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Conflicts between transport policies and spatial development policies: perspectives on regional cohesion in the European Union

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Abstract

The development of the Trans-European Networks (TENs) in the EU is one of the first attempts at achieving a top-down approach to the development of a genuine European network in the interests of greater competitiveness and cohesion in the European economy. This implies the need for consistency with both national transport policies and with other EU policies, such as those on the environment, regional development and stability and growth.

This paper explores the interaction between these policy areas to assess the extent of *horizontal co-ordination* between different sectoral policies and *vertical co-ordination* between different policy levels. The analysis of horizontal co-ordination has three main elements: the identification of horizontal spillovers between policy areas; the analysis of how policy responds to the evidence of horizontal spillovers; and the organisational structures put in place to implement policy. A key to this is the distinction between identifying spillovers between policy areas or establishing co-ordination between them as an *aim of policy* and the implementation of detailed *policy objectives and measures* to address such matters. This is achieved by examining the extent to which spillovers are recognised in key policy documents and the way this has shaped the policy design and its implementation.

As well as the horizontal links between different EU policy areas, the analysis of vertical co-ordination involves enquiring into the relationships between different levels of government and decision making. This addresses the question as to how higher levels of government establish a policy environment within which lower levels operate. This has three main dimensions: the way in which policy is framed to establish the goals which need to be addressed by the lower levels of decision making (top-down policy formation); the extent to which the formation of policy by higher level bodies is informed by and takes cognisance of the views and needs of lower level bodies (bottom-up policy formation); and the way in which high levels of government monitor and police decisions by lower level bodies.

The paper provides a schematic framework for analysing policy interaction developed from research as part of the ESPON programme of the EU which identifies opportunities for greater coherence and the risks of conflict. The paper suggests that ignoring these conflicts places the opportunity for further cohesion in regional development in the EU at risk.

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1. Introduction

The development of the Trans-European Networks (TENs) in the EU is one of the first attempts at achieving a top-down approach to the development of a genuine European network in the interests of greater competitiveness and cohesion in the European economy. This, however, implies a degree of consistency with national transport policies which are still required to deliver most of the elements of the networks (including most of the finance) and with other EU policies, such as those on the environment, regional development and stability and growth. This paper sets out the basic range of policy areas which inter-relate with transport networks and the TENs and explores the interaction between EU transport and TEN policies and other Community policies and between the different levels of policy implementation, EU, national, regional and local government. The first of these we term horizontal co-ordination between different sectoral policies and the second, vertical co-ordination between different policy levels.

The paper provides a schematic framework for analysing the interaction of policies, based on research conducted as part of ESPON 2.1.1 “Territorial Impact of EU Transport and TEN Policies” for the European Commission”.¹ This examines the way in which on the one hand TEN policies interrelate with other EU policies and on the other hand national and EU policies interact. The framework identifies opportunities for greater coherence and the risks of conflict. A more detailed analysis is being carried out of the relationship of TENs policy to the main goals of the European Spatial Development Perspective which is aiming for greater polycentrism in European development. A similar analysis of the way national policies interact with the main provisions of the 2001 White Paper identifies that EU policy is still rather remote from national policy making and that TENs tend still to be regarded as a potential source of funding rather than a positive opportunity for integration.

There are four main sections. In section 2 we outline the way in which transport policies can be characterised and modelled. In sections 3 and 4 we consider the definition and analysis of horizontal and vertical coordination respectively. In section 5 we bring these together in a framework to assess the strength of the key interactions and draw some preliminary conclusions.

2. Defining and modelling transport policies

The current policy reference for the EU is that provided by the 2001 White Paper on *European Transport Policy for 2010: Time to Decide* (European Commission, 2001) which recognises infrastructure and regulation and pricing as the main policy instruments. These two broad policy groups were used to define a set of policy scenarios to be evaluated. Ten scenarios were defined based on the TEN and TINA outline plans (e.g. European Commission, 2002; TINA Secretariat 1999; 2002) and national policy documents (see Table 1).

¹ ESPON 2.1.1 has the main objectives of developing methods for the assessment of territorial impacts of EU transport and telecommunications policies and to show the influence of such policies on spatial development and territorial cohesion in Europe. It is a collaborative project with Johannes Bröcker, Roberta Capello, Lars Lundquist, Thomas Pütz, Jan Rouwendal, Nils Schneekloth, Alessia Spairani, Martin Spangenberg, Klaus Spiekermann and Michael Wegener (see Bröcker *et al*, 2003).

Table1. Transport Policy Scenarios

Scenario type	Scenario definition
A Past infrastructure	A1 Implementation of rail projects only, 1991-2001
	A2 Implementation of road projects only, 1991-2001
	A3 Implementation of all projects (road, rail), 1991-2001
B Future infrastructure	B1 Implementation of most probable rail projects only, 2001-2021
	B2 Implementation of most probable road projects only 2001-2021
	B3 Implementation of all most probable projects (road, rail) 2001-2021
C Pricing	C1 Reduction of the price of rail transport
	C2 Rise of the price of road transport
	C3 Social marginal cost pricing of all transport modes
D Infrastructure and pricing	D1 Implementation of all projects 2001-2021 and marginal cost pricing of all transport modes (B3 + C3)

The first set of scenarios included the main developments of the 1990s, concentrating on road and rail; the second set deal with the likely development of new infrastructure to 2021 and the third set consider the impact of different charging regimes. Pricing presents some difficulties for modelling. The preference of most of the policy initiatives is for a move to full marginal social cost pricing of all modes, but this is felt to be an unlikely final outcome. As an alternative two partial policies were used: a rise in the cost of road transport and a fall in the cost of rail transport. The problem is, however, that such policies may be introduced with differential effectiveness, and from different starting points, in different countries. This is also affected by the relative degree of regulation in different sectors in different countries and the pace of liberalisation.

There has been strong pressure towards liberalisation of the transport sector over the past decade. This pressure emanates from the desire to free transport of restrictive regulation which results in reduced competition and higher costs. It is expected therefore that liberalisation should lead to prices being charged which are more directly related to the marginal *private* costs of service provision. At the same time the EU and member states have been looking towards the need to ensure that all models of transport cover their full costs including external costs by introducing marginal *social* cost pricing. The normal expectation would be that liberalisation would reduce prices whilst marginal social cost pricing would raise the price of some modes (notably road and air) relative to others. The problem is that the divergence from marginal social cost differs for different countries depending on the degree of regulation, the nature of the liberalisation and the extent of externalities remaining to be internalised. The net effect on prices charged is therefore initially ambiguous, since it is not possible simply to assume a given percentage change from the current prices. The situation is further complicated by the different tax regimes in use in different member states which also distort the relative position.

The basic message is that there is no simple and straightforward way of incorporating a measure of liberalisation into the modelling. Whilst the simplest approach might be to assume that full liberalisation implies that prices approach marginal private costs and then derive an index of the degree of liberalisation achieved in each member state, the discussion above suggests that such an approach could be misleading as there is no firm evidence that liberalisation generally has this effect. It is not immediately clear that any alternative could provide a significantly different impact from the alternative scenarios already used and hence

these have been used as the basis of the modelling, together with a final overall scenario incorporating both infrastructure and marginal social cost pricing.

The socio-economic impacts of the ten scenarios have been evaluated with two different regional economic models, the SASI model and the CGEurope model:

- The SASI model is a recursive simulation model of socio-economic development of regions in Europe subject to exogenous assumptions about the economic and demographic development of the European Union as a whole and transport infrastructure investments and transport system improvements (Wegener and Böckmann, 1998; Fürst et al., 1999). For each region the model forecasts the development of accessibility, GDP per capita and unemployment. Cohesion indicators expressing the impact of transport changes on the convergence (or divergence) of socio-economic development in the regions of the European Union are calculated.
- The CGEurope model evaluates the impact of changes in transport and travel cost and travel times on the regional welfare in a spatial computable general equilibrium model that is constructed on a consistent theoretical basis of microeconomic reasoning (Bröcker, 2002). According to the model, cost changes affect the cost of inter-firm interaction through changing cost for goods transport as well as changing cost for passenger business travel that is assumed to be closely tied to trade flows between firms. Policy scenarios are evaluated by comparing two hypothetical worlds, a "with-world" assuming that the respective policy (infrastructure or pricing) is in place, and a "without-world" assuming it is not in a comparative static framework. Here the indicator compared is the change in utility of households translated into a monetary equivalent, which can be interpreted loosely as a percentage real income change.

The models produce broadly similar patterns of results in terms of the impacts on cohesion. Essentially rail development prior to 2001, which was heavily concentrated on the core regions of the EU, had a negative impact on cohesion (a result similar to that obtained in Vickerman *et al.*, 1999), whereas road development had a generally positive impact on cohesion. In the future period to 2021 most types of infrastructure provision have a generally positive impact on cohesion reflecting the development of major infrastructures in the more peripheral regions, and especially the improvement of accessibility expected in the new member states of the EU. On the other hand most changes to pricing imply a worsening of accessibility, measured in cost terms, and hence a reduction in GDP or welfare which generally has the most negative effect on the more peripheral regions where transport costs are higher and hence works against cohesion. A combination of infrastructure and pricing appears to produce a broadly positive impact on cohesion, especially in the long term.

In this analysis the emphasis has been on producing fairly standard measures of cohesion based on GDP or welfare in which better accessibility reduces transport costs and hence increases welfare. Although the accessibility measures allow for the relative changes in accessibility across the network, no allowance is made for the potential sustainability issues which might arise. Hence lower transport costs increase the demand for transport which is reflected in increased economic activity. Two further problems arise in connection with this approach. First, the transport requirements of different industries, and hence the likely responsiveness of economic activity in regions with different economic structures are not fully represented in the model. This leads to a need to examine the links between the transport policy factors and other policy areas which potentially distort the linkage between transport cost and transport demand. Secondly, there is also no allowance for the ways in which the variations in

the implementation of policy in different member states or regions may lead to a different relationship between a given change in accessibility and the transport demand response.

It is these issues of horizontal and vertical complementarity and conflict to which we turn in the following sections of this paper.

3. Horizontal coordination and conflict

Horizontal co-ordination has two dimensions: the co-ordination of policy measures between different government departments and agencies at any given level of government and the co-ordination of policies implemented by the private sector with those of the public sector. The increasing use of the private sector in the finance and provision of both infrastructure and services in the transport sector implies the need for a careful analysis of the way in which the stated aims of public policy can be realised. However, here we concentrate on public policy areas.

The analysis has three main elements:

- the identification of horizontal spillovers between policy areas;
- the analysis of how policy responds to the evidence of horizontal spillovers;
- the analysis of the organisational structures put in place to implement policy.

A key to understanding horizontal co-ordination is the distinction between identifying spillovers between policy areas or establishing co-ordination between them as an aim of policy and the implementation of detailed policy objectives and measures to address such matters. Thus there will be a need to examine both the extent to which spillovers are recognised in key policy documents and the way this has shaped the policy design and its implementation. A particular interest is in the ways in which the private sector has been used as a means of implementing policy, through privatisation, public-private partnerships etc and the institutional arrangements which have been introduced to facilitate this.

This leads to an assessment of the relative transactions costs of organising transport investment and provision in different structures. These can range from a highly integrated public sector provision, where transactions costs may be hidden in a structure which is perceived not to be efficient, to a highly disaggregated, though often regulated, private sector provision in which transactions costs are more transparent, allowing for greater efficiency through competition, but may be higher due to the contractual structure which needs to be established. Given the critical nature of transport in the process of integration, almost all EU policy areas have some relevance to transport and will be affected by transport and TEN policies.

The principal policy areas which are affected are: transport policy; regional, structural and cohesion policies; environmental policies; Common Agricultural Policy; internal market, competition and stability and growth policies; and the European Spatial Development Perspective. Each of these has potential conflicts between TENs policy and the objectives of the policy area in question which have not been fully worked out. As well as the horizontal links between different EU policy areas, there are potential conflicts between the policies adopted by individual member states, and within member states between regions and local authorities, but here we concentrate on the EU level policies.

In a study for the European Commission (Agence-Européenne *et al.*, 2001) assessed a range of Community policies for their impact on spatial development. The study, however, concentrated solely on the policies with an overtly spatial content, namely the agriculture,

transport and environment policies, and mainly on the impacts on rural regions. Looking at the spatial distribution of expenditures under each of these EU policy areas (i.e. only expenditure under the relevant European policy was identified, no account was taken of national expenditures), the study identified, on the basis of Lorenz curves, that all three policy areas were strongly redistributive. A substantially higher percentage of expenditure on each policy area went towards regions which were poorer in terms of GDP per capita. Transport expenditure showed relatively the strongest redistributive impact with a high concentration in poorer regions. The one exception to this was TEN expenditure which was modestly regressive in this context. However, this study did not look quantitatively at the extent to which expenditure within each policy area conflicted with each other in the sense that although each policy on average was redistributive, each policy may be going to different regions and in some cases failing to support each other. The obvious case of this is where environmental policy may be negated by increasing transport provision and use. The second problem, which is particularly relevant to transport expenditures, and TEN developments in particular, is that looking at expenditure (inputs) may not give an accurate picture of impacts on income or economic welfare (outputs). The spatial incidence of expenditure does not necessarily imply the actual spatial impact in terms of economic and social development.

Here we examine a wider range of policy areas, and then use induction to judge where potential conflicts might arise in the impacts of those policies. This is necessary because, with the exception of the three policy areas mentioned above, the majority of EU policies do not have a specifically spatial distribution; the spatial impacts arise from the policies rather than being a focus of their action. Table 2 lists the relevant policy areas and identifies the key policy objectives of each policy area (together with the key documents defining those policies). To analyse the interaction of policy we have developed an interaction matrix (Table 3) which provides a means of summarising the interactions which have been identified and the extent to which these are seen as having a positive or negative interaction effect.

We now look in more detail at the opportunities and threats which these policy interactions pose. The 2001 White Paper *European Transport Policy for 2010: The Time to Decide* (European Commission, 2001) is taken as the statement of current EU transport policy together with the 2003 Report of the High Level Group on the Trans-European Transport Network as a statement of current TENs policy. We also include a specific consideration of GALILEO because of its importance as an element both of the implementation of transport policy and as an example of ICT policy and a more general consideration of ICT policies and their interactions.

A detailed study of the policy documents reveals the unsurprising finding that there is very little attention paid to interactions between policies except where they address the same principal objective. As seen in the previous study of the EU's overtly spatial policies there is some recognition of the impact which transport will have on the spatial distribution of activity, or environmental policy on transport and vice versa, of agricultural policy on the economic and social development of rural regions. We can add to this ICT policy which is clearly seen to have an impact on cohesion. Once we move away from these policy areas the interaction becomes less obvious, but the scope for conflict correspondingly greater. The nature of most interaction is therefore of unintended consequences.

Table 2 Summary of Spatially Relevant EU Policies

Policy Area	Objectives	Policy Documents
Transport	Infrastructure Regulation Pricing	Fair Payment for Infrastructure Use, COM(1998)466 final High Level Group on Transport Infrastructure Charging: Final Report on Options for Charging Users Directly for Transport Infrastructure Operating Costs, September 1999 European Transport Policy for 2010, Time to Decide, 2001
Regional and Cohesion Policies	Structural Fund Objectives 1, 2 and 3 Cohesion Fund Community initiatives Fisheries	Sixth Periodic Report on the socio-economic situation and development of the regions of the European Union, 1999 Second Report on Economic and Social Cohesion, 2001 First progress report on economic and social cohesion, COM(2002) 46 final Second progress report on economic and social cohesion, COM(2003) 4 final
Environmental Policy	Climate change; Nature and biodiversity; Environment and health; Natural resources and waste	Sixth Environment Action Programme (Decision 1600/2002/EC, 22 July 2002)
Common Agricultural Policy	Enhance the competitiveness of EU agriculture Promote a more market oriented, sustainable agriculture Provide a better balance of support and strengthen rural development	Mid-Term Review of the Common Agricultural Policy, COM(2002) 394 final Guidelines For The Evaluation Of Leader+ Programmes, DOCUMENT VI/43503/02-REV.1, January 2002 Evaluation of rural development programmes 2000-2006, DOCUMENT VI/8866/99-REV., 1999 Explanatory memorandum: A long-term policy perspective for sustainable agriculture, COM(2003) 23 final
Internal Market and Competition Policies	Facilitating the free movement of goods Integrating services markets Ensuring high quality network industries Reducing the impact of tax obstacles Expanding procurement opportunities Improving conditions for business Meeting the demographic challenge Simplifying the regulatory environment Enforcing the rules Providing more and better information	Fourth Annual Report on Economic Reform (Cardiff Process) December 2001. The Impact and Effectiveness of the Single Market, Communication from the Commission to the European Parliament and Council 30 October 1996. Economic Reform : report on the functioning of community product and capital markets COM(2002)743 final Internal market: mixed results in meeting implementation targets for 2002 (IP03/40) Internal Market Strategy, Priorities 2003 – 2006 COM(2003)238

Table 2 (continued)

Stability and Growth Policies	National budgetary policies support stability oriented monetary policies Medium-term objective of budgetary positions close to balance or in surplus Government deficit within reference value of 3% of GDP.	Co-ordination of economic policies in the EU: a presentation of key features of the main procedures, Euro Papers No 45, July 2002
European Spatial Development Perspective	Polycentric spatial development and a new urban-rural relationship; Parity of access to infrastructure; Wise management of the natural and cultural heritage	European Spatial Development Perspective: Towards Balanced and Sustainable Development of the Territory of the EU (Potsdam, May 1999)
ICT Policies	Investment in ICT infrastructure Investment in people and skills to support adoption Promotion of use through Internet service development	eEurope 2002 Action Plan

Table 3 Framework for Horizontal Policy Analysis

Opportunities <hr/> Risks	Transport Policy	Regional, Structural and Cohesion Policies	Environmental Policies	Common Agricultural Policy	Internal Market and Competition Policies	Stability and Growth Policies	European Spatial Development Perspective
Implementing White Paper on Transport Policy	+++ ---	++ --	+++ --	++ --	++ -	+ -	+++ ---
Implementing Transport TENS	++ --	+++ ---	+++ ---	+ -	++ -	+ -	+++ ---
Implementing GALILEO	+++ --	++ --	++ -	+ -	+ -	+ -	++ --
Implementing ICT guidelines	++ -	+++ --	++ --	+ -	++ -	+ -	++ --

If we look at the main economic policy areas, relating to the internal market, economic reform, macroeconomic policy coordination and the Stability and Growth Pact, there is a clear two-way impact with transport policy and TENs development in particular. A clear message from recent reports on progress with achieving the internal market and economic reform as part of the Lisbon process is that there are still substantial barriers to the free movement of goods and services. Improvement of the EU's physical infrastructure play a clear role in addressing these objectives of policy. Similarly, a long-term objective of transport policy has been to ensure that, through the harmonisation of market conditions relating to the relative position of each transport mode, transport contributes to the removal of barriers. The increasing emphasis on the service and high technology sectors, which require faster but also more reliable ("just-in time") transport services, highlights the importance of consistency in transport policy (an issue to which we shall return in section 4 below).

There are potential risks to be faced in this interaction, however. Transport is a major consumer of public funds for infrastructure development and for the support of unprofitable public transport services which meet a public service obligation of the State towards disadvantaged groups, whether defined on a personal or spatial level. Use of public funds to support unprofitable services leads to conflict with the basic presumption of competition policy which lies behind the internal market programme (and this extends to the question of public support to manufacturing industry supplying vehicles to, for example, the rail and airline markets). Public expenditure on capital infrastructure projects, either directly or indirectly through State guarantees to private sector financing of projects, runs the risk of being constrained by the squeeze on public budgets occasioned by the Stability and Growth Pact requirements for dealing with excessive deficits, especially in a period of stagnant economic growth. Infrastructure is frequently a short-term casualty of public expenditure cut-backs since capital expenditure on infrastructure only has longer-term consequences whereas direct spending, for example on social policy, has more immediate economic and (more particularly) political impacts. The High Level Group on the TENs in its July 2003 Report has noted the small number of the priority projects identified in the 1994 Essen list which would be expected to be in full operation by 2007 (five out of 14), despite these having initially been defined as being well advanced at the time. A key factor in this has been the problem of funding.

Although there is not an unambiguous long-term impact of transport infrastructure investment on economic growth, there is general evidence of a positive effect in terms of the enhancement which such infrastructure provides to the productivity of private capital and the potential for lowering labour costs through the thickening of labour markets. Hence TENs policy may be seen to be generally supportive of economic growth and of the Lisbon agenda to promote a more flexible economy. There is here a serious issue of potential risk whereby reduced levels of expenditure occasioned by the budgetary problems of governments may be reducing the long-term prospects for both growth and greater efficiency.

Despite these potential benefits and conflicts we have identified that is likely to be a mildly positive impact of transport policies on these general economic policy areas. Since these impacts are largely indirect and there is continuing ambiguity as to their size we have not scored these as the strongest interactions in Table 3.

Turning to the stronger effects, we have identified these as occurring within the group of spatial policies (including agriculture). The strongest links occur within transport policy itself as here we see the potential for both the greatest supporting role of different policy measures and instruments, but at the same time the greatest scope for inconsistency and risk in policy

interaction. Within transport policy the main interaction is between the development of infrastructure (especially the addition of capacity to networks) and the regulatory and pricing mechanism for the use of these networks. The basic problem is that infrastructure enhancements reduce the perceived price of transport by that mode at the same time that there is an attempt to make users more aware of the real resource costs of transport. This affects not just the modal balance of traffic, indeed there is a general presumption in both the 2001 White Paper and the TENs strategy in favour of the removal of bottlenecks and promotion of new links in favour of modes such as rail and short-sea shipping where there is potential to absorb some of the pressure from the road and air networks, but it also affects the total level of mobility by altering the price of transport relative to other goods and services. Imbalance in the implementation of transport policy, most particularly the failure to implement policy in its totality, can carry serious risks of making the situation worse. Strategic investment in the infrastructure networks, coupled with pricing based on the true marginal social costs of each mode, makes for a consistent policy; any departure from this may result in overloaded networks, increasing congestion and higher total costs of transport to the detriment of the long-term benefits. Hence we see that even within transport policy there are threats and it is not sufficient simply to identify the policy aspirations, but also to be able to monitor the implementation of policy.

The second most strong set of policy linkages occur between transport and environment policy since transport as a sector is the largest single contributor to a number of environmental problems. Again we have a problems in identifying the actual outcome since this will depend critically in the extent to which current transport policy measures are introduced. Implementation of the proposals in the White Paper across the EU would have mixed effects. The pricing proposals designed to make users face the true resource costs of their transport, including full recognition of environmental externalities would lead to transport policy making a strong positive contribution to environmental policy goals. On the other hand, objectives which seek either directly to promote mobility would have a negative impact. To the extent that infrastructure developments reduce the costs of travel and transport they promote mobility. Improving the accessibility of lagging regions is likely to lead towards an upward equalisation of mobility across the EU; this is particularly relevant in the case of the new member states where mobility is typically much lower, especially by the less environmentally sustainable modes of road and air transport (for both personal and goods transport). Furthermore, the use of transport policy to promote polycentricity would be likely to lead to increased transport for any particular level of economic activity in the same way that the movement to hub-and-spoke networks increases total transport.

We have concentrated on the negative consequences for transport on the environment, but it is of course possible that the positive benefits of creating new transport opportunities will lead to a higher level of economic activity which will outweigh the negative aspects. The current danger in transport policy implementation is that the failure to implement the entire package will reduce the positive benefits and increase the negative consequences.

The interactions with the structural and cohesion policies, with regional policy in particular, and with the ESDP most specifically, are clearly central to this discussion. We do have to take care, however, in assuming that all the impacts are clear and in a specific known direction. Transport policy changes, whether pricing/regulation-related or infrastructure-related, have an ambiguous impact on spatial development, this can be different in different sets of initial circumstances. Hence policy towards reducing the costs of transport may lead to either the concentration or deconcentration of economic activity and thus have positive or negative

impacts on cohesion. This depends first on the extent to which the policy has a universal impact on all transport costs regardless of location, or a specific impact on certain regions. Secondly, it depends on the extent to which those regions can absorb an increase in costs or benefit from a reduction in costs. This will depend on the structure of economic activity in the affected regions (for example, the relative importance of transport costs in the regions' activities) and such factors as the size of local markets which affects the scope for scale economies. Firms in regions with larger markets will typically be better placed to benefit from transport cost reductions or to absorb increases in transport costs and hence there is a broad presumption that most transport policy options, of themselves, are centralising in their impacts. To counteract this effect requires that spatial policy complements transport policy by measures which are designed to support firms in less advantaged regions so that they can benefit equally from any changes.

Finally we turn to the interaction with agriculture policy. Transport's role in promoting the internal market is also significant in its relationship with increasing the efficiency of the agricultural sector. More important however is the role of transport in sustaining and promoting the economy and society of rural regions, both as a complement to agriculture and as the means by which rural regions, and particularly remote rural regions and mountainous regions, can attract alternative sources of employment. Again we have to enter the caveat that a policy based solely on reducing transport costs does carry risks that remote regions are insufficiently competitive to be able to withstand competition from more central regions when transport costs are reduced. Furthermore lower transport costs may encourage continuing out-migration of the potential labour force.

Thus it is suggested that even within the spatial policy areas we can identify the potential for conflict; furthermore, even within transport policy we see that although there are strong positive elements for reinforcing the spatial objectives, there are considerable risks that policy conflicts may arise. The above discussion is based on induction from a close consideration of the way policy objectives are set and what evidence we can infer from previous studies of the wider economic impacts of both transport infrastructure policies and transport policies affecting price. A key issue to raise is that there are some effects which we know with greater certainty than others; this does not mean that the effects are necessarily greater. Table 3 provides an attempt to allocate some overall interaction effect based on both the likelihood and the strength of any interaction. This leads to the shaded cells which are those which the analysis identifies as the most critical.

4. Vertical coordination

Vertical co-ordination involves the relationships between different levels of government and decision making. This addresses the question as to how higher levels of government establish a policy environment within which lower levels operate.

The analysis has three main dimensions:

- the way in which policy is framed to establish the goals which need to be addressed by the lower levels of decision making (top-down policy formation);
- the extent to which the formation of policy by higher level bodies is informed by and takes cognisance of the views and needs of lower level bodies (bottom-up policy formation);

- the way in which high levels of government monitor and police decisions by lower level bodies.

It is clear that where there are strong financial/fiscal links between different levels of decision making, both policy formation and monitoring will involve more intense vertical relationships than in cases which just involve exhortation, e.g. the direct provision of transport subsidies will involve a different set of relationships from a general desire to promote sustainable mobility. It will be of particular interest to identify in the case of TENs where the exhortation comes from the European level, but the finance is more likely to come from the national and regional level, how this has affected the shape of the network. For this part of the research we have examined the transport policy documents of the EU15 members (together with those of the candidate countries in central and Eastern Europe and the contiguous non-members (Switzerland and Norway) to look at the ways in which a range of different government levels, national and local, integrate EU policies in their own policy making. Specifically the response to the 2001 EU White Paper on Transport is considered.

In section 3 we have only identified the interactions between policies at the EU level. Most EU policies have to be implemented through national legislation. In the case of transport, despite the recognition of a common transport policy, most policy intervention is through subsidiarity at a national or local level and a large part of policy, for example that which involves taxation, is in any case reserved to national governments under the terms of the Treaties. Although the Commission and Parliament may develop clear policy directions, the actual impact of policy depends critically on the way in which the member states enact legislation to effect the policy objectives. The effect of the legislative process in each member state is to refract the policy measure, that is each member state develops a specific interpretation of the policy.

However, it is more complex than this since it is not just a case of members states interpreting EU policy in their own way, there are large parts of transport policy which are reserved to the member states. Hence the transport policy statement of each member state reflects a particular balance of EU and national objectives. The balance between these may differ between member states such that in some cases EU policy interests may dominate whereas in others it is national policy interest which dominate, even to the extent that these outweigh the EU interests and present vertical conflicts. Even where this does not happen, differing balances between policy objectives in geographically adjacent member states may lead to potential horizontal conflicts, for example if different priorities are attached to the development of different modes or to infrastructure development and pricing policies. These conflict potentials can be replicated at the sub-national level.

The TENASSESS project for the EU (ICCR etc al., 1999), primarily concerned with infrastructure planning, identified four “ideal type” transport policy frameworks:

- ‘Traditional’ transport planning approach – which concentrates on the role transport can play in addressing structural problems such as traditional regional problems, in which infrastructure plays a major role;
- ‘Modern’ transport planning approach – which allows a greater role of the private sector but with the same broad objectives;
- Liberal market approach – which concentrates on regulation through economic instruments such as pricing and taxation;
- Ecological approach – which concentrates on controlling the negative aspects of transport through strict regulation

This is rather too restrictive given our need to consider all aspect of transport policy, and not just those relating to infrastructure objectives. In order to provide a framework for the analyses of members states' transport policies in the context of EU policy priorities of concern, we have used the grid shown in Table 4 which has been completed for all the countries of the EU29 (EU25, plus Romania, Bulgaria, Norway and Switzerland) for which a current national transport policy statement could be identified. The types of linkage explored and an overview of the degree of impacts are shown in the table as indicated by + and – symbols.

Table 4 EU/National Policy Interaction Summary

	Impact strength
Reference to EU TENs policy	+
Reference to infrastructure charging	-
Reference to ESDP: polycentricity, accessibility etc.	++
Environmental priorities	++
Reference to cohesion	+
Reference to competitiveness	--
Link to other sectoral policies, e.g. agriculture, energy, etc	-
Reference to macro and stability policies	--
Concern with missing links: international/national	+
Framework for regional/urban transport policies	-

This poses certain problems because very few countries have a clear single statement of transport policy. Even for a country like the UK which does have something approaching a single statement in the 1998 White Paper *A New Deal for Transport*, and the subsequent *Ten Year Plan* of 2000, getting a complete statement of current policy is difficult since the White Paper is a set of general aspirations, supported by a number of “daughter” documents detailed individual mode policies. Furthermore, virtually all countries for which any documentation could be identified separate general policies towards transport from current infrastructure plans. In some member states, such as France and Germany, there is an overall plan, usually for individual modes such as the French *Schémas Directeurs* or the German *Bundesverkehrswegeplan*. In other member states, the UK for example, road network development is based more on the evaluation on a scheme by scheme basis without an overall plan framework. Where there has been a substantial involvement of the private sector in infrastructure development (again the UK provides the most advanced example in the rail sector) there is no government policy statement, but plans for network development do have to be approved by the government's agencies and regulator given the need for public financial support.

In some countries the relative involvement of national and regional governments in transport policy makes it difficult to obtain a clear statement of the overall position. Belgium

is a particular example of this problem where it has been difficult to identify a clear statement of national policy, but there is a statement of the position of Wallonia.

Our primary impression from sifting this large quantity of information is of the following broad situation:

- EU15:
 - little direct use is made of EU policy or TENs in formulating national policy priorities;
 - some use of similar concepts across countries, e.g. with respect to environment, regional impacts and cohesion;
- Accession countries:
 - strong emphasis on TENs and EU priorities in formulation of national policies;
- Other countries (e.g. CH):
 - strong emphasis on links between European and national policy priorities given key location

Essentially EU15 members pay little overt attention to EU policy in setting their own priorities. This does not of course mean that member states' policies are in conflict with EU policy, which is after all effectively set by the member states, simply that EU policy is not used as a support for policy. This is perhaps surprising in some areas since EU policy is frequently used in some policy areas as the rationale for unpopular actions and we were somewhat surprised not to find policy on charging in this category. Where infrastructure is planned which is consistent with EU policy, then it is not surprising that the member states wish to take the credit for this.

Perhaps it is also not surprising to find the accession countries giving greater recognition to EU policy. First, the process of accession itself has placed them more directly in an ongoing bargaining situation with the EU than the existing member states and they will see stronger elements of quid pro quo in acceding to current EU policy initiatives, especially where there may be fewer current vested interests in transport. Secondly, the accession countries clearly have much to expect to gain from infrastructure policies in particular, since they are more likely to be able to gain financial support for projects than existing member states, either directly or indirectly through EIB and EBRD support.

Finally, Switzerland is in, in some senses, the opposite situation, being able to dictate to some extent, transport policy to the EU because of its sensitive geographical location. However, Switzerland too needs to negotiate its position carefully to ensure an appropriate balance between gains and potential losses. This leads to it taking very close cognisance of the EU policy stance.

5. Conclusions on the Co-ordination of EU and National Policies

In this paper we have set out some of the issues arising from the interactions between different EU policies and between EU transport and TENs policies and national policies. We have seen that in terms of both the horizontal interactions (between policy areas) and vertical interactions (between different levels of policy making) there are conflicts of both objective and impact. These conflicts arise because the way in which transport itself interacts with other sectors and the way in which transport policies, both infrastructure policies and pricing/regulation policies are poorly understood – or at least open to different interpretations. Thus transport as an agent of economic growth conflicts with transport as a destination of public funds. Transport as an

agent of enhancing competitiveness conflicts with transport as an agent of improving accessibility and cohesion. Transport as a source of welfare through mobility conflicts with the need to control harmful effects on the environment.

Transport policy itself is however full of conflicts, not least the potential conflict between the use of infrastructure as a means of competing networks, improving accessibility and enhancing mobility with the need to regulate the use of networks to reduce congestion and make users generally more aware of the full resource costs of the transport they consume.

At the EU level, the 2001 White Paper is a good start on making transport policy more rational since it brings together both infrastructure and regulation/pricing ideas. But there is still a gap in implementation and it is not clear that the Report of the High Level Group on the TENs does sufficient to integrate the need for coherence across the whole policy area. Infrastructure policy is still too dominated by the concept of completing networks and responding to the special pleading of individual regions to be on a network. Courage is needed to ensure the adoption of a substantive regime which relates the prices faced by transport users to the real resource costs incurred by society.

With regard to the wider links of transport policy to other policy areas, there is a concern that issues of spatial development have been allowed to drive the transport policies implemented. Transport has been used very much as an agent of structural and spatial development policy without regard for its other consequences, or for the less positive implications for spatial development. This and the well-known interaction with environmental policy are two clear areas for greater integration. We have identified that transport does have clear linkages with the more general economic policies of the EU, relating to the internal market, economic reforms and stability and growth. We do not believe these are critical to the same extent nor that either the potential gains or threats are as large as the interactions with spatial development or environmental policy, but they could nevertheless be significant enough to encourage greater cooperation. This involves seeking a more definitive view on the benefits of transport to the efficiency of other sectors (the microeconomic links) and to overall and regional growth (the macroeconomic links). Similarly the risks occasioned by restrictive spending on transport also need closer definition.

However, it is the inconsistency in policy making by national, regional and local governments across the EU which is the source of the greatest potential set of problems. This arises in part because of the subsidiarity accorded to much of transport policy despite the treaty commitment to a common transport policy. However the lack of clarity in EU transport policy in the past has left a void which national policies have had to fill. The need for consistent pricing policy raises further problems since transport is a substantial source of tax revenues for most national governments. Any move to an efficient charging policy would imply a shift from more arbitrary tax based charges to resource based user charges. It is important that charges for environmental damage, the sue of congested roads etc are seen as economic prices for the use of resources and not taxes in the conventional sense, but there will be difficult issues to resolve in getting agreement on how revenues raised from such charges can be used and the appropriate level to reflect economic values and not fiscal needs.

Conflict also arises because of the problem in identifying the spatial distribution of both benefits and costs from any particular policy. Thus lower level governments may only be interested in schemes which appear to have local benefits within their jurisdiction because of their inability to capture the rent gained by other users. There is a surprising lack of reverence to wider EU interests except where such interests can be used to support a particular project,

not least where there is potential funding aid either directly from the EU via e.g. structural or cohesion funds, or indirectly through EIB loans.

At the national level, transport has also been seen as an important sector for R&D, it acts as a very visible showcase for national industrial sectors. Although there has been a substantial change through the application of EU rules on procurement, which affects parts of the transport sector substantially, there is still the potential for substantial wasteful competition between national supply industries.

The existing distribution of competences on transport policy makes it difficult to see how some conflict can ever be avoided. Transport is such a visible sector that user and voter pressure will always be felt, and particularly at the most immediate (local) level. However, the complexity of conflicts does suggest that improving the clarity with which transport policy is communicated could have strongly beneficial effects. Within the scope of the 2001 White Paper it is important to continue prompting the debate and seeking agreement on both priorities and appropriate values (e.g. for environmental damage, statistical life etc.) for adoption across the EU. That involves getting agreement on the relative use of pricing/regulation policy and infrastructure policy, and in particular recognition that optimal investment requires prices much closer to their optimal efficient level than hitherto. However, the most important message is that a comprehensive transport policy cannot be adopted in parts, it is a package of interacting measures. It is particularly vital that EU transport policy is not seen to consist of a menu of measures from which lower level jurisdictions can pick and mix; it must be a coherent single policy.

What is clearly important is the need to find ways of incorporating analysis of the policy dimension into any appraisal of transport improvement, especially if these are being considered in the context of a network. Sophisticated modelling of the direct GDP and welfare impacts suggests that impacts, aside from the initial direct construction impact, may be modest, but the total effects through all the policy linkages could ultimately be much more far reaching if we allow for changes in the implicit parameters underlying the relationships between accessibility, transport costs, transport demand and economic activity more widely.

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