Problem Definition and Characterization

Problem Characterization

Stations where bikes are docked and taken from are a common way of implementing a bike sharing system. However, Our goal is to adapt pricing for different routes to increase the efficiency of the system by incentivizing bike usage from stations with a high number of bikes to a low number of bikes.

The system dynamics can be formulated as follows:

- $b_{s(t)}$: the number of bikes at station $s \in \mathbb{N}$ at time t
- $d_{s(t)}$: the demand of taking a bike at time t at station s
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