



Evaluating the performance of urban green transportation: A Case of the YouBike in Taipei

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In order to reduce the impact of transportation on the environment, promoting urban bike-sharing service toward the transit-oriented-mode becomes one of the important issues of green transportation. Bike-sharing service maintained a balance urban development and ecological systems, also improved public health. Citizen in Taipei City rely on this system as their daily transportation tools recently because program are easy, convenient, affordability and human-centered maintained. If sharing economy with the policy and the surrounding built environment, there is a significant help to improve the urban economy, environment and health. Hence, the studies of the environment benefits which affect the use of bike-sharing become an important issue.

To study the issue mentioned above, this research based on rental database, which included the rental information of YouBike in Taipei, carbon emissions of transportation. The data will be analyzed by statistical analysis which attempted to evaluate the environment benefits that affect the use of bike-sharing service.

The results shown that, the positive impact factors to urban transportation are location of station, and finds the average velocity(8.2 km/h). Based on different analysis group, the evaluation results are PBS(Public bike share system) obtained benefit to improve urban road congestion. In addition, this article used carbon emissions of transportation in Taiwan to estimate bike-sharing average carbon reduction is 0.27 kgCO₂ at every turn in vehicles use. The empirical study results can be beneficial for future to urban authorities in enacting relevant green transportation planning.