

ENVIRONMENTAL SUSTAINABILITY IN TRANSPORT POLICY - HOW IS THE SITUATION IN DENMARK, THE NETHERLANDS AND SWEDEN?

Professor Emin Tengström, Aalborg University

Introduction

Environmental sustainability has been an important political issue since the publication in 1987 of the report of the World Commission on Environment and Development entitled *Our Common Future* and its introduction of the concept of 'sustainable development'. The concept of environmental sustainability has, for instance, often been used in documents on transport policy in many countries. The aim of this lecture is to analyse the situation in Denmark, the Netherlands and Sweden and to assess the results of the national transport policies as far as environmental sustainability is concerned.

My lecture is based upon a recent study entitled *Towards Environmental Sustainability? A Comparative Study of Danish, Dutch and Swedish Transport Policies in a European Context*. It will be published by a British publisher (Ashgate) within one or two months.

My lecture is organised in the following way: I will begin with a discussion of the reaction of national politicians to the complex environmental problems of transport. Thereafter, I will introduce and define the concept of 'ecological modernisation capacity' and identify some conflicts between efficiency, safety, equity and environmental sustainability in transport. After that, I will evaluate the results of present policies aiming at the attainment of some intermediate objectives related to environmental sustainability and, finally, try to explain the outcome of national transport policies in Denmark, the Netherlands and Sweden as far as environmental sustainability is concerned.

The reaction of politicians to the complex environmental problems of transport

My analysis of the reaction of politicians to the problems of transport is based on the idea that

the political interest in a certain transport policy issue fluctuates over time in a cyclical manner. Theories of this kind were presented, separately, by a British (Starkie) and a Dutch (le Clercq) scientist in 1987.

In many countries, the environmental problems of transport attracted more political interest in the period 1987-1997 than before and environmental sustainability was discussed as a new political goal. The main cause of this change in transport policy was evidently the emergence of a new problem: the risk of global warming.

The rising concern with the greenhouse effect had led to the formation of the Intergovernmental Panel on Climate Change (IPCC) in 1988. Its first report appeared in 1990. Although this report was very cautious in its statements, the risk of global warming was, from now on, added to previous environmental concerns.

In the case of Denmark, the Netherlands and Sweden, a more complex and more alarming view of the environmental problems of the transport sector emerged at the level of national transport policy-making in the late 80s and early 90s. In documents *before* this period, environmental problems had been regarded as more marginal phenomena. In the new situation, not only global warming but also local problems (such as polluted air and noise) and regional problems (such as acidification and eutrophication) were taken more seriously than before.

In short, I believe that the emergence of the problem of global warming, together with the publication of the report of the Brundtland Commission in 1987, is to be seen as the main factor initiating a new cycle of transport policy in the three countries around 1990. The dynamics of the social reconstruction of the picture of the problems of the transport sector are, however, still obscure. It is reasonable to believe that new scientific findings played an important role in the process of change. The role of the media was, however, also important. What they chose to focus on and in what perspective they presented the scientific findings can be assumed to have had a substantial impact on the process. The role of different environmental organisations was probably also of certain importance.

<

Analysing the concept of 'ecological modernisation capacity'

In the scientific discussion about the political reaction to the environmental problems, the concept of 'ecological modernization capacity' (in abbreviation EMC) has been introduced by several researchers, among them the German political scientist Martin Jänicke. This capacity is assumed to consist of four variables: economic performance, strategic proficiency, innovation capability, and consensus ability.

It is self-evident that EMC requires a certain degree of *economic performance*. In a situation of economic growth, it is easier to allocate resources to the implementation of environment policy (for instance to finance subsidies to enhance the spreading of best available technology). In the field of transport, economic growth therefore tends to accelerate the conversion of the fleet of vehicles and makes it viable to adapt the motor technology to what the environment demands and to a higher degree of energy efficiency. At the same time, however, a higher GDP/capita always leads to a higher level of mobility and a higher level of car use, phenomena that do not contribute to a reduced environmental impact.

It is therefore evident that the market forces will not be able, by themselves, to create a national ecological modernisation capacity, at least not in the field of transport. *Strategic proficiency* generated by the political system is also required. This proficiency consists of the environmental policy-making capacity of the political system and the implementation capacity of the same system.

The policy-making capacity is in its turn based upon in what way and how quickly the perceived environmental problems are integrated in the political debate and transformed into formal decisions. The concept of 'implementation capacity' refers to the ability of implementing authorities to take actions which lead to the achievement of the main policy objectives.

The third element of EMC is the *innovation capability* of the political system. The concept refers to the ability to gain an understanding of the causes of the environmental problems, their scope, complexity, resource requirements, and social consequences. The innovation capability is also based on

- the ability to develop well-defined intermediate objectives in order to reach the overall goals of transport policy
- the ability to identify new policy instruments and new concrete possibilities for

obtaining the intermediate objectives and timetabled targets of the policy and
- the ability to develop new principles and methods of implementation.

The final element of EMC is the *consensus ability*. This ability is closely related to the national tradition of consensus-building in politics. There are clear differences between Denmark, the Netherlands and Sweden as to how political consensus-building takes place.

Identifying some conflicts between efficiency, safety, equity and environmental sustainability in transport

The purpose of national transport policies is, however, not only to reduce the present unsustainability of the transport systems but also to reach other goals. The general goal of transport policy is to create transport systems which were efficient, safe, equitable and environmentally sustainable. There are many reasons for conflict between these different goals.

Promoting environmental sustainability may lead to conflicts with efficiency. If, for instance, the costs of environmental damage are internalised, the cost-efficiency of transport decreases or, if the speed of motor vehicles is subjected to new restrictions, the time efficiency of transport is reduced. The other way round, political efforts to increase efficiency may fail to establish sustainability, since higher efficiency would encourage higher speed, which in turn would lead to higher energy consumption, or call for more motorways, leading to a greater impact on the environment.

Striving for environmental sustainability may also result in conflicts with the goals of social equity in transport: a sustainable transport system is not necessarily compatible with the demand of underprivileged groups for increased mobility and increased use of cars. More equitable traffic leads, in its turn, to greater traffic volumes, which means, *ceteris paribus*, significantly more pollution and higher energy consumption.

The goal of environmental sustainability may also threaten the possibilities of reaching the targets of safety: The use of light or very light vehicles to save energy and reduce pollution could jeopardise the safety of the car users (unless all cars are made lighter at the same time).

Increased use of vehicles that are safer for car users means, in contrast, heavier vehicles (given the technology of today), which leads to higher energy consumption and more pollution.

We must admit that the politicians, in transport policy, are confronted with conflicts which *are* very complex and difficult to handle.

Evaluating the results of policies aiming at the attainment of some intermediate objectives

There is, at the disposal of the politicians, a number of instruments to promote the attainment of environmental goals in transport policy:

- measures intended to influence the current technical standard of vehicles and the technical development of such vehicles (these measures are often called “technical fixes”)
- measures intended to influence the standard and structure of the transport system as a part of the urban and regional structure (these measures are sometimes called “planning fixes”) and, finally,
- measures intended to influence the behaviour of transport users.

I am not going to present any systematic evaluation of the outcome of Danish, Dutch and Swedish transport policies based upon these instruments. It is obvious, however, that there is no reason to talk about a great number of success stories. There are only two undeniable successes in relation to the environmental objectives of the national transport policies: the reduction of certain emissions, above all the emissions of NO_x. The immediate cause of this success is, of course, the spreading of vehicles equipped with catalytic converters, initiated originally by the Federal Government of United States.

A second success story is offered by the Dutch attempt to initiate a certain decoupling of economic growth and increased individual mobility, above all by car. The background of this success is to be found in the national transport policy of 1990. It is, however, only a partial success. The problems of still increasing car traffic are a source of great concern in Holland.

In Denmark, the Netherlands and Sweden, the number of transport policy failures in the

perspective of environmental sustainability is, in contrast to the number of successes, quite impressive. These failures relate to four intermediate objectives:

1. Despite the political will to influence the transport volumes in terms of size and/or distribution among different transport modes

- transport volumes are still increasing (somewhat less rapidly in Holland)
- car density is still increasing (with the temporary exception of Sweden, as an effect of weak economic development)
- passenger kilometres by car are still increasing
- the share of public transport versus private transport is not being strengthened
- the role of the bicycle is not being strengthened

2. Despite the political will to influence the energy consumption of the transport sector

- the use of energy in the transport sector shows a stable upward trend (with a temporary (?) exception in Sweden 1996 and 1997)
- the dominance of fossil fuels is still unbroken
- the per capita emissions of CO₂ are far from acceptable from a global perspective

3. Despite the political will to influence the technical standard of the fleet of motorcars

- the trend towards improved energy efficiency has been broken
- the percentage of heavier cars has increased
- the emissions of CO₂ from the transport sector have increased significantly

4. Despite the political will to influence the environmental adaptation of new infrastructure

- losses of productive soil are still substantial as an effect of the building of new motorways (to a somewhat lesser degree in the Netherlands, where the total losses are, however, impressive)
- the attempts to apply environmental impact assessment in road building have been a failure.

There are, thus, quite a few failures in the political efforts to reduce the present unsustainable

character of the national transport systems in the three countries. So there is good reason now to consider how these failures can be explained.

How to explain the outcome of present transport policies?

The explanation of these failures seems to be rather complex. In my view, it is first reasonable to talk about *government failures* (but in a somewhat different sense than in the language of economists). I believe that the Danish, Dutch and Swedish governments have failed

- to analyse the inherent conflict between the new goal of environmental sustainability and the traditional goals in transport policy (efficiency, safety and equity).
- to renew the package of policy instruments
- to analyse the barriers to the implementation of the new goal in transport policy and, finally,
- to develop an ecological modernisation capacity (EMC) in the field of transport and environment.

The present institutional arrangements of the European Union can also be regarded as a factor which does not support the national policies aiming at a reduction of present unsustainability of transport systems. Both the principle of subsidiarity and the principle of unanimous decisions in the Council of Ministers are of great importance here. A part of the government failures has therefore its roots in the institutional structure of the European Union. I regard this as a kind of *institutional failure*.

Thirdly, the development of environmentally sustainable transport systems is not only due to political decisions. The influence of strong actors such as industries, transport companies, trade unions etc has to be taken into consideration. Their interactions have not promoted the implementation of the political decisions and may be regarded as an additional explanation of the shortcomings in transport policy. I will classify these factors as *interaction failures*.

Finally, the role of ordinary citizens as consumers and voters can be interpreted as another explanation of current failures in the field of transport policy. The citizens are not always willing to integrate the alarming information about the transport system, the climate system

and the ecosystems into their view of their daily life. The problems of “the system world” seem to be distant, while the problems of their own “life world” are always present. I regard this as a kind of *acceptance failure*.

Conclusions

My conclusions of this analysis are the following:

1. A new cycle in national transport policies was initiated in Denmark, the Netherlands and Sweden around 1990. Its background was the growing concern with the greenhouse effect and it was also inspired by the Brundtland report in 1987. Also the local and regional environmental problems of transport were now regarded as more serious than before.
2. The Danish, Dutch and Swedish political will to reconcile transport and environmental policy objectives made however slow progress in the 1990s. The success stories were rare but the number of failures quite impressive.
3. The explanation of the political failures offered in the presented paper is complex. Four categories of failures were identified in the three countries: government failures, institutional failures, interaction failures and acceptance failures.

I believe that these three conclusions may be summarised in terms of Ecological Modernisation Capacity in the following way: the *strategic proficiency* of the political institutions in the three selected countries was too undeveloped, their *innovative capacity* was not sufficient and the *consensus ability* of various actors was too weak.

At last, I would claim that there is a possible way out of this situation. This possibility is, in my view, represented by a broad and intensified communication between the voters /consumers, on the one hand, and the politicians and their experts, on the other, about the complex problems of the national transport systems. But this is another story.

Some references

Clercq, le G. 1987. "Policy Cycles and New Planning Issues", in P.Nijkamp & S.Reichman

(eds), *Transportation Planning in a Changing World*. Aldershot: Gower, pp 93-108.

Jänicke, M. & Weidner, H. (eds) 1997. *National Environmental Policies. A Comparative Study*

of Capacity-Building. Berlin: Springer Verlag.

Starkie, D. 1987. "Configuring Change: Reflections on Transport Policy Processes" in P.

Nijkamp & S.Reichman (eds), *Transportation Planning in a Changing World*. Aldershot: Gower, pp 269-283.

Tengström, E. *Towards Environmental Sustainability? A Comparative Study of Danish, Dutch and Swedish Transport Policies in a European Context*. Forthcoming (Ashgate 1999).

Bibliographica

Title:

Environmental Sustainability in Transport Policy - How is the Situation in Denmark, the Netherlands and Sweden?

Abstract:

In the lecture, some results of a recent study carried out at Aalborg University will be presented. It is entitled *Towards Environmental Sustainability? A Comparative Study of Danish, Dutch and Swedish Transport Policies in a European Context*. First, the reactions of national politicians to the complex environmental problems of transport are analysed. Then, the concept of 'ecological modernisation capacity' is introduced and defined. Some conflicts between efficiency, safety, equity and environmental sustainability are identified. After that, the results of Danish, Dutch and Swedish policies aiming at the attainment of some intermediate objectives related to environmental sustainability are evaluated. Finally, the outcome of these policies are explained and some conclusions presented.

Author:

Professor Emin Tengström, Traffic and Transport Group, Aalborg University

Keywords:

environmental sustainability, transport policy, policy cycles, ecological modernisation capacity, intermediate objectives, success stories, government failures, institutional failures, interaction failures, acceptance failures

Session:

Introductory session

Year:

1999