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A continuous DUE algorithm using the link transmission model. (English) Zbl 1338.90114
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Summary: This paper describes a continuous-flow, continuous-time model for which a dynamic Wardrop equilibrium provably exists. This formulation is general, but is particularly designed to include the link and node models of Yperman's Link Transmission Model as a special case. Rather than using path flows to describe route choice, travelers are aggregated by destination and node-specific routing parameters are used to reduce the number of control variables needed. Furthermore, this formulation allows efficient solution methods from static traffic assignment, such as Linear User Cost Equilibrium (LUCE), to be applied in a fairly straightforward manner. Demonstrations on a small network verify the effectiveness of this dynamic LUCE algorithm in our model, showing favorable performance compared to the method of successive averages.

MSC:

90B20 Traffic problems in operations research
91A80 Applications of game theory
91A43 Games involving graphs

Cited in **2** Documents

Keywords:

[link transmission model](#); [Newton-based algorithm](#); [continuous flow model](#)

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