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Roads and quality of life

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Summary

People often notice the road only when problems arise outside their own front door. Otherwise, they use it every day without paying the least attention - to get to work, to take the children to school, to do the shopping, to go about their leisure activities. It is taken so much for granted that users generally forget how useful it is. Yet, the road is one of the key elements in the economic and social life of our country.

In the field of transport, Switzerland's current policy is to give priority to the provision of a high quality land transport infrastructure so as to enable people and goods to circulate as freely as possible. In this way, we hope to maintain or increase the attractiveness of our country for businesses and, thereby, our economic competitiveness.

The imbalance between supply and demand in the road transport infrastructure exacerbates the conflicts of interest between road users, local residents and environmental protection groups. In the long term, the guiding principle of sustainable development should make it possible to resolve these conflicts in a more transparent and permanent way.

Following the Rio earth summit in 1992, Switzerland took the principles of sustainable development into account in the revision of its Constitution. Thus, the country has elevated sustainable development to the level of a constitutional goal.

The ministry responsible for transport has published its strategy, which gives due consideration to the three dimensions of sustainable development, namely ecological viability, economic efficiency and social justice

While taking into account the principles of sustainable development, the plans for the joint development of the road and rail sectors will enable us to manage the growing demand for mobility on land in a more global and efficient manner.

At the present time, the motorways around the main urban agglomerations and on certain stretches of the Swiss plateau, as well as the Alpine regions, are chronically congested and, in the long term, these bottlenecks could make the agglomerations less attractive from an economic point of view. This situation has led to increasing political pressure to improve the operation of the network. The proposed remedies include the use of telematics, extending the network, widening the motorways from four to six lanes, and developing public transport.

Through its social, economic and environmental implications, road planning is a vital instrument of sustainable development, two essential aspects of which are road transport and quality of life.

1. Introduction

People often notice the road only when problems arise outside their own front door. Otherwise, they use it every day without paying the least attention - to get to work, to take the children to school, to do the shopping, to go about their leisure activities. It is taken so much for granted that users generally forget how useful it is. Yet, the road is one of the key elements in the economic and social life of our country. And, by providing an efficient service to the peripheral regions, it is also a factor ensuring national cohesion.

The road and quality of life are both vital for the sustainable and harmonious development of our country.

2. The priority needs met by road construction

In the field of transport, Switzerland's current policy is to give priority to the provision of a high quality land transport infrastructure so as to enable people and goods to circulate as freely as possible. In this way, we hope to maintain or increase the attractiveness of our country for businesses and, thereby, our economic competitiveness.

For a better understanding of what people expect from the development of the road network, let us consider the salient points:

- ⇒ planning of the national roads, 1950 - 1960
- ⇒ 23 December 1959, federal resolution concerning the allocation of a portion of the import duties on fuel to road building
- ⇒ 8 March 1960, federal law on the national roads
- ⇒ 21 June 1960, federal resolution on the national road network
- ⇒ as of 2002, 90% of Switzerland's motorway network has been completed
- ⇒ completion of the network is scheduled for around 2015.

Initially, priority was given to the economic development of the country and it was to this end that stretches were built connecting the main towns on the east-west and north-south axes. Subsequently, we concentrated on freeing the peripheral areas from their isolation.

Currently, the focus is on completing the motorway network. The marked increase in traffic volumes, particularly close to the urban agglomerations, gives rise to congestion at certain points.

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3. General planning of the road infrastructure

The formal decision to construct the national road network was taken back in 1960. Right now, we are engaged in a coordinated process of drawing up the separate plans for the road and rail sectors. The plans themselves are implemented by the federal government in consultation with the local authorities and organisations concerned. This document will serve as the strategic instrument for coordinating and planning the road network over the coming decades. It may be revised and amended as necessary.

4. Effective decision-making tools to clarify the socio-economic criteria

Economic evaluation takes into consideration the costs of construction, operation and maintenance. Various criteria are used :

- ⇒ travel times
- ⇒ fixed and variable costs of vehicles
- ⇒ access to the main road axes
- ⇒ service provided to the peripheral regions

Hitherto, the examination of the appropriateness of road projects has been based on an analysis of utility value. The idea is that each of the interest groups consulted in the planning process gives its opinion on the basis of its own political and ethical concerns. The weighted sum of the scores obtained then serves to rank the variants in terms of preference.

Now, however, we are introducing a method for assessing and optimising road projects in accordance with the objectives of sustainable development. This method is based on a combination of conventional cost-benefit analysis, plus three separate utility analyses for each of the three facets of sustainable development, namely social cohesion, economic efficiency and protection of the environment.

5. Decision-making methods suited to the political level concerned

Switzerland is a federal state consisting of individual cantons, with decision-making powers being allocated to the regions in accordance with the principle of subsidiarity. Thus, there are separate systems of planning and decision-making for the national roads (generally motorways) and the cantonal roads.

The **national roads** are constructed by the cantonal authorities, which submit to the federal authorities road projects falling within an inter-regional scheme. These projects are then evaluated by the specialists of the Federal Roads Office and the Federal Office for the Environment, Forests and Countryside. Finally, the projects are implemented under the direction of the cantons, which are themselves under the control of the federal authorities.

Most of the **cantonal and communal roads** are constructed and maintained by the cantons and communes without intervention on the part of the federal administration. Just a few main axes are subsidised by the Confederation.

6. Evaluation of the impact of a road project on human activities

The impact a road will have is evaluated when the project is being drawn up. The environmental impact and a comparison of the costs and benefits form an integral part of project planning. A few years ago, the emphasis was primarily on the environmental aspects but we have now had to introduce cost-benefit analysis in view of the increasing construction costs.

In the long term, application of the principle of sustainable development should ensure that projects are evaluated in the round, with particular attention paid to the economic development of the country and its regions and to social cohesion.

Right now, we are introducing a method of assessing and optimising road projects in accordance with the objectives of sustainable development, i.e. social justice, economic efficiency and protection of the environment.

While our system of direct democracy may be cumbersome at times, it has the advantage of ensuring a good level of participation by all parties concerned. For this reason, protests leading to roads being blocked are few and far between.

Over the past ten years, the impact of the road on human activities has been varied and complex. Improved accessibility has brought the peripheral regions out of their social and economic isolation and permitted increased investment in these previously neglected areas.

Fast reliable connections between our cities have contributed to the development of the national and regional economy. Thus, businesses have better access to a qualified workforce capable of meeting their specific needs, while the market for goods and services has been expanded.

The rising volume of traffic on the trunk roads and around the main urban agglomerations gives rise to congestion and increases the dangers facing road users. These traffic problems tend in turn to reduce accessibility to city centres and to direct development away to the outskirts.

The massive increase in heavy goods traffic, generating noise and air pollution, has also had a baneful effect on the quality of life along the main road axes. Elsewhere, serious air quality problems have arisen in the alpine regions through microclimatic phenomena (inversion of the temperature gradient in winter).

An analysis conducted by Professor Baum of the University of Cologne in 2000 concluded that the added value generated by Swiss road transport (excluding transit) amounted to CHF 57.9 billion, of which CHF 14.9 billion in external value. This analysis has been the subject of heated debate among the Swiss specialists.

7. People's perception of the road system

The business community and private citizens are both increasingly conscious of the dysfunctions in our road network.

Recognising this problem, the authorities responsible for the roads are promoting a policy based, on the one hand, on the transfer of traffic from road to rail and, on the other, on improving the operation of the road system through specifically targeted infrastructure works.

As far as road nuisance is concerned, the most frequent complaints relate to noise, encroachment on the countryside, air pollution and climate change. In response, the political authorities have launched a vast programme to construct noise-walls and are increasingly insisting on roads being accommodated in tunnels and galleries. Measures to smooth out traffic flows, such as the use of telematics and the construction of exit roundabouts, should also help to improve air quality.

The imbalance between supply and demand in the road transport infrastructure exacerbates the conflicts of interest between road users, local residents and environmental protection groups. In the long term, the guiding principle of sustainable development should make it possible to resolve these conflicts in a more transparent and permanent way.

8. The roads of the future and sustainable development

Following the Rio Earth summit in Rio in 1992, Switzerland took the principles of sustainable development into account in the revision of its Constitution. Article 2 elevates sustainable development to a constitutional goal: "The Swiss Confederation favours shared prosperity, sustainable development, internal cohesion and cultural diversity in our country". Article 73 provides that "the Confederation and the cantons shall strive to establish a sustainable balance between nature - particularly its capacity for renewal - and its utilisation by mankind".

On this constitutional basis, the federal and cantonal administrations are engaged in establishing overall strategies. In 1999, the ministry responsible for transport publicly stated its strategic objectives:

- ⇒ to take into consideration the three aspects of sustainable development, namely ecological viability, economic efficiency and social justice
- ⇒ to apply the principle of prevention and the principle that the polluter pays
- ⇒ to serve the public by guaranteeing mobility throughout the national territory
- ⇒ to reduce risks to health and increase individual well-being

Working groups are currently engaged in developing the sectoral and supra-sectoral strategies, such as the sectoral road plan, the master plan for non-motorised travel and the master plan for sustainable mobility. The joint development of the sectoral plans for road and rail will ensure that proper account is taken of the complementarity of these means of transport

Putting the concept of sustainable development into practice has become a political necessity. Once the 1960 plan for the national road network has been completely implemented, all future extensions will have to be evaluated as a whole and in all their complexity in accordance with the principles of sustainable development. Given the increase in the costs of road maintenance and the trend away from a compulsory allocation of fuel taxes and duties, the funds available are set to become scarcer. Inevitably, therefore, road projects will have to be prioritised in transparent fashion.

Within the framework of its latest sustainable development strategy, the Federal Council has adopted the bases of a "vision zero" policy of road safety in order to reduce the number of victims of road accidents.

9. The main parties involved in the road sector and the interactions between them

The main parties involved in the road sector are :

- ⇒ the Federal Council
- ⇒ the federal authorities
- ⇒ the cantonal parliaments
- ⇒ the cantonal authorities
- ⇒ the national associations for the protection of the environment and the defence of the rights of road users
- ⇒ the professional associations
- ⇒ the local associations.

The way in which the tasks and powers are distributed between the federal and cantonal authorities is a question of some complexity and is presently under review. Financing is provided by the public authorities at federal and local level on the basis of the economic strength of the cantons and the significance of the road from the functional point of view.

Within the existing legal framework, major construction projects - particularly for roads - are drawn up in close cooperation with the persons or associations concerned. This participatory culture certainly has a positive effect with regard to sustainable development though, in certain circumstances, it can lead to local and special interests being favoured at the expense of the wider national interest.

10. Roads designed by a multidisciplinary team

The organisation of human activities in terms of space is governed by national and cantonal infrastructure development plans. It is on the basis of these plans that the cantonal authorities define their projects.

The roads in the cantons and communes are planned and built by the local authorities who call on the services of environmental and town planning experts as and when the need arises.

Projects for national and trunk roads are drawn up in accordance with a strict, predefined format (general project, working project and detailed project).

While the project is being drawn up from the technical point of view, a firm of consultants specialising in the protection of the environment conducts a general analysis of the environmental impact and checks compliance with the limiting values stipulated in the relevant legislation. The impact report is then passed to the competent federal administration for its opinion. The conclusions of the authorities responsible for environmental protection and technical control of projects are then taken up by the project group in charge of the following phase. Construction does not begin until after the project has been ruled to be in conformity and financing has been secured.

Major construction sites for national roads are often subject to environmental monitoring in order to ensure compliance with the requirements of the laws and regulations.

11. Conclusion

Through its social, economic and environmental implications, road planning is a vital instrument of sustainable development.

Given the increased demand for mobility that will need to be satisfied in the next few years, it is essential to establish an integrated approach based on a transparent weighting of the interests of the social, economic and political players concerned. Putting the principle of sustainable development into practice will enable us, in the long term, to increase the quality of life in our country.