Demand is assumed to be probabilistic in competitive facility location models. Moreover, the unknown demand for a potentially established facility depends on the facility itself and on the number, the locations and the attributes of other established facilities. It is well known from empirical studies on locational choice that some facilities are better substitutes to each other than others - that is, there is correlation between certain facilities. We show how spatial interaction models and discrete choice models might be incorporated in location planning applying mathematical programming. Computational results indicate an excellent solution quality.
Knut Haase is the Director of the Institute for Transportation at the University of Hamburg (Germany) since October 2010. At the University of Kiel (Germany) he received his diploma and doctoral degree and his lecture qualification (habilitation) in Business Administration. After two years as a professor at the University of Hohenheim (Stuttgart, Germany) he was Full Professor for Transportation and Logistics at the Technical University of Dresden (Germany) for seven years. His research topics are focused on optimization approaches for solving large scale problems and the integration of predictive and prescriptive analytics with applications in logistics, public transport, logistics, retail, and health care.