



Spatial-temporal Analysis of Using Public Bike Service in the City of Split Based on Open Data

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Abstract

Public bike service in the City of Split is relatively new public service available for city's inhabitants. Since its introduction few years ago, it has increased number of stations and available bicycles showing positive trends in public using the service. So far, there has been limited research concerning the impact of the service to everyday migration and therefore this paper provides an analysis of the usage of the service on spatiotemporal basis. Methodology used in this work identifies bicycle as data transmitter moving information from one station to another. Data on bicycles and stations needed for the analysis are obtained from service's web site where are available as open data. They are collected in a seven-days period with five-minute resolution. The amount of data gathered was considered to be enough for the purposes of the work. The research resulted with several valuable information. First of them are the most frequent distances in the city showing pattern of citizen's daily migrations. This is followed by most loaded stations pointing to the most interesting parts of the city for the users (population). Finally, trends of the usage across the day reveal possible purposes why people use the service. Results of this analysis are highly valuable for the provider of the service, research community and citizens themselves as they contain information on behaviour of the users of the service.

Keywords: bike service, public transport, open data, spatial-temporal analysis