## World Academy of Science, Engineering and Technology International Journal of Mathematical and Computational Sciences Vol:14, No:12, 2020

## Visual Design of Walkable City as Sidewalk Integration with Dukuh Atas MRT Station in Jakarta

Authors: Nadia E. Christiana, Azzahra A. N. Ginting, Ardhito Nurcahya, Havisa P. Novira

**Abstract**: One of the guickest ways to do a short trip in urban areas is by walking, either individually, in couple or groups. Walkability nowadays becomes one of the parameters to measure the quality of an urban neighborhood. As a Central Business District and public transport transit hub, Dukuh Atas area becomes one of the highest numbers of commuters that pass by the area and interchange between transportation modes daily. Thus, as a public transport hub, a lot of investment should be focused to speed up the development of the area that would support urban transit activity between transportation modes, one of them is revitalizing pedestrian walkways. The purpose of this research is to formulate the visual design concept of 'Walkable City' based on the results of the observation and a series of rankings. To achieve this objective, it is necessary to accomplish several stages of the research that consists of (1) Identifying the system of pedestrian paths in Dukuh Atas area using descriptive qualitative method (2) Analyzing the sidewalk walkability rate according to the perception and the walkability satisfaction rate using the characteristics of pedestrians and non-pedestrians in Dukuh Atas area by using Global Walkability Index analysis and Multicriteria Satisfaction Analysis (3) Analyzing the factors that determine the integration of pedestrian walkways in Dukuh Atas area using descriptive qualitative method. The results achieved in this study is that the walkability level of Dukuh Atas corridor area is 44.45 where the value is included in the classification of 25-49, which is a bit of facility that can be reached by foot. Furthermore, based on the questionnaire, satisfaction rate of pedestrian walkway in Dukuh Atas area reached a number of 64%. It is concluded that commuters have not been fully satisfied with the condition of the sidewalk. Besides, the factors that influence the integration in Dukuh Atas area have been reasonable as it is supported by the utilization of land and modes such as KRL, Busway, and MRT. From the results of all analyzes conducted, the visual design and the application of the concept of walkable city along the pathway pedestrian corridor of Dukuh Atas area are formulated. Achievement of the results of this study amounted to 80% which needs to be done further review of the results of the analysis. The work of this research is expected to be a recommendation or input for the government in the development of pedestrian paths in maximizing the use of public transportation modes.

Keywords: design, global walkability index, mass rapid transit, walkable city

Conference Title: ICSRD 2020: International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States **Conference Dates :** December 12-13, 2020