EMOLITE

Evaluation Model for the Optimal Location of Intermodal Terminals in Europe

Funding: European (4th RTD Framework Programme)
Duration: Jan 1997 - Feb 1999
Status: Complete with results

Background & policy context:

The efficiency of the Trans-European Transport Network relies heavily on the strategic location of terminals. Decision-making about the future development of terminals involves public and private bodies, each with their own selection criteria and parameters. What they lack is a comprehensive tool to handle information about the quality and suitability of potential locations for intermodal terminals. A new approach to the selection of intermodal terminals would need to take account of general and terminal-specific features, as well as public and private selection criteria.

Objectives:

EMOLITE aimed to support the development of modern European intermodal transport networks by integrating all relevant supply and demand requirements of intermodal distribution and transhipment centres, as well as passenger terminals, into a decision support system.

The main objectives have been:

- to develop a decision support system to evaluate potential terminal locations, taking into account the dynamics and changes to the transportation market;
- to enable decision-makers as well as operational managers (transport network designers) to compare different potential locations using a flexible and comprehensive computer simulation model.

Related Projects:

- EUROSIL: European strategic intermodal links.

Parent Programmes:

FP4-TRANSPORT - Specific research, technological development and demonstration programme in the field of transport, 1994-1998

Institute type: Public institution
Institute name: European Commission; Directorate-General for Energy and Transport (DG TREN; formerly DG VII)
Funding type: Public (EU)

Partners:

NA

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**Key Results:**

EMOLITE has defined the framework for a PC-based decision support system that provides comprehensive strategic information on the quality and suitability of potential terminal locations. Based on this, it has produced the prototype of a user-friendly software (implemented in MS Access) that consists of a database and a simulation module, with the following characteristics:

- ranking of alternative terminal locations according to weighted values and criteria, for pre-defined classes (cost, flexibility and reliability), attributes (link to the class) and objects;
- flexibility in handling terminal attributes;
- algorithms for solving the rating and ranking based on a fuzzy multiple attribute model;
- an interactive and user-friendly interface, by providing wizards that help to define the framework of transportation and criteria;
- inclusion of visualisation and presentation features, such as charts, reports, graphs and maps.

**Policy implications**

The principal approach of EMOLITE allows an accurate evaluation of potential sites for passenger and freight terminals, based upon internal (technical, operational, costs) and external (public, private) requirements. Though some improvements are anticipated, e.g. in the fuzzy model by creating more fine-tuned algorithms, in the user interface by including additional functionality, or in the database structure to accommodate more consistent data handling, the EMOLITE software is appropriately targeting decision-makers' and managers' real needs. Hence, a ready-to-use decision tool can be derived from the EMOLITE prototype.

Documents:
[emolite.pdf (Final report)]

**STRIA Roadmaps:** Network and traffic management systems
**Transport sectors:** Passenger transport, Freight transport