European Cooperation
in the field of
Scientific and Technical
Research

COST 332

Transport and Land-use Policies:
Resistance and Hopes for Coordination

Proceedings of the Launching Seminar of the Action COST 332
24-25 October 1996. Barcelona, Spain

European Commission
Directorate General Transport
TABLE OF CONTENTS

Introduction : From Analysing effects to Managing change
J.-M. Offner .............................................................................................................. 5

Stakes and difficulties to co-ordination in public authorities initiatives:
 thematic and disciplinary issues ............................................................................ 9

- Interpretation of the bibliography upon the relationship between transports and land uses
  L. Diappi, C. Morandi and al ............................................................................. 11
- On the political geography of transportation and land use policy coordination
  T. Hagerstrand, E. Clark .................................................................................. 19
- Creating networks - Towards a new paradigm of transport planning ?
  S. Guy, S. Marvin ............................................................................................ 33
- Territory and Territorial Management as Means of Co-ordination of Public Policies
  D. Joye, J. Ruegg and M. Bassand .................................................................. 49
- The idea of governance: an attempt at clarification
  C. Lefèvre ........................................................................................................ 63

The institutional mechanisms available for coordinating transport and national
and regional development: contrasts between national situations ....................... 73

- The situation in Austria
  P. Freudensprung ............................................................................................ 75
- The situation in Denmark
  C.W. Matthiessen ............................................................................................ 81
- The situation in Finland
  K. Pakarinen .................................................................................................... 87
- The situation in France
  J.-M. Offner ..................................................................................................... 95
- The situation in Italy
  L. Diappi, C. Morandi et al ............................................................................ 101
- The situation in Spain
  R. Junyent ....................................................................................................... 105
- The situation in Switzerland
  D. Joye, V. Kaufmann ..................................................................................... 111
- Co-ordination between transport and planning: a panoramic survey of the institutional
  arrangements at work in Europe - F. Margail .................................................. 117

Case studies ............................................................................................................. 125

- The cross-border region of south Scandinavia (Denmark/Sweden): an European
  perspective
  C.W. Matthiessen ............................................................................................ 127
- The cross-border region of south Scandinavia: a local perspective
  A. Tingvar ......................................................................................................... 141
- The Delta Plan : an example of co-ordination between transport and territorial planning policies
  R. Junyent ......................................................................................................... 151
- The “Delta Plan” for the Baix Llobregat in Barcelona (Spain)
  R. Roger ......................................................................................................... 161
- The agglomeration of Toulouse Highways dossier
  C. Schreiner, M. Cohen .................................................................................. 165
- The “Gates of Rome” programme (Italy)
  C. Sessa .......................................................................................................... 177

Annexes: Memorandum of Understanding of the COST Action 332 ......................... 189
COST Transport Overview .................................................................................. 199
INTRODUCTION
FROM ANALYSING EFFECTS TO MANAGING CHANGE

Jean Marc OFFNER
Laboratoire Techniques, Territoires et Sociétés
Ecole Nationale des Ponts et Chaussées
France

The objective of the inaugural COST Action 332 colloquium held in Barcelona on 24th and 25th October 1996 was to put together a common body of theoretical and empirical references likely to facilitate the Group's work on "institutional means of coordination between transport projects and regional planning" in the years to come.

This collective base is divided into three parts. Firstly, information by subject and by discipline, on what is at stake, and the difficulties of coordinating public action, using bibliographic analyses and the opinions of geographers, planners, political analysts and sociologists, followed by an inventory of national situations with regard to mechanisms for coordination between transport and planning, and finally, the presentation of some of the case studies on which future COST Action 332 work will be based.

1. COST Action 332: The Stakes

Before leaving the reader to examine these arguments, it may be useful to restate the aims of the action. The common declaration of intent states that "the objective of the action is to assess the innovative institutional methods of coordination between transport projects and regional planning".

The more general question of the interaction between spatial organisation and trips has been a recurring preoccupation in technical and political planning and transport circles: forms of mobility and the environment, the architecture (structure) of the networks and economic development, the role of the networks in the expansion of geographical scales - these are all recent themes which have regenerated the basic issue of the relationships between transport flows and territories.

There is, therefore, nothing new in all this. A century and a half ago, Ildephonse Cerda, was a precursor in formulating ideas connecting space and movement. Ideas have, however, evolved in recent years.

Scientific positions on the nature of the interaction between communication networks and territories today tend to call into question the idea of a structuring effect which postulated a cause and effect relationship between a new transport infrastructure and localised spatial change (land prices, commercial activity, industrial localisation, etc.). The revised vision of this interaction has proved to be both more modest and more ambitious. More modest, because henceforth, a systemic schema of change must be adopted in which the development of the transport offer is only one factor of transformation among others and is even dependent upon other variables such as lifestyles and industrial organisation. But it is also more ambitious because interaction must now be managed, and change piloted, on the basis of subsisting possibilities,
without waiting, as a passive observer, for the "structuring effects" to do - or more precisely, not to do - their work.

Moreover, the final report (1996) of COST Action 317 on the socio-economic effects of the Channel Tunnel concluded in the following terms:

"growth and employment do not automatically follow the building and bringing into service of a new transport infrastructure. The effects are most often tenuous, only appearing after a considerable period of time and cannot always be imputed with certainty to the transport investment. The effects are most often dependent on the potential (economic, tourist and human) of the areas serviced and in the end, such effects depend largely on the accompanying measures taken by the local authorities".

The aim is therefore no longer to analyse interaction after the event, but to draw up ad hoc organisational measures to control this interaction throughout the process of implementation of transport projects.

From a scientific point of view, we are leaving behind a study of the "demand", in order to examine the "offer", the institutional, methodological and professional practices which implicitly or explicitly govern coordination between the sectorial interventions made in the course of regional action, and, lastly, its coherence.

This approach, which requires the skills of the geographer-planner, the sociologist and the political scientist, is not greatly in evidence in the scientific transport community, which is, to a great extent, dominated by the arguments of economists and engineers. In view of the economic and political cost of the incoherence - constantly decried - of public policies in transport and planning, scientific mobilisation is nonetheless indispensable.

At the heart of the work of COST Action 332, lies, to sum up, the question of how to obtain coherence between transport and planning projects: sectorial coherence between technico-administrative and technico-political sectors; regional coherence between the various geographical levels and temporal coherence between the different time-scales of the administrative and planning procedures.

2. A European Problem

How better to adopt this approach than by examining a certain number of case studies in the light of the theoretical contributions made by the scientific disciplines concerned by the idea of coordination?

Each national delegation is thus responsible for one or two case studies, consisting of particularly relevant examples of instruments of public action used in coordinating planning and transport decisions. The nature of these "instruments" is very varied: institutions, procedures, methods, etc.

Since highly specific national particularities exist, the international dimension might seem superfluous in view of the difficulties involved in making comparisons. But the diversity of the contexts is, in itself, a guarantee of creativity in terms of the elaboration of these coordination tools, which are the products of professional
cultures, the law, and very many real-life situations. The multiplication of subjects for study should enable the means of assessing their effectiveness to be refined, since the working group must construct an analytical grid which is valid for all the case-studies.

Moreover, the opening-up of Europe is likely to lead to partial transfers or hybrids of national models. This can be seen in the regulation of public services, in particular. The bringing into service of transeuropean infrastructures and competition between transport companies is contributing to the progressive Europeanisation of organisational behaviours.

3. An Ambitious Work Schedule

The acts of this colloquium contain all the ingredients which make up the work schedule of COST Action 332: case studies, placed in their national context; a confrontation with theoretical ideas (on governance, political networks, the effectiveness of public management, the evaluation of public policies, etc.) and the traditional, but nonetheless necessary, preliminary bibliographical analysis.

The relationship between the theoretical and the empirical will naturally involve the elaboration of cross-disciplinary issues, which will give meaning to the case studies, over and above their specificities.

Lastly, depending on methodological and financial feasibility, an opinion poll is envisaged among the elected political representatives and engineers concerned. The aim of this would be to understand how the representations that players have of their own field of operations facilitate or hinder the implementation of coordination instruments. Because public action is not merely the use of management tools. It must work in a ready-made "world", formatted by existing cognitive schemas which need to be understood.

This introduction cannot be concluded without the expression of our warmest thanks to the various local and regional public authorities who lent their support to the event and to the Escola Técnica Superior d'Enginyers de Camins, Canals i Ports in Barcelona, which thanks to Professor Rosa Junyent, hosted this inaugural colloquium in Barcelona and Catalonia.
STAKES AND DIFFICULTIES
TO CO-ORDINATION IN PUBLIC
AUTHORITIES INITIATIVES:
THEMATIC AND
DISCIPLINARY ISSUES
INTERPRETATION OF THE BIBLIOGRAPHY UPON THE RELATIONSHIP BETWEEN TRANSPORTS AND LAND USES

Lidia DIAPPI, Corinna MORANDI, Anna MORETTI, Andrea DE BERNARDI, Paola TESSITORE
Dipartimento di Scienze del Territorio, Facolta di Architettura, Politecnico di Milano.

1. Abstract

The following report represents the final result of the work on the bibliography all the COST research groups were involved in.

The report contains the explanation of the different analysis the texts were subjected to in order to help the working out of some very general remarks useful for the interpretation.

A first analysis is based on the listing of the key-words taken from each text. Starting from this list it is possible, on one side, to focus how transport problems relate to land use problems. On the other side, to specify the thematic orientations that are typical of each country.

A second analysis is based on the scheme for the classification of the bibliography. The filling of the scheme with the keywords has revealed which are the approaches to the theme preferred by our bibliographical studies.

2. The starting conditions of the work of interpretation

The attempt of this contribution is a commentary to the bibliography collected by each research group on the relationship between transports and land uses.

To face the extent of this relationship and in order to help the interpretation of the bibliography, the research groups were asked to enrich the mere collection of texts with two main kinds of works.

Firstly they were asked to work out summaries of the texts and to specify the main key-words that characterise their contents. Secondly they were asked to put every text into a very general four classes-scheme of classification proposed by the Italian research group of Milan.

In building up the scheme some simplifications were necessary. Firstly the research was restricted to the scientific commentary literature, so excluding the planning documents that would be inserted in a suitable and different class. Secondly, while defining the terms of the classification, a priority was given to the methodological choices of the contributions and to the peculiar problems faced by them. On the contrary, a lower importance was given to disciplinary perspectives and/or schools and to the possibility of building up a scientific bibliography according to a genealogical approach. The concern of each contribution would emerge with an empirical and operative work of investigation on the problems that represent their
object of research and it is comparing the problems that the contributions would become more easily comparable.

The consequence of these choices was, as it was explained, the coexistence, in the same classes, of contributions referred to theoretical principles that cannot be compared. Yet the aim was not to level the different contributions, but it was just to acknowledge the fact that different theoretical answers to the main disciplinary problems can exist at the same time.

The first analytical distinction that characterised the scheme proposed was the distinction between the aspects of the interdependence between transport and land use policies that are inside and outside the political and administrative system.

Outside the political system, the interdependence lies in territorial facts and routines associated to different land uses and to the use of the transport infrastructures. The object of the analysis is the territory as a contest that mediates the effects of the different public interventions.

Inside the political system, the interdependence lies in the attempts of coordination - or mutual recognising - of the two ambits of planning: indications of good rules for the intervention or analyses of the interactions among the actors (policy analysis). In this case the object of the analysis is the interaction of the actors of the political system.

Beside this distinction, another distinction of the scheme tried to take into account the possibility of different methodological approaches to the question. The distinction was between inductive studies (from the analysis of a real territorial situation to the formulation of some generalisations) and deductive studies (from general principles to possible experimentations on real cases).

Synthetically this distinction corresponds to the distinction we find in social sciences between hermeneutical and structural-functional approaches.

As a result a quadripartite scheme was obtained.

The COST research groups have reacted differently to these proposals and bibliographic collections were presented that are sometimes incomplete lacking both of summaries and key-words and in which the texts are sometimes left out of any classification or put into different schemes of classification.\(^1\)

---

\(^1\) The Swiss research group has for example preferred a classification that distinguished between national level studies on transportation and urban planning, town case studies on transportation and urban planning and politological studies. The French research group had proposed some sub-classifications that went deeper inside each one of the four main classes proposed: for the first class of inductive studies outside the political system the sub-classification would explore methodological elements, different kinds of transports, public or private, structuring effects; for the second class of the deductive studies outside the political system the sub-classification might distinguish the contributions coming from different disciplines; for the third class of inductive studies inside the political system the sub-classification would distinguish between the policies that regard the urban level, the national level, and the international one; for the fourth class of the deductive studies outside the political system the sub-classification would analyse the arrangements worked out to take the best advantages from the interaction transport-land uses and from the interaction between actors. Also the Belgian research group had suggested some sub-classification inside the four main classes proposed: they would distinguish all kinds of intervention that need common or different levels of decision as regards the transport aspects or the land use aspects in order to reveal the contradictions due to policy decisions about the same transport-land use problem taken at different levels. The Italian research group of Rome had proposed a classification that enlightened the complexity of every policy study as regards its relations with different urban themes. The classification would result as a work of assignment to each study of one or more than one category among the following list: motor transport and suburbanisation, long-distance corridors, surplus railway land in the city, docklands, airports, Central Business Districts, utilities, other. Finally the Spanish research group had singled out, referring only to their own publications, three categories of studies. As first category, the publications generated by different public
If the defects in the first work can be explained with the difficulties in keeping into contact the groups and in exchanging information about the progress of the research, the defects in the classification can be explained differently. By the way many groups might have found difficulties in the classification because of the effort of abstraction that it required.

In some cases the abstraction might have corresponded also to a continuous renunciation to the working out of other possible classifications, in which every single text might have found a more proper location, but that would result as a no-ending work if applied to the whole texts.

3. The opportunities exploited to make up the defects and to reorganise the bibliography

On one hand the formal aspects of the bibliographies as they were presented made them not immediately comparable, but on the other hand these non comparable aspects have suggested a new reflection on the meanings of the starting works that were required and consequently on the possibility of making up the defects with some other works on the available bibliographies.

As regards the summaries of the texts and the specifying of keywords the aim might have been that of getting knowledge of the basic contents of the texts. By the way, since for the most part, information about the content of a book can be obtained also from the title, the list of keywords enclosed in this relation was made selecting words also from the titles for those bibliographies that presented as mere list of titles.

As regards the scheme of classification, it had two main aims. The first aim was to offer a preliminary landmark for the organisation of the bibliography upon the relationship between transport and land use policies; the second aim was to make a first step to the construction of a common frame for the following communications of the research.

The generality of the scheme was the condition to the satisfaction of these two aims.

In the facts the generality has become a problem for the work of classification. The four classes proposed have sometimes resulted proper but too general.

In order to take into account the need for less general classes and to consider also the bibliographies that were not classified or the bibliographies that were classified according to different categories of classification such as the category of the planning levels, we have worked out in the occasion of this relation a new scheme of classification and we have filled it with the keywords of all the texts we had at our disposal.

13

entities involved in the planning process (such as the Infrastructure Guiding Plan and the Territorial Plan for Catalonia) that not only establish and define the future organisation of transport infrastructures, but they include reflections about how such infrastructures will be organised bringing a balance to the territory. As second category, an extensive bibliography that contains the reflections of the techniciens involved in writing up those plans and that enlights the intended objectives, the situations they try to correct and the foreseeable results of applying the plans (such as the Ministry of Public Works magazine). As third and last category, those studies that analyse in a global way the interaction between transport and urban planning.
4. The guidelines to make remarks upon the bibliography starting from the lists of keywords and from the new scheme for the classification of the bibliography

In listing the keywords from the various country research group bibliographies we have respected some rules: a) we left the keywords inside the categories of classification built up by each research group, where present; b) we left together the keywords taken from the same text.

As a result of this work of listing keywords some reflections can be made:

- by reading the list of the keywords of each group of bibliographies it should be possible to have an idea of the state of the art of the research on the theme of the relationship between transports and land uses that characterises each country.
- by reading the series of keywords on the same line it should be possible to have further information since the series do often already reveal important relations between transport and land uses in some specific cases (e.g. railway links & policentrism), or put together causes and effects (e.g. city structure & traffic), problems and solutions (e.g. accessibility & public transport), or finally represent chains of problems (automobile use, energy consumption, traffic) and chains of solutions (strategic vision, flexible instruments, competitiveness, qualifying functions, new poles, integrated land uses, mixed areas, transportation).
- by taking into account only the research groups that have presented a longest list of texts it should also be possible to specify some thematic orientations that are typical of each country.
- it seems that the Italian reference bibliography on the theme of the relationship between transport and land uses is mostly devoted to the public transportation both for its effects and its structuring role in the definition of diffused and policentric layouts; as a consequence the favourite level seems the metropolitan and regional; only a more recent group of studies is devoted to the small scale effects of railways in town or to the small scale analysis of the street for its morphological aspects and for its relations with the territory; finally quite a long-tradition group of works is devoted to the reflection on the institutional innovations and more recently to the politological problem of effectiveness.
- the very general impression that we have after reading the Danish, the Austrian, the Swiss and the French reference bibliographies is that of classical studies on the nature of transportation, on its visible interactions with urban layouts and on its less visible interactions with economic concern, on the effects of some important projects, with an attention paid both to the local and regional level. The French bibliography distinguishes also for the very analytical approach of the studies devoted to the impacts of the different means of transports on the territory. The Swiss bibliography distinguishes above all for the group of politological studies that analyse the system of interactions among the planning actors and above all between institutional and non institutional actors, and suggest procedures of cooperation and participation.
- the United Kingdom reference bibliography distinguishes for the group of studies that stress urban themes, such as the use of car inside urban areas or the effects
linked to the presence of different functional destinations in town; besides these ones two other important groups of studies are those devoted to big projects and to the effectiveness of policies.

- what really distinguishes the Swedish reference bibliography is the very high number of texts devoted to the problem of the use of cars, that is seen mostly as an environmental and economical problem.
- the Finnish reference bibliography is made of a substantial group of texts that analyse the relations between the physical elements that make up the urban system and the physical elements that make up the transport system, and by some texts that analyse in particular the direct effects of traffic on man: noise, pollution, safety, compensation.
- inside the Spanish bibliography, transport policies are often chosen as the starting point of the researches, this way revealing quite a deductive approach.
- as regards the time of production of the texts we have to say that most of the bibliography that analyse the environmental and economic concern linked to the use of cars, and above all the Swedish bibliography on that theme, goes back to the Eighties and sometimes to the last Seventies. As regards the bibliography of these early Nineties, that represent most of the bibliography the research groups have collected, the themes seem as various as the relations transports-land uses are.

In working out the new scheme for the classification of the bibliography we added a new couple of categories (small scale-large scale) to the old scheme made of only two couples of categories (outside-inside the political system; inductive-deductive).

In the new graphic representation the categories outside-inside the political system correspond to the extremes of the axis of the abscissa; the categories inductive-deductive correspond to the extremes of the axis of the ordinates; the categories small scale-large scale correspond to the two areas that emerge once we have put a square upon the cartesian axis.

The filling of the scheme with the keywords enlightens four approaches separated into two levels. Sometimes the difference of level inside a same approach is discriminant for the identification of two different groups of studies.

We can explain this way the different parts of the scheme and their contents:

- in the quadrant of the inductive studies outside the political system we distinguish between the studies that are interested in an analysis of the territorial phenomena that take place in towns (e.g. urban traffic, activity layouts) or outside the towns (e.g. large scale transport networks, policentric layouts);
- in the quadrant of the deductive studies outside the political system we distinguish between the studies that attempt to give solutions to urban matters (e.g. local transport policies, policies for the mixity of functions in the urban area) or to large scale matters (policies that believe in the structuring effects of big infrastructures, policies for the creation of middle-size population centres);
- in the quadrant of the inductive studies inside the political system we distinguish between the studies that analyse the actors as they act in some specific case studies (e.g. reactions of the local actors to some infrastructural project that has impact on their space of living) and the studies that analyse the actors as a whole (transport or
housing demand). This last class is disciplinary very next to the class of the inductive studies outside the political system since both the analysis on the territory and the synthetical analysis of the use that people as a whole make of this territory belong to the same disciplinary approach. But the same class is more close to the politological studies if we consider the presence inside it of contributions characterised by a sociological approach where people do not only express needs but participate more actively to the creation of relation between transport uses and land uses and to the effectiveness of policies;

- in the quadrant of the deductive studies inside the political system we distinguish between the studies that try to solve the problem of the integration of transports and land uses with little changes in the planning system and with arrangements for the integration of the respective policy communities (e.g. procedures of cooperation) and the studies that try to solve the same problem with global solutions and big changes in the political system (e.g. structure plans).

Some further remarks can be made:

- the density of keywords in each part of the scheme can be considered as a measure of the variety of the themes that our studies have treated in each specific field of research. It is immediately evident that our studies have been devoted mostly to the problems that are outside the political system and a very important part of them have been turned to peculiar urban problems.

- looking at the meanings of the words some qualitative considerations can be made as well: a) most of times in the upper part of the scheme we find words that already sound like solutions while in the lower part we find the problems; b) in the left part of the scheme there are sometimes strong relations between phenomena and deductive approaches (starting from the relation between the problem of noise and the noise protections or the relation between the distribution of functions in town and the solution of the mixed areas, till the more ambitious relations between policentrism in spontaneous urban layouts and policentrism in policies; between transport settings and networks as a good policy for transports; between sprawl and middle size population centres, etc); c) the classes contained in the right part of the scheme are not so strictly related, but it happens sometimes that the studies in the upper part of the scheme try to formalise the phenomena contained in the lower (for example the analysis of the cooperative behaviour of non institutional actors is a good starting point for the working out of cooperative procedures; the specification of particular groups of land or transport users is as well a good starting point to the working out of proper solutions to rule specific kind of relations, etc); d) the very upper part of both sides of the scheme contains the most exhortative expressions: on the left side we find expression like sustainable future, quality of life, global environmental considerations; on the right side expressions like global plan, integrated planning, strategic vision.

- since the keywords have been put in the scheme separately, some relations that in the texts appeared as tightly linked have been lost. The keywords of this scheme can be considered only as the starting points or the main objects of those scientific researches that usually integrate many other themes. A further work could be that of tracing the main lines of connection between the words of the scheme that refer to interconnected themes.
### SCHEME for the interpretation of the bibliography

<table>
<thead>
<tr>
<th>Sustainable future</th>
<th>Quality of life</th>
<th>Comprehensive national plan for all traffic models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecological concerns</td>
<td>Long term land-use guide lines distributed</td>
<td>National highways policy</td>
</tr>
<tr>
<td>Global environmental considerations</td>
<td>Sustainability model</td>
<td>Environmental impact assessment</td>
</tr>
<tr>
<td>Channel tunnel</td>
<td>Structuring effects</td>
<td>of big infrastructures</td>
</tr>
<tr>
<td>Trans-European traffic forecast</td>
<td>Big transport</td>
<td>Air quality plans</td>
</tr>
<tr>
<td>Energy efficiency</td>
<td>Infrastructure projects</td>
<td>Director plan of the infrastructure</td>
</tr>
<tr>
<td>Coherence check</td>
<td>Urban displacement plan</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEDUCTIVE APPROACHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global plan</td>
</tr>
<tr>
<td>Large scale plan</td>
</tr>
<tr>
<td>Integrated planning</td>
</tr>
<tr>
<td>Structure plan</td>
</tr>
<tr>
<td>Strategic vision</td>
</tr>
<tr>
<td>Pluridisciplinarity</td>
</tr>
<tr>
<td>Competitiveness</td>
</tr>
<tr>
<td>Interactive process</td>
</tr>
<tr>
<td>Planning levels</td>
</tr>
<tr>
<td>Institutional levels</td>
</tr>
<tr>
<td>Networks</td>
</tr>
<tr>
<td>Biking</td>
</tr>
<tr>
<td>Flexible instruments</td>
</tr>
<tr>
<td>Policentrism of decision</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUTSIDE THE POLITICAL SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
</tr>
<tr>
<td>Local plans</td>
</tr>
<tr>
<td>Urban models</td>
</tr>
<tr>
<td>Plan of area</td>
</tr>
<tr>
<td>Environmental urban considerations</td>
</tr>
<tr>
<td>Urban quality</td>
</tr>
<tr>
<td>Small cities</td>
</tr>
<tr>
<td>Urban regeneration</td>
</tr>
<tr>
<td>Mixed areas</td>
</tr>
<tr>
<td>Compact city</td>
</tr>
<tr>
<td>Noise protections</td>
</tr>
<tr>
<td>Urban transport planning</td>
</tr>
<tr>
<td>Parking regulation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INSIDE THE POLITICAL SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core land uses</td>
</tr>
<tr>
<td>Urban layout</td>
</tr>
<tr>
<td>Urban morphology</td>
</tr>
<tr>
<td>Railway stations</td>
</tr>
<tr>
<td>Railway links</td>
</tr>
<tr>
<td>Accessibility</td>
</tr>
<tr>
<td>Housing density</td>
</tr>
<tr>
<td>Industrial locations</td>
</tr>
<tr>
<td>Commercial locations</td>
</tr>
<tr>
<td>Docklands</td>
</tr>
<tr>
<td>Business activities</td>
</tr>
<tr>
<td>Town centre</td>
</tr>
<tr>
<td>Land market</td>
</tr>
<tr>
<td>Profitable locations</td>
</tr>
<tr>
<td>Urban traffic emissions</td>
</tr>
<tr>
<td>Street</td>
</tr>
<tr>
<td>Car noise</td>
</tr>
<tr>
<td>Pedestrian streets</td>
</tr>
<tr>
<td>Urban motorways</td>
</tr>
<tr>
<td>Mobility</td>
</tr>
<tr>
<td>Urban public transport</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEDUCTIVE APPROACHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synergy</td>
</tr>
<tr>
<td>Cooperation</td>
</tr>
<tr>
<td>Points of view</td>
</tr>
<tr>
<td>Decisional process</td>
</tr>
<tr>
<td>Conflicts</td>
</tr>
<tr>
<td>Cooperative occasions</td>
</tr>
<tr>
<td>Individual</td>
</tr>
<tr>
<td>Case study</td>
</tr>
<tr>
<td>Class communication</td>
</tr>
<tr>
<td>Plurality of belongings</td>
</tr>
<tr>
<td>Reappropriation</td>
</tr>
<tr>
<td>Decision-making</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDUCTIVE APPROACHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective survey</td>
</tr>
<tr>
<td>Information age</td>
</tr>
<tr>
<td>Motor car society</td>
</tr>
<tr>
<td>Shopping behaviour</td>
</tr>
<tr>
<td>Car users point of view</td>
</tr>
<tr>
<td>Car use</td>
</tr>
<tr>
<td>Travelling habits</td>
</tr>
<tr>
<td>Automobile use</td>
</tr>
<tr>
<td>Base needs</td>
</tr>
<tr>
<td>Commuting</td>
</tr>
</tbody>
</table>

| Middle size populations centres |
| Integrated land uses |
| Decentralisation |
| Town networks |
| Highway networks |
| Railway networks |
| Measuring of effects |
| Economics effects |
| Consequences |
| Urban and rural policentrism |
| Peripheral urban workplaces |
| Highways |
| Large scale transport infrastructures |
| Variable dimension of transports |
| Land use |
| Waterways |
With every change in the use of a site, in terms of intensity of use or type of use, there is a corresponding change in the flow of people and material to and from the site. Likewise, with every change in flows of people, vehicles and materials along routes adjacent to a site, there is a corresponding change in accessibility to and attractiveness of the site for its present use, or for some other potential use. Furthermore, a considerable share of urban land, and indeed an increasing share, is occupied for transportation use. Transportation not only relates to land uses: it is itself a land use.

Adam Smith was probably not the first to point out the deep-seated relationship between transportation and the value and use of land, over two centuries ago. Since then, however, the travel time from Smith's home in Edinburgh to London has diminished by almost thirty minutes - per year (Janelle 1968). The volume, radius and velocity of the circulation of people and materials have increased dramatically, especially since World War II. And our current technological capability to reshape our surroundings and achieve mobility makes the spade, handsaw and diligence appear as mere relics of a distant past. These developments have accentuated rather than attenuated the ties between transportation and land use, and render increasing gravity to their joint consideration and management. For even if technological change has shrunk our globe, we remain the same animal with the same set of inherited senses, and our foremost means of movement is, and for all practical purposes will always be, by foot.

When thinking of their joint management it is convenient to make a distinction between two different but closely related phenomena: social transactions and institutions, and, physical actions in the landscape. Pictures of desirable futures are created in the social realm of symbolic transactions, where only lack of imagination sets limits to their content. But deeper down this canopy of mental foliage is held in place by the rather stiff trunks of social institutions. Their task is in most cases to resist rapid and spontaneous change. In the physical landscape, for quite different reasons, there is also inertia. It takes almost a century for a coniferous forest to mature. Many of our roads have maintained their course for centuries, and big cities persist for millennia. So, when a new thought such as the coordination of transportation and land use policies emerges as part and parcel of a desirable future, every form of practical action towards that future meets a world in which social institutions and physical arrangements are weaved together in a firm and durable grasp. This established fabric is not easily transformed in order to serve a different purpose. To communicate about an issue in words, figures and pictures is easy.

---

2 Some of the text and ideas included here have been published in Hägerstrand 1989, 1993 and 1995.
enough. But to convert these symbolic transactions into wide ranging real and purposeful actions in the landscape is quite a different matter. Enhanced coordination of transportation and land use policies must inevitably be based on an understanding of how macro and micro aspects are connected and of how abstract knowledge can be turned into action on the ground. At the global, national and regional level, social and economic facts are by necessity expressed in terms of statistics. But what actually happens among actors in the landscape is more properly understood in terms of logistics. To be able to judge effects and potential side effects of management operations one would need conceptions in which the perspectives of concerned actors on the micro level have a place. Macro-level change is after all seldom the outcome of a few human actions of immense proportions, but more often than not the nearly incalculable number of small actions which pile up to major changes in space and over time.

When the multiplication of these individual actions results in outcomes which few would have chosen had they been given the opportunity to choose, we have instances of what Alfred Kahn has called the tyranny of small decisions (Kahn 1966). The consequences of mass automobilism belong to this category. In fact, it was the discontinuation of train service in upper New York State, a consequence of millions of small decisions to use the automobile, that brought the phenomenon to Kahn's attention, even if it applies to a vast array of other contexts. Few would have chosen a situation with no public transport alternatives to the automobile, not to mention dangerous levels of air pollution and the destruction of historical built environments in order to make room for the automobile, had they been presented with the option. But just as few considered the unintended consequences of multiplying their own behavior.

Avoiding the tyranny of small decisions requires big decisions: collective decision-making for the regulation of individual actions, the consequences of which extend beyond the field of vision of individual actors. Enhancement of coordination between transportation and land use policies is just one example of practical political change which derives its most solid justification from the enlightened desire to avoid the unintended consequences inherent in the tyranny of small decisions.

The complexities of human action can be approached along two different roads. One is to try to interpret the driving forces behind observable behavior. The other is to try to identify constraints of various kinds which define the limits of the potential choice space of the actor. From a management point of view, both aspects are clearly relevant. But the second is of particular interest, partly because the empirical task is simpler and partly because management is to a large extent a question of defining general limits to actions rather than prescribing what people should do.

The subsequent discussion follows the second road. It will be restricted to human action in the landscape and related symbolic transactions and social institutions. Chiefly two kinds of constraints will be considered, the legal (what actors have the right to do) and the technological (what people are physically able to do). In both cases the macro and micro levels are viewed as continuously - or perhaps rather stepwise - connected. In addition some remarks will be made concerning knowledge as a further fundamental constraint on action in the landscape.
The key concepts to be used are two: actors' territorial and spatial competence, and, actors' technical capability. These two mutually dependent families of constraints have conditioned life since humans began to talk and use tools, and they will continue to do so. Yet, they are variables under permanent transformation, predominantly for reasons quite other than any collective need to control transportation, land use, or overall environmental development. Presently the inherited costumes of nested territorial and spatial competencies are being unravelled under pressures from the rapid growth and redistribution of technical capabilities. This mobile situation is both a challenge and an opportunity for environmental management, including improved coordination of transportation and land use policies.

1. On territorial and spatial competence

The critical link between human society and the terrain with its living content is constituted by the parcelling of land and water in spatial domains of various size and shape. In advanced societies these basic property units are provided with strong legal protection. Fixed rules must be followed when they are transferred from one owner or user to the next. Boundaries tend to be very stable over time. Some units may persist for generations. Inside the domain the holder of tenure is free to arrange things and activities as he wants, within the frame of land use regulation and other forms of legislation.

These primary domains form together a mosaic which is placed directly upon the geophysical landscape. While soil and water, plants and animals, interact according to principles identified by the natural sciences, they are simultaneously victims of the human desire to create space/time pockets of local order, fitting the realm of social and economic conditions. Human influence on the biosphere has its origin in arrangements at this level of local action in the landscape. The only further sources of influence are the public transportation spaces on land and water and in the air. These are also domains: public domains dedicated to the specific use of transportation. Mobility takes space, and generally speaking, the greater the mobility the more space it takes.

Even if all inhabited areas in the world are similar in the sense that they are organised as a tissue of domains, one must keep in mind that there are many forms of land tenure. Not all land is privately owned by individuals or households and firms. Ownership rights can be vested in communities or kinship groups. There is common land and land claimed by states. A cross-section through history and cultures would show also other variations. In Saharian oases, for example, land, palm trees and water can have different owners within the same piece of terrestrial space (Eldblom 1963).

Change is always effectuated by some primary actor in the landscape whose rights are protected by law or according to local customary principles but at the same time also strictly limited in space by the same rule systems. It is this combination of freedom and limitation which is here referred to as territorial competence.

The primary domains of the kind just described are as a rule held together inside higher order domains. The farm may be part of a village and the village of a municipality. Then still larger domains follow in hierarchical order up to the state.
level and today in certain respects even further on. A simplified rank order, counted from below, would be the local government area, the province, and the state.

In figures 1 and 2, a national hierarchy of administrative domains is presented in two ways. Figure 1 emphasizes the spatially nested character of the system of domains. Each level from the state down to the individual property constitutes a parcelling of the physical landscape into smaller and smaller blocks. The figure does not show this, but it should be emphasized that each and every property is connected to a network of roads. Figure 2 represents the relations between domains in a more abstract way, emphasizing channels for influence and control. Households and firms populate the lowest level of individual properties, the boundaries of which determine their territorial competence.

Figure 1. A system of nested spatial domains.
Decision-makers in the higher order domains do not act directly in the landscape, except where they possess property rights. They are rather institutions designed to take care of symbolic transactions: political deliberations, rule formulations, control, tax collection, subsidy provision etc. But they all have sharply defined geographical boundaries, beyond which they lack authority. In order to distinguish this authority from the territorial competence of property owners, one can say that decision-makers in domains above the level of properties enjoy varying degrees of spatial competence.

Historically, higher order domains have come into being in order to take care of collective tasks which required a larger population or resource base than the smaller units could mobilize. There are clearly many exceptions, but in general the function of pooling resources has been a dominant trait. Gradually, however, a different function has grown in importance: that of regulation and control. Decision-makers in the higher domains are responsible for the regulation of selected sets of conditions and actions in the lower ones, down to the level of actions in the landscape. This regulation includes what is permitted to do, and also what must not be neglected.

It should be emphasized that all borders in the domain system are based upon social agreements. Physical demarcation of higher order domains (to the extent they are at all demarcated) necessarily takes place on the lowest level. Even national borders consist of a series of property boundaries. But even without tangible fences, higher order domains are of great importance for the formation and development of the landscape.

Domains above the ground level have over time assumed two different strata. Uppermost are bodies with integrative tasks: government and parliament, county and municipal councils and administrative boards. The other level of authorities consists
of sectorial institutions, each with their own functional task. Some of these have obtained their own regional divisions distinct from the dominant hierarchy of domains, which does not facilitate coordination of regulation and practical expediency of institutive action. The political administrative instructions these sectorial bodies receive are frequently quite vague. Thus they enjoy considerable degrees of freedom in formulating goals and standards.

The system is criss-crossed by a special type of domain, already mentioned, namely the publicly accessible areas for movement, without which society could not function. Here specific rules of behavior apply, especially concerning accessibility and safety. Mobility per se has been deemed positive, and its stimulation through the expansion of domains for mobility has characterized the recent development of our modern built environments. These domains designated for movement generally fall under the authority of sectoral institutions at various levels of the domain system, with the specific responsibility to secure society's needs for transportation. More often than not, the formulation of land use policy and actual land use plans fall under a different authority which, though sectoral in one sense, calls for a more comprehensive view.

Administrative borders generally persist over a long time. Property borders are also stable, but do change through purchase and agglomeration of adjacent properties or subdivision of large units for sale as smaller units. The actors are however highly mobile in comparison to the domains in which and between which they move. Thus there is an inherent tension between a somewhat spatially fixed structure for cooperation and control, and the mobile processes which are to be monitored and influenced. Firms and households can in some respects gain negotiational advantages by playing off domains against each other.

Actors in the figure are called households and firms. But of course the population does not fall only into these categories. There are other types of actors, such as interest organizations. It is difficult to allow for all imaginable cases in a simple typology. It is nevertheless important to note that even if memberships in organizations match the political administrative domains of municipalities, counties or nations, they lack any corresponding powers of control within that domain. Their political role in the formation of opinion may however be substantial. Transactions in the system go not only from the top down, but also from the bottom up.

2. **On technical capability**

It is common knowledge that the historical extension of mankind's technical capabilities has had vast consequences on nature, society and man himself. What we want to draw attention to in the present context are ways in which technical capabilities have influenced and been influenced by territorial and spatial competences.

The trajectories of raw materials and fabricated goods were once, not so very long ago, largely local. Developments in transportation and communication technologies have, together with increasing division of labor in production processes, given rise to material flows of entirely different dimensions and distances. Transportation and
communication networks have become incorporated into the 'shop floor' of multi-
national corporations. Inputs are taken from numerous distant places. They are
brought together in various combinations for the production of components, which
step by step are brought together into finished products.

These material flows correspond to increased mobility of people: local and regional
commuting to work, national and international trips to meetings and conferences, and
recreational trips. Occasionally an optimistic hope is expressed that developments in
information and communication technology will reduce the deleterious effects of this
mobility by reducing the need for commuting and business trips. It is however much
more probable that they will contribute to even more wide-spread contacts and
activity combinations, and consequently, increased travel.

Increments in the scale of production units, facilitated by developments in technical
competences within the production process, have over time entailed increased size of
domains at the bottom level of the domain system. Not only have production oriented
properties increased in size; industrialization of the construction process has entailed
increasing sizes of residential properties as well. And all of us have seen in our life
time how the size of retail and commercial properties has grown, also under market
pressures to exploit economies of scale. It is easy to graphically show that as property
size increases in a built environment, so does the distance between various land uses,
and thereby the amount of movement required for the same amount of exchange and
interaction. To fulfil the increased need for movement between places, the domains
dedicated to transportation are expanded, in length and breadth, creating even greater
distances between land uses.

There is a conflict here which, though essential to understanding the recent history of
our cities, is seldom recognized. It is a conflict between the efficiency of activities
within individual properties at the bottom of the domain structure on the one hand,
and the efficiency of movement within the higher order domain of the local
government area on the other hand. In their ambition to exploit economies of scale,
individual firms unwittingly contribute to a reduction in the efficiency of movement,
due to the marginal impact which their increased size, often associated with
relocation, has on the physical form of the domain structure. We have here another
case of the tyranny of small decisions. Neither firms nor households calculate in
which ways their own establishment may influence the built environment or flows
within that environment. They are usually insignificant individually, but multiplied
they become substantial.

Firms will gladly externalize costs associated with the transactions upon which they
thrive. One of these is the cost of movement. The following incident illustrates this.
Host drives guest to a cafeteria one morning for breakfast. It was a big cafeteria;
probably very efficient. After breakfast the satisfied duo stop at a store to get some
groceries on the way home. It was a big store; probably very efficient. From the
cafeteria one drove first through a parking area of considerable size, then turned right
onto a five lane thoroughfare, moved to the far left lane, made a U-turn into the five
lanes going in the opposite direction, separated of course by a wide island with a
drainage ditch in the middle, moved to the far right lane, turned right into a large
parking area, parked the car and proceeded on foot towards the grocery store. Upon getting out of the car, guest shakes head and says, "Tom, do you realize what we just did?" Host fails to understand the question. Guest points to cafétéria, right across the street, yet nearly a kilometer away. "We just crossed the street." But it would have been both difficult and dangerous to walk across the street. The point is simple: the space dedicated to movement has expanded to a point where it creates a barrier to exchange and transactions, and the costs of surmounting that barrier have to be carried in order for transactions to take place. It would have been much easier and less time-space and money consuming to walk across a smaller street between two smaller establishments.

A more efficient system which maximizes exchange and transactions would be characterized by smaller property units, mixed land uses, greater density of investment in buildings and infrastructure, and smaller domains of transportation space. The question is where the balance is struck between economies of scale for individual firms and economies of low transportation costs per transaction for society. This could be, and should be, empirically studied.

It probably comes as no surprise that this experience of crossing the street took place in the United States. More than any other single extension of technical capability, the automobile has transformed our cities in recent decades, with regard to land use, transportation, and land use for transportation. And this is especially true for the United States, where car dependency is increasingly seen as problematic, in terms of economics, practical everyday life, and social justice. We can still learn from their experiences. It is encouraging to know that awareness of and concern for problems associated with car dependency are on the rise in the United States. The American Academy of Arts and Sciences recently engaged one of General Motors' former directors, Elmer W. Johnston, to gather an authoritative group to think about what can be done about private automobilism. In their report, "Avoiding the collision of cars and cities: urban transportation policy for the twenty-first century", Johnston argues that the situation calls for an entirely new transportation philosophy for the next century (Johnston 1993). In an earlier report entitled "Taming the car and its user: should we do both?", Johnston argues that it is imperative to place the hidden costs of automobile use on its users, and answers his question with an emphatic and unambiguous yes (Johnston 1992).

Closer to home, The Economist published a few months ago a survey on living with the car called Taming the beast. It concludes with the following sobering message:

"... the politics of transport, so often a mindless clash of lobbies, needs an overhaul."

There are lots of little things that can be done (and are being done) to make the car easier to live with, but only one thing that would make a big difference: using it less. That can happen only if all the costs incurred are fully identified and charged to its users. Only then will public transport improve, because it will compete on equal terms. In the end, putting economics in the driving seat is the only magic solution, however unwelcome." (The Economist, 1996)
While we can agree that it is important to ensure that car users pay their way, we would differ with The Economist on the notion that this alone constitutes a magical solution. The Economist's policy suggestions would have little impact on the aspect of social justice, since those who can pay their way will continue to do so. The tyranny of small decisions will not concede to economics alone. Nor do they have much to say about what types of places and built environments we should strive to maintain or develop. The problem is not only of abstract pecuniary nature: it is also, perhaps primarily, of concrete nature, on the level of physical actions in the landscape, reaching into the time-space of our everyday lives, and distributing our accessibility to opportunities of exchange and transactions. The purpose of representing the trajectories and flows of persons and materials in the landscape as a fabric, caught in a hierarchical system of domains, is to provide a framework for thought with a clear bridge between society's actors and institutions, their technical facilities, and the terrain in which both nature's events and human activities necessarily take place.

The path from the tyranny of small decisions to the coordination of small decisions calls for sound economics, yes, but also for collective decisions based on soundly founded norms, and for the growth and diffusion of knowledge on which these norms can be founded.

3. On norms and knowledge: from the tyranny of small decisions to the coordination of small decisions

Fifteen years ago, few would have foreseen the incredible shift in public attitude toward smoking in public places. Norms have changed rapidly, largely due to the diffusion of knowledge on the harmful effects on health of cigarette smoke. Legislation unthinkable a decade ago has become commonplace in many countries. This change was greatly facilitated by the scale of the problem, which is within the field of vision of individual actors. Smoke gets in their body and causes cancer. That is easy to understand.

It is more complicated to grasp the dynamics of transportation and land use relations on the urban and regional scale. The scale of problems associated with the tyranny of small decisions in the transportation and land use sectors renders them largely 'out of sight' and therefore of less immediate interest to individual actors. In such cases, the tyranny of small decisions constitutes a fundamental problem. Actors can see and directly experience only the local situation within which they find themselves. What is beyond that - regionally, nationally or globally - remains abstract. The more comprehensive perspectives expected of upper echelon, non-sectorial decision-makers responsible at these levels, is dependent upon knowledge others have gathered and organized.

The knowledge which research places at society's disposal is thus of decisive importance. It is not difficult to perceive what needs to be done first of all. We should seek to achieve a better balance between those forms of knowledge which are based on decomposition, and those which seek to comprehend (embrace). For the latter it is especially crucial to stick to the ground and try to reach greater clarity as to how the
global and the local hang together, both in nature and in culture. That cannot be achieved without a formation of concepts which is not impressed by the traditional division between the disciplines of natural and social/cultural sciences. Discipline of thought is necessary, but not necessarily of the kind that digs old ruts deeper than they already are.

4. Some suggestions

By way of conclusion, we want to make some suggestions supportive of the aim to improve coordination of, and ideally to integrate, the principles of transportation and land use policies, and in their extension, the tangible design of movement and land-use arrangements.

- We need to think in more broad terms of movement. Transportation has come to be associated with mobility by means of vehicles. To gain a comprehensive view, one must not neglect our movements by foot. Pedestrian traffic constitutes the central element of efficient and fair transport-land-use systems, and transportation by vehicle is only a part of the total picture of movement. By this we do not suggest ignoring transportation by vehicles. Of course we need to study, analyze, and plan for motorized traffic if we are to alleviate motorized traffic problems. But in the long run, a more comprehensive view of movement on the whole should come to permeate our perspective.

- Related to this, we should seek to establish a better balance between land use considerations and transportation considerations. It is a fairly accurate description to say that in recent decades, the transportation sector has come to dominate over land use planning. Transportation plans and policies are backed up by impressive mathematical models crunching hard numbers on flows, demand and seemingly necessary investments in the expansion of transportation domains in order to satisfy the seemingly unceasing increments in demand for yet more mobility. These are lobbied for at all levels of society's domain structure by major industries which have become as dependent on our use of their products as we have become on their products. Land use plans and policies on the other hand are generally formulated in softer aesthetic, sociological or environmental terms, and are often considered unnecessary, arbitrary, or at worst imperious infringements on the rights of individual property owners. The history of land use planning, especially the history of functionalistic segregation of land uses, certainly provides ample grounds for well-grounded critique of this activity. Our point is not that land use policy should always prevail over transportation policy, regardless of content, but rather that the way out of our present predicament should be sought through putting sound land use policy in the driving seat (pardon the expression), as one main instrument for the containment of growth in demand for transportation.

- Again, related to this: a shift in guiding principles for land use planning, from functional division of urban space towards what has been termed "the campus principle", the main ingredient of which is proximity between various land uses, could reduce the need for longer journeys "by combining premises for different
activities in configurations which are better suited to individual action sequences" (Ellegård, Hägerstrand & Lenntorp 1977, 152). A first step towards coordination of transportation and land use policies must be to analyze the consequences for land use of various movement systems, and the consequences for movement of various land use principles.

- The concept of "exchange-friendly transport" should be empirically studied and the findings should enjoy wide diffusion. The concept rests on the assumption that the primary purpose of congregating in cities is to participate in and partake of the fruits of exchange and transactions, both economic and social.

One hypothesis concerning efficiency of alternative systems of movement which takes their time-space requirements into consideration has been forwarded by urbanist David Engwicht (1993). Figure 3 graphically shows his hypothesis that transportation systems based on the car are less efficient than those based on walking, cycling and public transport. In the latter, the same amount of exchange requires less movement, or in other words, the same amount of movement yields more exchange. In the car-dependent city, each exchange requires more movement, and beyond a certain point the system turns dysfunctional, as congestion stymies exchange and less exchange requires more movement. This simple concept renders itself to empirical investigation, and, though not as immediately easy to grasp as for instance the malignant effects of cigarette smoke, it could help individuals expand their field of vision up to the urban scale. The dissemination of results from such studies may provide the type of knowledge that new norms for the planning of built environments (transportation and land-use) could be founded on.

- Active efforts to secure wide circulation of the European charter of pedestrian rights, adopted by the European Parliament in 1988, could enhance public awareness of this important political document, and aid in the formation of norms conducive to the integration of comprehensive transportation and land-use policies, characterized by social justice.

It was probably not the first time the idea was forwarded when Ellegård, Hägerstrand & Lenntorp argued in 1977 for the "joint planning of the transport system and the location and timing of activities" (1977, 150). Since then, others have also pleaded the case for urban design to "become an integral component of future transportation policies" (Renner 1988, 56). With reference to our initial discussion on territorial and spatial competence, what we seek is quite simply the re-definition of sectorial competence, such that the two sectors of transportation and land-use become one. But this obviously is not enough. It is not just a matter of coordinating transportation and land uses, so that the one hand knows what the other is doing. It is also a matter of how coordination is organized institutionally (Pratt 1996); and in terms of social justice, whether it is conducive to continued polarization and marginalization or the bridging of gaps, not only in time-space but in social terms as well.

As we noted in the introduction, to convert ideas into wide ranging physical actions in the landscape is not as easy as communicating about them.
Figure 3. Exchange-friendly transport provides more exchange per unit of movement. (Source: Engwicht 1993)

5. References


1. Introduction

1.1 An Infrastructure Crisis
Infrastructure systems support and sustain modern urban life. Although too often ignored and taken for granted by urban policy studies and policy-makers, infrastructure networks have emerged as key policy issues in the 1990s. Cuts in levels of public funding, shifting infrastructure provision to the public sector, increased liberalisation and competition in supply services, social resistance to new large disruptive infrastructure investments, removal of cross subsidies from large to small users, increased charges environmental demands and the difficulties of providing networks to meet new spatial patterns have signalled a growing crisis in the management and provision of networked services. Transportation, water, energy and telecommunications are rarely outside the news. There is now a very different infrastructure landscape to that which has characterised much of post war network provision in the UK.

Transport networks are no exception to this revolution in the provision of infrastructure services. Over the last decade transportation assumed a much higher profile in public policy and debate. The most significant shift has revolved around the 1989 traffic forecasts which indicated that conventional policy approaches would have major difficulties providing enough capacity to met expected demands. There was increased recognition in government, local authorities and users that different types of policies would need to be developed to more effectively manage road space. Increasing levels of traffic growth was no longer a positive sign of economic growth but instead congestion was a significant economic cost generating delays and disruption for industry and commerce. Although central government was slow to acknowledge the profound nature of the shift in policy that was required, increase social resistance to new road scheme and treasury cuts in public expenditure forced the Department of Transport (DoT) under pressure from the Department of the Environment (DoE) to start adopting new forms of transport planning.

1.2 A Paradigm Shift?
Transport policy is currently in time of major transition radically challenging the old certainties of the 1960s and 70s. This paper looks at an infrastructure network in transition and seeks to identify the emergence of new paradigm or logic of transportation planning. We identify the reasons for this shift, the main features of the new logic and then review the profound socio-spatial implications of this logic for
urban planning and policy making. We are not however, transport specialists - much of our work has examined the re-orientation of energy, water and telecommunications networks. While transport is a much more complex sector we argue that the context and much of the language we have developed in our analysis of the re-configuring of utility networks may be able to help illuminate, with certain caveats, our understanding of change in the transport sector.

Paradigm shift tends to be a throw away form of language. Although we argue that our evidence does illustrate the emergence of new type of transport planning, these ideas are strongly resisted by conventional transport academics and the transportation community. They tend to assume that the continuation of "business as usual" practises is proof that there is not a new logic emerging. But if we look back to Kuhn he demonstrates that an existing paradigm only breaks down slowly as another begins to emerge. While the existing paradigm is still very powerful we argue that out of the current transition in transport policy a new paradigm is starting to emerge. Once which needs new methods of analysis, a new language and new forms of practise to manage the increasing complex tensions in transportation policy.

This is a speculative paper intended to stimulate debate and discussion. We build up a bricolage of evidence. Critics would argue that this is skimpy and brief but we argue that different types of evidence needs to be linked together and that the sum of this evidence is greater than the parts. New practises, innovate ways of working and new forms of engagement are emerging at transportation hot spots around the country. Together these shifts point to a new paradigm, a new way of working out transport problems. Drawing together this evidence we seek to bring the difference between the old and new paradigms into sharper focus - identify how profound shifts in the ways that problems are conceptualised and tackled. We illustrate each of the features of the new paradigm by drawing selectively on new stories of transport policy making from around the UK. Within these new practises we can start to unpack how the newly emerging logic will shape social and spatial relations in cities. We argue that there may be considerable environmental and economic benefits of the new logic but these will develop with new forms of social inequity, differential access to services, speed, and time, together with enhanced potential for new forms of surveillance and social control.

1.3 Structure of the Paper
The rest of this paper is structured into 5 sections:
Section 2 examines the factors that have radically challenged the traditional logic of transportation planning in the UK. Starting with the debate about the DoT Government transportation forecasts in 1989 we chart how three sets of pressure have forced official policy to re-orientate itself. First economic pressure to reduce costs of public expenditure and road building. Second, social and political resistance to new road schemes which substantially increased transactions costs associated with road building. Third new types of environmental considerations which transport community has attempted to incorporate into official policy - especially through the DoE influencing DoT targets and priorities. We argue that these pressures have helped shift agenda to the wards the alternative transport programmes of pressure groups, report, commercial organisation sometimes know as the New Realism.
Section 3 examines the new logics in action. Taking examples from empirical research undertaken within the centre for urban technology - we illustrate how different features of the new logic are slowly emerging within the practise of transportation management. By combining these fragments drawn from across large metropolitan authorities in the UK we can chart the emergence of a new form of transport management.

Section 4 compares and contrasts the key features of the old and new logics. Although this may be criticised for being over-simplistic we attempt to reduce the logics of their essential core features - highlighting the dissonances between the two approaches. We argue that the new logic has a fundamentally different way of seeing transport problems which has profound implications for the ways in which transport networks and users are managed. Increasingly the new logic attempts to incorporate users into the management of the network as transport managers attempt to shape demand to optimise performance of their networks.

Section 5 concludes by asking whether we can identify a new paradigm shifts in transportation planning. The paper argues that although more empirical work is needed that there is enough evidence to suggest that transportation policy is in a period of rapid transition. Consequently it is difficult to identify the precise pathways along which the new trajectory will develop.

2. Challenging the Logic - Signalling Change

The provision of a national road transport network was prioritised to facilitate economic development. Encouraged by a powerful road building lobby progressive governments backed giant road building schemes, despite growing evidence that such provision rarely solved supply problems, merely encouraging more people off public transport and into their cars. At local planning levels, road and public transport networks tended to be considered in isolation leading to an overlaying of networks with little sense of co-ordination. Such a dis-connected approach was legitimised by the Department of Transports funding mechanism, the Transport Policy and Programme fund (hereafter TPP) which distinguished between road and public transport applications. This road programme based incrementalism reflected a split between engineering and planning approaches to transportation issues and parallels the emphasis on 'heroic engineering' found in other utility sectors. Driving this strategy was a logic of network construction, a physical programme of network expansion which demonstrated little sensitivity to wider social, economic and environmental parameters of demand.

The DoT's much criticised road building programme have been recently delivered a "double whammy" by two influential reports. Predicting a doubling of British traffic over the next thirty years the Royal Commission on Environmental Pollution has called for road building budgets to be re-channelled into public transport provision (Royal Commission, 1994). At the same time, the standing advisory committee on trunk road assessment (SACTRA) reported that in many instances new roads merely generate extra traffic (SACTRA, 1994). While the reception of these reports has been mixed, with road user groups worried about increased curbs on car use and road
journeys, a consensus seems to be developing around the Council for Rural England's (CPRE) call for "a level playing field" for all forms of transport. The consolidation of this break-down in the hegemony of the 'culture of heroic highway engineering' that has hitherto characterised British transport policy has come with an explicit Government re-think of roads policy. Towards the end of 1994 the Transport Secretary Brian Mulwhinney announced that all new trunk schemes in the planning stages - amounting then to some 270 schemes of the total 360 strong programme - would be subject to "extra assessment to determine their overall impact on traffic" (Smithers, 1994, p1). Four major road schemes were abandoned and another two postponed. Many, including the transport group Transport 2000, described these events as a water shed in the transport debate" (Smithers, 1994, p1).

What then has 'signalled' this new planning logic? In the case of the Newbury bypass, which had become a symbol of the public's 'road-rage' (Vidal, 1994, p3), a combination of complaints registered at the EC and a powerful grouping of the environmental lobby, including Friends of the Earth and Greenpeace, are thought to have prompted a Government U-turn. However, political pressure is only one of a number of factors shaping this gradual shift from the domination of physical road building to more integrated transport network management. Here we must be sensitive to a range of inter-linked contextual, regulatory and institutional factors which each add momentum to a shift in planning logic.

These has been a long debate about the economic costs of continuing to expand infrastructure networks. In the transport sector there is widespread recognition of the cost limits of continued road network expansion which seems merely to accelerate rates of car-use. For instance, a study of Westway in West London (Beardwood and Elliot 1985), based on a GLC strategic transport model, illustrates that the construction of new road space aimed at relieving traffic in neighbouring corridors actually led to substantial 'across the board' increases in road traffic. The report, based on a before and after survey of traffic in the area, demonstrated that the new road had done little for congestion relief on adjoining roads. A 4.5% reduction, against an 80% increase in the number of journeys made available as a result of new road space.

This attention to the economic costs of supply-side infrastructure growth has been mirrored by growing awareness of the environmental costs involved in the development of new reservoir schemes and continued road network expansion. Transport, in particular car travel, accounts for 20% of the overall CO2 emissions in the UK (DoE). Although car ownership levels in the UK are still relatively low compared to the US and West Germany, the number of vehicles relative to the quantity of road space is high. The UK has approximately 65 vehicles per km of road, compared to under 30 for the US. This has been fuelled by longer journey distances supported by decentralised land uses. Current forecasts for future car growth estimate an increase in ownership between 83 and 142% by the year 2025. Moreover, car usage has increased progressively at the expense of other transport modes and with buses emitting approximately half the amount of CO2 as compared with cars there is growing pressure from environmental groups to enhance public transport services alongside wider demand-management strategies.
Awareness of the economic/environmental costs of 'heroic engineering' initiatives has prompted widespread social resistance to new infrastructure plans. Demonstrations against road building projects such as at Twyford Down have produced high profile media coverage. Such demonstrations of public opposition mark a new chapter in public debate around infrastructure planning and send influential signals to the Department's of Environment and Transport on the acceptable form of future infrastructure investment. This new climate of social and political concern over infrastructure management strategies has stimulated a transformation in the planning framework governing transportation planning.

The Department of the Environment have issued planning guidance commending local land use plans which spatially harmonise domestic, leisure and working spaces. The 'new' idea is to overtly shape transport demand through land-use planning, encouraging individuals and organisations alike to think about their 'transport choices' in terms of where they live, work and shop. Both PPG 12 and 13 place a greater emphasis on the use of land use policies as a mechanism for reducing the need to travel, suggesting appropriate locations where travel demand can be minimised and supportive policy instruments. For instance PPG 12 states: "development is closely related to public transport networks near stations with spare capacity"; trip attracting uses, such as shops and offices are located at "points such as town centres which are capable of acting as nodes for public transport networks... and where there may be advantages in enabling 1 journey to serve several purposes" and by placing "limitations (by capacity or price) on town centre parking". Other guidance supports this approach. For instance, PPG 6 endorses the principle that town centres are the most suitable location for trip attracting developments and that new retail development should be sited in locations "that reduce the number and length of car journeys, and consider the availability of bus or rail, the potential for walking and cycle access, and the proximity of other travel generating activities".

Adding up these shifting frameworks and practices it is difficult to present a case for any cohesive strategic policy change. Public opposition to roads, the setting of financial targets and the creation of planning guidance all take place in very different contexts and for often radically different ends. Nevertheless, we want to argue that taken together it is possible to identify strong resonance's between newly emerging social, regulatory and economic priorities in the transport arena which are producing what Raymond William’s has elsewhere described as a new “structure of feeling” which is powerfully re-framing processes of transport planning. The following sections beginning to outline the contours of this new structure of feeling in terms of the re-orientation of professional structures, a re-configuration of transport modelling techniques, new forms of relationship between transport planners and developers, the development of technologies aimed at managing rather than servicing demand, and finally, the empowerment of transport users.

3. Re-Framing Transport Planning

A 'new realism' now defines a transport debate in the UK. The 'transport problem' has become more complex and increasingly multifaceted. It is now recognised that roads support a diversity of activities, needs and uses and that these must all figure in any solution. Balancing these competing claims is the key challenge for transport
planning in the 1990s and beyond. As part of this new realism transport planners have had to rethink many of their traditional assumptions. Fundamentally the new realism raises two central policy challenges:

- no feasible road network is going to be able to cope with the forecast levels of demand for travel and consequently that travel demand management would have to play a much greater part in transportation planning and policy than had hitherto been the case.
- because there are a multiplicity of demands made on the road infrastructure and its environment a wider range of organisations now needs to be included in the planning process. This in turn requires policy making becomes increasingly oriented towards a more holistic approach within which all aspects must work together.

Figure 1 illustrates five stories of the emerging logic of transport management. Each of these examples is drawn from a large metropolitan local authority in the UK. We consciously use the word story to reinforce how quickly new practices are emerging. The new logic cannot simply be captured in quantitative terms - as we shall see it is as much about new social practices and relations within local authorities, between developers and planners, between the providers and users of transport networks. Each of story illustrates how these social practices are being redefined as transport problems are looked at in new ways. While illustrating particular forms of local practice and problems we argue that together these stories provide a powerful symbol of a radically changing form of transport planning and policy.

3.1 From transport engineers to transport planners
During early 1996 the Department of Transport Planning advertised for a new Deputy Director of Policy and Programmes. There were two features of this new post which provide a useful insight into the changing nature of transportation engineering and the delivery of transportation planning in local government. The job description itself did not specify that applicants should have a transport engineering qualification. It was more important that applicants demonstrate new types of skills through "direct experience in public consultation of a complex and controversial nature". The shift away from an engineering approach was also reflected in the recent re-organisation of the department within which the post was based. In 1995 the Transport Engineering Department was closed. A new Transport Planning Department was created incorporating the remaining engineers and the former transport policy division of the Department of Planning and Architecture. These organisational and professional shifts away from transport engineering towards transport planning reflect the broader moves in transportation policy within the city. Engineers were no longer building roads so new types of skills where needed to implement the recommendations of PPG13, develop integrated transport packages and develop locally based schemes which attempted to provide a better balance between safety, time, speed and the environment.

3.2 From road schemes to integrated packages
In the transport sector funding applications from local authority planners to the Department of Transport have been re-drawn to cover integrated 'packages' of public
and private provision, steering local transport planning policies away from narrowly engineering inspired road building initiatives. In the past local authorities have been limited in the extent to which they are able to execute a demand based approach through the system of financing operated within the TPP system. The process of submitting bids empowers Central Government to make decisions regarding resource allocation and have traditionally favoured ambitious road building schemes. However, the scope of TPP's has recently been broadened, and now allows local authorities to submit proposal for bus priority schemes alongside other highway proposals. This shift has made the TPP application process a powerful tool in the process of reallocating resources towards a more demand based approach. For example, the 1992-1997 approved capital spending programme for Central Regional Council, as submitted in the 1992-1997 TPP, includes a massive shift in resource allocation away from spending on roads, to a more balanced transportation strategy. Resources are beginning to be allocated more evenly between roads, (60%), public transport and traffic calming (32%) and parking (8%).

3.3 From gravity models to accessibility indices
During the departmental restructuring transportation modelling was reviewed. Budget cuts meant that the number of staff had to be reduced from 3 to 1 officer. The council could no longer afford to undertake expensive survey analysis to update its conurbation wide transport model. Even though the data originated from a travel survey undertaken in 1971 which was used to develop the structure plan the department had to be context with small scale updating of the database. In any case different demands where being placed on the modelling unit. Conurbation wide models were no longer appropriate - the results where not reliable and in any case the council could not afford major new road schemes. In its place was a new emphasis, contracting out specific corridor or impact studies to consultants, micro/small scale modelling of specific impacts and new ways of modelling transport issues on a conurbation wide concept.

Accessibility indices provided a new way of thinking about transportation and land-use policy within the city. While traditional models provided the necessary justification to make bids for government funding - they were not particularly useful for helping to support land-use planning decisions or the links between development and transport networks. Accessibility indices provide a much more transparent model against which transportation planners can attempt to shape the form, design and location of development to ensure that trip generation is balanced against the capacity of the local public transport system. Developers wanting to construct high trip generating developments in areas of low accessibility have to enter into discussion with the authority about how improvements to the public transport network can be made to improve access to the site. Accessibility indices are a dynamic and spatially based model against which land-use and transportation planners, developers, public transport operators and users can start to reshape transportation patterns.

3.4 From developer contributions of highways to public transport improvements
Within this changed context developers began to notice subtle changes within which negotiations over developer contributions where framed. Previously local planning authorities had attempted to extract developer contributions to fund road construction...
and improvements necessary to deal with the trip generation of the new development. Transportation engineers often "looked though list of pet schemes and got developers to pay for them" Such an approach also found support in DoT advice on the funding of highways improvements by developers. These systems powerfully reinforced the old supply logic but the expansion of the network was increasingly funded by the private sector.

However, the new logic starts to asks very different questions about the travel impacts of new development. Accessibility indices direct development to areas of high access, where developers can increase floor area but reduce parking requirements. In areas of low accessibility developers are now asked to support new public transport improvements rather than build roads. These changes generate a new type of relationship with developers where land-use and transport planners try to tailor transport needs to particular users in ways which most efficient use private and public transport networks and improve levels of access in areas which are poorly serviced. Developers and user now become active participants in the provision and management of transportation services in ways which are economically beneficial but also more sensitive to environmental implications of different options.

3.5 From structural to managerial technologies

These new institutional shifts are also mirrored by a move away from large scale structural technologies - bridges, road schemes underpasses and motorways. While such large scale capital intensive supply side technologies are still important there has been a resurgence of interest in much cheaper and flexible smaller scale technologies. At the physical level transportation planners are investing in small scale mundane physical technologies for traffic calming such a speed bumps., rumble strips and road narrowing technologies. Obviously these are not particularly sophisticated systems but they represent a powerful shift away from conventional priorities of increased speed and convenience for drivers as transport planners attempt to shape car drivers behaviour in cities. Such systems are inherently local pushing transport planners into new forms of engagement with local residents and businesses creating new possibilities for opening up the parameters around which transport polices are debated.. New types of telecommunication and telematic technologies are also being laid over the road network. Road pricing systems, congestion warning and auto route guidance systems are creating new opportunities for pricing, monitoring and controlling the road network. Overlaying such technologies over the physical road network could offers transportation planners new options in managing what are congested physical assets. Pricing policies may be able to help shift peak demands, information on levels of congestion could help change mobility patterns and new markets for specialist niche services. The mundane technology of traffic calming and the high tech of road transport informatics are all examples of the new transportation management. They enable the providers of transport services to sweat extra value out of their exiting physical assets, they are designed to send signal to users and they offer the potential for creating new markets out of what have conventionally been regarded as public networks. The new logic of transportation planning is closely associated with the potential of new types of softer technologies rather than the engineering led approach of the conventional supply oriented paradigm.
4. Changing Logics: Transportation Demand Management

The 'new realism' which characterises transportation planning is part of a wider shift away from 'predict and provide' planning, and towards demand side management (DSM) which is slowly emerging across all infrastructure sectors. The common thread linking these diverse services are the attempts by network operators to work with users to reduce demand on the most stressed parts of the network (Guy and Marvin, 1996). The 'new realism' as a solution centres on several key themes, including: a commitment to significantly improved public transport; the introduction of traffic calming and pedestrianisation measures; advanced information technology based systems to get the most out of the existing infrastructure; road pricing; and a reduction in the building of new roads. However, by far the most important implication of the new realism is that the burden of transportation policy is going to increasingly fall upon the management of demand rather than the supply of new infrastructure. This is a fundamental shift whose importance cannot be understated.

This shift towards getting the most out of existing infrastructure assets through more effective management of demand made upon them is a new phenomena in the UK. Throughout Europe infrastructure providers are under considerable pressure to manage demand in such a way as to minimise new infrastructure investment and to maximise the benefits of what already exists. In virtually every case, network providers have responded by developing closer relationships with their largest users in order to reshape peak demand. In doing this, network providers can create a context within which both parties have a powerful interest to modify existing practices. In the new context of demand management planning, users, local communities and trip generators will have to play a much bigger role in every phase of policy. However, the case the current planning institutions have developed in the context of a process dedicated to the supply of new infrastructure. This is the institutional challenge. It is not clear that the existing institutions provide the best way of turn the new realism into a new reality. If the key to providing sustainable transport policies lies in an inclusive planning process then developing the appropriate institutional forms should be the next priority.

It is vital to emphasis again here that we are not arguing that an instantly recognisable, cohesive alternate to traditional, supply oriented transport planning has developed. Rather we are suggesting that if we are to develop a new, environmentally sustainable, economically competitive and socially cohesive transport planning regime then we must recognise the exhaustion of the existing paradigm of 'predict and provide' and sensitize ourselves to the emerging contours of a new paradigm of transport planning based upon integrated, demand management principles. We have attempted to capture in table 3 what we might, very cautiously, describe as a paradigm shift in transportation planning. The table outlines conceptual key-words which characterise the 'old' and the 'new' paradigms. There are a whole range of critical aspects to mention:

All these shifts are aimed at replacing the 'old' logic of expansion with the 'new' logic of management and integration. This is a radically different way of seeing network management. From representing a relatively unproblematic objective of
facilitating travel at almost any cost - financial or environmental - the new emphasis is on the meshing of a range of often incompatible objectives which centre on the provision of travel options which meet social and economic priorities whilst not endangering the environment. In order to achieve this the social organisation of the transport sector is being shaken-up.

The concept of the role of transport 'users' is now being unpacked and re-evaluated. In the past transport users were simply thought of in terms of units of aggregated demand which somehow had to be satisfied. The structure of the 'predict and provide' model meant that the route chosen was the expansion of supply capacity in order to accommodate the inexorable increase of black boxed 'users' who were voting in their cars about their expressed desire to travel as quickly and as far as possible. It was deemed unnecessary to consult users about the planning solutions to this demand. Instead transport users were only engaged as potential funders of, mostly, road building schemes through road taxes or developer contributions. Once funds had been found the planning was left to the engineers. This is changing. The new logic is pushing providers and users of transport systems closer together. In situations where road capacity is becoming exhausted transport planners are having to enter into dialogue with the commercial organisations who are generating new demand in order to identify demand management opportunities and to develop mix-mode solutions.

In this way the social relations which govern the providers and users of transport networks is developing from relatively simple, linear relations characteristic of the old logic to more complex, inter-active relationships in which transportation problems are re-constructed and solved. A greater range of actors drawn from a wider spectrum of the social, political and commercial world must now be drawn together in order to gain legitimacy for transport planning initiatives. Public attention on transport strategies is now much greater with the media pushing infrastructure issues further up their agenda as the language of transport planning and modelling becomes gradually demystified.

A central element of this new public discourse around transport planning relates to the new environmental context which governs all debate on transport options. The very meaning of 'environment' has radically change. Under the old logic all eternalities considered were site specific. Noise and local environmental amenity were the chief concern's. Consequently environmental planning questions tend to relate to the minimisation of noise and the maintenance of green spaces. The emergence of global environmental concerns has revolutionised these planning objectives. Suddenly local transport initiatives are taking place against the background of global environmental change with 'the car' targeted as a major culprit.

The new transport planning discourse then no longer revolves around the spreading of the network as far and as fast as possible. There is now a clear priority to balance supply and demand as far as is possible. Consequently space has become a much more differentiated concept. Rather than being homogenised as a backdrop to the spread of transport networks space is being customised to cater for the actual needs of transport users and in light of the potential for demand management and integrated network planning in particular areas.
This tailoring of supply and demand is generating a transformation in the parameters of knowledge and information about transport networks and their users. Under the old logic information was standardised and tended to remain static for many years. Transport planners became used to working with travel demand data that was many years out of date and with incomplete knowledge of the different types of transport infrastructure and how they related to each other. Under the new logic knowledge and information becomes more tailored to particular areas at specific times and strives to become dynamic in nature so as to more accurately follow transport patterns.

This revolution in the parameters of knowledge and information is further reshaping practices of transport modelling. Within the old logic course data on transport demand was aggregated and extrapolated to produce transport forecasts which were employed to chart the direction of further network expansion. These forecasts were routinely employed to support arguments for further road-building programmes. Such forecasts are now held in wide contempt both for their questionable accuracy and for their rhetorical support they provide for technocratic processes of transport planning. A new emphasis on micro modelling which is less ambitious in terms of its forecasting power yet provides a finer grain of information, thereby enhancing knowledge about the operation of local transport networks, is now apparent. Such models draw upon wider sources of information than hitherto and are expressive of a broader consensus of thinking about the nature of transport networks.

The technologies that support the old and new logics follow these trends. Technological innovation is no longer aimed at accelerating the road building programme. Instead new telematic technologies are being implemented to assist the new knowledge culture and to help implement demand management schemes. More accurate, dynamic traffic information systems are being designed to aid transport planners and users alike with passenger information systems, car routing systems and road pricing all aimed at managing or re-shaping demand.

In sum, transport policy-making is breaking out of its previous hermetic and narrowly sectoral ghetto and beginning to embrace the wider culture of planning and other communities with an interest in transportation infrastructure. The new logic is sensitive to its own planning discourse and is thereby more sympathetic to 'other' voices on transport issues.
5. Conclusions

Are we witnessing the emergence of a new paradigm of transport planning in the UK? We would argue that there has been a fundamental shift in the regulatory control practices underpinning urban transportation policy in the UK. Many of the central assumptions that have sustained old practices have been challenged in the last 5 years. There is now much more widespread consensus that the old logic of transportation planning is no longer sustainable in environmental, economic or social terms. While the older certainties have gone transportation planners are now grappling with the emergence of new practices as they are forced to look at transport problems in radically different ways. However, the emergence of new regulatory practices is fraught with difficulties and complexity. It is apparent that our claims for a new form of practice have to be tempered by a more measured assessment of the context within which new practices are being developed, tested and refined.

First, it needs to be seen as an ideal type for testing against empirical practices. We have presented an analytical framework against which we can begin to test the empirical and theoretical validity of the development of a new set of regulatory control practices in the urban transport sector. By analysing the assumptions underpinning the control practices of conventional approach and developed a new vocabulary to examine the features of the new more engaged logic of network management we can begin to create a new vocabulary through which we can view shifts in transport policy. However, during what is evidently a phase of transition in transport policy we must be careful to develop methodological sensitivity in unpacking shifts in the control practices that underpins transportation policy. We are not likely to find lots of empirical evidence in a period when there is so much contention, tension and disagreement about what constitutes abandoned and new regulatory practices. Such shifts are profoundly cultural and require and new turn in transportation research.

Second, we can only talk about an "emerging" logic. Evidently what we describe is an emerging logic. We certainly cannot be prescriptive or predictive about how the precise trajectory of new control practices will emerge. While they may be new forms of consensus about the definition of the problem, the redundancy of conventional approaches and the need to develop new styles of control practices the precise trajectory of particular pathways is highly contested. in this context we can see a new patchwork of different and often competing approaches, unholy alliances and new forms of experimentation and demonstration as different combinations of interest groups attempt to overcome the "barriers" to the implementation of the "new reality".

Finally, it is not possible to make predictions about precise trajectory or pathway that the new logic will take. While arguing that we are in a period of transition we are not able to make a prediction about precisely how the new trajectory will develop. Although there is likely to be considerable diversity in the new regulatory control practices there is still much uncertainty about how these will develop. But what is clear that there are major battle underway particularly around new technologies of electronic road pricing, more powerfully road transport informatic systems. in particular the ways in which telecommunications and telematics systems can create
new patterns of speed, access, surveillance and monitoring and control. The new paradigm may well be more environmentally sensitive but we may also see new social and economic disparities as the benefits of technology are unevenly distributed. The new paradigm may well contain in itself may different transport pathways - new forms of hyper mobility, speed and certainly for businesses elites and the purchasers of new RTI services - while the marginal and low income are left to survive on expensive public transport, congested roads and slower, more congested and second class forms of mobility.

While the new logic has environmental benefits in that it attempt to improve the economic efficiency of the network and keep a downward pressure on traffic growth this is likely to take place in the context of increasingly differentiated transportation services. The shift from public to private, the development of new technologies for route guidance and pricing, privatised routes may mean increasing divergence in price, speed and time of travel with elite being able to increase speed and time savings while poor left marginalised. In many ways transport policy could come to following developments in the utilities sector with cherry picking, social dumping, the provision of niche, value-added services for those prepared to pay for certain speeds and travel times. Customised routes could be provided for largest and most important users. Alternatively such shifts open up prospect of democratising travel policy - providing some sort of alternative to car based travel.

### Table 1 New Signals of Transport Network Stress

<table>
<thead>
<tr>
<th>Issue</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>road capacity exhausted</td>
</tr>
<tr>
<td>Economic</td>
<td>restrictions on public expenditure</td>
</tr>
<tr>
<td>Environmental</td>
<td>reduce emissions and disruption of new roads</td>
</tr>
<tr>
<td>Social</td>
<td>resistance to new road schemes</td>
</tr>
<tr>
<td>Regulation</td>
<td>planning guidance and funding promoting an integrated approach</td>
</tr>
<tr>
<td>Commercial</td>
<td>improve effectiveness and efficiency of networks</td>
</tr>
<tr>
<td>Technological</td>
<td>real-time pricing and management</td>
</tr>
</tbody>
</table>
Table 2 Re-Framing Transport Problems

<table>
<thead>
<tr>
<th>Shifting Logic</th>
<th>Transition</th>
<th>Example</th>
<th>Challenges</th>
<th>New Practises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional structures</td>
<td>from transport engineers to planners</td>
<td>Advertisement for a new senior manager to facilitate shift of engineers into planning department</td>
<td>Rather than a separate department of structural engineers developing road schemes - planners need to work with other actors to develop integrated packages.</td>
<td>New types of expertise, restructured departments</td>
</tr>
<tr>
<td>Transport Policy</td>
<td>from road schemes to integrated packages</td>
<td>Funding applications form local authorities to DoT are now redrawn to cover packages of public and private provision.</td>
<td>Rather than focuses on engineering led road building initiatives there is now a powerful tool for re-allocating resources towards more demand oriented approaches.</td>
<td>Developing more integrated and balanced approaches to transport policy.</td>
</tr>
<tr>
<td>Modelling</td>
<td>from gravity models to accessibility indices</td>
<td>Transport modellers now attempting to develop models that allow plan new development and new transit networks.</td>
<td>Transport modellers attempt to shape trip generation by re-designing size of new development. Transport packages can be developed in areas of low accessibility using public transport rather than road building.</td>
<td>New forms of engagement with users, new modelling practises tailored packages and solutions.</td>
</tr>
<tr>
<td>Developer Contributions</td>
<td>from developer funding of road to public transport improvements</td>
<td>Developers are no longer asked to fund road schemes and improvements but instead fund and support public transport systems</td>
<td>Planning gain and developer contributions was oriented at securing funding to improve road capacity and/or improvements need to support new trip generation. Instead support now secured for creating and improving public transport links.</td>
<td>Negotiation, innovative approaches, creating networks, etc</td>
</tr>
<tr>
<td>Technology</td>
<td>from supply technology to transport management</td>
<td>Technology no longer large structural road schemes now much softer systems and information to manage transport</td>
<td>Investment in smaller traffic calming schemes and information and road pricing schemes to find ways of managing demand</td>
<td>Smaller scale bespoke schemes, shape users behaviour</td>
</tr>
</tbody>
</table>
Table 3 Features of Competing Logics

<table>
<thead>
<tr>
<th>Old Logic</th>
<th>Feature</th>
<th>New Logic</th>
</tr>
</thead>
<tbody>
<tr>
<td>expand</td>
<td>networks</td>
<td>manage and integrate</td>
</tr>
<tr>
<td>predict and provide</td>
<td>forecasts</td>
<td>predict and manage</td>
</tr>
<tr>
<td>hard - supply oriented</td>
<td>technology</td>
<td>soft - demand oriented</td>
</tr>
<tr>
<td>engineers isolated</td>
<td>professional culture</td>
<td>managers open</td>
</tr>
<tr>
<td>hermetic and sectoral</td>
<td>policy making</td>
<td>discourse and integration</td>
</tr>
<tr>
<td>homogenous</td>
<td>space</td>
<td>customised</td>
</tr>
<tr>
<td>reduce travel time</td>
<td>time</td>
<td>niche, certainty</td>
</tr>
<tr>
<td>dis-engaged</td>
<td>users</td>
<td>re-engaged</td>
</tr>
<tr>
<td>site specific externality</td>
<td>environment</td>
<td>global emissions</td>
</tr>
<tr>
<td>standardised, static</td>
<td>knowledge and information</td>
<td>tailored dynamic</td>
</tr>
<tr>
<td>macro extrapolation</td>
<td>modelling</td>
<td>micro level responsive</td>
</tr>
</tbody>
</table>
1. Introduction

The debate of these last days have shown a movement characterised by a weakening of the State, by a new importance of the concept of globalisation and by a redistribution of power between centres and periphery. Co-ordination appears to be a new stake for three reasons at least: 1) a program which is centred on transportation policies and planning implies to think in terms of co-ordination; 2) co-ordination is at earth of the question of “governance” which is defined in terms of networks and actors and 3) territory is a key factor for public action, as nearly all public policies have impact on an area and, consequently, implies some co-ordination. These points ask the questions of the nature of the territories and the characteristics of public action.

2. Institutional territories, functional territories

In order to have a clear idea of the specificity of territories, it would appear useful to take up a proposal put forward by Raffestin [1980]. Territory is a product that is constantly being reworked by single players or by groups of interacting players: "territory is generated out of space; whatever the level, it is the result of the actions of a syntagmatic player (i.e. a player implementing a programme). By appropriating a space in either a substantive or abstract form (for instance, by making a representation of it), the player 'territorialises' space" [Raffestin, 1980: 129].

Today, many extremely different forms of territory are generated by the public authorities, businesses, financiers, citizens, inhabitants and users. Simplifying matters, two distinct types would seem to emerge:

- institutional territory, which can more or less be equated with the land occupied by countries, real-estate ownership and private property;
- relational territory, which is the reflection of businesses, users and inhabitants.

It’s important to stress on some properties of these territories before to elaborate on the modality and necessity of co-ordination in the scope of territorial policies.

---

1 Even though it is not the principal subject of this presentation, it would be a mistake to ignore abstract territory. It is possible for it to be perfectly compatible with real territory, linked to it by representations, symbols and immaterial, spiritual means. In such a case, it is possible for the substantive and the abstract to represent two dimensions of the same territory that may sometimes be in opposition to each other.
2.1. Institutional territory

The political modernity of the French Revolution is encapsulated in its affirmation of the concept of surface area. It thus represents the genesis of the institutional territory of modern states. It has become delimited by borders – which are now lines and no longer zones [Raffestin, 1986: 6-8] and includes all living beings, resources and relations that are strictly enclosed inside it.

The emergence of the institutional territory of the modern state signals an important development. By deliberately emphasising the surface area, it makes a clear departure from the institutional territory of medieval feudal and ecclesiastical powers, whose territory was much vaguer. Of course, that used to be based on surface area too, but perhaps more on point-locations (towns inhabited by the lord or bishop) and on lines (such as the communications between the town at the centre of a domain and the other towns that were subservient to it as well as market-supply routes).

It is certainly well worth studying the link between the arrival of political modernity and the territorial restructuring it implies. The modern state represents a turning point in the organisation of society. It brings in a more egalitarian concept, within which each man or woman has rights that do not depend on inheritance. Of these, it is worth singling out the right to vote and the right to stand for election, in other words, the bases of citizenship in the formal sense of the term.

However, such rights cannot be exercised in practice unless the state knows who its citizens are and, reciprocally, unless each citizen knows in which state (and thus in which political and legal system) he or she is a stakeholder. The two-fold constraint can be coped with perfectly by constituencies that take the form of clearly defined territorial units – and may also be based on different scales, such as parishes, regions or nations. Taking a different context, Sack [1986] suggests another example. He starts by ascertaining that the production of 'public goods' is at the heart of the functions of a state. He then goes on to show that such production relies on a political power based on clearly defined territorial units. This would be a sine qua non for the state to function. Without a surface area and without borders, the forces in power in a given state would have no means of coping with either the whole realm of external factors nor with 'free-riders' nor would they be able to levy the taxes and other contributions which they need to finance the jobs they have to do [Sack, 1986: 158].

\[\text{Cf. the 1789 Declaration of Human and Civic Rights.}\]

\[\text{What distinguishes a public good from a private one are non-exclusion (in other words: the impossibility to exclude a consumer or to force him or her to pay the 'fair' price) and non-rivalry (in other words: the existence of a marginal production cost that is virtually nil).}\]

\[\text{This observation seems relatively easy to concede. Even if neo-liberal demands for a minimum amount of state deny the formula of the welfare state providing services, they do not challenge this particular observation. In point of fact, the police services, which is all that such a state would be limited to, always bring up the whole issue of public goods.}\]
2.2. **Relational territory**

The chosen lead-in to the definition of relational territory is that of the market place (and, by extension, of any place where self-regulation may develop) plus the network. The historical baseline is the industrial revolution. That does not mean that there had been no such thing as relational territories existing beforehand – they have always been present. The justification for inserting a wedge at this point, however, is to be sought more in terms of attempting to draw a parallel with the institutional territory that is associated with modern states and their surface areas and which owe their origin to the French Revolution.

As Chandler suggests [1990], the movement that started with the industrial revolution has consummated the victory of towns and places in which people and revenues are concentrated and has reaffirmed the lines and networks that are necessary for exchanges of people, goods and information. Now, points and lines are the characteristics of physical networks. It is what moves through networks ('fluxes') that constitutes the raw material of the relationship, the very reason for the interconnection of the points making up the network, or at least some of them. But such relationships are entered into freely. Each member of the network is at liberty to establish a relationship or not, depending on what he or she wants and what he or she is able to offer in return. Within the network, the autonomous and arbitrary nature of the relationship that might develop between two points is thus, of necessity, different from the rigidity of the codification of the largely predefined relationships that predominate between a state and its citizens in the context of institutional territory.

It may well be that the world of economics can be seen as something of a figurehead of relational territory. However, the later goes way beyond just that. It is not merely limited to the market place, but may extend to all areas in which self-regulating relations are likely to develop, apparently independently of any government intervention. In looking at the urban context, such domains are fairly numerous. They come to the fore when people, acting as inhabitants or users – and not necessarily as citizens – have claims to make regarding their habitat. These may, for instance, involve opposition to building projects, struggles against phenomena of social exclusion (rent increases or eviction notices) or demands regarding the quality of services offered (nurseries, public transport or trading hours). People in such a position are going to use different means to make sure that their voices are heard and that they are recognised as fully emancipated players in the procedure envisaged for settling such conflicts. Several of these means have become more or less formalised in the institutional sense. However, their greatest presence is in the relational field: the setting up of clubs or associations, the use of petitions, the organisation of awareness campaigns, recourse to demonstrations or occupation of buildings. There are many different reasons that push people to resort to such instruments. It may be that they appear more effective than the tools provided for in the procedures. In addition, they are the only ones available to people who do not benefit from citizenship. Inhabitants and users do not enjoy the necessary rights to have access to the playing field defined in institutionalised territory. Now, either one of these is always going to have the larger numbers. In the first instance, it is the result of the growth in migratory movements and the mingling of different populations and, in the
second instance, it is the result of the increase in mobility and commuting patterns. The notion of relational territory covers all of these mechanisms.

Lastly, we must also make the point that relational territory is able to operate on different scales, ranging from the global one of world-wide economic activities to the local one of the demands made by citizens' action groups.

2.3. Territories and territorial management

Institutional and relational territories are not mutually exclusive. They are complementary – which runs counter to the present-day neo-liberal mood and also to some of the theses that Dupuy [1991] would have us believe: the area-based territory of the modern state is not dead and cannot be ignored. Rather it should be considered as a datum, on the basis of which the network-based market territory and self-regulation are then built up. Roweis [1983] has offered us one means for elucidating this. He makes a distinction between territorial relations and territorial politics: "territorial relations [are] those human interactions which involve actual or potential impacts (positive or negative) on the access pattern of an occupant or groups of occupants by the plans, decisions and/or actions of other occupants or groups of occupants in the relevant territory." [Roweis, 1983: 153].

A territory may be reproduced through self-regulating mechanisms known as standardised modes of behaviour. However, when these fail to suffice, government is forced to intervene in the form of a regulatory territorial policy. Now, it happens that, for reasons inherent in territory itself (such as the inevitable, necessary interdependence of people on others that is the result of the way they occupy the land), that the mechanisms of self-regulation are generally going to be inadequate.

"In short, the basic characteristics of land and territorial relations assign a central and permanent role to territorial politics in the social reproduction of territorial organisation" [Roweis, 1983: 154]. The institutional territory described above must thus be considered as an arrangement on the basis of which the state performs this regulation.

In addition to all this, the institutional territory of the modern state has a high value. Without it, democracy (and everything that that means for human emancipation) would be unthinkable. Institutional territory is a territorialised arrangement of the relations between government and citizens – the locus where respective rights and duties are on display and mutual control and transparency are the order of the day. Despite all this, institutional territory is no more than an imperfect arrangement [Sack, 1986: 160]. There are many reasons for its inadequacy: the rigid way it is organised, the difficulty in establishing the optimum scale (the headache of financing services and infrastructures shared by a number of communes, cantons or even countries), the elusiveness of defining the appropriate mesh in the network for

---

5 The Swiss national census carried out in 1990 shows that one person in two works in a different commune from that of his or her residence. Another element of mobility must be added on to this: that linked to the consumption of goods and services.
tackling all the problems (pollution does not stop at national boundaries – far from it) and the impossibility of catering for people who are not citizens of the place concerned. Institutional territory is necessary, but it is not enough. In no way can it supplant the complementary advantages proffered by relational territory.

Seen in such terms, reconciling an institutional territory, acting through surface area, and relational territory, acting through the network, is not, of itself a new challenge. On the contrary, the ways in which they fit together are undergoing change. Despite the crises that have punctuated it, the whole period from the start of the nineteenth century right up to the 1960s saw the growth of the welfare state. It reached its peak in the early 1970s. Throughout the whole of that time, thanks to the increase in the regulatory means available to the state, institutional territory appeared to have the upper hand over relational territory. The concept of areas of policy such as regional planning presents clear evidence of the forces at play – the surface area (such as zonal planning) dominates the network. Now, what is happening at present is that this relationship is being reversed. This trend is intimately linked to the growing influence of trade in information and immaterial goods. The decline in the welfare state, the crisis of public finances and the globalisation of the economy are all signs of this metamorphosis which is making it essential to reduce the rules that block or disrupt trade. It is also of interest to point out that the shortcomings of institutional territory appear to be being used to accelerate the trend towards the deregulation of trade still further, and that, in turn, is causing government to be weakened even more:

- Everything appears to be happening as if the liberal current was seeking to push the state back inside its minimum confines, which can be portrayed as just running the police force, as at the start of the nineteenth century [Moor, 1994].

- Globalisation of the economy is making it possible for big corporations to reduce their answerability and commitment at a local level – which is an important place for social cohesion. In the name of competitiveness and profitably, they are side-stepping indigenous requirements that they view as prejudicial to them and are moving their activities elsewhere. Then, as necessary, they relocate them to some other place that becomes all the easier for them to negotiate, given that the balance of forces is generally in their favour.

- The production of wealth (expressed in monetary terms) is relying increasingly on financial and security-exchange transactions rather than on the manufacture of consumer goods. This means that companies have a waning interest in paying their employees more so as to put them in a position to be able to consume the goods they produce. The consequence of this is that the role of companies within society is tending to disintegrate or, at least, to take on a different shape.

6 The idea of variable spatial geometry presents a definite degree of interest for studying institutional and political aspects from a technical point of view. On the other hand, it is more ambiguous when it comes to monitoring politics. This point is discussed later on.

7 As Petrella so appositely puts it [1996], globalisation does not actually encompass the whole globe. It is limited to the world's richest countries and its most central areas.
Petrella [1996] uses different terms to describe this same situation. He suggests a stunning shortcut: today (more so than in the past) the rich are needing the poor less and less all the time. A situation like this is naturally not without its risks. It can be at the origin of social, economic and cultural forms of exclusion.

There – very much in overview terms – we see the practical framework within which the new relative positions of institutional and relational territory ought to be reassessed. Filling in this framework would appear to be one of the most crucial starting points from which it is possible to position territorial management and the actual forms of co-ordination between actors.

These points show of the main difficulties of public action today: to define the pertinent level of intervention. In this case, it is not astonishing that these last decades more or less all European countries have done some reforms in the organisation of local government. The debate on the question of urban government is particularly clear in this context.

In this perspective, the notion of governance takes two different meanings: one refers to the partnerships between public and private actors, with different kinds of partnership and procedures of contracts and the other, what we call “territorial governance” insists more on the co-ordination between actors of different institutional levels. In this case come authors speak, in French at least, of “gouvernement à géométrie variable” or “variable spatial geometry”. Such an approach implies, as other means of co-ordination, two important difficulties.

1. Such political constructs are not particularly understandable by the political actors. That's true for the citizens that doesn’t know any more which is really in charge of the question or the means of action against a decision which is taken “somewhere” but also for some of the elected peoples.

2. Each public policy has a sectoral approach which implies the definition of one territorial scale for action. For example, the territory of action for an enterprise of public transport in an agglomeration is not necessary the same as the one defined by the transportation system in general nor the same as the planning policies.

In other words, the priority on direct efficacy and the follow up of current policies tend to stress on sectoral approaches and are difficult to combine with the question of democracy nor the co-ordination of different public policies.

3. **Scope and specific nature of territorial management**

In the preceding section, the main emphasis was on territory. For reasons inherent in territory itself, the state is a mandatory and necessary player in regulating the

---

8 By analogy and considering both the traditional centre-versus-peripheral model and the new relationships of competition/complementarity that are developing between towns, we could go so far as to say that the urban centres are liberating themselves from needing a hinterland. The tensions that are emerging between Urban Europe and Regional Europe or the tendency expressed by a 'pro-city movement' point in the same direction.
terrestrial relations that develop within both institutional and relational territory. This is a good point at which to return to the concept of territorial management. When carrying out its regulatory functions, government can only very rarely go as far as exclusion. In its interactions with civil society, it must come to terms with suppliers, prospects, customers, citizens, inhabitants and users. No one can be totally thrown off the playing field even if the government (or any other player) were so to desire and even so to decide. It goes without saying that the state may reconstitute the market for a part of its services, by selling them at a rate equivalent to marginal production costs (cf. the state as a service provider), but this approach is of no validity for those functions:

- whose marginal production cost is of no significance for fixing prices;
- for which it is impossible to prohibit access or consumption to those who fail to pay the 'fair' price.

All these elements are characteristic of public goods as defined previously. Now it is necessary to make the point that virtually all public actions that have a territorial impact fit into this category. Whereas customer satisfaction is the yardstick for measuring the efficiency of companies and legitimising their production, it cannot, however, be used to legitimise the actions of government in territorial matters. The field covered by territorial management is thus greater than the field of managing a business – it includes civil society, i.e. the population as a whole. In order to cope with this broader field and to cater for the fact that it is impossible for it to practise exclusion, government must aim to win support. Recognising that any project involves a risk of being rejected, anyone motivated by a spirit of territorial management will thus:

- give preference to incentives rather than regulatory measures;
- seek to recruit the largest number of supporters possible for his or her actions from amongst the many different players and interests present within the territories rather than wanting to stop any form of opponent emerging, whatever the cost.

Taking care to ensure that a project enjoys support, or – better still – fostering the quality of such support, is not so iconoclastic as it may sound. It fits in well with trends in North America [Forester, 1989, Roweis, 1983], which are increasingly spilling over onto the Old Continent. "Taking things to extremes and, in so doing, following the logic underlying the procedure, it could be considered that what matters most in the urban project is that working it out creates the legitimacy for those who will have to 'manage' it subsequently." [Ascher, 1995: 217]

---

9 The use of the term management must not be allowed to close our eyes to a quite essential parting of the ways. Territorial management is not the same as the management of businesses. The same goes for the means by which the two are put into practice.

10 In this presentation the state is portrayed as being monolithic, which is an evident oversimplification. Actually, all the elements making it up should always be taken into consideration: the executive, the legislature and its political and administrative systems at the various levels (local, regional and national). Moreover, the state is not something on the outside of civil society; it is a full member of it.

11 It should not be forgotten that even outlaws remain members of civil society.
When problems of reproduction crop up and the self-regulatory mechanisms are inadequate for settling them, it frequently happens that the response, in political terms, is to modify institutional arrangements in such a way as to permit new routines to develop. When it comes to territory, things do not work that way. The institutional arrangement that has dominated access to territory in the western world for more than two centuries has been that of private property. There can be no overlooking the pressure and other clear signs that exist to resist any modification to this arrangement. That is taking us into a peculiar situation. On the one hand, the specific nature of territory renders a territorial policy indispensable. On the other hand, however, such a policy can only develop within a limited sphere. It must remain compatible with the institution of private property and not interfere with it unduly. In the majority of cases, according to Roweis [1983: 155], that leads to the adoption of *ad hoc* measures: "... urban land problems tend to emerge slowly and gradually, rather than suddenly and cataclysmically, the State understandably tends to search for policies which promote maximal effectiveness, yet which require minimal changes in existing social and property relations." [Roweis and Scott, 1981: 148]

Governments tend to have a reactive posture rather than a proactive one. This propensity is due to the system in general, in that it presupposes that the market has the capacity to perform a certain degree of self-regulation. Intervention by government is only legitimate once a shortage in the market has become evident. Such a characteristic is fraught with inherent problems. The difficulty is exacerbated still further by the very transformation of government. As long as the baseline was the welfare state, government was the regulator of well-being. Despite the occasional mishap, it managed relatively well in being reactive in this way. Today, on the other hand, with the limited means available to it, it should tend to place its faith more in incentives and partnership [Cattacin et al., 1995]. In this new environment, the reactive nature of government renders the means for reorganising its functions even more complicated.

The effect of the reactive nature of public action is amplified still further by an element that is specific to territory. Especially in a built-up state, territory has a low degree of convertibility. The costs involved in erecting buildings and equipping sites (with road and rail infrastructures, energy mains, water supplies and sewers) as well as fitting out public spaces are inevitably high. It thus follows that the life of the built-up environment and, consequently, the periods for writing down investments are particularly long. This specific consideration is an impediment to the market's self-regulatory capacity. According to Roweis and Scott, it prevents us from having

---

12 The mean life of a building is frequently more than fifty years. In addition, depending on its form, it will not necessarily lend itself to a range of functions or conversion for a different purpose (to cite a topical example: the difficulties in converting surfeit commercial and office premises into residential accommodation).

13 From this point of view, the Swiss case is a rather paradoxical one. Given such a high density of both building and population and hence, in purely physical terms, greater risks of friction than elsewhere, there might be grounds for expecting building standards to be low. That would tend to reduce the costs of erecting buildings and thus shorten the periods for writing them down and reduce the life of constructions. At the end of the chain, transformation of the built-up environment would thus become a little easier. Observations tend to show the contrary.
a von-Thünen-type landscape, in which productivity, the use of land for farming and the way the different geographic zones fit together would adjust instantaneously [1981: 143]. In other words, governments' tendency to be purely reactive is then reinforced by the facts. Once it has become legitimate for it to intervene, government must also grapple with a built-up environment that is far from easy to regulate (i.e. to transform, modify or adapt).

Most of the social, economic, political and cultural relations that characterise human interactions leave some form of trace – an inscription written in time; they make their contributions to generating the institutional and relational territories explained above. However, such territories are visible or, at the very least, they are unable to conceal the effects of the implantation of a project on the relations housed within them. In cases in which the effects are viewed as negative by those affected (or even by only some of them), their response is likely to be rapid. They will not allow themselves to be pushed back but will set about mobilising the players concerned to reject the project or to minimise its impacts within limits that are acceptable to them. In this sense, territory will act as a 'safeguard' and it will do so in one of two ways: either it will constitute the domain within which minimum social cohesion is preserved or it will engender a more-or-less instantaneous reaction if ever an event causes an intolerable attack on it. It is thanks to territory and because it is the product of relations between people that the risk of mistakes, that are inherent in any attempt to manage, is kept within limits. As far as territorial management is concerned, that is reassuring.

In a setting that is characterised, as we have seen, by the globalisation of the economy and the espousal of modes of analysis that are the offspring of private economy, it is important to take another look at the question of possible actions open to government. Three points need mentioning here as conditions for co-ordination.

The capacity for government to act depends first and foremost on its ability to anticipate the actions of the other players, starting with those involved in the economy. Today, such a skill most frequently calls for the ability to work on several different scales, from the most local to the most global.

There is a very real difficulty linked to playing on several scales at the same time: how to involve inhabitants in the proposed action, knowing very well that the territorial references come into play at several levels. Given the current state of affairs, only one particular territorial level permits the clear-cut political participation of citizens.

Given that the majority of public policies are currently constructed according to a sector-by-sector scheme, how can a territorial logic possibly be inserted? In other words, it is not only a matter of implementing the action that is most effective in terms of a given objective but of fitting it into a general view of affairs.

These three points bring us inexorably to the issue of how to think out public policies that have a major territorial content. That's clear that co-ordination is central and we can refer to the idea of territorial management that we had defined as follow. To quote Decoutère [1996], "we suggest that territorial management be considered as one particular practical means for drawing up and implementing public policies,
giving particular consideration to their territorial dimension and having the objectives of:

- promoting autonomous development and a sense of sharing;
- increasing the margin for organisational manoeuvre available to public authorities thanks to the proper consideration of the specific nature of the production of territories today." [p. 30]

Put in these terms, territorial management calls for a certain number of criteria to be respected during the drawing up and implementation of a policy. Let us examine four of them:

Efficiency is doubtlessly the number-one criterion when speaking of management. Irrespectively of whether we consider it as being the capacity to produce the expected results or as the relationship between the means and the results, it forces us to look at the question of appraisal criteria: is it enough to make do with strictly economic efficiency or should concepts of social and political efficiency be envisaged too? Should we simply maintain a short-term view or is it only possible to calculate efficiency given a sustainable perspective? The specific nature of the whole field of territorial management calls incontestably for a broad definition of efficiency.

Fairness in the social or territorial distribution of resources is another important criterion, even if trying to define it is fraught with dangers. The Rawls debate, in particular, has shown that it is not enough just to maintain strict equality but an agreement must also be obtained within a system characterised by players who are very far from being equal in terms of power. The most important step towards guaranteeing equity here is to give due consideration to all the players who may potentially be concerned.

Any idea of sustainability automatically brings us on to the concept of sustainable development that is being so widely debated at present. Let us simply reiterate that such a concept is not just limited to ecological questions in the narrow sense of the term but may also bring in social or political sustainability through the way in which the players are involved. Such a perspective cannot, of course, be viewed as a matter totally independent of the idea of equity in the long term.

Finally, creativity is also essential in so far as novel solutions are involved, suggesting organisational or institutional regrouping to allow, for instance, for new partners to be involved in the process, with all the consequences that derive from that for real participation. In the same way, it is possible to envisage transforming certain situations with a zero-sum game into a non zero-sum game.

In a nutshell, this basically calls for an effort to bridge gaps between players, scales and fields of policy. In this sense, we are moving very close to the ideas of governance or of networks of public actions that are currently all the rage in the political science and stress on contract and co-ordination between actors in different situations of power.

The practical implementing measures have been described above. They are linked to the scope of territorial management and the impossibility for governments to exclude
from the game any players they happen not to like. Such measures should thus be incentive and participatory in nature, designed to stimulate support, rather than regulatory, hierarchical or authoritarian. Moreover, given that governments are evolving in a general environment marked by restrictions on human and financial resources, they should be flexible rather than rigid and should make it possible for priorities to be established. The times have long since gone when governments could justify an all-embracing approach to problems. Master plans, forecasting, projects, formulation of contracts and classical management – all supply elements that territorial management is able to put to use.

A last point reminds us that, within territories' production mechanisms, territorial management is limited to public policies and territorial impacts. However, this limit is bound to remain rather abstract, given that there are very few public policies that do not have any territorial impact at all. It does, nonetheless, enable us to give a special position to certain of such policies, such as regional planning, environmental protection, transport policy – and even economic stimulation – and to treat them in a global fashion.

Territorial management is linked to territoriality as defined by Raffestin. "Territoriality designates the sum total of all the relations that people have with the external world and with others through mediators (such as money and work) in order to satisfy their needs in terms of obtaining the maximum possible degree of autonomy; in other words, it is the capacity to have arbitrary relations with their physical and social environments, due attention being paid to the resources within the system." [Raffestin, 1994] Within this definition, the idea of autonomy appears to be central. Autonomy is not absolute. It is arrived at through procedures, routines and codes. Just like an aircraft that can fly autonomously within its range of action – and which is actually called autonomie in the French language – so, according to Raffestin, must any autonomy be viewed as relative. Autonomy does not exclude relations; on the contrary, it makes it possible for one person to differentiate himself or herself from others and to present himself or herself as a potential partner.

From this standpoint, any territorial-management project amounts to attempting to expand territoriality by seeking to increase the autonomy of each and every one. Doubtlessly, that then boils down to developing projects that are innovative in the sense of being effective, fair, sustainable and creative.

The question of regional planning (aménagement du territoire) can be seen in this perspective. It refers to territorial policy par excellence as it has been practised for several decades, at least in Europe. On one scale or another, the idea behind it clearly is to give government the necessary means to secure harmonious development, be it by reducing the differences between regions or by guiding construction work and the intended use of zones in an equitable manner. It is a policy that is currently facing serious challenges in Switzerland, for at least three reasons. Firstly, the globalisation that Petrella (1996) or Passet (1996) have highlighted has occurred in parallel with a crisis of government and its funding. That being so, any redistribution policy (including any policy aiming to reduce the imbalances between institutional players) is facing an uphill struggle just to maintain its position. Secondly, even though the Swiss federal law on regional planning has always provided for points of contact
especially with economic-development and environmental-protection policies, establishing an effective interface between these different activities has shown that it has clear limits, if for no other reason than resistance coming from the various sectors themselves. Thirdly, the scale for intervention has always been set in a uniform, institutional manner (canton, commune), whereas the very phenomena that the policies set out to deal with come into play on a number of different scales that may vary from one policy to another. It is also worth mentioning that even though citizen participation is indeed quite clearly provided for in the law, its implementation in the real world – in terms of frank and generalised consultation – has always remained limited, in such a way that regional planning is rarely perceived of by citizens as a crucial issue calling for mobilisation.

Having ascertained these facts, certain characteristics of territorial management, in the sense in which we have defined it, now appear to provide interesting replies. Firstly, some thoughts on the characteristics of territory are essential in conjunction with any contemplation of globalisation. Secondly, it is indeed at the territorial level that the need for effective interfaces between different public policies emerges clearly. Thirdly, 'variable institutional geometry' may appear to be one of the means available for reacting to changes in scale, even if the question of democratic transparency and institutional constructions remains an open one.

As Marie-Christine Monnoyer-Longé [1996] reminds us, networks presuppose relations, projects and continuity – all characteristics that we have mentioned in our discussion of territorial management. Even though territorial management is indeed supported by a network concept, others of its characteristics differentiate it from 'meshing', starting with the way in which territory is taken into consideration. The very idea of management as opposed to meshing suggests the existence of several different points of view, depending on the players, their assessment of strong points, their scale and changes that are occurring. It is precisely this diversity that is the progenitor of an arbitration which brings with it an idea of power. Moreover, this is a power that is anchored in territory and limited by institutional boundaries, whereas the limits of networks obey a logic all of their own. One of the benefits derived from speaking about territorial management is, of course, to be found in the idea of combining dimensions of power, linked to territory, with a concept that leaves sufficient room for the different networks that give it its structure.

4. Conclusion: Co-ordination, Territory and Level

As far, we have insist has well on the globalisation processes as the territorial impact of public policies. One way of co-ordinating policies and determining the "good" level of intervention could be to give more power the national or international level, more than to the local one. In fact, the local level is still very important and the question of co-ordination could not escape to the discussion of the properties of these territorial levels.  

Globalisation has also a particular consequence: as Finger and Rossiaud (1996) quote, all the goods that can escape to the local context have the tendency to globalisation. At the contrary, there is also a tendency to localise and socialise the things without possibility of gain. More generally, the tendency to give an important value to the environment, beginning with the nearest one is also a factor explaining the importance of local politics (Inglehart, 1990). The local strategy to give more quality, as urban marketing does for example, are also of importance for the explanation of the importance of local powers.

14
At the end of this contribution, co-ordination appears has a major stake for policies which a strong territorial content. These policies concern a great number of actors, which different spatial references. In this case, territory could be seen as a meeting point between sectoral policies. This COST program, based on the articulation between transportation and planning is clearly an example of this. In other words, territorial impact of sectoral policies implies some forms of co-ordination, between actors as well as between territorial units. This question of co-ordination is not a question of pure organisation and efficacy of public management but more a democratic stake. In fact, co-ordination is often synonym of lack of transparency and difficulties for the citizens to intervene in the political process even in situation where the policies imply participation and adhesion of the inhabitants. The institutional territory is, at time, the only one where the rights of the citizens are clearly defined. At this level, participation and sustainable implementation of public policies can be organised but this implies a new thinking on co-ordination and territorial levels adequate for territorial management.

5. References


THE IDEA OF GOVERNANCE: AN ATTEMPT AT CLARIFICATION

Christian LEFÈVRE
Université de Paris XII
Institut d'Urbanisme de Paris

For several years now we have been seeing a real proliferation of the word "governance" in the scientific world, and more recently, in professional circles. Many works dealing with local and territorial public action refer to it, and very many colloquiums, conferences and study and research programs place this issue at the heart of their work. Governance seems to have become not only a fashionable word, but also an idea of the future, at least in the short and medium-term, since its polysemous nature allows a certain dialogue to be established between several disciplines. But it is precisely because the word has different meanings depending on the discipline and context in which it is used, that it has become interesting, and the need for clarification has arisen.

1. Governance: an attempt to clarify the scientific context of the idea

Although several social science disciplines or sub-disciplines use the idea of governance to varying degrees, three of them (management, spatial economies and political science) seem to give it a more specific status or definition, and it is in all probability political science which is now developing the most ideas in terms of governance. For this reason, but also because it concerns an area at the heart of the COST 332 action program, work in this discipline relating to the idea of governance will be the subject of a more detailed presentation.

1.1 Governance, a polysemous idea

Three social science disciplines - management sciences, spatial economies and political science - use the idea of "governance", yet the term is not taken to mean the same thing within each discipline.

Management sciences (business economics, management), following the work of O. Williamson, uses governance to designate the various modes of managing transaction costs within a company. More recently, authors such as M. Stoper and B. Harisson have used the term "governance structure" to indicate the degree of hierarchy and direction (or conversely, of collaboration and co-operation) present in the co-ordination and decision-making within a productive system (input/output). With regard to relationships between companies, governance structures may be very hierarchical (a leading company with a high degree of independence from its suppliers and a strong position of power in relation to its peripheral subcontractors), or conversely, a group of companies in which none of them dominates (known as a halo structure).

In this case governance relates only to transactions between companies, and designates the regulation of non-commercial relationships of power and co-
ordination. "It covers all forms of regulation which are neither commercial, nor state-controlled" (Benko-Liptietz, 1993).

In spatial economics, the idea of governance is used by geographers specialising in localised productive systems who see local territories as favourable backgrounds for interaction between players, and consequently, even for innovation. In this instance, governance refers to forms of regulation which are connected to the spatial aspect of organisational measures and proximity between players. It is, in a sense, the territorial counterpart of the meaning of "developed" in management. The district of the third Italy is an example of this (same social culture, local relationships, small independent companies, weak hierarchical structure, etc.).

Political science uses the idea of governance a great deal, in particular when dealing with relationships between players, and the coherence and co-ordination of public action (idea of governability). It therefore concerns only that part of political science which deals mainly with power (notably local power) and public policies. We will develop this aspect below.

1.2 Governance in contemporary political science: between power and public action

The Americans have used the word governance since the 1960s as a synonym for government, and in particular, the government of towns. The issues tackled concern institutional fragmentation and modes of formal, as well as informal, co-ordination of this government. They also involve to a complex system of players where private and community sectors play an important, legitimate, and visible role.

In England, the appearance of the word governance, notably in the analysis of the local political and economic system is very much more recent and relates back to the major transformations produced in the system since the Conservative party came to power. When local government was quasi-exclusively in the hands of local governments, we were in the area of local government. The situation has changed since then. We have passed into the area of governance, in other words into a complexification of public action (fragmentation of public action, increase in the number of players - private and community have been added - and the transformation of forms of co-operation and co-ordination.

From this standpoint, we may consider two approaches to the governance of territories, depending on whether our analysis focuses on the players or on public action. It would, however, be a mistake to think that the two approaches presented are mutually exclusive. Quite the contrary, and much of the work includes both, since it is true that there can be no clear division between players and action. The following presentation therefore adopts a separation which is pedagogical rather than scientific.

1.2.1 Governance focusing on the players: local power

Introducing the idea of governance into an analysis of power means paying particular attention to the players and their ability to form a coalition, and the manner in which they do so. A. Harding (1993) defines governance as "the deliberate formation of formal and informal coalitions by various interests with the aim of
providing goods which would not be there if they acted independently". Governance thus refers to the identification and analysis of new forms of decision-making at local level, based on multilateral inter-organisational relationships issuing from an increasingly complex organisational context.

Two sets of work have examined this question. There is the theory of growth machines, and that of urban regimes.

The theory of "growth machines" corresponds to the American research undertaken by H. Molotch and J. Logan (1976 and 1987) on a certain number of towns. Their analysis centered on urban economic development as a major stake in the government of towns. Logan and Molotch were interested in the formation of organisations and coalitions of interests in this sector. They distinguished between three types of entrepreneur interested in the sale and exchange of territories for financial gain:

1) people of independent means who possess substantial land resources and wish to sell them at the most advantageous price,
2) owners of businesses who profit directly from development (property developers and builders, for example),
3) owners of businesses who benefit indirectly from development (shopkeepers).

These entrepreneurs group together, form coalitions (growth machines) and in constructing the town, make considerable profits. They are an elite of business people who possess complementary and substantial material and intellectual resources (including access to outside funding). Local elected representatives are not necessarily members of these coalitions but often back them because they consider that such projects bring economic growth, considered beneficial. The essential function of these coalitions is to legitimise their behaviour by the fact that economic growth is profitable for everyone: it brings jobs, fiscal resources, and resources to combat poverty.

According to the theory of "growth machines", an economic elite is formed which forges its power by controlling the way the town develops through the possession of materials and resources.

More recently, the work of Stone (1989) and Elkin (1987), with their theory of urban regimes, has reconsidered the question of the formation of coalitions of players and interests. Their work focuses on the interdependence between local political forces (governments), and outside the local political arena, on the taking of responsibility for urban problems.

The basic hypothesis of the theory of urban regimes is as follows: the effectiveness of local government depends essentially on co-operation between governmental and non-governmental players. Politicians cannot act without resources. This hypothesis is based on i) the insufficiency of the power derived from the ballot box (insufficient political resources to govern) and ii) the need to create coalitions of partners with appropriate resources (coalition building).
A régime is therefore understood to be the set of arrangements linking elected representatives and the business community (and in some cases, "community groups"). More precisely, "a régime is a relatively stable, but informal group with access to institutional resources which allow it to play a long-lasting role in decision-making and in the implementation of policies". The régime therefore goes beyond a simple elite capable of imposing action in a given sector. A régime is based on a link between elected representatives and business people, and it is stable. For Stone (1993), a régime is necessarily composed of these two groups because they alone possess complementary resources. The elected representatives represent the community and as such possess vital political resources (legitimacy and the controls which go with this), but they do not have the financial, intellectual and material resources needed to carry out the policies they wish to implement (mainly in terms of economic development and employment). Business people, and more generally, private interests, do possess these resources but need the elected representatives to "territorialise" the desired action (inscribing it in the territory and legitimising it).

The significance of the theory of urban régimes is that it analyses informal relationships. Indeed, if the players have an institutional base, the régime is constituted as an informal co-ordination base (informal links between "city hall and the downtown business elite"). Contrary to hyper-pluralism, this theory considers that it is possible to govern fragmentation by the régime. In this sense, the régime is a governance structure.

1.2.2 Governance focusing on Public Action

In this approach, governance is concerned specifically with public action within the framework of the governability of contemporary societies. Contemporary societies are thought to be societies which are difficult to govern. "Governing failures" bear witness to this. The modern state does indeed have difficulty fulfilling its purposes and solving the economic and social problems it has identified (social security and the "new" poverty, for example) using the traditional instruments of centralisation and hierarchy. This can be explained notably by the sectorisation of society. It is therefore necessary to look for something other than the traditional instruments, and somewhere other than the State, for the means of identifying and solving given problems. Governance in this instance is therefore "the arrangements that society produces to keep troubles and disturbances under control, to prevent change from taking undesirable turns and to orient it in the desired direction" (Dunsire, 1993).

As far as the study of public action is concerned, governability may be defined as the ability (of a society) to produce coherent decisions, develop effective policies, and implement programs (Dente 1990). Governance is therefore a set of activities which allows governability. The term governance therefore extends well beyond the administration of a territory and the management of services. This is clearly confirmed in the introductory document to the Tokyo Conference; "it should be clear
that the concept of governance goes far beyond management or administration. It implies a far more global vision of the process of government decision-making. It is not limited to the internal administration of an organisation or group, but on the contrary, covers a whole variety of ideas which include intergovernmental relationships such as negotiations, agreements, and co-operation between the public and private sectors" (Tokyo Conference on Metropolitan Governance, 1993).

G. Stoker, co-ordinator of the British ESRC's "Local Governance" program continues in the same vein: "a governance relationship implies a social objective (collective) which means the establishment of a collective benefit which could not be obtained by governmental and non-governmental powers (actors and resources) acting separately" (Stoker, 1995).

In a recent book, R. Balme (1996) helps us clarify the distinction between government and governance. As the table below, taken from his book on neo-regionalism shows, talking in terms of governance signifies that times have changed, not only because the players involved have become more numerous and of a different kind, but also because public action can take a variety of shapes and forms, and that implicitly or explicitly, depending on the country in question, the role of public power is being reduced and redefined.

<table>
<thead>
<tr>
<th>Government</th>
<th>Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hierarchy</td>
<td>Co-operation</td>
</tr>
<tr>
<td>Monopoly of public power and vertical relationships</td>
<td>Vertical and horizontal relationships, both intergovernmental and with the private sector</td>
</tr>
<tr>
<td>Universality and permanence of the network of relationships</td>
<td>Sectorial variations in the networks of relationships, which can be modified according to circumstance</td>
</tr>
<tr>
<td>Public intervention in all areas</td>
<td>Auto-limitation of public intervention</td>
</tr>
</tbody>
</table>

This said, what forms does governance take, in concrete terms, when this idea is applied to the co-ordination and coherence of public action? This question will be developed in the second part of our paper.

2. Forms of Governance

Forms of governance of the territories are many and varied. Whilst not seeking to give an exhaustive list, it is important to show this variety before outlining a typology and we will start by doing this before going on to see how, and under what conditions, governance is implemented.

2.1 Diversity of the forms of governance and descriptive typology
When discussing governance with reference to public action, keywords are transsectoriality, co-operation, co-ordination, consensus-seeking, relevant territoriality, coherence and partnership. But how do all these elements come together in the
various forms of governance? Before outlining a descriptive typology of the different forms of governance, we will first illustrate this diversity with seven concrete examples.

1) Urban development missions in France. These are bodies responsible for initiating action to deal with neighbourhood problems in certain French towns and agglomerations. These structures bring together technicians from various sectors and disciplines considered complementary (architects, sociologists, town-planners, economists) so as to produce desectorialised action which thus encompasses the global nature of the problems posed. They are often placed under the direct responsibility of the Mayor or President of the urban community (at cabinet level therefore) in order to possess a solid legitimacy greater than that of the technical departments.

2) The American regional councils. These are local community associations at urban area level, responsible for producing planning documents for the urban region. They are advisory bodies with no power, but they play an important role as a virtually unique forum where the problems of the urban region can be debated, if not solved. As such, they are a partial palliative for institutional fragmentation.

3) The German transport federations. These are associations which bring together local communities, transport companies, the Lander and the Federal State and are responsible for public transport planning and policies in the big German agglomerations. They are therefore sectorial bodies but cover a changing area (other communities may join) and they also serve as a forum for all the transport players.

4) The metropolitan observatories. These are technical bodies providing quantitative and qualitative data on specific questions and relevant territories in the light of the question under discussion. They provide information which would not otherwise be available on which to base specific action.

5) American public hearings. These are procedures for informing citizens about major public projects and, depending on the State in question, act as a public repository for complaints, remarks, and suggestions during the (local) implementation of these major projects. They also allow specific interests to be integrated or taken into account over and above the formal technical and administrative procedures.

6) The Italian program agreements. These are strictly formalised procedures which associate public institutions and companies with the decision to build, and the implementation of major infrastructures. These procedures define the partners, their obligations, the time-limit for construction, and the penalties for non-compliance. They were set up to accelerate decision-making and the implementation of major public infrastructures.
French pluralism. This is an institutional system which allows an elected representative to hold several territorial offices (town, department, region, deputation), thus compensating in part for France's institutional fragmentation.

It will be seen, therefore, that there are very many forms of governance and these may equally well be procedures, institutional structures, or technical measures. To have a clearer idea of these, we have drawn up a typology with three categories: institutional forms, procedures, and non-contractual forms of co-operation. The three categories identified have been defined in the light of their degree of structuring (from the most formal to the most informal), the type of players involved (from the most traditional like institutions to other categories of players which are often excluded), and their degree of visibility. These categories are not, of course, hermetic.

Institutional forms of governance: These are all forms of governance which bring together institutions (local or otherwise) in a formal way by means of specific formulas or arrangements. Pedagogically speaking, we may distinguish between those situated within institutions and those which aim at co-ordination between institutions.

Within institutions: they seek to break away from sectorial divisions in the administrative and technical organisation of local communities through the setting up of structures whose responsibilities and functions are issue-oriented. The urban development missions, the horizontal structures set up in the Scandinavian municipalities during the "free communes" experiment (municipal health, education commissions, etc.) are good illustrations of this.

In relationships between institutions: these aim to compensate for horizontal institutional fragmentation (between grassroots communities) or vertical institutional fragmentation (between levels of community) to the extent that their activities go beyond the simple framework of service management. Besides institutional co-operation structures whose aim is to carry through development projects (intergovernmentality projects for example), we might also mention more flexible local community associations such as the town-planning agencies in France, and the Regional Councils in the USA.

Procedures: These are the set of instruments and measures which though framed by rules and institutional forms involve new players on a more voluntary, flexible and progressive basis. They include assessment procedures, monitoring structures, observatories; structures for the participation of citizens as individuals or groups (associations): public enquiries, public hearings; various measures which integrate the private and associative sectors into the formulation and implementation of policies: city contracts, city challenge, territorial planning procedures: State growth management (the seeking of negotiated land occupancy agreements between local communities and federal State), the drawing up of new Master Development and Town Planning Schemes in France (chambers of commerce, institutions, university etc.), program agreements in Italy.
Non-Contractual Co-operation: This designates all informal, low-visibility, and non-institutionalised activities. We might mention, for example, the "Metropolitan Projects" (Progetto Milano) in Italy which involve the private sector (companies, chambers of commerce and associations) and the public sector in promoting the town, but which also assume the role of a forum for the region's living forces; "informal" activities such as certain trans-sectorial working parties, discussion clubs, etc.

So far, the idea of governance has been tackled in a fairly static manner. But governance is an activity produced by a system of players. It is an uncertain social construct, which changes constantly. Nonetheless, governance does simply drop out of the sky. For it to happen, a certain number of elements must be present at the same time.

2.2 Producing governance: networks, procedures and institutions

Three elements seem to be necessary. Networks of players, procedures and institutions are needed.

1) The importance of networks of players in the analysis of public action, both as regards content and implementation, has recently been highlighted in Anglo-saxon and French work in terms of "policy networks" (LeGalès and Thatcher, 1995).

The term policy networks describes the network of dependency relationships which emerges between organisations and/or individuals who come into frequent contact with each other in specific areas. The heuristic contribution of this idea is a subject of debate today for those interested in public action and has been formalised (Marsh and Rhodes) on the basis of an analysis of national public policies in Great Britain. More precisely, a policy network includes informal but stable relationships with a system of actors (policy community) specific to a sector (policy network) or a given question (issue network). The network is thus an informal element of co-ordination which enables collective action to be produced. It is also the "place" where the direction of public action is decided. Its importance in the production of governance can therefore readily be understood.

2) Procedures. These are organised and codified forms of public action. They are vital to the production of governance because they concern both the players (network) and the action itself. They concern the players because networks need places to operate and be seen. They may also be the place where new networks are created because they enable players to meet who would otherwise not have had the opportunity. They concern the action itself because they influence its direction by providing coherence as the procedures develop.

3) Institutions. They are needed in the production of governance because the networks created by the individual actors are unstable and the procedures themselves cannot be implemented. Institutions are stable, more stable than the networks, and stabilise them. Moreover, they set procedures in motion and manage them. Thirdly, it is through their intervention that the players position
themselves formally in the procedure (hierarchical position, arbitration role, intermediary). Finally, it is for all these reasons that institutions are essential in giving direction to public action. They create contexts, and a framework of rules which may influence debates, decision-making, and implementation by public and private players (Padioleau, 1994).

3. Conclusion

In this chapter, the idea of governance is presented with strong normative connotations. Firstly, it is seen as a desirable activity if we wish to achieve governable societies. Then it is a question of knowing how to achieve this, that is to say there are "tools" and "instruments" which enable governance. Finally, behind the new model of public action there are the words "negotiation", "partnership", "consensus-seeking" and "compromise culture". All this might lead us to believe that the conflicts have disappeared or at least been pushed to one side (they are inevitably simplified). But this is not necessarily the case.

Firstly, there may or may not be governance. As J.G. Padioleau has said (1994), pragmatic public action is contingent, that is to say it may be or may not be. Then again, it is problematic, that is to say that the results are always uncertain and temporary. Finally what is at stake in public action is to produce effective collective action in view of the interests and ideas of the protagonists, and as such they are not all equal and do not possess the same resources. These three "characteristics" of public action mean that the idea of governance may appear to be a "showcase" and ideologically-marked idea.

4. References.


BENKO, G. et A. LIPIETZ (1993), Les régions qui gagnent.

DENTE, B. (1990), "Metropolitan governance reconsidered or how to avoid error of the third type", Governance, 3, 1, pp 55-74.


THE INSTITUTIONAL MECHANISMS AVAILABLE FOR COORDINATING TRANSPORT AND NATIONAL AND REGIONAL DEVELOPMENT: CONTRASTS BETWEEN NATIONAL SITUATIONS
1. Introduction

The mutual dependence of regional and transport policy has been a sine-non-qua for a long time now, but in planning practice it has been hardly considered due to a lack of obligatory concepts and documents treating this issue. Only in January 1992 the Austrian General Transport concept was published; this is 24 years after the federal government developed the first post-war transport concept in 1968. Also on the regional level concepts have been elaborated by the provinces, partly in parallel to the federal guidelines. Also only in 1991 a Regional Policy Concept was presented, which aimed at framing spatial issues. Those concepts are mere recommendations respectively guidelines for the territorial authorities. A legally binding infrastructure master plan, based on the findings of those documents is underway and planned to be published in 1997.

The following paper will give a very brief overview of the division of competence and the organisation of regional and transport policy in Austria.

2. Regional policy - constitutory basis

The Austrian federal constitution contains only a few norms which expressively refer to regional policy and to other planning competence, also regarding to specific contents of planning activities of territorial authorities little can be derived, as the constitution does not contain expressive constitutional order. The only specification in the federal constitution refers to the differentiation between local and supra-local spatial planning, which states the communities competence for local issues within their sphere of activity. For the supra-local spatial planning no specific responsibilities or summarising competence have been defined on the federal level. Regional policy as such is treated as a complex issue, which covers the comprehensive order of legal, economic and other relations in space.

All planning activities regarding the territorial design and its construction for living or business reasons, as well as the preservation of vacant areas lie within the competence of the provinces (Bundeslaender), unless its execution is expressively subject to the federal authorities. As there is no legal subject such as regional policy, both the provinces as well as the confederation can run activities in this issue according to the distribution of competence in the constitution. The constitution gives the confederation extensive spatial planning authority, but limited to the subjects specified under the sectoral principle of ministries.
All those areas not regulated by federal laws automatically are under the competence of the provinces. The provinces then do have the possibility to implement a specific legal framework for regional policy and furthermore the possibility to organise sectoral planning competence at provincial level is not excluded. In the recent past the provincial legal regulations on regional policy have shifted from mere land-use plans to comprehensive regional development plans.

The distribution of federal competence mentioned above refers exclusively to national administration. Territorial authorities, both the confederation and the provinces, also have the possibility to set up spatial planning activities as private-law acts under the legal framework of private sector administration. This means they are entitled to found private organisations (associations, corporations) to fulfil specific tasks on the regional policy agenda.

The communities in general execute the issues specified in the legislation of confederation and provinces. Besides also the communities have the right to form independent economic bodies acting under the framework of private sector administration.

Also the high court has interfered into the area of Regional policy by juridical acts referring to special cases, such as commercial centres.

3. Organisational and legislative opportunities according to the federal constitution law.

Only the confederation and provinces have legislative power, insofar as organisational power is also covered, advisory bodies can be created. But it is excluded to create decision-making or advisory bodies covering both federal level and provinces.

The use of co-ordination techniques should help to improve the collaboration of authorities on those different levels, in the sense of a co-operative confederation. Territorial authorities ought to take the duty always considering the competence of other authorities involved, which are specified in the information and consideration principle. All federal legal acts, touching competence of the provinces (such as regional policy) have to be agreed by the provinces representation, the Federal Council.

Due to the separation of competence of the territorial authorities, the co-ordination of regional policy measures is one of the prime issues. In the relation between community and province the condition of prior approval allows a co-ordinating influence through the province. It also allows contractual agreements about the execution of authority among provinces within their sphere of activity, as well as contractual agreements between federal authorities and provinces.

The co-operation between territorial authorities can also be realised as non-legally binding agreements without legal norms, as long as this does not influence the decision-making competence. On the basis of such agreements or unanimous
political declarations of intention, both specific planning decisions as well as the foundation of administrative or advisory bodies is possible.

The most important example is the Austrian Conference on Regional policy (ÖROK).

4. The organisation and functioning of the Austrian Conference on Regional Policy (ÖROK)

The Austrian Conference on regional policy was founded in 1971 already as permanent body of confederation, provinces and communities to co-operate in tasks related to spatial planning and regional policy. The main tasks of the conference are defined as follows:

- Elaboration and continuos improvement of the Austrian Concept of Regional Policy
- Co-ordination and evaluation of spatial planning measures among the territorial authorities
- Contributions to spatial research through analysis and prognosis

The Austrian Conference on Regional policy and its bodies are constituted according to the scheme in figure 1.

The conference is permanently chaired by the federal chancellor. The last working session took place in 1993 to prepare Austria's membership in the European Union. For the deliberation of special topics the Commission of Deputies is entitled to install permanently working subcommittees. One of the technical subcommittees is concerned with transportation and traffic issues.
Figure 1: Organisational structure of the Austrian Conference on Regional policy

ÖROK
(Austrian Conference on Regional policy)

federal chancellor, all federal ministers, heads of provincial governments, presidents of the union of statutory cities and the union of communities, as well as the bodies of representing interests with advising mandate only.

As mentioned above already, the prime task of the conference is the elaboration of the Austrian Concept for Regional policy. This concept is a catalogue of recommendations, which have the function of an orientation framework to demonstrate specific possibilities for action. The catalogue is not a legally binding plan, where the realisation of the proposed measures can be monitored but is used as a flexible and conceptional orientation for spatial issues. It is a tool to picture current spatial policy and to show whether policy follows the guidelines, evaluating the proposed measures.

Regarding the area of transportation the concept reveals the problems caused by the high land-use of transport infrastructure and all the related negative environmental impacts, which are fostered due to a lack of co-ordination between transport planning and housing development. Proposed measures in the concept mainly refer to the avoidance of traffic-generating urban structures and the reduction of regional disparities in accessibility:
• Connecting construction land to the accessibility of the location by public transport or rail, respectively keeping a corridor free for future tracks through regional and local spatial planning.

• Elaboration of local general transport concepts focusing on park and ride, cycling lanes and on-street parking control.

• Introduction of spatial impact analysis for traffic inducing projects

• Elaboration of sectoral spatial planning programmes in field of transport.

• Connection of the various public transport systems

• Limiting freight transport on the road

• Elaboration of a concept of trans-national rail transport

• finalisation of the Federal Transport Masterplan

In 1991, apart from the Austrian Concept on Regional Policy, also the Austrian General Transport concept has been published which contains the fundamental guidelines and aims of the future transport policy.

5. Transport policy

The federal authorities are the only one with competence in planning trans-regional and priority infrastructure, as well as some prime regional infrastructure such as regional railways and busses, and federal roads. Furthermore the legislative power regarding transport law contains effective instruments with spatial implications and is exclusively controlled by federal authority. The most important institutions involved are the Ministry of Public Economy which has control over road transport and the Ministry of Science, Transport and Arts, which covers all the other modes. Only roads that are not classified as federal roads are in the competence of the provinces. For the financing of transport infrastructure both road and high-speed rail private enterprises have been founded under the framework of private law, explained above.

The most important topic is the development of the Austrian Transport Infrastructure Plan, where work is currently underway. This plan will be the framework for the future development and realisation of transport projects in Austria. The need for coordination with spatial and regional planning has been specifically expressed in the position papers so far published. The evaluation procedure for selection of future transport infrastructure projects, is going to include a spatial impact analysis. This is a very important aspect as spatial impacts so far have hardly been considered in the relevant legislation.

As transport policy is mainly in the hands of federal authorities, while regional policy is mainly the competence of provincial authorities a lot of problems have
been occurring. The only instrument for a minimum co-ordination is the before mentioned Austrian Conference on Regional Policy. But in a scenario with transport planning and spatial planning at different levels of competence, where infrastructure projects have to be integrated into regional plans through a top-down approach it is not an easy task to achieve optimal spatial solutions. Most of regional policy programmes of the provinces contain no or very general statements regarding transport.

Competence in spatial issues is distributed among a variety of bodies in Austria. The traffic related negative implications on society and environment as well as the formal requirements of the European Union lead a number of experts to call for considerable changes in institutional organisation of regional and transport policy. The general frameworks published in the early years of this decade are seen partly as first step in the right direction, partly they are criticised, being wordy documents hiding the urgent task for action away behind the enormous list of goals and measures. In general it can be said that still these documents have been followed by very little action to face land-use and transport problems.

6. References

Osterreichische Raumordnungskonferenz, Achter Raumordnungsbericht, Schriftenreihe der OROK, 1996

PERNTHALER, PRANTL, Raumordnung in der europäischen Integration, Litéras, Wien, 1994

KUNZE, Der Beitrag der Raumplanung zur Umsetzung verkehrspolitischer Ziele, ÖZV, 1-2(92)1, pp 29-33, 1992

KUNZE, Raumplanung und Verkehr, Raumordnung aktuell, 2/92, pp 17-19, 1992

ROSINAK, Verkehr als Nagelprobe der Raumordnungspolitik, Raum, 6/92, pp 33-35, 1992
Danish planning policies are concerned with issues which are certainly recognised elsewhere in Europe: decreasing densities in urban areas; urban sprawl (including recreation versus landscape conservation); regional disadvantages and peripherilization of sparsely populated areas with low accessibility; concentration to the highly accessible centres, especially to Greater Copenhagen and the regional capitals; segregation processes within the larger cities; network development and increasing international accessibility; ecological problems, especially those associated with increasing use of automobiles. Sustainability is a keyword and defines a society where economic growth and development of the cultural landscape takes place without threatening fundamental conditions for the coming generations. Another key aspect is the advancement of democratic processes and the balance of top down and bottom up political processes. Finally, there is a growing interest in urban and regional marketing and strategic planning. In short: the transformation of society from manufacturing via services to information, creativity and ecology. One could say that the transformation process of Denmark is at a stage where the fixed environmental expenditures from production are under control and the environmental expenditures from flows are not.

Control over the land and planning its use is of major concern together with network planning issues. The turbulent years of transformation in the 1960s resulted in a matching of the organisation of the planning machine with zoning as the main instrument. The current transformation of society demands a new organisation of the machine so that it can react accordingly to contemporary problems and policies.

Only two large scale Danish physical plans have attracted international attention. They are both anchored in the metropolitan area of Copenhagen. One is the regional development plan from 1949, the so-called Finger Plan. The other is the construction of a fixed link between Denmark and Sweden with regional integration as main objective. It is interesting to note that the first one was presented long before the establishment of a planning machine, and the second one was forwarded after the planning machine was put into low gear.

1. The 1963 referendum on zoning, planning and expropriation bills

During a period of economic growth and transformation in the 1960s, there was a clear demand for establishing a modern planning system. This was formulated in a series of bills on planning and land policies. In Parliament the minority Liberal side was against the complex of bills, the majority Social Democratic side was in favour. The minority demanded a referendum because of the proposed expropriation bill as expropriation bill proposals opens up for this possibility.
The whole complex of bills was voted on in this referendum, and the voters said no. This meant an effective barrier for political actions in the direction of improved planning, but also led to the subsequent necessary large-scale reformation of the whole system of government.

2. The pre-reformation of government

The pre-1970 system counted around 140.0 municipalities with very different types of arrangements, responsibilities and financing. One set of rules was exercised for rural municipalities, another for towns. Suburban municipalities had their own type of organisational systems, and in the four largest towns again a completely different form of government was implemented. In addition, some municipalities had special arrangements. At the regional level 25 units, which only functioned outside the towns, were ruled by a mixture of national government civil servants and regionally elected politicians. The system was run by taxes on all levels combined with multi-level expenditure sharing and downward flow of special expenditures.

3. Organisation of the general system of government and planning

Danish government is organised in a three-level hierarchy: national, regional and local government. Outside Greater Copenhagen the system of government was established in 1970 and consists of 225 large municipalities (towns with local hinterland) and 12 regions (regional centres with hinterland). In Greater Copenhagen the almost century old pattern of administrative units is still in effect, with 50 municipalities and 5 regional units. All parts of Denmark are covered by municipal governments and all municipalities are covered by regional governments. Apart from Greater Copenhagen, the rights and duties of the different local governments are equal, and the same applies to the regional level of government. There is a high degree of decentralisation of responsibility and control of land-use and structural planning combined with centralised sectorial planning for a mix of infrastructure including railroads, main roads, airports and harbours. The national system of government is financed by local, regional and national taxes. Expenditures are paid by the responsible local, regional or national unit. In addition there is a "downward" flow of money from the national level to regional and local levels according to a set of rules and to political decisions. Of the total GNP 50% is privately used, 20% is used on the national level, 10% on the regional and 20% on the municipal level. The post-1970 system is a hierarchical one with a high degree of decentralisation.

4. Transportation planning and land-use planning

Sectorial plans on the national level include plans for railroad networks, highways, airports, major harbours, major lines for electricity, natural gas, telephone, high tech, and petrochemicals. These plans determine the location of major networks and units within each system. As a rule, everything is negotiated with the involved regional and local authorities. On the regional level, general plans are elaborated and renewed. They include structural plans for the above mentioned sectors in accordance with the national plans, and land use plans for the location of future development and for the use of non-urban land (recreation, agriculture).
They also include zoning of all land. The municipal level works out local plans. These include structural plans, zoning decisions, land-use plans and detailed plans for urban areas (renewal) or for new developments and also for open land. As a rule, local plans are controlled by local authorities, general plans of municipalities are controlled by regional authorities, and regional plans are under the control of the Ministry of the Environment. As the three levels of government are also operators and entrepreneurs, there is unclear de facto sharing of responsibility, although the system de jure is defined quite clearly. The system is designed to provide transparency vis-a-vis the public, and includes low impact hearing procedures.

5. Greater Copenhagen: an exception

Comprehensive planning in Greater Copenhagen started in the forties, largely inspired by British town planning. The initiative was private and the 1947 regional plan for the structure of Copenhagen and the location of different land uses never attained legal status. Nevertheless, the "Fingerplan" played a major role, because practically all decision makers concerned with urban development agreed with the plan. The plan called for outward growth of the million inhabitant centre of Copenhagen along five fingers, each in the direction of other towns with settlement structured by new commuter train lines and highways. Land uses were controlled such that jobs were centralised while housing and local services were decentralised. Strict zoning secured that the green areas between the fingers would remain green. In time the plan started to erode. Economic growth seemed inevitable, growth in business land consumption was rising, families decreased in size and increased in square meters, in-migration from rural areas turned out to be higher than expected, business activities started to decentralise to the finger areas, and local politicians gave way to industrial land use in the green areas between the fingers.

By 1960 the population reached 1.5 million and the national government made a new and revolutionary plan for Greater Copenhagen. This was a high growth plan which provided for the establishment of a new hand to the west of the existing Copenhagen hand. One million new inhabitants and large-scale urban renewal were major elements of the new plan, which had very little impact due to the 1963 referendum on planning laws (see below). Growth continued nonetheless and a new south finger was added and developed by national laws and by nationally appointed agencies.

In 1974 the Greater Copenhagen Council was established for the 1.7 million residents of the metropolitan area, and a relatively weak type of regional government was introduced. A new regional plan followed in 1972. It was a structural plan, a land use plan and a zoning plan, and entailed yet another revolution. Halfway out in the fingers a new infrastructural zone around Copenhagen was to be established with major motorways, railroads and other new networks. Growth was to be concentrated to the nodes where this zone and the fingers intersect. Instead, Copenhagen's population stagnated: the population remains 1.7 million today. The regional plan did influence the location of some new activities, but space in the older areas was abundant and the significance of the regional plan dwindled in time.
In 1989 the Greater Copenhagen Council was discontinued. Regional plans are subsequently made by five regional units sharing the metropolitan area. The current regional plan for Greater Copenhagen is an enlarged version of the Fingerplan combined with a reorientation in the direction of the coming bridge to Sweden (see below). Lack of regional government is evident.

6. Cross national metropolitan development in the Oresund region

The planned bridge between Copenhagen and Malmo on the Swedish side of the Sound, combined with Swedish entrance into EU, open up for development of the first cross-national integrated large-city region outside the European centre. A fusion of Greater Copenhagen and the Malmo-Lund agglomeration gives the two hitherto non-interdependent urban economies access to more specialisation and opens up for co-operation as yet unforeseen. Synergy will be an obvious consequence. To this change in growth potential will be added effects of optimism and of increased world interest associated with the event itself. Large-scale engineering and construction projects are of international interest, and a fusion of two agglomerations which cooperate very little at present is a world-class event. In many respects Copenhagen together with the South Scandinavian centres are expected to experience increased economic growth when the fixed links between Scandinavia and the European continent are in place regional organisation can be integrated.

The construction of the bridge is a mega-event in itself, but using the event as a tool in strategic planning is a challenge. The turbulent situation as regards all planning issues renders the region status as laboratory on a scale of 1:1 for creating new institutional arrangements for management and planning. This will highlight innovatory co-ordination arrangements between the different types of planning institutions in the Oresund region, in order to formalise their relative adoption to interaction mechanisms, and to assess their effectiveness in relation to the context and effects of their implementation. Development of the large crossboundary infrastructure is going to alter the spatial organisation of the territory, which again will encourage cross-border collaboration in institutional planning processes. This will activate creative and innovative new arrangements for co-ordination which correspond to innovations as regards institutions, procedures, management or any public action tool explicitly in charge of the co-ordination between sectorial planning on the one side and environmental/regional planning on the other.

7. The Brundtland report and its impact on planning ideology

This report has had a clear impact on governmental behaviour in the 90's. The messages in the report were by no means new, but they actualised and underscored the importance of environmental concern. Sustainability became a leading motive in public planning. Transport planning should not only focus on flows and network functioning, but also on sustainability to create a new balance between development and environment. The task is to develop and change the total system of transportation so that the necessary mobility can be obtained inside limits defined by consideration of consumption of resources and environmental strain, e.g. in terms of energy, climate, air pollution, traffic accidents and noise. These types of arguments
have been forwarded by a series of reports from ministries of environment, planning, traffic and communication. This environmental or ecological profile is penetrating into planning organisation at all levels but is still far from having succeeded. One example of this is the considerable reduction of private car traffic in the city centre of Copenhagen without any decrease in urban core activities: on the contrary, there was an unforeseen rise in the number of people using the carfree public space.

8. Strategic planning

Marketing (demand) orientation and strategic planning have been brought to the fore during the late 1980s and are playing a growing role. To traditional urban marketing have been added regional issues with the main goal of increasing the international competitiveness of the region. The Ørestadsplan of Copenhagen is the first and only example of a comprehensive development plan for an area subordinated to strategic objects. The strategic object is formulated as advancement of regional productivity in order to give Copenhagen a better platform in international competition with other metropoles. To that end, a large area of highly accessible open land in physical proximity to both the city centre and the airport is in the process of being developed. Large investments in infrastructure including a new light rail system are in progress, and a mixture of metropolitan functions with residential land use is planned for according to a comprehensive plan derived from an international architectural competition.
1. General

After the Second World War Finland entered a period of rapid development and infrastructure construction. Much housing was built for displaced families and war veterans, and parts of the main road network and secondary road network were also renewed at the same time. The main roads were still in rather poor condition in the 1950's, and most of the main road network was renewed in the 1960's and 1970's. In the early 1960's Finland also removed its import quotas on cars, which resulted in rapid motorization of the country. In the beginning of the 1960's there were 200,000 cars in Finland, while today there are over 2 million. During the most recent decades, integration of traffic planning and other community planning has been an important task in the quest to make Finland a well-balanced country built on the principle of sustainable development.

2. Land-use planning and traffic planning

2.1 Legislation

In the 1950's the outdated Town Plan Act of 1931 was renewed, and the new Building Act became effective in 1959. The Building Act covers both building and land-use regulations. It prescribes two types of general plans; a regional plan and a master plan, and three types of detailed municipal plans; a town plan, a building plan and a shoreline plan. The plans form a hierarchical system, where the more general plan controls the more detailed plan. The regional plan is used as a guideline in drawing up or revising the municipal plans; the master, town, building and shoreline plans. In practice, the plans are compiled in co-operation with other types of land-use plans and traffic plans.

Roads are built based on the Road Act of 1954. The relationship between the Road Act and the Building Act is mainly defined in § 10 of the Road Act and § 26, 30 and 78 of the Building Act. According to the Road Act, a road should not be built where it hinders the realisation of an approved or ratified town, building or shoreline plan. Other land-use plans, such as general regional plans and master plans, should also be taken into consideration whenever possible. The Building Act decrees that authorities planning land-use activities and deciding on their implementation should make sure they do not hinder the realisation of regional and master plans. The Road Act and Building Act are in the process of being renewed, and co-ordination of traffic and land-use planning is one of the main items in the renewed draft.

The most important law affecting land-use planning and traffic planning is the 1994 law on assessment of environmental impact. By means of this law, Finnish
legislation was updated to meet EU directives and the general agreement approved by the European economic commission in 1991.

The purpose of the law on assessment of environmental impact is to increase evaluation and uniform consideration of environmental impact in planning and decision-making processes, and also to increase public awareness and participation. The act defines environmental impact as the direct and indirect effects on the environment brought about by the activities and projects. The decree defines the projects that the act is applied to in more detail. Traffic projects mentioned by the decree include construction of divided highways, motorways, long-distance railways and airports with a main runway longer than 2100 meters. The assessment methods can also be applied to other similar projects at discretion. Adequate studies and assessment of environmental impact should also be carried out in plans and programs introduced by the authorities that may have notable effects on the environment. In practice, the law on assessment of environmental impact has led to development and application of environmental impact evaluation, not only in traffic projects, but also in traffic systems. Studies have also been made to determine the content and compilation process of impact assessment studies needed in conjunction with the various types of plans. The goal is to take environmental impact into consideration as early as possible.

2.2 The main characteristics of land-use planning.

Regional planning in accordance with the Building Act began in Finland in the 1960's and 1970's, which coincided with a rapid increase in road planning and construction. At that time, road planning and construction were strongly under the control of that administrative sector alone. When regional planning prescribed by law began in the 1960's, it was only natural that problems initially arose. Other land-use forms and needs had to be taken into more serious consideration in locating new roads. The role of regional plans and master plans as integrators of different activities was not yet realised. However, the road planning process changed so that road authorities participated in regional and general planning processes, and brought forth their own needs and views regarding land use. This principle is still in use, and the role of master plans has become even more important in the 1990's.

The regional planning process in Finland was organised into two parts at the end of the 1970's. It includes a regional strategic plan and the actual regional plans. The regional strategic plan presents the long-term and intermediate-term development strategies and goals of regional development. They form the basis for the development of regional policy and regional structure and land use. The time span of a regional plan is 10-25 years. It includes long-term traffic network development goals and a development plan. If necessary, the development plan is revised by a regional council of municipal decision makers.

The regional plan is a guideline for lower-level plans. It is a supramunicipal plan with legal effects on landowners. The regional plan designates long-term land reservations that are crucial to regional development. In this way national, regional and local land-use needs are taken into account and integrated. Regional plans are
drawn up as necessary. Regional plans ratified by the Ministry of the Environment cover about one half of Finland’s land area, and they include the main road networks.

2.3 Planning in accordance with the Road Act.

Traffic system planning is a part of long-term community planning. It covers the different forms of traffic and defines traffic-related goals. Traffic-related goals have been defined in Finland by the Ministry of Communications and Transport and a parliamentary traffic committee.

Today, the road planning process is closely linked to land-use planning. Project-specific road plans are a study of needs, a master plan, a road plan and a building plan. Project-specific planning includes decision-making that is divided into increasingly detailed phases, such as in land-use planning. The first decision is a project decision, which is made on the basis of a road network plan or a study of needs. The second decision-making phase, a decision on a measure, is made on the basis of a master plan, and a ratifying decision is based on a road plan. The above-mentioned phases are linked to the land-use planning process in that compilation of a road network plan and a study of need are a fixed part of road planning in a regional plan. General planning is linked to compilation of a master plan. The actual road plan, which specifies the final location of a road, is a detailed plan.

2.4 General development goals of planning.

According to §1 of the Building Act, a plan should be made for an area, or its use should be otherwise planned in a manner that saves natural resources and supports sustainable development. This affects all types of plans and all land use. Indirectly, through energy conservation goals, this means unnecessary traffic should be eliminated by unifying built-up areas that are spread out and by making them denser.

In 1990, a second parliamentary traffic committee defined Finland’s traffic policy up to the year 2000. This traffic policy was also based on the principle of sustainable development. Although it aimed at preserving people’s right to travel, it is also wanted to affect a reduction in the need to travel by means of planning, developing community structures and improving mass transportation. As far as freight traffic is concerned, emphasis was placed on co-operation between different forms of traffic. The committee also took note of the cost equivalence of different forms of traffic. The committee’s lines of principle have formed the basis for today’s traffic planning.

As it is apparent from the above, land-use planning and the traffic policy laid out by the parliamentary traffic committee and adopted in traffic planning aim at largely the same goals. Therefore, co-operation between land-use planning and the traffic sector is necessary. For this reason, a considerable amount of mutual research has recently been carried out by road planning and land-use planning. Furthermore, in its own standpoint on environmental policy and goals for the year 2005, Finnrna has embraced sustainable development in drawing attention to collaborative planning in the creation of regional and community structures, as well as integration of regional environmental programs in the planning.
3. Co-operation between traffic and land-use planning in the 1990's

3.1 The traffic network as a factor of regional development.

A few regions, such as Vaasa and Northern Kerelia, have based their traffic network development on regional development. Development has been based on the interaction between the road network and the communities, or the idea that the traffic network can support regional development goals. Studies have focused on the status and development of the road network from the viewpoints of the regional structure, in particular, such as the development and location of the central network, workplaces and services. The network of first and second class main roads and local roads is based on regions of municipal co-operation. As a result, most of today's main road network also serves retinal development well. However, in many places future traffic volumes will require changes in road capacities. This is especially true in urban areas, where the need to develop the road network is clearly the greatest. Traffic location indirectly affects the development of services and industry. Good traffic connections encourage commuting from farther away, which places a stress on the environment on the one hand, but alleviates other problems caused by the accumulation of growth in inner cities on the other hand.

In 1994, regional councils responsible for compiling regional plans were also given the responsibility for regional development. As a result, there are now more and better possibilities of realising planned traffic solutions and other traffic-related development projects.

3.2 Urban area traffic networks.

In urban areas there has been an awakening to the realisation that community structures have begun to deteriorate for various reasons. Traffic routes have splintered or modified the development of built-up areas. Commercial services have located near enticing intersections of traffic routes. The location of hypermarkets, in particular, on the outskirts of cities has increased passenger car traffic and slowed down inner city development.

Development of community structures is under study or development in many urban areas. It is based on the standpoint of sustainable development and a vibrant urban area. Sustainable development means, for one thing, an attempt to unify the structure of urban areas and reduce unnecessary traffic and wasteful land use. Traffic system development is a central factor in the development of the community structure of urban areas. Separate studies of traffic systems aim at better co-operation between different forms of traffic and traffic networks. Studies of city structures have on their part included logistical studies of regional traffic, which give an overall picture of traffic maintenance and the possibilities of rationalising passenger and freight transportation. Similar regional studies are made in conjunction with regional planning.
3.3 Traffic between and within built-up areas.

Co-operation between regional planning and traffic planning concerning the traffic network, which includes different forms of traffic, has been based on a classification of built-up areas. Up until the 1990’s, regional planning classified built-up areas every four years, based on development in their service capacity and population potential. The hierarchical system also meant that traffic connections were the best between the largest urban centres for all forms of traffic. They also formed the main road, railroad and air traffic networks. The road network was classified into functional classes of different levels, of which, for example, first and second class main roads had to pass through or near to municipal centres. Feeder roads connected smaller centres, making it possible to also flexibly arrange traffic services in the sparsely populated countryside.

Traffic networks were built according to the above-mentioned goal concept. Naturally development in traffic volume and other needs to develop traffic networks due to internal traffic development were underlying factors. Integration of the road network with land use has caused the most problems. One example is the routing of main roads in rural built-up areas. Traditionally, the roads passed through the built-up areas. Traffic volume increased in the 1960’s and 1980’s, and traffic safety and fluency made it necessary to find other types of solutions. In some localities, main roads that passed through built-up areas were improved in their existing locations, breaking up the milieu and structure of the built-up areas by implementing building methods and standards customarily used in rural areas. In other places, by-pass roads were built so far from the built-up areas that their development began to slow down.

Environmental factors and a correct perspective in road network improvement will continue to be an important factor in improving the road network in built-up areas. On the other hand, the goals of environmental protection and the cultural environment will require even more detailed traffic planning that takes all factors into consideration.

4. Studies and planning for the future.

4.1 Traffic flows and traffic flow models

Extensive passenger traffic surveys are periodically used in Finland to study the daily travels of the population. The latest study was made in 1992. These studies provide reference information about development in the number of daily trips, travel behaviour, the purpose of travel, the manner of travel, etc. For example, the distance of daily travel was 51 km per person in 1992, which was 22% more than in 1956. Traffic flow information is exploited in long-term traffic network and regional planning. In 1994 a nation-wide passenger traffic model was constructed as a cooperative effort between various quarters. The model is used in evaluating traffic systems, traffic networks, various activities and needs for development at the national level, and it has also been applied at the regional level. However, the model needs to be modified if it is used in planning inside city areas. The model is comprised of trips between and within municipalities categorised by mode of travel,
including walking. An ongoing project between Helsinki and Tampere will provide more insight into applying the model in regional planning.

The interaction between traffic and land use has been studied in certain urban areas by means of a Meplan model. Certain economic factors such as working, living, services etc..., are studied to provide background information. Supply and demand create certain preconditions for the location of different activities. Land use and changes in working places are also taken into account. With the traffic and land-use model it is therefore possible to estimate not only traffic, but also probable changes in land use that may result from actions dictated by traffic policy or land-use policy, such as traffic investments, parking fees, taxes, etc. The model has been applied in a traffic system study of the Helsinki area. It helped in obtaining information that could not have been otherwise. However, the background information of the model still needs improvement. The most important result of the "Capital city area traffic system 2020" project was a vision and outlook of a regional traffic system that functions as a base for further studies of the interaction between traffic and land use in conjunction with the compilation of regional and master plans.

Similar urban area traffic system development projects have been and presently are being carried out in collaboration with land-use development and planning in several urban areas. Traffic system development involves integration of community, traffic and road policy questions at both regional and local levels.

4.2 The effects of traffic route projects.

In planning traffic routes, many kinds of studies need to be made in order to evaluate their profitability. In addition to the need for information directly related to traffic, evaluations are made of environmental impact and even local economic and industrial and commercial development. A comparison of projects involving different forms of traffic or of different networks requires uniform evaluation criteria. A suitable calculation model (YHTALI) was created in 1994. The main components of the model are: a socio-economic profitability calculation, supplementary studies, and the distribution effects and financing of the network or project. It is important from the standpoint of the national and local economy that profitable projects are selected for the realisation. The many environmental effects on nature and local land use are also extremely important. Therefore, relevant studies are appended to the economic calculations to form a basis for decision making. Because of its economic calculations to form a basis for decision making. Because of its economic and various environmental viewpoints, this research is of definite importance in integrating the needs of traffic and land use. Furthermore, in large projects the law on assessment of impact requires separate evaluation of the effects on the environment.

4.3 Decision making

The planning process is open to all quarters. Each citizen has the right to voice his/her opinion and, if necessary, appeal the decisions included in the plans in several intermediate courts all the way to the Supreme Administrative Court. By
making appeals during the regional planning process, private landowners and authorities are able to influence whether or not a plan is ratified in the form that was originally proposed. The openness of the planning process also means that decisions and alternatives that come up during the course of the process are made public; final approval is given by the municipal bodies. Regional plans are approved by a regional council selected by the municipalities in the area. Master plans and detailed plans are approved by a municipal council. Finland has 20 regions and 455 municipalities. The highest planning authority in Finland is the Ministry of the Environment, which ratifies regional plans and certain master plans and detailed plans.

Traffic planning belongs under the administration of the Ministry of Communications and Transport. Nationally important plans are decided on by the Ministry of Communications and Transport, regional plans by Fihnra, and local plans and other road plans affecting one municipality, by the districts. There are 9 districts. Road-related decision-making was renewed in 1990. The system includes the following plans, which are separately decided on as the process advances: road network development and basic plans, project-specific studies of needs, a general plan and a road plan.

In practice, the above-mentioned phases of road planning are linked to land-use planning, although the road authorities themselves make the decisions regarding the road plans. Cooperative planning has been quite successful at the regional level. Studies dealing with regional planning and road network development needs as well as routing of mains roads are carried out as collaborative efforts. Naturally, some research has to be done at the master plan level and road project general planning level.

Lately, special efforts have been made to join built-up area master planning with general planning of roads in the area. In this way the legal effects of the routes can be finalised through the ratified plan. Correct timing of land-use planning and road planning and road planning is crucial for co-operation, and therefore it is one of the main matters that have to be resolved. Solutions that satisfy both planning parties and other interest groups can be found through cooperative planning, provided that adequate time is allotted for making sufficient studies and alternative proposals. This also prevents conflicting solutions from reaching the decision-making phase and delaying project realisation.
Everyone in France likes to speak of procedures in terms of unity, coherence, and intersection. But it has only been for about the past twenty years that co-ordination between transportation projects and regional planning has been thought of as a problem with a solution. Before that, the link between town planning and transportation was more or less explicitly considered an automatic mechanism.

1. Regional planning and development

In the case of regional development, the following postulate was taken to be self-evident: the construction of transportation infrastructures resulted in structuring effects on territorial organisation. Today, extensions of the highway system, and high-speed train connections, are still based on this rhetoric. It has only been very recently that a critique of structuring effects has begun to be admitted by decision-makers – by a few of them, in any case. The results of follow-up studies done on the Paris-Lyon high-speed train line have played a considerable role in this change of attitude.

Since then, more emphasis has been placed on support mechanisms and on taking full advantage of potentialities. Assessment and evaluation are presented as aids to the management of change. But these conceptual evolution have not until now altered what really occurs in practice, for lack both of truly innovative methodological translations of them and of ad hoc institutional frameworks.

The “Guidelines for Regional Planning and Development Act” (Loi d’orientation pour l’aménagement et le développement du territoire), passed on February 4, 1995, provides a universal way for taking into account reciprocally all of the foregoing plans: sector-based infrastructure plans among each other (a multi-modal approach), national plans for development with infrastructure plans, etc. An observation of how this is put into practice makes it possible to evaluate the effectiveness of the intellectual ambitions involved.

2. Transportation and urban development

The history of the attempts to coordinate transportation and planning turns out to be even more informative on the urban level. It began in 1967 with the passing of the “Property Guidelines Act” (Loi d’Orientation Foncière, LOF), which set up a double planning system for urban development projects and transportation, with both temporal and spatial aspects planned out as schedules. In the context of a still-rural country trying to increase the availability of building sites, a mechanistic
representation of the relationship between transportation and urban planning was formalised in the LOF: urban growth created a need for urban travel, which in turn needed to be accomplished in terms of new infrastructures. The Master Plans for Town Planning and Development (Schémas Directeurs d'Aménagement et d'Urbanisme, SDAU), provided the socio-demographic elements necessary for the traffic models of the Preliminary Studies for Transportation Infrastructure (Etudes Préliminaires d'Infrastructures de Transport, EPIT). Once the ideal dimensions of the infrastructures had been worked out, the controls necessary for the infrastructures thus planned could be set aside in land-use plans (Plans d'Occupation des Sols, POS).

However, the petroleum crisis in 1974 put an end to this carefully constructed edifice, since highway investments were cut back drastically. At this point, a procedure originally put into operation to optimise traffic control, for lack of new road construction, would be transformed and used instead as a planning and development device. These “traffic plans” in fact, made it possible to obtain financing for a large number of pedestrian zones in downtown areas. Throughout the seventies, the renewal of mass transit went hand-in-hand with repeated appeals for a unified approach in the coordinating of transportation and town planning, within the transportation sector itself (as the notion of traffic circulation was transformed into that of trips, or mobility). Some institutional experiments were tried out here and there, such as the Office of Co-ordination of Transportation for the Greater Marseilles Area (OCOTRAM). In 1981, the National Federation of Planning Agencies held its annual meeting on the theme: “Urban Planning - Mobility - Transportation,” while the Centre for Study of Urban Transportation, a research agency of the Ministry of Public Works, worked on the evolution of traffic plans.

These reflections all contributed to passing the 1982 “Guidelines for Domestic Transportation Act” (Loi d'Orientiation des Transports Intérieurs, LOTI), which was prepared by the Minister of Transportation Charles Fiterman (Communist Party). This law provided for setting up the Plans for Urban Mobility (Plans de Déplacements Urbains, PDU), which were intended to orchestrate the organisation of movement within the cities.

The implementation of the PDU's was difficult from an administrative point of view, and not credible politically. During the 80's, the French Agency for Energy Control (Agence Française pour la Maîtrise de l'Energie, AFME) would continue, albeit alone, to argue for taking accessibility issues into account in urban planning documents.

Procedures like “Living and driving in the city” attempted a novel kind of intersection between the preoccupation of highway safety and the development of collective areas, in order to bring about urban “re-valorisation”. The success of subway and streetcar projects in cities other than Paris gave weight to the argument that transportation might be an excellent tool in city planning and development.

Since the beginning of the 90's, the State seems to have updated its discourse on coherence, through an implied criticism of the policies of local government, which
finally attained a certain liberty of action after the French decentralisation laws were passed in 1982-83. Several official government circulars (on the financing of public urban transportation in exclusive right-of-way lanes, studies on streets in built-up areas (Dossiers de Voirie d'Agglomération, DVA), etc.) have emphasised the necessity for unified approaches.

Finally, a very recent bill on air quality — it was done by the Ministry of the Environment, the Ministry of Public Works not having expressed much enthusiasm for the job — has brought the PDU's back into favour, making them a requirement in cities of more than 250,000 inhabitants.

3. Procedures, institutions, and informal relationships

This brief historical survey has shown that procedures, in France, represent the preferred tool for the determination to coordinate transportation and urban planning. The way procedures operate is two-fold. On the one hand, they provide an opportunity for negotiation and dialogue for the various institutions involved: everyone can sit down together and exchange information. On the other hand, they make it possible to work out a representation of the future, around which all actors' strategies may be adjusted. This production of coherence evidently implies a number of conditions, linked to the characteristics of the system of action, the nature of the projects, the mechanics of partnerships, and so on.

The creation of ad hoc technical or political agencies is a second option. This solution is constantly referred to in France, where there is a persistent notion that the splitting up of the country into 36,000 communities has led to an inefficient dissociation between operational space and regional institutions. The director of a town planning agency has thus called for “sufficient political unity over the relevant territory to bring about simultaneously integrated planning of mobility and town planning.” There are, indeed, three kinds of fragmentation in question: territorial (the political-administrative boundaries), temporal (the heterogeneity of decision-making schedules), and sector-based (how technical-political responsibility is shared out). In the 80's the authorities whose job it was to organise transportation (in general intercommunal authorities, i.e. urban communities, districts, single- or multiple-vocation syndicates, etc.) had requested an extension of their powers, limited until then to public transportation alone – to include the entire issue of urban mobility. By giving municipalities (towns, city officials) the possibility of cooperating in the form of “communautés de villes” or “communautés de communes”, the Guidelines Act relating to regional administration, dated February 6, 1992, partially fulfilled this wish. Indeed, in the urban setting, “communautés de villes” can group together the powers both of actual physical planning and of “creation, development and maintenance of city streets, plans for urban mobility and urban transportation.”

But it is important here to emphasise that in France there are effective palliative measures for getting around the institutional fragmentation in the country, in the form of businesses which manage services. What may hereafter be referred to as the French model of urban services calls in private companies or semi-public companies.
belonging to large national groups; they are bound to the local authorities by contracts for delegated operation. With neither geographic or sector-based limitations on their field of intervention, these companies may be considered as subcontractors of coherence. Once again, however, this solution remains a potentiality, which has been exploited fully in only a few concrete instances. Nonetheless, the manoeuvrability provided by this traditional form of public-private partnership probably largely explains the extreme stability of the French local institutional landscape.

Following procedures and institutions, "informal" relationships should be mentioned. The conclusions of those in the field, like the analyses of researchers concerning the notion of governance, have made clear the importance of individual relationships and social networks in the handling of complex systems. This same diagnostic applies to co-ordination between transportation and town planning. This notion of "informality" in fact groups together types of social relationships which are perfectly codified but which bypass both institutions and procedures. Thus it has been demonstrated that, during the 70's, there existed a homogeneous professional community, which grouped together the technical experts of the Ministry of Public Works local agencies, technicians of the public transportation networks operating companies, and personnel from urban planning agencies. Relationships within various associations and work groups constitute, of themselves, opportunities for making contacts. Finally, the accumulation of public offices among elected officials (in spite of criticism to the contrary) is an efficient tool for coherence when thought out in functional terms.

In spite of their probably preponderant rôle in the successful coherence between transportation and town planning, these informal relationships and inter-individual arrangements for co-ordination are found more to be valid after the fact, than encouraged beforehand. It is a question of socio-political processes over which it seems difficult to intervene directly, producing few short-term effects, and the instigation of which would appear difficult to validate politically.

The State assembles procedures, technicians theorise in vain a working institutional design and the politicians try to transform into public policy the addition of numerous sector-based decisions. And everyone calls for coherence.

4. A hypocritical quest for overall coherence

The preoccupation with implementing coherence in public action, in transportation as elsewhere, do not come about simply as a result of managerial techniques. It is as much a question of working out the right tools for management as to bring out the issues attached to a quest for coherence. In fact, not everyone stands to gain from coherence...

Discourse about unity of action turns out, in fact, to be at least partially hypocritical. First of all, the existence of what one might call competing "unites of action" must be recognised: in the same way that the unity of "economic growth" might be preferred to the unity "environment", the plurality "how to deal with difficult
neighbourhoods (urban policies)” might win out over the plurality “policies of mobility”. In a world of limited rationality, to use Simon's expression, public action must give priority to certain actions. Those concerning transportation and planning have only rarely been at the top of the scale of political values in modern France.

Hypocrisy, next of the central administrations. The “bureaucratic” model does not encourage communication between sectors. Thus, the ambitious intentions of the LOTI, which were nevertheless bolstered by strong political dynamism, were not able to reform the structures of the central departments of the Ministry of Public Works in favour of more inter-modal approaches. The only public services which “mix” questions of transportation and town planning are those known as task services: the General Plan Commission, and the DATAR (Delegation for National and Regional Planning and Action). These bodies do produce studies and give advice; they do not make decisions.

At the local level, finally, the excessive fragmentation of institutional responsibilities does not produce only disadvantages. The “Transportation Tax” for example, a payment collected from businesses, gives the elected officials in charge of mass transit a relative, but nonetheless very real, financial autonomy with respect to their colleagues, which is indeed appreciable. These are the perverse effects of allocated funds, the use of which does not imply arbitration. City mayors are the supreme integrators of local policies; but, in the end, they are given few opportunities to take action on questions of citizens’ travel behaviour, other than for promoting large infrastructure projects. More generally, the internal games of local French politics have produced a marked division between the technico-political areas, and have encouraged individual initiatives with one person responsible for each. Investments over management, projects rather than policies: but isn't this the way it has always been?

Given the dispersal of responsibilities, “co-ordination” jobs are simply multiplied endlessly: sub-prefects in the city, heads of projects, delegate project managers. As part of the pact for getting started again (Pacte de relance pour la ville), presented by the Prime Minister in January 1996, a call for projects (Public transportation and urban integration: projects for “partners for the city”) has insisted once more on the indispensable overall vision necessary for the approach and has advocated the designation of one single “project head” in the cases where several project managers have been associated. Even so, it is still necessary that these technicians or administrators in charge of coherence possess sufficient legitimacy with respect to the elected representatives.

5. In search of ideology

The French situation appears paradoxical. In the 70's, the combination transportation-town planning was, in the final analysis, quite well fulfilled, without the procedures created for this having been actually used nor ad hoc institutions set up: it was the integrating force of doctrines and the professional culture of the moment which worked. For lack of recognising the importance and efficacy of “informal” relationships in the construction of coherence, the 80's placed their hopes
in vain in disembodied procedures and institutions. Today, whereas the State and local authorities quarrel about the burning obligations they all have to be coherent, procedures and institutions seem to have receded to their proper place: a framework for action, and a support-mechanism for transaction. Still, they must find users, inspired with projects and doctrines, that is, with intellectual models which put the ends together with the means. Technical and political...

6. Bibliography


Gonthier V., "Politiques de planification urbanisme - déplacements : le cas de la région grenobloise", TEC n° 118, mai-juin 1993, pp. 38-42.


