

## **Spatial analysis of public services in the residential locality (locality 821 Saydiyah / study area)**

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### **Abstract**

Public services are an essential part of the physical structure of the nearby neighborhood. Therefore, the development of public services must be in parallel with the urban development of the residential area, The main task of these services is to meet the needs of the population in the form and type required, The main objective of this research was to demonstrate the steady growth in the residential locality from the increase in its population and the continuous increase in the divided housing units and the constant pressure and demand for the various urban services, compared to the slow growth and development of the public services. This, in turn, leads to more pressure and limitations on the various public services currently in place. Therefore, there is an urgent need to plan for land use, which works to regulate land use and guide this use to satisfy the needs of the population, which requires an optimal distribution of services that satisfy their needs and overcome the problems they suffer from, and the importance and necessity of taking into account planning systems and standards related to the distribution and location of public services in areas Future expansion, adequate with the expected increase in population size within the residential locality, The methodology of this research was based mainly on the descriptive approach in collecting information and possibilities available in locality 821, and the analytical and spatial approach to the sites of services used by the population, through the use of a range of tools, such as interviews with stakeholders and specialists, as well as through the use of a questionnaire to collect information Intended for this study, The questionnaire was an important reference for the study, where the research aimed to analyze and assess the current reality of public services, the existing problems, and identify needs, and then develop a strategy and proposal on planning and development of public services, in the light of Population growth and urban development of Mahalla 821 residential.

## **1. Introduction**

The human being is closely linked to the spatial space, and often its link to the place stems from the relationships and factors surrounding it, whether it is natural, environmental, social or economic, which has enhanced the property of development and communication in the work of comprehensive development in general, urban and Metropolitan in particular, and there is no doubt that the planners They agree that urban and regional planning are complex and overlapping sciences, requiring planners with different sciences and backgrounds to participate in the planning work in order to obtain successful results serving man in his spatial space. Accordingly, land use planning is not sartorial even if the plan focuses on land use for one sector such as public services. Land use planning is comprehensive planning based on a clear future vision for sustainable future development in all its aspects. To be based on the general master plan of the neighborhood, taking into consideration other aspects of planning in all its components, components, present, and future, it is necessary to integrate these elements such as goals and objectives and rates of growth and development to be achieved in the medium or long term The relationship between the residential neighborhoods in the city, the identification of the central areas from which spatial interactions of this residential neighborhood start, the geographical distribution of public and private services and infrastructure services, and linking these services with each other to achieve the desired future development, and the geographical distribution of educational, health, recreational, cultural and sports services, And the need to link them with the rates of growth and population increase with housing units created randomly in the neighborhood.

### **1.2 Research problem**

The problem of the research is the extent of the steady growth in the locality in terms of population numbers, the continuous increase in the randomly divided and newly developed housing units, and the pressure and constant demand for the various public services, compared to the slow growth and development of the public services, which in turn leads to more pressure and limitations on the various public services that currently exist .

### **1.3 Research hypothesis**

The urban growth and population growth and the continuous increase in the divided housing units created randomly and unexpectedly in the locality generate deficiencies in public services.

#### **1.4 Research Goal**

The research aims to identify the most important needs of the residential area, and the extent to which the planning of public services in the residential area meet the planning standards, and the evaluation of public services and utilities in the locality 821.

#### **1.5 Research Methodology**

A descriptive-analytical approach was adopted based on the field survey, interviews and field visits to the study area, local authorities and the questionnaire form prepared to show the reality of public services in the Saydiyah locality 821 in Baghdad

#### **1.6 Methodology of spatial analysis.**

The concept of spatial analysis is a method of measuring spatial relationships between phenomena in order to ensure the interpretation of spatial relationships and benefit from them, and to understand the reasons for the existence and distribution of phenomena on the surface of the earth, and to see the behavior of those phenomena in the future .

The methodology of spatial analysis is an analytical methodology to study the ability of a site to support and continuity of a specific activity, as it works to study the relationships between the geographical characteristics of the human and natural elements of a particular site to identify the inherent advantages of them, the spatial analysis methodology aims to achieve sustainable urbanization, which meets the present needs without prejudice to the needs of future generations and the ability to meet their needs by working to avoid indiscriminate distribution of land uses and the preservation of land surrounding the civil, and also aims to analyze the various natural and human phenomena. (Gabri 2012, S243-245),

## **2. Urban Environment**

It is a set of interchangeable relationships and connections between the spatial structure and the social building, through which human beings exercise their social activities from one side their relationships and contact with the local people in their local area from another, researcher (Rapoport) explains or defines environment as it is ((a series of organized relationships with a determinant style between human beings and physical factors (Rapoport,1977,p9) furthermore he defines it like an organized relationships between the factors and people in the shape of content styles in which people interact with it or through it.

(Lang) pointed out in his study that the environment is constructed from two main combinations (Lang,1987,p77)

1. The physical environment: it represents every intangible physical factor that surrounds the people.
2. Behavioral environment: it is summarized in the intellectual illustration for the Urban Environment.

The Urban Environment consists of several concepts as shown below:

1. Natural Environment: It means every living and none living phenomena surrounding the human being, there is no interference from humans in its existence, these phenomena and environmental factors are represented by the natural resources, water, earth or soil, climate, and plants.
2. The Economic and Social Environment: this is defined as a frame of relationships which determents the continuity of social life, this structure of relationships is the main foundation in organizing of any kind of groups whether between its individuals in an environment or in an dissimilar and similar groups in distant environments and places which includes Human Activates, Education, Health, Education & law And The Commercial, Economic Activities And The Heritage, Procedures Of Urban Life In General.

The Urban Environment: it represents the uses of earth and the infrastructure ( building, roadway, electricity, water and gas supplies, etc. Urban Environment is considered as a natural translation of the relationship nature between the humans and their natural social economic and urban environment so this matter needs a kind of balance between these environments to protect the Urban Environment and to ensure its continued role in serving human beings.

### **3. Neighboring district**

It's a residential district or area gather a group of families that is connected with each other in several social relationships like acquaintance, exchanging visits, requirement, and services and performing shared business, the number of these families and the scope of the area occupied by a number of families to hundreds of families in one square kilometer, the designers took into consideration this concept as a starting platform when planning the neighboring district, they plan to make the neighboring district homogeneous as possible as could be wherefrom social class and the level of living standards, herein we can define the - neighboring district (Hetti,2009:102) as it's an urban spatial that occupies a place on earth it has borders and clear entrances and clear centers, a network of mobility passages, pavements and roads which connects all the area parts together, the majority of using this spatial is residential uses.

The neighboring district (cammona,1990) is a geographical area exist within a big city, the use of land is excluded only for private residents without other usages, the residential area vary in its upper & lower class criteria depending on its residents or the value of the land or its location, the neighboring district provide all the necessary things like shopping centers that serve the area and the neighboring areas too, small shopping center inside the neighboring that serve only its residents, small commercial areas provide basic services to the inner quarters, amusement parks, main garden connected with walking aisle that can be reached safely and easily from all the locality, small gardens children playgrounds distributed for the service of the locality, worship buildings, education and security services.

### **3.1 The neighboring district requirement:**

It includes the following requirements (allam,1991)

1. Housing services: it's the buildings and land placed for housing.
2. Special services for the neighborhood: These include educational, cultural, recreational, social and commercial services.
3. Public utilities include water, lighting, sewerage and surface water drainage (rainwater, fuel, garbage disposal, police and fire services).
4. Streets: These are the superficial streets necessary for the transport of people and goods to and from the dwelling and between housing, buildings, and public services.

### **2. The size and area of the neighboring residential area**

Many communities have defined the size of their neighborhood on the basis of their primary school service (6-11 years) and since this school is now permeating, the use of this service as a unit for planning needs no demonstration or justification, so the school is the most appropriate framework for environmental rates and needs. The minimum and maximum size of the school can be determined with a high degree of health between 180-720 pupils. Since the number of school pupils is in the population segment between 6-11 years, which represents 9% of the total population in industrialized countries, therefore, the size of the population of the neighboring residential between 2000-8000 inhabitants with an optimum size of 5000 people, and the size of the residential neighborhood within the industrial cities The high population density of London, New York, and Chicago to 12, 15, 20 thousand people, and the neighboring in this case is a limited number of high buildings, and in developing countries, the population located in the segment of 6-11 years 15% of the total population (Salah , 2016)

As for space, the geographical extension of the neighborhood determines the ease of access to primary school on foot. This may not apply when determining the size of a low-density residential neighborhood, where pupils use cars to go back and forth from the school, and some US studies estimate the distance that can travel The pupil from the farthest dwelling in the neighborhood consists of villas to the school by about 800 meters, and on this basis can determine the adjacent residential areas based on the presence of the school in its center (about 500 acres) This is a very large area if the distance that the pupil runs from the farthest dwelling about 400 meters shall be adjacent residential area, in this case, is about (125 acres).

### **3. Urban growth and population growth in the residential neighborhood**

It is a process that reflects the increase in population, measured by the number of residents of urban centers, and their different ranks, regardless of their relative value, that the uncontrollable control of increased urban growth may lead to the emergence of problems in the urban environment, through the spread of slums And pressure on infrastructure and superstructure services, such as electricity, sanitation, freshwater, etc. (Dr. Haider Kamuna, 1990, p. 175).

The increasing population growth of cities, whether due to natural increase in birth rates, low mortality rates, or continuous migration from the countryside, or international migration, as a result of this cities have become growing significantly, and in a short period of time, that urban growth can be studied through Different factors such as population, historical, natural, economic, etc.

### **4. Planning bases and standards for public services in the residential neighborhood**

The principles and criteria are divided into public services and recreational uses (Allam, 1991).

#### **4.1. Parks and open spaces recently:**

interest in recreation, the preservation of the natural environment and beautiful scenery has increased, and the quality of the environment in which people live is protected and protected from pollution. Increased mobility with cars and high incomes, and pressure on the limited wealth to provide a beautiful living environment, open space is usually defined as a large unused place building or construction, whether on land, water or air, and there are three functions can open space To be served by:

- To meet the physical, spiritual and psychological needs of man.
- Preservation of the basic resources: air - water - soil - plants - wildlife.

- Influencing economic development decisions.

As for meeting human needs, the provision of open spaces should be on a healthy basis for fresh air, sun, physical exercise and relaxation, in order to reduce noise, high levels of toxins and high housing density. The open space plays an important role in grouping the population together in the neighboring residential park or in the space of a group of buildings. The open space can also form a barrier, separating a neighboring neighborhood and another area, and planning open spaces, landscapes and wildlife integrates with all users of the land, and with economic and social considerations and means of transport, and this planning is based on the research on water resources of rivers, lakes and natural plants and manifestations. The surface of the land and others, and determine the green areas required for the city as a whole on the basis of planning equations and these equations depend on local conditions, and ranges in many industrialized countries of the world between 5-10 acres / thousand people and that at the level of the city as a whole. This area is divided into residential neighborhoods and the whole city where there is a public park for each neighborhood and a public park for this city, unlike some national and specialized parks. This area does not include green areas around houses and buildings. Public parks in the fields, major public parks, and specialized quality gardens.

#### **4.2 Educational Services**

Kindergartens and nursery school are pre-primary and non-compulsory stages. They are not compulsory and play an important role, especially in urban life, where the customs and traditions of society have changed and women went down to work, and it became necessary to have an alternative to care for children in their early years, In addition, these homes reduce the burden on the mother during the day and enable her to carry out other household activities while the children are in school. Therefore, these homes must be provided to all those who wish to join their children from neighboring residents. The age of nursery school children ranges between (2.5-4 years). In many cases, not all parents assign their children to these homes because of their high costs. Therefore, the Dar is not considered to be within the reach of the inhabitants if its expenses are beyond their capacity. The following should be taken into consideration when establishing it: (Allam, 1998, p. 359)

Ease of transportation from the house and children do not cross the main streets while going to the house, and up to 200-400 meters of housing and this role can be distributed to neighboring within the framework of these equations.

1. Location in a quiet place away from the noise of roads and factories.
2. Provide enough space for the stadiums.

3. A healthy place with the proper guidance of the building.
4. The level of the site and dryness.
5. Make sure that the noise of students will not disturb the population next door.

#### **4.3 Elementary schools:**

Primary school system 1-6 in most countries of the world, which is for children aged between 6-11 years and they represent 9% of the total population in many industrialized countries, and this percentage in some developing countries 15%, but it is taking in Decreasing with the progress of education and the high level of civilization of these countries. (Ahmad and Mo'mal, 1990, p. 114)

The elementary school includes the following elements:

1. Classes ranging from 6 to 25 chapters.
2. Hobbies classes: drawing, music, works, acting ... etc.
3. A wide hall for meetings and other purposes.
4. A large amphitheater for meetings, lectures and a theater at the same time.
5. Administration Building: Director, Deputy Director, Secretary and Teachers.
6. Stores.
7. Rooms for the doctor and the social supervisor and receive visitors.
8. A large courtyard about 400 square meters.
9. Parking place.

The location of the school must be in a quiet place away from noise, and in a place where the student does not need to cross the main streets to avoid accidents, preferably the location of the school in the middle of the residential neighborhood and next to the public park and nearby playground so as to integrate these services together, and for the area of the site The area of the elementary school is calculated on the basis of the areas allocated for buildings and recoil from the streets, green and courtyards, parking space and entertainment space outside the city. It is preferable to connect the school to the neighboring park as well as the nearby playground so that it can be used by the students of the school and provide additional space for these purposes. (Allam, 1983, p. 427)

The area required for the primary school ranges from 1.15 acres for a neighboring residential population of 200 people and 3 acres for a neighboring population of 7500 people and does not enter this area allocated for playgrounds or public park, and in the case of not connecting the school with the neighboring residential playground is added an area of 10 square meters School buildings are estimated to be 8 square meters per pupil and the building has one floor. In many countries, this trend is favored, but the building can be two or three floors at most and of course, the area covered by the building will be reduced.

Third: Preparatory and secondary school: for the middle school system 7-9 and secondary school system 10-12, they can be provided at the level of a number of residential neighborhoods (Allam, 1983, p. 432) because they need a large number of pupils can not be provided in the neighboring neighborhood, and of course This does not apply to neighborhoods located within major cities where the population of neighboring 15 to 20,000 people.

#### **4.4. Health services**

The effect of health and its importance in any area of life is not hidden. A healthy worker is more productive than a sick worker until it is said that a healthy mind is in a healthy body. The value of society is measured to the extent that an individual has the health to work and is able to protect his or her right and the community in which he or she lives. So an ill worker can not contribute to product production and be a material loss to his homeland, so improving the health of individuals is a process of social development that needs comprehensive planning, and includes medical institutions responsible for improving the health of the citizen various types of ambulance to major specialized hospitals, These include ambulances, maternity, and child care centers, maternity and health units, outpatient clinics, local, central and specialized hospitals, pharmacies and other health institutions (Massad, 2004, p. 21). The state's progress in health is measured by the number of these institutions and their staff for the state. For example, the number of people served by a doctor in the developing country ranges from 20-60 thousand people in the industrialized countries between 400-800 people per doctor, and the number of individuals who Served by bed in hospitals in developing countries between 300-500 people per bed, compared to 80-120 people in industrialized countries, As for the locations of these health institutions, the locations of different levels and quality of hospitals are selected in quiet places away from sources of air and noise pollution surrounded by gardens and green spaces. Space requirements are estimated by unit design. The gardens and green areas, while the requirements of the space are estimated according to the design of the unit.

#### **4.5. Health services at the neighborhood level**

Include a number of units ranging in size and size depending on the size, quality, and location of the city center and include such services (Jurf, 2007):

Ambulance House: It represents one of the basic services of the community and is the first aid and does not have operating rooms and a small area of two large rooms or more.

2. Maternity and Childbirth Center: Mothers and children take care of them healthily and also guide mothers to the best ways to care for their children.

3. An internal clinic: which serves some of the adjacent, and some at the level of the school, and its area is calculated on the basis of the elements that make up such as general practitioner rooms, dentist, nurses, and pharmacy and detection rooms.

4. Other services: such as laboratory analysis or radiology or nursing may combine such health services that serve the neighboring in one place, in this case, have an independent building and a garden surrounding it.

#### **4.6. Health Services at the neighborhood or city level include:**

1. Local Hospital: It is an outpatient clinic and an internal clinic for urgent and emergency cases.

2. Central Hospital: Within the framework of the hierarchy of medical service units, the local hospital is that it has an outpatient clinic and an in-house clinic, but larger in size and more in its specialties than the local hospital, where it is equipped with operating rooms, surgery, radiology and laboratory analysis more comprehensive in the specialties of the hospital The local hospital has rooms and wards for the accommodation of patients, with beds ranging from 100 to 200 beds. These hospitals are located on a larger set of residential districts and maybe the central hospital in a small city, the capital of an administrative center (Mashaqi, 2008).

3. General Hospital: falls within the scope of the hierarchy of medical services, similar to the Central Hospital in its role but larger and more in its specialties, and often such hospitals in large cities such as capitals of the provinces, and the number of beds between 300-500 beds, has Up to 2000 beds in some cases.

4. Specialized hospitals are one of the types of health services and such hospitals exist at the level of the major city or at the level of the state as a whole. When choosing sites for infectious diseases, hospitals should be far from residential areas (Allam, 1998).

#### **4.7. Social Services**

The Social Center of the Ministry of Social Affairs includes the public services supervised by the Ministry. These services are several institutions, including social clubs, associations, unions, productive families, maternity and child care, social rehabilitation for the disabled, handicrafts and the environment that is based on local environment services, etc. Some of these activities take place at the level of neighboring neighborhoods, some at the level of a group of neighboring neighborhood Residential quarter and others at the city level, and some may be at the state level as a whole, the activity takes place in the city but covers the service of the whole state, It is noted that some of these services follow at the same time others such as maternal and child care within the health services (Mashaqi, 2008).

A social center (social unit) is established at the neighborhood level to strengthen the social links between the residents of the neighborhood in a way that serves the individual, family, and society as a whole. Other activities such as productive family projects, maternal and child welfare and environmental industries are practiced at the center, the location of the Social Center varies from one neighborhood to another. It may be enough to place the center with the elementary school and participate with it to benefit from the school buildings such as the meeting hall, theater, and toilets, or participate with another public building, or establish an independent building, and at the level of a group Neighborhood (residential neighborhood), there is a larger social center in its area and wider in its services from the neighboring center extends its activities to include larger activities covering sports, cultural and social activities and youth clubs and science.

#### **4.8. Religious services / mosques and churches**

Mosques and churches are religious places for the religious rites of Muslims and Christians, and these temples are one of the hallmarks of the neighboring neighborhood and a group of neighborhoods and the whole city. Islamic library and halls for holding seminars and religious seminars, rooms for citizens and workers of the mosque and a special section for women and stores and toilets, and the chapel is held at the level of the small mosque at the neighboring level, and the Grand Mosque at the level of a group of neighborhoods (residential neighborhood) The mosque at the level of the whole city, and can be said about the church all that was said about the mosque, and for the location of the church in foreign countries have a special status for the neighborhoods established Finally, in the United States, the population prefers that the church be on the corner of the neighborhood and not in the center, unlike many neighborhoods in some European cities, and the Americans justify this situation, Some church visitors come from outside the neighborhood, and in some cases, the church plans to be surrounded by four sides of streets and space for

parking, and for the mosque is allocated about one square per person, and the size of the mosque on average between 500-1000 worshipers (Jorof, 2007). The rates of religious services are acceptable and sometimes high in some areas, due to the contribution of individuals and NGOs in the construction of mosques.

#### **4.9. Public Utilities**

Public utility networks should be taken into account when planning land use, in order to identify problems that are difficult to solve and determine the additional costs of these facilities; Such problems are caused by severe terrain, soil quality, and geology. The planning of these networks is a purely technical process by specialized engineers. Facilities include water, sewerage, surface water drainage, gas, electricity, telephones, and garbage.

#### **5. Bases of localization of public services in the locality**

Localization of services in different urban communities is carried out according to different criteria and based on a set of principles (Al-Dulaimi, 2007):

1. Adequacy of services in quantity and quality.
2. Efficiency and effectiveness of services.
3. Equitable distribution of services according to the number of population and density.
4. Continuity in the localization of services and in the development of standards on which the process of localization of services.
5. Continuous evaluation of the efficiency, effectiveness, and adequacy of available services.
6. Meet the needs of individuals now and in the future, that is, the localization of services in accordance with long-term strategies.

#### **6. Relationship between Urban Communities and Public Services**

The relationship between the type and quantity of public services and the number of inhabitants is straightforward. The larger the population in the community, the greater the number of services provided, as well as the possibility of improving their quality. For example, services in large cities differ in quantity and quality from those in towns, villages or small communities, in his theory known as the central place theory, Christler noted that the services provided to the population in a country or region differ in their levels, that is, there is a hierarchy of these services, ranging from the lowest level found in all urban communities, whether it be cities, municipalities,

villages or shops, a high level of services exists only in major and major cities, and the reason for this hierarchy is the nature of the relationship between the population and the level of services provided, Christler found that there is a direct correlation between the population and the level of services provided in any urban community, ie, the larger the population in the community, the higher the level of services



provided, and vice versa. (Ghneim, 2012, pp. 34--35)

source / Researchers in cooperation with Baghdad Municipality / Design Department, (Map 2, Streets around Mahal 821)

## 7.1. The reality of public services in the area of Saidiya / locality 821

### 7.1.1. Educational Services

Through the reality of the field study and the questionnaire form, it was found that there are 8 schools. These schools are represented by the following (map 3, educational institutions in locality 821):

Bilad Al-Arab Elementary School for Boys and Umm Qasr Elementary School for Girls, established in 1974, is one building for both schools, where the regular attendance of students is morning and evening between the two schools. The morning hours are from 9 am to 12 pm, and the evening hours are from 12.30 pm to 4 pm and start from the first grade to the sixth grade. The number of students is about 635 students, and each classroom has three rooms to two classrooms, each classroom ranges between 30-35 pupils, and the school is divided into the principal room and an area of about meters (4 \* 3 meters), and the room of the assistant director (4 \* 3 meters) a private room for teachers (4 \* 4 meters), and classrooms each room (5 \* 4 meters), and the school is also organized into a room as a book store, a computer lab, a science lab, an office, a hall for various activities or meetings with teachers, and a study room. For people with special needs area (4 \* 3 meters), bathrooms, as well as the front square and area (400 meters), Square background as a playground for pupils and an area (600 meters), as well as small green spaces.

Iskandarouna Elementary School for Boys and El Ibthaj Elementary School for Girls, established in 1968, is a single building for both schools, where students attend morning and evening between the two schools, morning hours are from 9 am to 12 pm, and evening hours are from 12.30 pm to 4 pm From the first grade to the sixth grade, The number of students is about 800 students, and each classroom has four rooms to three classrooms, each classroom ranges between 30-33 pupils, the components of the school as it is in the first school is organized, the principal's room and the area of meters (4 \* 4 meters), And the room of the manager's support area (4 \* 4 meters), A private room for teachers (4 \* 4 meters), and classrooms some classrooms (5 \* 4 meters) and others (4 \* 4 meters), and the school also organized into a room as a book store, computer lab, science lab, office, hall for various activities Or meetings management teachers, a special study room for people with special needs area (4 \* 3 meters), a studio, bathrooms, and the school is organized into three yards front yard area of 500 meters, and a back yard area of 800 meters, and there is a middle yard with green areas estimated at about 200 meters.

Al-Watan Mixed Elementary School was established in 1988. It starts from the first grade to the sixth grade, The number of students is about 792 students, and each class has four to three classrooms Each classroom ranges from 30-32 pupils, the components of the school, the principal's room, and the area ranges in meters (4 \* 3m), the principal's assistant room (4 \* 3m), the private room for teachers (4 \* 4m), and the classrooms ( The school also organizes into a room as a book store, a computer lab, Science lab, office, hall to practice various activities or meetings management teachers, a studio, bathrooms, and the school is organized into a large front yard area of 200 meters, and Al-Watan primary school is distinctive with an estimated area of about 50 meters allocated as a green area inside the school, the back

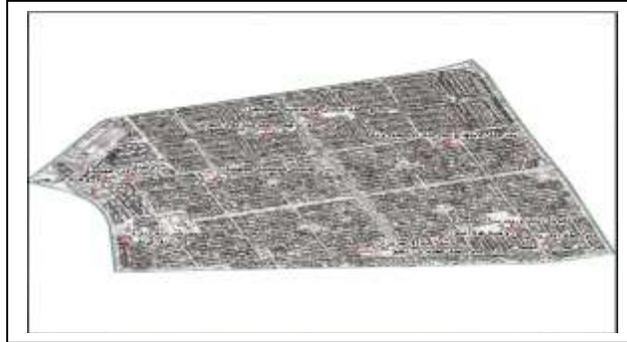
yard is a yard Large area of about 600 meters, and an area of 100 meters divided as a football field for students.

Asmaa Secondary School for Girls and Al Khansaa Elementary School for Girls, the secondary school consists of students from the first intermediate to sixth-grade preparatory school, while the primary school Al Khansaa for girls, starting from the first grade to the sixth-grade primary, components of the school, the school consists of two floors, the school has 18 classrooms The average classroom area is in meters (4 \* 3 meters), and each classroom consists of about (25-30) students, the principal's room (16m<sup>2</sup>), the principal's assistant room (16m<sup>2</sup>), and the teachers' room (4 \* 4m). And the educational counselor room and an area of (16 m<sup>2</sup>), and the school also organize m A schoolyard, a library, a sports room, a studio, a laboratory for biology and chemistry, baths, and a large yard estimated at about 1000 meters, with green areas.

Future Preparatory School for Girls and Intermediate School for Girls, founded in 1974, the middle school starts from the first intermediate to the third intermediate, while the future preparatory school for girls starts stages of the fourth year to the sixth preparatory, school components, the school consists of two floors, the school includes 19 classrooms The average classroom area is in meters (4 \* 3 meters), and each classroom consists of (28-32) students, the principal's room (20m<sup>2</sup>), the principal's assistant room (16m<sup>2</sup>), and the female teachers' room (5 \* 5m). The educational counseling room (16m<sup>2</sup>). The school also has a book store A school, a library, a sports room, a studio, a laboratory for biology and chemistry, baths. The school has an 800-square-meter yard with a 200-square-meter backyard.

Preparatory 1 June for boys and medium Uqba bin Nafia for boys, medium Uqba bin Nafia starts from the first intermediate to the third intermediate, while the junior high 1 June stages of study start from the fourth year to the sixth preparatory, school components, the school consists of two floors, the school has 15 classrooms with an average classroom area is (4 \* 4 meters), each classroom is about (37-40) students, the room of the principal is (16m<sup>2</sup>), the room of the assistant principal (16m<sup>2</sup>), and the schoolroom (4 \* 4m) and the counselor room. The school also has a store for textbooks, a library, and a room Sports, a laboratory for biology and chemistry, bathrooms, there is a room as a supplement to the school guard, and the school organizes an 800-square yard punctuated by scattered trees and small green spaces. Al-Idrissi School for Boys and Amr Ibn Al-Aas Primary School for Boys, Al-Idrissi School for Boys starts from the First Intermediate to the Third Intermediate School. 16 classrooms The average classroom area is in meters (4 \* 3 meters), each classroom is about (40) students, the room of the principal is (16m<sup>2</sup>), the room of the assistant principal (16m<sup>2</sup>), and the school room of teachers (4 \* 4m), The educational counselor room (16m<sup>2</sup>) Store school books, library, sports room, and a laboratory for

biology, bathrooms, and there is a room supplement to guard the school, and the bench of the school yard area of 600 meters containing trees in different parts of them.



Source / Researchers in cooperation with the Municipality of Baghdad / Department of Designs, (Map No. 3, educational institutions in locality 821)

Al-Sayyidiya Vocational School (Industrial), was established in 1978, and starts studying after obtaining the intermediate certificate, and included the following sections: Electrical Department, Automotive Department, Mechanical Department, Electron Department, Welding, and Metal Forming Department, Engineering Drawing Department, Carpentry Department, Department Air conditioning, school components, 12 classrooms The average classroom area is in meters (4 \* 3 meters), each classroom includes about (15-20) students, the principal's room (16 m<sup>2</sup>), the assistant director room (16 m<sup>2</sup>), and the teachers' room The school area (4 \* 4 meters), and the room of the educational counselor and an area (16 m<sup>2</sup>), and the school also includes a store for books A room, a library, a sports room, a room (6 \* 5 meters) for industrial education equipment for practicing industry students, bathrooms, a room for the school guard, a schoolyard 750 meters, and a green garden of 50 meters.

This kindergarten is located at the western borders of Mahalla 821. It is the only kindergarten belonging to the government. Kindergarten includes children from ages (2-5) years, a small area does not reach (300 m<sup>2</sup>), and includes (3) rooms for children sitting area of each (16 m<sup>2</sup>), and there are not enough yards for children's games.

### **7.1.2. Health Services**

The locality 821 does not have a public health clinic (health center) or popular clinic, but one health center is located in the locality (825) adjacent to the locality (821) in the Saydiyah area and away from the study area by (777 meters), authorized the only health center clinic available In the area of Saydiya, four adjacent shops serve Mahalla (821), Mahalla (823), Mahalla (825), and Mahalla (827), as well as areas near the Saydiya area. The area of the health center clinic or clinic is (2326 m<sup>2</sup>), which is one floor The clinic includes: general medicine, specialty clinic, dental clinic, nurse or dressing clinic, medical committee room, laboratory room, pharmacy room, bathroom unit, unit Ambulance, the area of each unit is between (2.5 \* 3 meters) and (3 \* 3 meters), and the pharmacy area of (16 m<sup>2</sup>), see (Map No. 4, health center in the locality of 825) adjacent to the study area 821 in the area of Saidiya.

### **7.1.3. Commercial Services**

There is no commercial and specialized center in the locality of 821, but there are different districts around the locality, which serve the daily necessities of the population (see map 5, commercial services in locality 821 / in annex).

### **7.1.4. Recreational Services**

In the locality of 821 there are no recreational services such as public parks, but the entire area of Saidia lacks public parks, and there are no spaces and open spaces, and we see children playing in the streets, as is known in the neighborhoods in the world we find green gardens and green open squares, We almost do not see such squares in our neighborhoods, as well as for sports stadiums unfortunately we do not find them in the locality 821 in the area of Saidiya.

Source / Researchers in cooperation with the Municipality of Baghdad / Department of Designs, (Map No. 4, health center in locality 825)

### **7.1.5. Social Services**

There is no social center within the locality of 821 in the area of Saydiyah, despite the need of the locality of social services, which help to strengthen social relations and service of individuals, but this service is lacking in the locality.

### **7.1.6. Religious Services:**

At the level of the locality of 821 there are 7 mosques, which meets the need of the population to worship God Almighty, (Map No. 6, religious institutions in locality 821).

Source / Researchers in cooperation with the Municipality of Baghdad / Department of Designs, (Map No. 6, religious institutions in locality 821)

### **7.1.7. Public Utilities**

Electricity, water, sewage, waste, for the electricity network in the locality of 821 is provided by the Ministry of Electricity and covers all the residential locality, lighting the streets at night, and for the water, the locality 821 equipped with water service since The network is maintained by the Municipality of Baghdad, Baghdad Water Department, Operation and Maintenance Department, at long intervals, or when a complaint from the Mahalla residents is submitted to the competent authority for the maintenance of the network. Since the establishment of Mahalla in the 1960s it has operated normally, as for the waste, the municipality of Rasheed, which is affiliated to the Municipality of Baghdad, raises it according to a schedule every two or three days by roaming a vehicle dedicated to waste on the housing units and lifting the waste.

## **7.2 The most important problems of public services in the area of Saidiya / locality 821**

Through the reality of public services in the locality of 821 in the area of Saydiyah, after the classification and unloading the questionnaire distributed to the residents of the locality, and through field visits and interviews with the locals, data, information, maps and designs in cooperation with the Municipality of Baghdad and the municipality of Rasheed show the following:

### **7.2.1 Educational Services**

60% of the population of Mahalla 821 considers that the number of schools is sufficient for the number of residents inside the Mahalla. Though 39% of the residents of Mahalla are dissatisfied with the existing number, we find that there is a shortage in the number of private preparatory schools for boys. Where on reality there is one preparatory school for boys serve Mahalla and three adjacent shops, causing overcrowding by the number of students in it significantly. As for kindergartens, the rate of dissatisfaction of the population reaches 95%, the district contains one kindergarten belonging to the public sector and does not meet the requirements of planning standards for educational buildings, In terms of location for the neighborhood, and for the type of Street overlooking it, total area, built-up area, number of seasons, area, stadiums, squares, and others.

### **7.2.2 Health Services**

80% of the residents of Mahalla 821 are dissatisfied with the health service provided to them through the health center, which is located outside the borders of Mahalla in the neighborhood 825 and away from it (777 meters). Inadequate and efficient service available, which leads to a large part of the population of Mahalla go to expensive outpatient private clinics.

### **7.2.3 Recreational Services**

The rate of 95% of the population of Mahalla confirms their dissatisfaction with the absence of any public parks where it shows the lack of Mahalla public parks and also for squares and open spaces inside the camp and sports stadiums where there are no sports courts at the level of the locality where it is noticed that children and boys play on the streets causing a great danger to their lives.

### **7.2.4 Social Services**

100% of the population is dissatisfied with the lack of services in Mahalla, despite the need for cultural and social centers and libraries.

### **7.2.5 General Services**

95% of the inhabitants of Mahalla 821 in the Saydiya area are dissatisfied with the infrastructure services, especially water, electricity, and sewage, as Mahalla suffers from the lack of water to reach it, and in many cases due to lack of water access to residential units. In turn, the owners of the housing units have to adopt the existence of ground tanks and on the roofs of houses, which are dictated by using an electric pump. It is noticeable in most of the surfaces of housing units in locality 821 that there are two to four tanks and sometimes up to five tanks in each house to feed the housing unit with their water requirements. As for the sewer, either The area suffers from the problem of sewage due to the main reason for the increase of population growth and urban growth in the residential area, which led to increased pressure on the sewage service significantly, and this is evident from the smells emitted from the manholes and discharge Rainwater, which is the biggest problem in the locality, and the reason for this is due to poor linkage for the units created randomly, where the link is directly on the manholes and the lack of maintenance and cleaning of the network, as well as the network does not absorb the amounts of rain falling, especially when the fall of rain In large quantities, but for the electricity service because of the obsolescence of electricity networks and the lack of nutrients and transformers, as well as a shortage of generating stations of the city because of the increased housing unit developed from the existing housing units originally randomly, led to the lack of electricity amounts arriving to the housing district.

## **8. Proposed solutions for public services in locality 821 in the area of Saydiya**

Through analysis of public services in locality 821 and based on the problems that have been challenged, there are some suggested solutions to overcome those problems:

### **8.1 Educational Services**

The establishment of preparatory schools for boys that should not be less than 10000 square meters and conforms to planning standards. Kindergartens should be established according to the standards and should not be less than 5000 square meters and include playgrounds for children.

### **8.2 Health services**

The Ministry of Health should expand the health center to serve four densely populated residential neighborhoods, and open additional general medical clinics, as the Saydiya area needs a health center with an area of not less than 5000 square meters, as the existing center receives citizens from several neighboring areas. The health center needs another ambulance, a maternal and child care center that takes care of mothers and children, and guides mothers to the best ways to care for children.

### **8.3 Recreational Services**

A public park should be designed for the residents of Mahalla to connect the residential areas with each other, and with some activities in the Mahalla so that the residents of the Mahalla can enjoy the proximity of parks and green areas, sports stadiums should be established at the level of the neighboring area not less than 12000 square meters in the current situation and can be extended for future expansion, and that these areas conform to international standards, as each person needs to 4 square meters the area of these stadiums.

### **8.4 Social Services**

A social center should be established for the residents of the locality where they practice some social activities and to strengthen the social ties among them. A public library should be established, provided that the area should not be less than 1000 square meters.

### **8.5 General Services**

With regard to infrastructure services, the Municipality of Baghdad must provide sewerage and water services and a complete supply of sewage service in the residential area, and the Ministry of Electricity must replace all the transformers worn

out years ago and do not bear the need for new maintenance, but replaced by the new. It is renovating the water networks and new filtering stations to purify the water. The Rasheed Municipality Department should increase the number of municipal workers specialized in collecting waste from the residential area and schedule it on a daily basis.

## **9. Conclusions and recommendations**

### **9.1 Results**

In light of the study and analysis carried out during this research can come up with the following results:

1. There is a shortage of public services in the Saydiyah area in general, and locality 821 in particular, particularly in health, cultural, social, recreational and public services (water, electricity, and sewage).
2. The development of housing units indiscriminately and unexpectedly in the residential locality, was without regard to the existence of public services needed by those neighboring housing, which causes pressure and overcrowding on these services and therefore a large shortage of public services.
3. The lack of public services in the area of Saydiya / locality 821 is due to a number of reasons, the most important of which are: - The lack of a development plan that consists of structural plans based on standards and areas of public services, as well as limited land (scarcity of land), in addition to the lack of financial support for the establishment of these services. Before the ministries, and the lack of financial resources of the municipality, and that there is a marked lack of public services, especially health, recreational, cultural, social, religious and public services, which is clearly (water and electricity).
4. It can be said that the educational services in the area of Saidiya / locality 821 are adequate, but they are used by the residents of neighboring areas, which causes overcrowding in the number of students in the classrooms but does not represent an obstacle to the level of educational service in the locality. What is acceptable to the population in the residential area of the level of educational services in it.
5. Al-Saydiya area suffers from a severe shortage of kindergartens, where it does not include one kindergarten and does not cover its services to the residents of the area.
6. There is a significant lack of health service provided to the people of Saydiya, especially after the remarkable population growth, where it was noted that the health center is lacking in the lack of buildings and that they do not match the demands of

the population, and lack of providing many services to the people, which in turn forces them to Choose to outpatient and expensive private clinics.

7. The lack of public parks in the area of Saydiya locality 821, and the lack of sports stadiums, where it was found that none of the clubs or sports stadiums (except private clubs with monthly or weekly financial subscription), as well as a lack of small gardens also around residential houses or within This shortage, is due to the exploitation of these areas of the gardens by the residents and convert them into a small housing divided within the housing unit.

8. It can be said through the study that there is no shortage of religious services in the area of Saydiya locality 821 and that there is the complete satisfaction of the population within the locality of religious service.

9. There is a lack of social services within the region, where it was found that there is no center or any social club.

10. One of the main results of increasing urban and population growth is the great pressure on infrastructure services, especially (water and electricity). It is almost non-existent in the entire summer, where it was noted that all houses in the region use electric pumps to draw water, while the electricity service is very weak, due to many reasons, including the old and malfunction of electrical transformers used, and not to change the poor financial resources, and the use of private generators The price, There is a complete assertion of Mahalla residents of dissatisfaction with public services in the camp housing.

11. In economic terms, the increase in population and urban growth resulting from the division of housing within residential neighborhoods has resulted in the inefficiency of public services and the pressure on infrastructure services such as sewage, electricity, and others, which are designed to accommodate a certain number of residents according to the standards of residential shops.

12. There are changes in the planning standards of the residential locality, as a result of population densities and housing, where there are huge construction densities in multiple forms and multiple heights at the expense of open spaces between and housing units.

## **9.2 Recommendations**

1. Preparing integrated studies on the locality housing all public services in it.
2. The need to plan public services, commensurate with the increase in the number of the population, and develop what currently exists to facilitate the provision of services to citizens.

3. The need for the participation of all public and private institutions in the planning of public services, to produce results that serve the people of the region in a more effective manner.
4. Planning the residential area, and develop appropriate solutions, for the benefit of present and future generations, by setting regulatory conditions to ensure the public right to access better public services.
5. The need to work on the establishment of a sufficient number of kindergartens, belonging to the public sector, and distributed according to planning standards.
6. Planning and implementation of public services in the locality, especially water and electricity service networks, taking into account the existence of infrastructure serving the locality, in the event of population growth in order to maintain sustainability.
7. To provide public services in the residential locality, especially health, social, recreational and public services, in order to alleviate them and take the right services.
8. Design and implementation of public parks and green spaces within the residential locality. According to international standards.
9. The health center should be expanded, and additional public medical clinics should be opened. The existing center receives citizens from several areas, here, the neighborhood needs an additional ambulance, a maternity and child care center that cares for mothers and children healthily, and guides mothers to the best ways to care for their children.
10. A social center should be established to strengthen the social links between the residents of the neighborhood .activities such as maternal and child welfare, environmental industries and the establishment of a meeting room, and a public library must be established within the neighborhood.

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## Annex

### Questionnaire form

#### good greeting...

The researchers are preparing the tagged research (spatial analysis of public services in the residential locality (locality 821 Saydiyah / study area) as part of a research in the sciences of urban and regional planning, and requires research to conduct a field study in locality 821 in the Saydiyah area, so please cooperate in filling this form, The answers to the questions contained therein are as specific and accurate as possible and reflect your opinions, so that we can reach the results of the research, although the form is for scientific purposes, so you do not need to mention the name.

#### Educational services

- 1 - Is there sufficient in the educational service in the locality?
2. Does the citizen have easy access to the educational service?
3. Is there easy access to the school within the area?
4. Does the government assist in developing the educational service in Mahalla continuously?
5. Is there a sufficient number of teachers per student?
6. Is the classroom suitable for the number of students?
- 7 - Is there a nursery or kindergarten in the locality, and if it is not inside the locality, how far is it?
- 8 - Is there a positive and positive satisfaction of the people of the region to the educational services?

#### Health Services

1. Does the health service meet the needs of the population in the region?
- 2 - Is there sufficient in the service and medical staff in the health center inside the camp?
3. Does the citizen have easy access to the health service?
4. Is there easy access to the health center?
5. Does the citizen have access to all kinds of health service?

6 - Is there a positive and positive satisfaction of the people of the region to the health services?

**commercial services**

What is your assessment of the service provided within the residential area with regard to the mall?

**Recreational services**

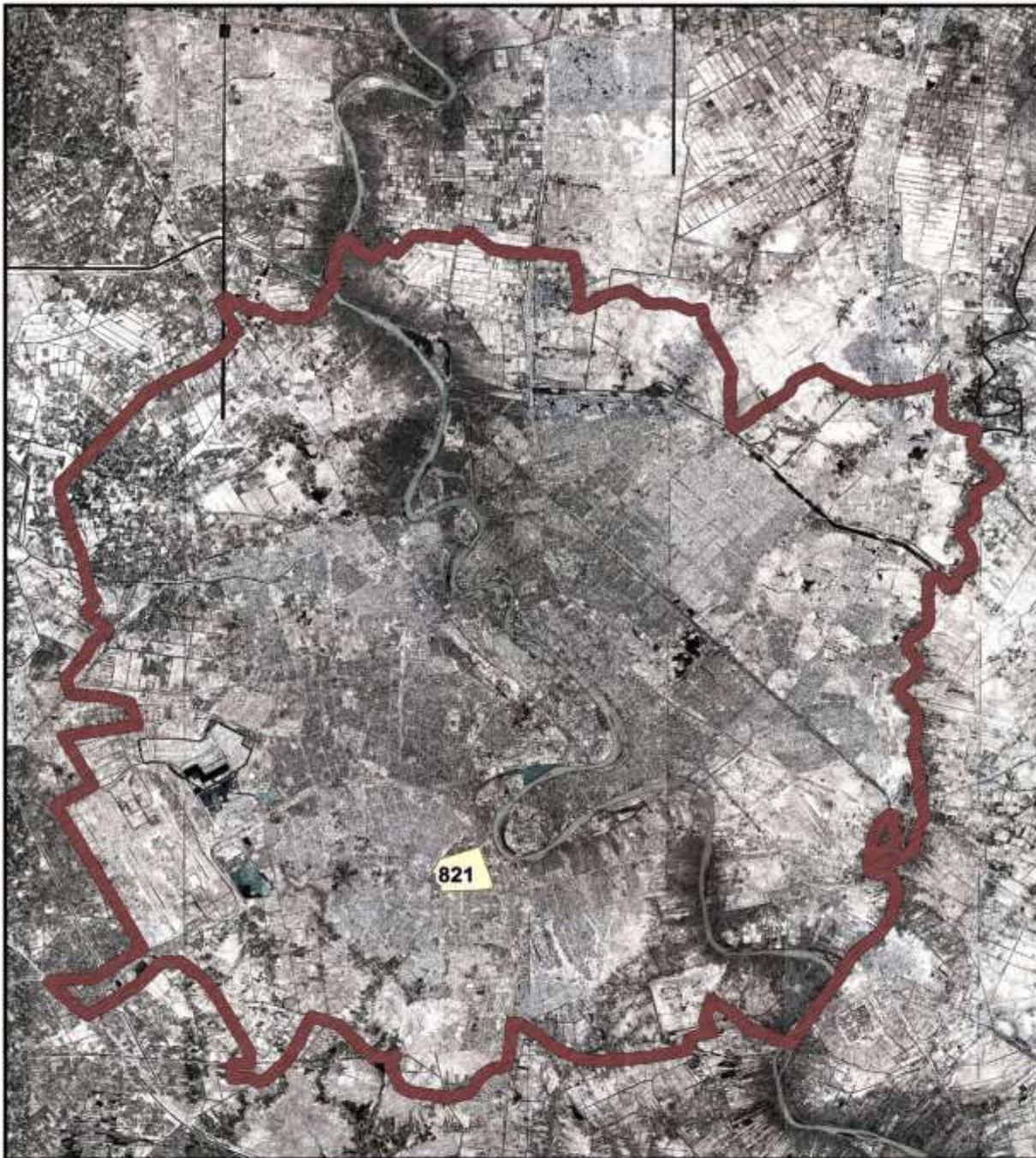
What is the availability of recreational service in the residential area of public parks, spaces and open spaces, sports stadiums, and the level and effectiveness of the population within the campus recreational service?

**Religious Services**

Is there enough for the residents of the residential area to worship?

**Public utility**

What is your assessment of public utilities inside the residential area of drinking water, sewage, electricity, and waste?



موقع محلة 821 من مدينة بغداد  
مساحة المحلة 2897236 متر مربع

اسماء بغداد  
مركز التصميم  
اسم المعلومات الجغرافية

Source / Researchers in cooperation with the Municipality of Baghdad / Department of Designs, (Map No. 1, locality site 821 of the city of Baghdad)



Source / Researchers in cooperation with the Municipality of Baghdad / Department of Designs, (Map No. 5, commercial services in locality 821)