Strategic urban planning of religious cities: the case study of Karbala city in Iraq

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ABSTRACT

Introduction. The issue of choosing the strategic development vector becomes key to the sustainability of cities that have great cultural and historical significance and serve as religious centres. The religious factor produces a high effect on all urban processes and has to be considered whenever urban development is planned. This issue is particularly relevant for Iraqi cities, as they have suffered greatly over the past years.

Materials and methods. The article offers an urban planning approach to assessing the current situation in the urban environment in order to determine the strategic vector of the city’s future development. We used the SWOT analysis method that allowed us to apply a systematic approach to assessing the strengths and weaknesses that determine the current situation, and to identify development opportunities and threats that may act as hurdles. The SWOT analysis is applied to transportation planning in Karbala, Iraq.

Results. Principal theoretical and experimental results, relevant data, relationships and regularities, identified in the course of the research, are presented in the article. At the same time, new results and data of lasting significance, important discoveries, conclusions that overturn existing theories, as well as the data that, in the co-authors’ opinion, are of practical importance are preferred.

Conclusions. The data, obtained by the co-authors, should serve as the basis for a strategic plan of urban development of Karbala city, Iraq. Also, the approach and method of urban research, used there, can be applied to other religious cities that face similar problems affecting their sustainability and the quality of their urban environment.

KEYWORDS: urban planning, transportation network, SWOT method, religious city, urban centre, strategic planning, sustainable development, cultural heritage

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Стратегическое планирование религиозных городов на примере города Кербела в Ираке

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АННОТАЦИЯ

Введение. Для городов, которые имеют культурное и историческое значение и являются религиозными центрами, вопрос определения стратегического вектора развития становится залогом устойчивости. Религиозный фактор оказывает исключительно большое влияние на все городские процессы, и его необходимо учитывать при планировании развития городов. Особенно этот вопрос актуален для городов Ирака, которые сильно пострадали за прошедшие годы.

Материалы и методы. Предлагается градостроительный подход к оценке нынешнего состояния городской среды с целью выявления стратегического вектора развития города в будущем. Мы применили метод SWOT-анализа, который позволяет использовать системный подход к оценке сильных и слабых сторон, определяющих текущую ситуацию, а также выявить возможности для развития и угрозы, которые могут ему помешать. SWOT-анализ применен к планированию городского транспорта в г. Кербела в Ираке.

Результаты. Представлены основные теоретические результаты и результаты экспериментов, фактические данные, обнаруженные взаимосвязи и закономерности. Предпложение отдаётся вновь полученным результатам и сведениям, которые надолго сохранят свою значимость, важным открытиям, выводам, которые развенчивают существующие теории, а также данным, которые, по мнению авторов, обладают практическим значением.

Выводы. Полученная информация должна быть положена в основу стратегического плана градостроительного развития г. Кербела в Ираке. Кроме того, использованный подход и метод исследования городов могут быть распространены на другие религиозные города, которые сталкиваются с аналогичными проблемами устойчивого развития и качества городской среды.

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INTRODUCTION

Sustainable strategic planning is now particularly relevant for cities that are in the state of post-war and economic decline. Many urban planning problems create uncomfortable and unsafe living conditions for the population [1, 2]. Problems of urban land use, urbanization, and transport systems create problems for the socio-economic urban development [3, 4].

This issue is particularly relevant for the cities that have preserved their cultural and historical heritage deeply intertwined with the life of the population [5]. Islam is not a mere religion for the countries of the East that have preserved their cultural and historical heritage. Islam determines their mode of life. The point is that the lack of strategic urban planning, that takes account of the location of religious centres, generates many problems for urban residents both in their everyday life and on holidays [6, 7]. The religious calendar defines the days of intensive religious tourism, and the infrastructure of cities cannot withstand the overload. Religious buildings become centres of attraction for traffic and pedestrian flows. The task of urban planning is to take these flows into account when developing master plans of cities to assure their sustainable development [8].

Development of a strategic plan of urban development is relevant for Iraq, which has experienced difficult times, and now its urban development needs particular attention [9]. The majestic beauty and aesthetics of religious cities in Iraq originate from the distinctive Islamic style in architecture. Therefore, the willingness to demonstrate this beauty should be the top priority. This is precisely what developed countries of the world do, and their heritage and ancient architecture attract special attention [10, 11]. Over the past decades, the city of Karbala was subjected to neglect, deliberate sabotage and disruption of its distinguished religious and civilizational role, due to the backwardness in the urban, artistic and intellectual vision. Little attention was paid to its urban environment and unique structure; the city centre was distorted in a striking way, especially the areas surrounding the holy sites [12]. In 1991, large areas of the city centre were demolished at the order of the government on the pretext of its expansion, although no scientific research aimed at further re-planning and design had been performed. Certainly, the unavailability of appropriate solutions resulted in Karbala’s losing many of its distinctive Islamic features.

MATERIALS AND METHODS

Urban planning research in the field of religion and urban development requires a sensitive approach and consideration of local mentality [12]. However, the urban development process is never ending, and it requires development and modernization in accordance with the most recent needs of the society and every citizen [13].

Modern science offers a variety of analytical and mathematical tools for the processing of extensive data. As for the assessment of the present-day state of the urban environment, it is advisable to use SWOT analysis, widely used in economic research, as it is capable of adequately assessing the situation [14].

The SWOT analysis method was used to study the current situation in Karbala. This assessment method (Strengths, Weaknesses, Opportunities and Threats) is an analytical tool that provides comprehensive data for SWOT analysis. The purpose of the analysis of external opportunities and threats is to find out whether creativity can take advantage of the opportunities and avoid threats when facing an unstable external environment of volatile prices, political destabilization, social transition, changes in the rule of law, etc. The purpose of the analysis of internal strengths and weaknesses is to evaluate how creativity performs its internal work, such as management, work efficiency, research and development, etc. The idea of this tool is to discover what can be strengthened, and the factors that must be monitored and controlled, so as not to negatively affect the project objective. This can contribute to providing well detailed knowledge that can even anticipate unplanned surprises [15], design strategies for the establishment of industrial areas, based on environmental studies, using the SWOT technique and GIS, needed to advance strategies and improve environmental performance. Urban planners make extensive use of this method to assess the current state of urban systems, assess weaknesses and strengths, development opportunities and emerging threats. The scope of application of this method includes the operation of transport systems, environmental conditions, land use, study of the population behavior and urban processes. This method enables researchers to formulate prerequisites for further urban development that serves as the basis of strategic planning. The article offers an approach to the study of the strategic planning of religious cities with account taken of their cultural and historical heritage [16, 17].
RESULTS OF THE RESEARCH

Religious places usually occupy major structures in central districts of Arabic and Islamic cities because they represent their beating heart.

A traditional city centre, being the oldest area and the nucleus of a city, is vitally important because it is most closely related to all urban economic activities. This district is also one of the areas that demonstrates top prices, so it is often called the Central Services Area. The religious factor influences land use and planning in the city centre through its control over commercial, residential and administrative uses. Service providers are concentrated there, they include hotels located not far from religious places; their number reached 421 in the city in 2011 [18], according to the official information provided by Karbala Urban Planning Department, let alone commercial areas and commodity stores shown in Fig. 1.

Markets control the majority of central streets, such as Qibla Al-Hussein Street, Al-Abbas Street, Imam Ali Street, and the area adjacent to the shrines. 24.13 % of land in the city centre is used by commercial enterprises.

7.83 % of land in the city centre is used for religious purposes. The internal structure of land use in the city centre is based on competition formulas, land prices, and functional activities [19].

The use of land for debt repayment purposes indicates the difficulty of making any spatial change in the city centre where land price and value play a significant role. The housing share is 35.02 %, and the area is home to 43,972 residents; this figure accounts for 3.17 % of the total population of the city distributed over 9 % of residential neighborhoods, Eastern and Western Abbasids, Bab al-Taq, Bab al-Najaf, Bab Baghdad, Bab al-Salama, Bab Tawirij and the camp.

![Fig. 1. Land use in central Karbala](image)

![Fig. 2. The average number of visitors to Karbala on different occasions](image)
Planning procedures that are to find their way to serve the city, must be launched in the central district because of its extreme importance as a vital centre of all activities and the best starting point for any successful planning process. Religious use prevails over the rest of uses; therefore, accompanying uses enjoy suitable spatial distribution consistent with the needs of the local population and religious tourism that the confession supports.

Religious tourism has recently become an important international phenomenon closely linked to the pace of human development, to the ability to use free time and whatever is attributable to it, and to progress and prosperity. It is also an important criterion of progress of international relations in all aspects of economic and social life, and it also fosters interaction between human civilizations, knowledge exchange, tolerance, and spreads the concept of international peace. Tourism is one of the most vital sectors involved in national development programmes in many countries of the world.

Tourism contributes 10% to the total global output, or approximately USD 3.4 trillion as of the end of the 20th century, or in 1995; it accounted for nearly 7% of local jobs, and its share went up about 7 trillion USD in infrastructural investments associated with the global travel industry (Alateby, 2002). Almost all researchers agree on the concept of tourism as a set of phenomena and relationships that arise as a result of travelling or temporary residence which does not turn into permanent residence related to paid work (Dennison, 1981).

Religious tourism is the most important type of tourism, as it transports tourists from their places of residence to different places for religious visits and trips inside and outside the country for limited periods of time. Religious tourism is an economic resource that supports the Iraqi economic structure through the savings it provides. However, volatile currencies cannot serve as effective instruments of the public economic policy used to properly dispose of the resources of a civilized country and drivers of the national economy. As Iraq is home to various religious cultures, including Arabic Islam, it is considered one of the most prominent Islamic centres in the world. The city of Karbala with its famous religious and human heritage is witnessing a large-scale rise in tourism in various seasons of the year, when hundreds of thousands of immigrants and reli-

![Fig. 3. Land use map. Karbala centre city](image-url)
gious tourists from all over the Islamic world visit Shirin, its archeological and tourist landmarks on religious occasions that differ in importance and the number of visitors. In this paper, SWOT analysis is applied to analyze the Karbala transport network in Iraq. The mission of the analysis is to determine whether innovations can capture the opportunities and help to avoid the threats, such as price changes, political destabilization, social transformation, changes in the rule of law, etc. The assessment of strengths and weaknesses helps to analyze the role of creativity in management, research and innovation, etc. [20]. Observations, provided by insiders, and documentary reviews were applied to collect and analyze the data.

The results of the SWOT analysis are provided in Table 1.

### Table 1. SWOT analysis results

| STRENGTHS | WEAKNESSES |
|-----------|------------|
| 1. The shrines of Imam Al-Hussein and Al-Abbas are the spiritual component of the city, and the reason for urban sustainability. | 1. Poor provision of basic services to visitors. |
| 2. Travel destinations in the city centre are located at a distance from residential neighborhoods, and the latter have few visitors. | 2. Poor urban planning of religious institutions in the city and surrounding urban facilities of various types, so religious shrines suffer from severe crowds, and the proximity of numerous other buildings such as residential houses, retail trade offices, administrative and financial institutions, and this urban structure does not meet the spatial requirements applied to these religious and tourist landmarks, their functional and regional status. This reflects poor performance of the urban religious function. |
| 3. A large square between the two holy mosques accommodates numerous tourists. | 3. The neglect of such aspects of travelling that are closely related to religious institutions and places of worship; restriction of their role in religious tourism; few neat green areas, leisure zones, entertainment services. |
| 4. The breakdown of visitors is shown in Fig. 2. | 4. Problems of the internal road network, its functional overlap and negligence that accompany planning activities. As a result, visitors cannot reach religious places and spend their spare time there, let alone the problems that arise due to the limited number of available vehicles. |
| 5. The city has five main entrances and exits. | 5. A weak travel potential of the city, particularly with regard to travel agencies and offices, in addition to the lack of financial and banking services there make the city less attractive in the eyes of expatriates, who expect high quality travel services. |
| 6. The city centre is close to the main roads that connect Karbala with other cities of Iraq located to the east, south and north of this city. | 6. The neglect of travel activities at the level of the national policy and economic plans, as well as limited attention to travelling as an important economic resource, coupled with dependence on oil revenues supporting the national economy, despite the awareness of oil depletion, unlike tourism, which is similar to inexhaustible oil. |
| 7. The width of Imam Hussain and Abbas Streets is relatively acceptable (40 m) | 7. Karbala has 0.04% population growth, and 35% of land is used for residential purposes in the centre of the city. |
| | 8. The inability to accommodate large numbers of people at the end of each event. Visitors experience problems when returning to their cities. |
| | 9. The lack of parking lots needed to accommodate a large number of vehicles, as visitors drive their own cars. |
| | 10. There is no public transportation system, since most buses are privately owned. There is no organized and well-studied bus network that covers crowded areas. |
| | 11. There is no investment in any modern technology to guide visitors and reduce crowds. |
| | 12. Reliance on private cars will boost the need for parking lots. |
| | 13. Poor street quality in mountainous areas |
Stages of land use transformation in the traditional centre of a city have time frames and a clear planning structure that follows the reorganization and distribution of some land uses that affect religious activities, conducted in the traditional centre of the city of Karbala. The researcher believes that such planning steps can expand the range of religious activities and maintain its functional specificity and spatial dimensions; the researcher does not approve of “administrative, residential and commercial” land uses, as they affect religious tourism in the centre, so the researcher thinks it necessary to reorganize land use in the due course on the basis of the following proposals.

The main proposals for changing land use systems in the city centre were formulated.

The first proposal. The urban transport system should assure sustainability of the urban environment. It contemplates transformation of the passenger transport system to boost population mobility. The city has a pronounced radial system; its rays converge in the central religious area. The centre, full of transport and pedestrian flows, determines the following directions for the development of urban transit spaces:

- street conditions conducive to green modes via low-cost interventions such as sidewalk maintenance and speed restraint;
- pedestrian-only zones in areas with heavy pedestrian traffic;
- dedicated lanes for buses and bicycles, which are adequately protected from motor traffic;
- reasonable parking fees;
- more attention to the road infrastructure maintenance rather than construction of any new infrastructure.

The second proposal. Plans to build housing facilities outside the city centre, especially to the east and west, where areas are available to assure population stability; relocation of residents from the areas adjacent to the shrines and surrounding them with a 1 km-wide resident-free belt to preserve some ancient monuments; this may be implemented in the areas suitable for religious use, given that residential areas in the centre (35.02 %) is limited by the intersection in the north, the Bab Al-Qibla intersection in the south, the Saadiyya intersection in the west, and the Bab Tuwayrij intersection in the east as shown in Fig. 3. This should be done through deliberate legal procedures by means of which residents of these areas are compensated in a manner commensurable with their financial considerations, and this model is to be applied within a period of time not exceeding two years.

The third proposal. Relocation of business activities and service providers, such as markets and stores occupying 24.13 % of land in the city centre, to the borders of the proposed area. There, they will be clustered into “supermarkets” that meet the needs of local residents and visitors. According to the researcher, many commercial activities have recently moved from the centre to the outskirts due to high land and rent rates. The researcher believes that the implementation of this proposal will take some time that does not exceed two years, as it needs an appropriate legal framework.

The fourth proposal. This proposal contemplates the relocation of administrative services and related institutions and government agencies such as the urban planning department and other departments from the centre, as they affect religious tourism in a significant way, especially during official working days due to

| OPPORTUNITIES | THREATS |
|---------------|---------|
| 1. Religious tourism offers great opportunities for economic progress. | 1. Continued insecurity reduces investment opportunities and hinders the implementation of development plans. |
| 2. Relative security and stability helps to raise investments. | 2. A huge increase in visitors exceeds the urban accommodation capacity against the background of few emergency entrances and exits. |
| 3. Oil prices help to develop the infrastructure. | 3. Erosion of old utility networks. |
| 4. Advanced scientific and technological methods are to be implemented to guide visitors when traffic jams occur. | 4. Problematic travelling around the city. |
| 5. Reduction of environmental pollution effects through greening and exploitation of orchard areas around the city. | 5. The need to move government authorities outside the city centre. |
| 6. Squares in the city centre (which are currently used as parking lots) are considered as a positive factor. | 6. The need to remove residential areas adjacent to the shrines so that the area within the distance of one kilometer could be used for religious purposes. |
| 7. Relatively short distances and roads connecting main streets of the city make it easy to take advantage of freestyle bikes. | 7. Environmental integration/balance and focus on public transportation can help to develop a sustainable environment. |
| 8. Housing facilities can be built outside the city centre, especially to the east and west, where conditions and spaces are available to assure population stability. | 8. High traffic causes traffic jams. |
| 9. The historic core may become a less popular landmark of the city and lead to divestment. | 9. The historic core may become a less popular landmark of the city and lead to divestment. |
| 10. The city may become dominated by cars, and public transport between districts may not be efficient. | 10. The city may become dominated by cars, and public transport between districts may not be efficient. |
| 11. The circular road may foster the establishment of an efficient, sustainable and convenient public transport system. | 11. The circular road may foster the establishment of an efficient, sustainable and convenient public transport system. |

End of Table 1
the travel of urban residents to the city centre. Crowds add confusion and boost traffic; therefore, the researcher proposes to move these administrative services to less crowded areas away from the religious centre over a distance of, at least, 4–5 km. The implementation of this proposal should not exceed two years.

From the researcher’s point of view, these proposals will provide suitable spaces for religious purposes in the traditional centre of the city, promote other activities and focus centres such as libraries, museums, mosques, places of worship and others, to let the centre focus on religious services and religious tourism, on the one hand, and remain free from commercial, administrative, and other services, on the other hand. It also maintains the spiritual Islamic atmosphere typical for the city centre, for the city to develop towards the southern side, as well as to assure the privacy of the city centre as an important religious core and the centre of religious services, and thus the city will have more than one provider of urban services (public and societal).

CONCLUSION AND DISCUSSION

Important research results are listed here:

1. Religious cities in Iraq represent tremendous wealth and an invaluable treasure due to the civilizational and religious heritage they constitute as an important cultural asset in the history of civilization in Iraq in addition to being a great economic resource.

2. The planning of religious cities in Iraq in general, including the area exposed to research, faces several obstacles, perhaps the most prominent of which is the central urban area (in terms of functions, demography and services), and it confuses urban planning processes and land use.

3. The city of Karbala is witnessing a significant increase in population rates due to the influence of the immigration factor. Perhaps one of the most prominent factors encouraging this type of migration or the so-called religious migration is the spiritual factor that characterizes the climate of religious cities; it is also responsible for any future population growth.

4. The system of public and community services is under pressure because of travelers. The pressure is particularly high in the days of religious events when population numbers exceed one million, and the demand for services increases greatly.

5. The availability of services in the city, being the factor responsible for population distribution over residential areas, must be taken into account in the process of planning service provision areas and residential districts.

6. Religious tourism is vital for service planning in most religious cities and the city of Karbala in particular, as it is next to impossible to design a service provision system that accommodates large amounts of residents and tourists, so urban tourism is a vital factor of influence in terms of present and future service planning strategies.

7. The author shares several ideas aimed at the development of a traditional city centre, namely, four proposals that could preserve religious privacy and develop other types of land use.

To continue the discussion, the following recommendations are made in respect of the strategic planning of the city:

1. Transportation network development in a manner consistent with its basic vital function, that is, revival of the city and its traditional centre, on the one hand, and easy communication between the city and neighboring urban and religious centres, on the other hand.

2. Improvement of “health, recreational, and residential ...” services provided mainly to urban residents, and accelerated establishment of service centres near religious establishments. Service centres will operate for the benefit of residents and tourists.

3. The attention of the state is to be focused on religious landmarks and shrines, etc., and religious tourism is to be considered within the framework of sovereign economic development plans for this important economic resource to support the sovereign economy in the best possible manner.

4. The state should also focus on establishing numerous recreation areas, such as public squares and green spaces, and ensure the availability of banking services and public communications, as well as cafes and hotels.

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