# The Contemporary Conceptual Model Making for Redeveloping Residential Neighbourhoods

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**Abstract:** Today's planet has became as a village in its whole, leading to the necessity of planning the smallest planning unit as a model for a broader world by following bottom-up approach and emphasizing mainly on residential neighbourhood with adopting wiser way for development through respecting historical function and methodological relationship among urban forms and social processes. Residential neighbourhood is an indispensable element in planning a sound environment, it's the most important component in human belonging. Increased urban growth, widening urban life style, increasing resource use in addition to all the social, economic and technological changes require adopting new urban life styles that are socially accepted and less resource consuming by integrating urban forms with socio-cultural life styles and conserving environmental resources. Accordingly, this research focused on knowledge deficiency in specifying the most influential characteristics, indicators and aspects for redeveloping the concept of contemporary residential neighbourhood which should be enhanced, reaching to building an integrative conceptual model to establish residential neighbourhood that respond to contemporary urban trends through describing its characteristics and deriving its indicators with hypothesizing 'building integrative conceptual model for redeveloping residential neighbourhood helps in formulating sound planning principles which guarantee the promotion and advancement of residential neighbourhood reality and its continuity. Consequently, this research has studied the concept of residential neighbourhood to specify the conceptual definition of it with depending on contemporary urban trends which encompass sustainable, liveable, healthy, resilience, ecological, compact and smart redevelopment to extract the contemporary residential neighbourhoods and characteristics for creating contemporary residential neighbourhood such as diversity, compacted design, high density, walkability, green space, passive design and decentralized management of infrastructure which works as integrative system. Effective indicators have been built based on the derived characteristics and applied in a residential neighbourhood in the Baghdad to assess it and enhance it according to these indicators.

**Key words:** Residential neighbourhoods, contemporary urban trends, characteristics of residential neighbourhood, passive design, conceptual model, management

## INTRODUCTION

Residential neighborhoods represent small areas of social interaction carrying the cultural identity of the spatial space (Smith, 2010). Mumford described residential neighbourhoods as "important organ of urban life" (Mumford, 1954). Keeble stated that residential neighborhoods consist of two elements: physical and psychosocial-social elements which define the place, the system of communication, identity, common culture and public symbols (Keeble, 1969). Both Dover and King have defined them according to the basic elements and objective criteria on which the residential neighbourhood is defined such as center, edges, pedestrian density, multi-use functions, density, network of pedestrian streets (Dover and King, 2008). The residential neighbourhood has several characteristics including (administratively) by ward or area boundaries, (aesthetically) by distinctive character or age of development, (socially) by the perceptions of local residents, (functionally) by

catchment areas for local services, (environmentally) as traffic-calmed areas where through traffic is excluded and the quality/safety of the living environment (Barton *et al.*, 2003). Sometimes the administrative boundaries of residential neighbourhood does not match with reality and this is due to different factors such as cognition function aesthetics factors (Minnery *et al.*, 2009). It should be noted that the term "neighbourhood" in literature is sometimes used interchangeably with the term "community" and the term "district". The conceptual model of residential neighbourhoods includes (size, area, roads, density, residential areas, services, social communication) which represents the first step to building the contemporary model of residential neighbourhood.

## MATERIALS AND METHODS

**Contemporary urban trends:** Contemporary trends, theories and planning approaches emerged in the late 20th

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century to develop communities, revitalize them and make them vibrant, meet the human needs of living and work, control urban sprawl, enhance the quality of life and move away from physical development only in urban development processes. The research will depend on these trends to build the contemporary model of residential neighborhood.

**Sustainable redevelopment:** A sustainable urban approach is based on integrating land use and transport as a tool for city efficiency and creating an integrated urban system (Lundqvist, 2007). Sustainable development is defined by the world commission on environment and development is a process of change. Where the resources exploit, investments and technological and institutional development occurs to enhance current and future capabilities and meet the needs of the population (Harlem *et al.*, 1987). At the level of the residential neighbourhood, a large body of literature called for the dependence on spatial distribution change of land uses (Yigitcanlar *et al.*, 2015), Mixed use, high density, affordable housing (Dehghanmongabadi *et al.*, 2014), diverse housing options to achieve social diversity and accommodate different income levels, compact form (UN-HABITAT, 2014), walkability, sustainable transport and improvement of ecosystems, water, energy, resources (Dover and King, 2008).

**Livable redevelopment:** Livability is a concept which its core refers to equity, dignity, accessibility, coexistence and empowerment (Godschalk, 2003). IMCL explained the need for effective mass transit, bikes networks, the walkability, child-friendly spaces, mixed land use, housing diversity, creating of compact residential neighbourhood. And create common public spaces to create livable communities (Wheeler, 2001). Many writings have studied the concept of livability at the level of the residential neighbourhood, most of which stated that urban livability is achieved through diversity, high density, mixed land uses, compact neighbourhood, public safety, pedestrian friendly streets and protection of resources and vital places (16; Solomon, 2005).

**Healthy redevelopment:** The concept of healthy urban development was adopted in 1986 when the first Conference on health promotion in Ottawa announced which set the general principles of this concept which Included: clean, safe physical environment, high quality, stable and sustainable ecosystem, strong community, community participation in planning and decision-making processes, meet the basic needs (food, water, shelter, income, safety and work) for all population, easy access to services, diverse and vibrant economy, communication with the past and preserve the local identity and cultural heritage, provide an optimal level of public health and health care services for all, providing high health status

and low levels of disease (Newton, 2009). Some studies identified the principles which can be adopted to achieve a healthy residential neighbourhood included mixed use, increased densities housing, transportation diversity, increasing the possibility of walking, social diversity, energy efficiency, self-sufficiency, local employment opportunities. This is done by organizing the community and following the institutional approach in accordance with the principles, strategies and programs of the world health organization (Steiner and Kent, 2006; Walker and Salt, 2006).

**Resilience redevelopment:** USAID defines urban resilience as the ability of individuals, communities, systems and institutions to survive, adapt and respond to changes in the urban system and to growth with the pressure (Bassett, 2014). Godschalk described urban resilience as an characteristic that reflects the well-being of people and their ability to access services and maintain their livelihoods in adverse conditions rather than as a response to sudden events (Bujones *et al.*, 2013). Walker and salt identify guidelines to promote urban resilience in communities namely: social, economic, biological diversity, the promotion of multi-use development, integration of architecture system with function, long-term management, development and strengthening of the system's ability to deal with disturbances and detection of thresholds, promotion of leadership and social networks, innovation on local development programs, institutional development to achieve diversity and flexibility, ecosystem protection (Godschalk, 2003). At the level of the residential neighborhood studies have been identified some principles such as: mixed use, active transport, housing diversity, demographic diversity, green spaces, decentralization of service management and diversity of services to create responsive and adaptive environments with pressures and sudden changes (Walker and Salt, 2006; Cutter *et al.*, 2010).

**Ecology redevelopment:** Richard register suggest the concept of eco-cities based on the principle of accessibility and environmentally friendly transport and the reconstruction of cities in the long term, cultural vitality and health (Song, 2016). The most important of this kind of redevelopment are the mixed land uses, safe environment and green spaces, accessibility and reduction of travel distances, restoration of damaged urban environments, creation of affordable, safe and economically diverse housing, promotion of social justice, support of local agriculture, urban greening and community horticulture, recycling, pollution reduction, zero carbon, local economy, eco-friendly economic activities, promoting simple lifestyles, reducing excessive consumption of physical goods, increasing public awareness of the local environment through education, awareness and equity (Register, 2006). At the level of

the residential neighborhood greening, densification, compactness, diverse transport, zero carbon, promote local identity, diversified housing, diversified housing. Self-adjusting energy and decentralized management of services are all principles to achieve ecological development (Premalatha *et al*., 2013).

**Compact redevelopment:** The compact development strategy is to reduce urban sprawl and to obtain sustainable urban development and attractive urban environments and preserve the surrounding landscape (Curkovic, 2012) where population living near services and workplaces through relatively high housing densities, mixed land uses, a sustainable transportation system, planning to encourage walking and biking, reducing dependence on the vehicle, low energy consumption, pollution reduction, social interaction, green spaces, infrastructure provision and community self-reliance (Neuman, 2005). The most important principles of compact development are high residential densities, mixed land uses, compact form, diversity of services and their proximity, increased interaction and social cohesion, multimodal transport, clear boundaries of areas, local identity, accessibility, road linking including Pavements and bike paths, preserve recreational and open spaces, crime reduction (Dempsey, 2010).

**Smart redevelopment:** Smart development is one of the principles of the new urbanism movement and is based on a new and integrated design process which aimed at modifying traditional urban functions through technological innovation that serves the environment, economy and society, providing services, entertainment and economic competition, promoting sustainable transport and improving existing residential areas and creating asense of place as well as the establishment of healthy communities and clean environments (Burgess and Jenks, 2002). Trancik explained that smart development is the antithesis of car-based growth and

calls for compact fabric and interconnection between distract directing development towards existing areas and linking traditional principles with technology through the adoption of clear border principles for reduce spreading, walkability, preserving open space, high density, Mixed land use, energy conservation, multiple housing options, diversified transport, reduce energy consumption, community participation in decision-making. At the level of the residential neighborhood depends on the compactness, high density, mixed use, walkability, means of transportation that are environmentally friendly, diverse housing, clear boundaries and sense of place (Trancik, 2010).

During our study of contemporary urban trends for urban redevelopment, the model characteristics of the contemporary residential neighborhood has been extracted (Table 1).

**Characteristics of the contemporary residential neighbourhoods:** After extracting the model of the contemporary residential neighbourhood, its characteristics was studied to extract the indicatorssee (Table 2).

**Case study:** Palestine street district is located in the center of the city of Baghdad on the side of Rasafa. (33°18'N) and (33°21'N) and between latitude (44°25'E) and (44°44'E) within Rasafa center municipality. It is bordered by the district of Al-Adhamiya from the north and distract 9 April to the South and AL-Jaish channel to East. Its location occupies an area of 900 ha of the area of Baghdad 89054 ha. Palestine street area was established between the year of 1961-1962 after accepting of the master plan for the development of the city of Baghdad by (Docksidis) firm and the establishment of the AL-Jaish channel to link the Diyala river with Tigris river. The study area (AL-Idrissy neighborhood) is located within the district of palestine street. The boundaries of the study area confined by neighborhood 14 July from the

Table 1: Elucidate the characteristics of the contemporary residential neighborhood

| Residential neighbourhood | Contemporary urban trends | | | | | | | Contemporary residential neighbourhood |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Characteristics | Sustainable | Livable | Healthy | Resilience | Ecology | Compact | Smart | Characteristics |
| Area-size | Compact design | Compact design | - | Compact design | Compact design | Compact design | Compact design | Compact design |
| Housing | Houses diversity | Houses diversity | Houses diversity | Houses diversity | Houses diversity | Houses diversity | Houses diversity | Houses diversity |
| Land use | Mixed land use | Mixed land use | Mixed land use | Mixed land use | Mixed land use | Mixed land use | Mixed land use | Mixed land use |
| Services | Accessibility of services | Quality of services, accessibility | Organizational structures, accessibility | Accessibility, risk management systems | Accessibility | Accessibility and diversity of services | Accessibility and diversity of services | Diversity and accessibility of services |
| Transportation and movement | Walkability diverse transport integration of road design | Walkability diverse transport | Walkability diverse transport | Walkability diverse transport | Walkability diverse transport integration of road | Multimodal transport | Walkability diverse transport | Walkability diverse transport integration of road design |
| Density | High density | High density | Medium-high density | Medium density | High density | Medium -high density | High density | Medium-high density |
| Social characteristics | Social diversity, green spaces | Green spaces, social diversity, social communication | Social diversity, low disease | Social diversity, social communication | Social diversity, green spaces | social communication green spaces | Green spaces | Social diversity, green spaces social structure quality, social communication |
| Environment characteristics | Green spaces passive design | Quality of water, air and energy, green spaces | Green spaces decentralized, management of infrastructure | Green spaces decentralized, management of infrastructure | Green spaces, zero carbon, decentralized management of infrastructure | Green spaces, sustainable transport, reduce energy | Healthy energy, green spaces | Green spaces, passive design, decentralized management of infrastructure, quality of resources |

Table 2: Derived set of contemporary residential neighbourhood characteristics and indicators

| Characteristics | Indicator | Secondary indicator | Method of measurement |
|---|---|---|---|
| Compact design | Service accessibility | Educational services | 500 m |
| | | Commercial services | 500 m |
| | | Health services | 800 m |
| | | Religious services | 800 m (Goetz et al., 2005) |
| | | Green spaces | 400 m |
| | Public transport accessibility | Public transport stations | 400 m (Anonymous, 2010) |
| | Length of residential block | ---------------------------------------150*70 m [37]---------------------------------------------- | |
| Diversity | Housing | -------------------------------- $D_{housing} = 1 - \sum (n/N)^2$ ---------------------------------------------- | |
| | | $D$ = Diversity index housing 0-1/$n$ = Total per type of housing/$N$ = Total housing | |
| | Land use | ------------------------------------- $D = 1 - \sum (n/N)^2$ ---------------------------------------------- | |
| | | Diversity index 0-1 $D$ = $n$= The area of each type of land use/$N$ = Area of study area (ITE., 2010) | |
| | Social | Income levels | Social survey form |
| | | Family size | |
| | | Ages | |
| | | Gender | |
| | | Scholastic achievement | |
| Transportation networks | Walkability | Length of residential block | 150*70 m |
| | | Residential blocks orientation | North-South of the lower axis (Ronald et al., 2009) |
| | | Residential sidewalks and walkways | Descriptive |
| | Bike | Walkways | Descriptive |
| | Public transportation index | Network connectivity scale | 1.2-2.5 Intersection per ha |
| | | Access to the public network scale | 0.12 km between points and others (Al-Hajjaj, 2014) |
| | | Distance between stations | 200-600 m (Kellett et al., 2009) |
| Medium-high density | Gross population density | ---------------------------------------------80-200 Person/ha-------------------------------------------- | |
| | Building intensity | Site coverage/residential/commercial &mixed | 0.4-0.75 (KFH Group, 2009)/0.9 |
| | | Floor area ratio/residential/commercial &mixed | 0.75-1.2 (Al-Hajjaj, 2014)/2-2.5 |
| | | Height of buildings/residential/commercial &mixed | 2-3 floor/3 floor (Al-Hajjaj, 2014) |
| | Net residential density | ---------------------------------------------28-48 unit/ha-------------------------------------------- | |
| | Cross residential density | -------------------------12-32 unit/ha (The NSW Department of Planning, 2011)------------------- | |
| Green spaces | Public parks | Total area/Space per person | 2 ha [48]/5 m (SGCEP., 2010) |
| Passive design | Orientation buildings | --------------------------------------------North-South-------------------------------------------- | |
| | Design of buildings | Ventilation and natural lighting/ Building insulation materials | Questionnaire |
| | Height of buildings and area of coverage | ------------------------------------Mentioned in building intensity ------------------------------- | |
| Decentralized management of infrastructure | Municipal council, organizations Infrastructure distribution systems | -----------------------------------------Descriptive------------------------------------------- | |

North, AL-Jaish channel from East and neighborhood AL-Nile from west with an area of 105 ha. The most important reasons for choosing the study area is its relevance to the problem of research. However, the region has witnessed changes in the land uses (especially, the transformation of residential use to commercial use. After the transformation of palestine street and Al-Thawra Street to commercial which boundary the residential neighborhood from the West and the North, respectively, the division of residential units into several units and the conversion some of them into mixed use and designed the area with low densities according to the current master plan and according to the statistics of high densities (Fig. 1 and 2).

**Analysis of the study area:** The purpose of the research is to apply the abstract model in the conceptual framework to the residential neighborhood and to investigate the extent to which its indicators correspond to the reality and to analysis the values of the study area and compare it with the indicators and derived from the contemporary model of the residential neighborhood to assess the reality of the region and evaluated them according to those standards.

**Analysis tools:** The research was based on two types of analysis tool included.

**Direct analysis:** Analysis of the model indicators extracted in the theoretical framework.

**Indirect analysis:** Adopting the questionnaire with a simple random sample The size of the sample 5% of the total number of houses in the study area To analyze some indicators due to information unavailability in addition to relying the Triple Likert scale for analysis.

**Evaluation of the model according to the study area:** By applying the various indicators and measurements of the proposed model to investigate the reality of the study
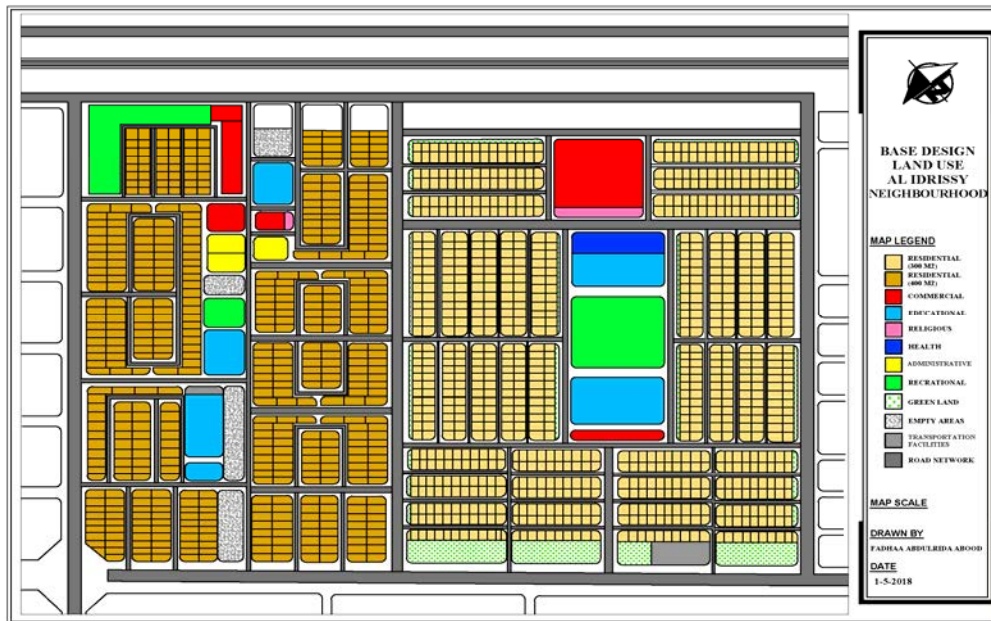
Fig. 1: Land use for the Idrissy neighborhood by Basic Design-1962
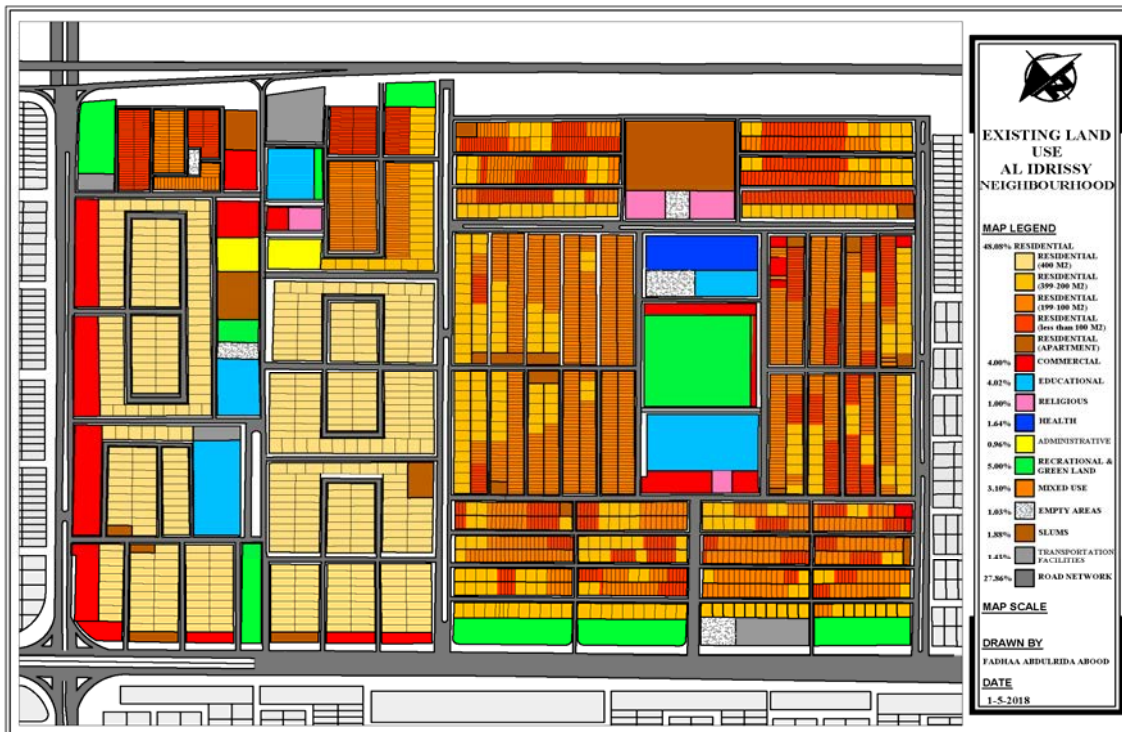


Fig. 2: Land use for the Idrissy neighborhood by Reality-2018

area and analyze the values of the study area and compare them with the indicators and measurements which derived from the contemporary model of the residential neighborhood, to assess the reality of the situation of the region and evaluate them according to those criteria as in Table 3.

Table 3: Derived set of contemporary residential neighbourhood characteristics and indicators

| Characteristics | Indicator | Secondary indicator | Method of measurement | Reality |
|---|---|---|---|---|
| Compact design | Service accessibility | Educational services | 500 m | 99% of housing |
| | | Commercial services | 500 m | 100% of housing |
| | | Health services | 800 m | 93% of housing |
| | | Religious services | 800 m | 100% of housing |
| | | Green spaces | 400 m | 81% of housing |
| | Public transport stations | Public transport accessibility | 400 m | 60% of housing |
| | Length of residential block | --------------------------------150*70 m----------------------------- | | 51% of housing |
| Diversity | Housing | --------------------------------0.5–1D = ----------------------------- | | 0.717 |
| | Land use | --------------------------------0.5–1D = ----------------------------- | | 0.684 |
| | Social | Income levels | Social survey form | Society is characterized |
| | | Family size | | by social diversity |
| | | Ages | | |
| | | Gender | | |
| | | Scholastic achievement | | |
| Transportation networks | Walkability | Length of residential block | 150*70 m | 51% of housing |
| | | Residential blocks orientation | North-South of the lower axis | Matching 70% |
| | | Residential sidewalks and walkways | Descriptive | Not encouraged and exploited by the population |
| | Bike | Walkways | Descriptive | None |
| | Public transportation index | Network connectivity scale | 1.2-2.5 Intersection per ha | 1.114 |
| | | Access to the public network scale | 0.12 km between points and others | 0.172 |
| | | Distance between stations | 200-600 m | The standard did not achieved |
| Medium-high density | Gross population density | -------------------------------80-200 Person/ha---------------------------- | | 147 person/ha |
| | Building intensity | Site coverage/residential/ commercial & mixed | 0.4-0.75 0.9 | 0.45-1 1 |
| | | Floor area ratio/residential/ commercial & mixed | 0.75-1.2 2- 2.5 | 0.9-1.5 3 |
| | | Height of buildings/residential/ commercial & mixed | 2-3 floor 3-4 floors | 2-3 floor 3 floor |
| | Net residential density | --------------------------------28-48 unit/ha----------------------------- | | 55 unit/ha |
| | Cross residential density | --------------------------------12-32 unit/ha----------------------------- | | 26 unit/ha |
| Green spaces | Public parks | Total area | 2 ha | 5.06 ha |
| | | Space per person | 5 m | 3.27 ha |
| Passive design | Orientation buildings | North-South | - | Matching 70% |
| | Design of buildings | Ventilation and natural lighting/ Building insulation materials | Questionnaire | W.A.M = 2.21<3 W.A.M = 1.21<3 |
| | Height of buildings and area of coverage | ----------------------------------------Mentioned in building intensity------------------------------------------ | | |
| Decentralized management of infrastructure | Municipal council, organizations | --------------------------------Descriptive------------------------------- | | Not clearly available |
| | Infrastructure distribution systems | --------------------------------Descriptive------------------------------- | | Decentralized |

## RESULTS AND DISCUSSION

Through Table 4 and the comparison between the reality of the case and the criterion for each indicator and the evaluation of the study area according to the indicators of the contemporary model of the residential neighborhood, the results can be summarized as in the following:

**Compact design:** Distances for green areas, recreational and public transport are not within criteria while other services are within the designated distances and the proportion length of residential blocks that are within the standard is few.

**Diversity:** The indicator in the study area are achieved where the social diversity is achieved in the study area in good proportions on all scales according to the sample

selected for social survey, the diversity of land uses is within the criterion and well achieved, the diversity of housing is also achieved despite the high statistical value of the scale. There is a problem with the division of large-size housing into small-size housing, and these dwellings are not achieved to the lowest standards.

**Transportation networks:** There is a deficiency in transport indicator measurements. Residential sidewalks and walkways are characterized by a lack of performance and loss of function. Bicycle routes are not available in the area and residential blocks orientation 30% of which did not meet their criteria. For the length of residential block 49% of the total blocks are not meeting the required standard. For public transport indicator, the network connectivity scale is good enough to meet the required standard but there is a lack in access points to the public network while the distance between public transport

Table 4: Proposed planning solutions to improve the study area

| Characteristics | Indicator | Suggestion |
|---|---|---|
| Compact design | Service accessibility | Increased services and distribution them in a manner ensures easy access for all residents inside the residential neighborhood |
| | Length of residential block | Change of residential use to mixed use of residential blocks to meet the required standard |
| Diversity | Housing | Increase residential apartments on the mixed-use buildings, especially, on the boundaries of the residential district and reconsider the division of housing in order to achieve the required standards |
| | Land use | Increasing the mixed-use rate and the conversion of housing on the borders of the neighborhood to mixed use with a height of 3 floors, increase services in a way that is appropriate to population density |
| | Social | - |
| Transportation networks | Walkability and bike | Rehabilitation of pavements and clearance of illegal housings or commercial and mixed buildings, planting the walkways to achieve safety and encourage walking with adding bicycle paths |
| | Public transportation index | Increase network connectivity points, provide parking within the required standards, provide stations to Public transportation with appropriate number to the size of the area |
| Medium-high density | Population and housing density | Emphasize on the achievement of standards within the standards of high density and not exceeding which creates overcrowding and inconvenience to the population |
| | Building intensity | Commitment to site particularity in terms of height of buildings and achieve appropriate coverage ratios within high density standards |
| Green spaces | Specified space | Rehabilitation of recreational and green areas and their design makes their functional and |
| | Accessibility | aesthetic performance effective, provide all the requirements of public gardens from furniture and lighting, add green areas to areas that lack of them to achieve the required space per person, gardening along the axes of the pedestrian movement |
| Passive design | Orientation buildings | Commitment with design controls and standards of bounce distances, areas of coverage |
| | Design of buildings | and Orientation of buildings and reliance on insulating, sustainable materials |
| | Height of buildings and area of coverage | |
| Decentralized management of infrastructure | Municipal council, organizations Infrastructure distribution systems | Clarify the work of local authorities more accurately |

stations are meeting the required standards. Moreover, there are no minimum supplies of waiting place in stations.

**High intensity:** We notice a large increase in population densities than the criteria for high density. The building intensity of the site and floor coverage for residential, commercial and mixed use is larger than the standards assigned to it and the height of buildings is characterized by contrast and this creates a chaotic urban form.

**Green spaces:** There is a lack of performance with the achievement of the total area within the criteria of green area but the area allocated to the individual is not within the criteria because of the high density of the region. Despite the achievement of the required space but it needs to rehabilitate and improve the quality of service.

**Passive design:** The passive design indicators of the study area were not achieved, as 30% of the orientation buildings did not achieve the required standard, very low percentage of housings and buildings is dependent on sustainable building materials, most buildings depend on ventilation and non-natural lighting with the dependence on non-renewable energy.

**Decentralized management of infrastructure:** Not clearly available, it needs to allocate offices to achieve them and make them relate to the higher parties to achieve a balance among the needs of society, the decisions of specialized bodies and decentralized infrastructure system.

## CONCLUSION

The building of the conceptual model goes through three stages include defining the problem, planning, accomplishment. The research was based on the study of contemporary urban planning trends to achieve the contemporary model of the residential neighborhood and its characteristics as in Table 1. Through analysis the contemporary urban trends adopted by the research to redevelopment the concepts of residential neighborhood, the most important characteristics of the contemporary residential neighborhood was derived which include the compact design, diversity, walkability, public transportation, medium-high density, green spaces, passive design, decentralized management of infrastructure.

This theoretical model has applied on one of the contemporary residential neighborhood of the city of Baghdad to evaluate its performance and know the correspond of the theoretical model with the reality of the case of residential neighborhood. By applying the standards of the characteristics of the model as in Table 3, it was found that there is a lack of functional performance of the residential neighborhood as a result of continuous development and change of land use randomly by the population, the non-application of standards and controls with ignoring master plan which made by the Mayoralty of Baghdad and the division of housing into several small houses led to a large increase in densities, as well as the neighborhood was designed with housing parking position inside the house and as a result of the division of housing and the use of places allocated to cars led to encroaching on the street and sidewalks and pedestrian movement and walk within the residential neighborhood. As well as the lack of public transport stations have encouraged the population to adopt private transportation which increases pollution in the region. The design of some residential blocks is not suitable to take advantage of the local climate of the region and its length is greater than the required standards. Although, the required areas of green spaces are achieved within the residential neighborhood, they are characterized by functional deficiencies, as well as there is no planting in most of the residential neighborhood.

By investigating the case of the study area and determining the insufficiency experienced by the residential neighbourhood, it's possible to propose some planning and design solutions for the region to achieve a balance between them and the indicators of the contemporary model according to the global trends of the residential neighbourhood.

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