Hub-based truck platooning: Potentials and profitability

This paper presents a model for optimising truck platoons formed at a platooning hub. Different planning and dispatching strategies, from static to dynamic, are investigated with respect to profitability and fuel savings across a range of input variables. The problem is solved using a dynamic programming based local search heuristic. As a case study, a virtual platooning hub close to the German Elb Tunnel is examined using data from a large European transport network model. It is concluded that profitability crucially depends on: (i) dynamic outlook and (ii) if chauffeurs are allowed to rest while driving in platoons.

General information
Publication status: Published
Organisations: Transport, Machine Learning, Department of Technology, Management and Economics, Transport Demand, Network and Route Choice
Corresponding author: Larsen, R.
Contributors: Larsen, R., Rich, J., Rasmussen, T. K.
Pages: 249-264
Publication date: 2019
Peer-reviewed: Yes

Publication information
Journal: Transportation Research Part E: Logistics and Transportation Review
Volume: 127
ISSN (Print): 1366-5545
Ratings:
BFI (2019): BFI-level 2
Web of Science (2019): Indexed yes
Original language: English
Keywords: Discrete event simulation, Logistic optimisation, Logistic planning, Truck platooning
DOIs:
10.1016/j.tre.2019.05.005
Source: Scopus
Source-ID: 85066248444
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review