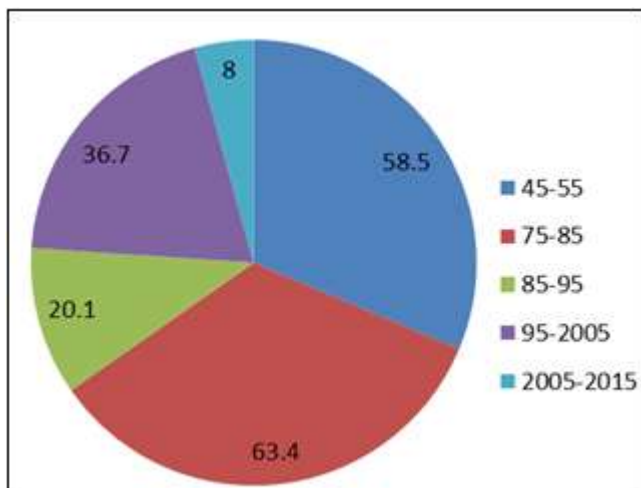
**Source:** Republic of Iraq, Ministry of Planning, Central Bureau of Statistics, General Population Census for the years (1945, 1955, 1965, 1975, 1985, 1995, 2005, 2015).

As the population increased from 1945 to 2015 , it is detected that there is an evolution in these increases due to the increase in birth rates. This increase indicates that the population of this city is constantly developing (Figure 1)



**Figure 1:** Population of Najaf from 1945 – 2015

From figure 2, it is detected that the annual increase varied during the years of censuses. In the period between 1945 and 1955, the rate of increase was 58.5%, while the ratio between 1975 and 1985 was 63.4%. The reason for the high increase can be traced to the increase in the purchasing power of our citizens and the recovery of national economy, especially in the years 1977, 1978 and 1979, during which the development plan of the country has been characterized by recovery and economic stability in contrast to the years that followed, i.e. war years that exhausted the Iraqi economy and witnessed the recruitment of youth in the army. I believe that proportion became vivid in the years before the outbreak of war. Therefore, a deterioration in the percentage of increase between 1985 and 1995 which reached (20.1%) is marked, then it rocketed up to 36.7% between 1995 and 2005, only to be reduced to 8% between 2005 and 2015 due to the poor economic, political and security situation in Iraq during the time.



**Figure 2:** The annual increase in population during the period 1945 - 2015

The population estimates indicate an increase for 2025 that the city's population is up to ( 593633 ) It is clear that the city population is constantly increasing and this is confirmed by high growth rates due to successive births, slow deaths and the development of economic as well as health level amid

the population. These results of the increase in the population bore reflection on the growth of the city size and its expansion of urban which has been translated into new neighborhoods.

**2) Social factors**

These factors are the social ties of the Iraqi family in general with the presence of some relatives in the city, thus, the desire to move and house near them is generated, let alone the factor of marriage that is influential in this process upon which the relative proximity to the husband or wife's family house who live in the city. Also, immigration to this city in particular among the other Iraqi cities is another factor. There has been a migration during the Iran-Iraq war from Basra to Najaf in which the displaced families were estimated to be (10000) family. In the current circumstances, it is noteworthy that there are (70) families that came to Najaf of (5268) people out of (6710) families that came to the province as a whole of (49283) people.

**3) Economic factors**

These have an impact on the process of attracting employment to this city as a result of the availability of jobs, considering that Najaf enjoys a religious and tourist importance at the same time, both provide many visitors, whether in the seasonal visits or during religious events. The visitor needs shopping for various supplies, including food and gifts, According to the spiritual belief of the visitor, there are also the pioneers of the cemetery of the Valley of Peace, which is one of the largest graves in the world, visited by many of those who lost their relatives where we see a number of vendors at the crossroads leading to the cemetery and roads that permeate the cemetery also and through the visit In the field, it turns out that these are increasing number of days of collection every week, the day when the families of the deceased come to the cemetery and they are with the vendors who are in the cemetery (incense and rose water ..) These belong to families and came to the city of Najaf and settled because of this work because it provided them A source of livelihood and were mostly from the surrounding areas, which gave them the opportunity to live in this city.

These factors contributed to the urbanization of Najaf in different directions. This can be seen according to these corridors:

## 7. Axis of Growth and Urban Expansion

### One: Najaf – Kufa corridor:

This corridor was established during 1970's and 1980's after adopting the direction of construction towards the city of Kufa and on both sides of the road that leads from Najaf to Kufa, along the neighborhoods of Al-Amir, to the south of it are the neighborhoods of Al-Zahra, Qadisiyah and Al-Amir II (the deported) who were compensated by this place after the acquisition of their residences in the old city, including the shops of architecture, Buraq and Mashraq

### Two: Najaf - Abu Sakhir corridor:

It spread over Al-Ansar neighborhood, which was distributed to the citizens in the seventies and the houses of the employees, which was owned by them which is located in the middle of Al-Ansar neighborhood, the oldest in the construction and distribution. Then, there is the neighborhood of Abu Khalid, the neighborhood of Teachers, the Military neighborhood and the neighborhood of Jerusalem. The extension of the highway Najaf - Abu Sakhir is close by.

### Three: Najaf – Karbala corridor

These neighborhoods spread to the north of the city and on the axis of the general road Najaf - Karbala and on the right side of the road towards Karbala, while the neighborhoods of victory, birth and appeal on the left side of the road the same year.

These neighborhoods included residential units of varying sizes, with different populations and areas. The neighborhoods were divided into two parts: the northern districts and the southern ones, which included the three corridor of this urbanization, as follows:

- 1) Northern neighborhoods: The number of housing units (25233) and the number of residents (171612) persons who occupied a residential area that amounted to (653.79) hectares
- 2) Southern neighborhoods: The number of housing units (14806) housing units, and the population consists of (149813) people occupied a residential area (37 262) hectares.

Population estimates for 2015 indicate that the population has increased by the following neighborhoods:

- 1) Northern population: 237,304 persons.
- 2) Southern residents: 149546 persons.
- 3) The population of the old city: 14782 inhabitants.
- 4) New residents and beneficiaries: 104224 persons

This means that the residential use has occupied more than the percentage of urban use of the city (48%) out of the total uses; commercial use (3.9%), industrial use (5.1%), educational use (2.8%), Health Uses (1%) and Religious Uses (1.2%),

## 8. Determinant Factors of Urbanization in Najaf

The direction of Najaf urbanization turned out to be towards one corridor, namely the Najaf Karbala and Najaf Abu Sakhir. This corridor does not have the potential for urbanization as in the Najaf-Karbala corridor, which is characterized by the existence of large areas of land that allow the extension of housing, The situation in the direction of Najaf - Kufa and Najaf - Abu Sakhir. The factors behind this were identified as follows:

- 1) The Valley of Peace Cemetery: The cemetery of the Valley of Peace is the largest historical Islamic cemetery in the world and it is not limited to the population of the city of Najaf, not only Iraq, but many Muslim countries that move their dead to this valley from far away and remote places. When we talk about the cemetery in Najaf and when compared in terms of history, area and number of graves, we can regard it as the largest cemetery in the world. The cemetery of Wadi al-Salam on the urbanization of Najaf so it was a specific factor for this expansion and make it deviate towards the road Najaf - Karbala and on both sides so spread modern neighborhoods this corridor.
- 2) The city of Kufa: The city of Kufa, which is about 10 km away from Najaf city center, was a specific factor for the expansion of the city of Najaf in this direction, especially after occupying the limited and restricted area between the two cities. Right direction towards Kufa, so this corridor we consider specific in this direction and this is the other factor, which is also the expansion of the urban city.
- 3) The city of Abu Sakhir: It also determined the urbanization of Najaf in this direction and the spread of its neighborhoods within the municipal boundaries towards Abu Sakhir – Najaf, the spread of some plants there and agricultural land has allocated along the road Najaf - Abu Sakhir to establish some economic projects and this was an obstacle In front of the expansion of the city in this direction.
- 4) Sea of Najaf: it extends along the cemetery of the Valley of Peace to the city limits with the borders of the city of Abu Sakhir. This area is low for the city of Najaf and spread orchards and part of which is used to grow vegetables, which is the city's vegetables, and the crop of watermelon, watermelon and dates. The person who looks from this area to the city of Najaf sees the extent of the city's rise from this area. Therefore, the Sea of Najaf is also a specific factor for the expansion of the city of Najaf in this direction.

## 9. Conclusions

Through this study, the following conclusions were reached:

- 1) The city of Najaf expands towards the corridor of Najaf - Karbala after the identification of all corridors ...
- 2) The population increases in the city led to its urbanization and the need for housing units which it shows a need for each year.
- 3) The urbanization of the city shows that the city Najaf is attractive to the population.

## 10. Recommendations

The study recommends to the authorities, namely The Urban Planning Unit and the Municipality Directorate, both in Najaf, the following:

- 1) The need to have suitable housing units that are modern, urban and systematic to reduce the construction of random and unplanned housing units.
- 2) The tendency to build residential complexes and selling them to citizens with deferred amounts (installment) to solve the housing crisis and to accommodate population increases.
- 3) The tendency for vertical expansion and to sensitize the population of this matter which calls for investment areas that are less in proportion than the horizontal expansion.

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