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## Sustainable approach for developing local mixed- use streets Case study Beit Al Maqdis Street in Jeddah

Dr. Samaa Badawi\*

*Lecturer, ARCH Dept.*

*College of Engineering Mansoura University- Egypt*

*Effat University, Jeddah-KSA*

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### Abstract

Designing streets as successful public spaces represents the spine of all sustainable urban movements. As a part of the continuing efforts of Saudi Arabia in the field of urban development; the research aims to investigate one of the local streets of Jeddah city -Beit Al Maqdis Street- in terms of main functions and form of the surrounding buildings to identify problems and potentials of the street as a public space. The research will conclude in proposal for developing one of the mixed use streets in Jeddah, using sustainable streets' strategies to be an exemplary model for sustainable, well-designed and pedestrian oriented streets.

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### 1. Introduction:

Throughout the history of cities, the streets provided people with public open spaces right outside their homes<sup>1</sup>. They represent not only axis for movements but they are also places where people can stay in, interact, enjoy and walk through, thereby they facilitate social interaction, mobility and commerce<sup>2</sup>. A turning point in designing streets happened after World War II with the widespread of dependence on automobiles and the expansion of road network that can accommodate high density of traffic<sup>3</sup>.

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\* Corresponding author. Tel.: +966-535459891

*E-mail address:* [archsbadawi@gmail.com](mailto:archsbadawi@gmail.com)

This shift in designing streets was not only one of the main causes of environmental problems; but also made the streets lose their role as public spaces<sup>4</sup>. In conjunction with the raising concept of conserving the environment and sustainability; new urban movements and initiatives like green urbanism<sup>5</sup>; new urbanism, smart growth and others called for reviving streets' role as places for people<sup>6</sup> because streets are the base for creating sustainable places of living, working and recreation<sup>7</sup>. As a part of the continuing efforts of Saudi Arabia in the field of urban development there are some trials to inherit the concepts of sustainability in designing streets but those trials aren't comprehensive or widespread all over the kingdom. The research investigates one of the local streets in Jeddah city to identify the problems and potentials of the street as a sustainable street. The research will conclude in a proposal for developing the street to be an exemplary model for sustainable, well-designed and pedestrian oriented streets which may participate in spreading the concept in KSA.

## **2. Research Problem:**

The orientation of street design in Saudi Arabia towards cars and automobiles contradicts with the sustainable model for streets which accommodate variable modes of transportation and give the priority for pedestrian to walk and enjoy the street as a public space; so this research is directed to answer the following questions:

- What is meant by sustainable streets?
- What are the principles and strategies of sustainable streets?
- What is the relation between sustainable streets and designing streets for people?

## **3. Research Objectives:**

The main aim of the research is to develop a sustainable street design strategy to guide street design in Jeddah city and act as an exemplary model for sustainable, well-designed and pedestrian oriented streets which may participate in spreading the concept of sustainable livable streets in KSA. This is achieved through a combination of sub-objectives as follows:

- Clarify the different initiatives claiming for the creation of sustainable streets.
- Identify the principles and strategies of sustainable street design initiatives.
- Formulate a set of recommendations for developing the research case study street to fit the strategy of sustainable streets design.

## **4. Research Methodology:**

The methodology is based on three approaches; theoretical, analytical and applied approach. The theoretical study aims to identify the concept and principles of sustainable streets throughout the display of the variable initiatives of sustainable streets. This is followed by analytical study for international case studies of applying the principles of sustainable streets to get the strategies of applying sustainable streets principles. This is followed by an applied study of one of the local mixed use streets in Jeddah, KSA, and analyze it in terms of streetscape design, surrounding buildings function and form, the street application to sustainable streets principles. Then the paper concludes with the strategy of designing sustainable streets and the most important recommendations to develop the research case study.

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