Chapter 34
Logistics for City and Regional Planning:
Urban and Regional Planning
Without Taking Into Account the Effects of Transport Logistics

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ABSTRACT

Logistics in transport considers the physical structure of a city as given and tries to optimize the performance of companies or the transportation system within the given conditions. On the other side, companies choose their location under the given conditions and the expected changes and influence the structure of the city and its economy in a continuous way. City and transport planning methods have not considered these effects in their work so far and are therefore influenced by the driving forces of the economy of scale and demand oriented traffic growth. The introduction of principles of logistics into the early stages of land use and city planning would change the “given conditions” and open the path for a more sustainable development, with more pressure for innovation and fairness in the market.

INTRODUCTION

Different disciplines are planning, building, maintaining and operating the urban, economic and transport system. Each has its special view to the system and use assumptions how it should behave. Land use planners allocate pieces of land special functions, urban planners design buildings and spaces, transport planners try to optimize the infrastructure for transport and traffic with the traffic modes of the time. Societies had the benefits from the transport infrastructure for several thousands of years by controlling the flow of goods and people. The effects of the transport system were limited till the railway came into use. To operate the railway system the transport logistics had to be adapted to the new artificial transport mode on one side for internal operation and also for the user, the customers, the industry the cities. Land
use, economic and urban structures could be planned in agreement with the railway system in the 19th and the first half of the 20th century. Railways are a “closed system” under the control of the society and physically with controlled accessibility.

The modern road and motorway system planned and build for car and truck traffic in the second half of the 20th century is the infrastructure for an open system with no access control. This gave new opportunities for the development of new strategies and methods for transport logistics in our competitive “market economy” as never before. National borders were removed to give goods and people free flow across countries and regions. Beside this desired effects unexpected and unwanted effects occurred. Urban, settlement and economic structures have changed not only the form, but also the functions in the last century much more than in thousands of years of urban history before. Most of the changes were not expected, not planned and not wanted, like damage of local urban shops, workshops etc. Jane Jacobs was the first activist, which published these effects in her book “The Death and Life of Great American Cities” 1961. More than fifty years later the underlying causes of the effects have not been treated in traditional sciences. One of the reasons is the cross-disciplinary matter of the problem described. This chapter is a contribution to one branch of the causes.

LOGISTICS AS A TOOL AND ITS EFFECT ON STRUCTURES

Land use planning, city planning and transport planning are branches of applied logistics if we use the traditional definition for logistics as “the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements.” Land use, urban and transport planners are doing exactly the same – at least in their mental or computer models. But finally they build rigid structures, which seem to be rather stable – at least for some time.

Traditionally transport logistics does not take into account its interrelationship with these disciplines and vice versa. Within given patterns of activities in a static spatial distribution, transport logistics tries to optimise transport activities.

The basic assumption is: settlement structures are stable and static. Under short time system-view logistics has to:

- Optimize either the transport structure or
- Optimize locations for distribution, trade or production activities under given conditions of transport infrastructure.

Conditions of the transport system are dependent on settlement and urban structures.

In general transport logistics is seen as “software” in a “hardware” environment.

The effect of logistics is expressed with indicators like:

- Saving of travel time,
- Saving of distances,
- Saving of costs,
- Saving of resources,
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