

# Efficiency of Educational Services in the City Of Al-Khader Using the Accessibility Scale

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## Abstract

The research aims to measure, analyze and evaluate the ease of access to educational services in the city of Al-Khader as an indicator of their efficiency, distribution and spatial suitability in providing educational services for neighborhoods in the city through the use of spatial analysis tools in geographic information systems and to determine the scope of each educational service and to indicate the extent to which this indicator is adopted in the planning and distribution of these services, and it was found through the research that there is easy access in secondary and primary services, in contrast to the kindergarten and middle school service, which needs re-planning, and that the city needs to increase the number of middle schools in it to meet the needs of the population.

## Keywords

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## Introduction

Educational services are among the important services that contribute to the dissemination of cultural awareness in societies and their economic and civilizational progress, so it is necessary to take into account planning standards when signing schools, ease of access and distance between one school and another, so the distribution and planning of services is one of the main objectives in urban planning for its direct relationship Serving the population, meeting their needs and facilitating access to services. Attention is drawn to ease of access as an important factor for determining the locations of services and activities in urban areas .As the process of growth in cities over time leads to changes that directly affect the ease of access to services for the residents of the city and its surroundings , and the use of geographic information systems has helped to overcome many obstacles and traditional methods used by some studies in measuring the ease of access to services for what is characterized by this The system has high accuracy and capabilities in measuring and accurately representing the elements of the urban environment.

### First. The Research Problem

The research problem consisted of several questions:

1. Are educational services distributed among the neighborhoods of the city of vegetables in a way that achieves full benefit from these services?
2. Is it possible to benefit from geographic information systems in determining the scope of educational services at the city level and finding solutions to the distribution problem in accordance with planning standards?

### Second. The Research Hypothesis

The search assumes the following:

1. Some types of educational services are distributed are provided from the ease of access and benefit from them achieved, and some of the other did not achieve the appropriate spatial distribution.
2. Information systems have a high potential to find the best solutions to the distribution problem by defining the scope of service

### Third. Research Objective

The research aims to demonstrate the importance of accessibility in distributing and planning educational services, and analyzing and evaluating the efficiency of these services in the city of Al-Khader according to this indicator at the level of neighborhoods and the city. As well as defining the scope of educational services at the city level in accordance with planning standards.

### Fourth. Research Methodology

The descriptive approach and the analytical approach were relied upon in determining the variables of educational services at the level of the city's neighborhoods ,as well as using the means of statistical analysis and knowing the scope of the service using geographic information systems. The questionnaire was used to find out the distance traveled by students daily and by (5%) of the population The city, by (350) forms.

### Fifth. Temporal and Spatial Boundaries

The spatial boundaries of the city of Al-Khader, the center of the district of Al-Khader , whose area is (1800 hectares) , are represented on map .(1) It is the gateway to the southern province of Muthanna , as it is bordered to the northwest by Al-Warka, to the northeast by Thi-Qar Governorate, to the east by Al-Daraji, to the south by Al-Salman district ,and to the southwest by the city of Samawa, which is about (30 km) away from it .As for the time limits, it was in the year 2019.

## Sixth. The Concept of Accessibility

The multiplicity of factors affecting the ease of access and contrast areas of use has led to a multiplicity of definitions and diversity has been defined as the ability of people to move and move easily from one place to another Valais salah means the movement of people accompanied by distances may be long , a long time and incur costs and other obstacles and restrictions ([1]) It was also defined as the amount of ease that enables a certain type of individuals to reach a specific set of goals from a specific location . ([2]) · And also as the amount of ease to reach the various activities from any location using a specific transport system, and the distribution process according to the criterion of accessibility depends on the study of the distribution of educational services and the scope of the impact of each service on its surroundings and that the area benefiting from the service at a certain time and a certain distance in the area of influence , either The scope of the service is the spatial boundaries that a service covers the population located in, through table (1) the most important planning criteria related to the ease of access to educational services can be clarified.

**Table (1)**

Planning standards for educational services in Iraq

Dimensions of standards for educational services				Standard
Junior high	high school	medium	Primary	
1000	1000	700	400	Service range/radius/meter
25- 20	25- 20	20- 10	10- 5	Time taken to reach the educational service on foot / minute
6,8	14,3	7,5	17,6	Percentage of total beneficiaries of the population(%)
10000	10000	5000	2500	Number of served population

**Source:** Republic of Iraq, Urban Planning Commission, preparation and implementation of basic designs for cities, Baghdad, 1983.

## Seventh. Spatial Distribution of The Population of The City of Al-Khader for The Year 2019

Knowing the population distribution, densities and growth in the city is of great importance, as it constitutes a key factor guiding the urban planning process, and one of its goals is to achieve the well-being of the population. Therefore, it was necessary for the planner to know the distribution of the population and their densities within the city in order to be able to identify areas of pressure and because of this profoundly affected the economic and social within the city activities, and those activities is greatly affected by the distribution pattern of the population and their concentration , reached the population of the city of the Greens 228 52 ) inhabitants ( for the year ( 2019 )distribution of the p population came differently between the city 's neighborhoods, as it focuses most of the population in the old neighborhoods of the city (military and modern and Zahra and Al - Hussein and free) for easy access to public services in the city center . Table ( 2 ) shows the preparation of the population in each district of the city 's neighborhoods and comes the military district ranked first by (15 (% 4 ,of the population , inspired by the modern second place (% 13.5 ) either shy Alborahh and Zahra by (% 3 , 11 ) for each of them , and Al-Hur neighborhood ranked fourth with a rate of .(% 5.7 ) The rest of the city 's neighborhoods ,varied percentage of their population between (6 (% 6 ,0 - % 1 ,for several reasons ,including after these neighborhoods from the center of focus of public services or because of that there is a revival introduced recently after , (2009) so the population is naturally less ratio to revive the old city despite that with the d growth for the highest, these neighborhoods are) Mustafa and Jawadain and flowers, Riyadh and Paradise.(

**Table ( 2 )**

Population of Al-Khader City by Residential Neighborhoods for the Year( 2019 )

Population density people/ha	Area in hectares	Population Percentage%	population	District
670	12	15,4	8048	military
312	22,52	13,5	7035	trendy
151	39	11,3	5913	Zahra
89	33,40	5,7	2975	the free
132	23,53	6,1	3128	ELHussein
736	4,14	5,9	3048	Eye
120	48,9	11,3	5902	bo feather
83	29,5	4,7	2454	Kazem
143	15,5	4,2	2217	Al-Baqir
199	10,2	3,9	2030	Golan
20	53,9	2,1	1120	Riyadh
28	40	2,2	1157	The flowers
558	5	5,3	2794	the chest
273	3,6	1,9	986	paradise
202	6	2,3	1217	Al Kawthar
40	18	1,4	725	Ansar
28	24,8	1,4	706	the piles
8	40,74	0,6	326	horses
41	9	0,7	370	the wise
1,9	40,5	0,1	77	Mustafa
		100	52228	Total

**Source:** Relying on: Republic of Iraq, Ministry of Planning and Development Cooperation, Muthanna Statistics Directorate, Statistics Department, Population Estimates of Al-Khader City, unpublished data. 2019 ,

### Eighth. The Spatial Distribution of Educational Services in The City of Vegetables

The importance of this sector is that it is the basis for discovering students' intellectual and intellectual energies ,and it is one of the most effective ways to reduce poverty, eliminate gender inequality and raise productivity and economic competitiveness in developing countries. Therefore, it is important to improve and develop the role of education in the development of countries .( [3] ) There are 32 schools in the city of Al-Khidr for different educational levels (kindergarten, primary, middle, middle, high school) ,distributed among the various neighborhoods of the city . From table ( 3 ) to ) **kindergartens** ,( there is one kindergarten in the Al-Zahraa neighborhood in the city, and the number of children in it reached (280 children) ,while the number of residents of this neighborhood reached (5913 people).

**Table (3)**

the number of kindergartens and neighborhoods served with this service in the city of Al-Khader

Neighborhood population	Number of neighborhoods served	number of children	Kindergarten number
5913	1	280	1

**Source.** Relying on :Republic of Iraq, Ministry of Education ,General Directorate of Muthanna Education, Department of Educational Planning, Statistics Division, Statistical Handbook for the year ,2019 tables of education stages) kindergarten, primary, secondary.

As for ) primary schools ,( their number reached (0 2) schools and the number of students reached (7904), and they were distributed among the neighborhoods of (Al-Askari, Al-Asri, Al-Zahra, Al-Hussein, Al-Ain, Albu Risha, Al-Kadhim, Al-Jawadeen) and varied between schools for boys and

girls and mixed schools , table. ( 4 )

**Table (4)**

the Number of Primary Schools and The Number of Neighborhoods Served with This Service in The City of Al-Khader

Neighborhood population	Number of neighborhoods served	number of students	number of schools
35854	8	7904	20

**Source** : Relying on : Republic of Iraq, Ministry of Education , General Directorate of Muthanna Education, Department of Educational Planning, Statistics Division, Statistical Handbook for the year , 2020 tables of education stages) kindergarten, primary, secondary.

As for intermediate schools , (it is clear from table ( 5 ) that their number reached (3) schools for boys only ,and the number of students reached (1526) and these schools were distributed in the neighborhoods of) Al-Zahra ,Al-Kadhim, Al-Baqir.

**Table ( 5 )**

the number of middle schools and the number of neighborhoods served by this service in the city of Al-Khader

Neighborhood population	Number of neighborhoods served	number of students	number of schools
10584	3	1526	3

**Source** : Relying on : Republic of Iraq, Ministry of Education , General Directorate of Muthanna Education, Department of Educational Planning, Statistics Division, Statistical Handbook for the year , 2019 tables of education stages) kindergarten, primary, secondary.

In the city, there are two secondary schools for boys in the neighborhoods of) Al-Baqir and Al-Riyadh ,(and the number of students in them reached , (1017) while the population of these neighborhoods has reached (3,337 people) table.( 6 ) .

**Table ( 6 )**

the number of middle schools and the number of neighborhoods served with this service in the city of Al-Khader

Neighborhood population	Number of neighborhoods served	number of students	number of schools
3337	2	1017	2

**Source** Relying on : Republic of Iraq, Ministry of Education , General Directorate of Muthanna Education, Department of Educational Planning, Statistics Division, Statistical Handbook for the year , 2019 tables of education stages) kindergarten, primary, secondary

As for secondary schools there were (6) schools distributed among the neighborhoods of) Al-Asri, Al-Hussein, Al-Buraysha, Al-Kadhim, Al-Baqer (and the number of students in them was (3673), while the population of those neighborhoods was (20736 people) table.(7 )

**Table ( 7 )**

the number of secondary schools and the number of neighborhoods served by this service in the city of Al-Khader

Neighborhood population	Number of neighborhoods served	number of students	number of schools
20736	5	3673	6

**Source** : Relying on : Republic of Iraq, Ministry of Education , General Directorate of Muthanna Education, Department of Educational Planning, Statistics Division, Statistical Handbook for the year , 2019 tables of education stages) kindergarten, primary, secondary.

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Evident from the previous tables that there is variation in the distribution of educational services at the level of only modesty as numbered (6) schools in the neighborhood modern and in the neighborhood ) Zahra (5) ( schools either in the neighborhoods of) military, Al - Hussein, al -Kadhim (reached (4, 4, 4) for each of them , and (3) schools in) Al-Baqir (neighborhood , as for )Al-Ain and Al-Bu Risha (each had two schools, as for the neighborhoods of) Riyadh, Al-Jawadeen (the distribution of schools in them was one for each neighborhood , and the number of students reached Served (14,400) students in the city of Al-Khader , map.(2)

## **Ninth. Analysis of Accessibility Measures for Educational Services**

This study focuses on the application of analysis methods to the current reality of educational services to know the ease of access to them and the application of planning standards to find out their compatibility with the current reality of the city, as it focused on the distribution of service sites according to residential neighborhoods as a key factor for ease of access to services as well as the presence of other factors affecting the process Access is like frequent use of the service, as educational services are needed by the population on a daily basis.

### **Kindergarten**

In the study area ,there is one kindergarten in Al-Zahraa neighborhood and it serves only (12.1 % of the city's population, and it was found through the questionnaire that (60% ( of the children travel a distance (2-3-km) per day to reach the service And (25%) of them travel a distance (1-2 km per day) and (15%) travel a distance of less than (1 km) per day. This is evidence that (87.9%) of the city's residents are deprived of this service .As for the scope of the service For kindergartens ,it turns out that they do not serve all neighborhoods , so the city needs to add kindergartens to suit the size of the population and the scope of the service and its distribution in a way that achieves easy access and according to the standard (300 m) , Map.(3) .

### **A primary school**

through a form questionnaire showed that %80 of the pupils cut a distance of up to (less than 1 km) and (15%) of them cut a distance of up to (1-2km) and (%5) only cut more distance from (3 km) .The analysis of the specified service scope according to the standards of the Ministry of Planning for the year (2018) also showed that the majority of the city's neighborhoods are within the distance range, which reaches (500 m), map .(4) As it turns out that the city has no need to add new sites to this service if it achieves easy access to it, according to the analysis.

### **A medium - sized schools**

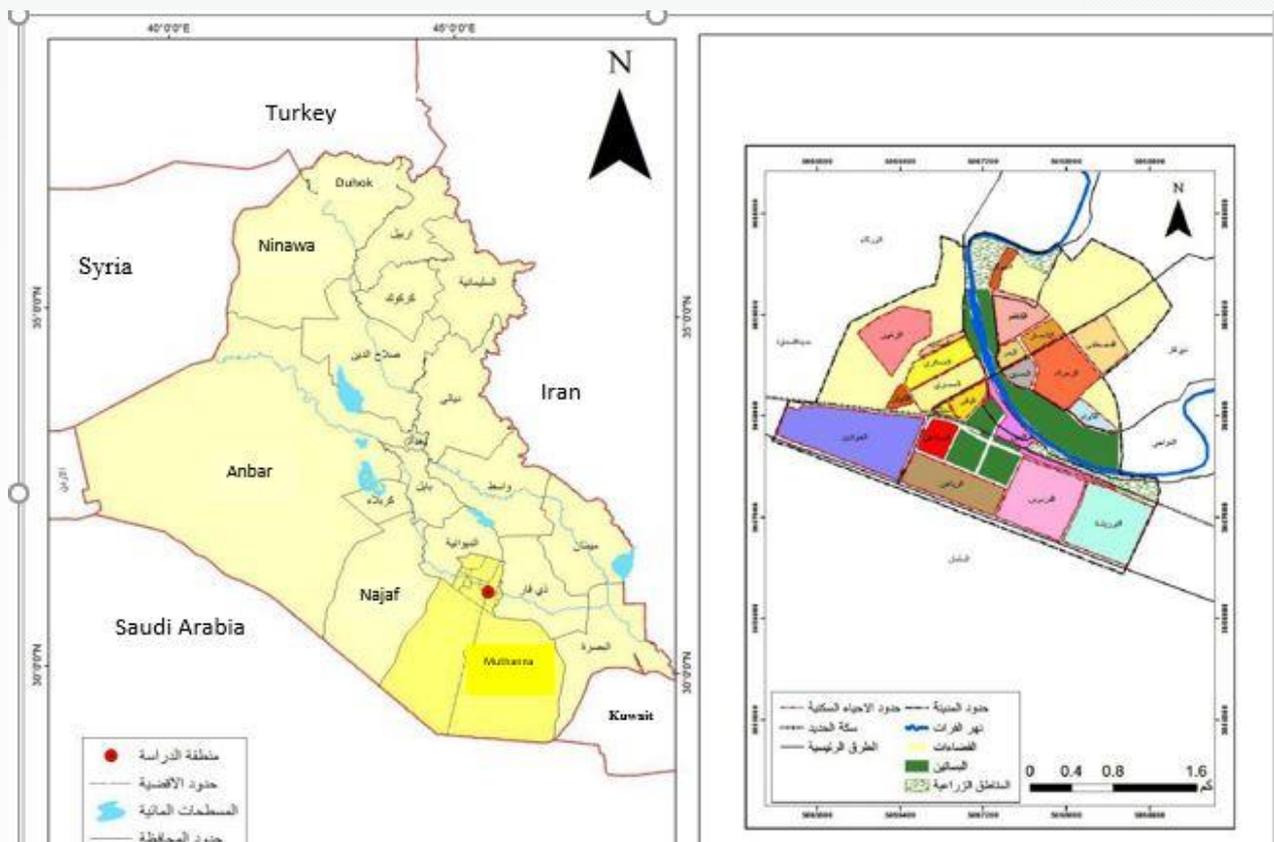
through the spatial analysis of this service , it became clear that it serves (22.4%) of the population of the city and distributed to the neighborhoods ) al - Kadhim and Zahra al - Baqir ( and lacks the rest of the city 's neighborhoods for this service .The questionnaire showed that (%40) of the students travel a distance of less than (1 km) per day to reach their schools, and (35%) of them walk a distance of (1-2 km) daily, and (25%) of them walk a distance of more than (2 km) . As for the analysis of the scope of the service, it covers most of the neighborhoods that are characterized by high population density, as the distance that the student must travel daily from the starting point (the residence) to the arrival point (the school) is (500 m), but according to Map (5), the city needs to be added New middle schools to meet the needs of the city.

### **A secondary school**

includes junior high and high schools and the number of secondary schools ,which were distributed to two schools on the revival of) Al - Baqir and Riyadh) serving as these schools (8.1%) of the population in the city of vegetables .As for the questionnaire form, it showed that (36%) of the students travel a distance of up to (less than 1 km), 34% of them travel a distance of up to (1-2 km), and (30%) of them travel a distance of more than (2 km) .As for the scope of the service, according to the specified criteria, the distance that the student travels daily to reach the school should reach (800 m) only, and according to Map (6), the neighborhoods of (Al-Golan, Al-Mustafa, Albu Risha, Part of Al-Ansar, Al-Kadhim, Al-Zahra, Al-Firdaws, Al-Jawad and Al-Zohour)

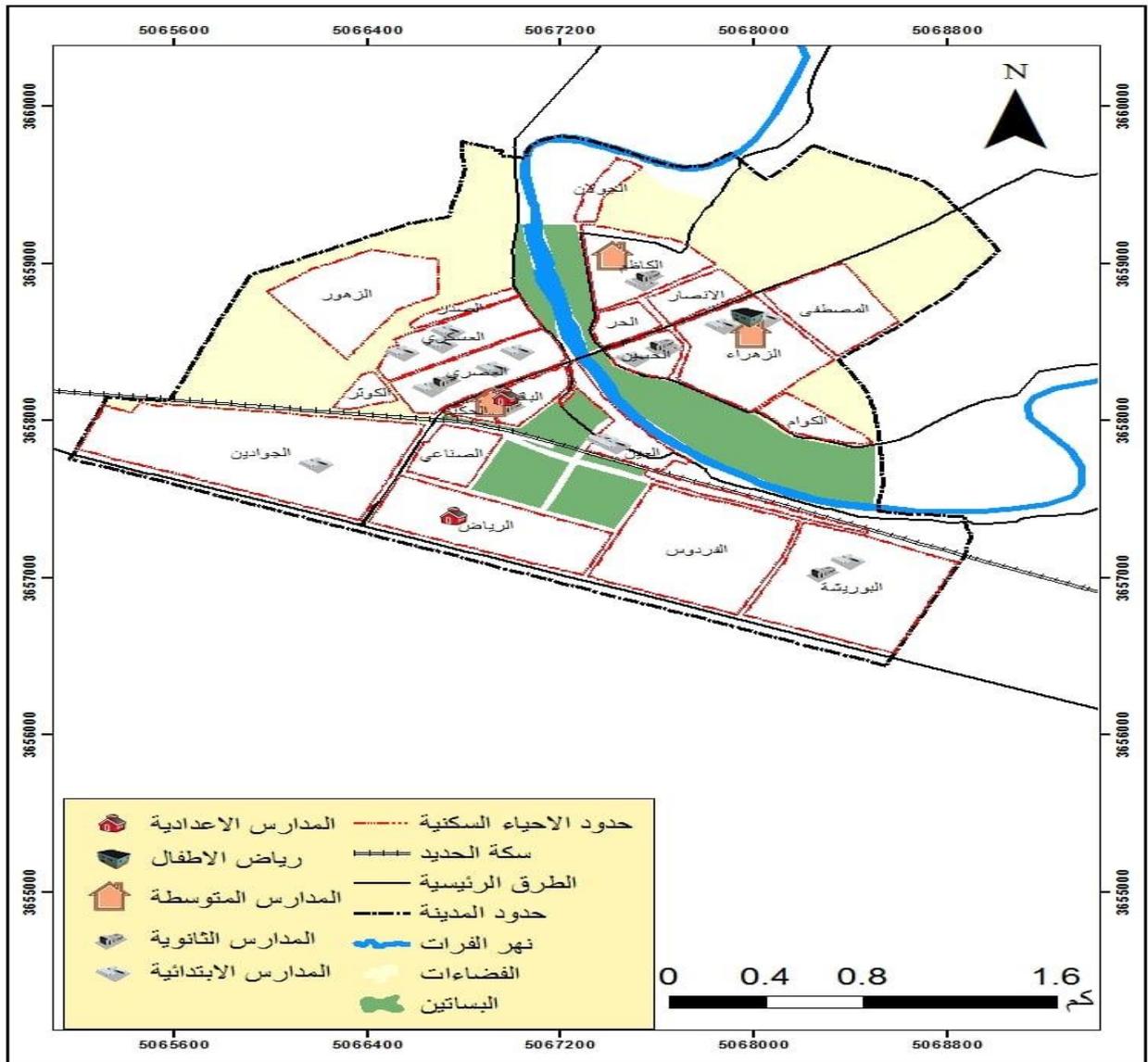
are outside the scope of the service. The service as the city needs to redistribute these services in proportion to the needs of the population and to ensure easy access to services. As for secondary schools there are (5) schools distributed neighborhoods (Po feather and Alp acknowledged, contemporary and Al - Hussein and al - Kadhim ,(and showed the form questionnaire that (77%) of the students cut a distance of up to (less than 1 km) and (12%) of them cut a distance of up to (1-2km) and (11%) only cut off more than (2 km ( to get to their schools, and explain x Rath (7) Service scope for secondary schools and that most of the city 's neighborhoods get up to the service , as defined the scope of the standards of service b (800 m) for one school .Thus, the city does not need to increase the number of secondary schools, but rather a redistribution of secondary and middle schools in order to reach the largest number of residents and provide easy access to this service.

**Map (1)** The geographical location of the city of Al-Khidr in relation to Iraq and Muthanna



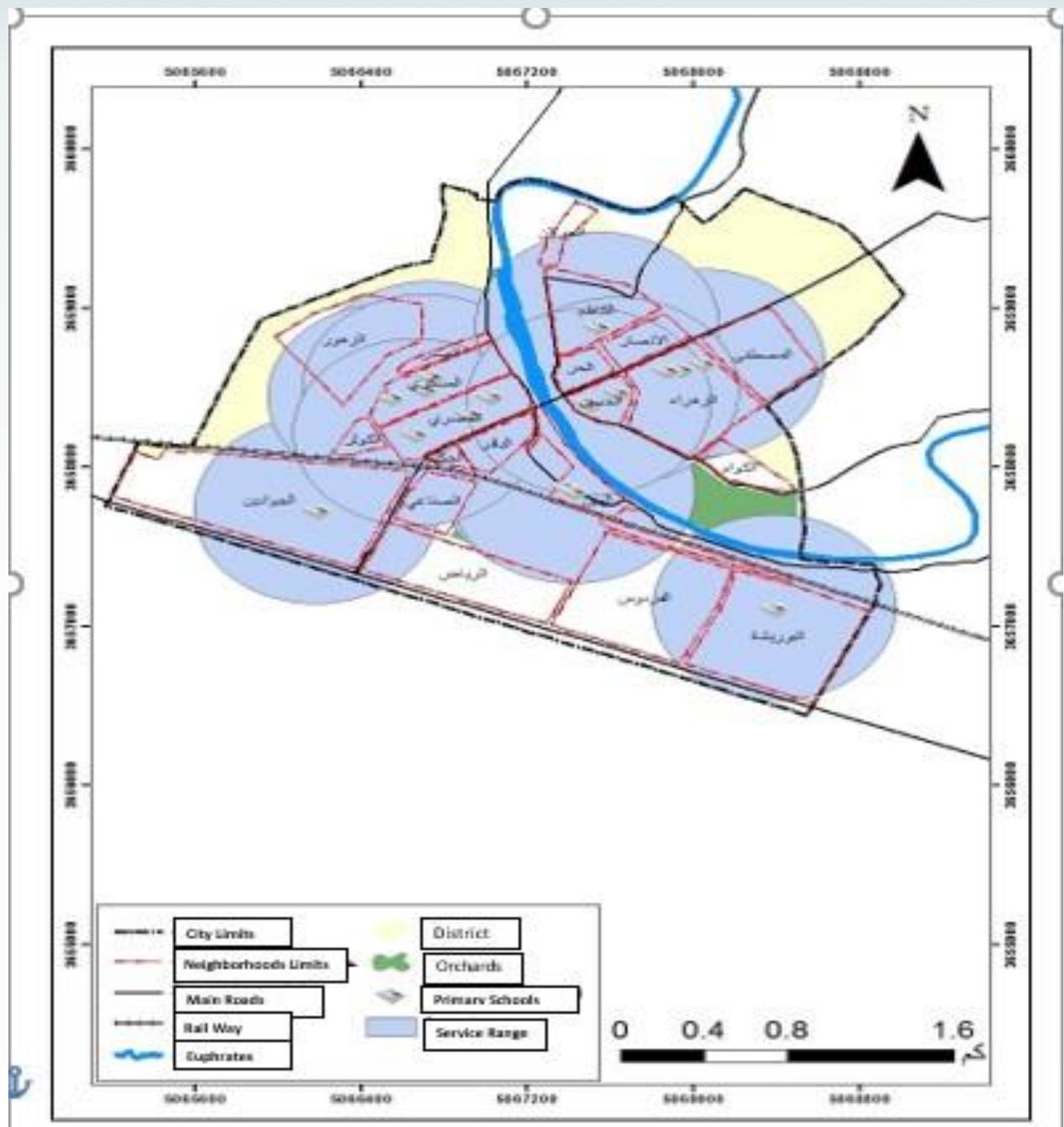
**Source:** 1- Republic of Iraq, Ministry of Water Resources, General Authority for Survey, Map Production Department, Administrative Map of Iraq, 1:1000000 Scale, Baghdad, 2011. 2- Republic of Iraq, Ministry of Planning and Development Cooperation, Urban Planning Directorate, Muthanna Governorate, Department Geographical information systems, the basic design map of the city of Al-Khader, at a scale of 1:10,000, unpublished data, 2019.

**Map (2) :**The Spatial Distribution of Educational Services in The City of Vegetables for The Year 2020



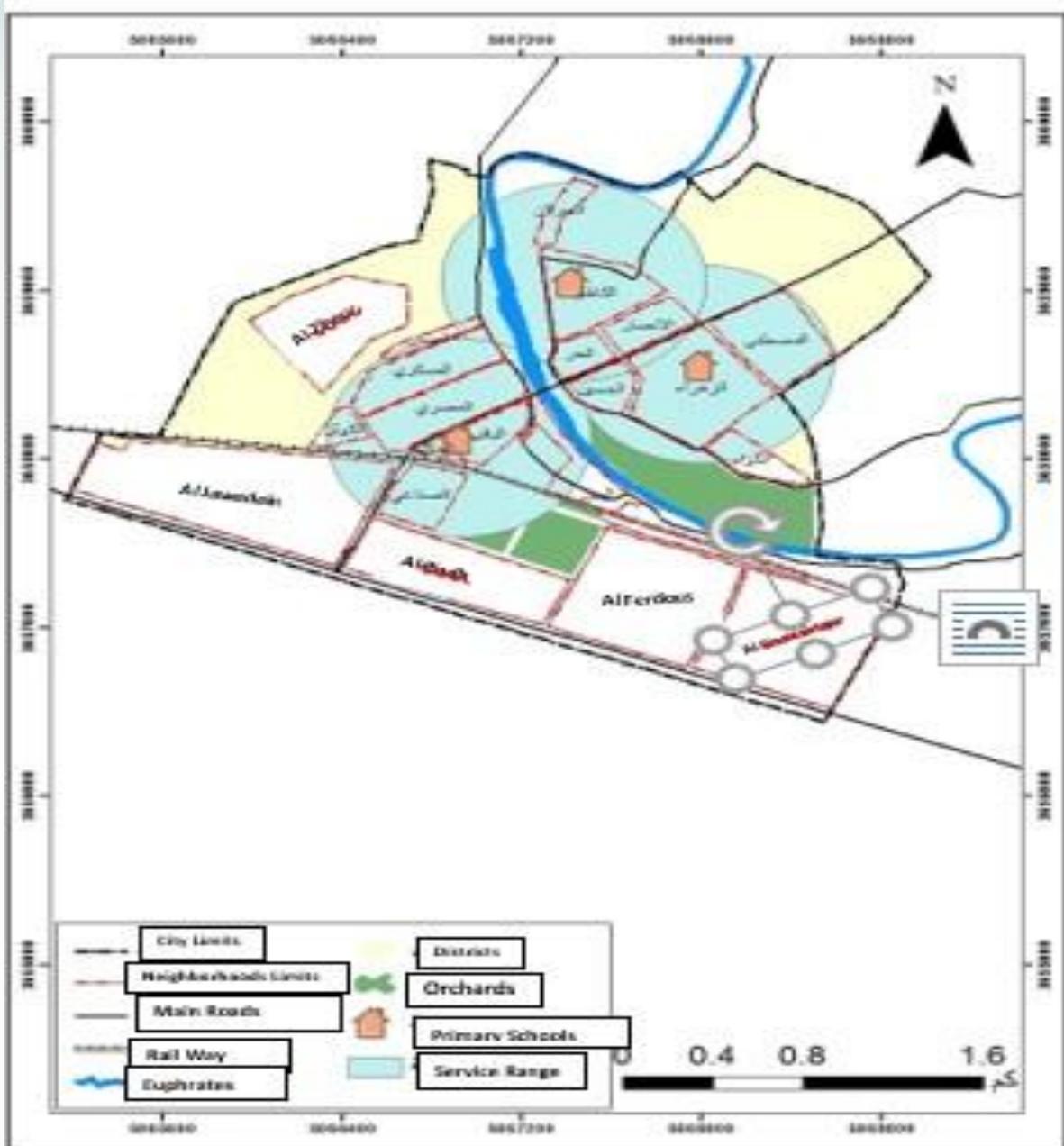
**Source:** Republic of Iraq, Ministry of Construction, Housing, Municipalities and Public Works , Directorate of Urban Planning , Muthanna Governorate , Basic Design of Al-Khidr City, at a scale of 1:10000, unpublished data, 2019

**Map (4)** Scope of service for primary schools in the city of Al-Khader for the year 2019



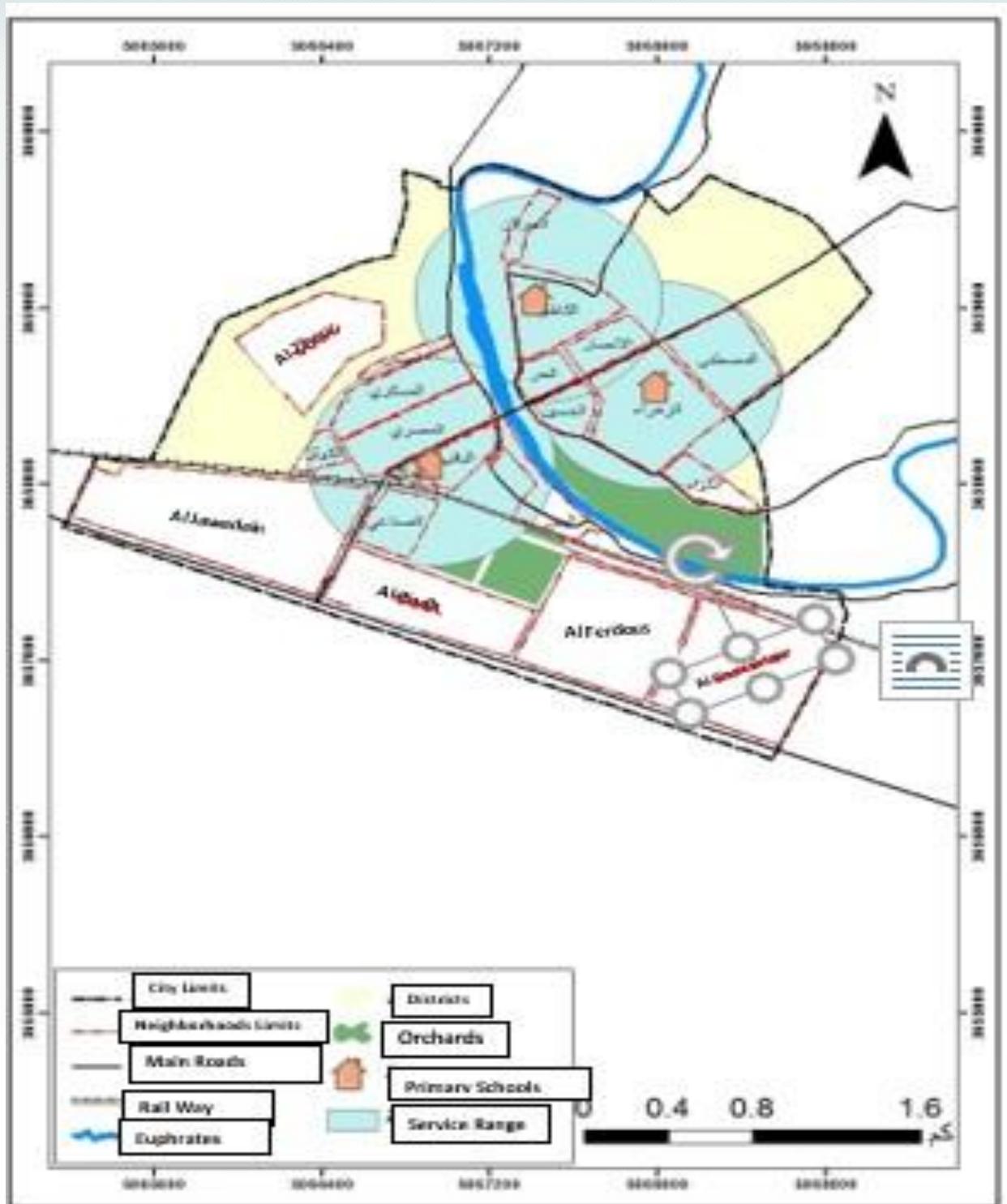
**Source:** Republic of Iraq, Ministry of Construction, Housing, Municipalities and Public Works, Directorate of Urban Planning, Muthanna Governorate, Basic Design of Al-Khader City, at a scale of 1:10,000, unpublished data **2019**.

**Map (5)** Scope of service for middle schools in the city of Al-Khader for the year 2019



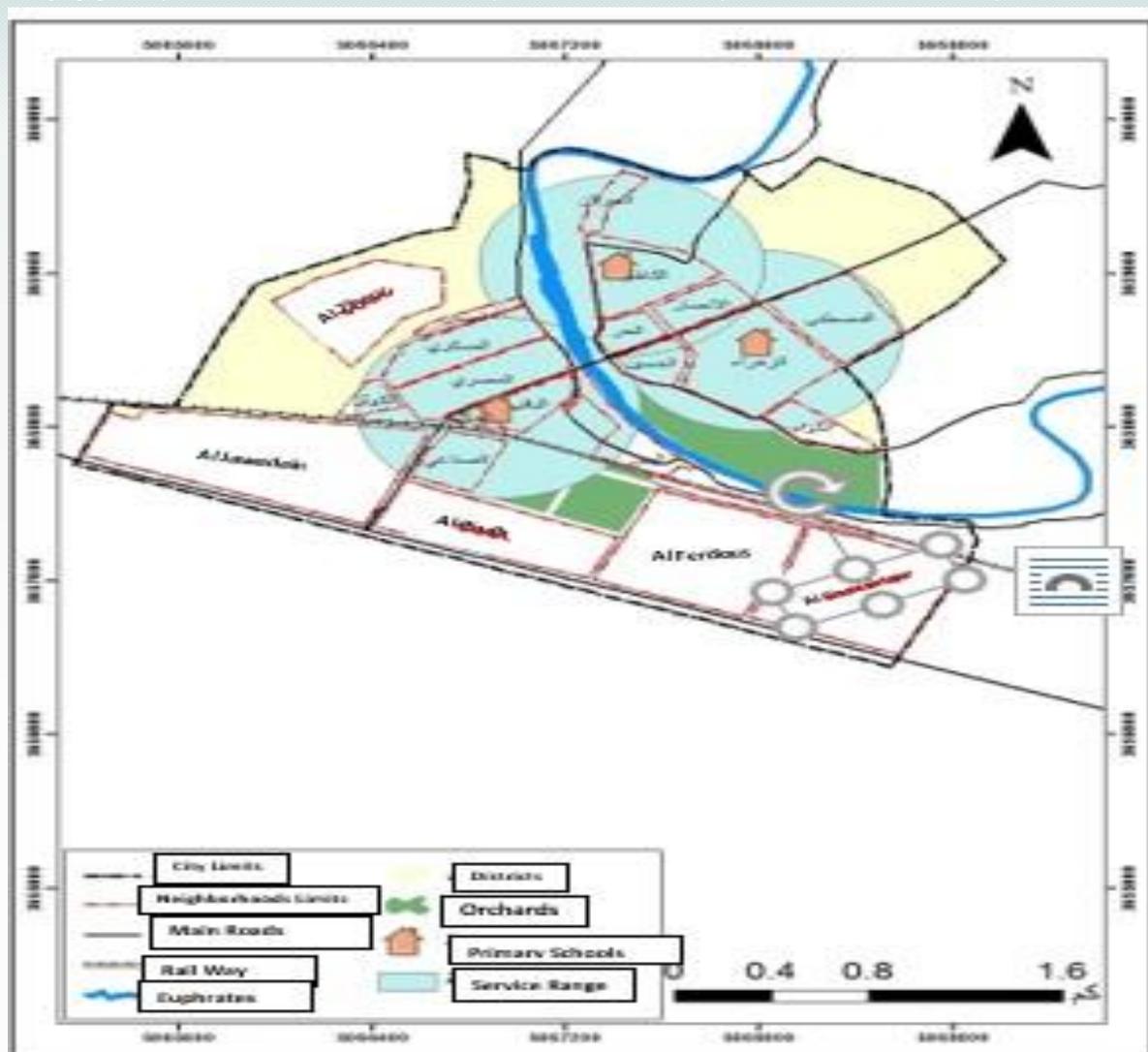
**Source:** Republic of Iraq, Ministry of Construction, Housing, Municipalities and Public Works , Directorate of Urban Planning , Muthanna Governorate , Basic Design of Al-Khader City, at a scale of 1:10,000, unpublished data, 2019.

**Map (6)** Scope of service for middle schools in the city of Al-Khader for the year 2019



**Source :** Republic of Iraq, Ministry of Construction, Housing, Municipalities and Public Works , Directorate of Urban Planning , Muthanna Governorate , Basic Design of Al-Khader City, at a scale of 1:10000, unpublished data, 2019.

**Map (7)** Scope of service for secondary schools in the city of Al-Khader for the year 2019



**Source :** Republic of Iraq ,Ministry of Construction, Housing, Municipalities and Public Works , Directorate of Urban Planning , Muthanna Governorate , Basic Design of Al-Khader City, at a scale of 1:10,000, unpublished data, 2019.

## Conclusions

- 1- The number of schools reached (32) schools, distributed differently in the city's neighborhoods ,serving (14,400) residents.
- 2- Through the use of the accessibility method ,it became clear that the spatial distribution of educational services in general in the city of Al-Khader provides acceptable accessibility when compared to the distance standards approved by the Ministry of Planning.
- 3- The kindergarten service is not easily accessible because there is one kindergarten and it is not able to serve the city as a whole.
- 4- The primary schools cover most neighborhoods coining intention by the scope of service, either schools secondary they need to re - distribution to ensure easy access to it.
- 5- The city needs to increase the number of middle schools in it to meet the needs of the population.

## Suggestions

- 1- The city of Al-Khader needs (10) kindergartens according to the planning standards and distributed among the city's neighborhoods in order to facilitate the process of accessing this service.
- 2- Redistribution of middle schools within residential neighborhoods, especially in the

neighborhoods of (Al-Kadhim, Al-Zahraa and Al-Ansar).

3- Improving the infrastructure of roads, transportation within the city, using alternative roads to main roads, and constructing bridges.

4- In the future planning of educational services, it is taken into account to avoid their occurrence near the main roads to prevent congestion and accidents and to facilitate access to them.

5- The necessity of adopting ease of access as a major factor when planning educational services and calculating the physical ability of students for the distance traveled according to educational stages.

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