

Accepted Manuscript

The Vehicle Routing Problem: State of the Art Classification and Review

Kris Braekers, Katrien Ramaekers, Inneke Van Nieuwenhuysse

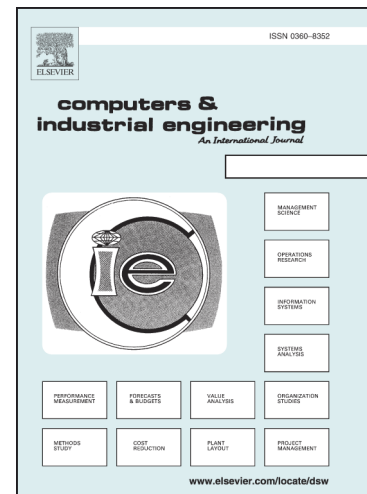
PII: S0360-8352(15)00477-5
DOI: <http://dx.doi.org/10.1016/j.cie.2015.12.007>
Reference: CAIE 4201

To appear in: *Computers & Industrial Engineering*

Received Date: 1 June 2015
Revised Date: 23 November 2015
Accepted Date: 10 December 2015

Please cite this article as: Braekers, K., Ramaekers, K., Nieuwenhuysse, I.V., The Vehicle Routing Problem: State of the Art Classification and Review, *Computers & Industrial Engineering* (2015), doi: <http://dx.doi.org/10.1016/j.cie.2015.12.007>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



The Vehicle Routing Problem: State of the Art Classification and Review

Kris Braekers^{ab1}, Katrien Ramaekers^a, Inneke Van Nieuwenhuysen^c

^aResearch Group Logistics, Hasselt University, Campus Diepenbeek, Agoralaan building D, 3590 Diepenbeek, Belgium

kris.braekers@uhasselt.be, katrien.ramaekers@uhasselt.be,

^bResearch Foundation Flanders (FWO), Egmontstraat 5, 1000 Brussels, Belgium

^cResearch Center for Operations Management, Department of Decision sciences and Information Management, Faculty of Economics and Business, KU Leuven, Naamsestraat 69, 3000 Leuven, Belgium
inneke.vannieuwenhuysen@kuleuven.be

Abstract: Over the past decades, the Vehicle Routing Problem (VRP) and its variants have grown ever more popular in the academic literature. Yet, the problem characteristics and assumptions vary widely and few literature reviews have made an effort to classify the existing articles accordingly. In this article, we present a taxonomic review of the VRP literature published between 2009 and June 2015. Based on an adapted version of an existing comprehensive taxonomy, we classify 277 articles and analyze the trends in the VRP literature. This classification is the first to categorize the articles to this level of detail.

Keywords: vehicle routing, taxonomy, literature review, dynamic vehicle routing, time-dependent vehicle routing

JEL code: M1, M2

1. Introduction

Dantzig & Ramser (1959) were the first to introduce the "Truck Dispatching Problem", modeling how a fleet of homogeneous trucks could serve the demand for oil of a number of gas stations from a central hub and with a minimum travelled distance. Five years later, Clarke & Wright (1964) generalized this problem to a linear optimization problem that is commonly encountered in the domain of logistics and transport: i.e., how to serve a set of customers, geographically dispersed around the central depot, using a fleet of trucks with varying capacities. This became known as the

¹Corresponding author (Tel: +32.11.26.91.20)

Download English Version:

<https://daneshyari.com/en/article/7541911>

Download Persian Version:

<https://daneshyari.com/article/7541911>

[Daneshyari.com](https://daneshyari.com)