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Three dimensional digital terrain model approach for the projection of urban silhouette - The case of Edirne -

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Abstract

The world's leading cities are remembered with the structures identified with that city, symbolizing the city alone, creating adequate images concerning the city.

Within the scope of the study, the urban silhouette model is created by using three dimensional digital terrain model for the protection of Selimiye Mosque's rapidly disappearing silhouette which is one of the essential elements of the urban identity of Edirne chosen as an example and is on the Unesco World Heritage list. This model, at the same time, contributes to creating the legal basis for restricting the rights of construction intended for the protection of urban silhouette.

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1. Introduction

The clarity, readability of a city's appearance; being recognizable and understandable of the parts; the simplicity of organizing in an open order is one of the visual quality principles in urban design. This is also important in terms of people's physical and psychological needs. Links, borders, regions, focuses and triangulations are the components that constitute the rich and clear, readable urban image.

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In this context, Ottoman monumental architecture does not gain definition with the facades perceived from one side, but gain definition with architectural masses that presents image of equivalent importance in each facade. Moreover, this architecture has a profile which ultimately becomes clarified with a powerful line and announces itself in every distance. Being a profile resulting from the togetherness of contrasts and harmony, it is the main integral part of the city's image (<http://database Emrearolat.com>)

The architectural character of Selimiye Mosque, which is one of the Ottoman monumental structures, considered as one of the world masterpieces, is on Unesco World Architecture list, was mentioned as “ my mastery work” by Mimar Sinan and makes one obviously feel the dominance of it on the urban silhouette, was also designed in the way of creating the image of the city – the city of Edirne - in which it takes place with its perceptibility in every way.

After the connection of Istanbul- Edirne highway to (E-5) road with a link, while approaching to the city on this road, beginning from a particular distance, placed on the middle axis of (E-5), magnificent structure of Selimiye Mosque, whose only two minarets are seen, suddenly appears when arrived at the city center and fascinates people with its splendor.

However, many people already complain of not finding Selimiye at the entrance to the city. Because in recent years, the understanding of vertical rising construction regardless of the silhouette of Selimiye Mosque has demolished this effect of silhouette which has a unquestionable value in great degree and if precautions are not taken immediately, it will totally demolish. (Sazak, 2011)

The studies related to urban silhouette have a certain level in the cities of highly industrialized countries. (For ins. Londra etc.) (Mayor of London, 2012). On the other hand, this understanding especially has gained sensitivity in our country recently; the preparations of a complete silhouette plan have started with the aim of controlling the areas that constitute Istanbul's unique silhouette, which is a city of world, is founded on seven hills, have a strong image with its structures that are placed on seven hills from Byzantium to Ottoman Empire, and the appearance on the periphery of the city that affects the silhouette. (<http://www. ibb.gov.tr>).

The aim of this study is to develop a method for hindering the constructions that overshadow urban silhouette against the reflection of the desire for building high buildings in cities as an element of pressure on municipalities with the aim of preventing the urban silhouette from being negatively affected from this pressure.

2. Silhouette and urban landscaping

Silhouette, derived from French “silhouette” word, is defined as the image, shadow of something that appears as one colour with only the outlines of it. Most of time, the expression of silhouette is used for panoramic image of cities, mountains, geographic elements that have a certain height (<http://blog. Milliyet.com.tr>).

Silhouette line, with its broadest expression is defined as the horizon on which land and sky meet. Urban Silhouette is urban portrait, urban panorama and the landscaping phenomenon of a city that is formed, changed and is given meaning differently in historical process. It is the most important concept for the recognition of a city. It is the image when looked at the whole of the city, that is to say, landscaping, urban outer landscaping that is related to the perception of entire city, this is the silhouette of a city.

In Kevin Lynch's research about urban image, it has been found that citizens create a mental map that belongs to their environment and the urban images that take place on this mental map; links (roads), regions, borders, triangulation points (sign items/ point references) and focuses, are the most important reminder items for the physical and psychological orientation of a person in urban environment. These urban image items are not separate from each other, but continuously pass through and cross over each other (Lynch, 1961).

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