

Study of the design characteristics of Al-Hashemite Corniche Park - Babylon province

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Summary

This study was conducted to evaluate the reality of some of the design characteristics for the Hashemite Corniche Park and their impact on the park's visitors, and it took place in three stages:

- 1- field study
- 2- Questionnaire
- 3- Results and discussion

In the first phase, The field evaluation of the following design characteristics (entrances, path , and car parks) was conducted. As for the second stage, a closed questionnaire was conducted for visitors on one of the days of Eid, when the park would be crowded with visitors to know their opinions on these characteristics and their suggestions. The results of the survey were that the majority of the park's visitors see that the entrances, paths and car parks are inappropriate and out of service.

Introduction

The development and progress of many nations is measured by the amount of green spaces they provide per capita, and the most beautiful cities in the world are the ones in which coordinated and beautiful gardens are spread. garden design and the modern management methods in perpetuating them are nothing but a continuation of the ancestral heritage and with the development of urban planning and urban growth .The need arose to find design standards for gardens and parks as a guide for designers in their work, in addition to the rates and standards of other urban elements that make up cities and residential neighborhoods. Despite the multiple functions of green spaces, there are two main factors, the first is the creation of an appropriate local climate, through the accuracy of plant distribution, which positively affects the environmental climatic factors and the various sources of pollution. The second is entertainment through the availability of events, games and good services(AlbaWi-2016).

The Corniche Park in Al-Hashemite District of Babylon province is one of the most important

residential neighborhood parks in the district, due to its attractive location as it is located on the Hilla River and is visited by visitors to the holy shrines adjacent to the district. It did not achieve the environmental and recreational functions for which it was established, due to its inefficiency in design, and it did not fulfill the desires and requirements of its users.

Research problem

- 1- Not taking advantage of the river edge of the park.
- 2- Difficulty accessing the park.
- 3- The presence of internal and external noise and its negative impact on visitors and residents of neighboring neighborhoods.
- 4- interaction between the houses adjacent to the park and the park, as there is no fence separating them, which causes a loss of site privacy.
- 5- The park lacks private parking spaces.

research importance :

Al-Hashemite Corniche Park is the only outlet for the people of the district, which was

established in 2010 on the basis that it is a district-level park, but because of its random design and its lack of maintenance, services, amenities and pleasure, it lost its functional importance. eliminate.

research aims :

- 1- Evaluating the current design of the park and identifying design problems and errors in it.
- 2 Knowing the desires and requirements of the park users by conducting a questionnaire.
- 3- Laying out developmental designs for the current reality that take into account solutions to current problems, taking into account the wishes and requirements of visitors.
- 4- Develop a proposed design for the location on the grounds that the site is devoid of all plant and structural elements, in accordance with international standards for parks, taking into account the wishes and requirements of visitors.

Research Structure

In order to achieve the general objectives of the research, two main aspects were adopted in the composition of the research material. The first aspect included the theoretical study, which included reviewing and reviewing the sources related to the subject of the study.

The second aspect is the field study, which is divided into:

First, assess the site and identify current problems that discourage visitors from visiting the park.

Second - Knowing the desires and requirements of the park users by conducting a questionnaire.

Third, discuss the results of the questionnaire.

Fourth - Develop the necessary recommendations to solve problems and implement the visitors' wishes.

The first stage

Theoretical study

Structural (complementary) elements

Entrances

The entrance should be beautiful and harmonious with the rest of the facilities, and the garden has one main and secondary entrances. It is preferable when constructing the entrance to start with a slight bend in the road leading to the entrance with the planting of a fence on both sides to create isolation from the external path into the garden.

to conflict with the natural colors surrounding it, and the entrance is what separates the garden from the external road leading to the place (Hjouz, 2011). Al-Ta'i (2010) mentioned that the entrances should be in suitable places and not less than two entrances to the garden, and the entrances should be proportional to the rest of the elements and can be made of iron or wood while protecting them from weather factors. It is also taken into account that the design is simple, consistent and appropriate to the style of the garden, and if the garden is small, there is no objection to erecting high pillars on both sides of the entrance with statues or arches on which climbers grow. The dimensions of the entrance to the garden must be proportional to its area, the width of the road and the purpose of its use. Abdul Karim (2012) indicated that the gardens are usually equipped with only two entrances, for ease of control and to ensure that children do not leave the garden

PATHS:

Paths are defined as the channels through which the beholder moves, as individuals perceive the image of the urban environment through their movement and movement in these kinetic channels, along which the elements of the urban environment are organized (Al-Chalabi, 1990). Paths come in the second place after roads and are a means of connecting the parts of the garden to each

other so that the different parts of the garden connect and serve the purpose for which they were found. They are usually straight and connected to each other at right angles in gardens with a geometric system, while in gardens with a natural system, they are designed in an acceptable curved manner. As for the length and width of the corridors, it is less than the roads because they serve less than the roads, and they must be in direct proportion to the garden in terms of length and width (Al-Chalabi, 1990). The function of the paths is to accommodate the movement of trekkers who are Path, and the most

appropriate width for them should be no less than 1.5 m and not more than 4 m. And care must be taken in its shape because it is in fact the shape of the garden.

The process of designing and planning corridors in the garden has a great impact in showing the beauty and splendor of the garden, but it should not be multiplied without a specific goal and that each corridor in the garden leads to a specific aim, and the way to construct the corridors must fit the used garden model (Hjouz, 2011).

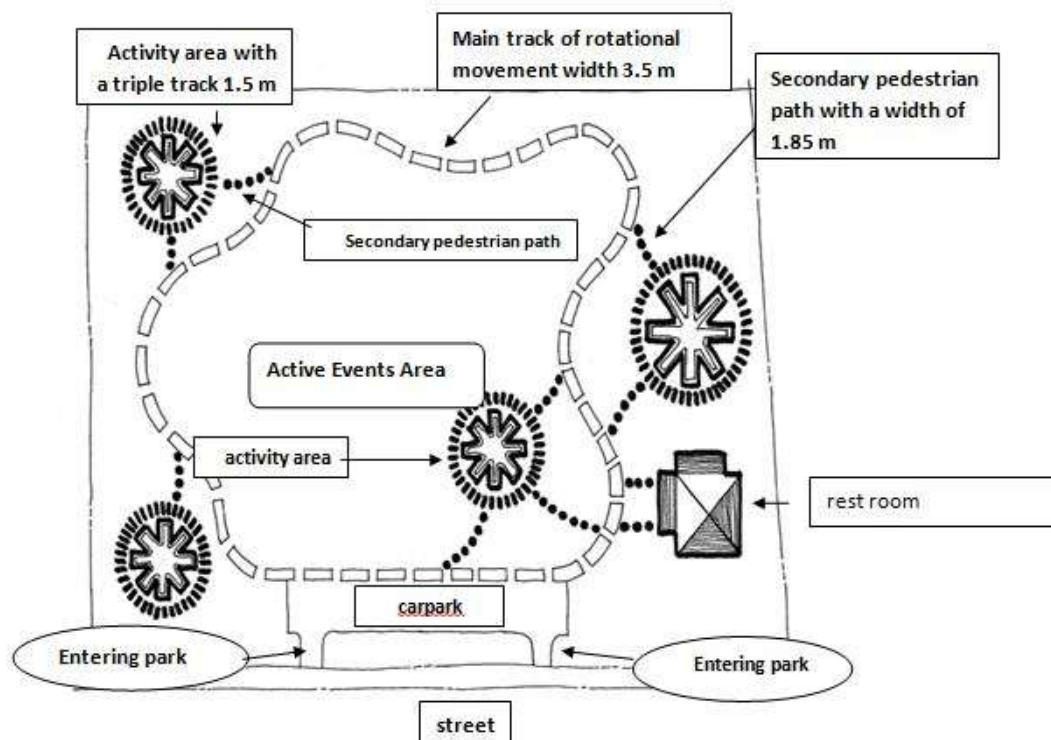


Figure 2.1. Paths in Parks (Wicker, 2017)

(Al-Chalabi and Al-Khayyat, 2013) mentioned that the roads are created either from sand, gravel, wooden sectors, or from tiles (kashi) of various types, or they may be made of asphalt or cement, and each type has its place. Natural gardens suit sandy or gravel roads. Denise (2005) mentioned a number of factors affecting the formation of the river facades of the city, represented by creating a connection

along the river corridor and trying to attract the public to the river. The study also touched on the activities that take place on the river front to revive it, and the nature of the activities, to influence the determination of the nature of the design and furnishing. The study identified the most preferred activities in the open space of the riverfront as: hiking, sitting, meeting, wandering, biking, jogging, eating,

street vendors, performing shows, hunting, painting, planting, writing, playing, as well as watching and relaxing.

fences

Fences are used for various purposes, including achieving privacy, protection, and reasons of security. It is noted that they are affected by weather factors, so care must be taken to maintain them. Attention must also be paid to its design so that it has an aesthetic sense, taking into account its integration with the buildings and the surrounding elements. The materials in which the fences are built vary. They are either iron, concrete, bricks, stones, or plants. In this case, the appropriate plants must be chosen. (Al-Taei, 2012) It was mentioned (Shura, 2015) that the fences are often more than 2 m high (higher than eye level) and prevent visitors from entering and moving except through the entrances and gates in the garden.

Accessibility

Accessibility is the relative proximity between one place and another (Mohammed, 2008). The process of growth and development in cities over time leads to changes that directly affect the ease of access to various services and activities for the city's residents and its surroundings (Hashem, 2016). Institutions tend towards ease of access as an important factor for locating urban events and activities, especially access to public services in the city. Where the transport factor is responsible for rotating the movement of life in the city with all its economic, social and cultural activities and events. The high specialization in such activities makes it necessary for the institution and individuals to communicate and interconnect with each other. (Awadah, 2007). It is preferable that the location of the park be near the intersection of highways, in order to facilitate the transportation of tourists and hikers, whether coming by private cars or public transportation (Lafta, 2006).

Activities Recreation

activities Recreation are one of the important elements to attract visitors to the park. Therefore, attention must be paid to the diversity of these activities to include all ages and according to the visitors' desire, and to allocate sufficient spaces for them and distribute them so that they do not conflict with each other and provide Pathways that facilitate movement between them Recreation services are no longer complementary needs as they were seen, where they have become part of the requirements of the population, especially the urban population .Movement, work and leisure outside and inside cities are integrated and effective elements to evaluate the balance of human life and its interaction with nature (Mala, 2007).Ahmed (2016) mentioned that recreational and tourist areas and green spaces are among the vital elements in urban planning levels, because of their aesthetic and economic value, where they are the urban breathing space and achieve ecological balance.

3-1-5 Division of recreation activities

The park includes recreational facilities represented in picnic and relaxation areas and sports activities represented in children's play areas, a fitness area equipped with the necessary equipment, seating areas, a running track, a bicycle track, a basketball court and a tennis court in addition to service facilities such as toilets, bicycle parking, parking and a network Paved roads to facilitate the movement of visitors and the administration building. (Abdul Karim, 2012),

<https://www.momra.gov.sa>. Some sources differed in the classification of some activities within the active and quiet sites, where (Wicker, 2017) classified the marina of boats among the active activities, while (Sharpaziri, 2009) it classified it among the quiet activities, as well as the open play areas, it classified it (Wicker, 2017) among the recreational activities. As for (Sharpasiri, 2009), it was classified as one of the Active recreation facilities. Most of the sources divided entertainment activities into two types:

1 Active recreation facilities

2- recreation facilities Passive

Active recreation facilities

Jefferson (2006) defined events. Active recreation is the activities that some individuals practice freely in their spare time to increase people's sense of pleasure. It is also beneficial in terms of social, health and emotional terms, or it is an amusement that includes participating in the games arenas or with the participation of sports teams. Wicker (2017) defined it as activities that stimulate public health and that include traditional games. Dantter (1969) has referred to two types of active event venues within the parks, the first is Children's play area and the second is sport courts for young people and adults.

Active recreation facilities include:

1 Children Play Area

2 Fitness Zone

3 Sport Courts, including:

Football, basketball, volleyball, handball, tennis, table tennis, hockey, badminton, water polo, weapons games, judo, boxing, gymnastics, golf, snow, athletics and field.

Children Play Area

The next section is devoted to explaining and detailing children's play areas.

Fitness Facilities

fitness area

fitness area is used to promote public health by encouraging active participation with high-quality outdoor equipment. recreation facilities passive that take place without the use of machinery (except when used as an accessory to the main activity), loud sound, or artificial lighting, and include climbing, Paths , running, cycling, fishing, hunting, camping, contemplating nature, horseback riding, etc. As for Sharpasiri (2009), defined it as the activities that do not require the preparation of means such as stadiums and closed sports arenas or entertainment without stadiums. As the quiet entertainment activities are less stressful for the resources and components of the site and are in good agreement with the natural resources and the protection of wildlife.

The second stage (field study)

The location of the study (Al-Hashemite District):

Al-Hashemite District is one of the districts of Babylon province, which is located in the south of the province, 30 km away from the province center, with an area of 6 km², and a population of 38,542 individuals (Al-Hashmiya Statistics Department). The center of the judiciary is considered a carrier and a link between the international express line and the general line and Al-Hussein Road on the one hand, and the railway line linking the south and north of Iraq. It is characterized by its agricultural and rural areas, and it is considered the geographical center of Iraq, where the distance from east to west of Iraq is equal to the distance from north to south of Iraq.

Assess the park site and identify current problems:

Al-Hashemite Corniche Park is located in Babylon province - Hashemite District, where the park is located to the northeast of the

district .It occupies a suitable and vital location for the judiciary, as it is on a public tourist transport road from the eastern side .It overlooks the Hilla River from the northern

side of the park, and this site gives the aesthetic to the park (the river edge). The park area is 7 acres, and the area for future expansion is 3.9 acres (4-2), (4-3).



An aerial photo of the study site within the district (GIS program)

The park importance

The river is one of the elements that affect the local climate in addition to its aesthetic importance, where Al-Hashemite Corniche Park is one of the strong attractions compared to other parks in the district. Where the places adjacent to rivers and lakes are considered desirable places to establish parks in countries of the world with the availability of some simple activities in it, which makes the park a rest stop for visitors of the pure Imams, as well as for hiking, eating (travels) and enjoying simple recreational activities in the park. Al-Hashemite district also contains a number of parks that are devoid of the elements of hiking and rest, seating, green ground and recreational activities, and the district is devoid of recreational centers and game cities, which makes the residents of the district resort to Al-Hashemite Corniche

Park, and this is what makes the park of great importance to the residents of the district.

Access to the current location

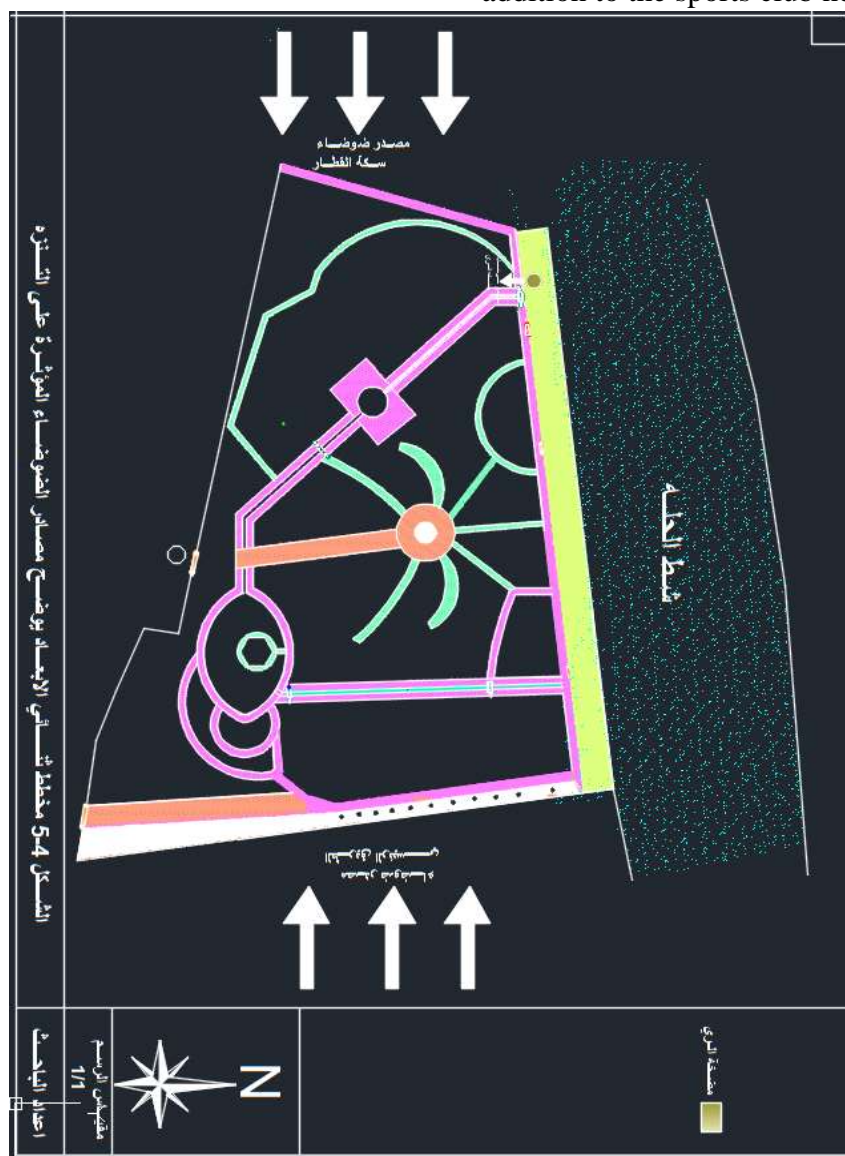
The park is accessed through two roads, the first is the public transport road, which is crowded, especially on holidays and on various occasions. As for the second road, it is located in the middle of the residential area adjacent to it, where it is reached on foot by residents of the neighboring areas and some visitors to areas far from the park who leave their cars away from the park or come via public transportation. The problem with this road is that residents leave their cars in front of their homes, causing road closures and obstructing Traffic of visitors to the park. Therefore, access is possible for residents of the neighboring areas, and difficult for

visitors to areas far from the park and the holy shrines.

noise

The children's play area is the source of noise for the residential houses surrounding the park, in addition to the water pump for irrigation, which is the biggest source of nuisance, as shown in Appendix(11). In addition to the crowds of visitors on holidays, religious occasions, and holidays, the park did not serve its locality only but also serves the rest of the neighboring shops, which exposes

the residents around it to some problems represented by noise and others caused by visitors. As for external noise, it is one of the most important problems that must be addressed in the park. As we mentioned previously, the park is adjacent to the busy main transport road (bridge) on the one hand, and it is a source of high noise because of the traffic of cars. The trucks continue day and night with high intensity and the railway, on the other hand, is a non-continuous source of noise due to the long period of time that separates one train from passing through, in addition to the sports club next to the park.



Fences :

Fences are one of the important elements of the park because they represent the outside

view of the park, on which the eyes of passersby fall, in addition to defining the boundaries of the park and its appearance as a

single unit. This is what the park lacks. The park is surrounded on the main road by a fence made of BRC with a vegetable fence of *Conocarpus*. As for the proposed area for future expansion, the Hilla River is surrounded by an iron fence with a height of 1 m. On the side of the residential area, all the fences are mixed in. Part of it is the fences of the houses that go beyond the boundaries of the park and other parts are the BRC fence, and this gives you an impression of chaos about defining the true boundaries of the park and giving character. The clear and distinctive of it, in addition to the spread of loose dogs and cats. The fences are one of the elements that give the site a sense of unity and cohesion that brings together the various activities, and its design is one of the elements that attract visitors.

Entries:



Figure Park car park photos (Researcher)

Knowing the wishes and requirements of the park visitors by conducting a survey

The purpose of the survey

The questionnaire method was prepared for many purposes, the most important of which is to know the opinions of the respondents about the development of Al-Hashemite Corniche Park, in addition to knowing their opinions and desires about the activities to be added when designing the river edge, and knowing the negatives and positives.

The entries are one of the most important structural elements in the garden, which gives an initial impression of the park or garden because it is the first element that confronts the visitor. In park there are two entrances according to the design prepared by the municipality department. A door 1.5 m wide and intercepted by an electric pole.

carpark

The parking lot in the parks is one of the important means that encourage visitors to visit the park by providing safe and shaded parking spaces to protect cars from environmental conditions. But what is strange about Al-Hashemite Corniche Park is the presence of an unpaved or shaded dirt yard in front of Entrance (1) that visitors use to park their cars, blocking the road leading to the park.

Questionnaire design and preparation

The questionnaire was designed and prepared by reviewing many local, Arab, and foreign studies that dealt with topics close to the subject of the research, a field visit to the study site (Al-Hashemite Corniche Park), personal interviews with officials, specialists, and park visitors, and also by noting the most important obstacles and problems that the park suffers from. The questionnaire form was

presented in its initial form to a number of specialists and those related to the field of

study, as they have experience in their field of specialization, as shown in the table.

table showing some information about the experts involved in evaluating the questionnaire

No.	name	Workplace
1	Prof. Dr. Amir Abdel Akhwa	University of Kufa / College of Urban Planning
2	Prof. Dr. Sada Nassif Jassim	University of Baghdad / College of Agriculture
3	Prof. Khudair Haider Mudar	University of Babylon/ College of Architecture
4	Prof. Dr. Jinan Qasem Hussein	Al-Qasim Green University/ College of Agriculture
5	Prof. Bassem Halim Kashash	Al-Qasim Green University/ College of Agriculture

Those who thankfully arbitrated the questionnaire form and expressed their comments and suggestions about the paragraphs of the questionnaire. The comments and suggestions of the arbitrators were responded to and amendments were made to them in the light of their suggestions and the amendment was added afterward.

Questionnaire method

The number of visitors to the park on religious occasions reaches more than 900. A questionnaire was distributed to visitors to the park on peak days during the blessed Eid al-

table showing the mode of transportation used by visitors to reach the park

Adha, corresponding to 21, 22, 23, 24/8/2018. The distribution of the form was proceeded on the basis of that, so (120) were distributed, and there were (20) forms that were neglected due to the wrong filling and the respondents' lack of awareness of its future importance to them in the field of park development, so the number of forms included in the questionnaire became (100) forms and were distributed at a rate of (25).) for each day of the blessed Eid al-Fitr.

s . What mode of transportation did you use to get to the park?

percentage	number	answer
16%	16	private car
52%	52	path
32%	32	public transport
100%	100	Total

reference (researcher)

Most of the park visitors come on foot from the neighboring areas (52%), and due to the closure of the parking lot, visitors are forced to leave their private cars and come by public transportation, where their percentage was (32%) despite the congestion of the main road leading to the park, according to the results of the survey.

s . Is the parking lot suitable and sufficient on peak days?

A table showing the respondents' opinion of the parking lot/reference (researcher)

percentage	number	answer
30%	30	Yes
70%	70	Both
100%	100	Total

Through the results of the questionnaire shown in the table below about the yard designated for parking, where the answer rate was “yes” (30%), and the answer was “no”

(70%), because the yard is an empty dirt land that is not designed as a parking lot and is closed in Occasions and holidays (peak days) for security reasons.

Q: How was the access to the park?

Table showing how to get to the park/reference(researcher)

percentage	number	answer
30%	30	Easy
50%	50	fairly easy
20%	20	difficult
100%	100	Total

According to the results obtained from the questionnaire, access was (fairly easy) by (50%), because most of those coming to the park is on foot, even if the distance is far from the park because the road leading to the park is

a major and international transport route that gets crowded on special days Religious and holidays and do not forget the parking lot is not suitable for parking.

s . Which entrances do you use when you visit the park?

table showing the preference of the inputs by the respondents/reference (researcher)

percentage	number	answer
40%	40	entrance to the bridge
60%	60	entrance to the residential neighborhood
100%	100	Total

The entrance within the residential neighborhoods is considered the most frequented by (60%) of visitors to the park, because most of the visitors to the park are

from the neighboring residential neighborhoods, while (40%) used the entrance adjacent to the bridge due to the influx of visitors from other areas.

Q. What do you think of the Corniche promenade?

table showing what visitors think of the Corniche promenade in the park.

percentage	number	answer
5%	5	Very well
10%	10	good
85%	85	Bad
100%	100	Total

reference (researcher)

Suggested designs for the park:

The Corniche promenade is one of the attractive elements in The riverine edge Gardens, due to its The riverine edge can be defined as the areas that lie on both sides of the banks of rivers and the shores of wetlands of water bodies and have an important role in preserving recreational and biological diversity (Al-Badri, 2013).

Various water entertainment activities and resting places overlooking the water element. And (85%) of the park visitors confirmed that the Corniche promenade is bad, because of what the Corniche promenade suffers from, the lack of water activities and the absence of trees and rest areas, with the presence of a

high noise source represented by (water pump), as shown in the table.

entrances

All the design proposals included the proposal of Entrance No. (1) to enter pedestrians and emergency vehicles in emergency cases that we need to enter at any time and service vehicles in the park's spare time and we took into account that the entry of vehicles should be in one lane so that the movement of cars within the park does not turn into a disturbing factor for park visitors who wish to roam the main Pathways in the park.

Entrance No. (2) is the most frequently used entrance by pedestrian visitors, especially visitors to the park from the neighboring

residential neighborhoods, and according to the results of the questionnaire, which proved that most visitors are users of Entrance No. (2), which has a width of (2 m) and is interrupted by a column of electricity where the entrance is located. And the road leading to it inside the residential neighborhoods.

As for Entrance No. (3), it is an entrance suggested by the researcher to the Youth Entertainment Center, which links Al-Tabbia Street with the Youth Recreation Center, which includes a casino, a restaurant, a multi-purpose indoor hall, and a yard for practicing fitness and fitness.

Because of the unpleasant smell emanating from the livestock slaughterhouse adjacent to the site, which was proposed to be raised in the second proposed design, a new road and entrance (Entrance No. 12) was proposed within the residential neighborhoods with another parking lot serving visitors to the park from the surrounding area or residential areas.

Corniche Paths

The parks located on the river's edge are characterized by the presence of the Corniche walkway, which is one of the most important recreational, aesthetic and attractive attractions, as well as its environmental importance in these parks, and many visitors are intended to enjoy various recreational activities such as the marina of boats, fishing, and swimming, in addition to enjoying the

view of the water and the refreshing breeze coming from the river. As for Al-Hashemite Corniche Park, it was proposed to design the Corniche Pathway extending on the banks of the riverine edge of the Hilla River in a manner consistent with the wishes of visitors. The width of pathway was (6m) in order to accommodate the largest number of visitors, taking into account the ease of access to it from all parts of the site. A fence (railing) extends on the bank of the river, where it is designed to have a clear view of the river through it, in order to protect children from falling into the river. It was also proposed to establish a marina for boats and places for fishing on the Corniche walkway, in addition to distributing seating, waste containers and lighting poles on pathway length.

Suggested car parks:

The yard designated for parking at Entrance No. (1) was designed as a model parking lot that solves part of the parking problem and closes the yard on occasions. It was proposed to raise the slaughterhouse adjacent to the park and belongs to the municipality of the district and use it as a new road leading to the park from within the residential neighborhoods with a suitable entrance in addition to propose the design of another parking lot for the park in order to reduce the pressure on parking No. (1). Where this parking serves the park's visitors from the neighboring neighborhoods, and Appendix(5) shows the proposed car parks for the park.



Conclsions

By reviewing the sources and studies related to the topic of research and the detailed study of the current site, we concluded the following:

- 1 Difficulty access to the site for residents of neighborhoods far from the park, where there is only one busy road.
- 2 The lack of sufficient entrances as it is unattractive in terms of construction and distribution.
- 3 The houses of the neighboring neighborhoods overlap with the park because there are no fences surrounding the park.
- 4 The destruction of the fences and the lack of maintenance helped the spread of stray animals in the park.
- 5- The emission of foul smells from the livestock slaughterhouse near the park site.
- 6- Neglecting the Corniche walkway in the park despite its importance as it is the river edge promenade.
- 7- The lack of car parks reduces visitors to the park, especially visitors who want to come by their own cars.
- 8- The external noise resulting from the heavy traffic of cars on the highway adjacent to the

park, and the internal noise resulting from the watering pump in the park.

Recommendations

1 Take advantage of the park's distinguished location on the river's edge by creating appropriate recreational activities in the park in general and on the Corniche promenade in particular, model car parks, and attractive entrances.

2 Paying attention to the elements that have a significant impact on attracting the attention of people passing by the park, through the establishment of entrances and external fences with typical and attractive architectural designs that encourage them to visit the park.

3- Stabilizing the external borders of the park by erecting building fences on the borders of the park and removing the encroachments on the park area by the houses adjacent to the park, in addition to its importance in isolating the outside noise from the park. It must also be constructed of materials that absorb and do not reflect noise, and it must have a beautiful view and a height of not less than (2.5 m).

4- Develop an efficient plant design that addresses the problem of internal and external noise in the park and secures the appropriate climatic conditions by reducing the negative effects of high temperatures and dust storms during recent years, in addition to the afforestation of the main walkways in order to provide shade for pedestrians in them, as well as to shade the seating seats distributed on the walkways. The main addition to improving the climatic environment within the park.

5- We recommend the construction of a new road towards the park with a suitable entrance and parking to reduce the momentum of the current bad entrances by closing the livestock slaughterhouse and taking advantage of its location due to its inappropriate location in the middle of the residential neighborhoods, as well as the unpleasant smells emitted from it in addition to the noise resulting from the

sounds of animals and the constant movement of sellers and livestock buyers.

References:

Ahmed, Donia Tariq. 2016. The reality of the recreational areas in Baghdad and the possibility of developing them. The wedding island as a model. College of Tourism Sciences - Al-Mustansiriya University.

Al-Badri, Muhammad. 2013. Sustainability of Green Spaces in the City of Baghdad. Ph.D. Thesis, Department of Architecture, University of Baghdad.

Al-Bawi Sarab Karim Abbas. 2016. Study of the design characteristics of the Babil Tourist Park, Al-Tal area, an applied model. Master's thesis, College of Agriculture- University of Baghdad.

Chalabi, Talal Mahmoud .1990. Garden engineering and design. Mosul University Press. Mosul / Iraq.

Chalabi, Samikrim, Nasreen Khalil Al-Khayat. 2013. Ornamental plants in Iraq. Ministry of Higher Education and Scientific Research. College of Agriculture, University of Baghdad, Iraq.

Hajouz, Abdel Nasser Abdel Halim. 2011. Garden architecture design and coordination, first Arabic edition. Academic Book Center Amman / Jordan, p. 47.

Sharpaziri, Ali Osman Muhammad. 2009. The reality of garden and park designs for cities in the Kurdistan region of Iraq - a critical and analytical study. PhD thesis - College of Agriculture - Department of Horticulture - University of Sulaymaniyah / Iraq.

Shura, Ghassan .2015. Design and landscaping publications. Faculty of Agriculture_University of Damascus, p. 239.

Al-Tai, Mowaffaq Jawad. 2012. Designing the perimeters and blocks of residential complexes, published by the Public and Housing Authority, p. 26.

- Abdul Karim, Ahmed. 2012. Residential neighborhood gardens are distributed among the housing units. Dubai Emirate / Emirates.
- Al-Aboudi, Amjad Hussein Kamel. 2018. Development and design of the tourist island of Sinbad in the city of Basra, Master's thesis, College of Agriculture - University of Basra.
- Awada, Grod Ghaleb Sobhi .2007. Measures of ease of access to public services in Palestinian cities. A case study in the city of Nablus, College of Graduate Studies - An-Najah National University.
- Lafta, Souad Jaber. 2006. Using the environmental impact assessment method to infer the effects associated with industrial projects within the master plans of cities (case study: assessing the environmental impact of the thermal cycle plant for the production of electric power). Master's thesis (unpublished), Institute of Urban and Regional Planning for Graduate Studies - University of Baghdad.
- Mulla, Muhammad Ziyad. 2007. History and theories of town planning. Faculty of Architecture, University of Damascus - Syria, p. 193.
- Hashem, Baqer Hassan and Imad Nouri Shubr. 2016. The use of geographic information systems (GIS) to measure the ease of access to services. Journal of Babylon University / Engineering Sciences / Issue (2) / Volume (24), p. 333.
- Dantter, R. 1969. Design for Play. the MIT press USA.
- Denise, C. 2005. Chicago River Corridor. Department of Planning and Development Chicago.
- Mohammed ,Saeed Ibrahim "Accessibility and street layout " Master Thesis In Urban Planning And Design Stockholm, Sweden 2008 P22.
- Thorneas ,S. 2008. Sport and Active Lifestyle, Thornees Park Stadium Book Let. Wakefield. U.K.
- Timur, U.2014.Urban Waterfront Regenerations.ÇankırıKaratekin University, Department of Landscape Architecture-Turkey.
- Wicker, J.2017. Park Design Guidelines and Standard .County of Los Angeles-USA.