



# International Journal of Engineering Research and Science & Technology

ISSN : 2319-5991  
Vol. 6, No. 3  
August 2017



[www.ijerst.com](http://www.ijerst.com)

Email: [editorijerst@gmail.com](mailto:editorijerst@gmail.com) or [editor@ijerst.com](mailto:editor@ijerst.com)

*Research Paper*

## LIVABLE CITY AS A NEW APPROACH FOR SUSTAINABLE URBAN PLANNING

Nora Mohammed Rehan Hussien<sup>1\*</sup>

\*Corresponding Author: Nora Mohammed Rehan Hussien ✉ [nora.rehan@yahoo.com](mailto:nora.rehan@yahoo.com)

Received on: 31<sup>st</sup> March, 2017

Accepted on: 11<sup>th</sup> July, 2017

Cities all over the world face daunting urban challenges that have increased in scope in recent years. The biggest challenge includes issues of urban planning, housing, safety aspects, scarcity of land for development and traffic congestion. So every city in the world aspires to adopt the strategy of 'Livable City' which guarantees the cities urbanization manner that preserves the environment, and achieve the greatest benefit from the resources and achieve a good standard of living. Essentially, a livable city should possess basic yet unique attributes to welcome people from all strata of society without marginalizing any particular group. Most of these cities began to move towards sustainability and livability to enhance quality and performance of urban services, to reduce costs and resources consumption, to engage more affectivity and actively with its citizens, and to describe quality of life and the characteristics of cities that make them livable. From here came the idea of the research which is creating "A framework of livable and sustainable city" as a sustainable approach that must followed to achieve the principle of sustainable livability. From this point of view the research deals with one of the most successful case studies all over the world in "livable cities system" (Vienna) to know how to explore and understand the issues and challenges in becoming a full-livable and creative city through analyzing the criteria, principles and strategy of livable city then deducing the framework towards this concept. Finally, it suggests a set of recommendations help for applying the concept of livable city.

Keywords: Quality of life, Livability & livable city, Sustainability, Sustainable city

### INTRODUCTION

Livability is becoming an increasingly important factor in sustainability. On the basis of that, livable city works to improve the quality of life in cities and it dedicates to create any city of good streets and complete neighborhoods, which makes walking, bicycling, and transit are the best choices

for most trips, public spaces are beautiful, well-designed, and well-maintained, and makes housing is more plentiful and more affordable. So that, there is a global trend towards livable cities as these are an effective approach for sustainable urban planning. Accordingly, this paper focuses on the livable city concept and aims to facilitate

<sup>1</sup> Assistant Professor, Department of Architecture, Faculty of Engineering, Ahran Canadian University, Egypt.

the conversion of developing countries into livable cities in urban planning and design.

## RESEARCH PROBLEM

The world is becoming increasingly urbanized; urban land expansion can threaten planning for better future, traffic congestion and pressure on the environment, and result in massively unsustainable efforts for any city. These issues give rise to the urgent need to act on a number of indicators that have reached critical levels, especially the negative impact on quality of life, economic inefficiency, and sustainability. So that, cities are in need to apply the concept of livable city as it is critical to the establishment of a sustainable community.

## RESEARCH OBJECTIVES

The main aim of this research is to pose recommendations regarding the conversion of developing cities from unsustainable cities into livable cities, especially in terms of urban planning. So that, the following objectives are considered:

- Building a viable future for humanity within a healthy environment;
- Establishing a livable and sustainable urban environment;
- Incorporating the environment into the city;
- Providing high quality of living and environmental sustainability.

**The City:** City is the whole urbanized area in an urban region.

## Quality of Life (QOL)

Quality of life should not be confused with the concept of standard of living, which is based primarily on income, built environment, physical and mental health, education, recreation and leisure time, and social belonging<sup>[1]</sup>.

It is “The personal satisfaction with the cultural or intellectual conditions under which he lives”<sup>[2]</sup>. Improving the quality of life in cities is no longer a simple matter of bricks and mortar, but the human satisfaction with different urban attributes such as transportation, quality of public spaces, recreational opportunities, land use patterns, preservation of historic, spiritual, religious and culturally significant buildings and districts, promoting spatial diversification and mixed use of housing, services and respecting local landscapes at the local level in order to meet the diversity of needs and expectations<sup>[3]</sup>.

## “Livability and Sustainability”

Livability and sustainability are distinct concepts, although there is substantial overlap and they may be occasionally used interchangeably. Both notions are multifaceted, dynamic, flexible, and powerful.

## *Livability and Livable City*

**Livability:** Livability is defined as ‘quality of life’ as experienced by the residents within a city or region which include different issues of guiding principles: accessibility, equity, and participation that give substance to the concepts of livability<sup>[4]</sup>. The quality of life experienced by citizens living in

<sup>1</sup> Jump up to: Gregory Derek, Johnston Ron, Pratt Geraldine, Watts Michael and Whatmore Sarah (Eds.) (June 2009), “Quality of Life”, *Dictionary of Human Geography* (5<sup>th</sup> Edition), Wiley-Blackwell, Oxford, ISBN 978-1-4051-32879.

<sup>2</sup> Planning for Sustainable and Livable Communities (2012), *Free Dictionary*, <http://www.thefreedictionary.com/quality-of-life>, [http://www.camsys.com/kb\\_experts\\_livability.htm](http://www.camsys.com/kb_experts_livability.htm)

<sup>3</sup> Martha Nussbaum and Amartya Sen (Eds.) (1993), “The Quality of Life”, Description and Chapter-preview links, Clarendon Press, Oxford.

<sup>4</sup> H L Lennard (1997), “Principles for the Livable City”.

a city is tied to their ability to access infrastructure (transportation, communication, water, and sanitation); food; clean air; affordable housing; meaningful employment; and green space and parks.

**Livable City:** livable cities have the intentions of stimulating economic growth, reducing poverty, organizing cities to have higher population densities, and therefore higher efficiency, and improving health<sup>[5]</sup>. It is also defined as one that through good planning, attractive and secure environment for people, work and play and encompasses good governance, a competitive economy, high quality of living and environmental sustainability<sup>[6]</sup>. The livable city is the link between the past and the future: the livable city respects the imprint of history (our roots) presented in the sites, the buildings, the layouts of history, and respects those who are not born yet (our posterity). So it is a city that fights against any waste of the natural resources. Therefore a livable city is also a 'sustainable city'. So a livable city is an integrated urban system with social, economic, cultural and ecological dimensions. These dimensions and their interconnections need to be addressed as one system.

### **Sustainability and Sustainable City**

**Sustainability:** Sustainability is the ability to sustain the quality of life which we aspire, it is often viewed as enhancing the economic, social, cultural and environmental well-being of current and future residents<sup>[7]</sup>.

**Sustainable City:** Sustainable city is a city that

satisfies the needs of the present inhabitants without reducing the capacity of the future generation to satisfy their needs. In the livable city both social and physical elements must collaborate for the well-being and progress of the community, and of the individual persons as members of the community<sup>[8]</sup>.

### **Principles of Livable City**

Livability is based on the principle of sustainability and smart thus is sensitive to nature and the protection of its resource. The special focus to improve Livability is to take all dimensions that are relevant to Livability into account: the physical, social and cultural. Urban planning and design for livable cities are driven by a number of principles to promote energy efficient, reduce consumption of natural resources, improve air quality and build strong capacity for sustainable urban planning.

### **Livable City as an Approach for Sustainable Urban Planning, a Case Study of "Vienna" the World's Most Livable City**

"The Mercer, a global consulting firm, Quality of Living Survey ranks 223 cities around the world in total were evaluated on 39 factors including political, economic, environmental, personal safety, health, education, transportation and other public service factors"<sup>[9]</sup>. Once again in 2013, Vienna came out on top in the study, making the Austrian capital the world's most livable city for the fifth time in a row<sup>[10]</sup>. The survey compares the social and economic climate, medical care,

<sup>5</sup> Eco-Cities for India, Jun 20 (2011), <http://india.Carbon-outlook.com/content/eco-cities-India>

<sup>6</sup> [www.townplan.gov.my](http://www.townplan.gov.my), Federal Town and Country Planning Department (Ministry of Housing and Local Government).

<sup>7</sup> Vanessa Timmer and Nola-Kate Seymoar (2006), "The World Urban Forum", Vancouver Working Group Discussion Paper, The International Centre for Sustainable Cities.

<sup>8</sup> E Salzano (1997), "Seven Aims for the Livable City".

<sup>9</sup> Vienna: For the 5<sup>th</sup> time in a row, the world's Most Livable City.

<sup>10</sup> "Livability Ranking Report August 2012", Economist Intelligence Unit, Retrieved 2 December 2011.

Table 1: Principles of Livable City		
Principle	Activation	Application
Governance and Participation Monitoring, Measuring, Learning	A good city offers the public realm as a place of social learning and socialization that is indispensable for children, young people and all inhabitants.	A livable city engages the active involvement of a diversity of citizens - develops the capability to measure progress towards its goals to adapt strategies in order to take dynamic circumstances respond to opportunities and challenges.
Common Values, a Sense of Identity and Place	cities must meet many functions economic, social, ecological and cultural.	A livable city contains an active public realm for reflecting the essence of itself, for creating and reinforcing a common identity, for dialogue about common values, for remembering history.
Complete Communities, Vital Downtown Core, Industrial Clusters, Green Space	the public realm offers many activities, celebrations, festivals that bring all of its inhabitants.	A livable city contains complete communities with mixed-use and friendly transportation networks.
Natural Resource Flows, Green Corridors, Energy Grids, Communication, Transportation	Friendly communities.	A livable city is connected through the flow of resources that sustain its activities and energy resources.

Source: Author

and education, political and infrastructural conditions such as public transportation, power and water supply”<sup>[11]</sup>.

**Vienna: A Leading “Livable City”**

Livable City Vienna looks at a cross-section of the city, covering all areas of life, work and leisure activities in equal measure, and includes everything from infrastructure, energy and mobility to all aspects of urban development. Livable City Vienna stands for the “intelligent city”, intelligent and innovative solutions<sup>[12]</sup> responsible and sustainable use of resources. A first worldwide comparison of cities regarding innovation, technology and sustainability lists Vienna as the world’s number one “Livable City”<sup>[13]</sup>. Location of Vienna: Is the capital and largest city of Austria, State, Wien-Area: City

414.65 km<sup>2</sup> Population (2014): City 1,781,105, Density 4,002.2/km<sup>2</sup><sup>[14]</sup>.

**The Livable City Strategy**

The strategy was based on a combination of traits such as stability, rising living standards, and advanced city infrastructures. It aims to secure, maintain and achieve social equality, prosperity, individual prospects for the future and peace in the region. The special thing about Vienna’s Livable City Framework Strategy lies in the fact that the aspects of social inclusion are considered essential for all three dimensions. Quality of Life, resources and Innovation<sup>[15]</sup>.

**Quality of Life:** Vienna is strongly involved in a number of projects as part of the strategy to increase competitiveness and improve prosperity and quality of life.

<sup>11</sup> Newsroom (2014), “Quality of Living Worldwide City Rankings – Mercer Survey”, 19 February 2014, United States, New York (<http://www.mercer.com/press.releases/quality-of-living-report-2014>).  
<sup>12</sup> Inocencio Ramy (2012), “What City has World’s Best Quality of Life?”, CNN (4 December).  
<sup>13</sup> Why Vienna Was Named The World’s Best Place to Live, <http://www.businessinsider.com/what-life-is-like-in-vienna-2013-1>  
<sup>14</sup> “Mercer Press Release: Quality of Living Global City Rankings, 2009”, Retrieved 2 December, 2011.  
<sup>15</sup> Vienna and the EU Strategy for the Danube Region History, Plans, Projects.

**City Planning:** Vienna is known for its city planning, and was even awarded the prestigious 2010 Scroll of Honor from the United Nations for reducing its sub-standard housing to less than 9 percent. The city center refers to the heart of Vienna. In the mid-19<sup>th</sup> century Vienna's old city wall was replaced by the boulevard forms a ring around the city center. Magnificent buildings such as the state opera house, the Hofburg, the parliament building, the Vienna city hall, the Burg theater, the university, the Vienna stock exchange and numerous prestigious buildings, hotels, shopping streets Stephens cathedral<sup>[16]</sup>. The historic center is rich in architectural ensembles, including Baroque castles and gardens, and the late-19th-century Ringstrasse lined with grand buildings, monuments, parks and Museums.

**Living, Working and Relaxation:** The River offers top QOL, Vienna is moving ever closer to the water. Viertel Zwei, River gate and Marina Wien represent new urban centers, which help to spur on the revitalization of the right bank of the Danube.

**Economic Center on the River with the Advantage of Expertise and Modern Technology:** The economic center is Handling Twelve Million Metric Tons of Goods, massive Port Expansion and Gaining New Land.

**Enormous Growth in Passenger Boat Travel:** Vienna's tourists and residents are equally impressed by the regular boat trips, offered by Blue Danube, which pass by Danube City; New Boat Station and Modern Marina, a modern yacht harbour located directly on the Danube<sup>[17]</sup>. "Vienna is the only city with over a million inhabitants that can offer the luxury of supplying

fresh mountain spring water. It receives fresh water from the Styrian and Lower Austrian Alps via two mountain spring supply lines. This "blue gold" comes from Viennese water conservation areas in the Styrian-Lower Austrian Limestone Alps. The city's network of water pipes = 3,000 kilometres.

**The Waterfront has Potential:** More parts of Vienna are becoming extremely attractive locations with a perfect connection to the water. The obvious examples of this are Millennium City, Marina Wien, River gate and the residential complexes. To create a stronger link between the city and the Danube, the plan is to promote the development of new direct access to the Danube, new landing places for ships<sup>[18]</sup>.

**Resources (Public Transport):** Vienna has a high level of public utilities and transportation facilities, with almost 4,500 stations serving the commuters. The U-Bahn (metro) Suburban S-Bahn trains radiate outwards from the city to the surrounding districts and towns. Trams and buses are the best way to get around the inner city sights, Taxis are a safe and fast way to get around Vienna. Hop-on hop-off bus tours with audio in 16 languages, and free Wi-Fi.

**Innovation:** There are over 150,000 public university students in Vienna, making it the European-equivalent of a fun college town. In winter, the Viennese can go to Wiener Eistraum ("Vienna Ice World"), a gorgeous 75,000-square-foot ice skating rink. The quality of the Austrian police force, efficiency, and expertise to most US cities, it really shows — Austria has one of the lowest crime rates in Europe.

<sup>16</sup> Vienna in your pocket, November-December 2014, Wien Holding GmbH Universitätsstraße 11, 1010 Vienna, 2012.

<sup>17</sup> Wien Holding's, logistics for Vienna, Logistics Companies Wien Holding GmbH Universitätsstraße 11, 1010 Vienna, 2012.

<sup>18</sup> Vienna and the EU Strategy for the Danube Region History, Plans, Projects.

## A Framework of Livable and Sustainable City

This section suggests a framework to develop any city to be more livable and sustainable; this framework depends on the previous study and it is premised on some key principles as follow; Define Livability, Making Housing More Affordable, Planning for a Better Future, Use of renewable energy applications, Economic Efficiency, Improving of air quality and promoting lively spaces.

## RECOMMENDATIONS

The Livability Agenda aims to help citizens and communities:

- Preserve green spaces that promote clean air and clean water, sustain wildlife, and provide families with places to walk play and relax.
- Ease traffic congestion by improving road planning, strengthening existing transportation systems, and expanding use of alternative transportation.
- Restore a sense of community by fostering citizen and private sector involvement in local planning, including the placement of schools and other public facilities.
- Promote collaboration among neighboring

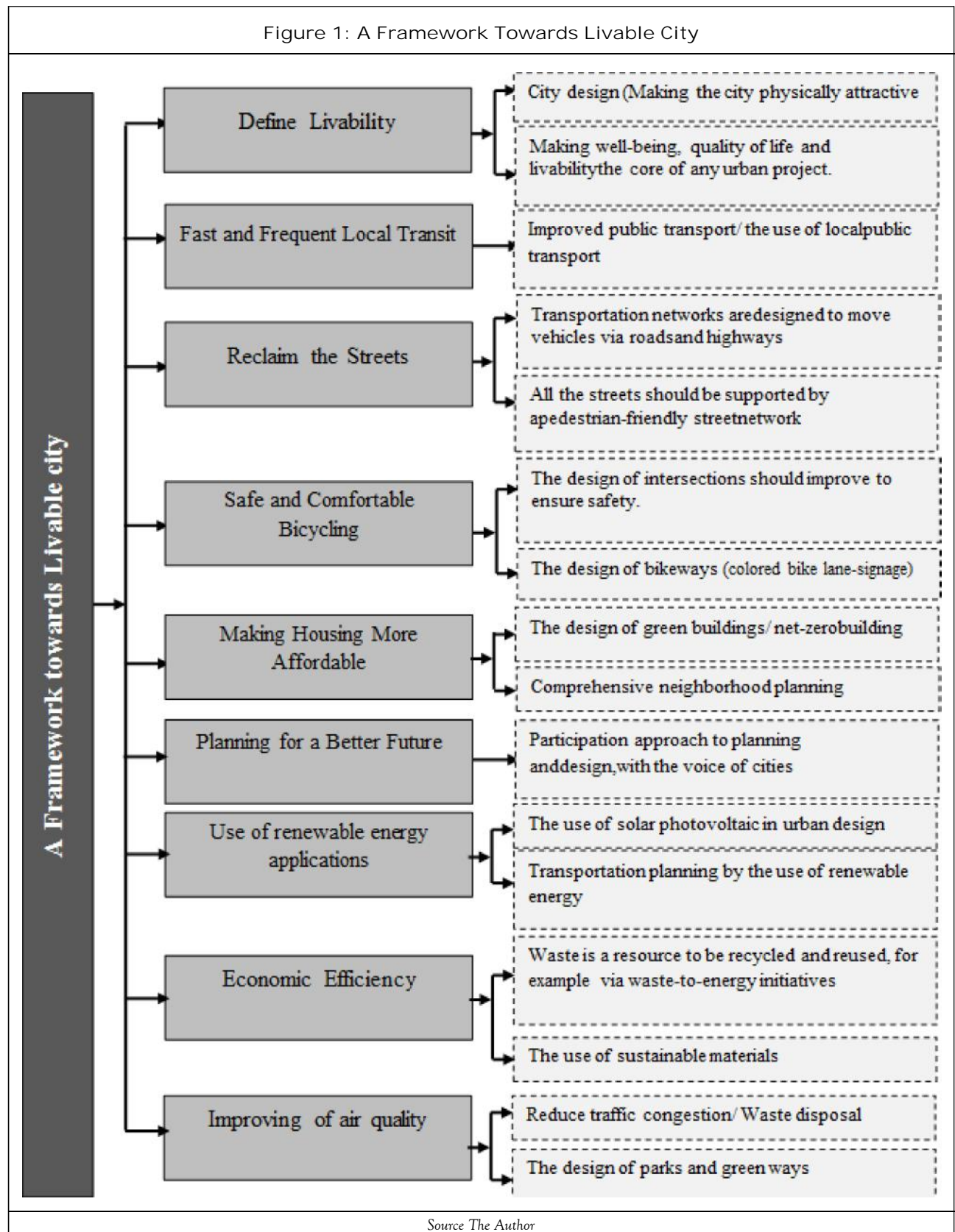
communities – cities, suburbs or rural areas – to develop regional growth strategies and address common issues like crime.

- Enhance economic competitiveness by nurturing a high quality of life that attracts well-trained workers and cutting-edge industries.

## CONCLUSION

Ultimately all cities should strive to become sustainable cities. As livable city is one forms of sustainable city so that, the paper focused on this concept and it tried to indicate the criteria of livable cities, through theoretical and analytical studies by focusing on the most livable city in the world, then it deduced the framework towards livable city, after that it suggested the set of recommendations help for applying the concept of livable city on the Egyptian context. Finally it concluded that; the livable city refers to the attributes of an area and the service the place can offer that will enhance the quality of life of the residents. More focus on present quality of life and sustainability. The recommendations revolve primarily around promoting sustainable transportation, providing attractive and livable public and green spaces, using renewable energy sources, enhancing economic efficiency and promoting community engagement.

Figure 1: A Framework Towards Livable City







**International Journal of Engineering Research and Science & Technology**

**Hyderabad, INDIA. Ph: +91-09441351700, 09059645577**

**E-mail: [editorijerst@gmail.com](mailto:editorijerst@gmail.com) or [editor@ijerst.com](mailto:editor@ijerst.com)**

**Website: [www.ijerst.com](http://www.ijerst.com)**

