World Academy of Science, Engineering and Technology
International Journal of Transport and Vehicle Engineering
Vol:11, No:02, 2017

A Literature Review on Development of a Forecast Supported Approach for the Continuous Pre-Planning of Required Transport Capacity for the Design of Sustainable Transport Chains

Authors : Georg Brunnthaller, Sandra Stein, Wilfried Sihn

Abstract : Logistics service providers are facing increasing volatility concerning future transport demand. Short-term planning horizons and planning uncertainties lead to reduced capacity utilisation and increasing empty mileage. To overcome these challenges, a model is proposed to continuously pre-plan future transport capacity in order to redesign and adjust the intermodal fleet accordingly. It is expected that the model will enable logistics service providers to organise more economically and ecologically sustainable transport chains in a more flexible way. To further describe such planning aspects, this paper gives a structured literature review on transport planning problems. The focus is on strategic and tactical planning levels, comprising relevant fleet-sizing-, network-design- and choice-of-carriers-problems. Models and their developed solution techniques are presented and the literature review is concluded with an outlook to our future research objectives

Keywords : choice of transport mode, fleet-sizing, freight transport planning, multimodal, review, service network design
Conference Title : ICATPTE 2017 : International Conference on Advanced Transportation Planning and Traffic Engineering
Conference Location : Barcelona, Spain
Conference Dates : February 26-27, 2017