Modern Technologies and its impact on open spaces in smart cities " Case study: New Capital city "

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Abstract:

Open spaces are an essential component and an integral part of a city's urban fabric. They act as natural breathers in the building blocks as well as engaging in many necessary and recreational activities within them, as they have a significant impact on the lives and physical and psychological health of individuals within cities. However, open spaces in cities are facing many major challenges, such as a dramatic increase in the population, huge pressure on energy consumption, as well as economic and environmental challenges and water scarcity, which have led to many problems, Such as the deterioration of its physical condition and the decrease in its spaces and consequently its failure to achieve its intended objectives and the abandonment of its users. With the dramatic development of ICT, recent trends and concepts have emerged in city design and management as the concept of "smart cities", which rely on modern ICT technologies in their infrastructure to meet all the challenges facing cities in the 21st century. Hence, the research is interested in studying the concepts of smart open spaces and studying how to benefit from smart solutions and applications in order to develop them and increase their efficiency to become more effective and sustainable. The study draws on 3 key axes that begin by studying the interrelationship between open spaces, their types and components, smart cities and their associated applications and modern technology such as the IOT Internet of Things and AI, and then by studying the impact of these modern factors on the design of open spaces in smart cities, and then analytical study, Two smart cities, South Korea's Seoul City and Egypt's New Administrative Capital City, are analyzed and the design of open spaces is studied each to reach the last axis of conclusions and draw strengths and weaknesses and make proposals for the development of open spaces, reaching the highest levels of efficiency and achieving environmental, social and economic sustainability and provide a set of general recommendations for the design of smart, sustainable and highly efficient open spaces.

Key words:

Smart cities, Smart open spaces, (AI), Information and communication technology (ICT), Internet of things (IOT), Artificial intelligence strategies.