

# Integrating Transport, Land-Use Planning and Environment Policy in European Countries

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*Various recent policy documents stress the need for the integration of sector policies. Several studies have recently been carried out looking at various aspects of policy integration, especially with respect to the integration of transport, land use planning and environment policy. Although literature in this area of research is growing, it is still however quite limited and rather sectoral. Most of the research is mainly technical and mainly focuses on policy options, instruments or assessment methods, rather than on decision-making processes and/or implementation issues. Little attention has been given to organisational and/or institutional aspects of policy integration and how this relates to theories from organisational, policy or political sciences. This paper provides an overview of theoretical frameworks for analysing policy integration and reviews policy documents and recent major research projects with links to policy integration (particularly within Europe). The paper aims to give a historical perspective on policy integration, summarise recent research, identify key research gaps, consider the transferability of research results and identify promising new areas for future research. The paper is divided into four sections. The first section provides a historical overview of changes and trends in policy perspectives, focusing on the European level. The second section contains a review of literature (from both policy documents and theoretical literature) concerning policy integration. The third section summarises recent research projects (mainly funded by the European Commission) relevant to the integration of transport, land use planning and environment policy. This section also considers the issue of policy transfer. The final section contains conclusions and a number of recommendations for future research in this area.*

## 1. Introduction – changing policy-making perspectives in Europe

In Europe, integrated policy-making is gaining more attention. The integration of land use, transport and environment policy is crucial for sustainable development and, more specifically, for more sustainable transport and land use patterns. The report of the European Conference of Ministers of Transport (2001:19), for example, states that more sustainable policy-making for urban travel requires a more holistic approach in which transport, land-use and the environmental decisions are made together, not in isolation from each other. Current policies call for new forms of co-operation and government involvement, based on new ideas in public administration such as network management. This trend has developed over the last decade and is partly in reaction to previous policies that were characterised by central steering, autonomous policy developments for specific domains and a hierarchical set of relations. These recent changes in policy-making, the new designed policy instruments and the enhanced research activities (projects and programs) on the European level are the central elements in this paper.

The 1957 Treaty of Rome, which marked the foundation of the European Economic Community (EEC)<sup>1</sup> stated that the aims of the EEU would be “*to take care of the continuous improvement of the living and working conditions of its population*” and that at the same time the EEC would strive for “*harmonious development of her economies*”. This might suggest a balanced approach but in practice the emphasis in policy-making was mainly on economic development and attention for non-economic issues was of a second order. Looking back, policies were based on a sectoral approach in which transport was strongly valued as a driving force for economic prosperity, and the importance of European environmental and spatial policy was not a formal element in policy-making.

In 1972, it was agreed by the Community Heads of State at the Paris Summit that economic expansion should be accompanied by an improvement of the ‘quality of life’ and it was therefore agreed that more attention should be paid to environmental issues. This then led to the first *Environmental Action Programme* in 1973, which can be considered as the first step towards an European environmental policy, but it also has to be placed in the context of a growing concern by the member states and its inhabitants for the quality of the natural environment, motivated by alarming publications as *Silent Spring* (Carson, 1962), *The Limits to Growth* (Meadows et al, 1971) and *Blueprint for Survival* (Goldsmith, 1973). At this time, however, there was still a strong sectoral approach in policy-making.

An important change took place in 1986 with the amendment of the *Single European Act*. In that same year the European Union gained two member states (Spain and Portugal) and a decision about the creation of a single European market was made. The name of the European Economic Community was changed to European Community to stress the balanced approach of policy issues. There was also the increasing awareness that creating a single market would generate new requirements for policy-making, such as stronger co-ordination rather than further specialisation. It was also clear that the unification would lead to a single market with economic advantages but, as a consequence, other policies like the spatial policy, needed more attention. As a result, environmental policies and land-use planning became recognised as important domains since the mid-1980s.<sup>2</sup>

Looking back at the policies of the European Commission since 1986, it can be concluded that an important paradigm change took place. In 1986, when the new policy challenges

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<sup>1</sup> The *Treaty of Rome* was agreed by the 6 founding countries: Belgium, France, Italy, Luxembourg, the Netherlands and West Germany.

<sup>2</sup> During this period, amendments were made to the European Treaty with respect to environmental policy-making.

were put on the agenda for the first time, it was clear that not only the policy development had to accelerate, but also the organisation and the knowledge base of the Commission was not exactly adequate for the new challenges.<sup>3</sup> This required new approaches for policy documents, policy instruments, data and research activities.

### 1.1 From specialisation and harmonisation to co-ordination and integration

A number of interesting trends in policy-making and research can be observed since the creation of the European Economic Community. At first, the emphasis was predominantly *sectoral* (focusing on different policy domains), particularly on economic growth and agricultural policies. In the second half of the 1980s, *harmonisation* of various policies became important. Attention was given to new policy initiatives, the development of policy instruments and the development of research initiatives that would support this broadening of the policy area. During the mid-1990s, it became clear that harmonisation was not enough. For instance it became clear that the structural funds for the southern European countries led to the construction of new physical infrastructure (as a result of Structural Funds) but at the same time environmental policies were strengthened because concerns about the natural environment. As a result, the dominant paradigm changed from harmonisation to *co-ordination* (longer-term policies and preventative policies for example). It was later recognised that a reinvention of policy-making was also needed as a consequence of the proposed expansion of the European Community. From an environmental perspective, CO<sub>2</sub> emissions became more of a policy priority, whilst quality of life in urban areas became a new policy priority in the field of urban planning. As a result of these new challenges there was more need for further policy co-ordination, namely the awareness amongst politicians that policies had to be directed towards *sectoral integration*. This change in policy priorities is also reflected in the policy documents and research priorities (see section 2 for an overview).

### 1.2 New instruments

Parallel to these changes in perspectives and opinions, policy instruments used by the European Commission also changed. In some senses, the choice of instruments is a reflection of the policy needs. Soon after the establishment of the EEC in 1957 the situation can be characterised as one of high ambitions and the ideal of a new European society. The policies at this time can be characterised in terms of strong trust in the *classical steering paradigm*. There was a strong central steering agency, in which relations were hierarchical, and policy-making was viewed as rational: the neutral implementation of objectives. New types of problems emerged, such as the economic recession, unemployment and environmental problems, which meant that policies were less effective than expected. They did not always benefit the target group and procedures and legislation took more time than expected.

There are different explanations for policy failure. Firstly, the problems that society was being confronted with were increasingly complex in nature. Secondly, an increasing number of actors were involved in the decision-making process. Thirdly, there was an increasing interdependence between different policy areas. These failures stimulated the establishment of the 'new right movement' in the United States and Thatcherism ('less government, more market') in Britain. This was accompanied by new thoughts concerning the role of government policy. Together with the eroded aspirations of governments, more

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<sup>3</sup> Directorate General II and III (DGII and DGIII) were responsible for economic development, DGVII for transport, DGXI for environment and DGXVI for spatial planning and regional development.

attention was given to the role of private firms as drivers for employment and economic growth.

These experiences led to a new paradigm for policy-making. There was a need for co-ordination and integration and new tools were needed. An important area for formulating new operational policies was found in the emerging network approach. Network management can be characterised as an activity aimed at raising the effectiveness of steering instruments or as a method of problem solving (see for example De Bruijn and ten Heuvelhof, 1991 or Kickert et al, 1997). The *new steering paradigm* recognises the interaction between actors and their interdependence. Emphasis is given to interaction and exchange of information and the common attempt to solve problems. The concept of network management is discussed further later in the paper.

## **2. Review of the literature**

This section provides a brief overview of literature on policy integration with relevance for transport, land-use planning and environmental policies. It is divided into two parts. The first part focuses on recent European and other pan-national policy documents, whilst the second focuses on literature addressing theoretical issues on policy integration.

### **2.1 Policy documents**

A variety of recent policy documents discuss the issue of policy co-ordination and stress the need for better co-ordination if policy is to be more effective. Some documents have a sectoral focus (concerning transport or spatial planning for example), whilst others have more of an inter-sectoral perspective (concerning sustainable development or governance for example). Selected examples from the European Commission and the OECD are briefly discussed here.

In terms of *transport policy* documents, the European Transport White Paper of 2001 (Commission of the European Communities, 2001a) explicitly recognises that the concept sustainable development<sup>4</sup> is central to Community policy-making (see also Stead 2001 for a review of the White Paper). The White Paper highlights the need to integrate environmental considerations into transport policy (and other Community policies), although how integration can be achieved in practice, however, remains unclear from the document. The document also recognises that transport policy alone is not sufficient to tackle current transport problems and advocates an integrated approach with other areas of policy-making, such as economic policy, land-use planning policy, social and education policy and competition policy. The final report of the ECMT-OECD project on urban travel and sustainable development states that sustainability requires that policy-making for urban travel be viewed in a holistic sense and that planning for transport, land-use and the environment should no longer be undertaken in isolation from each other (European Conference of Ministers of Transport, 2001).

Various European *spatial planning* policy documents, such as the 1990 Green Paper on the Urban Environment (Commission of the European Communities, 1990b) and the 1996 report of the Expert Group on the Urban Environment (Expert Group on the Urban

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<sup>4</sup> The Treaty of Amsterdam (agreed by the European Union's political leaders in June 1997 and signed in October 1997) introduced the principle of sustainable development into the EU Treaty and requires that "*environmental protection requirements must be integrated into the definition and implementation of other Community policies*".

Environment, 1996), stress the need for an integrated approach to policy. According to the report of the Expert Group on the Urban Environment, “*the fundamental challenge is to achieve integration: integration between different levels (vertical) and between different actors in the policy process (horizontal)*”. The European Commission’s communication on urban policy touches on the issue and talks about engaging different levels of decision-making to achieve better policy integration (European Commission, 1997). The European Spatial Development Perspective (ESDP) also alludes to policy integration, recommending for example that location policy must be compatible with transport policy (European Commission, 1999:23).

Several recent policy documents concerning *sustainable development* focus on the issue of policy integration. For example, the European strategy for Sustainable Development calls for further integration of environmental concerns into sectoral policies (Commission of the European Communities, 2001b). In addition, two recent OECD reports refer to policy co-ordination. The first report, which focuses on policies to enhance sustainable development, includes analysis and advice on how governments can develop integrated approaches to decision-making (OECD, 2001a). The second report, which addresses some critical issues for sustainable development, talks about the need for greater policy coherence and the better integration of economic, environmental and social goals in different policies and identifies three distinct organisational approaches for the integration of sustainable development into policy (OECD 2001b):

- *co-ordination approaches* (such as inter-ministerial working groups)
- *structural approaches* concerning internal institutional arrangements (such as departmental mergers)
- *strategic approaches* (such as shared agendas).

The interest in policy integration also has links to various recent policy documents on *governance*, such as the European Commission’s paper on governance (Commission of the European Communities, 2001c) and the OECD report on governance in the 21st century (OECD, 2001c). However, neither documents contain specific detail about the process of policy integration.

## 2.2 Literature on theoretical issues

For reasons of brevity, this section can only give a flavour of the literature on policy and inter-organisational co-ordination theory (for a more detailed review, see Stead et al, 2003). Two theories of policy integration are outlined in this section in order to illustrate interesting approaches in the area of policy and inter-organisational co-ordination that have potential relevance for research concerning the integration of transport, land-use and/or environment policy.

Before turning to the theory, something should first be said about definitions, since a number of different terms exist in the literature referring to policy integration. These include coherence, consistency, collaboration, co-operation, co-ordination and integration. According to Challis et al (1988), the concept had a more specific dominant form in the 1960s and 1970s (when rational, synoptic planning was the dominant paradigm) but more recently such precision about the meaning of co-ordination is rare. Similarly, Mulford and Rogers (1982:9) note that, although inter-organisational co-ordination has been examined by both scholars and practitioners, “*few efforts have been made to define this phenomenon*”. Some authors consider co-operation and co-ordination to be distinct and separate, whilst others see co-ordination as one type of co-operation (e.g. Alter and Hage, 1993). Authors such as Morris (1963) and Davidson (1976) identify some distinct

differences between co-ordination and co-operation. Challis et al (1988:25) characterise policy co-ordination as “*a pursuit of coherence, consistency, comprehensiveness and of harmonious or compatible outcomes*”. Mulford and Rogers (1982:12) define inter-organisational co-ordination as “*the process whereby two or more organisations create and/or use existing decision rules that have been established to deal collectively with their shared task environment*”. The OECD define policy integration in terms of the management of cross-cutting issues that transcend the boundaries of established policy fields, and do not correspond to the institutional responsibilities of individual departments (OECD, 1996). Policy integration is seen as quite distinct and more sophisticated than policy co-ordination. Elsewhere, the authors of this paper identify a hierarchy of terms in which differences between policy coherence, co-operation and integration are identified (see Stead et al, 2003).

As an example of theory on policy co-ordination and integration, Halpert (1982) synthesises a significant amount of organisational science literature and describes co-ordination between agencies as a result of two competing forces: (i) *facilitators* and (ii) *inhibitors* of co-ordination. Halpert subdivides these facilitators and inhibitors according to interpretive and contextual factors. Interpretive factors relate to individuals (attitudes, values and perceptions for example), whilst contextual factors relate to internal organisational or environmental conditions (Table 1).

**Table 1. Facilitators and inhibitors of organisational co-ordination**

<b>A. Facilitators of organisational co-ordination</b>	<b>B. Inhibitors of organisational co-ordination</b>
<i>1- Interpretive factors (attitudes, values and perceptions of personnel):</i>	
Perceived need	Vested interests
Positive attitudes	Perceived threat/competition
Consensus between administrators and staff	Disparities in staff training
Maintenance of organisational and paradigm identity	Perceived loss of organisational and program identity/strategic positions
Maintenance of organisational-leader-staff prestige/power/domains	Perceived loss of organisational-leader-staff prestige/authority/domains
Group-centred approach to problems	Inter- and intra-professional differences
Similar resources/goals/needs	Lack of common language
Common commitment	Different priorities/ideologies/outlooks/goals
Common definitions/ideologies/interests/approaches	Differing organisational-leader-professional socialisation
Good historical relations	Poor historical relations/image formation
<i>2- Contextual factors (internal/environmental conditions):</i>	
Actual needs/benefits	Costs outweigh benefits
Standardisation	Bureaucratisation
Decentralisation	Centralisation
Professionalism	Professionalisation
Occupational diversity	Specialisation
Informal contacts/exchange of information and resources	Infrequent/inadequate internal and external communication
Geographic proximity	Fragmentation of the environment-federal/state/local levels of government
Boundary permeability/roles	Little of no boundary permeability/roles
Complementary organisational/personnel roles	Inadequately trained personnel
Similarity of structures/supply capabilities/needs/services	Structural differences

Adapted from Halpert (1982).

A second example of theory on policy co-ordination and integration comes from the work of Challis et al (1988), who discuss policy integration in terms of conflicts and power struggles throughout the system of government. These conflicts and struggles determine the outcomes of policy (as opposed to the content of statements of objectives, which are merely inputs). Challis et al express this complexity in terms of streams of policies that interact, compete and conflict. They argue that policy outcomes are the product of different streams of interacting policies:<sup>5</sup>

*service (or input) policies* that specify the needs to be met and the choice of appropriate means and methods of intervention

*resource policies* that specify allocations of expenditure and approaches for resource management (e.g. maximising long-term cost effectiveness or minimising short-term spending)

*governance policies* that specify the general view of the role of the state and the philosophy of management and control in public authorities (e.g. centralisation or decentralisation, intervention or *laissez-faire*)

*fiscal policies* that specify the general view on the level of taxation and the way in which tax is levied (e.g. across different groups in society, the types of tax benefits and breaks used)

Despite greater recognition of the need for more on policy integration, examination of recent policy documents from both the European Commission and the OECD (including those identified earlier in this section) indicates that few documents make explicit reference to the theory concerning policy and inter-organisational co-ordination. In the next section we examine whether recent research concerning the integration of transport, land-use and/or environment policy-make reference to these theoretical underpinnings.

### 3. Review of research programmes and projects

Considering the emphasis of various policy documents on the integration of sectoral policies (see above), relatively little pan-European research has been (or is being) carried out on this issue, particularly in relation to transport, land use planning and environment policies. Having said this, it is possible to find a relatively small number of recent studies in this field. The European Commission is the main funding agency of these projects and several of them are still on-going (see Table 2). A few relevant projects were funded under the Fourth RTD Framework Programme<sup>6</sup> (such as DANTE, POSSUM and SPECTRA), but most of the other projects were funded under the Fifth RTD Framework Programme.<sup>7</sup> It remains to be seen whether the Sixth Framework Programme (FP6) will also fund work in this area.

The Land Use and Transport (LUTR) cluster of projects, funded by the European Commission under the Cities of Tomorrow and Cultural Heritage key action,<sup>8</sup> contains a number of relevant projects (Table 2). The main objective of the LUTR cluster is to

<sup>5</sup> The notion of different streams of policies is derived from the earlier work of Webb and Wistow (1982).

<sup>6</sup> The Fourth Framework Programme (FP4) funded EU RTD activities between 1994 and 1998.

<sup>7</sup> The Fifth Framework Programme (FP5) funded EU RTD (Research, Technological development and Demonstration) activities between the period 1998 to 2002.

<sup>8</sup> The City of Tomorrow and Cultural Heritage key action was part of the European Commission's Fifth Framework Energy, Environment and Sustainable Development research programme. The goal of the programme was to contribute to sustainable development by focusing on key activities that are crucial for social well-being and economic competitiveness in Europe.

develop strategic approaches and methodologies in urban planning that promote more sustainable urban transport and development. The cluster aims to ensure consistency and co-ordination between the projects, researchers and stakeholders, to contribute more effectively to reducing barriers to sustainability, and to improve exploitation and dissemination of results. There are currently ten research projects in the LUTR cluster.<sup>9</sup>

As well as research projects funded by the European Commission, there are a few other research projects of importance to the issue of policy integration (Table 2). These include the *COST 332* research project funded by COST (an intergovernmental framework for European Co-operation in the field of Scientific and Technical Research, providing for co-ordination of nationally funded research on a European level), the project on *Implementing Strategies for Sustainable Urban Travel* funded by the European Council of Ministers of Transport (ECMT) and the *Environmentally Sustainable Transport* project funded by the Organisation for Economic Co-operation and Development (OECD).

In general, although these projects are of relevance to the integration of sectoral policies, a number of areas (such as barriers to implementation) are not explored in great detail and few of them contain explicit reference to the theoretical literature on organisational science, policy analysis or political science. The emphasis of several of the research projects listed in Table 2 is primarily on transport policy, with land use planning policy and/or environment policy taking more of a secondary role. This may not have been the intention of the research programme but is probably, at least in part, a consequence of the dominant transport focus of many of the research organisations involved in these projects. Organisations whose main research focus is environmental policy or land use planning are less well represented in the research project consortia.

Several of the research projects listed in Table 2 focus on policy options, instruments or assessment methods. There is much less focus on institutional, organisational or implementation issues. Again, this may not have been the intention of the research programme but this is the reality because of the types of research organisations involved in these projects. Most of the research organisations are much more familiar with scientific, technical and quantitative approaches than with interdisciplinary, organisational, quantitative, political approaches.

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<sup>9</sup> For more information on the LUTR cluster, see <http://www.lutr.net>.



Table 2. Examples of recent major studies focusing on the integration of transport, land use planning and environment policies

<b>Project</b>	<b>Duration</b>	<b>Key issues (extracted from the project aims)</b>	<b>Website</b>	<b>Funding body</b>
ARTISTS (Arterial Streets towards Sustainability)	2002-2004	Arterial streets; sustainability; functional classification; benchmarking; effects of different re-construction; street design; management strategies; barriers and opportunities for more sustainable arterial streets; decision-making processes.	<a href="http://www.lutr.net">http://www.lutr.net</a>	European Commission: Environment and Sustainable Development RTD Programme (FP5)
COST-332 (Transport and Land-use Policies)	1996-2000	Interactions between transport and land-use policies; institutional coordination arrangements; coherence between decision-making processes; comparison of national approaches; sectoral and regional coherence; temporal coherence; legal, institutional, organisational and human issues influencing coherence.	<a href="http://www.cordis.lu/cost-transport/src/cost-332.htm">http://www.cordis.lu/cost-transport/src/cost-332.htm</a>	COST – European Cooperation in the field of Scientific and Technical Research
DANTE (Designs against the need to travel in Europe)	1997-1998	Land use and transport planning; travel and trip reduction strategies; empirical data analysis; travel changes; switching and substitution strategies; assessment framework; data synthesis; comparability and transferability; conditions for successful implementation; behavioural and institutional barriers.	<a href="http://www.cordis.lu/transport/src/dante.htm">http://www.cordis.lu/transport/src/dante.htm</a>	European Commission: Transport RTD Programme (FP4)
ECMT/OECD (Implementing Strategies for Sustainable Urban Travel)	1998-2001	Sustainability; urban areas; land-use and transport policies; sectorally integrated policies; implementation problems and opportunities; urban land-use and travel trends; expert workshops; urban travel surveys; national policy reviews.	<a href="http://www1.oecd.org/cem/UrbTray">http://www1.oecd.org/cem/UrbTray</a>	ECMT/OECD
ECOCITY (Urban Development towards Appropriate Structures for Sustainable Transport)	2002-2004	Urban development; integration strategies; implementation issues; settlement patterns; sustainable cities; transport systems; space and energy saving; sustainable transport; energy efficiency; environmental quality; alternative energy sources; mixed land uses; expert round tables; scenarios; cross-sectoral issues.	<a href="http://www.lutr.net">http://www.lutr.net</a>	European Commission: Environment and Sustainable Development RTD Programme (FP5)
EST (Environmentally Sustainable Transport)	1994-2000	Transport; sustainable development; environmental targets; scenarios; backcasting; passenger and freight transport; technology changes; transport activity; policy packages; economic and social implications; implementation strategies; role of stakeholders.	<a href="http://www.oecd.org/env/ccst/est/">www.oecd.org/env/ccst/est/</a>	OECD
POSSUM (Policy Scenarios for Sustainable Mobility)	1996-1998	Policy scenarios; sustainable mobility; European Common Transport Policy; Trans-European Networks; economic growth; environmental protection; policy targets; policy paths; decoupling; technological development; expert groups; feasibility; desirability.	<a href="http://www.cordis.lu/transport/src/possum.htm">http://www.cordis.lu/transport/src/possum.htm</a>	European Commission: Transport RTD Programme (FP4)

**Table 2. Examples of recent major studies focusing on the integration of transport, land use planning and environment policies [contd.]**

<b>Project</b>	<b>Duration</b>	<b>Key issues (extracted from the project aims)</b>	<b>Website</b>	<b>Funding body</b>
PROPOLIS (Planning and Research for Land Use and Transport for Increasing Urban Sustainability)	2000-2002	Land use and transport integration; policies, tools and assessment methods; sustainability; urban areas; sustainability indicators; environmental, social and economic issues; models; GIS.	<a href="http://www.lutr.net">http://www.lutr.net</a>	European Commission: Environment and Sustainable Development RTD Programme (FP5)
PROSPECTS (Procedures Recommending Optimal Sustainable Planning of European City Transport Systems)	2000-2003	Land use and transport strategies; decision-making; forecasting and analysis; policy trends; future scenarios; policy options; barriers to implementation; multi-criteria analysis; optimisation; objective functions; GIS; forecasting and analysis tools; land use/transport interaction models; evaluation tools.	<a href="http://www.lutr.net">http://www.lutr.net</a>	European Commission: Environment and Sustainable Development RTD Programme (FP5)
SPECTRA (Sustainability, Development and Spatial Planning)	1998-2000	Sustainable development; spatial planning; systems and practices; integration of land-use, environment, transport; other sectoral policies; methods, tools and conditions; stakeholder views.	<a href="http://www.uwe.ac.uk/fbe/spectra">http://www.uwe.ac.uk/fbe/spectra</a>	European Commission: Environment and Climate RTD Programme (FP4)
SUTRA (Sustainable Urban Transportation for the City of Tomorrow)	2000-2003	Urban transport; sustainable cities; transportation policies; multi-modal systems; integration of socio-economic, environmental and technological concepts; forecasting, assessment decision support tools; sustainability indicators; benchmarking; multi-criteria analysis; traffic equilibrium modelling; land-use and transport scenarios; air quality modelling.	<a href="http://www.lutr.net">http://www.lutr.net</a>	European Commission: Environment and Sustainable Development RTD Programme (FP5)
TRANSLAND (Integration of Transport and Land-use planning)	1999-2000	Integrated transport and land-use planning; good planning practice; institutional conditions; barriers to integrated policy-making; transferability; administrative and legal provisions.	<a href="http://www.inro.tno.nl/transland">http://www.inro.tno.nl/transland</a>	European Commission: Transport RTD Programme (FP4)
TRANSPLUS (Transport Planning, Land Use and Sustainability)	2000-2003	Integrated land-use and transport planning; transport demand management; urban development; public political acceptance; evaluation of outcomes and side effects; barriers to implementation; transferability of policies; participation.	<a href="http://www.lutr.net">http://www.lutr.net</a>	European Commission: Environment and Sustainable Development RTD programme (FP5)

Although inter-sectoral and/or organisational issues are addressed (at least to some extent) in some of the research projects presented in Table 2, they are often not well grounded in the theoretical literature within the social sciences. Issues of governance are often seen as external and separate to these research projects. Governance is now an important area of activity in the EU, at least according to policy statements and research priorities. However, the number of research projects funded by the EU that focus on the issue of governance is relatively small and none of them look in any detail at the issue of policy integration.

Although the issue of policy transferability is mentioned in a number of the research projects presented in Table 2, few of them consider the issue in great detail. Furthermore, little attention is given to the wider social sciences literature on lesson drawing or comparative policy analysis from the social sciences area. Clearly, these limitations of the existing research provide some clues for promising new areas of research. These are set out in more detail in the conclusion. Before this, however, a number of issues concerning policy transferability are considered, which are relevant to research on policy integration, particularly where experiences from different locations (different authorities, regions or countries) are being compared.

The overview of initiatives and actions described earlier in this paper indicates that the policy changes that took place after the agreement of the Single European Act in 1986 are not fully reflected in new research activities which makes the call for integration more concrete. Most of the projects refer to the integration between two of the domains of transport policies, land use policies or environmental policies. Only a limited number of projects use an integrated perspective. There is currently a trend in EU research initiatives for even bigger research consortia. It might well be that these large-scale programmes address the demand for integration (when research from different disciplines are brought together), but there are no guarantees of better results in terms of knowledge base or results.

It is also noticeable that many research initiatives are very much orientated towards solving particular problems. There is much less research focusing on issues of policy-implementation. It would be interesting to evaluate the usefulness of previous research particularly in terms of relevance for policy-making and implementation. Another observation is that the outcome of most of the research activities carried out so far describe the barriers to implementation and how situations in Member States differ (the institutional differences between northern and southern European Countries, or between the member states and the accession countries for example), but few recommendations are made about the way forward. The same applies to organisational, financial and cultural differences between countries. In research on policy integration it is necessary that attention is given to this multi-dimensional challenge.

From an academic perspective, it is remarkable that that few of the projects is based on a strong theoretical approach or have ambitions to deepen the theoretical basis for integrated policy-making or establishing research activities on policy integration. Most fundamental research on policy-making and policy integration is financed on a national basis. There is a rich source of information available from which the EU could benefit in terms of increasing the efficiency of their policies. We refer here to the theory on organisational learning and on policy transfer, which is not generally used in current EU research. A review of this literature can be found elsewhere (see Stead et al, 2003).

#### **4. Conclusions and recommendations**

Integrated policy-making is gaining more attention in Europe and the integration of land use, transport and environment policy is crucial for sustainable development and, more specifically, for more sustainable transport and land use patterns. Current policies call for new forms of co-operation and government involvement, based on new ideas in public administration such as network management. This trend has developed during the 1990s and is partly in reaction to previous policies that were characterised by a central steering paradigm and a hierarchical set of relations.

Cross-sectoral issues are largely unprecedented and the institutional structures to cope with them often do not exist. The typical case is that a number of departments are responsible for one aspect of the problem or another, but none is responsible for it in its entirety. This raises not only issues of co-ordination, but also the question of a more holistic view of problems and solutions.

Integrated policies across different sectors require organisational support that transcends institutionally-defined policy fields, while respecting departmental portfolios. The traditional vertical, compartmentalised structures of government tend to limit information flows and impede co-ordinated action. Co-ordination mechanisms are designed to overcome vertical structures, and to ensure horizontal consistency among identified policy fields.

Cross-sectoral issues increase the need to integrate, rather than merely co-ordinate the policies of different departments. The design of integrative mechanisms needs to strike a balance between competing objectives:

- strengthening the horizontal capacity of the governmental apparatus
- ensuring that ministerial responsibilities remain clear
- maintaining the centre's pivotal role in the strategic management of actions

A variety of recent policy documents discuss the issue of policy co-ordination and stress the need for better co-ordination if policy is to be more effective. Some of these documents have a sectoral focus (concerning transport or spatial planning for example), whereas others reflect more of an inter-sectoral perspective (concerning sustainable development or governance for example). Examples include the 2001 European transport White Paper, the 1999 European Spatial Development Perspective, the 2001 European strategy for Sustainable Development, and the 2001 European Paper on Governance. In addition, there is quite a range of literature on theories of policy integration available within the areas of organisational science, policy analysis and political science. However, recent policy documents do not generally make reference to the literature on policy and inter-organisational co-ordination. A number of different terms exist in the literature referring to policy integration, such as coherence, consistency, collaboration, co-operation, co-ordination and integration. In addition, precision about the meaning of co-ordination in the literature is rare.

Considering the emphasis of various policy documents on the integration of sectoral policies, relatively little pan-European research has been (or is being) carried out on this issue, particularly in relation to transport, land-use planning and environment policies. There are a relatively small number of recent studies in this field, and only a few of these concern themselves with the theoretical literature on policy or organisational integration. At least in part, this is probably a consequence of the dominant transport focus of many of the research organisations involved in these projects. Organisations, whose main research focus is

environmental policy or land use planning, are less well represented in these research projects. In addition, most of these studies focus on policy options, instruments or assessment methods. There is much less focus on institutional, organisational or implementation issues. A number of recommendations emerge from the review of recent research projects, policy documents and theoretical literature from the fields of organisational science, policy analysis and political science:

1. *Decision-making*

Some recent projects (identified above) have examined a number of different approaches to, and contexts for, decision-making, and have demonstrated the considerable variety that exists both within and between countries. However, the projects have not assessed the relative merits of these approaches. Thus research is needed on this issue and it is particularly relevant to the Accession Countries.

2. *Policy instruments and integration*

Recent projects have contributed to a better understanding of the contribution of different policy instruments. However, greater understanding is also needed about the transferability of results from one context to another. More importantly, the understanding of how to integrate policy instruments effectively is still in its infancy, particularly in the area of transport, land-use and environment policy. This is an area in which further research is particularly important and could significantly enhance the performance of integrated strategies. Several studies imply that all actors involved in the policy process (particularly policy-makers) want policy integration but this is not always the case because of various professional, organisational and political reasons. Ways of addressing these issues also need to be addressed in the research, as well as other barriers to implementation (see below).

3. *Barriers to implementation*

Some projects have identified different types of barriers to effective implementation but have yet to consider the most successful ways of overcoming these barriers. Key areas of concern are public acceptability and finance. In the latter area, more research is needed into the success of different approaches to financing land-use, transport investment and operations.

4. *Best practice in implementation*

Research to date has focused much more on what to implement than on how to implement it. There is still only a limited understanding of what has made some places more successful than others have been in implementing effective strategies, and very little work on ways of transferring this experience of best practice. There is also a need to add a strong organisational component to the research.

**Table 3. Steering paradigms of government**

<b>Dimensions</b>	<b>Co-ordination</b>	<b>Integration</b>
Level of analysis	relation between different levels of government	network of actors
Perspective	central steering agency (command and control)	interaction between actors (incentive based)
Characterisation of relations	hierarchical	interdependent
Characterisation of interaction	neutral implementation of pre-stated objectives	interaction and exchange of information
Indicators of success	realisation of formal objectives	common attempts to solve a problem
Indicators of failure	vague objectives too many actors lack of information and control	inter-organisational conflicts (obstacles) lack of incentives
Recommendation for improvement	co-ordination harmonisation specialisation	integration
Examples	reactive environmental, land use and transport policies	pro-active environmental land use and transport policies

(Based on: Geerlings, 1999)

An OECD report on policy coherence identifies a number of basic tools and recommendations for policy coherence, which are relevant to the issue of policy integration (OECD, 1996). Some of these may seem, at first glance, deceptively obvious but experience shows that putting them into practice successfully requires experimentation and careful adaptation to the legal, administrative and political requirements of the local situation:

- commitment by the political leadership is a necessary precondition to coherence, and a tool to enhance it
- establishing a strategic policy framework helps ensure that individual policies are consistent with the government's goals and priorities
- decision makers need advice based on a clear definition and good analysis of issues, with explicit indications of possible inconsistencies
- the existence of a central overview and co-ordination capacity is essential to ensure horizontal consistency among policies
- mechanisms to anticipate, detect and resolve policy conflicts early in the process help identify inconsistencies and reduce incoherence
- the decision-making process must be organised to achieve an effective reconciliation between policy priorities and budgetary imperatives
- implementation procedures and monitoring mechanisms must be designed to ensure that policies can be adjusted in the light of progress, new information, and changing circumstances
- an administrative culture that promotes cross-sectoral co-operation and a systematic dialogue between different policy communities contributes to the strengthening of policy coherence

Despite the emphasis of various European policy documents on the integration of sectoral policies, the EU's Sixth Framework Programme<sup>1</sup> offers limited opportunities for research to explore issues of transport, land-use planning and environment policy integration. Most of the research on transport policy falls under the thematic area of sustainable development, which seems promising for research on policy integration. However, the research priorities concerning transport place heavy emphasis on technological means (such as alternative fuels, energy efficient vehicles, navigation systems) to address the environmental problems of transport. Integration is only mentioned in respect to the integration of *modes* (to promote intermodality) and not in respect to the integration of *policies* from different sectors that might influence the demand for transport.

Another thematic area of the proposed Sixth Framework Programme concerns governance ('citizens and governance in a knowledge-based society'). Again this seems promising for research on policy integration. Indeed, the preamble to this thematic area states that research needs to be "based on greatly enhanced research integration, multi- and trans-disciplinary co-operation, and on the mobilisation of the social sciences and humanities research communities in Europe" (CEC, 2002:44). However, research on policy integration does not appear to fit within any of the research priorities identified under this thematic area.

In addition to the main research priorities of the Sixth Framework Programme, a number of activities covering a wider field of research are identified that will be funded to complement the research within the thematic priority areas. These activities will "*involve common implementation arrangements*", "*underpin the formulation and implementation of Community policies*" and "*explore new and emerging scientific and technological problems and opportunities*" (CEC, 2002:46). The activities under this heading include support for research concerning *sustainable development, energy and transport policy*. Clearly, this part of the Sixth Framework Programme may offer the opportunity for research projects concerning policy integration, although there is little indication about the type of research that might be funded.

In summary, it seems that the opportunities for new EU-funded research on transport, land-use planning and environment policy integration may be rather limited, although it may be that additional opportunities emerge as further details about the Sixth Framework Programme appear.

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## References

- Bruijn, H. de and E.F. ten Heuvelhof (1991). *Sturinginstrumenten voor de overheid: over complexe netwerken en de tweede generatie sturingselementen*. Stenfert Kroese Press, Leiden.
- Carson, R. (1962). *Silent Spring*. Houghton Mifflin, Boston.
- Challis, L.; Fuller, S.; Henwood, M.; Klein, R.; Plowden, W.; Webb, A.; Whittingham, P. and Wistow, G. (1988). *Joint approaches to social policy: rationality and practice*. Cambridge University Press, Cambridge.
- Commission of the European Communities (1973). *First Environmental Action Programme*. Office for Official Publications of the European Communities, Luxembourg.
- Commission of the European Communities (1990a). *Energy for a New Century*. Office for Official Publications of the European Communities, Luxembourg.
- Commission of the European Communities (1990b). *Green Paper on Urban Environment [COM(90)218]*. Office for Official Publications of the European Communities, Luxembourg.
- Commission of the European Communities (1992). *Towards Sustainable Mobility*. Office for Official Publications of the European Communities, Luxembourg.
- Commission of the European Communities (2001a). *European transport policy for 2020: time to decide [COM(2001)370]*. Office for Official Publications of the European Communities, Luxembourg [[http://www.europa.eu.int/comm/off/white/index\\_en.htm](http://www.europa.eu.int/comm/off/white/index_en.htm)].
- Commission of the European Communities (2001b). *A sustainable Europe for a Better World: a European Union Strategy for Sustainable Development. Communication of the European Commission [COM(2001)264]*. Office for Official Publications of the European Communities, Luxembourg [<http://www.europa.eu.int/comm/environment/eussd/>].
- Commission of the European Communities (2001c). *European governance: a white paper [COM(2001)428]*. Office for Official Publications of the European Communities, Luxembourg [[http://www.europa.eu.int/comm/governance/white\\_paper/index\\_en.htm](http://www.europa.eu.int/comm/governance/white_paper/index_en.htm)].
- Davidson, S.M. (1976). Planning and coordination of social services in multiorganizational contexts. *Social Services Review* 50 pp.117-137.
- European Commission (1997). *Towards an urban agenda in the European Union. Communication from the Commission [COM(97)197]*. Office for Official Publications of the European Communities, Luxembourg [[http://www.europa.eu.int/comm/urban/documents/d004\\_en.pdf](http://www.europa.eu.int/comm/urban/documents/d004_en.pdf)].
- European Commission (1999). *European Spatial Development Perspective. Towards Balanced and Sustainable Development of the Territory of the European Union*. Office for Official Publications of the European Communities, Luxembourg [[http://europa.eu.int/comm/regional\\_policy/sources/docoffic/official/repor\\_en.htm](http://europa.eu.int/comm/regional_policy/sources/docoffic/official/repor_en.htm)].
- European Conference of Ministers of Transport (2001). *Implementing Sustainable Urban Travel Policies. [Report CEMT/CM(2001)13]*. ECMT, Paris [<http://www1.oecd.org/cem/UrbTrav>].



Expert Group on the Urban Environment (1996). *European Sustainable Cities*. Report of the Expert Group on the Urban Environment. European Commission, DGXI (Environment, Nuclear Safety and Civil Protection), Brussels.

Geerlings, H. (1999). *Meeting the Challenge of Sustainable Mobility. The Role of Technological Innovations*. Springer-Verlag, Berlin.

Goldsmith, E. (ed.) (1973). *Blueprint for survival*. Houghton Mifflin, Boston.

Halpert, B.P. (1982). Antecedents. In: Rogers, D.L. and Whetten, D.A. (eds.) *Interorganizational coordination: theory, research and implementation*. Iowa State University Press, Ames, pp.54-72.

Meadows, D.L., Meadows, D. and Randers, J. (1971). *The Limits to Growth*. Universe Books, New York.

Morris, R. (1963). Basic factors in planning for the coordination of health services. *American Journal of Public Health*, 53, pp.248-259.

Mulford, D.L. and Rogers, C.L. (1982). Definitions and models. In: Rogers, D.L. and Whetten, D.A. (eds.) *Interorganizational coordination: theory, research and implementation*. Iowa State University Press, Ames, pp.9-31.

OECD (1996). *Building Policy Coherence: Tools and Tensions*. OECD, Paris.

OECD (2001a). *Policies to enhance sustainable development*. OECD, Paris.

OECD (2001b). *Sustainable development: critical issues*. OECD, Paris.

OECD (2001c). *Governance in the 21st century*. OECD, Paris.

Stead, D. (2001). The European Transport White Paper. *European Journal of Transport and Infrastructure Research* 1(4) pp.415-418 [<http://ejtir.tudelft.nl>].

Stead, D., Geerlings, H. and Meijers, E. (2003). *Integrated land use planning, transport and environmental policy-making: an international comparison*. Volume I. OTB Research Institute for the Built Environment, Delft University of Technology, Delft / Erasmus Centre for Sustainable Development and Management, Erasmus University Rotterdam, Rotterdam.

Webb, A.L. and Wistow, G. (1982). *Planning need and scarcity: essays on the personal social services*. Allen and Unwin, London.