

## PREPARATORY STUDY ON FEASIBILITY OF FLOWS ANALYSIS

---

**CLIENT:** *European Spatial Planning Observation Network (ESPON)*

**YEARS:** 2006-2007

### DESCRIPTION OF ACTIVITIES

#### *Objective of the study*

The ESPON project 1.4.4 "Preparatory Study on Feasibility of Flows Analysis" was one of the last projects in the ESPON 2006 Programme. The project belongs to the ESPON Studies and Scientific Support Projects. The main task of the study was to serve as a feasibility study for this theme preparing for more in-depth research on flows in ESPON 2013.

The project was carried out by an international team including two other partners. The leading partner was Spiekermann & Wegener, Urban and Regional Research (S&W), Dortmund. The third partner was the Institute of Geography and Spatial Organization of the Polish Academy of Sciences (IGIPZ PAN), Warszawa.

#### *Content of the study*

The study was designed as a feasibility and pilot study. Its main objectives were, building on existing work in ESPON, to give an overview on existing research, analytical concepts, indicators and data sets which are relevant for flows analysis in ESPON, to demonstrate suitable research methods for flows analysis and to elaborate proposals for future applied spatial research covering the theme of flows analysis.

The project particularly addressed the following research questions:

Which flows can be integrated into the ESPON analysis? A wide range of different flow types were considered and analysed under the viewpoint of which flows are of interest for ESPON research and relevant for territorial policies and whether it is possible to integrate an analysis of such flows into ESPON research. In this line, conceptual and methodological issues were investigated, and the problem of data availability and methods for estimating missing data were addressed.

What are the implications of the integration of flows analysis? A feasibility check was made to get more insight on how flows analysis might work in practice and what problems might arise. For this purpose selected types of flows were analysed within selected geographical areas in a set of demonstration examples.

What should ESPON focus on in the future? The findings of this preparatory study resulted in proposals for future policy-relevant research regarding flows in territorial analysis in ESPON 2013.

#### *TRT activities*

Within the project, TRT dealt with transport flows, distinguishing freight from passengers. For both kinds of flow, three main activities were carried out:

- Providing a review of the existing data sources, paying special attention to the requirement of ESPON in terms of coverage and level of detail and distinguishing sources reporting observed information from those providing modelling estimates;
- Describing methodologies for integrating missing data, providing some examples of application;
- Preparing some demonstration examples to show the type of data which could be included in the ESPON framework and to discuss their relevance with respect to the ESPON objectives, especially the analysis of sustainability and competitiveness of the EU regions.

#### *Key messages and findings*

The project reviewed the state of the art with respect to each type of flows and found that there exist theoretical concepts and feasible analytical methods for monitoring, analysing, assessing and forecasting them at all spatial scales from the European to the local level.

However, because of the complexity of the forecasting models required, not all types of flows are suitable for establishing a forecasting capability in ESPON. Because of this it will be necessary to use the results of existing models and efficient forms of co-operation with other research institutions and European agencies.

For other types of flows, where no expertise exists, original innovative work by ESPON is required. Data on spatial flows are in general incomplete or entirely lacking.

Data on flows between NUTS-2 or NUTS-3 regions, the main levels of interest of ESPON, exist mostly only within one country. Where trans-national flow data are available, they suffer from insufficient spatial resolution or lack of standardisation. Methods of

bridging data gaps or generating synthetic inter-regional flow data from spatially more aggregate flows or origin and destination data are therefore major challenges of flows analysis.

