City Logistics

Network Modelling and Intelligent Transport Systems

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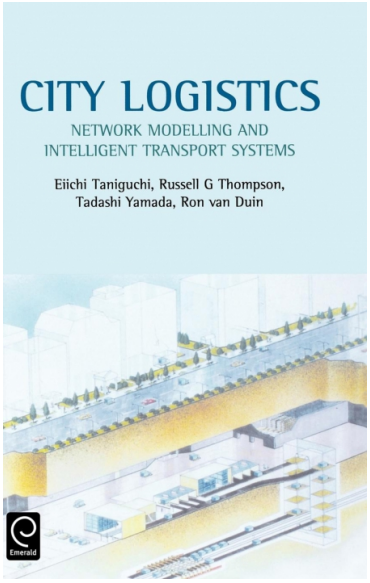

About the Book

This book presents fundamental concepts and general approaches to City Logistics. City Logistics is the process of totally optimising urban logistics activities by considering the social, environmental, economic, financial and energy impacts of urban freight movement. City Logistics initiatives are required to solve urban freight transport problems including high levels of traffic congestion, negative environmental impacts, high energy consumption and a shortage of labour. The focus of this work is on modelling City Logistics. Modelling is of crucial importance, since estimates of the impacts generated by City Logistics measures are required for evaluating them. It highlights the formulation of mathematical models of vehicle routing and scheduling with Intelligent Transport Systems (ITS), optimal terminal locations and impact estimation by City Logistics measures. Heuristics techniques such as genetic algorithms, simulated annealing and tabu search are also given to identify approximate optimal solution of these combinatorial optimisation problems. ITS provides powerful tools for efficiently managing and operating vehicle fleets. Sophisticated logistics systems can now be developed by integrating Global Positioning Systems (GPS) and Geographical Information Systems (GIS) in conjunction with application software. In this context, the book presents a theoretical and practical treatment of modelling City Logistics based on ITS.

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