



Dual-use performance measures for customer service evaluation in bike-shared systems

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Abstract

Bicycle-sharing systems have normally dual purpose. People can borrow and return bikes at any station in service. At this point in time, there is a gap in literature devoted to dual-availability of biked shared systems for a given station or group-of-stations. We refer to availability as users' ability to obtain service from the bicycle-sharing system, whether to take a bike from or dock one on it. If users cannot borrow or return bikes at a station, from the user's point of view, the station is unavailable. For each station or group of stations we recommend three performance indicators to evaluate customer service for bicycle availability, docking availability and station's dual-use availability. They are calculated for a given unit of time letting you know about improvement/deterioration of customer service. The proposed method is general and it can be applied without restrictions to any multi-purpose system in different areas and for different applications.

Keywords: performance indicator; dual availability; bicycle shared system; big data.