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# Understanding the livability in a city through smart solutions and urban planning toward developing sustainable livable future of the city of Skopje

Emilija Sofeska \*

*Cosmo Innovative Center, Jane Sandanski 113, 1000 Skopje, Republic of Macedonia*

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## Abstract

The city is an urban system, or more precisely, a complex man-made artificial entity. We are generation that lives in the first urban century and understanding the city should be changed in order to obtain sustainability and resilience, but most of all livability. Citizens are those who define city nowadays, but moving toward livable cities in the future should consist of smart urban solutions. Different cities have different stage of development, but interest of this research is developing sustainable livable city of Skopje as it is the most important and biggest city in the Republic of Macedonia.

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## 1. Introduction

The situations with sustainable development and green urban future offers field for many research. This work gives understanding the livability in a city, through sustainable and green urban development, by taking into focus in different aspects: urban structure, urban energy, urban mobility, urban climate and urban smart technology. Those thoughts and findings should be used in pilot projects for the establishment of livability in urban development of the city of Skopje.

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\* Corresponding author. Tel.: 00 386 51 472 623.  
E-mail address: [emmysof@gmail.com](mailto:emmysof@gmail.com)

Cities are becoming the predominant environment for living and working. They are followed by intensive degradation, destruction, pollution and overpopulation, so livability or quality of life in the city has become crucial. Sustainable behavior has to have positively influence in achieving livable future cities.

The future sustainability will be provided by use of urban smart technology together by living lab citizen's approach, in order to understanding the citizen's design science, by social framework of crowdsources as the important part for the planning of future cities.

Recognize the different measurable criteria for the assessment of livability and how to influence the design of livable cities will provide drafts and contents for pilot projects in developing sustainable livable future city of Skopje.

## **2. Planning, building and managing the new urban structure with sustainable aim toward green and livable city**

The contemporary urban planning and thinking of sustainable urban future is connected to the famous quote from "Our Common Future", also known as the Brundtland Report, named in recognition of former Norwegian Prime Minister Gro Harlem Brundtland: *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*<sup>1</sup>

The main questions are: how to urbanize in harmony with society, economy and environmental, and how to balance our short term needs with the long term demands that have to obtain livable conditions for our future generations? For achieving the aim of livable city, planning should take care of environmental importance of the climate, nature and territorial elements. Citizens need to feel piece of natural made entities in the urban jungle of artificial structures, in order to feel live and satisfied.

### *2.1. Planning the new urban structure*

Contemporary development of the cities is dealing with global economy and market, which produce society that is moving from and to the cities on the different continents, as it was early between cities or rural and cities in the one region, or between neighbor countries. This refers to global interconnections that must be taken in to account in planning livable urban place.

As much as city in Europa and United States are growing and developing, their urban planning is not connected with the new ways of planning which is already present in the cities in Asia, that are in the stage of rapid development. This is similar like it was with the European and North American cities during the age of industrial revolution in the 19th and 20th century. But today, we are talking about multi millions cities and increasing the global networking amongst the urban centers. In the 21 century the urban development is relocated to the Middle East and Asia, so cities like Dubai, Abu Dhabi, Singapore and Tokyo are today's most livable cities and the fastest growing mega-cities in the world.<sup>2</sup> Those new multi millions cities are growing not only in their density, but also territorially, so new planning should simulates the effects of mobility and design of the urban structure, not only by the increasing number of cars and other vehicles, but also by provide a new solutions for effective and energy efficient urban transport.

Since 1992 Skopje is the capital of the independent Republic of Macedonia and regained an important geopolitical role in the region. The city covers an area of 7088.60 ha and 180 705.53 ha surrounding region with 444760 inhabitants. The city is located in the eponymous valley, particularly in the central and western part of Skopje field. It lies in the length of 22 km and 11 km in width. In Skopje valley exist 153 settlements, 28 villages and the city of Skopje. Analyzes that explore sustainable planning of the city of Skopje are relating to the model of urban development that is implied by GUP for Skopje year 2001-2020.

Skopje is an urban agglomeration with a large concentration of population and functions. In terms of physical, functional and demographic growth it has above average pace of development in the region. Skopje is extremely important transport centre on the crossroads of international corridors. Today's 1/3 of the total industry in the country is concentrated in Skopje, which is the reason for the increase of population.

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