TERMS OF REFERENCE

ESPON Project 2.1.1:
TERRITORIAL IMPACT OF EU TRANSPORT AND TEN POLICIES (2002-04)

(o) Political challenges for the ESPON projects

The Second Report on Economic and Social Cohesion, published in January 2001, presented for the first time a third territorial dimension of the cohesion (beside the economic and social cohesion), which calls for a better co-ordination of territorially relevant decisions. Stressing the persistence of territorial disparities within the Union, the report stated the need for a cohesion policy not limited to the less developed areas as well as the need to promote a more balanced and more sustainable development of the European territory.

The Second Cohesion Report represents in that respect a follow up of the European Spatial Development Perspective (ESDP), adopted at ministerial level in May 1999, calling for a better balance and polycentric development of the European territory.

The projects launched under the ESPON programme shall follow an integrated approach and, seen together, cover a wide range of issues, such as:

- Identifying the **decisive factors relevant for a more polycentric European territory**; accessibility of a wide range of services in the context of enlargement; integration of wider transnational spaces; promotion of dynamic urban growth centres; linking peripheral and disadvantaged areas with those centres; etc.
- Developing **territorial indicators and typologies** capable of identifying and measuring development trends as well as monitoring the political aim of a better balanced and polycentric EU territory
- Developing **tools supporting diagnoses of principal structural difficulties as well as potentialities**, such as disparities within cities and regenerating deprived urban areas; structural adjustment and diversification of rural areas; strategic alliances between neighbouring cities at transnational, national and regional scale; new partnerships between rural and urban areas; potential support from infrastructure networks in the field of transport, telecommunication, energy; etc.
- Investigating **territorial impacts of sectoral and structural policies** in order to enhance synergy and well-co-ordinated decisions relevant for territorial development within policy fields such as Structural Funds, agriculture, transport, environment, research and development; developing methods for measuring the territorial impact of sectoral and structural policies; etc.

- Developing **integrated tools in support of a balanced and polycentric territorial development**; approaches to enhance the potential of cities as drivers of regional development, new tools for integrated urban-rural development and planning, etc.

With the results of all the ESPON projects, the Commission and the Member States expect in particular to have at their disposal: **a diagnosis of the principal territorial trends** at EU scale as well as the difficulties and potentialities within the European territory as a whole; **a cartographic picture of the major territorial disparities** and of their respective intensity; a number of **territorial indicators and typologies assisting a setting of European priorities** for a balanced and polycentric enlarged European territory; some **integrated tools and appropriate instruments** (databases, indicators, methodologies for territorial impact analysis and systematic spatial analyses) to improve the spatial co-ordination of sector policies.

In this respect, the ESPON projects will serve as a strong scientific basis for the propositions of the Commission in the Third Report on Cohesion, at the end of 2003, in view of the reform of post-2007 Structural Funds.

i) Relation to the ESPON 2006 Programme

The priorities describing the work-programme of the ESPON 2006 Programme are structured in four strands:

1. **Thematic projects** on the major spatial developments on the background of typologies of regions, and the situation of cities.
2. **Policy impact projects** on the spatial impact of Community sector policies and Member States' spatial development policy on types of regions with a focus on the institutional inter-linkages between the governmental levels and instrumental dimension of policies
3. **Co-ordinating and territorial cross-thematic projects** represent a key component of the programme. These projects evaluate the results of the other projects towards integrated results such as indicator systems and data, typologies of territories, spatial development scenarios. The cross section projects help to thematically co-ordinate the whole programme and add value to the results and to fill gaps, which are unavoidable when different themes are dealt with in different projects.
4. **Scientific briefing and networking** in order to explore the synergies between the national and EU source for research and research capacities.

This project belongs to the second strand and therefore holds a key position for the elaboration of the whole programme by the preparation of the common ground for the investigation of the effects of sector policies on the spatial structure in Europe. Therefore a strong co-ordination with the all other projects in particular with the other project in the same strand on the methodological aspects of the impact analysis, with the relevant thematic projects on territorial trends under the first strand and with the coordinating and cross-thematic under priority three is required as well as with the Co-ordination Unit.

ii) Thematic scope and context

The diversifying effects of infrastructure networks are already the subject of measure 1.2. This measure concentrates on the territorial evaluation of the effects of TENs (transport, energy and telecommunication). Major questions under this action are how far TENs provide the right answers for a territorial development as described in the ESDP. The measures proposed in the White Paper "The European transport policy by 2010" (COM 2001/370) should provide the framework for the subject investigated under this action. Reference has to be made to the policy options developed in the cross sectoral approach of the ESDP. The ESDP stresses the need for an integrated approach for improved transport links, makes reference to the polycentric development model, highlights the efficient and sustainable use of infrastructure and refers to the importance of the diffusion of innovation and knowledge. In particular, this integrated approach should be followed in analysing transport and telecommunication networks. Any analysis should take into account the principle of territorial balance, the particular problems of peripheral regions and the improvement of secondary networks. Any overlaps to ESPON project 1.2.1. 1.2.2. and 1.2.3 concerning infrastructure and telecommunication access, as well as policy impacts addressed under measure 2.1., have to be avoid by a strong co-ordination of the projects.

iii) General objectives

a) To develop methods for the territorial impact assessment of sectoral policies;
b) To develop territorial indicators, typologies and concepts and establishing a database and map-making facilities and to sustain the project by empirical, statistical and/or data analysis;
c) To analysis of the territorial trends, potentials and problems deriving from the policy, at different scales, and in different parts of an enlarged European territory;
d) To show the influence of sector policies on spatial development at relevant scales;
e) To show the interplay between EU and sub-EU spatial policies and best examples for implementation;
f) To recommend further policy developments in support of territorial cohesion and a polycentric and better balanced EU territory;
g) To find appropriate instruments to improve the spatial co-ordination of EU and national sector policies and the ESDP;
h) To consider the provisions made and to provide input for the achievement of the horizontal projects under priority 3.

In the efforts to meet these objectives the project shall make best use of existing research and relevant studies.

iv) Primary research issues envisaged

- Identification, gathering of existing and proposition of new indicators and data and map-making methods to measure and to display the state, trends and impacts of the

developments referred to above. Compilation of national studies with European focus;

- Operationalisation of the policy options developed in the ESDP relevant for a territorial impact analysis of the transport and TEN policies, and development of a methodology for impact analysis at EU scale.
- Conceptualisation and elaboration of a territorial impact analysis for transport and TEN policy with special consideration of the following points:
    - Are all transport modes included in order to achieve a long term sustainable mobility of goods and persons, and a polycentric spatial development?
    - Do transport and TEN policies address the emerging border and integration problems taking into account the variety of regions and the arriving enlargement? Do transport and TEN policies provide adequate accessibility and connectivity in the regions of the EU and in Europe (particular attention to be paid to peripheral and ultra-peripheral regions)?
    - Are TENs contributing to the reduction of spatial disparities?
    - What spatial effects are expected in terms of present and future congestions of transport and TEN policies?
    - How far do transport and TEN policies support the concentration of development corridors, consider the concept of polycentric development, and which further spatial effects are emerging?
    - How far do transport and TEN policies affect the spatial diffusion of innovation and knowledge in Europe?
    - What kinds of resources are available at EU level in order to conduct a policy formulated in the White Paper on Transport? Does the necessary co-ordination with national policies take place?
    - How far do TENs support the concentration of development corridors, consider the concept of polycentric development, and which further spatial effects are emerging?

Resources are available at EU level in order to conduct a policy formulated in the White Paper on Transport. Does the necessary co-ordination with national policies take place?

v) Expected results and timetable

The research undertaken during the interim reports is supposed mainly to work on the data available at the national statistical offices, Eurostat and other national and European institutions, and normally be based on existing administrative units. From 2003 until August 2004, the research should complement the missing territorial/regional data and complement tools and territorial indicators if possible beyond the NUTS classification and the NUTS 3 level.

One of the main objectives of the ESPON 2006 Programme is to focus on research with policy relevance and to contribute to the development of relevant policies. Therefore, the deliverables of the research project should be highly operational and coordinated in time,

as far as possible, to fit into the relevant political agenda. The following timetable and specification of output is reflecting this objective:

September 2002 (first interim report):

a) Consensus on indicators and necessary data after a precise analysis of the availability and comparability of data at Community level. For these analyses, the results of the study programme and the results of the ESPON projects in course, in particular under priority 3.1, should be taken into account. This task should also define the appropriate geographical level and technology required for data collection, taking into account the availability of the data . A first detailed and comprehensive list of data mainly requests for statistical and geographical data should be collected from Eurostat, the EEA and National Statistical Institutes and National Mapping Agencies.
b) First outline of the methodology of the impact analysis and the structure of the description of the sector policy.

February 2003 (second interim report):

c) Development of the database, indicators and map-making considering the progress of the other research projects.
d) A second revised and extended request for further indicators should collected from Eurostat and the EEA by the end of 2002 (the latest).
e) Presentation of the methods for the territorial impact assessment;
f) Definition of appropriate indicators, typologies and instruments to detect regions and territories most negatively and positively affected by the identified trends with special reference to accessibility, polycentric development, environment, urban areas, structurally weak areas, and new methodologies to consider territorial information.
g) Presentation of hypothesis on the territorial effects of relevant measures of the investigated policy.

August 2003 (third interim report):

h) Application of the methodology, analysis of the hypothesis previously developed.
i) Presentation of a comprehensive working report on tentative results of the research undertaken so far giving a first analysis /diagnosis of the transport sector in Europe as well as the existing territorial imbalances and regional disparities in transport infrastructure as well as tentative results on the spatial effects at EU level and in Member States in terms of the economic relocation and other spatial criteria (including databases, indicators and maps);
j) First propositions on improvement of the sector policy and related instruments,
k) First proposition on the institutional aspects of the spatial co-ordination of EU sector policies and for better co-operation between transport policies at EU, national and regional level.

August 2004 (final report):

l) Improvement of the methodology and the analysis taking into account the results of the third interim reports of the other projects in particular with regard to the candidate countries.
(m) Comprehensive presentation of territorial impacts related to the enlarged European Union (27 countries);
n) Formulation of conclusions and proposition of possible thematic policy adjustments regarding the sector policy in order to avoid unintended spatial effects in relation to the ESDP and the structural Funds policy.
o) Definition of institutional settings and instruments, which could support a better co-ordination of sector policies towards spatial concerns;
p) Presentation of new territorial indicators and EU databases including candidate and possibly neighbouring countries
q) Formulation of the further research necessary in the policy field.

vi) Rationale and structure

The following text has the role of shaping the mind of thinking in developing a proposal for undertaking the ESPON action 2.1.1.. The text is not meant to be exhaustive, but to serve the purpose of guiding the tenderer.

1. Elaboration of a methodology for the impact analysis/assessment on Transport and TEN Policies

The methodology should take account of the spatial concepts developed under priority 1 and 3. The methodology should also allow indicating different level policy in order to identify the relevant actors for a better territorially coordinated policy.

At present we dispose of many assessment methods and models (see point vii existing access points, for some examples). The aim of this study should be to draw these existing assessment methods together (addressing their weaknesses) into a tightly focused, operational assessment tool, oriented towards the needs of decision makers.

The methodology should also allow indicating different level policy in order to identify the relevant actors for a better territorially coordinated policy.

Close attention will be paid to the definition of a methodology for simulating the impact of new major transport, energy or telecommunication infrastructures. As for the rest of ESPON projects, the project should focus on the whole European territory, including candidate countries (EU-27).

2. Presentation of transport and TEN policies with reference to the territorial dimensions and the governmental level responsible for the implementation of transport policy

The structured presentation of the transport and TEN policy should allow identifying the relevant parameters for the territorial impact assessment for all three dimensions, the

policy (contents and strategies), polity (institutions, organizations) and politics (processes) also regarding particularly spatial disparities and imbalance of the E.U territory on the background of the typologies developed in the projects under the ESPON priority 1 and 3.

At first the project should provide a short description of the present situation and future trends of the TEN in the EU, particularly in terms of spatial disparities and imbalances within the EU territory, taking into account the variables mentioned below.

3. Data, spatial concepts and indicators

3.1. Territorial typologies

Apart from typologies referring the policy investigated other territorial typologies prepared by the projects in particular prepared under priority should be taken into account.

3.1.1. TENS and accessibility

Indicators on transport and accessibility are already developed under ESPON 1.2.1. Are those topologies sufficient or are adjustments necessary in order to identify the effects of TENs and transport policy.

3.1.2. TENS and typologies of polycentrism, corridors and urban-rural relations

The relation between TENs and the (poly)centric structure of Europe should be addressed as well as the contribution to urban rural relations. Are the typologies prepared in the ESPON projects 1.1.1. and 1.1.2. sufficient in order to investigate the effects or are adjustments necessary? How far do TENs support the concentration of development corridors, consider the concept of polycentric development, and which further spatial effects are emerging?

3.1.3. Typical regions in relation to specific transport policies

The question is whether, in terms of transport policies, there are typical regions to be identified. A typology is connected with specific national and regional policies.

3.1.4. Transport and territorial cohesion

Apart form the various typologies of regions to be investigated a major effort should be dedicated to the contribution of the TEN and transport policy to the territorial cohesion.

3.1.5. Other typologies, sustainable development

Are other typologies of regions seen as being important in order to investigate the effects of TENs and transport policy? Which typologies allow the indication of sustainable regions in terms of the transport infrastructure?

3.2. Indicators and data collection

Description and quantification of variables characterising Transport and TEN-T policies: Indicators are already subject to a project under envisaged ESPON action 1.2.1. indicating a very close cooperation is required.

Taking into account the existing transport indicators and the methodology of the territorial impact assessment developed (see non-exhaustive list below) the collection of further statistical and geographical data and the integration of existing and new databases[1] is required.

Data gathering should occur at the lowest territorial level possible (ideally, NUTS III level). It should cover the 15 Member States as well as the candidate countries.

On the basis of these data, the study should provide a first analysis /diagnosis of the transport sector in Europe as well as the existing territorial imbalances and regional disparities in transport infrastructure.

Key existing transport indicators (EUROSTAT) (Non exhaustive list):

- Quantities of freight and passengers moved and the vehicles and infrastructure used:
- Total transport of goods by road, railway, inland waterways and maritime (tonne-kilometres)
- National transport, t-km, as % of total transport of goods by road, railway, inland waterways
- Rail transport of passengers, millions passengers and passenger-km
- Passenger cars per 1 000 inhabitants
- Passenger car transport. Million passenger kilometres
- Total passengers air traffic by Member State (intra and extra-EU)
- Safety: number of deaths (road, rail, aviation, maritime), number of accidents involving personal injury

Regional dimension of transport statistics (NUTS 2):

- Density: Road (kilometres by 100 km2), Rail (inhabitants by rail km), Cars (number of cars by 10 inhabitants)
- Road freight transport within and between the regions of the European Union

4. Analysis of the transport policy and TEN policies in relation to a balanced territorial (and regional) development

[1] Where harmonised (Eurostat) data sources do not provide the data for the indicators at the appropriate geographical level, the consultant will have to examine national and possibly regional data sources to try to complete the data sets. The collection of this data should be done in co-ordination with data collection provided by the contractant/s of ESPON works under priority 4.

4.1. TEN and Transport Policy and accessibility

Assessment of the effects of transport investment in general and of the TEN policy and related investments in particular on the following variables: accessibility (taking into account the implications of the development of the information society and of telecommunications), connectivity, inter- and multi-modality sustainable use of infrastructure and productivity of enterprises (in particular considering the reduction of production costs and trading costs by new infrastructures). The appropriate index and indicators should be developed. See study on the concepts under action 1.2.1.

The analysis and tools developed should have a dynamic character showing the interacting processes determining regional socio-economic development.

The project should address how the Transport policy and TEN policy influences those concepts, developed under action1.2.1 and 3.1. of the ESPON Programme.

4.2. Assessment the effects of the transport policy and TEN policy on the territorial balance and the regional development (using indicators defined above)

The contractor should assess the effects of investment in transport infrastructure in general and of TENs in particular on territorial development and regional economies, as well as on the distribution and location of activity, the functioning of the labour market and trade flows, in particular, it should evaluate the effects seen in a territorial dimension and consider including the following variables and the typologies defied above under point 3 (non-exhaustive list):

4.2.1. Demographic indicators:

- population density
- migration trends (between the linked areas)
- evolution of the population
- new urban poles at different scales

4.2.2. Regional economic strength:

- Growth Domestic Product (GDP) per inhabitant in Purchasing Power Parity (PPP)
- Evolution of GDP per inhabitant
- FDI growth
- Creation of enterprises
- Trade flows
- GDP per person employed

4.2.3. Labour market:

- Unemployment rate (long term, young, women…)

- Evolution of unemployment rate
- Employment rate
- Poverty rate

4.2.4. Environment:

- CO2 emissions
- Noise pollution
- Congestion

5. Qualitative analysis of the interactions between transport policy and other territorially relevant community policies

The study should provide a qualitative analysis of the interactions between the transport policy and other territorially relevant community policies, as the following ones:

5.1. Interaction with Structural Funds Policy

Infrastructure endowment represents a key factor determining real convergence, sea transport vital for island and coastal regions. How far contributes the improvement of access to remote peripheral and ultra-peripheral regions the regional development potential? Which services of general interest in Europe can be defined on the base of the findings?[2] Which role does the TINA play in that context (EUR 90 billion total cost of constructing trans-European networks in the 12 candidate countries).

5.2. Interaction with Environmental Policy

Interactions with environmental policy relate to congestion (1/10 of TEN-T is congested), air quality and climate change (transport account for 28% of CO2 emissions in 1998, the main greenhouse gas; if nothing is done CO2 emissions up 50% between 1990 and 2010, 84% of transport emissions generated by road transport), tackling noise pollution (noise standard for new aircraft…). What potential is available for environmental-friendly modes of freight transport (inland waterways and rail) also considering those, which have not yet been realised. The Gothenburg European Council postulated breaking the link between economic growth and transport growth at the heart of the sustainable development strategy. Furthermore, transport is for 98% dependent on oil, 70% of which is imported.

5.3. Interaction with Research Policy within a territorial dimension

Consider latest developments in new transport technologies and their territorial effects (Galileo…) for the assessment of future effects. How far does TENs affect the spatial diffusion of innovation and knowledge in Europe?

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[2] Report from the Commission to the Laeken European Council, Communication from the Commission COM/2000/580, article 16 Treaty

5.4. Interaction with Internal Market and Competition Policy:

Opening the national freight markets to cabotage causes the territorial effects. National, regional and local monopolies in transport (road and rail), shipping lobbies may have further distorting effects on the spatial balance and are not economically viable and every case.

6. Orientations for policy recommendations

6.1. Improvements of Transport and TENs Policies for a better territorial cohesion

Results should address the assessment of how Transport and TENs policies,

- Underpins regional development;
- Enhance infrastructure potential;
- Monitors the synergies between economic actors;
- Builds pertinent and comparable indicators in order to evaluate transport capacities in regions.

What kind of resources is available at EU level in order to conduct a policy formulated in the White Paper on Transport. Does the necessary co-ordination with national policies take place?
Transport planning should to take into account an integrated strategic approach where transport decisions are based on an understanding of their implications and anticipation of their consequences. Transport must be perceived as a means of achieving the broad range of aims of the society, and not as an aim in itself. This implies a move away from a fragmented approach focusing on individual projects or modes of transport. One component of this new approach should lead to the promotion of multi-modal transport systems, efficient and sustainable use of transport infrastructure as well as joint planning of transport, spatial development and land use.

The primary obstacle to this kind of holistic approach is co-ordination. Therefore the issue of governance and organisation needs to be carefully addressed.

6.2. ESDP

Reference should be made to all policy options in the ESDP dealing with the question of transport. Recommendations should address institutional and procedural aspects of the TENs and transport policies in order to achieve a better balanced spatial development of the EU territory. Proposals should make reference to relevant ESDP policy options and to the context of the proposal mentioned above. In addition, reference should be made to the current transnational areas under Interreg III B.

6.3. Structural Funds Policy and other policies

Contributions should also consider a stronger integration in Structural Funds Policy as well as co-ordination and coherence with other territorially relevant policies.

In order to ensure synergy between Community and national programmes territorial impact analyses in various regional development programmes should be considered. These analyses could form part of a strategic spatial development planning at national, regional or local level, and of strategies within Structural Funds programmes. Guidelines on how to implement Territorial Impact Assessment of transport policy at regional level (institutions, practitioners, etc.) could be reflected. Particular attention should be paid to issues arising from the principle of subsidiarity. Case studies for specific regions could be provided.

Recommendations should take account of the policy context and scope of the study mention above. Taking into account mainly the analysis on the effects of TEN on the reduction of territorial imbalances, regional disparities and accessibility of peripheral areas (NUTS III level) the project should develop recommendations for the improvement of Community transport policy and consistency between Community and national policies and integration of transport policy in spatial planning and regional development plans Case studies for specific regions should be provided.

The study should consider and review, among others, the conclusions of the projects implemented under the Commission's Demonstration Program on Integrated Coastal Zone Management (ICZM) as regards the potential for coordination on transport matters.

The Strategic Environmental Assessment approach to pro-active strategic planning and guidelines for major transport and mobility planning (including the TEN-T) should be promoted. In the case of ICZM for example, guidelines could suggest that it is generally preferable to keep major road or rail axes as far inland as possible.

vii) Existing access points

Data work relies much on the findings under sub-measure 1.2.2. Joint investigation of data is strongly recommended. The SPESP study on spatial integration[3] also provides interesting proposal for data work under this sub-measure such as volume of goods transported and number of persons in transport.

The SPESP report detected a shortage of important data at regional level concerning ISDN lines and fax accessibility and other communication network related information.[4] The spatial integration studies already mentioned the need to measure the telephone and Internet traffic connections between districts, but also the number of computer links to the Internet.[5]

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[3] SPESP 2000 CD report of working group on spatial integration, p. 51ff.

[4] SPESP 2000 CD report of working group on economic strength, p. 114.

[5] SPESP 2000 CD report of working group on spatial integration p. 52

The Commission's White Paper "European transport policy for 2010: time to decide" and background documents for the "Revision of the Trans-European Transport Networks "TEN-T" Guidelines" provide interesting access points for the investigation of the questions raised, as well as the past and current research activities of the Joint Research Centre and the European Environmental Agency

A research project called EUNET/SASI (4h Framework Programme), which investigated socio-economic impacts of transport investments and in particular developed indicators to assess accessibility to/of TEN-Ts should be take into account.

The follow-up of that project, the IASON project, under the 5th Framework Programme, will study the indirect effects of transport investments and policies, in particular in the spatial context by describing the extension and refinement of the two already existing European-level regional economic models, SASI and CGEurope.Other data inputs can be provided by the databases compiled in SCENES, TIPMAC and in the ETIS projects BRIDGES and CONCERT.

In addition, results of the INDICATORS project (DG TREN) concerning the development of performance indicators to monitor and develop the TEN-T, including enlargement aspects, should be considered in this study.

Finally, an ESPON Data Navigator creating an overview, a handbook, giving information on principal data sources, contact points etc, is under elaboration. The Data Navigator is expected to cover, in principle, all countries in an enlarged European Union as well as neighbouring countries. The Data Navigator is scheduled to be finalised by August 2002.