

VORTRAG 13.12.2016 17:00 Uhr SE 1

THE PICKUP AND DELIVERY PROBLEM WITH TIME WINDOWS AND SCHEDULED LINES: MODELS AND ALGORITHMS

Prof. Tom Van Woensel Technische Universiteit Eindhoven

Abstract: Nowadays, municipalities become interested in developing instruments and policies to ensure efficient and effective mobility for passengers and freight. Since urban space is scarce, passenger and freight transportation flows overlap to a significant extent. Hence, the accessibility level decreases for both, passengers and freight, resulting in congestion and longer travel times. Furthermore, these lead to a number of negative side effects, such as noise, local air pollution, greenhouse gas (GHG) emissions. One way to tackle this trend is to adopt alternative ways to manage transportation networks to ensure smooth transportation flows.

This presentation discusses integrated freight and public transportation solutions to perform pickup and delivery services in short-haul freight transportation environments, from an operational and tactical planning perspective. More specifically, we investigate an extension of the classical pickup and delivery problem, where requests may be transferred to available public transportation lines (also referred to as scheduled lines (SLs)). Given a fleet, each vehicle performs at most one tour per working day, transporting the freight requests from their origins to the corresponding destinations and public transportation can be used as a part of the freight's journey, as long as the customer requirements are satisfied.

Tom Van Woensel is Full Professor of Freight Transport and Logistics at the Technische Universiteit Eindhoven in the Netherlands. Since beginning of 2015, he is appointed as the Director of the 3TU.SAI Professional Doctorate in Engineering (PDEng) program in Industrial Engineering. Prof. Van Woensel also serves as Academic Director of the Global Supply Chain Management program at the Antwerp Management School, Belgium. His research is mainly focused on Freight Transport and Logistics. As the lead scientist from the TU/e, he was involved in securing several grants coming from the EU, Dinalog, Transumo, NWO, and several companies (Eyefreight, Binnenstadservice, Connexion, Lekkerland, FloraHolland, P&G, etc.). Van Woensel is also associate editor for the INFORMS journal Transportation Science, OR Spectrum, Urban Science and Logistics Research. Prof.dr. Van Woensel is also a member of the management team of the European Supply Chain Forum, a collaborative effort with about 30 large multinational companies.