

CONTRIBUTION TO A COHERENT SHORT- LONG DISTANCE TRANSPORT INTERCONNECTION

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ABSTRACT

Due to the wide range of the involved stakeholders and the absence of a strict hierarchical flow chart of their responsibilities, in combination with the lack of a focused legal framework, the development of a coherent decision making framework in the interconnection of long and short distance transport networks, is a rather complicated procedure.

Towards this direction, the present paper aims at contributing to the development and implementation of a coherent decision making process in the short-long distance interconnection.

Findings highlighted that a regulatory authority should be designated to the control and monitoring of the intermodal terminal, and responsible for the adoption of a policy facilitating intermodal cooperation and harmonizing existing modal focused legislation. Principal role plays the consideration of a common framework for transport and land use planning. Owing to the particularity of each interconnection combination, specific guidelines are developed.

Keywords: decision making, short-long distance transport, interconnection, recommendations.

INTRODUCTION

Transport represents a crucial sector of the European policy and relevant initiatives have been gradually developed. The White Paper “*European transport policy for 2010: Time to decide*” (European Commission, 2001) was the first comprehensive framework for the achievement of a sound European transport policy, stating that common transport policy has to be part of an overall strategy integrating sustainable development, including land use-planning policy, budgetary and fiscal policy, etc. (COM (2001) 307 final). In 2006, the Mid-review of the White Paper and the Communication “*A sustainable future for transport:*

Towards an integrated, technology led and user friendly system” (European Commission, 2006), argued for a holistic approach to transport policy, considering that mutually complementary action is needed at national, regional and local levels of government, aiming at integrating investment needs, regulations, differentiated solutions, technological innovation and infrastructure development. The recently published (2011) by the European Commission White Paper *“Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system”* (COM (2011) 144 final), set objectives and actions for the development of a more competitive and sustainable transport system till 2050, and included initiatives for the elimination of significant barriers that obstruct the improvement of key sectors of transport, like infrastructure, investments and harmonization of legal frameworks.

In the light of the above European policies, it is obvious that transport is in an era of change, and initiatives, such as sustainability, coherent cooperation among local, regional, national and European stakeholders, and integration of efficient interfaces between long and short distance networks for the enhancement of intermodality and the limitation of road transport, should be addressed. Focusing on intermodality, the development of interfaces between long and short distance transport networks is associated with the general processes planned by central governmental bodies and the degree of their efficiency depends heavily on the successful cooperation among the involved planning stakeholders at various territorial levels. Issues such as environmental protection, energy conservation, modal split and competitiveness, improvement of accessibility and regulatory restrictions, affect the planning process, as well as the range and implementation of efficient interfaces (Nathanail & Adamos, 2011).

Towards this direction, and based on the research and work conducted in the framework of the FP7 project CLOSER (<http://www.closer-project.eu/>), the aim of the present paper is to contribute to the development and implementation of a coherent decision-making process in the short-long distance interconnection.

METHOD

The methodology developed in this paper includes the identification of the involved in the decision-making (D-M) process stakeholders, the analysis of the existing regulatory framework in the European Union and in representative counties, e.g. Spain, France, Norway, Finland, Czech Republic and Greece, and the analysis of the planning and financing processes adopted across Europe that deal with the interconnection of long and short distance networks (Nathanail & Adamos, 2011).

For the needs of the present study, “interconnection” stands for the “physical flow”, i.e. the chain of different modes (for example, rail-air) for the transfer of passengers and/or the movement of goods between long and short distance networks, while “interface” is considered as the “information flow”, referring to issues such as ticketing, booking, provision of information, etc. In addition, when defining long and short distance transport networks, four discrete spatial scales were indicated and used, thus, urban, regional, national and European/international, considering also that interconnections among long and short distance networks are developed under multiple legs, which do not belong to the same spatial, scale (Andersen et al., 2010).

The first part of the conducted work regarded the identification of the main parties or institutions that are involved in the D-M in transport and especially in the interconnection of long and short-distance transport, in terms of planning, design, operation and financing. The identified stakeholders were categorized in six categories, namely: transport policy decision makers (local, regional, national and EU level), terminal operators, long distance transport operators, short distance transport operators, infrastructure providers and demand side stakeholders/customers. Also, the role of the stakeholders in the D-M process was defined (i.e. infrastructure ownership, infrastructure management/maintenance, operations and services, and regulations), as well as their interests and objectives (environmental, social and/or economical) and the interaction of each stakeholder with other parties, in terms, for example, of coordination, contracts, agreements, etc. Moreover, in each of the representative countries, the D-M processes were investigated under four levels, namely, planning and policy, infrastructure, operations and demand side.

As far as legislation is concerned, the European transport institutional framework and the European and national legislation regarding the planning and the provision of transport infrastructure and service, were reviewed.

For the assessment of the commonalities and differences in planning and financing processes among the European countries, key points were addressed, referring to relevant procedures followed in each country, such as the type and documentation of national, regional and/or urban transport plans, public participation, regulatory framework, financing schemes, etc.

Analysing all the data obtained from each country, in terms of decision making, the next step was to identify particular problems arising when aiming at a coherent and seamless integration of long and short distance transport interconnection. Towards this direction, an effort was made to build a well-structured decision making process, which is formulated with discrete steps, focusing in alleviating one or more of the most significant problems that are met in the interconnection of short-long distance transport networks. Each problem is tackled in one or more steps of the proposed process, and finally, specific recommendations are proposed for the implementation of each step.

IMPLEMENTATION

Illustration of decision-making processes in Europe

Based on the review and analysis of the decision-making processes developed in the representative European countries, thus, Spain, France, Norway, Finland, Czech Republic and Greece, it was highlighted that Decision-Making (D-M) can be considered as a rather complex procedure, mainly due to the wide range of both public and private bodies that participate, and the absence of a coherent legal framework applying to all transportation modes. Taking into consideration that a “successful” decision (solution) to a transportation issue or project is usually the outcome of an integrated technical and economical approach in which several bodies are involved in, it seems that a widely applicable framework that eliminates any potential conflicts is missing.

From all the countries used as case studies for the identification of a D-M pattern, it is possible to identify five main categories of actors: European Union, national governments, regional and local governments, private firms (i.e. operators) and users (i.e. travelers, consumers) (Adamos et al., 2012).

More specifically, at a national level, the involvement of transport ministries in the D-M processes is significant and regards the surveillance of the compliance of legislation, as well as the planning and financing of the development of the interconnections between short and long distance transport networks. Other ministries, e.g. ministries of economy and environment are also involved in the D-M, covering issues such as the financing of transport projects and the protection of the environment, respectively. At a local and regional level, it was observed that the administrative regions and municipalities have a catalytic role in the D-M processes, regarding the integration of interconnections at a local or regional basis. The governmental involvement at this stage is related to the administration or financing via regional resources of local passenger or freight terminals, public transportation services, etc. As far as the European transport policy is concerned, although a development has been noticed showing an increasing involvement of the European services in transport policy, especially regarding the interconnection of long and short transport networks, focused EU legislation on this issue has not been set till now. The review of the national framework and legislation of the representative European countries showed common characteristics in the interrelationship among EU legislation, national legislation and the D-M processes. More specifically, it was defined that D-M processes are developed under the generic scope of the relative national legislation, compliant to European and international directives, and it is foreseen that the implementation of EU regulations is obligatory for all member-countries, without required integration in national legislation, whereas the implementation of Directives, although is obligatory for countries, first, needs to be integrated in national legislation, while the adoption of the rest legislative acts (opinions, actions, positions, etc.) is not obligatory for national legal frameworks.

Analysing and assessing the data collected for the planning and financial processes in the representative countries, it was indicated that the strategic scheme of the planning processes followed in the long and short-distance interfaces is usually a “National Transportation Plan – NTP, with a time horizon usually 10-30 years. Ministries of Transport are the main responsible bodies for the preparation and coordination of the NTPs. In case that the NTP is part of an Operational Programme (OP) then, apart from the ministry, the relative managing authorities of the OP play also a significant role in the preparation and management of the NTP. As far public participation is concerned, it is common an “open” procedure (on-line call for proposals, etc.) to be followed before the finalization of the NTPs. Investigating the planning schemes at a regional level, common processes were also observed, i.e. the preparation of Regional Transport Plans (RTPs), which are usually parts of the NTPs, though focusing on regional needs. At an urban or local level, most of the large cities in European countries, prepare Urban Mobility Plans (UMPs), focusing on providing daily services to users (i.e. comfort, safety, etc.).

Finally, the review of the financial processes followed in European countries, showed that the majority of transportation projects are co-financed from EU, as well as from national resources and private funding (for example in cases of expropriations, etc.). The relative plans, i.e. NTPs, RTPs or UMPs, may define the allocation of co-funding of the projects. The

main responsible for the financial management is the responsible ministry of finance and economy in each country, which has the general supervision and sets the priorities in funding several projects. A rather developed funding scheme in EU countries is Public-Private Partnerships (PPPs), thus types of cooperation between the public and private sector based on a contract between the two bodies.

The assessment of the D-M processes that are developed in the representative European countries, led to the depiction of these processes into a logic diagram as presented in Figure 1. Specifically, it was observed that the long-short distance interfaces, further specified as an integrated plan, is illustrated by planning and policy stakeholders, either referring separately or in accordance to the development of the needed infrastructure, and the system operation. At the same time, users work as a catalytic key driver, affecting the D-M procedure at any level, e.g. strategic, tactical or operational (Figure 1) (Nathanail & Adamos, 2012).

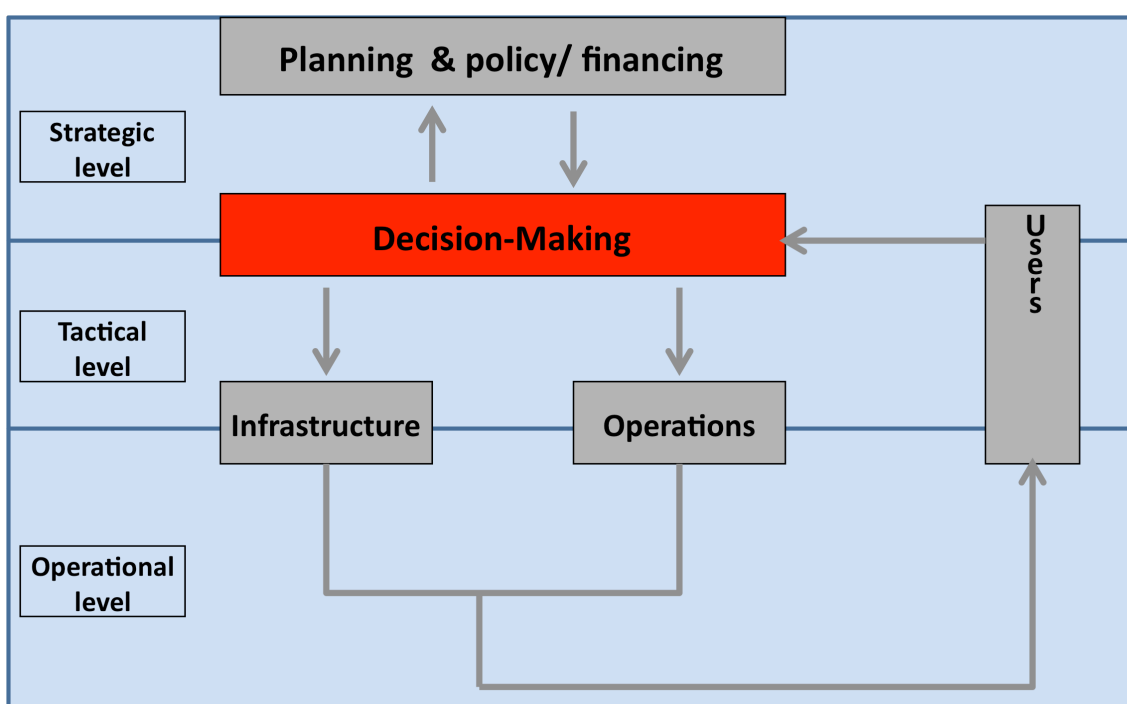


Figure 1 – Illustration of short-long distance interconnection

Current problems and bottlenecks

The most significant problems that were met in the above representative European countries, and could be probably considered as critical barriers in the decision making process, are the following (Nathanail & Adamos, 2011):

- Involvement of more than one entity (i.e. ministry or region) in the stages of D-M process. The absence of a strict hierarchical flow chart of responsibilities makes the procedure more complicated.
- Conflict of interests of the involved in the D-M process stakeholders (among central governments and regional/local authorities). Indicative examples regard the

arguments among stakeholders about the financing or not of certain transportation projects, especially in terms of land use, and the potential impacts that a project may have on the environment or the society.

- Absence of the relative legal framework for the interconnection and harmonized development of long and short distance transport networks.
- Lack of obligations regarding intermodality, for existing or new terminals.
- Limited national funding for land acquisition.
- Lack of required infrastructure.

Steps towards a coherent decision making process

For the implementation of a coherent and successful decision-making process, discrete steps could be followed, as it is shown in the following figure (Figure 2) (Nathanail & Adamos, 2012):

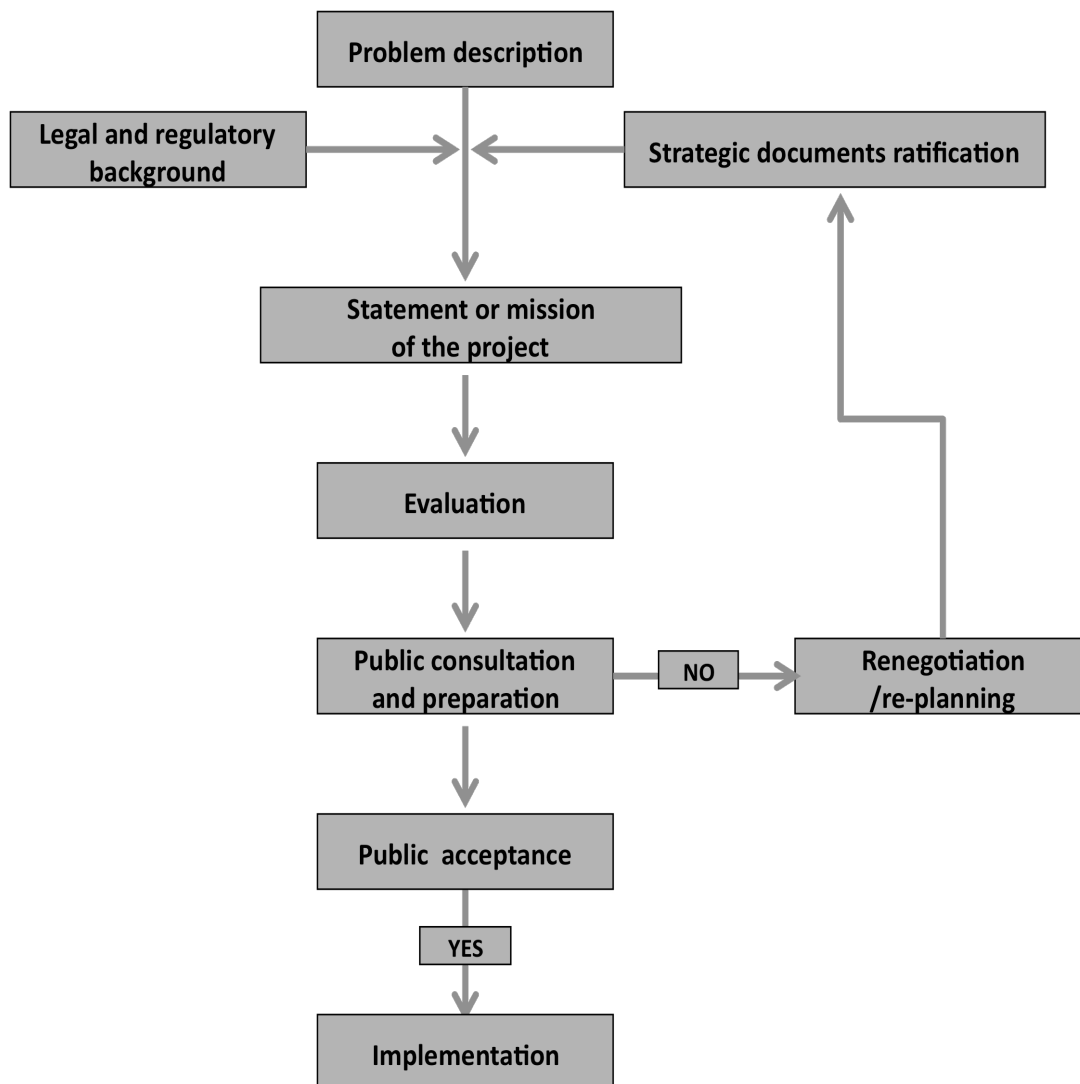


Figure 2 – Steps to implement a coherent decision making process

Analytically, the steps of the above process, the problems in the interconnection of short-long distance transport networks that are tackled by each step and implementation recommendations are presented in the following paragraphs.

Step 1: Problem description

In this step, general objectives but also specific goals have to be well defined, including indicators for before/after measures analysis and cost benefit analysis, if possible per unit, in order to assess direct impact.

The objectives and goals should be clearly indicated during the initial planning process, taking into account two important potentials; the first one refers to the possible absence of an hierarchical flow chart of responsibilities among the involved stakeholders which ex officio complicates the process (conflict of interests), and the second one arises from the lack of the required infrastructure and/or the limited funding of developing the planned infrastructure.

Specific recommendations for this step include:

- Creation of a strategy vision on intermodality and interconnectivity of various models for both passenger and freight transport, incorporation of this vision in a Policy Paper (“Roadmap for the Future”) concerning the development of the transport sector in terms of infrastructure and operations, ratified from the national parliament, and lastly, adoption and implementation of the Roadmap during the next ten years with the appropriate revisions.
- Creation of a “think tank” group, able to provide advice to policy makers and guide the whole process.
- Formulation of the strategic plan taking into consideration national principles of transport planning and the EU regulations. Due to the different philosophies of countries regarding centralized planning, the strategic plan should be developed at a level of a country.
- Counterbalance of delays in the D-M process, for example, by evaluating the causes of delays individually and assessing the allowance of time that it is worthwhile to delay the implementation.
- Incorporation of the planning process with land use planning. In this case, local strategic plans referring to the terrestrial development should include requirements based on European, national and regional strategic plans. Also, the distinction of planning for passengers and freight transport should be considered.
- Integration of the administration of the public transport system, by creating unique transportation authorities that coordinate the planning and management of different public transport systems. This integration has to be applicable for all public transport networks, in which there is more than one transport modes, and different owners, operators and public administrations are involved.

Step 2: Clear definition of the legal and regulatory background

Here, key questions should be defined, such as: “what are the laws which will govern planning, funding, construction and operations?”, etc.

Although a development has been noticed showing an increasing involvement of the European services in transport policy, especially regarding the interconnection of long and short transport networks, focused EU legislation on this issue has not been set till now. Therefore, due to this absence of the relevant legal framework for the harmonized development of long-short distance interconnection and, also, the lack of obligations referring to intermodality for existing or new terminals, the following are recommended:

- Harmonization of modal focused legislation and regulation as the first step before integration to a multimodal platform, and integration of commons standards at the EU level in accordance to EU Directives and regulations.
- Focus of policy and legal framework on the facilitation of intermodal cooperation. For example, creation of standards at a pan-European level for the facilitation of technological systems, and setting up of minimum standards for the intermodal connection of terminals to cross-national movements.
- Formation of regulatory and certified authorities targeted to interoperability and interconnectivity. These authorities should be responsible for the proposal of regulations, the certification of intermodal terminals, etc.
- Regulation of the charges for the use of the terminal. The charges should be regulated with a published code of practice.

Step 3: Strategic documents ratification across the political spectrum

In this case, a long term transport and land use strategy has to be developed, foreseeing regular updates with transparent procedures.

Step 4: Clear statement or mission of the project

The outcome of the problem description, taking into account the legal and regulatory background and the ratification of the strategic documents across the political spectrum, defines the clear statement or mission of the project.

Considering that the planning phase has been completed when identifying the problem (step 1), indicative recommendations for operations and infrastructures include:

- Separation of the owner from the operator, in order to ensure equal access to all interested bodies, to enhance “healthy” competition and avoid rivalries among stakeholders.
- Establishment of a cooperative framework between the terminal and the transportation operators.
- Effective operation of the delaying services so as to ensure that connections are not missed.
- Constitution of a transport infrastructure management body for all modes in one, working as an umbrella for today modal focused managements.
- Adoption or creation of standards for physical infrastructure, especially in the case of intermodal terminals.

Step 5: Clear, logical and transparent means of evaluation

For the achievement of an objective, different ways may exist, however they need to be evaluated up to a point where clear decision can be made to discard one in favour of others. Recommendations for this step include:

- Evaluation of the D-M processes of transport planning, land use and financial plans, where some kind of benchmarking may be catalytic for certain facilities.
- Conduction of in depth cost-benefit analysis for every initiative or project of terminal construction. The analysis should be integrated without differentiation by the responsible bodies under a well-fixed process following certain criteria, such as sufficiency of infrastructure, level of services, etc.
- Development of a list of planned multimodal facilities with financial viability, potential resources for implementation, priorities and time frame.
- Pursuance of Public-Private Partnerships models to solve complex local and regional problems and financing issues. The appropriate PPP model should be chosen, taking into account the bodies involved and the specific project, as well as the fact that the PPP is closed associated with the level of financing from public financial resources.
- Identification of the permanent participation of the public sectors and the EU as a necessity to guarantee the financial assurance. In this case, two issues have to be addressed, thus, the prioritization through EU funded procedures to intermodal investments and the relevant EU guarantee mechanism.
- Preparation of rules for cross border connection.

Step 6: Public acceptance and implementation

The frequency, the quality and the establishment of an integrated framework under which the discussions among the involved stakeholders take place, form the basis for the substantial public participation in the D-M process (Adamos et al., 2012). Public participation is expected, for example, before the finalization of a national transportation plan, where an “open” procedure is followed by governmental authorities, aiming at notifying the content of the plan to the public. However, public participation, even if when it is well designed and despite the increased demand of people to have an active role in the D-M processes, cannot assure the success of any transportation project (Szyliowicz, 2003).

The involvement of non-governmental stakeholders in the D-M process is also of high importance, referring, for example, to the technical support (e.g. chambers, public organizations, etc.) and the improvement of professional rights (e.g. professional drivers’ associations).

Nevertheless, it has to be highlighted that all categories of stakeholders involved in the D-M process have economic, social and environmental interests, which may be conflicting, causing significant problems and gaps, such as delays in the D-M procedure due to disagreements between institutions and bodies regarding the land use or the environmental impacts for new big infrastructure projects.

The enhancement of public consultation is recommended, through:

- The increase of the number of public hearings.
- The establishment of an internet based portal that enables public participation.
- The organisation of awareness raising actions for the provision of accurate information to citizens.
- The development of media briefings and the distribution of press releases, disseminating the means of the public participation.

In case of non-acceptance of the project, then re-negotiation and re-planning are required.

CONCLUSIONS

Despite the European policy objectives, as stated in the White Papers (COM (2001) 370 final, and COM (2011) 144 final), as well as the initiatives undertaken by various Directorates related to promoting co-modality in order to alleviate congestion and its consequences at nodal transportation points, the interconnection between long-short distance transportation still suffers from lack of developing and implementing a coherent decision-making framework. Main implications consist the involvement of more than one entity (i.e. ministry or region) in the decision-making process, without a strict hierarchical flow chart of responsibilities, the conflict of interests of the involved stakeholders, especially when land use is also affected, the absence of the relative legal framework for the interconnection and harmonised development of long and short distance transport networks, the gap in the obligations regarding intermodality, for existing or new terminals and the limited national funding for land acquisition and infrastructure.

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