



# **MULTI-LEVEL GOVERNANCE IN LARGE TRANSPORT INFRASTRUCTURES**

**DAVIDE SARTORI**

May 2008

# MULTI-LEVEL GOVERNANCE IN LARGE TRANSPORT INFRASTRUCTURES

DAVIDE SARTORI\*

May 2008

## Abstract

The present paper analyses the Multi-level Governance issue for large transport infrastructures relevant at European level. The focus is posed on the activities occurring before the infrastructure implementation, which are identified as the decision making-process. This is commonly a long and complex procedure involving a variety of stakeholders at different levels and a variety of corresponding interests and objectives. This procedure should ensure that the effects the project will generate are assessed taking into account all the stakeholders concerned (transparency) and, at the same time, it should avoid paralysis or delays caused by excessive discussions (efficiency). Five major transport projects have been selected as case-study to investigate the main features of the decision-making process (i.e. who participated, when and how), to capture the differences occurring between projects belonging to different countries and to understand how the process may influence the project's future economic performance. All selected projects have both a supranational and national relevance, because they have been included in a Master Plan at national level, but are also part of the Trans-European Transport Network. This double nature underscores the possibility that projects follow different paths in the decision making process, depending on the institutional framework, the objectives at stake and the relative importance assumed by the stakeholders. Evidence from the case study analysis highlighted that projects belonging to the same country follow very similar processes. This is particularly evident in the German and French cases, where national standard procedures are established in advance by the transport planning authority. When country-specific decision-making processes exist, these tend to ensure that the project-financing decision is taken when all the project's promoters have been consulted and when the requested information and analyses have been undertaken and submitted. This tendency can, however, lead to a lengthening of the process and delays in the infrastructure's implementation, which have a negative effect on the investment cost. On the contrary, in the case of projects belonging to two or more countries, no homogeneous procedure is followed and the duplication of tasks and entities (in order to have all countries controlling the process) makes the project management rather difficult.

*Keywords:* Multi-level Governance, decision-making process, transport

---

\* CSIL – Centre for Industrial Studies

Development and Evaluation Unit

C.so Monforte 15, 20122 Milano, Italy.

Tel. +39 02 796630 (57)

Email: sartori@csildevelopment.com

# 1. Introduction

The present paper analyses the Multi-level Governance issue for large transport infrastructures relevant at European level, as belonging to the Tran-European Transport Network. The focus is posed on the activities occurring before the project implementation, which are identified as the decision making-process. This starts with the first feasibility study on the project and ends with the decision of implementing it. It is a very crucial phase for the subsequent development of the project, as the basis for the financing decision is set at this stage.

In the case of major projects belonging to international networks, the decision making process is commonly a long and complex procedure involving a variety of stakeholders at different levels and a variety of corresponding interests and objectives. In general, the procedure should ensure that the effects the project will generate are assessed taking into account all the stakeholders concerned (“transparency”) and, at the same time, it should avoid paralysis or delays caused by excessive discussions (“efficiency”). In such a framework the role of each stakeholder should be fixed in the beginning, together with the timing for their right to intervene and the maximum extent to which they can influence the overall process.

The present paper derives from the results of the second workpackage of the EVATREN study (Improved decision-aid methods and tools to support Evaluation of investment for Transport and Energy networks in Europe). Following the results of the first workpackage, which provided a review of the state-of-the-art about applied appraisal methodologies in the Energy and Transport sector, in the EVATREN second workpackage eleven major projects in the transport and energy fields have been selected as case study and analysed. The objective was the ex post re-assessment of the selected projects in order to deliver a critical review of common mistakes and pitfalls and a set of recommendations on how to improve the methodological quality of the projects ex ante appraisal. The methodology used for case studies data collection comprised a common template structured in such a way to allow a horizontal reading of the sample of projects alongside a number of different issues, including the identification of the project’s objectives and the history of the decision making process.

On the basis of the information collected in the EVATREN study, this paper analyses more in depth the Multi-level governance issue, focusing only on transport infrastructures. Over the nine transport case studies selected for EVATREN, five have been here envisaged, because representative of different paths of decision making process or because presenting some peculiar characteristics of this procedure. The selected case studies are:

- The Frankfurt – Cologne Inter City Express
- The A20 “Baltic Sea” motorway (Germany)
- The Paris - Lille TGV
- The Milan Malpensa 2000 airport
- The Eurotunnel

The case studies analysis aimed to investigate the main features of the Multi-level Governance (i.e. who participated to the decision making process, when and how), to capture the differences occurring between projects belonging to different countries and to understand how the process may influence the project's future economic performance.

To do this, the methodology of this paper has been vertically oriented at the beginning - the decision making process of each case study has been analysed singularly - then it has been horizontally oriented - the procedure has been analysed within every project in order to draw some cross-cutting issues and conclusions.

## **2. Evidence from the case studies**

The present section provides evidence on the Multi-level governance aspect for each of the selected case study. Each paragraph has been designed to provide firstly the projects's institutional and policy background, then the identification of the objectives relevant at different government levels, and finally the context in which the project has been implemented (actors involved).

### **2.1 Frankfurt-Cologne Inter City Express**

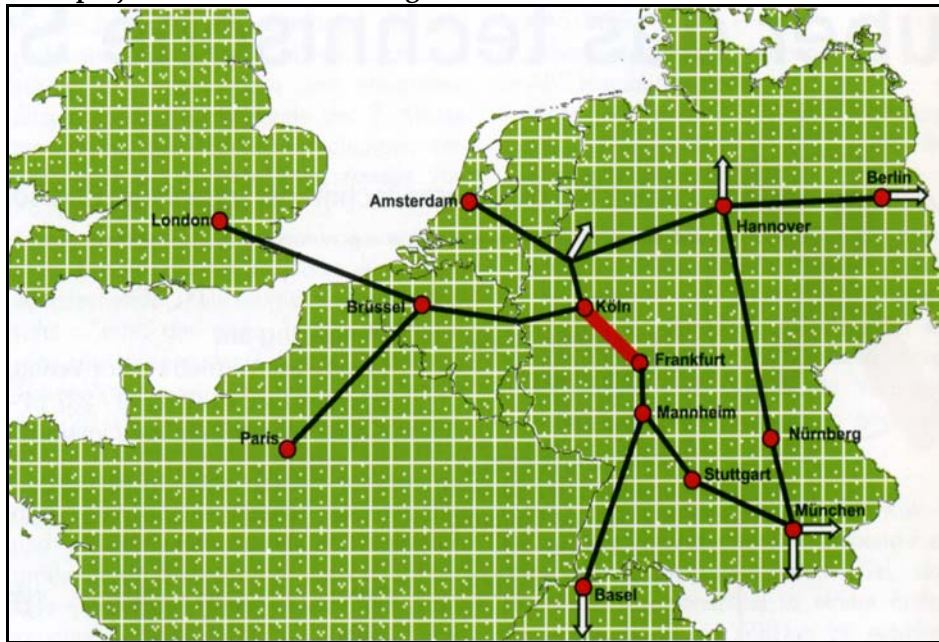
#### **2.1.1 Institutional and policy background**

The 1,200 km long high-speed railway axis Paris-Brussels-Cologne/Frankfurt-Amsterdam-London (PBKAL) is one of the fourteen projects of the Trans-European Transport Networks (TEN-T) which have been endorsed by the European Commission in 1994. All fourteen projects are defined as main corridors which play a vital role in establishing an efficient land transport linkage between major European regions (EC, 2002).

The PBKAL is aimed at linking a number of capitals as well as major cities by reducing rail journey times between the regions and providing travellers with a competitive alternative to air transport. The project was launched in 1989 with the signature of an agreement between France, Belgium, Germany, the Netherlands and the United Kingdom (EC, 2005). Each country is responsible for its own linkages with the long-term objective to establish the whole PBKAL axis (Figure 1).

First national ideas for the sub-linkage between Cologne and Frankfurt came up in the early 1970s before the international agreement was signed. Nevertheless, from the first idea until the opening year more than 30 years passed by. One reasons for the long time period is the complex evolution process in Germany, especially for railway infrastructure projects, with the strong influence of the German Federal States (*Länder*). Therefore, it is important to understand the iterative process of evolution and its different steps when discussing deviations in construction costs, planning periods and design of the infrastructure projects.

Figure 1: TEN-T project Paris-Brussels-Cologne/Frankfurt-Amsterdam-London (BahnReport, 2002)



The cycle of process for German railway infrastructure projects is the following (Flyvbjerg et al., 2003):

1. Rough estimation of benefits, costs and revenues within the standard evaluation procedure of the Ministry of Transport,
2. Integration of the project in the German Federal Transport Infrastructure Plan (FTIP) for long distance infrastructure projects,
3. Start of detailed design of the project, check for spatial integration by the German federal states,
4. New requirements set by the federal states as preconditions to implementation,
5. New cost estimation carried out by a planning agency, control activity by the Federal Railway Agency, revisions of forecasts, agreement between the German government and the Deutsche Bahn AG on cost sharing, establishment of financial plans and allocation of public payments to the future fiscal budgets,
6. Final design of the project, negotiations with communities, treatment of objections of citizens, expropriation process, new requirements set by the communities,
7. Construction of the project, reporting of actual cost development to a small group of officials from the involved agencies and the ministries of transport and finance as well as the Deutsche Bahn AG.

In every of the seven steps the project can be rejected or basic changes in design integrated. The original design (step two of the evolution process) for the ICE connection between Cologne and Frankfurt grounds on the general objective of maximising speed and therefore reducing travel time between the main cities of Cologne and Frankfurt and its airports. This objective should be achieved by designing the project with only one stop between the two cities. The geographical location of the station should be discussed during the following steps of the evolution process. After step five, where the cost sharing agreement is signed between the Federal government, the Federal states and the Deutsche Bahn AG, the federal

states had been insisting on further stops in each of the affected states. One stop on the track had turned into five new stations. Stations in Bonn/Siegburg (Federal state of North Rhine-Westphalia), Airport Cologne/Bonn (North Rhine-Westphalia), Montabaur (Rhineland-Palatinate), Limburg (Hesse) and Airport Frankfurt (Hesse) have been included in the project.

With the integration of further stations on the high-speed connection an increase in costs had to be granted indirectly. Furthermore, a shift in the original objective to reduce travel time between the cities of Cologne and Frankfurt had to be made because further stops go hand-in-hand with an increase in travel-time.

### **2.1.2 The general objectives of the project**

The general objectives of the project changed slightly with any step of the evolution process and also over time with a changing political framework.

The final objectives of the realised project can be divided between European, national and regional objectives:

#### *The European perspective*

As part of the high-speed corridor Paris-Brussels-Cologne/Frankfurt-Amsterdam-London (PBKAL) the linkage between Cologne and Frankfurt is a crucial part of an integrative European high-speed network. It is aimed at increasing the attractiveness of travelling by rail by offering substantial reductions in journey times and attracting passengers away from air and road travel.

#### *The National perspective*

The national view associates further objectives with the new rail track. The connection Cologne – Frankfurt connects the high populated area of the Ruhr basin with the region around Frankfurt/Mainz/Wiesbaden. Both regions play a crucial role for the German economy. Therefore, the new connection is a core element of the national German high-speed network (Figure 2):

The new infrastructure has been designed for passenger trains<sup>2</sup>. Before the opening of the new tracks the overall capacity on the old tracks has been exploited with the highest possible train frequencies. Growing freight volumes are still forecasted for the future, especially on the linkage between Rotterdam and Milan. The shift in passenger capacities from the old to the new tracks can be used for growing freight volumes.

---

<sup>2</sup> The new tracks could theoretically be used for freight transport but in fact only passenger trains operating on the new tracks.



different sub-objectives depending on the scope of each actor. The general analysis of the German Transport Infrastructure Investment Plan (economic, environmental and spatial analysis) served as crucial input for decision making, even if decisions were highly politically influenced (see geographical location of stations on the track).

## 2.2 Baltic Sea Motorway

### 2.2.1 Institutional and policy background

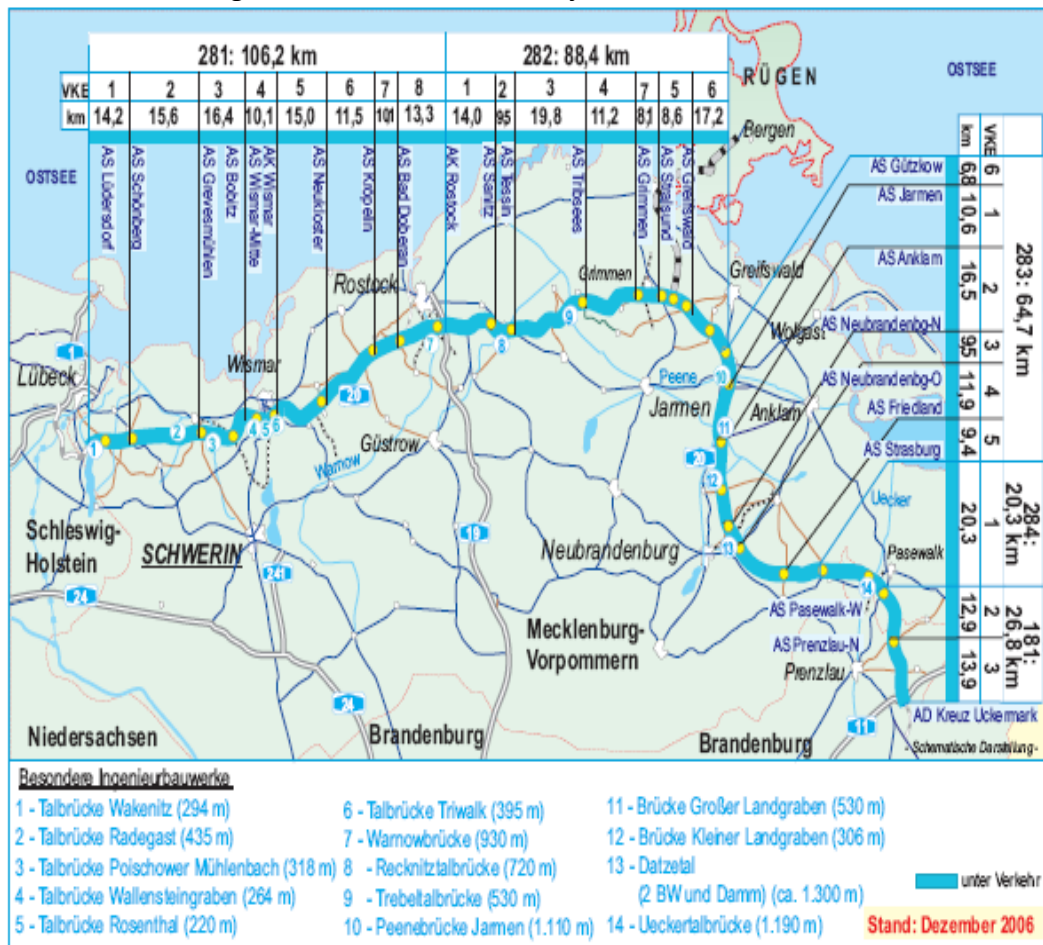
The construction of the Federal Motorway A20 between Stettin (Polish Border) and Lübeck (state of Schleswig-Holstein in West-Germany) is the biggest new transport network investment project in German history after World War II. Its planning and building took place in the very special phase of the German reunion. After the political unification of the two countries on 3<sup>rd</sup> October 1990, the policy goal was to align the former GDR economy and environment to western European standards, maintaining as much of its industrial substance as possible. The renewal and the enlargement of transport infrastructures, particularly roads, have been at that time.

Policy plans for renewing the eastern German transport and industrial infrastructures were developed quickly after the reunification. Already in 1991 the strategic plan of the "Transport Projects of Germany Unity" (*Verkehrsprojekte Deutsche Einheit*, VDE) was established. Within this framework, concrete plans for a Motorway connecting the Baltic Sea region of the new federal state of Mecklenburg-Western Pomerania (*Mecklenburg-Vorpommern*, MV) to the economic centres of western Germany (Lübeck, and later Hamburg) started in late 1991. After a four year planning and a 10 year construction phase, the final section of the Motorway A20 was opened for traffic in December 2005.

The motorway has a length of 324 km, crosses three federal states and has been estimated at a cost of 3.93 billion DM (= 1.97 billion €). It was built in 24 sections through Mecklenburg-Western Pomerania, Brandenburg and Schleswig-Holstein.

Figure 3 provides an overview of the geographical alignment of the project.

Figure 3: Sections and alignment of the A20 motorway Lübeck - Stettin



As regards the planning and construction phase, Table 1 provides an overview of the coarse planning stages of the project, differentiating between the physical construction, the economic planning and the legal preparation. The three types of planning were not, however, carried out in a strict sequence, but rather in parallel after that an on the coarse alignment of the road was reached. The single sections were planned and opened for traffic individually. Those sections considered to make traffic users gaining more benefits were constructed first in order to improve the economic situation in the new federal states as soon as possible.

**Table 1: Timing of planning and construction activities**

Realization Phases	Start	Development	Consolidation	Completion
Physical	Start of first connections to existing roads at Wismar: 1.12.1992	Preparatory works to be carried on until completion of final route plan in 1995	Main sections constructed and opened between 1995 and 2006; sequence according to importance.	Finalisation of the last three sections (50 km in Mecklenburg-Western Pomerania) 18.11. and 7.12.2005
Economics	Planning invitation to federal states in March and conclusion on "German Unity Projects" in April 1991 by BMVBS	Start of planning activities by the DEGES and the federal states 1991 to 1994	Finalisation to regional plans at federal state level 1994 to 1995	Fixing of the final route plans by the federal government in 1995
Legal/regulations	Foundation of the DEGES planning society at 7.10.1991; Planning acceleration act for the new federal states of 19.12.1991.	1st Investment act for the city access to Wismar 1994;	Environmental feasibility studies for the single sections prior to their construction start (1996 - 2003)	Approval of physical construction after a warranty period of two years after construction completion

## 2.2.2 The general objectives of the project

### *The European perspective*

As the decisions on the A20 had been already taken in 1991, i.e. prior to the signature of the Maastricht Treaty, the project were not financed with EU funds. Nevertheless, the A20 was successively included in the TEN-T<sup>3</sup> as it consists of an important Trans-European dimension by connecting northern Germany and the northern part of the Benelux countries to Poland and further to the Baltic states, Belarus, Ukraine and Russia. Furthermore, the A20 establishes a powerful land transport connection from the EU's economic centres to Finland, helping to reduce the remote character of this north-eastern extension of the Union.

Despite the pure national funding of the A20 and the non-funding by the TEN-T program, the European dimension played an important role in the traffic forecasts projected for the project. Without the opening of the borders to Eastern Europe the benefit-cost-ratio for the project would have been much less favourable. Therefore, the European dimension and the context of a backbone transport network formed an important implicit objective for the investment decision.

<sup>3</sup> Decision no. 1692/96/EC of the European Parliament and of the Council of 23 July 1996

### *The national perspective*

The strategic planning of national transport infrastructures in Germany is subject to the Federal Transport Investment Plan (FTIP), which is issued every 10 to 15 years. The planning process directly involves the Federal states in the phase of project proposition.

Generally, there are three competing objectives concerning the economic value of infrastructural projects:

- increase of social welfare of the country as a whole (efficiency);
- balancing the living standards in all regions/federal states (equality), and
- balancing the infrastructure stocks of all regions (equity).

In Germany in general and concerning the VDE projects in particular, the second objective, i.e. the balancing of living standards, measured by average income levels, determines the investment planning and funds allocation.

### *The regional perspective*

Apart from its function of international connection, the A20 was also assumed to stimulate the regional development in Mecklenburg-Western Pomerania. It forms the “backbone” of the state’s road network, which constituted of low quality roads, completely overloaded by the increasing traffic after the opening of the Inter-German border. Important state planning objectives connected to the A20 were:

- Access of the state to the agglomeration areas Lübeck/Bamburg in the West, Berlin in the south and Stettin in the east
- Connection to the remote areas in the north-east to the state capital Schwerin
- Inter-connection of the upper and middle centres and access to the tourist areas
- Connection to the federal motorway network and thus better international connections
- Hinterland access to the seaports and to their ferry services

## **2.2.3 The context in which the project was implemented**

### *The European Union*

The most important background of constructing the A20 motorway was the German reunification in 1990. This has not only changed the map of Germany, but also the European one. Even without thinking of a fast accession of the Central and Eastern European Countries (CEEC), it was clear that two developments will take place: the drastic increase of passenger and goods movements between the EU and the CEEC, due to catching-up processes, and the liberalisation of CEEC transport markets, which implies a considerable modal shift from rail to road and air. Within this context the improvement of east-west road links was of essential importance.

### *The Federal Transport Infrastructure Investment Plan*

The Federal Transport Infrastructure Investment Plan (FTIP) is the major German framework for new constructions and major extensions in the federal road, rail and waterway networks. It works out a priority list of projects but does not refer to funding issues. It is carried out every 10 to 15 years with the last issues having been published in 1985, 1992 and 2003.

Since 1992 the FTIP has been following the guiding policy principle of "development of Eastern Germany and upgrading in Western Germany". It also meets the need to develop the transport routes from Eastern to Western Europe and vice versa, while before the "opening" of East Europe all the German transport routes concentrated from North to South.

The committed investments are earmarked for maintenance, construction of new and upgrade of already existing federal railways, roads and waterways<sup>4</sup>. In 1992 there was defined an investment level of approximately €217 billion in total for the period of 1991 – 2010, which was updated one year later to €226,8 billion in total for the period of 1991 – 2012<sup>5</sup>.

### *The German Unity Transport Projects*

Even before unification, the German government quickly promised to equal out the big differences in living conditions and the income between Eastern and Western Germany within half a decade. Besides communication technologies and energy supply the quality of the transport networks were considered of key relevance for the fast and sustainable development of Eastern regions and thus to comply with the objectives set. Therefore, great efforts were made to improve transport infrastructures of all modes and on all levels.

Already prior to the completion and publication of the official 1992 FTIP, a number of priority projects was selected by the Federal Parliament based on pilot surveys on their general economic efficiency and their effects on the environment. The federal cabinet agreed on a list of "German Unity Transport Projects" (VDE projects) on April 9th 1991. These VDE projects were considered having a key role in the adhesion of the new and the old federal states. For the 17 projects selected (9 railway, 7 road and 1 water transport projects) no time should have been lost in establishing the planning documents and in preparing the construction works. The total budget was estimated at €28.6 billion, of which 11.5 billion devoted to the 7 road projects.

In particular the Motorway A20 (VDE Project no. 10) connecting the western German city of Lübeck to the population centres in the new federal state of Mecklenburg-Western Pomerania (MV) was considered helping to develop the living standards in this very low performing region. The A20 was drafted as the "backbone" of the Baltic sea area giving access to many regions in MV to the economic centres of north-western Germany.

---

<sup>4</sup> <http://www.bmvs.de/en/dokumente/-,1872.17080/Artikel/dokument.htm>

<sup>5</sup> copies: „Bundesverkehrswegeplan 1992“, p. 13 - 15

### *Foundation of the DEGES*

Under usual planning, the German law requires to include federal transport projects in the FTIP, which implies long planning times and regulates the funding according to quotas for each federal state and according to federal household rules and practices. To overcome these restrictions the German government has founded the “German Unity Transport Infrastructure Construction and Financing Society” (DEGES) in 1991. The purpose of DEGES was to take over the responsibility for the 17 VDE projects, carrying out planning procedures and tendering and supervising the construction works on behalf of the Ministry for Transport. The main tasks thereof are project and quality management, the co-ordination and optimisation of third party service deliveries, building inspection or land surveying and acquisition.

In total DEGES was responsible for the new construction and extension of roughly 1350 km of roads, including VDE projects and other access links representing an investment sum of €9.6 billion.

### *Legislative development to speed-up the VDE programme*

Planning procedures of transport infrastructures in Germany usually require 10 to 15 years due to multiple possibilities of the public to intervene. In the case of developing the eastern German infrastructures this planning phase was considered being too long. Accordingly, the German Parliament has passed the “Planning Acceleration Act” on May 8<sup>th</sup> 1991. It went into force at December 19<sup>th</sup> 1991 and was limited in time until December 31<sup>st</sup> 1999. According with it almost no public opinion would have been considered, no approval of environmental compatibility would have taken place and no legal veto would have been possible<sup>6</sup>. Its objectives have been to considerably shorten planning times for infrastructures in the new federal states, virtually excluding public claims, and to create quick connection between them and the economic centres of western Germany.

### *The Federal States*

The German Federal states usually have a very strong position in establishing and processing the FTIP, as they propose the projects included and participate in their assessment and ranking. Within the final budget for project funding there is a fixed proportion for each of the 16 federal states which needs to be considered irrespective of the benefit-cost ratios of the projects within their territory. Concerning the VDE, their role has been, however, more limited as budget proportions were not relevant here and as the proposal of the projects was carried out by a working group within the Federal Transport Ministry. In any case, the Federal states’ votes were still relevant as concerns local planning issues.

---

<sup>6</sup> Wolfgang Kieslich/Volker Kleinschmidt/Wilfried Löbach: Verkehrsprojekte “Deutsche Einheit”, p. 7

The new federal state of Mecklenburg-Western Pomerania (MV) played a central role as most of the A20 motorway leads through its territory. Accordingly, the final route planning determining the access to the most important cities, was accompanied rather critically by MV authorities. The MV's arguments in favour of the A20 were the following:

Large-scale and inter-regional roads unfold their potential not along the entire area crossed, but at specific access points and nodes, which are usually regionally important cities. The access of local areas to the great inter-regional and international transport networks fosters the regional development because the big economic centres within and outside the state can be reached quickly. In particular, the access to and from the big sea ports of the country has been considered of outmost importance<sup>7</sup>.

On the other side, the possible western extension of the A20 has been also seen within a national context to provide better access to northern Germany and the Ruhr Area.

### *Non-Governmental Organisations*

Usually large investment projects in Germany are accompanied by legal claims of citizen organisations and environmental activists. Given the alignment of the A20 through ecologically very sensitive areas in the state of Mecklenburg-Western Pomerania such claims are likely to have happened, but respective information could not be retrieved. Moreover, two issues might have hindered the activities against the A20: the rather restricted possibility for public claims caused by the Planning Acceleration Act of 1991 and the possible low public awareness of eastern German inhabitants for environmental questions in relation to their wish to catch up with the economic development of the West.

## **2.3 Paris – Lille TGV**

### **2.3.1 Institutional and policy background**

The TGV Paris-Lille case study has three main characteristics which make it particularly interesting:

- It is one of the first projects for which complete ex ante / ex post analysis methodology has been discussed and applied in order to comply with the project evaluation legislation of France.
- It is a case study for which very important difference between ex ante and ex post estimation have been observed and explained: the ex ante economic rate of return was estimated to 12.9% and the ex post to 2.9%, ten years after the opening of the new line.
- It is a case study decided after important international work of concertation between countries, as depending very much upon related international projects. In fact, the first study about TGV Paris-Lille took place very early in year 74, but the final decision was taken in 87-89, more than 10 years after. The reason was that it would

---

<sup>7</sup> [http://www.v.mv-regierung.de/raumordnung/doku/LEP\\_2005.pdf](http://www.v.mv-regierung.de/raumordnung/doku/LEP_2005.pdf), p. 61

not be envisaged without the construction of the Channel Tunnel, as well as the implementation of the Paris-Brussels-Cologne High Speed Train line (see par. 2.1).

The institutional and policy background of the Paris-Lille TGV is defined by LOTI (*Loi d'Orientation des Transports Intérieurs*), elaborated by the first socialist Government in 1982. This defines the general rules and steps for the development of transport infrastructures, governing the Transports infrastructure planning. LOTI provides the obligation for an ex-ante and ex-post assessment of implemented projects as well as the general methodologies for project evaluation. Subsequently modal specific Master Plans are drafted in order to specify the single investments to be implemented to reach the political objectives.

As regards rail high speed links, the decision to elaborate a "Master Plan" has been taken in January 1989 and adopted in 1992. This schema planned to build 4700 km of new high speed lines. At this day 1550 km of new lines has been realised, including the Paris-Lille TGV, which accounts for 346 km. In the intermediate report for the extension of the rail network to Köln and Amsterdam three alternatives routes have been envisaged.

The line connecting Lille to Paris was chosen because allowing a better rate of return and a more balanced accessibility to the cities of North "Pas de Calais" region and a direct connection with the Channel Tunnel.

### **2.3.2 General objectives of the project**

In the first report requested in 1974 by the French minister of Transport and the Minister of Economy the objectives mentioned were to "create frequent high speed services on the lines: Paris-London, Paris-Brussels, Brussels-London and Paris-Lille". Thus, The Paris-Lille TGV already supposed the construction of the Channel Tunnel and had a significant international relevance.

At this period the conventions between French and British concerning the construction of the Channel Tunnel were concluded and the Tunnel was planned to open in 1980. But this opening supposed the construction of new line in Great Britain and some improvements on the route to Calais (in addition to the High Speed line from Paris to North of France).

In 1975 the project was cancelled by the English Government for financial reasons, but during an English-French Summit in 1981 Mrs. Thatcher and Mr. Mitterrand launched again the idea of building a link through the Channel. The decision to construct the tunnel was taken in 1986 and the Treaty between France and Great Britain was signed in 1987.

In the same years it was also decided to extend the Paris-Lille line to Germany and Netherlands. A first study (Paris-Brussels-Cologne) gave some encouraging results so that the Ministers of the three countries concerned by the line decided to launch an in depth study on this extension.

As regards the national and regional objectives, these refer to:

- the development of the Nord Pas de Calais region including industrial activity and tourism;
- the change in traveller behaviour in the perspective of the A1 motorway congestion.

The Nord Pas de Calais region was particularly motivated in favour of this project, ready to adapt the regional transport to the new line implementation.

### **2.3.3 The context in which the project was implemented**

Four decision circles are identified in the French transport policy:

1. the President of the Republic, his ministers and the Minister of Finances (all the decisions pass through this first circle);
2. the sector administrations;
3. the external State partners, such as trade unions, professional or employer's organisations, associations, public and private enterprises;
4. the policy organisations: Parliament, Conseil Constitutionnel, Conseil d'Etat and Cour des Comptes.

Once the agreement with representatives of different ministries and professionals of the transport sector is reached, the system of public consultation involves the territorial entities to reach the final consensus. These refer to region, departments and towns or villages, i.e. the authorities elected at local level. The decentralisation laws have now given more power to such authorities and a more collaborative relationship between these and the Prefect (the representative of the State in the regions) has been settled.

The design of the French decision making process is depicted in Table 2.

**Table 2 : Decision making process in France and system of public consultation**

Phases of studies and stages of decision	System of public consultation
1. Planification : infrastructure master plan (road, rail)	<p><i>Law on the Developing of the territory 1995</i></p> <p>Parliament Debate</p> <p>Comité National d'Aménagement du territoire Regional councils</p> <p>CESR, CRT: regional socio-professional committees</p>
<p>2. Middle and long term planning (15 years)</p> <p>- Regional master plan - Contrat de plan State-regions - Reports of orientation giving the priorities of master plan</p>	<p>Concertation on the opportunity</p> <p>Circular of 15 December 1992 Public debate coordinated by the Prefet Debate on the economical and social and development of the territory stakes, the environmental impacts, indicating the questions and the differences of actors</p> <p>cahier des charges indicating the "zones" of the preliminary studies Law of 2nd February 1995 National Commission of Public Debate Public debate on the objectives and main characteristics of projects minutes of the debates added to Public enquiry</p>
<p>3. Programmation of projects in 3 stages:</p> <p>a) preliminary studies</p> <p>Determine the functions to be satisfied, be sure of the technical and financial feasibility of a project included in the Master Plan</p> <p>Definition of several routes in the zone of study</p>	<p>Concertation on the functionality</p> <p>Institutional concertation on the authority of the Préfet Opinion of the State services Opinion of the elected representatives of the concerned cities Opinion of the local associations</p>
<p>b) Avant Projet Sommaire</p> <p>Fix the costs, the choice of the route by study of alternatives</p> <p>Contain of the studies limited to what is necessary to launch the public enquiry</p> <p>Economical and social evaluation (LOTI)</p> <p>Environmental evaluation (impact study)</p>	<p>Concertation on the "riveraineté"</p> <p>Public enquiry (Law Bouchardeau 1983, Law on water, 1992, Law "landscape" 1993 and Law Barnier 1995 Local consultations conducted by the "Maître d'Ouvrage" Fragmented surveys</p>
<p>c) Study of the project</p> <p>Fix the technical choices</p> <p>Combine instruction Declaration of Public Utility</p> <p>Detailed studies Ministerial approbation</p>	
4. Follows of the decision, evaluation of the results	

## 2.4 Malpensa 2000 airport

### 2.4.1 Institutional and policy background

The first idea of expanding the airport dates back to the 70's, when it was included in the regional transport planning although with a limited geographical role. This idea was based on the fact that the city airport Linate was becoming too close to the city and no more extension or upgrading was possible. On the other side an expansion of the Malpensa airport was seen as a possible solution to cope with the environmental problem (especially noise pollution) rising due to the Linate airport closeness to the city. Moreover it was also affirmed that the Linate airport was approaching its maximum capacity. According to this, SEA (Società Esercizi Aeroportuali, the franchisee of the two Milan's Airports) elaborated in 1981 a first plan for expanding the Malpensa airport. Such plan did not fully meet the favour of Regional and local administrations, mainly for the fact that the project included also a third runway located near the Ticino Park area. The Administrations, then, required a new elaboration of the Master Plan.

In 1985, on behalf of Regione Lombardia, SEA and Italoairport produced a new Master Plan<sup>8</sup> for the airport development, the "Malpensa 2000" project (Italoairport, 1985). Such a new plan also included an environmental study. The plan was definitively presented, in 1986, to the Regional Administration for the approval. In the same year, the General Transport Plan of Italy included the development of Malpensa airport in order to make it a "large airport for Northern Italy" and the Malpensa 2000 project Master Plan was approved by Lombardy Regional Council. One year later, in 1987, the Malpensa 2000 project received the final approval of the national Ministry of Transport.

Malpensa 2000 works started in the year 1990, with an overall State grant of 936 B£. The works stopped soon, in 1992, and restarted in 1993. In the same year, the Christophersen Group, charged with identifying a list of European transport priority projects, accorded to the Malpensa 2000 project the label of European airport and included it into the TEN-T project priorities list<sup>9</sup>.

In 1994 and in 1997, EIB granted a 15-years total loan of 400 G£ (approximately 207 M€) to the project. The EIB loan was devoted to the first stage of implementation, which included all the works necessary to ensure the new terminal operations, supposed to be concluded by the year 1997. As stated by the Bank, it was assumed that a total switch of the international flights from Linate to Malpensa would accompany it. However, such a switch, announced also by the airport franchisee SEA, was for many reasons almost totally disregarded.

On 25<sup>th</sup> October 1998 the airport opened, even though some months after a new Environmental Impact Assessment provided by SEA was rejected by the Environment Ministry on the basis of the fact that traffic forecasts were largely underestimated.

---

<sup>8</sup> "Piano Regolatore Generale Malpensa 2000" (Italoairport, 1985).

<sup>9</sup> Decision No. 1692/96/EC

At present, further expansions are planned as part of a new Master Plan (not yet published). In particular a third runway, a further cargo city expansion and a new terminal are under discussion. These works will constitute the second phase of the project.

With regards to time schedule, according to the DCR VI/397/96 (“Programma Regionale di Sviluppo VI legislatura”), the opening of the airport to passengers with the facilities included into the first stage, was due to 01/01/1998, for freights the 31/12/1998.

Table 3 summarises the main events of Malpensa construction (colours refer to similar events).

**Table 3: Main events of Malpensa project development**

	1985	1986	1987	1988	1989	1990	1991	1992
<b>Legal / regulation / plans</b>	RL: SEA must prepare a Master Plan.	RL: approval of Master Plan	GOV: approval of Master Plan			EU: TEN-T debate EU transport network	→	→
		GOV issues the 1st PGTL.	1st EIA by SEA.					
<b>Financial</b>	GOV act 449/85: allocation of 480GE			GOV act 67/88: allocation of 480GE		Budget at start is 936GE		
<b>Physical / construction</b>						Work starts	→	Work stops

	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Legal / regulation / plans</b>	EU: Christophensen group	EU: Malpensa in the TET-T priority list	EU: Malpensa temporarily excluded from TET-T priority	GOV: decrees moving flights from Linate to Malpensa (“Burlando” and “Bersani” decrees)					
						GOV: request a new EIA	SEA: new EIA. And comments by GOV, RL		
<b>Financial</b>		EIB: 15 years loan for 400GE							
<b>Physical / construction</b>	Work starts	→	→	→	→	Airport opens, first phase.			

### *Key issues at stake*

The key issues still opened deal both with building and market aspects. The most relevant issues at present are:

- The surface accessibility represents the key point for the majority of the actors involved. The airport experienced a large success in terms of passengers and freight, despite the limited supply and quality of landside infrastructures and transport services. The issue is to determine the extent of the possible success the airport could have experienced with a better surface accessibility.
- The configuration of Milan airport system is still controversial. In order to support the new airport to reach a significant mass of passengers, the initial idea was to limit the former city airport of Linate to the Milan-Rome shuttle route. Before the opening of the infrastructure, the pressures to keep Linate fully operative were able to modify this approach; Linate airport is, in fact, nearer and quicker to reach for Milan and for the Eastern part of the metropolitan area. At present, Linate airport can operate national and EU flights with little limitations and experienced a large increase in demand<sup>10</sup>. The issue at stake deals with the effects of such unattended plan for Linate limitation and its effect on Malpensa full success.
- The future implementation of the second project phase, which includes a third runway, a further cargo city expansion and a new terminal, is yet under discussion. This phase is strictly linked to the freight traffic issues. Freight traffic, in fact, has recorded, a continuous increasing trend. Due to this trend, the airport freight capacity will soon approach its saturation point, estimated at 600.000 tons. Given that, an upgrading of these facilities is becoming indispensable. The cargo city expansion will improve the overall efficiency of cargo operation, and above all will expand the airport potential demand<sup>11</sup>. This is considered a key issue in order to trigger a regional economic development, linked to the airport presence that, by now, the airport has not fully produced. This phase includes also the planning of a third runway that is quite a critical issue with regards to environmental aspects. The runway, both for its physical location and for the increase in flights that will follow, it's seen as potential source of further environmentalist complaints.
- Another issue, which could slightly affect the future of the project, is the upcoming role of Alitalia. At the present time, the company, which is the principal carriers operating in this airport<sup>12</sup>, is facing a financial crisis that will soon lead to a change in

---

<sup>10</sup> Despite the initial idea of Linate strong limitation, during the 2006, Malpensa had 69% of passengers' traffic and Linate the 31%. In 2006 reached nearly the 70% of its historical peak of 1997.

<sup>11</sup> Currently, the catching area of the Malpensa airport represents about the 52% of the total national freight air traffic, but a consistent share of this potential demand is still fulfilled by the Frankfurt airport, apparently also for Malpensa operation inefficiencies.

<sup>12</sup> After the opening, Alitalia operated following a double hub scheme (Fiumicino e Malpensa).

the property structure<sup>13</sup>. This could make change the industrial strategy of the company that could decide to use only Fiumicino as its hub.

## 2.4.2 The general objectives of the project

According to the Master Plan (Italairport, 1985) the goals of the project were:

- i) aligning the airport to European standards, in terms both of air traffic movements and of operational capacity;
- ii) developing it into a modern and efficient system replacing the role before partially held by Milan Linate;
- iii) turning the airport into the major hub of southern Europe, the major airport of Northern Italy and the second major national airport by 2000.

By analysing the documents and plans produced during the years, it becomes quite apparent that the role and the objectives of the project are strictly dependent on the actor/stakeholder and therefore substantially changed over time. Furthermore, the objectives that were primarily formulated at the local level, became national and then supranational (Table 4).

**Table 4: Main objectives of Malpensa airport**

Objectives	Project initial phase	After inclusion into TEN-T	Present
Local	Increase Milan airport system capacity Allow wide body aircrafts	Economic development Northern Italy hub	Economic development Northern Italy hub
National	Allow wide body aircrafts Generic "hub"	Main Alitalia hub	
EU		Increase local air traffic capacity Intercontinental hub Reduce negative environmental effects Alps crossing (Geo-strategic goal) Gateway for international and intercontinental traffic in southern Europe Enhancement and development of access to the airport	
Firm/private		Alitalia hub, try to catch passengers using other hubs.	Undefined role for Malpensa and Fiumicino as hubs

### *Airport upgrade*

An initial objective of the project was to align the airport to European standards, in terms both of air traffic operations and capacity. The airport was, in Milan surroundings, the only one capable of hosting the new wide body aircrafts<sup>14</sup>. Moreover, it always hosted all the

<sup>13</sup> Today the Ministry of Economy owns the 49% of the company.

<sup>14</sup> Law 420/1971, on "giant aircrafts"

intercontinental traffic and the forecasts of increasing suggested the upgrade of the existing infrastructures, both in functional and quality terms.

### *Solution to Linate congestion*

Many documents, mainly at local level, state that Linate suffered of some congestion and operative problems<sup>15</sup>. The upgrade of Malpensa was a way to grant the desired expansion of system capacity. The configuration of Milan airport system saw the Linate airport becoming national and European short haul oriented, while Malpensa should be dedicated to the long haul with wide body aircrafts. The same motivation of increasing air traffic capacity for the Milan region can be found later in the applications for TEN-T financing (IT-95-331; IT-98-265; IT-99-105)

### *The hub*

As TEN-T priority project, Malpensa has always been considered intercontinental hub. However, the concept of an international hub requires a company based there and organised into a hub&spokes scheme.

At the end of the 90s the national and regional government defined for the first time the airport as the hub for Southern Europe. But such hub organisation was only “potential”, since, in practical terms, no airline issued an industrial plan declaring the interest to settle in that airport. In those years, Alitalia, the “natural” carrier for Milan market, was concentrating its activity in Fiumicino, even if never with a full hub&spokes scheme (some point to point flights always existed from all Italian airports, both national and continental, and timetables coordination was still lacking).

Only after the completion of the first stage, from 1998 to 2001, the strategy of Alitalia, supported by government, was to use Malpensa as the main Italian hub in order to contrast the competition of other hubs (“Piano di Sviluppo 1998-2000”).

### *Environmental impacts*

Reducing Linate environmental and noise impacts on the near city was one of the reasons supporting the switch of the majority of traffic to the farther Malpensa airport was seen as a solution. This goal is present at regional level and in the European funding applications.

### *Local development*

One of the main drivers at local level was to consider Malpensa as a powerful chance for local economic development. All the assessments produced during the decision phase focused on income generation and occupational effects and widely agreed on the capability of the airport of stimulating them. Moreover, the airport would have attracted firms in the

---

<sup>15</sup> Among the main ones: Regional Development Plan 1981-1983 (RL, 1981); Regional Transport Plan of 1983, the comment to 1985 “Malpensa 2000” Master Plan (DCR IV/274/86).

area and in the region and allowed a large infrastructures plan for accessibility that all the area would have enjoyed.

### **2.4.3 The context in which the project was implemented**

#### *The stakeholders involved*

Project promoters and supporters:

- Regional Authority: the main institutional actor for local transport planning and environmental evaluation.
- Italian Government: responsible for national transport plans and policies and shareholder of Alitalia.
- European Community: included Malpensa in the Essen list and provided part of funds from TEN-T budget
- Provincia di Varese: it is responsible for local land use planning through the “Piano Territoriale d’Area” (Centro studi PIM, 1998).
- ENAC: the Italian regulation agency for air transport, which is the responsible for airports’ master plans evaluation.
- SEA (Società Esercizi Aeroportuali): the franchisee of Linate and Malpensa airports, almost totally owned by local authorities. It provided the majority of funds necessary to Malpensa 2000.
- EIB (European Investment Bank): one of the main financiers, provided, together with a pool of Italian banks, a total loan of 207 M€ up to 1997. Subsequently the bank granted further loan for a total final amount of 307 M€.
- Alitalia. It is the main Italian airline, the former flag carrier. It was majority State-owned. Up to 2006<sup>16</sup>, Ministry of Economy owned 49,9%. The company is based in Rome Fiumicino and decided to support the development of a new hub in order to restructure its market and network.

Project opponents:

- Trade Unions: they opposed, at the beginning, to the transfer of workers from Linate to Malpensa. The national syndicates in Alitalia aimed (and succeeded) to protect the actual employees, mainly residents in Rome, avoiding a transfer to the new hub.
- Local project opponent groups: mainly self organised opposition groups, aiming at stopping the airport expansion. The main problems for them are the environmental and noise impacts.
- Rome municipality and Fiumicino airport: the capital’s airport and the local political bodies contrasted the new airport development in order to maintain as much as possible the relevance of Fiumicino hub.
- Other airlines. Competitors of Alitalia in the continental market. They expressed opposition to the forced switch of the majority of flights from Linate to Malpensa.

---

<sup>16</sup> During 2007 the owner started the privatisation process and at the time of writing of this report such process was still not concluded.

The context in which the project developed should be analysed taking into account that it is characterized by the involvement of more than one institutional levels. The project, in fact, started as a project of a limited regional interest, being thought as an improving of the Milan airport system. Successively, with the inclusion in the Italian transport planning document, it became a national interest project. But, the complexity of the institutional framework become even more complex when the new infrastructure was included in the TEN – T list, involving a further policy actor.

The main factors, which characterized the National/regional context, are:

- The absence of compulsory economic assessment requirements: during the development of the Malpensa 2000 no cost-benefit analysis of the project was needed in order to support the project. According to this, the ex ante analysis just regarded macroeconomic impacts of the infrastructure as its ability in triggering the regional economic development.
- The development of a new project managing system: the entering in force of “Conferenza dei Servizi”, which is a new approach of project implementation managing. It is characterized by the full involvement of all the levels (national, regional and local) in the decision making process.

While at the European level:

- The new European directives regarding Environmental Impact Assessment (EIA): the first Directive on Environmental Impact Assessment of the effects of projects was introduced in 1985 and, successively, it was amended in 1997 with the request to the Member States to transpose the directive within 1999.
- The TEN – T network implementation process: which led to the set of new rules in order to create new financial instruments to finance TEN T projects.
- The European air sector liberalization process: the regulatory system, which governed aviation within the EC, had, by 1993, been replaced by a Single Market for aviation. The European Commission took the lead in seeking to liberalize the system. During the project development three 'Packages'<sup>17</sup> of EU legislation concerning this issues were implemented in order to remove market barriers.

## 2.5 Eurotunnel

### 2.5.1 Institutional and policy background

In September 1978, Peter Parker, chairman of British Rail, proposed a joint British Rail/ SNCF scheme to build the “mousehole tunnel” aimed to carry rail traffic. No serious economic study supported the project, but the recession and the consequent squeeze on public spending made builders more interested than ever before. In this context, the tunnel appeared as an extremely positive deal, to be proposed to clients (i.e. the governments of France and UK) considered reliable and wealthy enough for guaranteeing long-term works.

---

<sup>17</sup> 1987, 1990, 1993

Thus, a technical concept with little economic background was in the air but, according to newspapers (Dickinson, 1998), political antagonism between Mrs Thatcher and French President Giscard d'Estaing worked against any sort of significant common achievement between UK and France: the French government wanted a public funding scheme, while the British wanted a private one. When Mrs. Thatcher won the election in 1983 the British position became even stronger, as stated by the National Westminster Bank, which wrote to the Department of Transport that the Channel link could have been possible without public funds. However, the political and economic importance of having a link between the UK and the continent was so vital that the initial divergences were soon settled. At the end of November 1984, Margaret Thatcher flew to Paris for a decisive summit meeting with François Mitterrand (discussions were held at the "*Salon Vert*" at the British Embassy) and the agreement between the two countries was finally reached. It was decided that the financing scheme of the project would have been completely private.

After the green light of the Salon Vert meeting, the two governments released the specification sheet and launched a call for tenders (1985). On January 20 1986, the Eurotunnel project was then selected: "France-Manche" (FM) and "Channel Tunnel Group" (CTG) were gathered under the single brand "Eurotunnel" and a 55 years concession was granted.

"Eurotunnel" is formally a bicephal company: "Eurotunnel SA" in France (ESA) and "Eurotunnel Public Limited Company" (EPLC) in UK. ESA and EPLC became concession holders, even if the governments did not involve any public money in return of this authority.

The consortium of companies for engineering work was created in May 1986. It was called "Transmanche Link" (TML). Similarly to "Eurotunnel", TML was also a bicephal organisation, with "GIE Transmanche Construction" on the French side and "Translink JV" on UK side. Costs, risks and profits were to be shared (half-half) and each company was running under its national regulation.

Earthwork began in 1987. The opening was planned in spring 1993. However, owing to construction delays and costs overruns, the Channel tunnel was actually completed in spring 1994 and the transport services were gradually supplied, at a lower pace than planned, due to problems in fixed equipment installations and rolling stock (Table 5). During the 1994-2007 period, operating revenues did not allow to financial sustainability. The debt was growing, the banks were increased their power and the shareholders had not been satisfied.

**Table 5: Timing of planning and construction activities**

Realization Phases	Start	Development	Consolidation	Completion
Physical	First earthwork in 1987	Tunnels bored between 1988 and 1991	Equipment and changes in safety standards until 1994	Opening to traffic in 1994
Economics	First studies undertaken by the Groupement d'Etudes pour le Tunnel sous la Manche (GETM), 1957	1981-1982 various studies, including AFSB report, basis for finance engineering.	Construction cost increase. Debt service becomes a significant element of cost.	With £4568 million in 1994, the overall figure was 69% over 1986 budget.
Legal/regulations	1986. Political decision. Eurotunnel established in 1986.	1987: Channel Tunnel Act ratified in France and UK	Court actions between Eurotunnel and TML.	1994: concession end (2042) postponed to 2052 to facilitate new finance call.

## 2.5.2 General Objectives of the Project

The Channel Tunnel benefits both France and the UK by improving accessibility and facilitating the transport of people and goods across the Channel. The project is an example of privately financed infrastructure, the first of this scale: the investors were indeed invited to commit millions without recourse to any government guarantee.

The technological objective of the project has been met: a 50 kilometres underground link between France and the United Kingdom, which comprises two terminals, a twin railway tunnel (about 7.5 m. diameter) and a smaller service tunnel (about 5 m. diameter). Shuttle trains are about 2500 tons and 750 meters long, each of them requires up to 250MVA power.

There have been no radical changes since its implementation. Nevertheless, there have been management problems: the contractor (TML) gradually lost influence on the owner (Eurotunnel) as the shareholders' base broadened; the Safety Authority, in a period of transportation disasters (Kings'cross, Clapham), drastically increased the safety requirements, thereby producing an increase in the costs and creating conflicts between the regulatory and the procurement processes.

The main flaw as been financial: the three major financial contributors of the project – Eurotunnel shareholders, the contractors and the banks - have lost a lot of money (equity 3 subscribed at above £3.50, and worth less than £1 ever since). Shareholders have small prospects of receiving a dividend, while banks regularly re-arrange the debt in order to limit their losses. The last operation, an “offre publique d'échange” – (OPE) dated May 2007. In conclusion, the financial situation has always been problematic, even if banks still receive interests on their loan.

## 2.5.3 The Context in which the project was implemented

With some simplifications the picture of the involved actors is as follow:

### *Policy Actors*

French and British governments, with strong personal involvement of UK Prime Minister Margaret Thatcher and French President François Mitterrand as well as the Department of Transport of the two countries. Policy actors encouraged the private sector to invest into Eurotunnel, but they did not commit their countries in financial terms.

### *Regulatory Agencies*

To supervise the project on their behalf, the governments of the two countries that granted the concession have established the Inter Governmental Commission (IGC), a French-Britain co-operation body of the governments. Decisions are taken in common agreement between the delegates. In case no agreement is reached, then the contentious is passed to both governments.

### *Institutional Bodies*

Three bodies have been created to regulate the relationship between both states and Eurotunnel: the Inter Governmental Commission (see above); the Safety Authority, and the "Tribunal arbitral". These three bodies represented, directly or indirectly, the interests of the citizen. But without another body, the banks, Eurotunnel would either not have been built at all or it would not have been built as a fully private infrastructure.

The Safety Authority was a joint body between French and British instances (at parity). The SA advised the IGC on safety matters and, therefore, has had a very strong power over technological decisions.

The Arbitral Court was a legal institution with the duty of solving litigations between the states as well as litigations between a state and a franchiser, or between franchisers.

The banks were the key players of Eurotunnel: they produced the 1984 report upon which all initial financial decisions were taken, they subscribed to equities 2 to 4 and the Bank of England did put Sir Alastair Morton at the head of Eurotunnel. After operations have started, they more than once re-negotiated the debt and set conditions for Eurotunnel management.

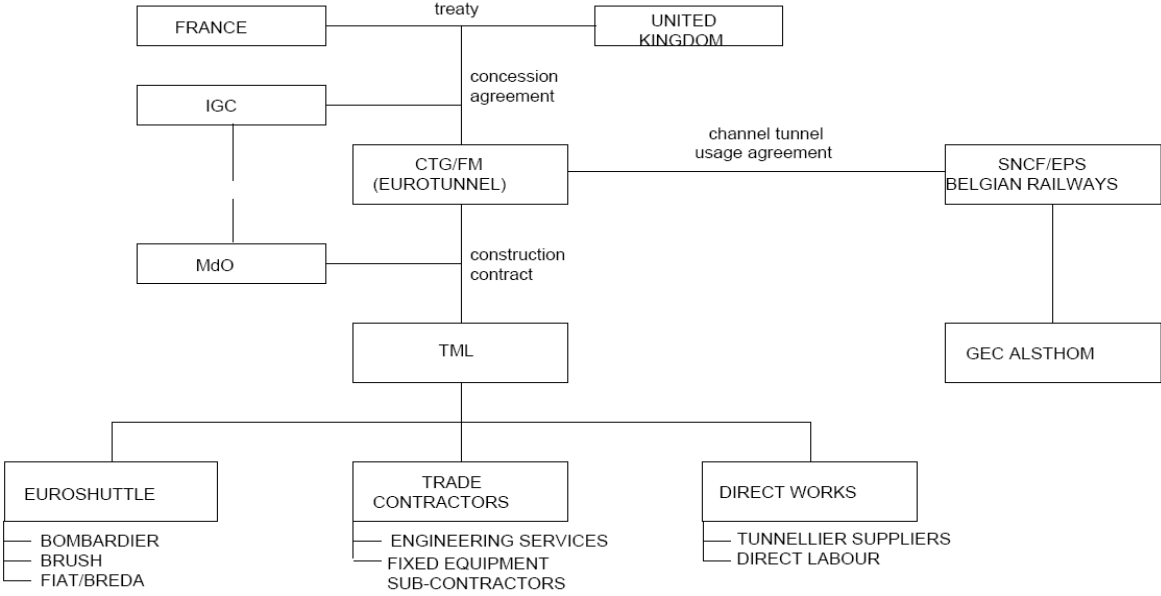
### *Regulatory and Policy Framework*

The main regulatory framework is the Canterbury Treaty, signed on February 12, 1986 by the French and the British ministers of foreign affairs. The Treaty states the strategic specificities of the project, namely the line between both land borders and defence, security and safety requirements. Then, the "Concession Act", signed on March 14, 1986, specifies the technical requirements of the project and states the concession holder's freedom of management and of operation.

*Project Complexity*

In addition to the difficulties inherent to any large-scale project, Eurotunnel had a structure where all tasks were duplicated, everything being made so that each half of the tunnel would be built by a French or a British company, each operating under its own national law (Figure 4).

**Figure 4: Eurotunnel Organizational Schema (start of earthworks)**



Duplication of all entities made the project very difficult to manage, not only due to the number of groups involved, but also because it was extremely difficult to build trust between duplicated managers.

Coordination was particularly difficult, not only due to different laws, different philosophies of work, but also because of the lack of experience. None of the managers or of the team members had accomplished such a task before whereas state-owned industries like BR (British Railways) and SNCF (Societè Nationale Chemin de Fer) were barred from the project despite all their expertise.

### 3. Cross-cutting issues

All selected projects have both a supranational and national relevance, because they have been included in a Master Plan at national level, but are also part of the Trans-European Transport Network (TEN-T). This double nature underscores the possibility that projects have more than one objectives and follow different paths in the decision making process, depending on the institutional framework and the relative importance assumed by the stakeholders.

Throughout the case studies sample, it is clear that each project has different objectives and different stakeholders (Table 6).

**Table 6: Review of the main objectives of the projects in the sample**

Project level	Local	National	European
ICE Frankfurt - Cologne	To develop a shared labour and working markets in the area between Frankfurt and Cologne and to foster demand on the residential market and commercial properties in the cities alongside the line.	To complete the national high speed network and to connect two regions which play a crucial role for the German economy.	To create an HST network which could connect Paris, Brussels, Cologne/Frankfurt, Amsterdam and London.
Paris - Lille TGV	Development of the region concerned by the project (Nord Pas de Calais) including industrial activity and tourism.	To create frequent high-speed services on the line from Paris and Lille, inducing also changes in traveller behaviour in the perspective of the A1 motorway congestion.	To create an HST network which could connect Paris, Brussels, Cologne/Frankfurt, Amsterdam and London*.
Eurotunnel	UK: to create a rail link between two terminals; the terminals had first to be connected to the rest of the country by road, and sometime later, by rapid train. France, to expand the French of HST network to the UK.	To create a transport link between the UK and the Continent. The link would benefit both France and the UK by improving accessibility and facilitating the transport of people and goods across the Channel.	To create an HST network which could connect Paris, Brussels, Cologne/Frankfurt , Amsterdam and London*.
Baltic Sea Motorway	To enhance accessibility of the regions concerned by the project toward Berlin and Stettin and to the other main cities in the area. Hinterland access to the seaports and to ferry services.	The project belongs to the VDE reunification priority projects which principal aim was balance of the living standards between the West and East Germany.	To help establishing a powerful land transport connection from the EU economic centres to Finland and thus help to reduce the remote character of this Northeastern extension of the Union.
Malpensa Airport	To increase the Milan airport system capacity and to allow wide body aircrafts to operate on Milan. This would have stimulated an economic development a regional level.	To develop the Italian hub for intercontinental and international traffic and to move the flag carrier from Rome to Milan.	To create a gateway for international and intercontinental traffic in southern Europe.

\*The project was implemented before the development of the planning of PBKAL-HST network.

In particular, each project showed to have at least three different objectives as well as three stakeholders belonging to different government levels. Projects in the sample in fact have contemporarily a supranational, a national and a local dimension and each of them correspond to different stakeholders. The main challenge is to consider whether these objectives are complementary to or conflict with each other.

The ICE Frankfurt-Cologne project is probably the most representative example of both complementary and conflicting objectives. On the one hand, there were the national and

supranational objectives of creating high speed networks of national and international relevance, respectively. These objectives could be achieved by designing only one stop between the two cities so that they can be seen as complementary to each other. On the other hand, there was the conflicting local interest to develop a shared labour and working markets in the area between Frankfurt and Cologne and to foster demand on the residential market and commercial properties in the cities alongside the line. Given the important role played by federal states, the final project has been designed with a total of five stops, producing an increase in travel time, which highly reduced the achievement of the other two objectives.

The case studies provide also evidence that objectives could change over time. This could be frequently the case when the objectives lack of a strategic vision on how to integrate the transport infrastructure into the concerned network. The Malpensa airport, for example, changed its objectives together with the stakeholder considered; the project suffered therefore a long planning phase and delays occurred, postponing the forecasted starting date of implementation.

In general, when the decision-making process is too long, the reference context might change quite significantly and the original objectives could become obsolete or no longer feasible. When the reference context changes significantly and several conflicting objectives are at stake, costs are negatively affected because of the necessity for project redesign and/or planning, as well as for development of further analyses to appraise the changed conditions.

In accordance with an evidence of multiple and frequently changing objectives, the case studies analysis highlighted that the decision-making processes are long, complex and strongly country- specific. The following Table shows how long it might be the process that goes from the approval of the project's Master Plan to its entering into operation (see for example the ICE Frankfurt-Cologne, whose decision making process has lasted for 18 years).

**Table 7: Most important dates by project**

	Master plan	Inclusion in	Start date		Completion Date		Operative
	approval	TEN	Forecast	Actual	Forecast	Actual	since
<b>ICE Frankfurt - Cologne</b>	1985	1994	n.a.	1995	n.a.	2002	2002
<b>Baltic Sea Motorway</b>	1992	1996	1995	1995	n.a.	2005	1997-2005*
<b>Paris - Lille TGV</b>	1989	1994	1989	1989	1993	1993	n.a.
<b>Malpensa 2000</b>	1986	1994	n.a.	1990	1997	1998	1998
<b>Eurotunnel</b>	1986	**	1987	1987	1993	1994	1994

\*First section opened on Sep - 1997, last section opened on Sep - 2005; \*\*The Eurotunnel was just opened at the beginning of the TEN-T financing period, and therefore it could not benefit from EU finance (14 priority projects: 40 billion Euros, to be spent between 1995 and 1999). Only the subsequent realization of a Northern Europe HST line Paris, Brussel, Koln, Amsterdam, London allowed the adaptation of the tunnel to the HST to be financed by TEN-T funding.

This length and complexity is probably due to the fact that the responsibilities for the decisions are dispersed among a high number of different authorities at very different levels: regional, national and supranational authorities. The number of stakeholders involved in the process is in fact high for all projects analysed: infrastructure owners, infrastructure operators, public administrators, regulators, users, non-users, etc. A large variety of stakeholders is already a good indicator that the decision to invest in a major project will follow a complex path.

Commonly local authorities that have a good knowledge of regional conditions, deficiencies, requirements and potential benefits or risks are the entities who initiate infrastructure plans. In case of national states this might be municipalities (e.g. Sweden), districts, regions or federal states (e.g. Germany). At the European level the entities proposing investment projects of Trans European interest are the national states. The financing of investment projects is provided in most cases, by higher government levels such as national government and/or the European Union.

Given the numbers of potential interests that each level could have, a very well defined process which states the timing and the responsibilities of each stakeholder is envisaged in order to reach a sound decision. The Germany and France cases are very relevant in this context as the two states show different country specific approaches on the issue, reaching however similar results.

In France the obligation for an ex ante and ex post assessment of implemented projects, as well as the general methodology for the evaluations, is defined by the national law (*Loi d'Orientation d'Aménagement et de Développement du Territoire*) governing transport infrastructure planning. Once Master Plans are drafted, a public debate is often held and even stakeholders who are not directly concerned, such as local communities, may have some influence on the final decision. This is "centralised and decentralised" at the same time: the input for the investment decision comes from the top of the hierarchy, but it also has to seek local compliance in order for the final consensus to be reached.

In Germany the problem is approached inversely because generally the need for new infrastructure is announced by local authorities. Then this feeds into the national master plan which in Germany takes the name of Federal Transport Infrastructure Investment Plan (FTIP) and is carried out every 10 to 15 years. The FTIP also defines the methodology to be used for the assessment of the projects under examination in order to provide a competitive assessment of different alternative projects. Although this approach is the inverse than in France, as the input comes from the bottom of the hierarchy, similar results are reached in terms of full involvement of the stakeholders and shared consensus.

It has been observed that, when country-specific decision-making processes exist, these tend to ensure that the project-financing decision is taken only when all the promoters have been consulted and when the requested information and analyses have been undertaken and submitted. Such decision-making processes can be defined as a series of subsequent steps, so that each project seeking financing with public funds has to pass through the procedures

which help to define the role of each stakeholder (including its power, timing of intervention and the maximum extent to which it can influence the overall process).

This tendency can, however, lead to a lengthening of the process and delays in the implementation, which have a direct negative effect on investment costs. The cases of the ICE Frankfurt-Cologne and Malpensa airport, for example, are quite representative of the direct correlation between the high number of stakeholders to be consulted and the excessive length of the process.

On the contrary, in the case of the Baltic Sea Motorway, an accelerated decision-making process has been applied in order to speed up the process for the high priority reunification projects (VDE Projects). The shortening of the process necessitated the exclusion of consultations with some stakeholders as well as to have a speeded-up timing for the ex ante appraisal of the project. This situation has, however, been partially counter-balanced with the appointment of a specific body (DEGES) responsible for managing the VDE Projects' implementation. This body was responsible for the whole project management from the financial to the timing management. As result, the Baltic Sea Motorway did not suffer cost overruns or delays in the construction phase.

Since project decision-making processes are country-specific, projects belonging contemporarily to two or more different countries did not follow a homogenous procedure. It is particularly clear in the case of the Eurotunnel how this feature led to a duplication of many tasks and entities in order to have both countries controlling the process. This produces difficulties in project management and activities coordination.

## **4. Concluding remarks**

Despite the fact that all projects analysed are supposed to contribute to an European strategy, the decision-making processes are very fragmented and country-specific. The analysis highlighted that projects belonging to the same country follow very similar processes, while there is no evidence of an European-wide approach.

As regards the involvement of stakeholders, the common tendency is to avoid reactions: the final decision is taken trying to compound all the interests and only after the completion of long consultations with the actors involved and the submission of the all information and analyses required. This tendency can, however, lengthen the process, producing delays in the implementation with negative effects on investment costs. In general, the shorter the decision-making process is, the easier it is to avoid cost overruns, although the interests of some concerned stakeholders might not be protected adequately.

Given this evidence, the following considerations are here proposed to promote an approach towards rationality, flexibility and democracy in the Multi-level Governance concept:

- A good balance between process time span and stakeholder involvements should be always found. More specifically, the Multi-level governance should ensure it avoids paralysis or delays caused by excessive discussions amongst stakeholders and, at the same time, guarantee the transparency through public consultations. In this manner, both the transparency and the efficiency requirements can be satisfied.
- Since large transport projects imply political responsibilities, more democratic procedures should be embraced: in particular, cooperation between national and regional/local authorities should be stressed because it seems to be a necessary condition to improve project assessments. The French case, where social acceptability is compulsory, could be taken as a model.
- Incentives at different points of the decision-making process might be introduced to promote rationality in the ex ante analysis of the project future performance, strengthening budget constraints and financial responsibilities. The incentive mechanism should be designed in such a way that a bond between who takes the decision and who will be responsible for it in the long term is ensured.
- Even if not discussed in the present paper, environmental issues should also be enforced because, despite the formal recognition of their importance, they are still playing a marginal role. The results of the EVATREN second workpackage highlighted, in fact, that environmental analyses are often used to mitigate the negative effects of a project without a real influence on whether or not it is implemented and that the earlier the integration of such analysis in the decision-making process, the stronger its influence on the final project design. Special focus should also be put on international projects, because in such cases the regulation aspects are not very clear: in the case of the Eurotunnel, for example, none of the national regulations really applied, whilst environmental assessments are mandatory by law.
- Finally, from an European perspective, since the European Commission deals with cross-border problems, it might be useful to encourage the adoption a general framework of Multi-level Governance, i.e. a European common checklist of approvals, to harmonise the country-based specificities of the process itself.

# Bibliography

ACT Consultants, IRPUD, Marcia1 Echenique & Partners (1992) The regional impact of the Channel Tunnel throughout the Community. Final Report to DG XVI, Commission of the European Communities. Summarized by Fayman et al. (1992).

Adler, H.A. (1997), Economic appraisal of transport projects, EDI Series in Economic Development, World Bank, Baltimore, USA.

Autobahn-Online: [www.autobahn-online.de](http://www.autobahn-online.de)

Bahn Report (2002), ICE Neubaustrecke Köln – Rhein/Main: Planen – Bauen – Betreiben, Eisenbahntechnische Rundschau, Sonderveröffentlichung, Hestra-Verlag, Darmstadt.

Belli P. et Al. (2001), "Economic Analysis of Investment Operations", The World Bank, Washington D.C.

Centro Studi PIM (1998), Piano territoriale d'area Malpensa, Regione Lombardia, BURL n° 5, edizione speciale del 6 febbraio 1998, Milano (Italy).

CERTeT (various years), Rilevazione periodica sullo sviluppo di Malpensa 2000, years 1999-2006, Unioncamere Lombardia, Milano (Italy). <http://www.lom.camcom.it/inside.asp?id=162> (last visit: 09/06/2006) or <http://www.lom.camcom.it/browse.asp?goto=1763&livello=3>

Channel tunnel Advisory Group (CTAG) (1975a), Channel Tunnel Provisional Estimates of Costs and Benefits, UK, April 1975.

Channel tunnel Advisory Group (CTAG)(1975b), Channel Tunnel and Alternative Cross-Channel Services (The Cairncross Report), UK.

Channel Tunnel Joint Consultative Committee (1987), Kent Impact Study: overall assessment. London: HMSO, UK.

Channel Tunnel Joint Consultative Committee (1991) Kent impact study. Maidstone: Kent County Council.

Chapulut J-N, Taroux J-P (2006), Rapport sur les bilans LOTI des LGV Nord Europe et Interconnexion Ile de France, Rapport du Conseil Général des Ponts et Chaussées.

Chapulut J-N (2004), Multimodalité avion – TGV, rapport du groupe de travail du Conseil Général des Ponts et Chaussées présidé par M. Guyard.

CLAS (2005), Sintesi delle ricerche realizzate da Gruppo CLAS e LIUC, Camera di Commercio di Varese e Milano, Milano (Italy).

CLAS (2005b), Gli effetti economici dello sviluppo dell'aeroporto di Milano – Orio al Serio, SACBO, Bergamo (Italy).

DEGES (2006): Verkehrsprojekt Deutsche Einheit Nr. 10: A20 Lübeck – Stettin.

Dickinson David (1998), "12 Billion Pounds under the Sea" in: Independent On Sunday 18 January 1998 .

European Commission (1996): Decision no. 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on community guidelines for the development of the Trans-European Transport Network.

European Commission, DG Regional Policy (2002) Guide to cost-benefit analysis of investment projects in the Framework of Structural Funds, Cohesion Funds and ISPA, Brussels.

European Commission, DG TREN (2006), EVATREN: Improved Decision-aid methods and tools to support evaluation of investment for transport and energy networks in Europe.

European Commission, DG TREN (2005) Trans-European Transport Network: TEN-T priority axis and projects 2005, Brussels.

Flyvbjerg B. et al. (2003) Megaprojects and Risk, Cambridge University Press.

Franco-British Channel Link Financing Group (1983), Finance for a fixed Channel Link, Interim report covering the first stage of analysis, Confidential report sent in July 1983 to the Commission of the European Communities, DG VII-C-1.

Franco-British Channel Link Financing Group (1984), Finance for a fixed Channel Link, Summary and conclusions, final draft, Confidential

Gruppo CLAS, LIUC-CRMT, CERTeT (1995), Gli effetti economici dello sviluppo dell'aeroporto di Malpensa, Comitato Malpensa 2000, Milano (Italy).

HEATCO (2005), Current practice in project appraisal in Europe, Brussels.

HEATCO (2005), State of the art in project assessment, Brussels.

HMSO (1973), The Channel Tunnel: A United Kingdom Transport Cost-Benefit Study, UK.

Liaison rapide Paris – Bruxelles – Cologne/Amsterdam, Rapport du Groupe de travail international – Décembre 1986

LIUC (2004), "Malpensa come opportunità". Accessibilità aerea e sviluppo regionale. Il caso Malpensa, Camera di Commercio di Varese, Varese (Italy). [http://www.va.camcom.it/pubblicazioni/ricerche-varie/elenco\\_ricerche.html](http://www.va.camcom.it/pubblicazioni/ricerche-varie/elenco_ricerche.html)

MV (2002): Verkehr in Mecklenburg-Vorpommern. Grundlagen und Fakten – Konzepte für die Zukunft. Wirtschaftsministerium des Landes Mecklenburg-Vorpommern. Schwerin. [http://www.wm.mv-regierung.de/doku/verkehr\\_in\\_mv.pdf](http://www.wm.mv-regierung.de/doku/verkehr_in_mv.pdf)

Odoni A. R. (1993), An assessment of the Malpensa 2000 project, MIT, annex of EC (1995), Application form for eligible project IT-95-331, Bruxelles (Belgium).

Paris-Bruxelles-Köln – Frankfurt – Amsterdam, Complément du rapport des chemins de fer – Janvier 1989

Rapport préliminaire du Groupe Tripartite France, Belgique, Allemagne relatif à la liaison rapide Paris – Bruxelles – Cologne, Juillet 1984

Rapports intermédiaires d'avancement établis par les présidents des groupes de travail n°1 (problèmes techniques) n°2 (Demande de transport-rentabilité) n°3 (Mécanismes de

financement et problèmes juridiques relatifs à la 2e phase de l'étude de la liaison rapide Paris – Bruxelles – Cologne/Amsterdam, Novembre 1985

Regione Lombardia (1979), "Programma Regionale di Sviluppo 1979-1981", approved with regional decree DGR II/102/1979, in BURL No. 14, 1° supplemento straordinario, 6 april 1979.

Regione Lombardia (1981), "Programma Regionale di Sviluppo 1981-1983", approved with regional decree DGR III/261/1981, in BURL No. 26, 1° supplemento straordinario, 30 april 1981.

Regione Lombardia (1996a), "Programma Regionale di Sviluppo 1995-2000", approved with regional decree DGR VI/397/1996, in BURL No. 52, 2° supplemento straordinario, 28 dec. 1996.

Regione Lombardia (1999a), Documento di programmazione economico finanziaria regionale, Bollettino Ufficiale Regione Lombardia, 3° supplemento straordinario al N.46, Milan (Italy).

SETEC (1985) Economie et Wilbur Smith and Associates, Trafics et recettes des liaisons transmanche pour la proposition de « France Manche-Channel Tunnel Group», Septembre 1985, Rapport général + Rapport annexes.(Also in English) Traffic and revenue of Channel crossings for the France Manche- Channel Tunnel Group proposal

Simmons, D. (1992), Regional impact of the Channel tunnel and associated links, Consultancy report

VIZ (2006): Verkehr in Zahlen (Transport in Figures). Statistical pocket book of BMVBS. Edited by the German Institute for Economic Research (DIW). Berlin.