المجلة الإلكترونية الشاملة متعددة التخصصات
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Sustainability Applications in Urban Streets in Residential Areas

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Abstract:

Sustainability as a modern concept has become an urgent need to solve all contemporary problems. The most important of which is the urban problems of cities and their planning, foremost of which is the urban transport system and its problems. Therefore, the research aims to study and lay down some important foundations for sustainable planning and determine its priorities for the new city to suit its privacy and problems. The research also deals with the basic concepts of sustainability and its standards, and the challenges facing the urban transport system in city planning, with a study of some experiences to extract the sustainable foundations of urban transport and its system and knowing its importance and role in sustainable planning. Sustainable urban planning has environmental, economic and social advantages and benefits which have a great impact in supporting trends and efforts to protect the environment and preserve the natural resource base for future generations as well as economic gains at the level of the individual and society.

Keywords: sustainable planning, sustainability applications, urban planning, urban streets.

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تطبيقات الاستدامة في شوارع المناطق السكنية الحضرية

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أصبحت الاستدامة كمفهوم حديث حاجة ملحة لحل جميع المشاكل البيئية المعاصرة ومن أهمها المشكلات العمرانية للمدن وتخطيطها . لذلك يهدف البحث إلى دراسة ووضع بعض الأسس المهمة للتخطيط المستدام للمدن وتحديد أولوياته بما يتناسب مع كل مدينة و خصوصيتها ومشاكلها. كما تناول البحث المفاهيم الأساسية للاستدامة ومعاييرها ، والتحديات التي تواجه نظام النقل الحضري في تخطيط المدن ، مع دراسة بعض التجارب لاستخراج الأسس المستدامة للنقل الحضري ونظامه ومعرفة أهميته ودوره في التخطيط المستدام. إن للتخطيط الحضري المستدام مزايا وفوائد بيئية واقتصادية واجتماعية لها تأثير كبير في دعم الاتجاهات والجهود المبذولة لحماية البيئة والحفاظ على قاعدة الموارد الطبيعية للأجيال القادمة . كما له مكاسب اقتصادية ملحوظة على مستوى كل من الفرد والمجتمع.

الكلمات المفتاحية: التخطيط المستدام ، تطبيقات الاستدامة ، التخطيط الحضري ، الشوارع الحضرية.

1- Introduction:

The issue of sustainability and its realization has become a major task and concerns the entire world. There is also a political orientation about the necessity of presenting new development visions to deal with the issues of smart sustainable cities in general and new cities in particular in order to achieve more sustainability in all sectors. The urban environment of cities in general is witnessing a continuous transformation in their urban and economic system. This came according to the growing requirements of living, technological development and rapid urbanization. Sustainable development in general improves the quality of life in cities and sustainable plans have to work to find a balance in the environment, the economy and social values so that these new places meet the work and life needs of the local population and their interests. The global social housing can no longer be described as a constructive unit, as future trends deal with housing as a unit within integrated housing complexes that achieve the concept of a sustainable community.

1-1 Importance of the study:

The research aims to find standards and planning principles governing the planning of new cities by following the approach of existing sustainable cities. The research deals with the study of the elements of urban design for the general site at the level of the streets of residential neighborhoods and the characteristics that must be included within the framework of the principles of sustainable development for urban communities. Thus, identifying the weaknesses in each region, which enables us to develop future solutions to address the shortcomings and avoid repeating errors when designing other cities.

1-2 Study Approach:

The research methodology is based on following a basic method of scientific research, which is the analytical approach. The theoretical and analytical study will be used as an entry point to identify the principles of sustainable development and the elements of urban design, according to which the comparative analytical study will be conducted.

2- Sustainability:

Sustainability is an ecological term describing how biological systems remain diverse and productive over time. It has been closely related to development, as defined by the United Nations Commission for Environment and Development in 1987: “Sustainable development is development that meets the needs of the present time without compromising the ability of future generations to meet their own needs.” It can be defined economically as a deep and continuous reduction in the consumption of energy and natural resources, and socially it is the pursuit to stabilize population growth and stop the flow of people to cities. On the environmental level, it is the optimal use of agricultural land and water resources in the world, which leads to a doubling of the green area on the surface of the globe (Abdulrahman, 2008).

2-1 Dimensions of sustainability:

1- **The economic dimension:** It stems from the fact that the environment is an integrated economic entity as a base for development, and any pollution to it and the depletion of its resources will ultimately weaken its future development opportunities.

2- **The social dimension:** It guarantees the natural human right to live in a clean and sound environment in which he can practice all activities without harming and reducing the chances of future generations.

3- **Environmental dimension:** It is concerned with managing natural resources and is the backbone of sustainable development (Elkington, 1999).

Figure 1 - The interrelationship between the dimensions of sustainability based on (McKenzie, 2004)

2-2 Sustainability levels:

The levels of sustainability have varied, like the rest of the other developmental fields, and studies indicate the possibility of dividing the sustainability system into two levels:

-The first level is (**The Urban Level**) that deals with its own scale through the aspects of the physical and natural environment as well as the infrastructure services.

-The second level is the **(The Building Level)** that deals with the internal environment of the building.

The integration of work between the two levels will produce an integrated designed environment through its gradual levels from the measurement of the city to the cultural unit to the building and its various spaces.

2-3 Sustainable cities:

It is also known as the eco-cities, and it is a city designed with consideration of the environmental impact to reduce the required inputs from the production of energy, water, food, waste, air pollution with carbon, methane and water pollution. Urban transport is one of the most important influences on city planning and one of the most essential elements of a sustainable city .Sustainable city must have successful integration between urban planning and development. The essential part of moving in the right direction of sustainability is to control the size and density of cities and disrupt urban transportation and management. One of the most important characteristics of sustainable cities is to improve public transportation and increase pedestrian routes to reduce vehicle emissions. This requires a different approach to urban planning with integrated work and all of this requires careful study of the optimal building density to make public transportation highly efficient while developing solutions to reduce unplanned urban sprawl by discovering new ways to enable people to live close to work (U. N. , 2018).

2-3 Sustainable urban planning:

Doug Farr 2007 believes that it is necessary to design cities to become walkable in conjunction with all elements of environmental planning for cities and sustainable infrastructure. He was trying to close the circle of city needs and provide services within them to improve the quality of life by providing life needs from close distances and increasing the quality .This confirms to a large degree the importance of planning for sustainable transport, which can be translated into integrated and integrated planning. Therefore, we can advise me on urban transport, one of the most important elements of sustainable planning. The most sustainable urban planning has been defined as the compact urban form that is achieved by high density and mixed land uses at the same time interconnected by an efficient public transport system. Social acceptance is of great importance, as people prefer to live in the city. It provides a good urban life, where the quality of infrastructure and friends Family, work, shops and public transportation are good and appropriate to give an acceptable travel time from home to work. In addition to being child-friendly cities and schools are within walking distance from residential areas.

Sustainable urban planning is not complex design planning and does not require high physical and technical capabilities. It is a regular layout that provides a comfortable interior environment for the residents psychologically, physically and aesthetically within the social standards of the residents and the environmental characteristics of the site. The house is no longer considered a building unit, as future trends treat the house as a unit within integrated residential communities that achieve the concept of a sustainable community (Mike and Nicola, 2005).

One of the most important sustainable urban planning strategies is to reduce the energy consumed in moving inside buildings. Energy management , sustainable urban transport, and encouragement of mixed land uses and proximity of services to housing which formed integrated planning .The indicators of sustainability in urban planning have been identified at several points, and most of them have a direct relationship to the quality of the urban transport and mobility system, such as the walking mobility indicator, the vehicle mobility indicator, the mixed land use verification indicator, and the biodiversity and green structure verification indicator(Jackie and Patric , 2005).

2-3-1 the most important factors of sustainable urban planning:

1- Integrated layout:

The integrated planning depends on the high density and the combination of different land uses, especially the residential areas and their basic services. So that the population is close to their daily needs. Attention to the green cover of green areas and trees, and all this reduces dependence on urban transportation. Sustainable options have to be available. You can’t expect people to not use their cars, if there is no alternative available. Sustainable options have to be physically and legally accessible. Sustainable options have to be more attractive than unsustainable options. Attractiveness doesn’t only refer to beauty, but also to service quality, safety, and comfort. They have to be affordable and less expensive than unsustainable options (Stieninger, 2013).

2- Density:

Density is an essential element of integrated planning. It plays an important role in sustainable planning and urban transport because it supports reducing the use of resources and benefiting from public transportation services. Low density does not support the principles of walking and transportation. Low density is one of the characteristics of urban expansion and is a major reason for relying on private cars (Richard and Philip, 1997).

3- Sustainable urban formation:

Three basic elements affect the structure of the city, namely, accessibility, convergence, and integration of functions, which are compatible with human social, economic and environmental needs. These needs are providing urban needs, access to open spaces and services, reducing traffic volume, providing security, safety and protection, taking into account the social affiliation to the environment and social communication (Abdullah, 2012). Within the framework of sustainable urban formation, the most important elements that have an influential relationship with transportation can be identified:

- Orientation of the city: where the orientation of the city and respect for solar radiation, especially in the areas with inclinations, affect the temperature of the lost gain and the intensity of light.

-Traffic network and achieve permeability and accessibility:

The network of roads, streets, and lanes is considered as tunnels for air movement, replacing temperature and affecting the stability of the city's climate.

2-3-2 Principles provided by sustainable planning:

• That sustainable planning works in balance with nature.

• Providing a dynamic built environment: The location, shape, density and proportions must be proportional to create physical spaces that meet the activities of the population and encourage community cohesion.

• Achieving an economy dependent on the place that does not cause the consumption of natural resources.

• Facilitating access to different land uses and increasing the sense of place to protect the physical properties (Herbert, 2004).

3- Case study - The new city of Burj Al Arab :

(Source: Urban Communities Authority for New Cities - New Burj al-Arab City Authority - First Report of the New Burj al-Arab City 1690, Dr. Mahmoud Yousry and Partners Office - Strategic Plan 2030 for Burj al-Arab City.)

Figure 2 - The new city of Burj Al Arab

The new city of Burj Al Arab was chosen as a case study and analysis because it is one of the cities of the first generation, the vision time for the first general plan, the number of residents is limited, and its independence from the old city and it has an economic base.

3-1Project information:

3-1-1 Area: The total area of the city is (47.403 thousand acres).

3-1-2 Project Type: 30 thousand acres urban block includes:

(Residential - service - industrial - touristic - recreational areas + the northern part added to the urban mass in the updated scheme).

3-1-3 Population: 150 thousand people and the target number is 750 thousand people in 2032.

3-1-4 Climate: The city of Burj Al Arab is characterized by moderate temperatures throughout the year, as the average temperature in the winter reaches about (15) degrees Celsius and is in January, while the temperatures rise in the summer in the months of July and August to reach (32) degrees Celsius.

3-2 Location and orientation:

It is located on an elevated land, 60 km away, in Al-Tijari in the southwest direction of the city of Alexandria. The design of the main roads in the north-south directions was taken into account in order to benefit from the soothing north winds and to be wide enough to allow a continuous air circulation within the natural ventilation, and this confirms the suitability of the city's location and directing it with the surrounding environment to benefit from natural ventilation.

Figure 3 - Orientation of the new city of Burj Al Arab

3-3 Use of the land for the master plan and accessibility:

The city's strategic plan is committed to diversifying land uses and overlapping them with the distribution of different services at all levels of the city. There is a clear gradation of road networks and public utilities .It is easy to access to all major services in the residential neighborhoods and neighborhood centers on foot, which results in reducing the cost of transportation, safety and health by walking.

The city's strategic plan is committed to diversifying land uses and overlapping them with the distribution of various services at all levels of the city.

The city is divided into 13 districts:

- The urban block area in the city is 29,995 acres.
- The city contains 5 industrial zones and a technology zone.
- The city contains a service area with schools, universities, nurseries, banks, sports clubs and recreational centers.

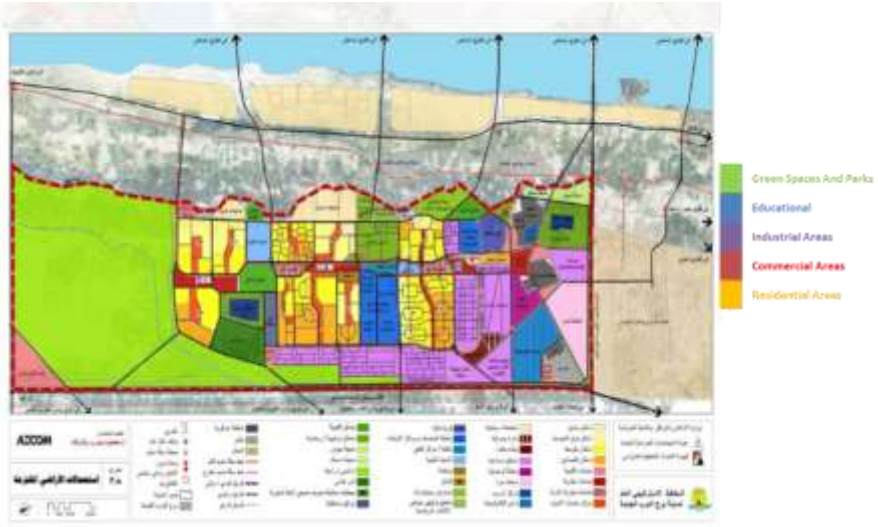

Figure 4 - Use of the land of the new city of Burj Al Arab

Through the previous analysis of the existing and planned situation for land uses, we note that the main roads of the city are suitable with its requirements, as well as the main central services, which enhances the sustainability of the urban transport system and sustainable planning.

3-4 Regional road plans:

Exists regional roads define the city and link it with neighboring cities. This confirms the good planning of the roads and contributes to a more user-friendly transportation system. The road network is organized in a grid system which achieves a good hierarchy. This provides ease of movement and safety for its users. Most of the streets of the internal road network in the city are well paved. The main arterial streets and the dividers between neighborhoods for most of the city's neighborhoods have been completed with a sidewalk with a wide width for pedestrians in most of the internal road networks, which achieves safety for citizens.

3-4-1 Main roads network:

There is a large discrepancy between the proportions of roads to land use. Through the main roads plan, we note that the percentage of roads from land uses is 8%, with an area of 390 hectares. Therefore, this percentage and the increase in the area of the roads do not negatively affect the economy by consuming a lot of land. This has a positive planning aspect by exploiting the wideness of the roads to make lanes for pedestrians and bicycles and increasing the afforestation of roads. The current road plan shows the integration of planning with the city's road network, which in turn encourages walking and is one of the foundations of sustainable planning. In general, the planning of roads in the city is good and contributes to the development of a sustainable vision.

3-4-2 internal road network:

The city is characterized by a network of wide internal roads ranging in width from 12 meters to 60 meters. This qualifies it to be re-planned in the future in line with the foundations and rules of sustainability by making special paths for pedestrians and others for bicycles with planting trees and green spaces. Internal streets in residential areas are organized and there is no accumulation of cars . He did not notice any crowding, especially since most of the daily necessities are spent on foot. This helps in the rapid dispersal of car exhaust continuously and does not significantly affect the population.

Figure 5 - The main and local road network for the first district of the city

3-5 Pedestrian:

The city's road design relied on separating pedestrian traffic from vehicle traffic by making special paths for pedestrians. In addition they had paying attention to afforestation of the road and the presence of islands, as well as sponsoring afforestation of the road to soften the atmosphere and shade the islands.

It was also adopted that movement within the residential blocks depends on walking and not on cars, in order to avoid noise and pollution of the atmosphere and environment surrounding the dwelling with car exhaust, and separating the parking from the residential blocks. The pedestrian paths located within the residential blocks are surrounded by trees and colorful flowers on both sides, which make the city a harmonious visual texture and an aesthetic view.

Figure 6 - Pictures show pedestrian path in the city

Surrounding each residential block with a green fence that defines the privacy of the block, softens the atmosphere and achieves the required shading

Figure 7 - Pictures show Sumed Burj Al Arab Compound in the city

Attention to the presence of gathering spaces to document social interdependence between the members of the housing blocks.

It is taken into account that the green spaces contain:

1- Night lighting elements (lighting poles).

2- Shaded (pergolas) sessions.

3- Green spaces to cool down the temperatures.

Figure 8 - Sumed Burj Al Arab Compound in the city

3-6 Green areas:

The target is 11 m 2 / person commensurate with the requirements of sustainability. The status quo in 2010 may fit with the target in terms of per capita share, but it decreased with the increase in population in 2016 to 9.45 m 2 / person. As for the green spaces in the 2032 strategic plan, it turns out that green areas are distributed over several uses and can be estimated Approximately 2,100 acres.

Green spaces and afforestation meet the requirements of sustainability in the urban transport system:

-**Socially:** by encouraging walking that leads to good health and increased social cohesion.

- **Economically:** by rationalizing energy consumption by reducing the use of urban transportation.

-**Environmentally:** Reducing emissions, isolating sounds in residential areas, reducing noise, in addition to providing shades and softening the atmosphere in summer days.

Figure 9 - Afforestation and green areas in the new city of Burj Al Arab streets

3-7 the principles of sustainability achieved in the project:

- The location of the city and its orientation with the surrounding environment to benefit from the natural ventilation.
- Reducing the rates of car use within the residential blocks.
- Providing walking paths, adjusting the paths with coordination elements and shaded trees.
- Reaching the minimum emissions from the fuel used in urban transport
- Reducing the volume of trips by providing services at all levels.
- The presence of companies responsible for collecting solid waste from the industrial areas of the city and disposing of it in the manner of specialized companies working to recycle the useful and re-exploit it and dispose of the harmful in a way that is not harmful to the environment.
- Rationalizing energy consumption by reducing the use of urban transport.
- Reducing emissions, isolating sounds in residential areas, and reducing noise.
- The presence of trees and islands in addition to providing shade and softening the atmosphere in summer days.
- The presence of vegetation cover commensurate with the requirements of sustainability.

3-8 Project Evaluation:

3-8-1 Strengths:

- The strategic plan for the city of Burj Al Arab has taken into account the principles of sustainability to create a new environmentally friendly city that is free of emissions and pollution with the ability to rationalize the consumption of electric energy and self-recycle a lot of waste.
- The presence of vegetation that provides an environment that visually pleases residents and benefits them in terms of cooling temperatures and providing shades, especially in summer.

3-8 -2 Weaknesses:

However, there are some defects that were overlooked in the scheme and that must be present in a city that achieves all the principles of sustainability, which are:

- The lack of attention to the special paths for bicycles:
  - In the residential blocks there are paths for pedestrians and bikes together (not separated).
  - The absence of a special path for bicycles in main streets.
- The spread of tactics as a rapid means of transportation in the city, although it is not considered an environmentally friendly vehicle and leaves behind harmful waste and exhaust.
- Some sitting area are not covered or shaded by trees and palms.
- The presence of some industrial areas in the city.

4- Design consideration:

When implementing urban street design in residential areas, it is important to strike a balance between the needs of all commuters:

(Pedestrians - cyclists - Motorists)

In order to design successful streets that include an attractive and comfortable environment for pedestrians, it is important to place standard design criteria for all users.

4-1 Pedestrian:

All streets should be safe and comfortable for pedestrians from all ages and abilities physical. Pedestrians have unique needs and characteristics that must be taken into account as part of design project for each street separately. Pedestrians are accommodated mainly in the spaces between a building a specific and boundary line for the pavement land within the right of way. Pedestrian path has to consist of the following:

- Shelters, awnings, protection and comfort facilities to face the temperatures Inflamed and sun exposure, especially during the summer months.
- The facade area provides a space for activities along the building facades
- Interstitial space is the path for pedestrians to travel without obstacles
- Street equipment area, used to install awnings and green areas, signs and other amenities.
- Terminal area which forms a barrier between the pedestrian realm and the road.
- Pedestrians need not only move in the pedestrian range along the street but also in the interaction areas where different types of users cross whereas pedestrians are the most at risk of all street users. Care must be taken and taken into account to identify potential problems.
- Pedestrian crossings are located at intersections of streets and sometimes in the middle of streets where Large pedestrian traffic is expected. To provide high quality pedestrian surroundings and maintain. For their safety, pedestrian crossings must be provided on all streets to match the lines preferred pedestrian traffic and space metrics.

China **San Francisco** **Brazil**

Figure 10 - Pedestrian path design in China , San Fransisco , Brazil

4-2 cyclist's path:

Cyclists are accident-prone users, and should take care to keep them safe during design. They are also considered among the most efficient users of the streets. Bicycles provide a very efficient means of transportation. It must take into account all urban street designs for the new and reconstructed streets. Bicycle facilities within the pedestrian realm can be provided in the form of bicycle paths or within a street designated for cars as lanes for bicycles or side lanes. The directness of a route should be considered. Cycle lane routes should avoid steep gradients because it can negatively impact the comfort and attractiveness of a cycle lane. Cycle lanes can be implemented quickly with a small team as they use the existing carriageway and rely on painted visuals to separate the lanes. Cycle lanes can be relatively quick and inexpensive to implement, making them one of the most common forms of cycle paths implemented in cities. They allow people who cycle to take advantage of the accessibility that the existing road network provides. When the design of the cycle lane follows best practice and implementation is part of a coherent network, cycle lanes offer a safe and convenient route for people who cycle to travel around a city.

Randwick, Sydney, Nsw San Francisco

Figure 11 - cyclist's path design

4-3 landscaping elements:

4-3-1 Afforestation:

Afforestation is an element of coordination, which plays an important role in raising the functional efficiency of the blank. It plays environmental role to soften the atmosphere and reduce pollution. This is represented in providing shade for the movement in space, the pleasant appearance of activity spaces, and act as visual markers to guide movement in the corridors. Afforestation help in reducing glare, providing visual barriers to separate different functions and activities and providing Privacy .Also it has a role related to clarity of perception visual and supporting the visual character of the place, in addition to serving as an attraction and a type of service entertainment.

Randwick, Sydney, Nsw California city of Toronto

Figure 12 - Afforestation and green areas

4-3-2 Seats and the places to sit:

It is one of the supplies for preparing the urban design of the streets .It is indispensable to provide comfort to the walkers. It is necessary to suit the general nature of the space, taking into account simplicity, cost-effectiveness and durability. It is also important to be comfortable to use. Many materials are used in making benches, including reinforced concrete or Rock stones, iron, and wood together, or tree trunks (Ciliang, 2006).

Seating places are chosen according to many functional factors. Climate protection is a necessity and the possibility of using it as it is shaded and spared from unwanted air currents. Psychologically one of the reasons for convenience

is to protect the seats by an element of the space, such as a wall or a tree behind it. This provides a kind of security for its users. It also has a social role in the development of relations between residents and families. People talk and socialize by placing the seats facing each other or perpendicular, or placing them parallel.

4-3-2-1 Functional performance criteria for seats and places to sit:

- Providing sufficient numbers of seats to suit the size of the movement in the space.
- It is preferable to use warm materials such as wood and cold materials such as granite and marble and concrete.
- Avoid materials that may damage clothing.
- Designing mobile furniture elements that allow people to move freely and make the most of the scenery and achieving the greatest degree of interaction. (Juma, 2011)
- Provide shade for the seats, either by trees or by awnings.
- It should provide comfort to its users.
- It should be above the ground Fits no more than 45 cm.
- Take care that the seats do not obstruct the movement lines of the pedestrian paths, as it is preferable to leave a distance of not less than About 1.8 meters between it and the pedestrian walkway.
- It is preferable that the seats overlook the green areas and places of visual attractions (Sharaf El-Din, 2006).

Santa Monica , California San Francisco

Figure 13 - Pictures shoe different designs of seats and places to sit

4-3-3 shading elements:

It is used to prevent weather factors, whether sunlight or rain, and it is either natural .Through trees with long branches, or artificial in which many materials are used according to the need and the required shape. They are either made of concrete, wood or plastic (Ibrahim, 1998).

Awnings and pergolas have to be available in seating areas and pedestrian paths, as these areas accommodate most activities. It should have the elements of diversity and unity in its design (Sharaf El-Din, 2006).

San Francisco - Torrevieja,Spain - Singapore

Figure 14 - Pictures shoe different designs of shading elements

4-3-4 lighting:

Lighting is one of the means of artistic formation in a vacuum. The night lighting units are an extension of the activities especially if they are carefully designed. The nature of the lighting in the spaces varies according to the job. The Lighting units in pedestrian are often of a relatively low height that reaches to 3meter, and may be installed in the floors for orientation .If there are levels in the floor, attention must be paid. It should be lit at night to prevent accidents. These units should not be of high luminous intensity so as not to dazzle the eyes (Ibrahim, 1998).There should be diversity of colors and types of light sources which gives vitality to the emptiness and does not cause pedestrians to become bored while they are walking.

The distances between the lighting poles must be proportional to their heights so that the distance increases with the height of the level of illumination so as not to create unnatural shadows on the faces of pedestrians, which causes may discomfort to pedestrians. The height of the lighting designated for pedestrians should not exceed 3.6 m .Focus should be placed on lighting the specific walls of the space, so that the light source does not cast light into the space down only, darkening the flooring, causing pedestrian constriction. The lighting should be quiet without being dim, and it should not become strong and cause dazzling. The illumination strength is commensurate with the purpose that the designer aims to highlight, taking into account that the intensity of illumination is not dazzling to the eye (Al-Husseini, 1998).

San Francisco - Torrevieja,Spain - Santa Monica , California

Figure 15- Pictures shoe different designs of lighting

4-3-5 indicative plates:

It constitutes an important visual effect in the blank. It is an element that requires study in choosing their form .It is positioned to provide clarity and the positive impact of its function, and the Marks are for guidance only, but can add personality and distinctive character on the space through the unification of its colors and designs. Signs and banners must be clearly visible letters of writing and the use of dominant languages and signs .There should be no visual obstacles in front of her (Yücel, 2013) .To avoid distraction , the signs have to be collected in unified places as much as possible .

It is preferable to install advertising and guidance boards with simple stands, whether by installing them in the walls or the floors .It is also preferable to use light materials in their manufacture, taking into account the direction of the

wind to avoid falling .It is preferable to allocate advertising spots in specific panels that do not go beyond its scope .They must be study it carefully to draw the attention of pedestrians in the spaces of movement (Al-Husseini, 1998).

Vancouver, Canada paris , france Singapore

Figure 16 - Pictures of some road signs

5-Recommendations:

- Highlighting the importance of creating a network of pedestrian roads to cover the residential complexes and indicating the importance that it fits with the human scale and pedestrian paths.
- Reducing the congestion of residential areas, increasing their greening, and raising the level of cleanliness, calm and security. Slow the traffic through it in order to increase its attractiveness.
- Integration of the space design with the design of the surrounding buildings and streets, which constitutes an integrated picture and an integrated mental impression of the visitors to the place.
- Providing various services in a better way, such as entertainment, commercial and health centers and social.
- Encouraging walking by Creating paths and reducing the distances of trips traveled through integrated planning.
- Providing paths and services necessary for the use of bicycles.
- Giving more priorities to cyclists and walkers and adjusting the paths with coordination elements and shaded trees. Activating the movement of pedestrians and cycling by creating spaces with elements necessities and attractions that add fun while walking and roaming.

- Develop good solutions for the movement of pedestrians and vehicles and organize the relationship between them, to ensure efficiency and effectiveness in addition to observing protection and public safety.
- Giving an element of vitality and suspense to the design of spaces. This achieved by the diversity of colors, attention to the formation of floors, attention to entrances and fences, looking to add an aesthetic touch, diversification in water elements.
- Paying attention to local character of the place and the historical and symbolic values while designing the space.
- Providing elements of attraction and suspense in urban spaces to meet sensory needs and psychological aspects of individuals, such as climbing and aromatic plants, aquatic elements and flower beds.
- Coordination and the need to focus on selecting materials with a long life span and that can withstand Atmospheric factors and ambient conditions.
- The necessity of making use of natural resources.
- Observe the unity and consistency between the coordination elements through the development of appropriate designs and designing the space as a single unit, taking into account the creation of distinctive and attractive elements.
- Interest in increasing the interaction of individuals with the environment through the use of natural materials such as wood and rocks, or creating materials similar to natural materials, and increasing plant and aquatic elements in the void perimeter and surrounding facades to increase biodiversity.
- Develop a sense of belonging. the sense of belonging among members of the community is one of the most important the causes of civilized advancement Individuals' sense of belonging to the void represents a strong motive to protect it and preserve it
- Raise the level of citizens' awareness of their responsibility towards urban development and preservation processes the aesthetic and visual characteristics of the city in general and the area they live in in particular.

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