
Summary of the Diplom Thesis

Name: Jan-Pieter Keogh

Title: **Transport Development within the Airport City**

Supervisor: Prof. Dr.-Ing. Manfred Boltze
Dr.-Ing. Nadine Roth

In the last decades the aviation industry has constantly been faced with crises and other economic developments. As a result the aviation market has had to change and adapt accordingly. Airports lie within the center of this changing market. Due to the fact that Airlines try to operate within very small margins and keep prices low, airport operators are confronted with static revenue from traditional aviation activities. At the same time the demands of airlines and passengers concerning airport infrastructure are rising. The results hereof are raising upkeep and development costs, which cause profits to decrease. This is why airport operators are forced to develop a new market for themselves.

Apart from good airside connections, a lot of international airports are equipped with good landside connections. Highways quite often intersect near to international airports. At the same time airports have good regional and national railway connections. All these factors make the airport a multimodal interchange node. Airport operators want to use this attribute to develop new markets for themselves, as it makes airports the ideal location for business and logistics. Airports are especially suitable as locations for globally active companies.

This is why many airport operators are concerned with property development apart from their traditional aviation activities. At international airports large areas are being developed for non-aviation activities. These include businesses, logistics, retail, hotels as well as a large range of leisure activities. Hence a new urban development has arisen – the airport city

While old mobility demands remain or have even grown, new mobility demands within the system airport city are evolving. Due to this the aim of this study is to develop planning approaches for the transport development within airport cities.

This study examines planning approaches for the transport development of cities and reviews their transferability concerning airport cities. Five German guidelines concerning the areas of mesh planning, design of roads, public transport development and car park planning are analyzed and their planning approaches adjusted to fit the needs of airport cities.

In the first part of this study the airport city as such is closely examined. First of all different definitions of the term airport city are analyzed and a new definition developed in order to meet the needs of this study. The consequences of different definitions for the planning area are especially considered hereby. Then the structure of airport cities is examined. This is done by comparing the structure of the airport city

to the structure of cities in general. The activities within airport cities are described in contrast to activities within cities and differences are mentioned. Thereafter a group of aims are developed for transport planning within the airport city. This is done with the help of the general aims of transport planning and city transport planning. The weighting of these aims are determined by using a priority matrix. The first part of this study is concluded by stating the guidelines used in this study, describing their interfaces and presenting a list of continuative publications.

The second part of this study examines the planning approaches for mesh planning within the airport city. The “Richtlinien für integrierte Netzgestaltung” (RIN, 2008) and the “Empfehlungen für die Anlage von Erschließungsstraßen (EAE, 1985)“ are analyzed. With the help of planning approaches from RIN (2008) methods to plan transport connections between the different airport city areas are developed. Due to the fact that the RIN (2008) does not cover meshes on a district level, certain planning approaches from the old EAE (2008) are analyzed.

In order to develop planning approaches concerning the design of roads within the airport city the “Richtlinien für die Anlage von Stadtstraßen (RASt, 2006)” is examined. Where needed minor adjustments are made to the planning approaches described in these guidelines in order to meet the needs of airport cities.

For planning approaches concerning public transport within the airport city, the guidelines from VDV-Schrift 4 (2001) are analyzed in the next part of study. The recommendations from these guidelines are then adapted in order to meet the requirements of airport cities.

In the fifth part of the study certain topics from the “Empfehlungen für Anlagen des ruhenden Verkehrs (EAR, 2005)” are examined. Guidelines concerning car park planning from EAR (2005) are analyzed and are found acceptable for the needs of car park planning within the airport city. Certain considerations for car park planning within airport cities are furthermore described in this part of the study.

The results of this study concerning the transport development in airport cities are then summed up in a sixth part. Hereby certain guidelines for the transport development are established. In the final part of the study further research potential is discussed.

Jan-Pieter Keogh

Februar 2010