RECORDIT

Real Cost Reduction of Door-to-door Intermodal Transport

Funding: European (5th RTD Framework Programme)
Duration: Jan 2000 - Jun 2002
Status: Complete with results

Background & policy context:

RECORDIT is an international project funded under the European Commission’s Fifth Framework Programme for Research, Subprogramme area ‘Modal and Intermodal Transport Management Systems’ co-ordinated by the Directorate-General for Energy and Transport (DG TREN). It addresses on a European scale the theme ‘Analysis of the cost structure of door-to-door intermodal freight transport services and the conditions to optimise it’. The recent White Paper of the EC on the revision of the Common Transport Policy devotes special attention to intermodal freight transport services. In its section ‘Linking up the modes of transport’, the White Paper advocates a number of technical, economic and organisational innovations that directly aim at increasing the attractiveness of intermodal solutions. On the other hand, and no less importantly, many other measures and actions proposed by the White Paper, although they do not target intermodal freight transport as such, are immediately relevant to the general objective of promoting intermodality. Specifically:

- the revitalisation of European railways (through radical increases in efficiency and the eventual establishment of a dedicated freight network),
- the introduction of an adequate system of transport infrastructure charging,
- the generalised improvement of the quality of transport services,

are all fundamental prerequisites to achieve a higher degree of competitiveness in the intermodal freight sector.

RECORDIT addresses those policy needs in a comprehensive way. It is based on the recognition that, in Europe, the current intermodal market is characterised and constrained by an insufficient knowledge of the mechanisms of cost and price formation. Increasing the transparency of those mechanisms will stimulate fair competition, and, as a result, raise efficiency levels and improve the quality of service, while contributing to increase the sustainability of the transport sector, social welfare and quality of life.

Objectives:

The main objective of RECORDIT is to improve the competitiveness of intermodal freight transport in Europe through the reduction of cost and price barriers which currently hinder its development, while respecting the principle of sustainable mobility.

RECORDIT has:

1. designed a comprehensive methodology for the calculation of real (internal + external) costs of intermodal freight transport and for the understanding of cost formation mechanisms;
2. validated this methodology through its application to three meaningful European corridors (including CEEC): Patras-Gothenburg, Genova-Manchester and Barcelona-Warsaw;
3. analysed current charging and taxation systems to understand price formation mechanisms;
4. carried out a systematic cost comparison for intermodal and all-road alternatives;
5. assessed current imbalances and inefficiencies;
6. developed a decision support module to foster generalisation,
7. identified and analysed technical and organisational cost reduction options;
8. formulated recommendations on public policies and business actions to reduce real costs and to internalise external costs;
9. promoted consensus building among operators and users;
10. disseminated project findings (2 workshops, a website).
Methodology:

The project consists of 10 work packages.

- The overall objective of WP1 - **Accounting framework** - is to define and specify the accounting framework for the analysis of the cost structure of door-to-door intermodal freight transport services.

- The aim of WP2 - **Corridor selection** - is to analyse the main parameters that influence the values of internal and external, fixed and variable costs for the different transport activities and thereby provide a basis for understanding the representativeness of potential study corridors in the context of Europe as a whole.

- The aim of WP3 - **Resource cost calculation for selected corridors** - is to validate the methodology developed in WP1 and WP2 for resource costs and to allow a feedback and a test of the methodology for data collection and cost calculation in well determined contexts. The results of WP3 provide the data basis for the following work packages. Fixed and variable resource costs for the selected door-to-door transport corridors are calculated following the bottom-up approach developed in WP1 and following the methodology developed in WP2. Quality criteria as flexibility, lead time, reliability, control safety and security and weak elements within the intermodal transport chains are taken in consideration to evaluate the performance of intermodal transport along the corridor from the business point of view. The results of the analysis are compared to cost and quality performance of road transport in both directions and are directly usable by the transport chain actors.

- The aim of WP4 - **External cost calculation for selected corridors** - is to validate the methodology developed in WP1 and WP2 for external costs and to allow a feedback and a test of the methodology for data collection and cost calculation in well determined contexts. Marginal external costs for the selected transport corridors are calculated following the bottom-up impact pathway approach developed in ExternE and the recommendations of the working groups for the High Level Group on Infrastructure Charging.

The following impact categories are addressed: impacts from airborne pollutants on human health, building materials, agricultural products and ecosystems; impacts from noise, climate change, severance effects; impacts on biodiversity, accident risks, congestion and slot scarcity.

- WP 5 - **Analysis of taxes and charges** - Application to

Parent Programmes:

**FP5-GROWTH KA2 - Sustainable Mobility and Intermodality**

Institute type: Public institution

Institute name: European Commission, Directorate-General for Energy and Transport (DG TREN)

Funding type: Public (EU)

Partners:

ISIS - Istituto di Studi per l'Integrazione de i Sistemi, Italy; IER, University of Stuttgart, Germany; Centre for European Economic Research, Germany; Gruppo CLAS, Italy; Tetraplan A/S, Denmark; Ecole Nationale des Ponts et Chaussées, France; Cranfield University, United Kingdom; The National Technical University of Athens, Greece; TNO-INRO, The Netherlands Organisation for Applied Scientific Research, Netherlands.

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Key Results:

The findings on cost structure, its components and the factors determining the total social cost were incorporated into a Decision Support Module, which has enabled interested parties to estimate the internal and external costs for door-to-door, or corridor movements, of their choice. Different design and policy scenarios were evaluated for those corridors and different geographical regions: the RECORDIT
The RECORDIT DSS is an interactive software designed to simulate the impact of transport policies on the competitiveness of intermodal transport services and the corresponding implications in the area of sustainable development. The different stakeholders involved in the current debate on intermodal costs and prices, i.e., intermodal companies, intermodal transport agencies, road operators, are among the more proximate end-users of the RECORDIT outcomes. In addition, the nature of the RECORDIT outcomes, extensive overview on intermodal and road transport costs and prices, in addition to a Decision Support System (DSS), a software tool, for policy simulation, is also being able to interest policymakers at national and EU level.

The flexible characteristics of RECORDIT DSS, i.e. the possibility to simulate costs and policies on different European corridors for road and intermodal transport modes allow the RECORDIT outcomes to exploit potential market segments in the field of consultancy for intermodal market analysis. Another major output of the project, in conjunction with the intermodal industry, was to identify potential means that could improve the competitiveness of intermodal transport in specific corridors. Barriers (of a financial, governmental, organisational or technical nature) that inhibit the adoption of these opportunities were identified and assessed before final recommendations for improvement were made.

**Policy implications**

With information about the private (internal) and social (external plus internal) costs of intermodal transport and its competitor - road freight transport, it was possible to identify how and why this gap varies in different parts of the European transport network. COM(97) 243 and COM(99) 519 suggest that 'many of today's transport problems result from differences in transport taxes and charges between Member States and between transport modes'.

The final results of the project inform the debate on 'fair and efficient pricing', and show the necessary charges (taxation) that are required for road and rail transport in different countries in order to meet those twin objectives of efficiency and fairness. The results of the research also demonstrated the benefits that would flow from a harmonised pricing system together with the reduction in road freight transport (and increase in intermodal transport) that would occur. Major benefits resulted from the application of the findings and recommendations of the project. In particular it provided vital support and guidance to the initiatives in EU freight policy that took place after the project's completion.

**Intermodal**

Different design and policy scenarios were evaluated for several corridors and different geographical regions: the RECORDIT DSS.

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**Pricing and taxation**

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**Related Projects:**

A wide range of EU projects are directly relevant to RECORDIT. Generally speaking, all projects dealing with either pricing issues or/and intermodal freight transport are expected to provide useful insights to this project. More specifically, the following projects have been identified as particularly significant in view of the RECORDIT objectives and workplan.

- QUITS,
- LOGIQ,
- CAPRI,
- EXTERNE Transport,
- INFREDAT,
- PROMOTIQ,
- IQ,
- X-MODALL,
- TEN-ASSESS,
- PETS,
- TRENEN,
- APRICOT,
- IMPULSE,
- IMPREND

Documents:
 RECORDIT_Final_Report.pdf (Final report)

STRIA Roadmaps:  Network and traffic management systems
Transport mode:  Multimodal transport
Transport sectors:  Freight transport
Transport policies:  Societal/Economic issues
Geo-spatial type:  Network corridors