New logistical issues in using electric vehicle fleets with battery exchange infrastructure -
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There is much reason to believe that fleets of service vehicles of many organizations will transform their vehicles that
utilize alternative fuels that are more sustainable. The electric vehicle (EV) is a good candidate for this transformation,
especially which "refuels" by exchanging its spent batteries with charged ones. This paper discusses some new logistical
issues that must be addressed by such EV fleets, principally the issues related to the limited driving range of each EV's
set of charged batteries and the possible detouring for battery exchanges. In particular, the paper addresses (1) the
routing and scheduling of the fleet, (2) the locations of battery-exchange stations, and (3) the sizing of each facility. An
overview of the literature on the topic is provided and some initial results are presented. (C) 2013 The Authors. Published
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