

Industrial Aspects and Literature Survey: Fleet Composition and Routing

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The purpose of this talk is to describe industrial aspects of combined fleet composition and routing in maritime and road-based transportation, and to present the current status of research in the form of a comprehensive literature review. With a backdrop of industrial aspects, a categorized survey of relevant literature since the first published papers in the 1950's is given. First, the literature review discusses some early seminal and application-oriented papers, presents a classification of problems, and then focuses on a basic definition of combined fleet composition and routing: the fleet size and mix vehicle routing problem. Three basic mathematical formulations from the literature are presented and compared. Further, the literature of extended and related problems is described and categorized. Surveys of application oriented research in road-based and maritime transportation conclude the review. Finally, we contrast the literature with aspects of industrial applications from a critical, but constructive stance. Major issues for future work are suggested.

(Joint work with Henrik Andersson, Marielle Christiansen, Geir Hasle and Arne Løkketangen)