

METHOD AND SYSTEM FOR CONTROLLING A SURGE PRICING FOR A GEOGRAPHIC REGION FOR A TRANSPORTATION SERVICE NETWORK

ABSTRACT

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A method of controlling a surge pricing for a geographic region for a transportation service network is provided. The method includes, for each time step of a series of time steps: optimizing, using a cost function for the transportation service network, a sequence of surge pricings for a sequence of time steps, including the time step as a first time step thereof, over a prediction horizon for the geographic region based on a sequence of predicted performance indicators, a sequence of predicted supply indicators and a sequence of predicted demand indicators for the sequence of time steps with respect to the geographic region; and applying a first surge pricing of the sequence of surge pricings optimized for the first time step to the geographic region for the first time step. The cost function is parameterized by a sequence of surge pricing variables for the sequence of time steps for optimization to obtain the sequence of surge pricings for the sequence of time steps. The sequence of predicted performance indicators is predicted using a system dynamics model for the transportation service network based on the sequence of surge pricing variables for the sequence of time steps. There is also provided a corresponding system for controlling a surge pricing for a geographic region for a transportation service network.

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FIG. 2