Sustainable Transport – from catchword to strategy

Modern Planning Systems on test

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In planning and political speech “Sustainability” is often used – but in reality “sustainability” is a catchword – maybe a substitute for the complexity of the world and the challenge of political decision-making in solving enduring problems. There we find sustainable politics, sustainable transport, sustainable regional development, sustainable budgeting, a sustainable living style etc. It seems there is nothing, where “sustainable” is not applicable. To bring the term “sustainability” on the level of political decision-making it is necessary to define the real content on the different levels of political strategies, tactical acting and operative planning. This will be shown in the transport sector.

In literature we find a lot of examples about sustainable transport. In reality that goal means the change on the modal-split from predominantly car-use (for example 80 %) to more environment-friendly modes, such as walking, cycling and the use of public transport. The transport of goods should be shifted from transport on the roads to rail and inland-waterways. Nevertheless during the 80- and 90ies of the last century there were great political efforts directed to establish a New Transport Policy, up to now the success of these policies is low.

Even a lot of documents of the EU-Commission (e.g. green and white papers) show the necessity of the change of the political orientation. Sustainability is a very important term – and goal too - in this context. Providing the possibility of the political change on the level of strategies and measures there would be great progress in the living conditions of the people. But in reality it isn´t easy to change the behaviour in traffic.

The reason for the discrepancies between political aims and the output in reality could be a predominance of thinking in chains of cause-effect and the lack in system-relating views. This diagnosis is not restricted to the transport-sector alone.

Taking this world-view of systems into account, it is clear, that a necessity for sustainability is a systems-approach. This requirement means in transport politics, that analysing and decision-making can not be made on the local level alone, but must be seen in the context of the development of greater areas, such as regional, nations in the same respect only on the European level.

In the region of Upper Austria live approximately 1,3 million inhabitants; the economy is strongly export-based, especially the steel-producing factories in Linz. The volume of goods transported is nearly 100 million tons per year. The commuters stream from the communities around the capital to their jobs in the industries and services. The traffic on working days reaches nearly 150,000 per direction, in the morning into the

town, in the afternoon out of the town; approximately 80 % car-use. There is a lot congestion on the arterial-roads; a study, conducted by the authority of traffic-planning, indicates that there nearly 8 million hours are lost by traffic-congestion.

There are traffic forecasts, which all show in the same direction, that up to 2015 traffic will increase by nearly 35 %, especially car-use by commuters will grow by rates above the average. In fact it is impossible to upgrade the traffic-networks according the traffic-forecasts. As a consequence, the discrepancies between traffic supply (streets) and traffic demand (cars on the roads) will grow. If there are any counter-active strategies set in operation, these forecasts seem without any surprise, because the defining structures for this development are fixed.

But, there are heavy efforts to change the use of vehicles by making better supply of public-transport services; since 1990 a planning authority for the upgrading of the system of public transport is set in operation, in charge of strategic network-planning, defining modes of cooperation with the surrounding communities, taking into account the financial resources and finally bringing the networks into operation.

Nevertheless these efforts we are far away from a sustainable transport system. The cause for the growth of car-use and the changing modal-split is not only the growing car-availability, or the missing quality of the public-transport system, but mainly the development of the settlements in the surrounding communities and finally in the growing economy and goods transport. In reality there is in a lot of cases any possibility of choice between the modes, for the travel-time by bus or train is extremely long in comparison to car-use. Therefore the possibility of sustainable transport is not only a case of transport-requirements, but far more a case of regional und local planning. The same case we find in the development of industrial locations, sometimes far away from connections to the rail-networks; therefore in reality the use of the road as transport mode is without any choice.

The knowledge of these interactions between traffic growth, infrastructure needs and missing settlement planning, locations of the industries and the use in political decision-making is the key to sustainability.

The tool-kit for traffic-engineering an regional-planning contains a lot of tools for analysing the traffic demand, for defining the traffic forecasts and finally for showing the limits for changing the modal-split. The interaction between upgrading the networks and generating of traffic, in planning speech “induced traffic”, is actually an item on the forefront of traffic an regional science. Quantifying the interaction of this influencing parameters is a prerequisite for the operability of sustainable transport and regional development.

The Upper Austrian Authority of traffic planning has a lot of modern tools in operation or in the state of development. First, for changing the modal-split it is necessary to know, how are the pattern of mobility are organized. By traffic-surveys, conducted in the whole area of Upper Austria in the years 1976, 1982, 1998 an 2001 we know exactly the traffic behaviour, differentiated in traffic mode, time of mobility, purposes of travel, routes and destinations, and a lot of other interesting information . The different surveys are conducted in the same design, so the data are comparable. Very interesting for planning activities are data about mobility pattern for a time-period of nearly 45 years.

The data of the last survey will be available by the end of June 2002 and will be used for planning purposes; they may be presented on the occasion of the conference in Vienna..

The next step are computer tools, which model the traffic behaviour of the people according to their behaviour in reality. The history of computer models in traffic planning is nearly so long as computers are used for the purposes of practical life. Now the models are very differentiated and sophisticated; they are in operation for analysing the traffic-patterns, for forecasting, assessment and system-dynamic purposes. In Upper Austria we use computer tools for the presentation of the traffic-surveys, for quantifying the effects of measures and for the assessment of political strategies.

Once one is accustomed on surveys and computer models they seem necessary for traffic planning and decision-making in politics. These tools are an important step to the substitution from decision-making without sufficient knowledge by system-thinking and for the transformation of system-thinking from the theoretical level to operational usage. Computer models in traffic planning are supportive for the decision-making, but they do and can not substitute the decision itself. This seems self-evident, but in reality it isn´t.

According the growing capacity of storage and computability the sophistication of traffic models will further go on. The future of this tool will be in online data-processing, in fine differentiations of the routes between sources and destinations, more details about the purposes of the mode-choice and finally in an enhanced information pool for decision-making.

More and sophisticated traffic-models enhance the possibilities for better decisions and traffic-solutions. Finally they open the space for system-thinking and therefore for more sustainability. Sustainability in transport can be made operative only in the context of regional and economic development.

Sustainable transport – from catchword to strategy is in reality a long and enduring journey. On this way we may find a lot of different expectations, a balance between the necessities of the economy, the ecology and the social life, mixture of political opportunities and threats of the future, the hope for a better surrounding for our and the coming generations – not only in the developed world, but also in developing countries. Sustainability is an all-embracing conception. There in traffic planning and regional development are strategies and tools available to bring the concept to life, especially on the regional and local level.

The modern systems of traffic planning are permanently on the check – by the public, traffic planning is a public obligation. It is important to see, there isn´t any alternative beside the usage of the systems, but modern planning systems alone don´t have the capability of problem solving.

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