



Summary of projects and results from topic  
**Transport Planning and Land Use**

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## **Transport Planning and Land Use**

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# 1. INTRODUCTION AND METHODOLOGY

This report has been compiled by **TRADEMCO** to summarise the conclusions of the activities undertaken on the key topic **Transport Planning and Land Use** as part of Work Package 2 of the PORTAL project.

## 1.1 Methodology

The objectives of Work Package 2 were to analyse projects and topics as well as research networks with regard to the key topics chosen; to identify participants of EU-research projects which have the qualifications to act as guest lecturers and to identify demo-sites which have been developed in EU-research projects and which could be used for study visits. As mentioned above the key topic of TRADEMCO was Transport Planning and Land Use.

The methodology followed to accomplish these objectives was to collect all necessary information by using the appropriate sources. For each allocated project of the specific key topic, primary information was collected using the internet and specifically the database of the European Community, the CORDIS (Community Research and Development Information Service) database. Using this database, it was possible to trace the names and contact information of the persons responsible for the project as well as a brief summary and the objectives of the project. For some of the projects, especially those already completed, information about deliverables was given.

Other databases available for collecting information are the ELTIS (European Local Transport Information Service) database and “the European Union On-Line” web-site, which contain information about transport amongst various other things.

Information found in the above-mentioned three databases were used as the primary base for data collection. Further detailed information was collected from the web-sites of those institutes/universities/ consultancies that participated in each project. A web-site address is very useful because it contains detailed information about the institute and its research areas, sometimes contains detailed information about its employees (Short CV, areas of research, publications etc) and the projects (brief summary, objectives, results, deliverables etc) and it may be linked to other web-sites.

When no website was found or when deliverables and reports were restricted to project partners, we sent an e-mail to the project co-ordinator explaining the purpose of PORTAL and the reason for collecting the materials for this project.

Any information pertained from the CORDIS and “the European Union On-Line” web-sites was subject to a disclaimer and a copyright notice. Such a disclaimer and/or a copyright notice was not “marked” in other websites.

### **Problems encountered**

Not all information given by CORDIS database for the contact persons was correct, especially if the project had been completed some years ago. Possible errors occurred in terms of names (either of the institute or of the contact person itself), telephone/fax numbers and e-mail addresses. A web-site address for each of the project partners’ was rarely given.

When using the ELTIS database, information was found only for the TRANSLAND project and in particular for some case-study cities where the objectives of this project were applied to. When using the “the European Union On-Line” web-site, information was found for some of the key topic projects and in particular for EUNET, DANTE and TRANSLAND.

In a number of cases, the information given in the respective web site was in its native language, therefore it was impossible to be read (this applies for any other language besides the English language). This phenomenon was more frequent when the web site belonged to a local authority, city council, municipality etc.

It was not always ease to get response from former project co-ordinators after a project has ended.

## 2. TRANSPORT PLANNING AND LAND USE

### 2.1 Description of the key-topic “Transport Planning and Land Use”

The key topic “Transport Planning and Land Use” although sounds general, is rather complex since it covers various aspects related to it. The two main aspects according to ELTIS are the general spatial and land use patterns that have an impact on transport volumes and the spatial/land use requirements of transport infrastructure. The first aspect is related to growing sub-urbanisation and urban sprawl, which have led to increasing dependencies on the private car and to substantially increased trip lengths. Widespread ownership and use of cars is also related to this phenomenon. The second aspect requires us to distinguish between different transport modes, which have varying land use requirements. In urban areas, spatial needs of transport infrastructure are usually considerably higher than in rural areas and rise up to around 10%-15% of total land use.

This key topic will cover the issue of transport and land use policies generally and in particular for increasing urban sustainability; the reduction of travel demand in Europe; the socio-economic and spatial impacts of transport infrastructure investments and transport system improvements; procedures for recommending optimal sustainable planning of European city transport cities and generally the correlation between transport planning, land use and sustainability.

Projects that were allocated to the key topic **Transport Planning and Land Use** are:

- **DANTE**: focuses on designs to avoid the need to travel in Europe in terms of mode, time and destination switching as well as in terms of trip substitution and avoidance.
- **EUNET**: development of a comprehensive method for modelling and assessing the socio-economic and spatial impacts of transport infrastructure investments and transport system improvements
- **PROPOLIS**: research, development and testing of integrated land use and transport policies, tools and comprehensive assessment methodologies in order to define sustainable long term urban strategies and demonstration of their effects in European cities.
- **PROSPECTS**: guidelines and procedures for generation of optimal land use and transport strategies to meet the challenge of sustainability in European cities and their particular circumstances
- **TRANSLAND**: analyses innovative policies for integrated transport and land-use planning at the urban level and the related enabling institutional conditions.

- **TRANSPLUS:** identification of best practice in organisation of land use and transport measures in order to reduce car dependency in European cities and regions and promotion of economic, social and environmental improvement.

## 2.2 Results of COST 332

COST 332 is not a project. It is the Action 332 of the programme COST. COST is the acronym for the “European co-operation in the field of scientific and technical research” programme. The objective of the programme is to evaluate innovative institutional co-ordination arrangements, which contribute to greater coherence between the decision-making processes in the fields of transport and regional planning with emphasis in local effect. COST 332 aims to promote better understanding by public authorities of the potential and conditions for successful co-ordination between transport planning and land-use policies, in order to avoid the many costly dysfunctions resulting from the absence of spatial and temporal coherence between sectorial policies. Twelve European countries participated in this programme: Austria, Belgium, Czech Republic, Denmark, Finland, France, Italy, the Netherlands, Slovenia, Spain, Switzerland and United Kingdom.

The only available **material** of this Action is the proceedings of the inaugural COST Action 332 colloquium held in Barcelona on 24<sup>th</sup> and 25<sup>th</sup> October 1996. This material is available through the CORDIS database at <http://www.cordis.lu/cost-transport/src/cost-332.htm>.

The objective of the colloquium was to put together a common body of theoretical and empirical references likely to facilitate the Group’s work on “institutional means of co-ordination between transport projects and regional planning” in the years to come. The name of the experts and their respective contact information (postal and email address, phone number, web-site) can be found in the database. Each expert presented the results from the implementation of innovative co-ordination arrangements and interaction between transport and land-use policies in their city.

This project is related to COST 616 (Mobile Sources of Urban Pollution) and 4<sup>th</sup> Framework Transport RTD Programme – Urban Sector (SESAME, LEDA, DANTE projects).

**Experts** could be considered the speakers/authors of the articles presented in the seminar. These are Jean Marc Offner from the Ecole Nationale des Ponts et Chaussées, France who was the chairman of the seminar, Lidia Diappi from the Politecnico di Milano and Christian Wichmann Matthiessen from the University of Copenhagen who were the two vice-presidents of the seminar, and the rest of the speakers: Torsten Hägerstrand from the Lund University; Sweden, Simon Guy from the University of Newcastle, UK ; Simon Marvin from the University of Salford, UK ; Vincent Kaufmann from the University of Lancaster, UK ; Michel Bassand from the

Ecole Polytechnique Fédérale de Lausanne, Switzerland ; Christian Lefèvre from the Université Paris-Val de Marne, France ; Rosa Junyent Comas from the Universitat Politècnica de Catalunya (Barcelona), Spain and Carlo Sessa from the -Istituto di Studi per L'Integrazione dei Sistemi, Rome, Italy

COST332 did not have any demonstration sites, therefore no study sites to visit. However, there are four case studies that could contain interesting information for the aim of the project. These are the assessment of French administrative procedures to ensure the consistency of road projects with urban land-use plans; the study of the planning institutions in charge of managing the spatial effects of the Oresund bridge between Copenhagen and Malmo; the assessment of a new legal provision in Italy, “agreement of programme”, aimed at fostering concentration between local bodies involved in transport and land-use policies and finally the assessment of the “plan Delta” programme in Barcelona, which groups a set of land-use and transport projects.

There are no **leading educational institutes** for this programme.

### **Results of the project**

COST332 has produced:

- literature based studies of institutional arrangements for co-ordination, and of interactions between transport and land-use policies, including comparison and validation of national approaches
- case studies (around ten) involving the selection of institutional arrangements for co-ordination, assessment of case study feasibility, inquiries, comparison of initial results and drafting of case study reports
- synthesis of the case studies and inquiries, leading to a theoretical model and operational conclusions and recommendations

### **Materials**

The available material is the proceedings of the meeting held in Barcelona in October 1996. In the proceedings, the reader can find information about thematic and disciplinary issues and difficulties in the co-ordination of public authorities initiatives; a comparison between 7 European countries in terms of institutional mechanisms available for co-ordinating transport and national and regional development; and the results of the 4 case studies. The available material, although of very high quality, is not appropriate for direct use within PORTAL because of the high degree of detail and processing of information. It needs some summarising so the results can be presented in a more didactic way.

## 2.3 Results of DANTE

DANTE is the acronym of the project “Designs to Avoid the Need to Travel in Europe”. Its aim was to evaluate the effectiveness of measures that can reduce the amount of travel including mode switching (from cars); time switching (from peak periods); destination switching (to closer places); trip substitution and avoidance. The purpose was to inform policy-makers on good practice.

Experts are Professor David Banister from UCL in UK who was the co-ordinator of the project; Professor Hugo Priemus from the Technical University of Delft in the Netherlands; Professor Rico Maggi from the Zurich University in Switzerland

There are no study sites to visit because the aim of DANTE was to carry out an intensive review of national and city data to determine changes in the pattern of travel (therefore data were collected from almost 100 cities) and then the assessment of the nature and scale of trip reduction strategies in five EU cities (Bristol, UK; Brescia, Italy; Enschede, the Netherlands; Aalborg, Denmark and Mytiline, Greece), Zurich and Bucharest.

The **leading educational institutes** involved were the University College of London in UK, Zurich University in Switzerland and the Technical University of Delft in the Netherlands.

### **Results of the project**

The project has produced guidance for selecting and implementing strategies to reduce the need for travel, particularly aimed at car use in cities. Some 30 measures were assessed on case study evidence gathered in different European cities. The results are summarised in the DANTE Best Practice Guide, aimed at urban decision-makers. The information is presented in a structured way, leaving the user the freedom to choose between different options.

The main finding is that travel reduction is most likely where several policy measures work together. For example, restraint on car use has proved successful when combined with promotion of alternative modes of transport, while pure reduction measures seem to have been relatively unsuccessful. The scale of reduction is often difficult to quantify, which will make policies difficult to justify. Also, it has been seen that restraint in one area of a city can lead to increased use of cars elsewhere (e.g. outside the city centre), unless policies are well co-ordinated.

Resource barriers (whether financial, human or physical) have been the most common problems, particularly for alternative modes. These have hindered implementation in almost 20% of the cases studied. Restrictions on car travel more commonly meet

social barriers. Land-use planning measures aimed at traffic reduction generally seem to encounter serious barriers.

The project concluded that push measures are essential – the perceived advantages of car use are so great that there will only be a minimal transfer from car driving, while car use remains unrestricted.

The most effective strategies for traffic reduction seem to involve the promotion of alternative modes. It remains to be seen whether trip substitution/avoidance and time/destination switching hold greater potential in the future, starting from a baseline of limited experience and success, or whether further investment in mode switching is the most cost-effective approach.

Public awareness messages are needed to encourage a change in travel behaviour, as well as providing information on the available alternatives. Authorities themselves, as employers, are in a good position to lead by example. This can be done through parking policies, provision of bicycle facilities and the use of teleworking methods.

It is important to co-ordinate policies (e.g. within a local transport plan) to reinforce the objective of traffic reduction. For example, measures to promote the efficiency of the traffic system need to consider the travel-encouraging consequences, and the creation of out-of-town centres (which encourage longer, car-based trips) requires careful control.

### **Materials**

One of the most important deliverables of this project was a good practice guide titled “Encouraging Travel Alternatives: A Guide to Good Practice in Reducing Travel”. The guide has been requested from Prof. Banister but there is no answer yet. The quality and usability of the guide for the purpose of PORTAL cannot be assessed for the time being.

The DANTE Final Summary Report is available on the Internet <http://www.cordis.lu/transport/src/danterep.htm>. However, it is of no special use for the purpose of PORTAL since it only presents a brief summary of the project.

There are a number of articles published related to the project (see the database under the worksheet materials) especially by Prof. Banister and his partners in UCL (University College London, UK). These articles have been requested from Prof. Banister but there is no reply yet. However, it is assumed that material from these articles could be summarised and is of direct use for the purpose of PORTAL.

## 2.4 Results of EUNET

The acronym of the project is EUNET-SASI. It consists of two subprojects: EUNET and SASI, which are brought together by a joint scientific committee. The two subprojects have the same overall objective but differ in their approach. We are only interested in the EUNET subproject. The title of the project is Socio-economic and spatial impacts of transport infrastructure investments and transport system improvements. The main objective of the project is the development of a comprehensive method for modelling and assessing the socio-economic impacts of strategic transport initiatives. The six specific areas of work of EUNET are: 1. to develop an innovative cost-benefit/multicriteria decision analysis methodology; 2. to develop a database of cost models of the transport system; 3. to develop a methodology for the measurement and valuation of socio-economic development effects and provide values where possible; 4. to develop indicators of regional accessibility and social cohesion; 5. to develop an operational integrated model of transport and regional development; and 6. to set up demonstration examples, in which all of the above themes will be drawn together.

Experts are Jin Ying from Marcial Echenique and Partners Limited in UK; Liana Giorgi from the ICCR in Wien, Austria; Professor Michael Wegener from the University of Dortmund in Germany on planning theory and planning methods; Professor Ian Masser from University of Sheffield in England on GIS; Professor Lafranco Senn of Gruppo Clas Srl, Milano, Italy on cost-benefit and multicriteria analysis for the evaluation of transport infrastructure; DR Michel Beuthe of the Facultes Universitaires Catholiques de Mons in Belgium on innovations in decision analysis for transportation initiatives and Professor Peter Mackie from the University of Leeds in England on transport investment analysis.

EUNET did not have any demonstration sites, so there are no study sites to visit.

The **leading educational institutes** involved are the Technical University of Denmark; the University of Leeds in UK; the University of Dortmund in Germany and the Facultes Universitaires Catholiques de Mons in Belgium, the University of Sheffield in England; and the National Technical University of Athens in Greece.

### Results of the project

Marcial Echenique & Partners (the main contractor of the project) have developed a model for the first demonstration example region, the “TransPennine” area of England. A second model has been set up for the Baltic Sea. The “TransPennine” model consists of 127 zones, including 92 internal zones that comprise Great Britain and Northern Ireland, 31 external zones which represent the other countries of the EU and other European countries outside the EU and 4 external zones for the rest of the world indicating the direction from where the commodity flows enter or leave Europe. The strategic transport model is multi-modal, network based, covering both passengers and freight. The “TransPennine” model will also provide a platform for experiments in

the two main areas of modelling research, on the Input-Output table and the treatment of employment/GDP gains from transport initiatives.

Current appraisal practice for major transport projects across member states were reviewed. The aim was to provide a full set of values for the EUNET appraisal tool. The first key finding from the Country Reports was that virtually all member states use CBA for at least one mode in the transport infrastructure planning process. It was decided that a European value set and a Country-Specific value set are necessary in EUNET. Overall, three demonstration projects were developed: one for the “TransPennine” area of England, one for the Baltic sea and one for Greece.

An EUNET assessment framework was developed. The framework had 3 main steps: 1. Decision tree: what are the project objectives, what criteria should be used to assess it and how are they connected; 2. Weighting: prioritisation of the criteria in the appraisal and 3. Evaluation and ranking: utilisation of criteria, weights and structure to meet the objectives. It was concluded that the most efficient weighting method for the scope and needs of EUNET is pairwise comparisons. One of the best known methods using pairwise comparisons is the Analytic Hierarchy Process (AHP). EUNET uses a variation on the basic AHP theme, REMBRANDT, which appears to be superior on theoretical grounds.

### **Materials**

There is an overview paper describing the EUNET project, but no results are mentioned (<http://fpiv.meap.co.uk/fpiv/EUNET.doc>). The paper could be of direct use for the purpose of PORTAL but only for the description of the project.

There is a integrated transport and regional development model developed, which is called “Raster-Net” and was developed by INRETS/DEST. It is tool for spatial forecastings of European networks. It is based on GIS (Geographic Information System) and includes a set of elements: “Raster-Grid”, “Raster-Data” (“Raster-Input” and “Raster-Output”) and “Raster-Tool”. A full description of the tool can be found in the internet (<http://www.inrets.fr/ur/dest/pagewebrastergrid.htm>). This software could be used as a demonstration tool within PORTAL didactic and training purposes.

There is a number of articles related to EUNET project published in various journals and/or presented to various conferences. This list of articles can be found in the following addresses: <http://message.fucam.ac.uk/~gt&m/reports.htm>; [http://irpud.raumplanung.uni-dortmund.de/irpud/pub1\\_e.htm](http://irpud.raumplanung.uni-dortmund.de/irpud/pub1_e.htm). Because these articles are not available on the respective websites, they have to be ordered from the authors. It is assumed that since these articles are directly related to the EUNET results, they could be directly used within PORTAL without further processing, possibly only some summarising.

## 2.5 Results of PROPOLIS

The acronym of the project is PROPOLIS. The title of the project is Planning and Research Of POLicies for land use and transport for Increasing urban Sustainability. The objective of the project is to research, develop and test integrated land use and transport policies, tools and comprehensive assessment methodologies in order to define sustainable long-term urban strategies and to demonstrate their effects in European cities.

The work is executed through developing a set of indicators measuring the environmental, social and economic components of sustainability. Values for these indicators are calculated using enhanced urban land use and transport models and new GIS and Internet based modules. A decision support tool is used to evaluate the sets of indicator values in order to arrive at aggregate environmental, social and economic indices for the alternative policy options. To include the long run land use effects a time horizon of 20 years or more is used. The innovations of the PROPOLIS project are related to the integrated and comprehensive approach, to the common framework for analysis with different land use and transport models, to the combination of strategic interactive land use and transport models and GIS techniques. The feedback from the attributes of environmental quality to the locating process of households and firms is part of the innovation. The approach is also likely to produce innovative policy recommendations, as the system is able to reveal the interactions and multiplier effects by following the impact chains in the system.

The PROPOLIS project is part of the “Land Use and Transport Research” (LUTR) cluster of projects. The LUTR cluster is funded by the European Commission under the City of Tomorrow and Cultural Heritage key action which is part of the Commission’s Energy, Environment and Sustainable Development research programme. The goal of the programme is to contribute to sustainable development by focusing on key activities crucial for social well-being and economic competitiveness in Europe. There are four interrelated themes of research within the City of Tomorrow and Cultural Heritage key action:

- Sustainable city planning and rational resource management
- Protection, conservation and enhancement of European cultural heritage
- Development and demonstration of technologies for building conservation
- Strategies for sustainable urban transport systems

The research projects in the LUTR cluster (PROMPT, PROPOLIS, PROSPECTS, SUSTRA and TRANSPLUS) all fit within the latter theme.

Experts are Kari Lautso of LT Consultants Ltd in Finland on planning and research of policies for land use and transport for increasing sustainability; Professor Ilse Vickers

of the University College London in UK; Professor Michael Wegener from the University of Dortmund in Germany.

Interesting study sites that could be visited are the seven European cities where the policy options of each city will be systematically analysed in order to reach general recommendations for optimum combinations of different policy types. These cities are Napoli and Vicenza in Italy, Dortmund in Germany, Inverness in the UK, Helsinki in Finland, Brussels in Belgium and Bilbao in Spain. Each city uses a different model, each model fits the necessities and individual character of the respective city and each one is designed to assess different parameters of land use and transport planning policies.

Further useful information for each of the models can be found in <http://www.ltcon.fi/propolis/casecities.htm>. However, the available information can only be used as a reference for PORTAL purposes since the project is not completed yet.

The **leading educational institutes** involved are University College London in UK and the University of Dortmund in Germany.

### **Results of the project**

The project has not finished yet. It is expected to be completed in August 2002. This project is a follow-up to the SPARTACUS project completed in 1998.

### **Materials**

No useful materials for PORTAL purposes are available yet since the project has not finished yet. However, detailed information about the project (abstract, objectives, work plan, project components, case cities) can be found in <http://www.ltcon.fi/propolis/links.htm>. The material available on this web site is very well structured according to the different parts of the project, so it should not be too difficult to deduce the main conclusions from it. For the final results of the project and the respective reports, we should wait until the end of the year 2002.

## **2.6 Results of PROSPECTS**

The acronym of the project is PROSPECTS. The title of the project is PROCedures for recommending optimal Sustainable Planning of European City Transport Systems. The principal objective of PROSPECTS is to provide cities with the guidance which they need in order to generate optimal land use and transport strategies to meet the challenge of sustainability in their particular circumstances. The sub-objectives, each of which is associated with a separate technical Work Package, are: to identify the decision making needs of cities; to assess and enhance evaluation tools to aid decision making; to assess and enhance forecasting and analysis tools for the land use/transport system; to publish a Decision-Makers' Guidebook and supporting Methodological and Policy Guidebooks; to disseminate the results and exploit the three Guidebooks and the enhanced tools.

Experts are Professor Tony May from the University of Leeds in the UK on procedures for recommending optimal sustainable planning of European city transport systems who was also the co-ordinator of the project; Professor Hermann Knoflacher of the TUW in Austria on strategic transport model-based tools to support urban decision making processes; Andres Monzon from the UPM in Spain on cities' decision-making requirements and identification of barriers and constraints; Farideh Ramjerdi of the Royal Institute of Technology in Sweden on trends and scenarios; Harald Minken from the Institute for Transport Economics in Norway on objectives and indicators in urban land use and transport planning for sustainability

There are no demonstration sites, therefore no study sites to visit. There are a number of core cities (Edinburgh, Helsinki, Madrid, Oslo, Stockholm and Vienna) for which policy objectives, underlying trends and future scenarios, policy options, decision making processes and barriers to implementation have been studied but these cities cannot be used as demonstration sites, therefore are out of the scope of PORTAL.

The **leading educational institutes** involved are the University of Leeds in UK, the Technical University of Wien in Austria, the Royal Institute of Technology in Sweden and the Universidad Politecnica de Madrid in Spain.

### **Results of the project**

The project has not finished yet. It is expected to be completed in January 2003. According to the first sub-objective, the review of decision-making processes has demonstrated that they are complex, and differ considerably from one city to another. A survey was conducted in 54 cities (questionnaires were sent to 109 cities but only 54 replied). The analysis of the questionnaires identified the key attributes of past trends and future scenarios; 80 potential policy measures have been developed and the main barriers have been categorised as legal, financial and political and distinguished between ones that are rigid and those that are flexible. The survey also demonstrated the ways in which the importance of these objectives, scenario attributes, measures and barriers vary by type of city.

The principal output of the project would be the production of three Guidebooks. The first of these is a **Decision-Makers' Guidebook**, designed for politicians, senior officials and the public, and outlining the approach to decision making, the policy options, and the support tools available. The second, the **Methodological Guidebook**, is designed for professionals, and provides more extensive advice on the support tools for evaluation, forecasting and analysis. The third, the **Policy Guidebook**, describes current experience with the full range of policy options, and is of interest to politicians, professionals and the public. The three Guidebooks, covering decision making, methodology and policy advice, will be designed for ease of use by city authorities, and by the public in their cities. The advice will enable them to enhance sustainability, the environment, social inclusion and quality of life through the design of more effective land use and transport strategies. In addition, it should help in improving the efficiency and accessibility of the transport system, hence reducing costs and increasing competitiveness. These Guidebooks are not available yet.

## Materials

There are a number of papers submitted for publication and a number of papers already presented in conferences. These papers relate mainly to the first Work Package of the project and in particular to the decision-making requirements for the formulation of sustainable urban land use/transport strategies including the development of models. References for the papers as well as the project's leaflet can be found on the following website: <http://www-ivv.tuwien.ac.at/projects/prospects.html>. The leaflet is most popular dissemination tool of a project, thus of great use for PORTAL purposes. On the other hand, since the papers mainly refer to the first Work Package, they will not be appropriate for the scope of the project.

There is also the Deliverable No. 1 “*Cities’ Decision-Making Requirements*” published, including reports for Tasks 11, 12, 13, 14, and 15 and also separate reports for Tasks 11, 12, 14, 15 and 16. Task 11 is Objectives and Indicators, Task 12: Trends and Scenarios, Task 13: Policy Options, Task 14: Decision-Making Processes, Task 15: Identification of Barriers and Task 16: A report on the city survey. All this material is available on the following website: <http://www-ivv.tuwien.ac.at/projects/prospects.html>. The most relevant reports for PORTAL scope would be Task 14, Task 15 and Task 16 reports.

There are also some intermediate results published in the “*Summary response from the core cities*” and the ITS working paper 545 “*The instruments of transport policy*” both available on the internet (<http://www-ivv.tuwien.ac.at/projects/prospects.html>). Final results for the current status can be found in the Deliverable 1 and the Task reports also available on the internet (<http://www-ivv.tuwien.ac.at/projects/prospects.html>). All these reports need further processing if they are to be used in training and education on land use and transport planning.

## 2.7 Results of TRANSLAND

The acronym of the project is TRANSLAND. The title of the project is Integration of TRANSport and LAND-use planning. The aim of the project is to analyse innovative policies for integrated land-use transportation planning at the urban level, and the related enabling institutional conditions.

The specific objectives of TRANSLAND are:

1. to review the state of the art in the theory of land-use transport interaction at the urban regional level and to develop a conceptual framework for the analysis of current practice. This review will cover both technical and institutional issues of land-use transport interaction at the urban-regional level;
2. to provide a review of practices in urban planning in the fields of land- use or land use-transport in several European countries. The aims are to know what are the

planned policies and how urban planning has been done, including an assessment of their effects in a set of 10 study cases;

3. to develop a structured overview of issues in land-use transport integration at the urban level and to present the preliminary findings of the results in an international workshop to reach conclusions which carry a wide consensus;
4. to provide an overview of the priority research areas which constitute input for the future research agenda for the EC on both the interaction between land-use and the transport systems (the 'what' question), and to the corresponding planning procedures (the 'how' question);
5. to identify best practice in the field of integrating transport and land-use planning and to analyse their transferability (towards other countries/settings/spatial levels), including legal and regulatory requirements.

Experts on this project were: Neil Paulley of the Transport Research Laboratory in England who was the project co-ordinator; Carlo Sessa of ISIS in Italy; Professor Michael Wegener from the University of Dortmund in Germany on innovative approaches to the integration of land-use and transport planning in urban regions.

The project did not have any demonstration sites. However, in its final report, it does mention 12 cities, which were used as in-depth case studies and 14 cities, which were used as not in-depth case studies. For all 26 case studies, detailed information is available on the following web-site: <http://www.inro.tno.nl/transland/Products.htm>.

**The Leading educational institute** involved in TRANSLAND was the University of Dortmund.

### **Results of the project**

A detailed review of 26 case studies and previous research led to the following conclusions:

- Combined land-use and transport policies are only successful in reducing travel distances and the share of car travel if they make car travel less attractive (more expensive or slower).
- Land-use policies to increase urban density or mixed land-use (e.g. locating homes near factories and services) without accompanying measures to discourage car use have only limited effect.
- Transport policies to make car travel less attractive depend on the start and end points not being excessively dispersed. Co-location of specialist businesses in certain areas and the increase in multiple worker households also set limits on the co-ordination of work places and residences.
- Large dispersed retail and leisure facilities increase the distances travelled by cars and the share of car travel. Land-use policies to prevent the development of such facilities are more effective than land-use policies aimed at promoting high-density mixed-use development.

- Fears that policies to constrain the use of cars in city centres are detrimental to the economic viability of those centres have in no case been confirmed by reality, except where massive out-of-town retail developments have been approved at the same time.
- Transport policies to improve the attractiveness of public transport have in general not led to a major reduction of car travel, but have contributed to further suburbanisation of the population.

Overall, TRANSLAND concluded that transport policies are more direct and efficient than land-use planning controls, in moving towards a sustainable urban transport system. However, land-use policies are essential as an accompanying strategy for creating less car-dependent cities in the long run. Information policies are an additional tool, important for influencing behaviour and increasing social acceptance of other tougher measures.

The institutional possibilities for co-ordinating land use and transport policies at the urban or regional level vary between EU Member States. Ten countries have formal regional planning with binding plans, and these have the highest potential for implementing effective policies and exchanging examples of good practice.

TRANSLAND identified 16 areas for further study, ranging from the modelling of land use/transport interactions, to target setting and the redesign of the planning process.

### **Materials**

Generally, there are 7 deliverables: D1: Outline of concept; D2a: Land-use and transport interaction: State-of-the-Art; D2b: Integration of transport and land-use policies: State-of-the-Art; D2c: Integration of transport and land-use planning: review of practice; D2d: Structure and overview; D3: Brochure – Best practice; D4: Final report for publication. Information can be obtained from <http://www.cordis.lu/transport/src/translandrep.htm> and <http://www.inro.tno.nl/transport/Products.htm>. Because the reports are clearly structured according to the different themes, it would not be very difficult to deduce the main conclusions from them and prepare new material, which will fit the PORTAL purposes. The existing material could not be used, as it is, besides the deliverable D3, the brochure of the project.

The final summary report of the project is available from the Cordis database (<http://www.cordis.lu/transport/src/translandrep.htm>). It is not of direct use for the project. There are also a number of articles published related to the project. Information can be obtained from the following webpages: [http://irpud.raumplanung.uni-dortmund.de/irpud/pub/ber\\_e.htm](http://irpud.raumplanung.uni-dortmund.de/irpud/pub/ber_e.htm) and <http://www.cordis.lu/transport/src/translandrep.htm>. Articles should be read first and then processed according to the criteria which will be set for the educational and training courses of PORTAL. Articles could be used directly as references for the topic of land use and transport planning.

Information regarding the study sites can be obtained from the ELTIS database on the following web pages: <http://194.7.159.227/scripts/find.exe> and <http://www.inro.tno.nl/transport/Products.htm>. Information contained on these sites is very detailed and too specific for each case study, therefore could not directly used within PORTAL. New material has to be produced which will be the result of summarising the existing case-studies material.

## 2.8 Results of TRANSPLUS

The project acronym is TRANSPLUS. The title is TRANSport Planning, Land Use and Sustainability.

The project embraces an integrated land-use and transport planning approach to manage transport demand and contribute towards the creation of a common understanding of the issues at stake and the possible ways to tackle them. TRANSPLUS initiates and fosters a continuous learning process involving consultants and European cities interested in exploring and adopting innovative policy measures.

The research process is articulated as follows:

1. System analysis of megatrends in urban development and strategic approaches towards sustainable transport. The latter includes three general categories - collective transport promotion; promotion of non motorised modes; restriction of motorised individual transport- and identifies specific strategies with close land use inter-relation;
2. Learning process involving researchers and users for the analysis, for each identified strategy, of the overall planning and implementation cycle, including the design of specific measures and ways of gaining political acceptance, and the evaluation of final outcomes and side effects;
3. Analysis of barriers to the realisation and appraisal of structural compatibility and potential transferability of policies implemented in different contexts, based on the lessons learned in the analysis of significant practices;
4. Analysis of different methodologies to promote citizens, stakeholders and users participation to the different phases of policy planning and implementation;
5. Networking and dissemination activities supported by the development of a web site, realisation of an introductory brochure and subsequent newsletters, organisation of workshops enriched by the participation of interested cities, and the final production of TRANSPLUS guidelines.

TRANSPLUS project is part of “the City of Tomorrow” cluster of projects (as PROPOLIS is).

Experts are Dr Carlso Sessa of ISIS in Italy on transport planning, land use and sustainability; Professor Jose Viegas from the TIS Transportes Inovacao e Sistemas in Lisbon, Portugal on urban mobility; Ilse Vickers of UCL; Professor Hermann Knoflachner from TUW in Austria; Jan Alexander Dekker from the Netherlands

Organization for Applied Scientific Research, Institute of Industrial Technology; Roberto Balduini from the Societa Transporti Automobilistici S.P.A. in Rome and Marc Ellenberg who was the scientific and technical co-ordinator.

There are no demonstration sites; thus no study sites to visit.

The **leading educational institutes involved** are the University College of London, the Technical University of Wien and the Katholieke Universiteit Leuven in Belgium.

### **Results of the project**

The project has not finished yet. It is expected to be completed in January 2003.

### **Materials**

Available information for the time being is a short description of the project in the CORDIS database (<http://www.cordis.lu>), on the ISIS web page and on the Socialdata webpage respectively (<http://www.isis-it.com/doc/progetto.asp?id=42&tipo=urban>, <http://www.socialdata.de/proe.htm>). More information about the objectives of the project and a description of the project can be found in the following web page: <http://www.transplus.net/doc/sec/work.htm>. None of this material is interesting for the purposes of PORTAL. No new material can be developed from the existing material: we will have to wait until some reports will be produced.

### 3. RECOMMENDATIONS FOR NEW MODULES

The screening of the “transport planning and land use” related projects has revealed that three out of the six projects have not finished yet and for Action 332 of the programme COST only the proceedings of the inaugural colloquium were available. This means that for fifty percent of the projects no concrete material is available and the results will only be available within two years time. This is a holdback that should be taken into consideration when preparing new educational and training modules for PORTAL.

The new modules should include results from the study sites. The application of the objectives and methodology of the respective project to a case-city demonstrates the advantages and disadvantages of the application, constraints and barriers and possible indications of how to improve the application. However, the respective reports related to the success (or not) of the application to the case-city are rather limited and usually in the native language. In addition it is usually difficult to track down the delegate who was responsible for the application of the project to the city.

Where software is produced as a result of a project, then this should be introduced to the new module and preferable a demo version should be presented. In the new module, the relevance of the software and the objectives of the project should be shown as well as the advantages of using a programme for transport planning and land use problems solving. Companies, which have developed and /or are promoting the software, usually do not present its advantages and disadvantages or its overall applicability to address other transport planning and land use issues (not totally related to the project).

The projects that were analysed cover different aspects of the land use and transport planning issue and thus will allow the development of modules on different, yet complementary subtopics of this field. Subject fields covered by the analysed projects are:

- successful co-ordination between transport planning and land-use policies: COST332, PROSPECTS, PROPOLIS, TRANSLAND, TRANSPLUS
- measures to reduce the amount of travel in Europe, particularly aimed at car use in cities: DANTE
- development of a comprehensive method for modelling and assessing the socio-economic impacts of strategic transport initiatives: EUNET
- urban sustainability: PROSPECTS, PROPOLIS, TRANSLAND, TRANSPLUS
- institutional conditional and urban sustainability: TRANSLAND
- management of transport demand: TRANSPLUS

- urban economy: PROSPECTS, PROPOLIS
- decision-making: PROSPECTS, PROPOLIS, TRANSPLUS
- decision-support tools: PROSPECTS, PROPOLIS, TRANSPLUS
- modelling: PROSPECTS, PROPOLIS, EUNET
- policy advice: PROSPECTS, PROPOLIS
- reduce car dependency in European cities: DANTE, TRANSPLUS

## 4. FINAL CONCLUSIONS

The analysis of the investigated projects showed that results are not yet available for 50 percent of the projects and a lack of information is noticeable for most of them.

The so far available results for the investigated projects can cover only part of the material to be used for the new education and training modules, therefore new material must be developed to cover the needs of PORTAL. In addition, for none of the investigated projects are any new technology teaching materials available (e.g. CD-ROMs) and for very few of them popular dissemination material such as brochures, video's, handbooks etc. The most useful (of the existing) materials for the preparation of the new modules are the articles and books related to the projects. Usually this type of material is more refined and has been further analysed and criticised compared to the material presented in the deliverables. However this type of material is not available for all of the projects. The available results are not very easy accessible (the accessibility is restricted to web pages) and the most useful ones (articles, papers, books) have to be ordered. Therefore it should be PORTAL's goal to convert the existing content to user-friendly didactic and more concrete material for education and training purposes.

For the new education and training modules within PORTAL more results are necessary. It is also necessary to further analyse the existing materials and where results are unavailable the experts should be contacted (in the due time, i.e. when the project will have finished). This particular key topic is more theoretical than practical and most of results are study-site dependent. This should be taken into consideration when the new modules will be prepared because the above finding suggests that results could not be applied to all different cities (of different countries) without the necessary modifications and adaptations. This was tried to be covered by the TRANSPLUS project but results will only be available in January 2003.

