World Academy of Science, Engineering and Technology
International Journal of Architectural and Environmental Engineering
Vol:13, No:04, 2019

Effects of Increased Green Surface on a Densely Built Urban Fabric: The Case of Budapest

Authors : Viktória Sugár, Orsolya Frick, Gabriella Horváth, A. Bendegúz Vörös, Péter Leczovics, Géza Baráth

Abstract : Urban greenery has multiple positive effects both on the city and its residents. Apart from the visual advantages, it changes the micro-climate by cooling and shading, also increasing vapor and oxygen, reducing dust and carbon-dioxide content at the same time. The above are all critical factors of livability of an urban fabric. Unfortunately, in a dense, historical district there are restricted possibilities to build green surfaces. The present study collects and systemizes the applicable green solutions in the case of a historical downtown district of Budapest. The study contains a GIS-based measurement of the eligible surfaces for greenery, and also calculates the potential of oxygen production, carbon-dioxide reduction and cooling effect of an increased green surface. It can be concluded that increasing the green surface has measurable effects on a densely built urban fabric, including air quality, micro-climate and other environmental factors.

Keywords : urban greenery, green roof, green wall, green surface potential, sustainable city, oxygen production, carbon-dioxide reduction, geographical information system
Conference Title : ICAE 2019 : International Conference on Architecture Environment
Conference Location : Venice, Italy
Conference Dates : April 11-12, 2019