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Traffic management in cross-border regions.

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Abstract

Cross-border regions form a specific case for transport management and policy. They have to face institutional, technical and financial obstacles caused by the frontier which can impede optimal planning of ecological and landscape-related issues. Public policy as well as managing of cross-border transport projects were affected by this. Moreover, growing mobility fosters the emergence of incongruity between spaces of living, functional spaces and institutional spaces in a cross-border region.

The paper draws on an integrative project which examines five regional case studies in the framework of Swiss national research programme 41 "traffic and environment" and which was designed to shed light on the specific situations emerging in a regional context.

The theoretical and methodological background of analysing transborder transport projects is described. A second part explains the more or less qualitative research method with its backbone, a mutual evaluation scheme. Thirdly, results will be shown about major research questions:

- How are decisions for cross-border transport projects arrived at?
- Which methods of collaboration between authorities and transport providers have proved to be successful?

Key words: traffic management; cross-border co-operation; transport and environment; decision-making process;

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2 Background

Cross-border regions are main areas of economic development. This statement seems to be somehow surprising, but for the case of Switzerland there is some evidence with it. Swiss border regions do play an important role in economic and spatial development. The main nodes of growth are touching the country's border, like the 'Greater Zurich Area' and the Swiss Midlands, or they are directly part of a transborder region, as we find in the Geneva region, in Ticino, in the trinational region of Basle or in the agglomeration of St. Gall which is part of the 'International Regio Bodensee' (lake of constance).

Regarding this role of border regions, it becomes evident for the authorities to ensure a development which reflects economic questions, regional, national and European demands as well as the quality of live and aspects of spatial and environmental development. Regarding this, two dimensions have to be taken into account:

- transport markets and the interactions between offer and demand within the framework of a national political system
- the influence of the external framework conditions on the function of a national traffic system

The field of tension between these two dimensions get very strong in the set-up of a cross-border project or a transnational policy. Even if the increase of mobility expands the permeability of the frontier, a more and more incongruency of spaces of function, spaces of living and institutional spaces can be noticed distinctly. This discrepancy may lead to dysfunction and to the affection of a regions environmental and life quality.

Traffic management in border regions has the target to design transport systems which are economical and at the same time environmentally sound, it becomes evident that it has to face a very knotty constellation. Problems in traffic management occur whether border regions are part of the great traffic axes or not. First kind of regions are getting too much traffic, the other ones have a hard time to stimulate transportation and getting it developed in a practical way. Still, both types of regions try to overcome the mentioned discrepancy by co-operating in transborder committees or bodies. They try to benefit from the current processes of reorganisation of the national railway companies.

That is where our research goes on: we try to identify the specific traffic problems of cross-border regions and we want to shed light on the conditions of the formulation of transport policy and the implementation of transport projects in frontier regions. We start from the hypothesis, that cross-

border regions form a specific case for transport management and policy. They are marked by some juridical, political and economical frictions which cause conflicts and unsolved problems, first and foremost in terms of spatial development and environmental protection.

So, what can be expected within the following pages is:

- an overview on the theoretical and methodological background of the analysis of regional transborder projects (section 2).
- The empirical work: the introduction of the geographical framework (section 3.1), the design (3.2) and and some selected findings (3.3) of a multi-regional research, which was conducted in the last two years and which is to be finished during summer 1999 (section 3.1).
- Conclusions and recommendations for better management of passenger traffic in cross-border regions (section 4).

3 The analysis of transport projects in cross-border regions

Transport policy and management has been object to multiple research and countless scientific reports. Likewise, the question of transborder regional co-operation has drawn the attention of a certain number of researchers. By contrast, the particular situation of regional transborder transportation has been studied quite less.

The field of transport has been analysed throughout the aspects of technology, economics, fare stages, effects of infrastructures or as well in terms of mobility in general. Lately, research had an eye on social acceptability of transport projects and it focussed the processes of planning itself. In Switzerland, research mostly focussed either on the great infrastructures of national and international transport or on the problems of cross-border agglomerations (Chatelus, Torricelli 1994; Pini 1987; Widmer 1995). However, the specific role of the border has been a side issue in these studies.

Regional transborder cooperation, which at the latest arose as a field of public policy with the Chart of Madrid in 1980, has become an object of great political actuality. It's scientific analysis has not been given the same acceleration to.

Findings about the building of transborder regimes in public transport were presented in the framework of the research on regional cross-border co-operation on environmental issues (Scherer, Blatter 1995, Schnell 1994, Pötsch, 1994).

3.1 Presumptions about specific problems

As a starting point for the research we assume, that *cross-border regions form a specific case for transport management and policy*. In international regions we have an incongruity between the administrative borders of transport policy and the radius of public transport systems. At least, long-distance traffic do cross the national borders. But the design of a regions transportation system usually ends up with the frontier. The simple principle is: pay for your own people's needs only. No local or regional councillor will make an easy decision, when money has to be spent for the benefit of 'the others'.

However, cross-border regions face specific problems of institutional, technical and financial origin. These Problems were caused by impacts of the border, which separates political and societal areas.

3.2 The Design of the Research

Starting with the central hypothesis was completed by the formulation of a set of common working hypotheses which describe several levels to formulate our research questions:

- the spatial context
- the environmental context
- the system of cross-border co-operation
- the system and the actors of transport management and some
- general assumptions.

These points form the key features of the *common evaluation scheme*. Based on the mutually developed working hypotheses, interview guidelines were carried out. Also the framework of the synopsis was based on this scheme.

To serve the whole complexity of the mentioned situation of transportation in cross-border regions, we put public transport projects as a focus for research. The following graph outlines transportation policy in cross-border regions as a research issue.

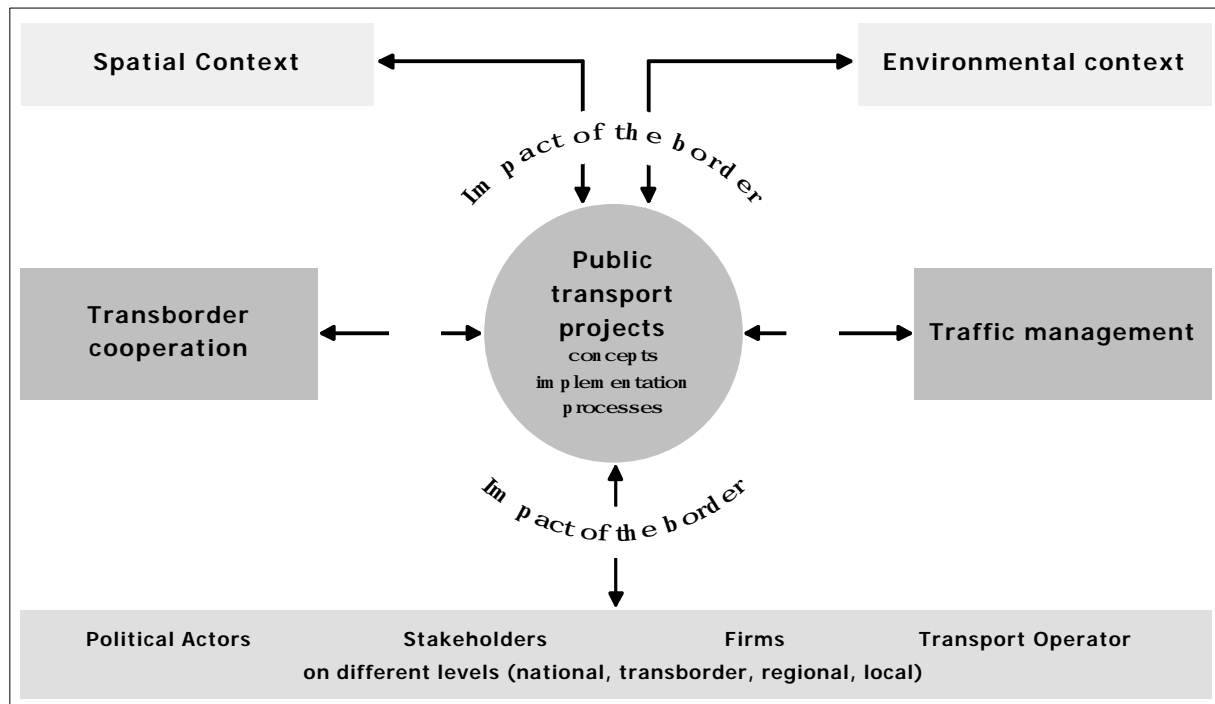


Chart 1: COMMON FRAMEWORK FOR THE CASE-STUDY BASED ANALYSIS

The case studies were oriented in the interconnections between the different field (see graph). The problem of the frontier, e.g. obstructive or supportive effects of the border, affects the environmental and spatial context. Focussing transport projects, we examine, who, where and when decides. That sheds light on the black-box of cross-border co-operation and on how the transport projects co-operation fit in the regions transport policy and it's policy of co-operation.

3.3 Framework conditions to be taken into account

The analysis of transborder transportation projects has to take in to account framework variables in the field of transport policy, the policy of cross-border co-operation and the policy of spatial development and sustainable development. These conditions have to be looked at national level in Switzerland and the neighbour states and to a certain degree at an international level.

Public transport in Switzerland

The federal government passed a revision of the federal bill on railways in 1998. By that, the stage should be set for a better use to the capacity of the infrastructure. Furthermore the government intended to motivate the railway companies to higher performance and efficiency. The new bill is a prerequisite for the Swiss rail companies to get free access to the European railway market and the other way round.

The particular modules in Swiss railway reform were:

- Homogeneous rules and more competitive elements, to create identical starting positions for all operators.
- The separation of the fields of infrastructure and operation
- Introduction of the "Bestellprinzip", which means that for all offers of railway-lines which were supported by the federation and the cantons, there has to be an agreement reached which fixes the compensations a priori. No additional payments will be given.
- Free Access for all operators in freight and irregular passenger transport. Concessions for regular passenger transports will also be called out in future.

Public Transport in the neighbour countries

In the last few years, European traffic was characterised by the European Union's intention to liberalise transport markets and to support new forms of organisation for the railways (e.g. EU-Directive 91/440 about the development of the community's railway enterprises).

A number of European countries are about to transform the directive 91/440 in national law, like Austria, Denmark, Finland, France, Germany, Ireland, Holland, Sweden, United Kingdom). A close look at France and Germany:

In *France*, the new railway law from February 1997 contains two main parts: first is the clarification of the responsibilities of the authorities and of the national railway company SNCF. The state fixes the principal characteristics of the national railway net. A new federal institution was founded (Réseau Ferré de France RFF) which has the responsibility for the railway infrastructures. their development and financing. Second part of the law is the regionalisation of railway transports, which continues the process of decentralisation of the beginning 1980's. Voluntarily, a region like the Alsace or the Rhône-Alpes, could take over the competence for regional transport for a three years experimental phase. The region then will be able to decide about the level of quality and the use of the annual subsidies for transportation, which otherwise would be transferred to the SNCF.

In *Germany*, the two national railway enterprises Deutsche Bahn/FRG and Deutsche Reichsbahn/ GDR, have been integrated in the new Deutsche Bahn AG (DB) in 1994, a private corporation, that is completely controlled by the state. In 1999, the DB is to be transformed in to holding and several subsidiaries.

Since 1996 Germany also has a regionalised public transport system. As in Switzerland, the offer in public transport is defined by the regional authorities. But the situation depends on the provision of the particular 'Bundesland'. In Baden-Württemberg, which is the most important neighbour state to Switzerland, public transport supply is "ordered" either by the 'Nahverkehrsgesellschaft', which is controlled by the state, or by the districts or the regions. According to the Swiss procedure, agreements fix the compensations before the relevant period of time.

Public Transport between Switzerland and her neighbours

Co-operation on transport issues in future will base on the bilateral negotiations between Switzerland and the EU. Additionally there are single conventions with Germany, France and Italy.

A good example for railway co-operation right now is shown by the Mittelthurgaubahn (MThB). The MThB took the opportunity to be active in Germany as soon as free access has been claimed. A subsidy was founded in Germany, which got the access on the European net. Working together with the Deutsche Bahn AG, the 'MThB (Deutschland) AG' carries mineral oil from Karlsruhe (upper-rhine) to the Swiss canton of Thurgau. DB-Trains with the oil coming from Rotterdam were taken over by MThB staff and conducted to Switzerland. The convoys pass the border without being changed, which permits a rationalisation and a better disposition (Schnell, Thierstein 1999).

Spatial Development and Sustainable Development in Switzerland

The Swiss government and parliament passed the document 'Grand Lines of Spatial Development' in 1996. These Grand Lines outline the desirable development of Swiss territory. The included strategies and fields of action mark the important role of traffic infrastructure for spatial development. But they also face the fact, that traffic is one of the main causes for the analysed problems of spatial development. The Grand Lines - as well as actions plans on Sustainable Development - force the federal authorities to co-ordinate their spatially relevant policies across administrative and state borders. In addition, all authorities, including cantonal, regional and local, are obliged to co-operation by federal law on spatial organisation.

Spatial Development and Sustainable Development in Switzerland

The most integral document and the one with the widest range in time is the 'European spatial development perspective (ESDP)' (European Commission 1997). The ESDP makes clear, that the interactions between transport and communications nets have to be analysed not only on a European and a national level, but also at a regional level. The ESDP identifies crucial themes to European spatial development, which were completely relevant to transport issues: the changes in urban structure, a new role and new functions of the rural areas, the trends in traffic and communication and the continuous strain on Europe's cultural and natural heritage.

4 Comparative analysis of five Swiss border regions

4.1 The framework of the regional case studies

The five Case Studies are situated in the border areas between Switzerland and his neighbours Germany, France and Italy.

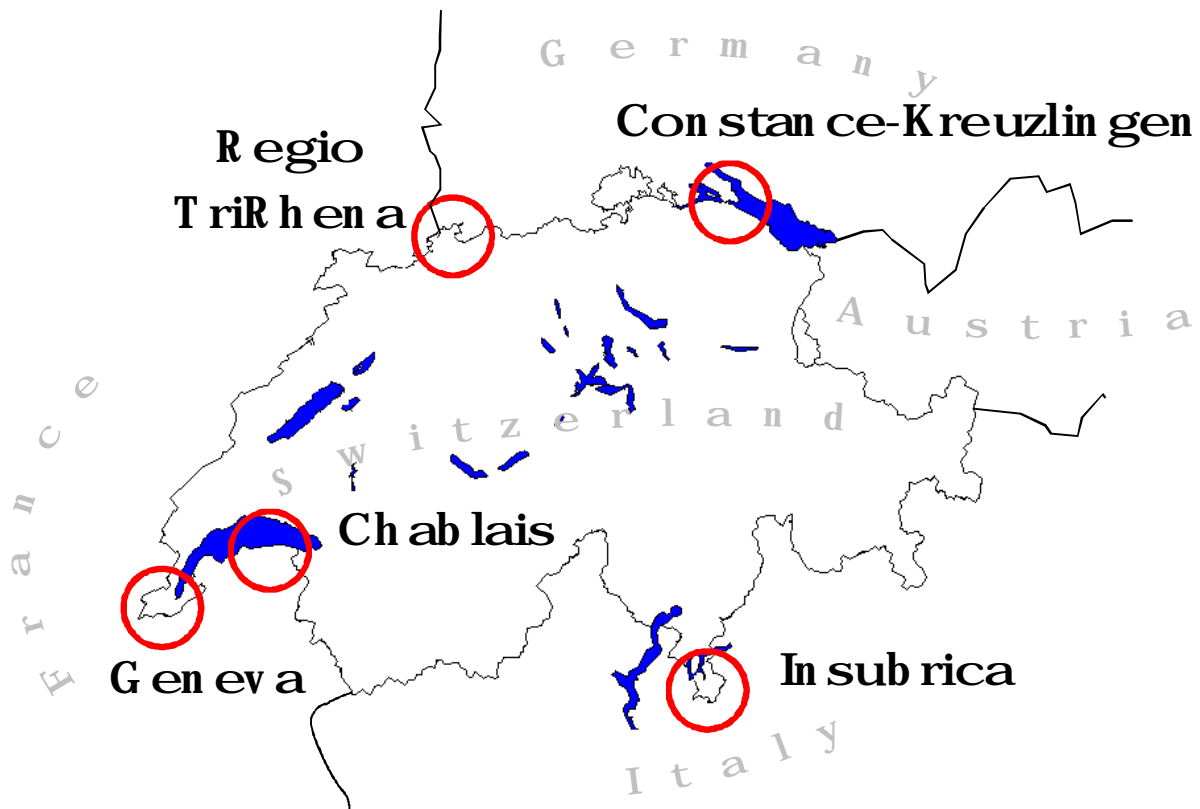


Chart 2: THE FIVE CASE REGIONS

The Regio TriRhena in the upper-rhine valley

The regions centre is the agglomeration of Basle (CH). The suburbs in the hinterland belong to Switzerland, France and Germany. About 40'000 cross-border commuters a day stream into the agglomeration. Transport planning is complicated by the different structures of urbanisation in the three parts of the transborder region. Opposite to the Swiss urban centre we have a net of german middle sized towns and a dispers settlement with a centre in the north in the Alasace (F).

The two examples which were examined are part of the 'Regio-S-Bahn' (Green and Red Line). The case study was conducted by Wohnstadt/Plattner, Schultz & Partner, Basle (Würmli, Plattner 1999).

The Region of Constance/Kreuzlingen

Cross-border traffic in the region of Constance is determined by the lake of constance. It separates most parts of the international region. One point of contact is the "twin-city" of Constance-Kreuzlingen. The flows of traffic are not as important as in Basle, but they were channelled on a very small area. Two projects have been examined: the 'Linie 8' is an urban bus line which started in 1963. The 'Seehas' is an innovative regional railway project by the

Mittelthurgaubahn, a Swiss private company, which operates on both the Swiss as well as on the German side of the border (Schnell, Thierstein 1999).

The Insubrica Region

The region of the insubrian lakes, or the Insubrica region is located on the southside of the alps. The region is the only part of the Italian terrestrial border where no morphological barriers restrains exchange. The regions most active area is the network of the cities of Lugano (CH), Como (I) and Varese (I). Like in Basle, Insubrica faces a huge amount of transborder workers (about 30'000 in 1998). Additionally, the region suffers from the immense north-to-south transit flows, coming from the highway and railway line through the Gotthard-tunnel.

The two analysed projects were the international railway station of Chiasso-Como and the new cross-border railway line Lugano-Mendrisio-Varese. The case study has been carried out by the Istituto di Ricerche Economiche IRE (Fischer, Torricelli 1999).

The Region of Unterwallis (Chablais)

The Chablais, between the Swiss Canton of Valais and the French Haute-Savoie, seems to be an isolated region with a lot of structural problems. One common interest is the revitalisation of the railway line at the southern bank of the lake Geneva. This 'Tonkin' line and an additional study of the Mont-Blanc Express were conducted by the Studies Community for Territory Management (C.E.A.T.), Lausanne (Mettan, Erlanger 1999).

The Franco-Geneva Region

According to the geographical situation of the Geneva region, it has been a crossing-point for exchanges during his history. The fast economic development leads to a number of cross-border commuters, similar to those of Insubrica and to Basle. Geneva faces vast problems of congestion and pollution in the urban area as well as in the region. The project, which was object to the case study, is the Transport collectif à haute performance (TCHP), a transborder tram-line between Geneva (CH) and Annemasse (F). This line was designed to be used mainly by transborder workers, who formerly used their car to reach their workplaces. The projects relevance comes from a new form of transborder institutionalisation and from the intended effects on the regions structure of urbanisation. Researchers was the Laboratoire d'économie appliquée (LEA), University of Geneva (Pini, Widmer 1999).

4.2 Success and failure

Spatial and environmental context

A good example we find in Basle, where the will to take the trends of spatial development into account is very strong. And the authorities of the city of Basle have the competence to enforce their point of view, even if there are different states of sensibility to environmental issues. In a situation similar to the one in Basle, in Geneva, we find different results. The city's problems have had not much influence on transborder transport policy until now.

In other regions, like for instance Constance, we find a weak perception of shopping and leisure time traffic, which is definitely one of the major sources of transborder traffic.

In the Chablais we have a well known situation: the issues of the transborder region are of very little interest for the political actors.

System of transborder co-operation

The example of the Seehas marks it: if there is a strong will to co-operate, solutions will to problems will be found sooner or later. In this project we had the situation, that the railway lines ended up in a dead end in the railway station of Constance. The trains of the Deutsche Bahn AG (DB) as well as those of the Mittelthurgaubahn (MThB) had stops of up to 40 minutes. This operational problem, paired with the new competence of the Landkreis (district) of Constance, which benefits from regionalisation, gave room for innovative ideas. Direct contacts and an ideal timing with the changing framework conditions made a simple solution possible: the MThB, smaller and more flexible than the DB, took over the German Line. So a new cross-border line was created by combining two railway lines, that each are in different responsibility and have different sources of financing.

Transport policy

In none of the case regions, there exists a common development plan or a mutual 'vision' of the transport policy. This absence of a common framework was quoted by most of the actors not to be decisive for cross-border transport policy. But, in the case studies it becomes evident, that the co-ordination of projects and the tuning of the different transportation modes within the regional system of transport gets very complicated without such piece of common ground.

Another obstacle to efficient regional transport in cross-border regions is the weight of supra-regional logic. This is evident in the case of Insubrica, as well as in the region of Constance.

Operating / decision process of the project

On the one hand we find that the absence of a common responsible institution causes many problems. The Regio-S-Bahn's biggest problem was the diversity of the institutional landscape. Especially on the German side there was a great uncertainty of who pays for what. A lot of time had to be invested, until the two lines could be run. On the other hand, the same situation was at no time a crucial obstacle to a solution in the region of Constance. The 'trick' is to add the sections of the German and the Swiss side. In this situation it proves to be an advantage, that with the MThB there is one Operator running the line. This enables optimisation on an internal corporate level.

In the Tonkin case in the Chablais region case we have many actors, but no 'responsible body' who thinks regional. In the case of the Mont-Blanc-Express the two sides mutually bought and run the rolling stock.

It becomes evident, that the examined projects within the five case regions represent a broad variety of issues and a complex and different sets of framework conditions. Nevertheless, it seems possible to derive some common characteristics, for instance if the same national standards are given. Therefore, the evaluation schemes key features will be discussed in the next section.

5 Perspectives for public transportation projects in cross-border regions

5.1 Discussion of the key features of the evaluation scheme

Spatial and environmental Context

It must be distinguished between the cases, where the spatially relevant respectively the environmental problems are determined by internal factors of the region (like in Geneva or Basle), and the cases in which the logic of transit or of supra-regional issues play the important role (Insubrica, Chablais, Constance). In the last-named, the region suffers from the inconvenience of traffic, notably heavy road transportation, without on the other hand being able to benefit from the economic advantages.

Environmental arguments generally play a secondary role. They were needed for the promotion of a project, but they are no key elements of the transborder public transport projects examined.

System of transborder co-operation

The bodies of the general system of transborder co-operation play the role of a facilitator. In transborder transportation projects those institutional actors were mostly active in an initiating phase of the project. They can be 'imaginators', people who generate ideas and push projects. In other phases of a project, members of transborder bodies may facilitate decisions. In other cases mainly, when there are no non-institutions milieus, there might be the danger, that the actors in transborder institutions act as a blocking minority.

Transborder options proved to be the better solutions for transport problems in several cases. But this seems to be no automatism: even if a general improvement of the social benefit of a transborder project is expected, such as improving modal split in favour of public transport, decrease of pollution, etc. it is not synonymous with an increase of the financial benefit.

Transport policy

There is a sort of concurrence between regional and transnational mobility. In this situation, long distance traffic is given priority. This is clearly not proper to the situation of a transborder region. It shows the necessity to fit the regional transport system into to higher level systems. But, this means: those higher level systems must not be orientated nation-wide, they must take into account interregional or transnational needs. As the case studies clearly show, small steps towards an optimised integration of regional and national systems, such as harmonisation of timetables, tariffs or possibilities for common exploitation of infrastructures cause mean effects.

Regional traffic is in competition, not only with long-distance traffic, but also with freight transportation. If the predicted rates of increase in traffic prove to be right, the transportation systems as we know it today, will soon reach their limits. The privatisation of the national railway companies and free access in the European railway system will furthermore boost this trend.

If there is any possibility for exchange of perceptions about desirable development, problems and solutions between the partners on each side of the border, there is no need for a formal transborder transport development plan. But if not, the process of working out such a document should be the opportunity to be seized.

Last, but not least, a best-practice approach seems to be promising. The Seehas project for instance served as a 'model', or better as a motivation for the Regio-S-Bahn in the Basle region. Even if the efforts in the upper-rhine region started years earlier, the 'newcomers' from the Lake

of Constance were able to show another possibility to set up a cross-border railway system. On the other hand, the tariff system in North-east Switzerland (incl. cross-border seasons tickets) was an initial idea for other regions.

Mobilisation and organisation of the actors

An important question have been the changes in the rooms for manoeuvre of the regional actors. Regionalisation of public transport systems indeed brings more competence to the regional level. But, in the case studies it can be shown, that the regions still are dependent from the national level. The competence to decide, to formulate policies and to set law must be accompanied by the possibility of financing projects.

Are the differences of culture and of administrative practice an obstacle for transborder projects? It is clear, that the circle of deciders is not congruent with the circle of those who will be affected by this decision. Once again, the existence of possibilities to exchange perceptions, to simply know each other, decreases the effects of these differences.

The political will is a *conditio sine qua non* to initialise projects. But an even stronger factor is the existence of a patron, a person who will be the promoter of the project. Of course, projects might get be susceptible in case of political change.

5.2 Recommendations for transport projects in cross-border regions

Planning stage

- Support a perspective of spatial development from a point of view of the entire border region. The more a project is looked at from this perspective, the more success gets reasonable.
- The concept of regional sustainable development may serve as a common reference.
- Transport projects need accompanying measures to influence people's traffic behaviour.
- The 'hinge' between regional transport and long-distance transport has to be articulated. Only a regional project which fits in the higher level transport systems will be successful.

Setting up a specific project

- Do not face the great success. Realise the feasible step by step. Give priority to the usage of the existing net best possible. New infrastructures have a secondary priority. Steps lead to the

intended goals, if they are guided by a master plan. Existing contacts and structures have to be used within this step-by-step policy.

- Disregard bureaucracy to the largest extent possible
- Keep in mind that two or three involved regions mean: two or three transportation systems and two or three ways to do right. Every problem will occur two or three times - and the weakest mechanism determines the solution of the problem.
- Reduce Complexity. A successful transborder project need a broad support - not only within the established transborder co-operation. The actors which are really needed for a projects success should be involved directly.

Implementation and operation

- Improve the conditions for financing regional transborder projects, for instance with the help of a fund like INTERREG.
- Do not use prototypes
- Think about the necessity to create new competence or to establish new institutional or juridical tools on the level of the cross-border region.

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