
DESIGNING SUSTAINABLE TRANSPORTATION POLICY FOR ACCEPTANCE: A COMPARISON OF GERMANY, THE NETHERLANDS AND SWITZERLAND

Christian Hirschi*, Walter Schenkel**
and Thomas Widmer*

*Department of Political Science, University of Zurich

**Synergo – Planung, Beratung, Projektmanagement,
Zurich

Abstract

Almost everybody would welcome – at least in a general sense – a transportation policy designed in accordance with the principle of sustainability. But there appears to be insufficient support for moving toward sustainability in transportation policy. The main question this article poses is therefore: How can the acceptance of sustainable transportation policy be improved? We investigate this question using three clusters of measures: transportation management in agglomerations, infrastructure financing for large-scale projects, and combined freight transportation. A comparison of the three clusters in Germany, the Netherlands and Switzerland shows mixed results: The acceptance of regulatory measures depends more on political-administrative traditions in each country than on the particular policy instrument. Measures designed in a comprehensive manner are not necessarily less accepted, as we had theoretically assumed. On the other hand, our theoretical assumptions regarding the time perspective of the measures were largely confirmed. The main challenge for the acceptance of a sustainable policy is to reconcile specific short-term measures with a long-term sustainable strategy.

Introduction

The concept of sustainability tries to integrate an overarching, long-term perspective on environmental, economic and social development. Policies designed to bring about sustainable development are therefore often inevitably in conflict with the short-term interests of political actors and with the agendas of specific interest groups. This makes acceptance of such a concept in the political process more difficult.

Transportation policy, with its various links to the environment, spatial planning, economics, and society, as well as its increasing internationalization, is particularly acutely confronted with this problem. We argue it would be more accurate to see sustainable transportation policy not as a cluster of more or less environment-, economics- and society-friendly political measures, but rather as an interface of different policy problems, political approaches to problem solving, and various – mostly legitimate – interests of diverse political actors. Policy makers and scientists should pay as much attention to the quality of process-oriented as they do to policy-oriented measures (see Widmer et al., 2000: p. 14).

How can the acceptance of sustainable transportation policy then be improved? To answer this question, it does not fulfil the requirements of the concepts of acceptance nor of sustainability to take only the policy outcome and its acceptance (e.g. in public votes or opinion polls) into consideration. Instead, we have to turn our attention to the design of the policy process and consequently to the involvement of different political actors in the individual phases of policy-formulation, decision-making and implementation, as well as to the implementation strategies and the policy design in procedural matters.

Thus, we understand the acceptance of political measures by target groups and the public not as a given value but as a variable, open to the influences of communication instruments and learning processes over a longer term. The acceptance and implementation of rules for process and discourse is therefore often more important than the acceptance of the particular design of the political measure itself. From this point of view, the design of the political process is a concept that overlaps that of the policy, in this case a sustainable transportation policy. In our theoretical considerations we therefore

add the quality of the political process as a fourth dimension to the three pillars of sustainability. Our assumptions are consistent with political science research on the practices and activities of the modern state. This research tradition increasingly argues that there has been a change over the last decades from the interventionist state to the negotiating or even cooperating state (Benz, 1994; Grimm, 1994; Voigt, 1995; von Prittwitz 1996; van den Daele and Neidhardt, 1996).

The findings presented in this article are the result of a comparison of transportation policies in Germany, the Netherlands and Switzerland, and are based on a research project financed by the Swiss National Science Foundation (see Widmer et al., 2000). As part of this research project, we interviewed representatives from the policy-making, administrative, scientific and societal realms in each of the three countries, and also conducted extensive document analysis. The interviews gave us the opportunity to discuss specific implementation problems, improvements in policy-making processes as well as the findings from our own research. Most of our meetings were held at transportation and environment ministries, in administrative offices, and at non-governmental organizations. Based on this research, one of our goals in this article is to determine who can learn from whom. We also wish to uncover how sustainability and public acceptance are understood and why political processes work the way they do in Germany, the Netherlands, and Switzerland.

The article is structured as follows: In the next section, we derive specific hypotheses based on theories of sustainability and acceptance, and these guide our analysis. Particular emphasis is laid upon actors and their networks, as well as on the use of policy instruments. Then we investigate our theoretical assumptions by means of three clusters of measures chosen from the wide range of possible topics one could address at the national level of transportation policy: transportation management in agglomerations (esp. measures at the national level), infrastructure financing for large-scale projects, and combined freight transportation. Finally, we compare the political processes in these three clusters in Germany, the Netherlands and Switzerland, taking into account political structures and processes as well as the current problems specific to each individual country.

Theoretical Framework

From a theoretical point of view, two concepts form the core of our argument: sustainability and acceptance.

Sustainability

Over the past decades, increasing mobility has become an ever-heavier burden for the environment and human beings to bear. However, increasing mobility can also be explained by phenomena which in themselves are neutral: a) societal developments such as emancipation and individualization, b) economic developments such as internationalization and new structures in the organization of production, and c) technological developments, for example in the fields of new infrastructure and methods of transportation (Baggen, 1994: pp. 22-6; Button, 1993; Dunn, 1994). Obviously, mobility has both positive and negative effects. Increasingly, the danger is that negative effects on the environment may neutralize (or even overcompensate for) the positive economic and social effects.

The concept of sustainability attempts to resolve the contradictions inherent in these developments. Since the 1992 Earth Summit in Rio de Janeiro, there have been extensive efforts to implement the concept of sustainability by governments, international organizations, local authorities, businesses, citizen groups and individuals. But contrary to many of today's discussions, the concept of sustainable development is not primarily ecological in nature. Its strengths lie in its cross-sectional character that integrates economic, ecological and sociological aspects. Theoretically, these three dimensions are of equal importance, but the political reality is that the three aspects are not balanced. The environmental dimension, in particular, is yet to be integrated into all of the policy issues. Despite the conceptual success of sustainable development in many fields during the last decade, there is a distinct paucity in actually implementing sustainability into specific political measures. The clever and easily remembered concept of sustainability, one fears, is too similar to a good commercial slogan (Thierstein and Walser, 1997). Apart from the difficulty in translating a long-term perspective into current political action and its evaluation (Widmer 2002), the difficult thing is that the three dimensions of sustainability are comprised of three problem dimensions with three different focuses, which complicate the

political negotiation on political measures seriously. From the perspective of economy the complexity of the problem can be described as follows (Thierstein and Walser, 1997; see also Daly, 1992):

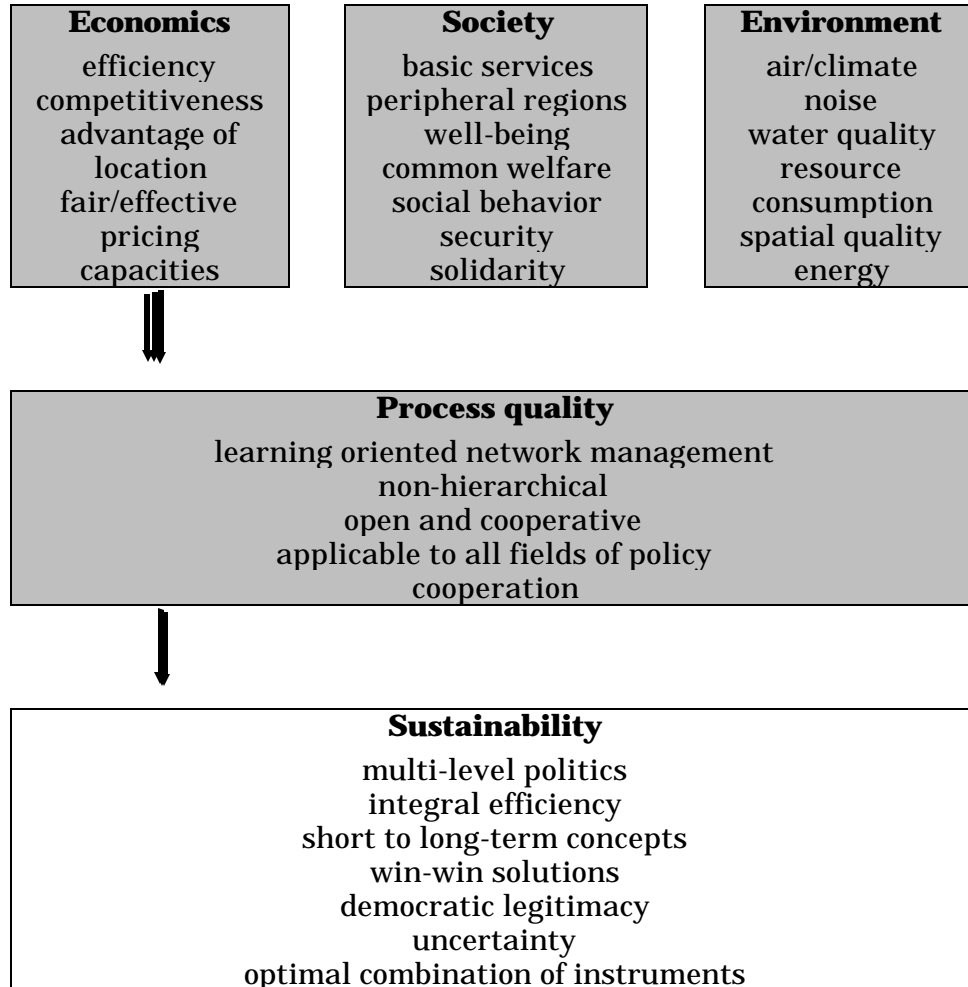
The problem of efficiency (economic dimension) dictates the necessity of optimal use of resources and emphasizes allocation.

The contingency problem (ecological dimension) describes the necessity of limiting the overall use of non-sustainable resources (focus on scale).

The problem of distribution (social dimension) defines the necessity of a relatively equitable distribution of resources so that social and spatial cohesion is guaranteed (focus on distribution).

Because of the different problem dimensions, the plurality of goals that are subsumed under the concept, and the heterogeneity in political and societal actors' involvement in negotiations, there is a stronger need for cooperation and consultation in sustainability than is true for some other policy goals. It is particularly important here to establish political priorities and select appropriate evaluation methods, for it is often forgotten that sustainability in essence is a normative concept. Neither science nor politics can devise a generally applicable definition (see Ernst Basler+Partner, 1998). Therefore, we suggest complementing the concept of sustainability by adding the quality of the process as a fourth, overlapping dimension to the three existing pillars of sustainability provided by environmental, economic, and societal criteria (see Figure 1).

Figure 1: Sustainable development through cooperation



Bringing together environmental, social and economic developments are likely to create conflicts which cannot be resolved in a simple manner. By this view, the criteria for a sustainable transportation policy – as listed in the three pillars of sustainability in Figure 1 – will not be sufficient, and variables for a sustainable policy process will need to be developed. Thus, sustainability must provide long-term learning processes that leave scope for establishing ethical and moral values. Learning oriented network management (Kickert et al., 1997), non-hierarchical steering within

open and cooperative policy processes (Weidner, 1993 and 1996) and permitting uncertainty (Cameron and Wade-Gery, 1995) are all concepts which address this need (see also Baker et al., 1997).

Of course, a well-established concept of sustainability does not automatically guarantee its acceptance and implementation. On the contrary, establishing the acceptance of comprehensive, long-term concepts such as sustainability should be viewed as a particular challenge. A strong process perspective can make a contribution by identifying the critical independent variables for the degree of acceptance of a sustainable transportation policy.

Acceptance

In Switzerland, with its semi-direct democracy, the concept of acceptance is often understood to mean popular acceptance, and that can be readily measured through the results of popular ballots at all political levels. The search for political solutions and consensus at early stages of the decision process has followed a routinized pattern of consultation and hearings. For a long time, the pre-parliamentary consultation procedure was the most important channel for exerting vertical influence during the policy formulation phase. But the level of acceptance by the actors involved remains unclear at this stage. It is difficult to assess either the acceptance or influence of the cantons, communes and interest groups that are involved, and both depend heavily on the relevant responsible federal agency.

Germany and the Netherlands display the opposite pattern. Conclusions about public acceptance may be fairly straightforwardly drawn from the expressions and attitudes articulated by political parties, interest groups and in the media. Whether such conclusions are accurate often remains an open question, since public opinion polls cannot substitute for the legitimization that is established by a direct democratic plebiscite.

The concept of acceptance refers to a positive, tolerant attitude towards normative principles and regulations. Acceptance is not an exclusively objective concept. Instead, it has a strong subjective component and is consequently prone to "manipulation". Political systems attempt to establish acceptance mainly by means of communication and interaction, or according to systems theory, "politics is communication" (Luhmann, 1981, p. 149; see also Willke,

1987). Procuring such acceptance can come about either through a one-way or a two-way process. One-way acceptance relies on the fact that relevant parties will subordinate themselves to the views of the authorities. Two-way acceptance assumes that both relevant parties and the authorities will turn away from their traditional behavior and activities in order to collaborate more closely with one another. In order for this model to work, a key condition is that flexible and open channels of participation be established at the outset of the process, and they need to be made responsive to the individual concerns of interest groups and the population. Weidner (1993: pp. 225-234) lists mediation procedures as one example of a problem-solving mechanism that is based on dialogue and consensus. The aim of such procedures is to improve the flow of information, to establish frameworks for action, as well as to regulate decision-making processes and discourse among a network of actors.

To investigate the acceptance of political measures in a policy-making process, it is indispensable to look at the stages of the policy process with respect to their specific acceptance conditions. Depending upon the phase of policy-making and the characteristics of the actors involved, different success criteria may be assumed for differing degrees of acceptance (see Table 1). The degree of acceptance in this case describes the degree of support for a sustainable transportation policy by the relevant political actors, where the relevance of actors depends on the stage of the policy process.

Table 1: Actors and success criteria

Process phases	Actors	Success criteria for acceptance
Agenda setting	Articulator	<ul style="list-style-type: none"> - basic knowledge - epistemic communities - communication - access to the political process
Policy formulation	Formulator	<ul style="list-style-type: none"> - expertise - openness towards innovation - process transparency (communication) - process openness (participation)
Policy decision	Decision-makers	<ul style="list-style-type: none"> - appropriateness of the decision-making level - legitimacy of the decision-making authority - decision transparency - consensus on basic values
Policy implementation	Implementer	<ul style="list-style-type: none"> - legitimacy - regularity - economic viability
Policy effect	Addressees	<ul style="list-style-type: none"> - problem perception - insight into effectiveness - limited intrusiveness

Hypotheses

It can be assumed that strategies designed to take into account patterns of individual attitudes, as well as the behavior of relevant actors in specific stages of the policy process, can hardly lead to a sustainable transportation policy. Environmental awareness, however, and in particular appreciating that environmental policy measures can be economically advantageous, can influence acceptance. The new economic motivation behind ecological awareness is crucial, given that the individual perception of global environmental threats has decreased dramatically during the last decade. This can be illustrated by drawing a comparison between current environmental attitudes and the perception during the mid-1980s in various European nations that acid rain was killing the

forests (Franzen, 1997; Schenkel, 2000: pp. 170-172).

In the case of supra-regional environmental problems, therefore, decision-makers cannot rely on the environmental sensitivity of those affected, but must instead develop procedures and measures that can result in both subjective and objective acceptance. The trend towards increasing negotiation, dialogue and participation with non-governmental actors that political scientists have observed can be partly explained by the increasing difficulty governments have in securing the acceptance necessary to solve specific problems (Scharpf, 1994 and 1999). Because traditional decision-making procedures no longer appear to function as well, governments increasingly rely on such collaboration, which in turn permits them to redistribute their responsibilities and concentrate more on process and network management. Top-down strategies clearly are no longer the solution in every case and thus begin to lose effectiveness (von Prittwitz, 1996; see also “Der argumentierende Staat” in van the Daele and Neidhardt, 1996). In this sense, “designing policies” takes on a double meaning. It is not just a mix of policy instruments (the product dimension of “design”), but also a policy process that leads to a certain arrangement of political measures (the process dimension of “design”).

These theoretical assumptions enable us to derive our hypotheses. The dependent variable is the *degree of acceptance in the political process* for given measures in sustainable transportation policy. The degree of acceptance is understood as the degree of support for a sustainable transportation policy that is provided by the relevant political actors at specific stages of the policy process (see Table 1). The independent variables are the theoretically expected critical influencing factors: the type of policy with regard to its function (according to Lowi, 1964), the material and temporal inclusiveness of the designed policy, and the corresponding characteristics of the political processes.

Hypothesis 1: *The less a policy design lays stress on regulatory measures, the higher the acceptance of a sustainable transportation policy in the political process.*

The independent variable of hypothesis 1 is the design of a political measure with regard to its function. Lowi (1964) already drew the distinction between distribution, regulation and redistribution functions. We confine ourselves here to a dichotomous

regulatory/non-regulatory variable, because we are only interested in whether a political measure directly raises costs and whether it reduces or expands the alternatives open to private individuals. Regulatory policies are distinguishable from distributive policies inasmuch as regulatory decisions at least in the short run involve a direct choice as to whom will be indulged and whom deprived (Lowi, 1964: p. 678). The relatively short history of environmental policy shows that regulatory measures increasingly reach their limits in terms of performance (for empirical evidence in Swiss clean air policy see Widmer, 1991). Regulatory measures are often connected to rising costs for a specific group of individual and corporative actors. Political measures which directly affect the addressees' particular environment are more difficult to accept – and acceptance also depends on the addressees' capacity to pay the costs that arise thereby.

The important question is also how strongly addressees perceive a measure as an intervention in their individual environment and habits. The presumption is that acceptance will be low for measures that intend to bring about a change in behavior. It is therefore essential that an open and transparent process permitting addressees to participate be an integral part even of the policy formulation and policy decision phases. According to Linder and Peters (1991), a “conscious policy design” addresses two separate problems that are tied to actors and instruments. On the actors' side, rule-makers (i.e. decision-makers, implementers) demonstrate particular qualities at several procedural stages, and these are policy design variables that can be manipulated. One of these qualities is crucial: *flexibility*. A flexible rule-maker can take special circumstances into account and can then respond appropriately. Other criteria include *centralization*, reflecting actors' choices and how they handle rules, and *accountability* (culpability, accessibility, responsiveness) (see Linder and Peters, 1991: pp. 132-135). To reach long-term sustainability, such procedural characteristics have to be part of the policy design. Moreover, this is the only way that offers long-term, durable solutions to compensate for the state's lack of overview, insight, and enforcement power. In the terminology of “network management” (Kickert et al. 1997), a policy-articulator's strategy must be to strengthen a system's self-regulating capacity instead of setting new sanctions. Furthermore, an open and transparent policy formulation process helps to avoid potential opposition at later stages of the policy process.

Hypothesis 2: *The more inclusive the design of a sustainable transportation policy is, the lower its acceptance will be in the political process.*

What is regarded as a problematic issue in transportation policy varies considerably since the points of view of the articulators, formulators, decision-makers, implementers and addressees differ with regard to space, time, and politics. Consequently, the independent variable of hypothesis 2, defined in theoretical terms as “inclusiveness” (Linder and Peters, 1991: pp. 135-140), may contain aspects ranging from the approximate utilization ratio of existing transport ways, to the threat to environment and society, an appraisal of the financial scope for action, or sharing traffic volume among the different carriers (“modal split”). The problem is precisely that inclusiveness cannot be separated from the degree of intervention (“intrusiveness”, see Linder and Peters 1989: p. 40).

But the variables in fact describe two different dimensions of intervention. The degree of intervention as a criterion refers to a measure of the level of intrusion into private affairs, whereas inclusiveness describes the range of the measures taken in a horizontal sense, i.e. the scope of addressees. Political measures that affect several problem areas and that also affect a large number of addressees in a direct, negative fashion are expected to be less accepted in the political process. That is why it is not surprising that relatively strict freight transportation measures often achieve quite high acceptance rates in the general public – because these measures only directly affect a minority, namely the freight transportation sector. Measures aimed at the general public, on the other hand, meet with much more resistance.

Theoretically speaking, in an inclusive sustainable transportation policy, the key question is how great the consensus is among different stakeholders regarding the fundamental normative values that are reflected in the formulated policy (or in other words, consensus about “deep core beliefs”; see Sabatier and Jenkins-Smith 1999: p. 133). In terms of transportation policy, such fundamental normative convictions may be the strongest argument for why transportation policy should be designed to emphasize sustainability. At the same time, this does not mean that different actor-groups agree with each other about the interpretation of the sustainability concept or about the relative importance of the three pillars of

sustainability. If different “core beliefs” exist, the acceptance of policy-decisions regarding sustainable transportation policy may be more endangered than if wide consensus exists over fundamental values. Yet it is precisely in the case of a transportation policy that is designed to be inclusive that one cannot expect such consensus. Again, it is assumed that agreement on how to move towards sustainability is easier to reach than agreement on sustainability as such.

Hypothesis 3: *The better a sustainable transportation policy’s short-term implementation steps can be connected to the expected long-term effects, and the better this connection can be communicated to the addressees, the higher the acceptance of the policy in the political process.*

Sustainability is by definition a long-term concept, but it also asks for immediate action under uncertainty, even when not all the consequences can be assessed from today’s point of view. Thus, it is important that the participants have a common understanding of the term “sustainability”. Not until such a consensus exists will short-term measures, even if in the form of experiments, be accepted. The main challenge here is to reconcile specific short-term action with long-term sustainable strategies.

Moreover, we have to consider the background conditions for policy-making as well as the existing transportation problems in the three countries under investigation. These are important control variables we must take into account to ensure a well-founded empirical check of our hypotheses regarding acceptance. We therefore formulate the following control hypothesis to take the specific contexts into account:

Hypothesis 4 (control hypothesis): *The country-specific transportation policy issues lead to different strategies for procuring acceptance of the transportation policies that are selected.*

Transportation policy in different countries reflects different issues, histories, and traditions. A general “philosophy” or set of fundamental values lies behind each country’s transportation system. Those values shape the assessment of the need for political action (see Hajer, 1995) as well as the culture of the political system.

So in *Switzerland*, the Alpine transit issue is central to national transport policy, and it in turn is linked to the question of a high investment in infrastructure. In addition, public transportation not only has a rather good image but also has high priority on political agendas. Though it lies at the geographic center of Europe, Switzerland is only marginally involved in European transportation policy at the political level as it is not a member of the EU.

In the *Netherlands*, transportation policy concentrates on the so-called "Mainport" policy, that is, on the accessibility and competitiveness of airports and seaports. Like Switzerland, the Netherlands have a particular interest in the issue of transalpine transit, because Dutch freight transportation and logistic enterprises hold a very strong position in Europe. In *Germany*, unification and support for the new German states in the east are still very much part of transportation policy, though new investment programs now take a more inclusive national approach. German federalist structures are comparable to those of Switzerland, and the two states engage in a relatively intense exchange of information. Unlike the Dutch and Swiss, the German political system is competitive rather than consensual. The assumption that all these factors influence the efforts by political actors to get acceptance for specific political measures is obvious.

Transportation Policy in Germany, the Netherlands and Switzerland

Basic comparative framework

In our comparison of transportation policy in Germany, Switzerland and the Netherlands, we proceed as follows:

Comparative approach: Our investigation into the association between the procedural and instrumental design of a policy on the one hand, and the degree of acceptance of the policy on the other, is based on a comparative approach at two levels. The first level is that of the country comparison, while the second addresses the country-specific political measures taken with regard to transportation policy. In the inter-country comparison, transportation policy concepts in different countries can be compared and tested with respect to their similarity and difference in the degree to which the concepts are implemented in political measures (see hypothesis 4; Jänicke, 1996: pp. 9-13). A comparison across several countries widens the spectrum of potential policy concepts and stresses the assessment of problem issues. In terms of country-specific measures, the major question is which ones to choose. We chose to compare different clusters of transportation policy measures that can be regarded as typical for that policy area. The specific elements in one of these clusters do not have to be part of a political program, but should deal with a fenced-off issue – at the level of an issue, policy instruments that are used, or target groups of addressees.

Selected countries: The choice of the countries rests on the important parallels that exist between their respective political systems. Switzerland and Germany both have extensive federalist structures, while Switzerland and the Netherlands are well-known for their consensual political cultures. The international framework also deserves mention. Transportation policy in both Germany and the Netherlands is at the same time also “European” policy. This is becoming increasingly true of Switzerland as well, as exemplified by “sector-specific” agreements on civil aviation, and by agreements with other European nations about overland transport. In spite of these parallels, transportation policy conceptualization and design remains largely national and regional. That is why we emphasize the specific contextual conditions and national issues in the three cases (see control hypothesis).

Selected clusters of measures: Each of the three clusters of transportation policy measures we selected constitutes a discrete analytic unit. These units exist not only as significant elements within the variety of issues found in the transportation policy in each of our national cases, but they are also common to all three nations, if variously articulated. *Transportation management in agglomerations* features a wide range of policy instruments (obligations/prohibitions, information, incentives, subsidies, etc). *Infrastructure financing for large-scale projects* is of interest as it permits one to draw a relatively clear distinction between modes of transportation. *Combined freight transportation*, particularly in conjunction with the siting and costs of freight *terminals*, is nowadays often conceptualized in sustainability terms.

Methods: The empirical data primarily draws on qualitative analytic techniques that have their roots in comparative case-study research (Yin, 1994 and 1993). Transportation policy concepts and measures were analyzed for sustainability, degree of implementation, time perspectives, and costs, using a systematic analysis of the documents (Widmer and Binder, 1997: pp. 223-224). Guided interviews (Kvale 1996) with 31 experts (from public administration, interest groups, parties, and research institutes in the Netherlands, Germany, Switzerland) were used to identify policy actor networks and the degree of acceptance by target groups, administrative agencies, and political, economic, and societal interest groups (see Mayring, 2000; Bohnsack, 1991; Meuser and Nagel, 1991). To interpret the empirical data, differing case-matrices and actor-matrices were used.

Same problems, different strategies? (hypothesis 4)

To compare the three countries' transportation policies, we have to first consider the relevant national contexts and issues. That helps identify the independent variables inherent to each political system (control hypothesis 4). Then we can turn to the specific factors which may explain the degree of acceptance in the different clusters of measures (hypotheses 1-3).

Five common features emerge as crucial issue areas in all three nations: Europe, the environment, infrastructure, financing, and regions. Interestingly, national interpretations vary, and

political agendas linked to these individual issues are not the same across nations. For this reason, different national prerequisites exist for the degree of acceptance of the selected clusters of measures.

In Switzerland, the *European dimension* consists of tension regarding truck and freight transit issues that are linked to the nation's status as a non-EU-member. Yet large-scale transportation projects are justified with reference to EU requirements. In the Netherlands, the European dimension is less important because of a pronounced international orientation and the fact that Europe has become a "domestic" political issue. For Germany, enlargement toward the East is the key issue, as the nation expects considerable development of East-West transportation routes.

Traditionally, the *environment* has played an important role in the development of Swiss transportation policy, though more so during the 1980s than the 1990s (Schenkel, 2000). In the Netherlands, environmental issues tend to be subsumed under the economically-driven worries that arise from the sometimes dramatic traffic congestion problem. In Germany, the environment is a strongly politicized issue, illustrated by the fact that speed limits on the superhighways have become a "taboo topic" (Umweltbundesamt, 1995). Thanks to a more pronounced tradition of legislative problem solving, Switzerland and Germany are at an advantage vis-à-vis the Netherlands when it comes to implementing regulatory measures connected to the effect traffic has on the environment. In the case of politically promulgating road tolls and other transit or usage taxes, Switzerland has a relative advantage in having neither an automobile industry nor a politically strong transportation sector.

Infrastructure plays a central role in all three nations. In Switzerland, the rail transportation system is very extensive and is supported by the population; in the Netherlands and Germany, by contrast, individual large-scale projects prevail (Powell-Ladret, 1999; Bruning and Siersma, 1994). It is noteworthy that "visionary" infrastructure projects make up a large part of governmental policy planning in the Netherlands. Such projects are expected to relieve the pressure on existing transport systems (e.g. underground transportation, elevated roadways, waterways for intermediary and final sorting; see RVW documents).

Once Swiss voters provided plebiscitary approval of proposals to create and finance several large-scale public transportation projects (New Alpine Transit Railway, Rail 2000, Fund for Public Transportation Infrastructure), *financing* issues became less significant in public discourse. In the Netherlands, financing plays a part in the discussion of large-scale, future-oriented projects, and the costly Betuwe-line is already being built. In Germany, financing discussions no longer focus exclusively on support for the East. Instead, new programs concentrate on redistribution between road and rail investments and on the modal split (see the 1999-2002 investment program, the anti-congestion program, or the so called "ecology tax"). Rail investment lags behind road investment in both Germany and the Netherlands (Schmuck, 1996), not least because the general support for public transportation is much lower than in Switzerland.

In Switzerland, the question of *regions* refers first and foremost to the cantons. Mountain cantons have long received the lions' share of policy attention, but federal policy, particularly in terms of transportation, has begun to focus more on urban agglomerations (Ecoplan, 1999; EJPD/EVD, 1999; Mauch et al., 1998). The regional issue in Germany is to integrate the new states in the East within Germany and within a Europe of the regions. In the Netherlands, transportation policy focuses on the "Randstad" region and its access corridors.

A cross-national evaluation of these five features allows one to reach certain conclusions about the general problems modern western European states face. We aggregate these conclusions along three theoretical problem dimensions (Schenkel and Serdült, 1999: p. 483) The *policy dimension* is concerned with the coordination between different policy areas. We argue that sectoral policies are increasingly reaching the limits of their effectiveness, and it is necessary that policies formulated for transportation need to be coordinated with other policy areas. In the case of the *territorial dimension*, the problem is that territorial state structures (e.g. federal government/states or cantons/cities) are often no longer congruent with the structures of transportation issues. Problems arise when such issues cannot be solved within the framework of the existing territorial political divisions. Within the *actor dimension*, state authorities are less and less capable of solving problems without collaborating with non-governmental actors. At the same

time, an increasing number of actors seek to participate in the political decision-making process.

Depending on the degree of decentralization and the presence of federalist structures (Lijphart, 1999: pp. 184-199) in each of the countries analyzed, we can discern the advantages and disadvantages each country possesses in addressing transportation policy issues. We proceed from the assumption that the form these three dimensions take has an important impact on the acceptance of sustainability concepts in the political process (Table 2).

Table 2: Problem dimensions in comparison

	Germany	The Netherlands	Switzerland
Policy-dimension	coordination between policies is difficult due to federalist structures (disadvantage)	coordination between policies exists at the national level; some very independent ministries exist (advantage)	coordination between policies is difficult due to federalist structures (disadvantage)
Territorial dimension	low dysfunctional elements, territorial reforms are not necessarily needed but are possible (advantage)	low dysfunctional elements, functional decentralization, new bodies (advantage)	dysfunctional elements, territorial reform is difficult to achieve, small territory (disadvantage)
Actor dimension	new actors' demands unmet, potential for learning limited, few long-term bodies for discussion, politicized discourse, acceptance procured rather informally (disadvantage)	new actors' demands met, large number of bodies, potential for learning through agreements, low level of political activism, acceptance procured informally (advantage)	new actors' requirements partially met by direct democratic instruments, limited potential for learning, few long-term discussion bodies, low level of political activism, acceptance procured formally (advantage)

It is important to understand the role of actors in the political process and their criteria for accepting a sustainable transportation

policy (see Table 1). In the Netherlands, consultative governmental councils take on the role of *articulators*. In Switzerland, interest groups can also act as articulators through popular initiatives. Due to the pronounced division of responsibilities between the elected government and the opposition, political parties assume this role in Germany. In both Germany and Switzerland, the media may also play the role of articulators. In policy *formulation*, it is the Dutch trade associations, private sector companies, and sometimes even environmental organizations that negotiate with the government. NGOs thereby have both formal and informal access to decision-makers and administration, but show a surprising degree of restraint (Lieverink, 1997). In Switzerland, cantons, interest groups, and scientific experts are involved in policy formulation in a rather formal manner through expert commissions and as consultants.

In the policy *decision-making* phase, Switzerland is unusual because the absence of a formal transportation ministry gives federal executive offices a central role in preparing decisions. It is also unusual because the nation's federalist and semi-direct democratic political system can lead to fundamental changes in government policy brought about by bottom-up popular and cantonal participation. In Germany and Switzerland, *implementation* processes are quite similar, although the question of financing plays a more central role in Germany than in Switzerland, while the Swiss cantons have a greater freedom to act in their own interest than the German states do. In both countries, subordinate state levels are the key implementers, while in the Netherlands the provinces are hardly ever consulted. Cities, however, are sometimes involved at the level of implementation. The role the association of Dutch municipalities occupies can be compared with the role of strong industrial or trade associations.

For the reasons summarized in Table 2, the management of flexible actor networks is underdeveloped in Switzerland. The cantons, fearing a loss of autonomy within the framework of new, non-hierarchical models of cooperation, insist on their constitutional sovereignty. Swiss cities, on the other hand, expect more flexibility and freedom of action to come about through cooperation (Klöti et al., 1993). To date, though attempts have been made both by the cities and by the federal government, it has therefore been difficult to develop agglomeration policy that crosses cantonal borders. The new federal Constitution (1999) mentions cities and agglomerations for

the first time and the Federal Council has more recently formulated an urban policy. Swiss federalism previously focused on the unquestioned sovereignty of the cantons, although the legislative reality has been one of growing power at the center. A further reason for the lack of flexible actor networks in Switzerland is direct democracy. The idea that popular ballots will bring about decisions is deep-rooted, and the search for solutions based on consensus is not systematic as a result. It is therefore unsurprising that groups of actors set aside some of their resources for popular ballot campaigns.

In the Netherlands, network development and negotiation are part of the political tradition. In this sense, the Dutch system has even been described as a counterpart to Swiss direct democracy (Bressers and Plettenburg, 1997; Gladdish, 1991). It is then all the more surprising that the Betuwe-line was developed and implemented in a top-down manner. Accordingly, the program provoked much opposition during the later stages of the decision-making and implementation process (Bruning and Siersma, 1994; Janse, 1996; RVW 1998). In Germany, the network management approach is used in state-industry negotiations as well as in the field of agglomeration policy (Mediation GmbH, 1996; Hesse, 1997). Network solutions tend to reach certain limits in federal polities such as Switzerland and Germany, in part because the territorial units often prove to be too small (e.g., 26 Swiss cantons compared with 16 German states). Cooperation oriented towards problem solving is urgently needed. As for speed, and independent of democratic and state structures, the countries we studied are neither particularly slow nor particularly fast in implementing projects. Switzerland's rail infrastructure projects and its tax on heavy vehicles illustrate that direct democracy can have an accelerating effect (de Jong, 1999; Wicki, 1999).

Acceptance and policy design (hypotheses 1-3)

In the case of *transportation management in agglomerations*, the basic problem in Germany, the Netherlands and Switzerland is the same. Management at the state level focuses on the growing problems of motorized commuter traffic, and measures include parking fees, speed limits, spatial planning, and promoting public transportation systems (see Steenhuis, 1999; for urban governance in transport policy see Dijst et al., 2002). In Germany, though

transportation associations have existed since the 1960s, national coordination efforts remain rudimentary. German infrastructure is mostly financed by the federal government, and municipalities must cover operating deficits (Walther, 1996; Hickmann, 2000). Recent substantial increases in prices, and the current upheaval in the public transportation system result in a relatively low level of acceptance.

In the Netherlands, municipalities and provinces participate in the policy formulation process, but it is the national ministry that ultimately plans policy and covers most ensuing costs. Moreover, the measures implemented are generally “soft”, thus leading to a relatively high level of acceptance. In Switzerland, public transportation largely pays for itself, which means the price for using it is correspondingly high. Germany and Switzerland both have high expenses for local private transportation. The Swiss per capita expenditure for public transportation infrastructure is also relatively high. Acceptance for measures in agglomeration transportation varies from city to city. So-called “hard” measures and public transportation measures are somewhat more readily accepted in Switzerland than in Germany or the Netherlands. The problems of congestion and overcrowded roads are not (yet) pressing enough in Switzerland to give road pricing a reasonable acceptance (see Güller et al., 2000). In the latest public debate on national transportation policy, the Swiss Government announced (as part of its counter-proposal to the “Avanti – for safe and efficient motorways” popular initiative) its financial participation in agglomeration transportation (see Schweizerischer Bundesrat, 2002).

In the case of *infrastructure financing*, the three nations face entirely different problems (see Maibach et al., 1999; Blöchliger et al., 1999; Stil, 1996; Klenke, 1995). In Germany, the absence of an environmentally relevant transportation policy is justified with the argument that such a concept needs to first be successful at the European level. However, national attempts that have been made with “ecology” and heavy vehicle taxes can be interpreted as signals of movement towards a more sustainable EU transportation policy. A similar pattern can be observed in the Netherlands. As a non-member, Switzerland lacks direct access to EU transportation policy and thus often must engage in tedious negotiations. The agreement between the EU and Switzerland on the carriage of goods and passengers by rail and road recently came into force, and one can

argue that Switzerland is eager not to lose its connections to trans-European transportation systems.

Combined freight transportation and terminals are important issues in all three nations, although each government sets different priorities (see Bukold, 1996; Friedli, 1996; Thierstein and Schnell, 1998; Röder, 1996): In Germany, the siting of individual terminals is a topic of vigorous dispute. Moreover, the program is behind schedule in terms of accommodating the strategic needs potential terminal users have identified. The issue of freight re-storage from road to rail faces strategic resistance from the *Deutsche Bahn AG* (national railroad company) as it fears such re-storage will create competition mainly for ship cargo instead of road freight. Similar fears are voiced in the Netherlands. The program in the Netherlands covers only domestic terminals and is based strictly on free market principles. Following certain EU-directives, port terminals have a different status and may receive a limited amount of state support. Because the Netherlands views itself as a nation of transportation and logistics, acceptance of these measures regarding terminals is high.

Switzerland does not have its own terminal policy, but measures for goods re-storage and terminals meet with a high level of acceptance – which is in turn intimately linked with the high acceptance of infrastructure financing as well as with the fact that freight terminals are often located just outside the Swiss borders. Swiss transportation policy focuses on freight re-storage terminals that are needed for transit traffic through the country. The main problem to date in combined domestic transportation is its inefficiency.

Table 3: Clusters of measures in Germany, the Netherlands and Switzerland

	<i>Transportation management in agglomerations</i>	<i>Infrastructure financing</i>	<i>Combined freight transport</i>
<i>D</i>	federalist orientation, federation pays for infrastructure, state and city cooperation, public transportation subsidized, price increases	centralist orientation, support for new Eastern states , heavy vehicles tax, quotas for states	terminal program, subsidies for businesses, access for third parties made more difficult, resistance to access roads, disproportionate supply/demand situation
<i>NL</i>	spatial and building regulations (A-B-C-Concept), national measures, cities/ urban areas 'Kaderwetgebieden'	centralist orientation, public-private partnership, infrastructure funds	inland concept since 1998, subsidies, integral approach, corridors and regions, win-win situation, transit issue solved, definition through the market
<i>CH</i>	federalist orientation, cantonal measures, public transportation subsidized, associations, parking	federalist orientation, duties and taxes, Fund for Public Transport Infrastructure	international orientation (transit through the nation), co-financing of terminals abroad, subsidies to combined transportation operators in inland transport, no state-devised site strategy for inland terminals

To draw conclusions from this in terms of the different degrees of acceptance, we can return to the original hypotheses. If we

synthesize the findings about the design of the three clusters of measures for each country, our hypotheses show mixed results when examined more closely.

Table 4: Degree of regulation and acceptance (hypothesis 1)

Issues/Country	Policy instrument	Acceptance	supports H1	
Agglomeration				
	D	much regulation	low (more likely)	yes
	NL	little regulation	high (more likely)	yes
	CH	much regulation	low (more likely)	yes
Infrastructure				
	D	little regulation	high	yes
	NL	little regulation	low	no
	CH	much regulation	high	no
Combined transport				
	D	little regulation	low	no
	NL	little regulation	high	yes
	CH	much regulation	high (more likely)	no

Hypothesis 1, postulating that promulgating regulatory measures will have a negative impact on the degree of acceptance (hypothesis 1), is supported in all three nations' transport management in agglomerations, but under different conditions. In Germany and Switzerland, we can discern the hypothesized relationship. Efforts undertaken at the national level with the aim to increase regulation in this policy area meet with implementers' and addressees' resistance (e.g., from the German states or Swiss cantons, and from the cities and agglomerations themselves). Here we must proceed from the assumption that the federalist structure in both nations plays an important role.

The situation in the Netherlands is the exact opposite. The Dutch Government has considerable experience in negotiating directly with the big agglomerations and cities, and with their association ("Vereniging van Nederlandse Gemeenten"). Cities and municipalities therefore have the same opportunities to influence

transportation policy as the large trade associations do. The policies, which are agreed upon, typically result in less regulatory measures than in Germany and Switzerland. In spite (or perhaps just because) of that, the policies formulated remain without teeth, as they are not binding. Real implementation of sustainability started, if it started at all, late. Thus, creating win-win situations – via negotiation or political compromise – is assumed to increase the acceptance of sustainable transportation policy measures in the early stages of the policy process, but it often does not facilitate implementation.

Judging hypothesis 1 in the case of financing large-scale infrastructure projects or the combined freight transport policy is more difficult. For each cluster of measures we have to reject our theoretical assumptions in at least two of the three nations under investigation. The Swiss case in particular illustrates that relatively strong regulations in infrastructure financing and combined freight transportation do not have to fail for lack of acceptance. On the contrary, thanks to the cross-national transit issue and its connection to the negotiations over “sector-specific” agreements with the EU (civil aviation, overland transport, the free movement of persons, research, public procurement markets, agriculture, and the elimination of technical barriers to trade), Switzerland was able to formulate and start implementing a relatively progressive freight transportation policy (including a heavy vehicle tax based on tonnage) as well as a fiscal policy for large-scale rail infrastructure (under the program to “construct and finance the infrastructure for public transportation”). However, at the outset the term “sustainability” was not a crucial component of the policy.

Such considerations show clearly that the acceptance of regulatory measures (*hypothesis 1*) depends strongly on the political-administrative traditions in each country, which we take to mean that regulatory instruments will likely be more accepted in Germany and Switzerland than in the Netherlands. When the introduction of taxes for specific purposes is at issue, acceptance is higher when the purpose of the revenue appropriation is clear. That applies especially to burdening freight transport, since heavy traffic has a weaker lobby in Germany and Switzerland than in the Netherlands.

Table 5: Inclusiveness and acceptance (hypothesis 2)

Issues/Country	“Inclusiveness”	Acceptance	supports H2	
Agglomeration				
	D	less inclusive	low	no
	NL	inclusive	high	no
	CH	less inclusive	low	no
Infrastructure				
	D	inclusive	high	no
	NL	less inclusive	low	no
	CH	inclusive	high	no
Combined transport				
	D	less inclusive	low (more likely)	no
	NL	less inclusive*	high	yes
	CH	inclusive**	high	no

*terminals: more inclusive

** terminals: less inclusive

Hypothesis 2, that the more inclusive the design of a sustainable transportation policy is, the lower its acceptance, must be rejected. All three clusters show developments that contradict the theoretical postulate. Economically motivated, large-scale infrastructure projects dominate the debate in the Netherlands (Schiphol airport, docklands, Betuwe-line). An overall increase in the volume transported is accepted as an inevitable by-product, although the corresponding policy plans put much emphasis on sustainable development.

Yet if we look at the number of programs and measures that go beyond merely being the subject of reports and governmental decisions, one must conclude that the implemented “sustainable” policy in the Netherlands is less inclusive than the Swiss one. Traffic reduction plans mainly target private motor vehicles, as traffic jams and congestion make the access to ports increasingly difficult. Criticism of Dutch infrastructure fiscal models has increased over the last years and the expected rearrangement effects of the Betuwe-line are increasingly questioned. A road-pricing concept was put forward, but was then postponed year after year and was finally cancelled.

Infrastructure financing models in Germany have, to date, met

with relatively high acceptance, both in the cases of investment in the new German states and in the new financing strategies suggested by the Social Democratic-Green coalition that has been in power since 1998. In Switzerland, the results of popular ballots show as well that existing fiscal models for infrastructure enjoy high levels of acceptance, although they are designed quite inclusively. In contrast to the Netherlands, this policy was not labeled as sustainable but as fiscally necessary. Switzerland's recent large-scale railway infrastructure projects, which pursue the goal of reducing road traffic volume, is financed by the introduction of a heavy vehicle tax that even constitutes the most important fiscal source for these infrastructure projects. Consequently, inclusively designed sustainable transportation policy measures (*hypothesis 2*) can actually have high acceptance rates if they are well-founded.

Table 6: Long-/short-term-connection and acceptance (hypothesis 3)

Issues/Country	Long-/short-term	Acceptance	supports H3
Agglomeration			
D	weak (resp. late)	low	yes
NL	strong	high	yes
CH	weak (resp. late)	low to medium	yes
Infrastructure			
D	weak (increasing)	high	no
NL	weak (more likely)	low	yes
CH	weak	high	no
Combined transport			
D	weak (resp. late)	low	yes
NL	strong	high	yes
CH	weak (resp. late)	high	no

Finally, the results concerning *hypothesis 3* are contradictory. On the one hand, a long-term perspective according to the concept of sustainable development shows no direct effect on acceptance. To judge such a long time-horizon, more information would be needed. On the other hand, a long-term perspective in the sense of more than one legislative period seems to have a positive effect on acceptance. Thought-through fiscal models also ought to lead to high and stable

levels of acceptance.

But here too, political traditions and particularly the history of sustainability in each nation should be kept in mind. In Switzerland, the concept of sustainable development was formally embedded in policy-making only in 1997 (see IDA-Rio, 1996; DETEC, 2001). Goals pertaining to the environment have nevertheless been quite successfully reached in comparison with Germany and the Netherlands. The Netherlands began incorporating the concept of sustainability in its policies already in the late 1980s, but despite this early introduction, implementation of environmental intervention measures that are linked to transportation have met with little success. In Germany, where the concept of sustainability was also only anchored by the mid-1990s, by contrast, environmental protection enjoys a relatively high level of acceptance. However, this has partly been overlain by economic and social problems in the 1990s that are connected with integrating the new Eastern states. So though the country has seen a number of significant successes in environmental protection, its emission of pollutants into the air from traffic continues to increase. One can observe a general trend towards sustainability, accompanied by some recent developments that move away from it as well.

Conclusions

The comparison of the three clusters *transportation management in agglomerations (esp. measures at the national level)*, *infrastructure financing for large-scale projects*, and *combined freight transportation* in Germany, the Netherlands and Switzerland shows mixed results.

First, it seems quite evident that the acceptance of regulatory measures depends more on political-administrative traditions in each country than on policy instruments, and we assume a greater acceptance of regulatory measures in Germany and Switzerland than in the Netherlands. For political reasons there is a greater need in the Netherlands to establish relatively open political processes that employ "softer" decision-making means such as negotiation. That in turn is likely to result in less regulatory measures. In addition, resistance at the regional level, as well as from lobbies and from economic interests, is growing. Due to the high acceptance of popular

plebiscites in Switzerland, its relatively progressive freight transportation tax and fiscal policy for large railway infrastructure meets with high acceptance at least in the implementation phase. This is despite the fact that the measures taken are relatively restrictive, especially for the road transportation sector. So semi-direct decisions in this democracy seem to have a double impact on the policy process. On the one hand, this political system shows less flexibility to react to change than a parliamentary system could, owing to its lengthier decision-making process. On the other hand, the Swiss experience with semi-direct decisions seems to result in a far greater dependability on the part of the political actors who are involved in implementation, a fact that is of considerable importance in realizing large infrastructure projects where the planning horizon is long.

Second, more inclusively designed measures are not necessarily any less accepted than less inclusively designed ones. Indeed, in an inclusive sustainable transportation policy, the crucial question is to what degree a consensus exists among the different stakeholders about the "deep core beliefs" that are reflected in the formulated policy. That also does not mean value conflicts are insurmountable: an inclusively designed policy may widen the scope for new solutions. However, inclusive policy formulation only makes sense if the results are also taken into account in the decision-making and implementation stages. Thus, though the Netherlands tried to anchor sustainability early on in their policy planning, the policies that were formulated were often not binding. Real implementation of sustainability started, if it started at all, late. Thanks to the cross-national transit issue and its links to different EU sector-policies (civil aviation, overland transport, free movement of persons, research, public procurement markets, agriculture and the elimination of technical barriers to trade), Switzerland was able to establish a relatively inclusive transportation policy, that includes and links private and public freight transport (modal split), railway reform and transit issues within a common financing concept.

Our third hypothesis is largely confirmed: the main challenge for the acceptance of a sustainable policy is to reconcile specific short-term measures with a long-term sustainable strategy. Supra-national and network-oriented cooperation should therefore be strengthened by creating an open forum for all those involved in the political process. Such a "Sustainable Mobility Forum" could provide

the venue for the exchange of information among those holding diverging views and interests, and thereby help to promote learning and cooperation. It is of crucial importance that this forum be linked to the traditional political process. Furthermore, opportunities for learning in the field of transportation policy are still underutilized. To enable and support systematic learning processes across polities and borders, an evaluation program should be in place (see Widmer, 2002).

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