PAPERS 44 INFRASTRUCTURE PLANNING AND TERRITORY. THE MEDITERRANEAN ARC

PRESENTATION

The exploration of the relationship between infrastructures and territory in one the axis that articulates the Spanish and European territory, the Mediterranean Arc, was the objective of the course organised by the CUIMPB (*La planificación de las infraestructuras y el territorio. El arco mediterráneo*, November 2005), coordinated by Carme Miralles-Guasch, director of the IERMB, and Ángel Aparicio, director of the CEDEX. The underlying thesis of three days of sessions was the change of paradigm that has been occurring in recent years in relation to the challenge of providing infrastructures with a territorial dimension from a dialectic perspective, with more emphasis on synergy and interrelations, and through the inclusion not only of physical and economic variables, but also of social and environmental ones. And although territorial dynamics are processes that in their genesis, development and implantation imply long-term time arcs, they cannot ignore the need to relate territorial scales of variable geometry. An example of this is, unquestionably, the Mediterranean Arc.

This was the origin and the conceptual framework that was the inspiration for issue 44 of *Papers* magazine on the Mediterranean Arc, understood to be a spatial axis in which different territorial scales are interrelated and in which there are some infrastructures (constructed or planned) that differ greatly from what could be defined as a multilevel network. In its analysis of this European space, the magazine features the collaboration of several specialists from a variety of origins, namely Turin, Marseille, Valencia and Barcelona, and different disciplines.

The first article, by Francesc Carbonell and Josep Báguena, analyses the process of constructing the Mediterranean Arc as a counterbalance of the influence of northern territories in Europe; this is a bidirectional process because it stems both from the European Commission and from the Mediterranean regions, the objective being to reach a consensus in terms of key policies on supraregional scales. One of these policies is undoubtedly that of transport and infrastructures, a matter that appears in all of the articles in this issue of *Papers*.

Francesca Governa explores the vision of infrastructures as being trans-scale territorial projects that should not only be conceived in relation to the geographic/geoeconomic/geopolitical scale that justifies their construction, but also through lesser and multiple hierarchical scales. She bases her analysis of the relationship between infrastructures and territory on the concepts of *territorial congruence* and *multilevel government* to guarantee that planning is carried out by all of the agents in the territory. Along similar lines of argument, Joaquín Farinós, in relation to the accessibility requirements of infrastructures in all of the territories of the EU, promotes the need for planning activities to be coherent and to consider inter-modal integration as a guarantee of local development and territorial cohesion. He analyses the Mediterranean Arc as an example of the specialisation of territories in polycentric Europe and underlines three key aspects for the success of the project: technical capacity, the mobilisation of agents and political leadership.

In his article, Josep Vicent Boira analyses how, despite the cohesion of the Mediterranean Arc and its strong business and social relations, there has been a loss of political interest in its physical materialisation. He presents several reasons for this (the limited interest of the EU, the lack of permanent institutional organisation in the region) that, combined with the system of assigning projects in the EU, in which national interests are rewarded ahead of criteria on a European scale, have prevented the axis from being consolidated. Meanwhile, the concept of a radial Spain has not benefited the development of the north-south axes that structure the peninsula.

Jean-Claude Tourret emphasises in the fifth article the importance of consolidating a common transport network in order for the Mediterranean Arc itself to be more internally coherent. However, he is aware of the existing dysfunctions in the network of infrastructures located along the Western Mediterranean coast, especially concerning railways, and the political difficulties of the unitary conception of infrastructures beyond the state level.

THE PROCESS OF CONSTRUCTION OF THE MEDITERRANEAN ARC: A TWO-WAY STREET

Francesc Carbonell
Josep Báguena

Introduction

Over recent decades, Europe has been interpreted from various spatial points of view, which have ranged from representations based on the predominant centre-periphery differentiations of the 70s, to others based on the identification of axes, arcs and "bananas" which cover extensive regions of the continent to, finally, those which are based on a system of network relationships. The representation of a networked Europe, which is necessary to understand the growing degree of complexity in which the territorial relationships are played out on the continent, should not lead us to forget, however, the existence of articulating axes, especially appropriate in the design and provision of transport and communication infrastructure.

In this sense, many of the EU initiatives aimed at favouring an increase in territorial competitiveness and a reduction of imbalances (European Territorial Strategy), the design and prioritzation of trans-European transport (TEN-T), as well as those arising from the territories themselves in the form of the constitution of supra-regional areas (Euroregions, Working Communities) are focussed on addressing functional realities that cross state borders. On some occasions, these realities are recognised and organised in the form of Euroregions. On other occasions the simply form strongly integrated axes which contribute to articulate the set of European territories from a functional point of view.

The Europe of axes and Euroregions becomes, therefore, a necessary reality both in order to have territories with sufficient critical mass to develop a system of relationships which require larger scales to articulate the European space. In this context, the Mediterranean Arc becomes, due to its population size, economic activity and its strategic situation between the continent and the Mediterranean, a key element that has to be interpreted as a unit and provided with the infrastructure which will guarantee it functions as such. In order to understand what the Mediterranean Arc means today, we need to determine and understand the process of definition and, moreover, focus on the elements which have acted as catalysers for its opportunities and potential as an articulating space for the European continent.

To address this question, we will review, first, the origins of the formulation of the idea of macro regions in Europe and, in particular, the determining role played by EU policies, both those directly responsible (perspectives of territorial planning on a continental scale, new criteria for regional

policies and for the allocation of structural funds, etc.), and those which accompanied or recognised *bottom-up* initiatives (in particular the INTERREG programmes). These policies have, in some cases, operated in tandem with processes of political and administrative decentralization and reorganization of the member States.

Second, we will analyse the possible answers, from regional and local scales to new options for territorial development policies produced in answer to EU instructions; answers which propose acting on the adoption of the paradigms of the new "regional" regionalization, a conceptual and practical approximation to the construction of new geographies of cooperation.

The conclusions will recommend to the territorial agents in the Mediterranean Arc, the application of new paradigms and the development of new opportunities offered by the interaction of these two processes (*top-down* and *bottom-up*) to construct a macro regional space, in order to overcome the current state of affairs, still embryonic and little articulated, but in which there have already appeared a series of initiatives which will be briefly described in the appendix.

1. The formulation of the Mediterranean Arc: a double process[1]

The concept of an Arc understood as an axis of development was first formulated in 1973 with the birth of the "Conference of Peripheral Maritime Regions" which brought together 65 European regions with the common aim of drawing up strategies to exercise a counterweight to the great human and economic concentrations of central Europe[2]. From this declaration of intentions, it is not until 1992[3] that we find a specification of the Mediterranean Arc in the documents of the European Commission prior to the elaboration of the European Spatial Development Perspective (Potsdam, 1999) in answer to the demand for a counterweight to the central European urban and economic spine and to define new potential spaces. Nevertheless, the initiative in the formulation of this new space does not respond exclusively to a strategic design on the part of the European Commission in terms of territorial rebalance. Studies carried out in the 80s analysed the dynamics of the development of the European urban system and highlighted the birth of new axes of alternative development to the north-south axis of the central European megalopolis, among which was the Mediterranean spine[4]. According to those studies, the Mediterranean Arc should have a role as protagonist in Europe[5].

In the historical process of the materialization of the Mediterranean Arc we can see, in synthesis, two processes and two parallel realities:

1. On the one hand, the express wish of various European regions, and later the European Commission, itself to create alternative development pools to the centre (*top-down*);

2. On the other hand, the cooperation of a range of regions and cities around the western Mediterranean with clear potential for economic development (*bottom-up*).

It seems therefore pertinent to ask ourselves, apart from the observation of the realities and existences, what the mechanisms have been for the consolidation of transnational and cross border potential in this two-way construction.

1.1. European construction, a key factor

In terms of the *top-down* dynamics, the answer is very clear. When Spain, Portugal and Greece joined the European Community in the 80s the processes of integration underwent a notable acceleration. The perspective of a single market radically changed the vision of borders. From the idea of the border as an expression of national limits, outside which no territorial development policy was envisaged, to the border as a space for the articulation and genesis of transnational realities[6].

From this first step and by means of mechanisms which encouraged territorial cooperation, the European Union decisively set the path for the emergence of the Mediterranean Arc. Among the decisions ratified by the Union and by the respective ministers of the Member States, the adoption of some guiding principles was particularly relevant as this formed part of a new "informal" territorial planning policy in Europe. Principles which have progressively given rise to new spatial configurations, to new geographic and economic spatial images, the discussion of which has been in itself an exercise in European cooperation and construction. Let us look briefly at the process followed.

The reports *Europe 2000 and Europe 2000+*, produced by the DG XVI of the European Commission, respectively in 1992 and 1994, were a first exercise in thinking about the construction of European territory on a different scale. As an example, in the first of these documents they anticipated that "the creation of a Europe without borders will accelerate the transformation of regional economic systems and will intensify the relationships between regions belonging to different states. A process which should be anticipated by the creation of networks of cooperation and setting territorial planning (of the States) in a wider geographical framework". Additionally, they especially recommended a new emphasis on this cooperation at an interregional level, although they still did not propose nor delimit in advance fixed regional groupings, but promoted as a first step, the setting up of "visions" of territorial development *bottom-up*, which were not restricted by national borders.

This batch of transnational territorial perspectives, out of which the Mediterranean Arc was to be a "natural" product, managed to generate a body of innovative thinking on what, in practice, European integration should mean and how, in an everyday way, the regional and local levels could participate. The second document, *Europe 2000+*, advanced proposals in two ways: on the one hand by intensifying the interrelations between the different territories in the Union and on the other, by beginning to define the criteria of cooperation with a future enlarged Europe on the basis of a spatial vision of the continent considered as a whole.

This itinerary of elaboration and discussion of framework-documents on European territorial planning led, finally to the adoption in summer 1999 in Potsdam of the *European Spatial Development Perspective* (ESDP), also known as *European Territorial Strategy* (ETE). The report more clearly established a series of processes to be followed in order to produce these new territorial visions of Europe by means of the constitution of great macro regional associations. The ESDP proposals were based on three guiding principles, which as we have mentioned, would be decisive in guiding "informal" European territorial planning policies: economic and social cohesion, sustainable development and balanced competition. Three principles which in the latest EU documentation have been summarised in one, territorial cohesion, and the specific application of which is carried out through the following *policy options*:

- Strengthening a large area of economic integration in the European Union, equipped with high quality global services and functions, including the peripheral areas by means of strategies of transnational spatial development;

- Strengthening a more balanced and poly-centric system of metropolitan city-regions, *city clusters* and networks of cities by means of cooperation between structural and political policies of transeuropean networks and the improvement of links between international-state and regional-local transport networks;

- Promoting integrated strategies of spatial development for the *city clusters*, within a system of transnational and cross border cooperation, including the corresponding rural areas and small towns;

- Driving cooperation on specific topics in the field of spatial development through transnational and cross border networks;

- Promoting cooperation on a regional, transnational and cross border scale,

between cities and towns in the northern, central and eastern European countries and the Mediterranean region, driving north-south relationships in Central and Eastern Europe and the east-west relationships in the North of Europe.

This innovative position on territorial cooperation proposed by ESDP modified and encouraged people to think in terms of new functional geographies of European space and the construction of a vision of the Mediterranean Arc took shape. It was by means of the articulation of these great economic macro regions that it was possible to make up, piece-by-piece, the territorial puzzle of the European economy.

Hence the Mediterranean Arc, or the alpine Arc or central Mediterranean became cross-border territories in process of gestation, new possible territories based on geographical solidarities which had to be encouraged to consolidate[7]. In short, then, we can see that Europe has played a fundamental role in the emergence of the Mediterranean Arc both as a reference (Single Market, ESDP) and as an institutional agent (Directorate General of Regional Policy of the European Commission). We will now see how, following the principle of action-reaction, the rules of the game formulated "top down" have been or may be reformulated "bottom up" by means of renewed initiatives undertaken by regional or local political or economic bodies. This is a process we have called new "regionalization".

1.2. The new "regionalization" of Europe

As Josep V. Boira (2002) explains, the concept of "regionalization" may vary depending on the definition of "region" used. To understand the new European territorial dynamics he proposes we work with "economic" regions, that is, those which are set up by the reality of flows and relationships. According to Dematteis (2002) these new economic territorial units are, mainly, "intentional constructions". In other words, the areas of macro regional cooperation are an answer to a claim on the part of the territories to enlarge their critical mass and the opportunities of interaction in a globalised economy; they are the authentic territorial entities of the future for decision-making, the new active subjects of political public and economic life.

In the voluntarist creation of these new areas, the opportunities for interaction of the regional-local scale with the global one are more possible and direct than ever. Regions, local groupings, businessmen, universities, schools and economic sectors can participate and in fact do so in the game of international political, economic, thinking and market relationships, without having to pass to the next administrative scale in the hierarchy.

This new approach to territorial relationships, which means a new way of thinking and acting, implies having previously gone through a series of new paradigm and opportunities:

- The territories, their governments and their agents increasingly have the possibility of organizing themselves horizontally or in networks. To respond to the new challenges of globalisation and the resulting economic restructuring, the system of relationships between cities and regions is reorganized with more direct connexions, of a non "pyramidal" type, between the various elements.

- The new organization in networks is based fundamentally on the potential of regional and local players, in endogenous development.

- It is necessary, as has already been said in other words, to manage the interdependencies between territories, their projects and common strategies, and their complicities. In the area of the Mediterranean Arc we have, for example, to overcome attitudes which are too passive or merely "descriptive" and to advance towards other more proactive and propositive attitudes.

- We need to look in depth at the new possibilities of regional and local cooperation in all areas of European public, social and economic life and integrate *lobbying* as a way of defending, at one and the same time, the particular and general interests of the macro region of the Mediterranean Arc.

Thus, continues J.V. Boira, and according to the premises of this new "intentional" regionalization, the idea of the Mediterranean Arc, "the model of this new immediate, active and geopolitical territory", should not lie exclusively in "processes of classical territorial formation –in short in processes of national construction–, but rather in more functionalist formulations which, in part, have already been attempted in Europe over recent years" (Boira, 2002). The problem arises, however, when the agents who supposedly are to contribute to the construction and strengthening of the relationships in this new area, do not know what is happening in Europe "in terms of regional cooperation, economic and business association, and common territorial planning"(Boira, 2002). They ignore, for example, that the "new spaces" which are being configured in Europe on different scales, the new cartographic and economic design of the territory, is based on, as we have said above, the interaction between the rules of a European spatial approach "from above" and the response from economic cooperation on a regional and local scale which is born "from below". They also ignore, have forgotten or, simply, have chosen to ignore, the need for this double "creative effort in territorial issues". On the one hand, there has not been the least sign of adopting common points of view in terms of territorial planning and, on the other, as they have not achieved an effective materialization of these new spaces, there has been no new form of cooperation nor government in this enlarged geography either. Once again in Boira's words: there has not arisen the need for a new "regional" (euro)regionalism.

The appearance of this concept is linked with the role of the regional territories as units of economic analysis, of decision-making and of application of territorial planning and development principles. Boira uses the definition proposed by Mace and Thérien (1996), where "regionalism" is understood as "a process which happens in a geographical region given that various types of players (states, regional institutions, social organizations) share and pool fundamental values. These players also participate in a networked growth of economic, cultural, scientific, and diplomatic interactions [...]. Although the progression may not be automatic and the speed may vary depending on the sector which is affected, the combination of growing interactions and shared values does not necessarily produce a new political unit, but rather a stronger and more diversified capacity of management and decision making on regional issues." The elements that characterize this new meaning of "regionalism" would be:

1. that we are dealing with a process

2. that it involves many players from different backgrounds, not only institutions or governmental bodies

3. that working in networks is given priority over hierarchical relationships

4. that it combines the most fundamental or economic interactions with shared values

5. that it admits different speeds for different sectors of the economy or social life

6. that it aims to, above all, increase and organize the capacity to face regional and international problems rather than just creating a new superimposed legal and governmental reality.

Therefore, after the "regionalism" at a state scale which formed the EEC in the 50s or the EU in the 90s, and the more or less intense processes of *devolution* within each member state, we find a third stage of new "regional" regionalism, which started as trans-state and cross border expression, articulating "semi administrative" areas, but which could continue within each State.

The materialization of this construction of new areas of decision-making and cooperation were channelled through the adoption of a real regional agenda. This regional agenda understood not as a sum of declarations, meetings and summits –which is what to a great extent the activity of associations such as the

Working Community of the Pyrenees, The Euroregion of the Mediterranean Pyrenees or the Latin Arc had centred on, to give three examples of territorial areas and diverse institutional representations–, but as an effective expression of multilateral visions of the economy, social life, politics and the planning of a new territory to be constructed.

Possible topics on the new regional agenda of the Mediterranean Arc –some of which as would be expected, already formed part of the established working groups, for example, in the Latin Arc or of the Inter-Mediterranean Commission of the Conference of Peripheral and Maritime Regions (CRPM)–, should be:

- Management of the coast, a shared physiographic characteristic, which should be treated in coordination with policies on tourism, the conservation of the environment, fisheries and natural resources, ports and maritime transport

- Water, as a strategic factor in the Mediterranean basin.

- Communication and transport networks, due to their importance in the quality of life and economic competitiveness of territories.

- Shared economic structure, both a set of purely economic elements, as well as territorial and cultural ones.

- The construction of a new geopolitical space where the relationships of the member states which make up the Mediterranean Arc and Europe can be reconsidered.

- Territorial planning, the planning of uses and the preservation of natural spaces from a supraregional perspective.

In addition to a great number of other questions, while not as important, depend on the affected territory, such as: the network of cities, immigration, the labour market, support for the internationalisation of companies, shared industrial sectors, the model of trade, the constitution of a common ports and airports policy, the pressure of tourism, agricultural policy, and cultural cooperation, etc.

Boira, inspired by the concept of "*spatial suicide*" coined by Calthorpe and Fulton (2001) – a concept which the authors use to refer to those North American metropolitan areas which have opted not to adhere to the need to create an economic macro region–, leads them to predict serious problems in the medium to long term caused by the absence of a shared vision of the Mediterranean Arc, specifically in the economic and material fields (infrastructure, territorial planning, etc.). To complete the description of the paradigm of "regionalization" and to be able to judge better the convenience, need or urgency of economic and material cooperation between the various territories that make up the Mediterranean Arc let us look at which aspects, according to the same authors, we should consider:

1. The external effects of decisions taken by neighbouring territories. The growing political and economic integration of territories leads to an increase in the dependence and interference of the economic and social dynamics of territories on others.

2. The convenience of constructing infrastructures in a networked form. Accessibility is, as has been said, a key factor in improving the competitiveness of territory. It is, as a right, a constitutive part of what the OECD calls "territorial capital". And in the case of small territorial units such as those which make up the mosaic of the Mediterranean Arc, accessibility almost always depends on the "others", which makes the adoption of a policy of cooperation even more essential.

3. The need to avoid unfair competition with neighbouring territories by means of cooperation. This means doing what some authors have called *co-opetition*, which means, for small territories, reserving competition only for those areas where we have "win-win" situations and cooperating, on the other hand, in aspects such as large communication infrastructure, which are high cost in the case of duplication and may lead to financial resources running out and not being available for other needs, or in certain economic sectors such as tourism, in which savage competition can have a negative impact on the environment and even putting at risk a resource which is necessary for one's own success and the viability of the futures of the companies involved.

4. Increases deriving from economic efficiency based on cooperation. The example of economic synergies coming from the establishment of a European single market being the best example.

5. The ability to exert pressure (*lobbying*). The coordination of policies and the cooperation of public action and private sectors allows for increased influence when faced with state and supra-state power.

1.3. European regional policy: the meeting of *top-down* processes and *bottom-up* initiatives

The Directorate General of Regional Policy of the European Commission offers official recognition and an organizational framework for an associative dynamic which drives initiatives of territorial recognition outside regional and national borders with a bottom-up logic. This recognition is shown in the Community Initiative Programme INTERREG[8]. The main aim of INTERREG is not so much to foster the development of cross border regions, but to accompany symbolically, and to a certain extent financially, initiatives for the recognition of common interests[9].

The example of the initiative INTERREG or other programmes funded by European Regional Development Funds (FEDER) allows us to claim that the two process involved in the formation of the Mediterranean Arc mentioned above –on the one hand a progressive recognition on the part of the European Union of transnational realities and, on the other an articulation of territories with the potential for cross border development which we have called "new regionalization"– have been converging to create formal mechanisms.

2. In conclusion

The aim of this article has been to show, on the one hand, the historical process of the drafting of guiding principles by the EU for a territorial articulation of the European continent and, on the other, the possible ways of addressing, at regional and local scales, the challenges raised by community bodies. Answers which adopt new paradigms for the construction of geographies of cooperation which we have called "new regionalization".

On the part of the territorial players within the Mediterranean Arc, the development of new opportunities offered by the interaction between these two processes is still embryonic or is simply unknown. To a large extent this is due to a lack of a long tradition in cooperation between neighbours such as that which holds for example, in the cities and regions of the Baltic.

Nevertheless, the conceptual bases for the construction of these new territories have already been defined. There are also, as we have mentioned, good practices of cooperation to which we can turn in reference. Furthermore, there has been a whole range of initiatives (see the Appendix)[10] which have been developed, although so far not greatly articulated. Therefore, it seems that we have arrived at the moment to make a virtue of necessity and apply the advice of "new regionalization" to build the macro regional reality of the Mediterranean Arc, and to construct the new critical mass required by both the processes of European integration and the processes of economic internationalisation.

1 In this work we have considered those initiatives or contributions to the definition of the Mediterranean Arc based on a logic of European and transnational intervention. We have not considered, therefore, other contributions, Spanish or French, which define axes of development of their respective Mediterranean regions.
2 Cabodi, 1998
3 Europe 2000 and later, Europe 2000+
4 Among these studies we should highlight those by R. Brunet, G. Dematteis, A. Bagnasco, N. Cattan, or A. Vanolo.

5 Juan, 1994
6 Balme, 1995
7 Báguena, 2001
8 INTERREG is a programme within the framework of the Structural Funds of the European Union aimed at fostering cross border, transnational and interregional cooperation.
9 Rivière, 2004
10 As an appendix to the article, we include a brief description of the most significant experiences that, from a Catalan point of view, have fed the process of construction of the Mediterranean Arc.

TRANSPORT INFRASTRUCTURES CONCEIVED AS TERRITORIAL WORKS. The demands and strategies of territorialisation

Francesca Governa

Introduction

Infrastructure projects create varied and profound changes in territory, which must be planned, programmed and managed. However, the need to plan, programme and manage the territorial changes arising from infrastructure projects is faced with considerable difficulties, in both theoretical and practical terms. These difficulties are mainly linked to the difficult and often troubled relationship between sectorial logic and supralocal interests, in response to which infrastructure interventions take place, and the territorial logic and local interests in the places where these interventions are going to take place. Some recent cases, such as the Susa Valley "protest" in Italy against the high speed / high capacity railway line which should cross the valley to link Turin with Lyons as part of corridor V joining Kiev with Lisbon, show the difficulties involved in working in order to resolve these conflicts. Similarly, they show the urgent need to deal with them within a government system of territorial dynamics that is increasingly open and fragmented. As a consequence, the problem does not so much lie in the European or national high-speed railway project or macro-corridors on a continental scale, but instead in the significance taken on by the location of these projects in certain regional and local contexts (Albrechts and Coppens, 2003; Priemus and Zonneveld, 2003).

In any event, in order to pursue this objective it is essential to refine the analysis and interpretation methodologies which enable a view of transport infrastructure as interventions of a purely technical nature or relating to transport to be overcome, in favour of an interpretation of them as territorial works not only in relation to the geographical scale which justifies them being carried out, but also in terms of the structuring action that the work itself may have on hierarchically lower scales. Changing the way that transport infrastructure is interpreted also requires a new view of the relationship between infrastructures and territory in terms of more consolidated interpretations, in which infrastructure is considered as a purely technical intervention related to transport, and territories as a "neutral" screen on which these interventions are projected. On the contrary, infrastructural intervention could be interpreted as an opportunity for transformation by the various territorial levels (Banister and Berechman, 2001).

Apart from that, the hypothesis of conceiving of infrastructural interventions not as a need with which the local or regional territories hosting them must live with on a more or less positive basis, minimising damage and maximising advantages, but rather as potentialities for reclassification and development even on a local and regional scale, even it is necessary to consider their theoretical and practical implications in greater depth, is beginning to gain acceptance in numerous European countries. This acceptance is linked to the role played by the common transport policy in Europe, which has introduced "new" keywords such as integration, co-ordination and interoperability into the public policy lexicon (EC, 2001). Likewise, the wideranging international debate on the subject of governance (ESPON, 2006), in which the change in the types and means of collective action in the urban and territorial field is highlighted, also identifies some directions for change in terms of infrastructure and transport policies[1]. Overcoming the traditional approach to planning and consolidation - including in practice - of models of society and ways of co-operation between institutions, does indeed seem to prefigure the move towards negotiated processes in which by opening up decision-making forums, a large number of subjects appear, which belong to various levels of territorial hierarchy (from the most strictly local level to the EU) and a plurality of interests.

Our aim with this article, which discusses the central issues of this debate, is to present and discuss a possible interpretation as the basis for carrying out a re-interpretation of the relationship between infrastructure and territory which overcomes the logics, which are frequently reductionist and determinist, involved in the study of the territorial impact and/or effects of works. The central thesis of the article may be summarised as follows: transport infrastructures are normally seen as purely technical interventions related to transport, defined by a sectorial rationality (the fact of connecting). However, this way of looking at transport infrastructures creates numerous problems of both a theoretical and practical nature. In order to deal with them, it is necessary to change perspective, i.e. to see infrastructures also as an opportunity at both local and regional levels, and an opportunity for reconsidering sectorial policies - and policies relating to transport infrastructures in particular - as integrated policies, and to programme paths to local development. In other words, the questions for which we will try to provide an answer can be summarised as follows. Can infrastructural interventions, despite being in response to sectorial logics and supralocal interests, become opportunities for the local/regional territories where these interventions are going to be located? How can we reconsider the relationship between infrastructures and territory to overcome a conception of infrastructure as a purely technical intervention related to transport, imposed by the supralocal level on the local level, on the environment, on citizens, on development strategies for places, and achieve the territorialisation of infrastructures? What action needs to be taken for this to occur? That is to say, what type of policies should be adopted? In the following paragraphs, we attempt to provide an initial answer to these questions.

1. The cross-scale territoriality of transport infrastructures

Let us start with the way infrastructures are considered and in particular, by asking ourselves what considering transport infrastructures as territorial works means. The first step in this direction consists of leaving behind a purely functional logic related to transport with its roots in the conception of transport infrastructures, and instead interpreting the territories that they cross or which they affect as a key variable in infrastructural interventions. However, this raises another question. What is the scale or the level of territory in which the territorial nature of infrastructure is defined? Indeed, infrastructure is a territorial work not only on the geographic scale which justifies it being carried out, which is in general supralocal (for example, the European Union for the TEN - Trans European Networks), but also at regional and more strictly local levels. In fact, infrastructural work does not only infrastructure territory at its own level, but also establishes relationships at lower territorial levels. It is enough to consider the places "crossed" by the High Speed/High Capacity railway network or those where the nodes of this network are located.

This apparently commonplace aspect has been neglected for a long time. Indeed, according to the hierarchical-functional rationality which covers the relationships between territories on a different scale (from the European Union to the neighbourhood), each infrastructural work has its own territorial level, which justifies its existence and its spatial structure in terms of its predominant territorial function. As a result, for example, the trans-European transport networks belong to the territorial level of the EU, while the relationship between these networks and the other territorial levels involved in their completion is neglected.

Normally, infrastructure works are therefore considered as territorial works in terms of the level at which they are decided, as they are a result of functional, geoeconomic and geopolitical reasons which make sense at

all these levels. In reality, infrastructural interventions of all types are always territorial works, even at local and regional levels. Their routes and nodes are presented as opportunities and threats for these levels, i.e. for the territories crossed by the networks, for those where the nodes are located or which are absorbed into the "externality fields" generated or modified by infrastructural interventions. Conceiving them as territorial works therefore involves looking at infrastructural interventions not only in terms of the geographical scale that justifies them being carried out (for example, the high speed train network as a factor in territorial cohesion on a European scale), but also with regard to the action (direct and indirect, desired and undesired, actual and potential) which this work may have on hierarchically lower scales. This means that infrastructural works are of interest not only in themselves, and not only due to the technical and functional reasons justifying them in their own territorial area, but also with regard to the significance of their location in the various regional and local contexts (Preston, 2001). If transport infrastructures are to be considered as territorial works, we must also as a consequence consider the many territories on different levels to which they refer. The territory of infrastructures is therefore an open and cross-scale territory, which as the French geographer G. Di Méo stressed (2000, p.41), "refers to various scales of geographical space: from the town to the nation-state and supra-national institutions".

2. From space as support to territory

If we conceive transport infrastructures as territorial works within the cross-scale perspective mentioned above, it is wise to consider which is the most relevant conception of territory for the understanding of relationship between infrastructure and territory in non-determinist terms. In more explicit terms, adopting a complex conception of infrastructure also requires the adoption of a complex conception of territory. As a consequence, it is necessary to go beyond a conception of territory as a simple support, a neutral screen upon which standardised infrastructural and/or industrial intervention packages are applied exogenously, ignoring the problems and specific opportunities for transformation, or as a range of resources for exploitation by means of interventions, which instead of adding any value, lead to the "destruction" of the specific features of places.

In the international debate, acknowledgement of the increasing importance of the local-regional level in various fields (economic, political-institutional, cultural, etc.) has led to the affirmation of a complex conception of territory[2]. Modern studies at local or regional levels are significantly different from those of the 1970s and 1980s. In specific terms, they acknowledge local and regional levels as territorial units in global competition and the importance attained by regional competition policies (Cheshire and Gordon, 1996); the emergence of global city-regions, i.e. local-regional systems able to present themselves as nodes in the global network of the world economy (Scott, 1998), even when cut off from the state level intercession (Le Galès, 2002); and the evolutionary conception of the region, taken as a specific historical and geographical unit (Allen et al.. 1998; Paasi, 2002). Taken as a whole, this debate, with its various points of emphasis, has led to the recognition of centrality assumed by local levels and by the places at the heart of the globalisation processes, and focusses its attention on the role of the territory as an "actor" in development processes (Cox, 1997; Amin, 2002; Dematteis and Governa, 2005).

The territory, therefore, has become a central interpretative key to understanding transformation and development processes. However, how has it been conceptualised? If we look at the Italian debate, the predominant conceptions consider territory as *territorial heritage* (Magnaghi, 2000), with particular stress on the *values* which characterise the territory, and *territorial capital*, which mainly recognises the *resources* that a territory possesses, which nevertheless are considered to be common property that must not fall into private hands, but must instead be shared by a community (Dematteis and Governa, 2005).

The conceptions of territorial heritage and territorial capital are similar in many ways, but do not totally coincide. Without going into too much detail concerning the analysis of similarities and differences, what is important is to emphasise that they both enable territory to be interpreted as a multidimensional whole, in which resources and values, the "sense of place", subjective and symbolic, and the "conception of place", relatively objective and realistic, are interwoven (Entrikin, 1991). These interpretations therefore make clear the *relational* nature of territory: it is necessary to "position ourselves" at the crossroads of these relationships in order to understand territory (Dematteis, 1999). This forces us to stop interpreting territory as a given reality, which is strictly recognisable and which can be delimited on maps, and to conceive it as a dynamic and active area, a social structure arising from the interaction between the subjects and specific and fixed characteristics (*fixed assets*; cf. Amin, 2000), material and immaterial, of the various spaces.

In general, as a consequence, despite the differences between the many interpretations, some specific features of the territory and local actors are recognised as key ingredients in the transformation and development processes. Territory is thus the focus of analytical and operational concerns; it is the basis for the construction of policies and actions and is used to assess them; in short, it is the cardinal feature around which conflicts and the opportunities for a potential treatment emerge.

3. Beyond the impact and the territorial effects of transport infrastructures

The relationship between infrastructures and territory can be interpreted in various ways; firstly, with regard to the conception of infrastructure (infrastructure as public works, as a public work in operation, as a territorial work, as a network and/or a node) and territory that is adopted. The change in the way of interpreting both transport infrastructures and the territory which supports it, or where the interventions are located, also requires a change in the way the relationship between both terms is analysed. How can we therefore consider the relationship between infrastructures and territory if infrastructures are considered as territorial works and territory is thought to be an inextricable unit of resources and values? To answer this question, it is first necessary to overcome a range of "common places" relating to the normal way of considering the relationship between infrastructures and territory.

3.1. Impacts and effects

In general, the relationship with territory of sector policies, and transport infrastructure policies in particular, is dealt with in terms of effects and/or impacts (Governa, 2001)[3]. Apart from the separation of impacts and effects, impacts are subdivided into economic, social, environmental, and energy impacts etc. and effects into cumulative, distributive, diffuse, etc. effects, or even into direct or indirect, short term and long term, and structuring and non-structuring effects.

The study of the territorial impact and effects of transport infrastructures was confirmed and consolidated by the spread of modern technical networks at the end of the nineteenth century. Over the years, the impacts and effects have been analysed in different ways, leading to an evolution of the approaches which has redefined and made more complex the purpose of the study: from direct effects onto economic variables to socio-economic-territorial consequences.

Today, the effects created in the territory as a result of new infrastructural interventions are sufficiently well known and studying them leads us to a theoreticalmethodological framework which can be considered to be consolidated. In fact, the clarity and precision of the theoretical-methodological framework in question refers especially to analysis of direct effects, although it does not change a situation of general uncertainty in terms of the nature and the importance of indirect and long term territorial effects (Banister and Berechman, 2001).

However, the development of approaches to the study of the territorial impact and

effects of infrastructural interventions has not changed the theoretical outline in question. This refers mainly to a stimulus/response idea of direct causality. Transport infrastructures are considered to be the "cause" of unexpected transformations, whether these are an increase in wealth, a change in individuals' behaviour and lifestyles, or spatial transformations (Plassard, 1997). As a consequence, the introduction of a new transport infrastructure is seen as a cause of territorial, social and economic transformations that can be recognised and evaluated beforehand, using procedures of an exclusively technical nature which relate a before (abstract) to an after (hypothetical).

The interpretation of the infrastructure/territory relationship as a relationship of cause/effect has received criticism from more than one source. J. M. Offner (1993), for example, stresses its theoretical inconsistency and practical inapplicability[4]. In particular, this criticism highlights the impossibility of considering the relationship between infrastructures and territory in terms of causality and of isolating the "transport infrastructure" variable from its context and from the social, political and economic conditions enabling it to be put in place. For Offner (2000), the role played by infrastructure in the development of a territory should also be studied not so much by comparing a before and an after, but instead by comparing the "real after" and the "virtual after," thereby including the contribution made by other processes and changes.

3.2. Three simplifications

The study of the impact and/or territorial effects of transport infrastructures enables the role played by infrastructural intervention in social and economic dynamics to be stressed, and makes clear which are the main consequences that may arise from a given project being carried out in a particular context. However, this is based on some simplifications and has some limits.

The first simplification refers to the point of view adopted. Adopting only the infrastructures point of view means that the territory point of view is neglected, or to put it another way, the opportunity to adopt both points of view alternately is missed. This means that only the impact/effects of the infrastructures of the territory is considered and not the consequences that the territory may have on the infrastructures: the fact that economic, social and political organisation has a greater influence on infrastructural interventions than the latter on the former is not taken into consideration (Joignaux, 1997). Furthermore, only adopting this point of view of infrastructures leads to neglect the study of the strategies used by the various actors involved in the interventions process, thereby ignoring one of the central aspects of the relationship between investments in transport infrastructures and economic development at local and regional level (Banister and Berechman, 2001).

The second simplification concerns the conception of territory which "penetrates" the analysis and the assessment of the interventions. In fact, territory is simply conceived as a medium on which policies and projects are projected and in which functions and activities are located, or in the last resort, as the place where a subsequent difficult recomposition of conflicts is experienced. This view limits opportunities for understanding the interactions which take place between infrastructural interventions and the territory, and is restricted to a reading of the consequences, whether positive or negative, of an intervention in a context which appears fixed and unchangeable, and one that is considered permanently incapable of interacting with dynamics outside it. As a consequence, it is only modified as a result of an intentional project, with the undesired, unanticipated and unforeseeable effects of any human action and, in particular, those of the policies and projects which transform the territory, broadly underestimated (Crosta, 1995; 1998).

The third and final simplification concerns the arguments used to analyse interventions in order to legitimise them. In fact, if a transport infrastructure is built, it is considered a "source" of advantages for the territory in which it is located, since it is able to ensure competitiveness and development. Nevertheless, this way of considering the problem tends to hide the complex distribution of advantages and disadvantages, as well as potential conflicts of a social and territorial nature, arising from the carrying out of any intervention in the territory and, in particular, from important infrastructural interventions (Graham, 2000). Although infrastructural interventions have a positive effect, by increasing the opportunities of subjects and encouraging the dynamics of development, they do not do so in the same way for all subjects, at all levels and in all territorial fields involved in the process.

3.3. Networks and nodes: two points of view, two strategies, many conflicts

The possibility of considering transport infrastructures as territorial works contradicts other difficulties, which are apparently well-known and commonplace, but which in practice have significant consequences.

The first difficulty arises with the use of the concept "network". This concept has deep roots in urban and territorial studies, where it is used to indicate and describe very varied "things": the development of settlements in certain periods, the location models of activities, inter-urban relationships and the definition of cooperative policies between urban systems or, in short, mechanisms for collective action which are defined as the action of many actors in accordance with standard precisely reticulated models (*policy networks*) (Lippi, 2001). Furthermore, in territorial analysis the term "network" can take on different meanings: a literal and a metaphorical one. In the literal sense, networks are "continuous physical infrastructures (railway and road lines, canals, electricity cables, telephone line cables, etc.) or isolated ones (ports, airports, radio and television transmitters and hertzian waves, etc.) which are the route for the flow of materials (goods, people, etc.) or intangibles (information) between places" (Dematteis, 1996, p. 229). In terms of this type of *technical networks*, we can locate paths and quantify flows. In the metaphorical sense, the network loses a great deal of its material nature and becomes an abstract means of representing relationships and connections between subjects. In this case, networks "are structures of stable relationships and interactions between subjects (economic, social, cultural, services, control, etc.) thought as relationships between the places (nodes) that these occupy in a stable manner (regardless of the geographical flows that link them)" (ibid, pp. 229-230).

The superabundance of uses and meanings of the concept of network also has important consequences in terms of infrastructural networks. In fact, when we talk about a "Europe of networks", the use of the term "network" is both literal and metaphorical (Bobbio and Morisi, 2001). From the literal point of view, the "Europe of networks" means that infrastructures in continental terms are organised in a reticulated manner (transport infrastructures, the production and distribution of energy, telecommunications, etc.). However, from the metaphorical point of view, the expression shows that it is possible to describe the series of relationships in the EU as a network and in more particular terms, that network is not only the characteristic of some European infrastructures, but also of the processes by which European policies are formulated. As assumed by Bobbio and Morisi (2001) when they paraphrase Sraffa, within the framework of infrastructures, we can ask ourselves whether it is possible to talk of "government of networks by networks".

The second pitfall refers to the subject of conflicts. Infrastructural interventions alter the status quo and lead to the emergence of the typical forms of conflict which arise from works of collective interest being carried out: local versus global; disseminated interests versus concentrated ones, and economic versus environmental aspects (Bobbio and Zeppetella, 1999)[5]. Conflicts arising from infrastructural interventions can be explained by considering the "commitments" of infrastructural policies (Bobbio and Morisi, 2001): the *fluidity*

of networks (i.e. *how* communication, transport and exchange should take place) and *territorial morphology* (i.e. *where* communication, transport and exchange should take place). From the territorial point of view, the second commitment has very important consequences by virtue of the particularly selective nature of infrastructural interventions, which necessarily favour some nodes and routes. In terms of the actors and frameworks for decisions, the relationships between both "commitments" are scarce, and they are only rarely forced into a confrontation. From the point of view of the actors involved, the framework of European policies is activated above all for the first commitment (*how*); and that of national, regional and local actors, for the second commitment (*where*).

The second commitment also has an important difference: the territorial form of the network takes on a different meaning if it is conceived from the point of view of nodes or the one of segments, in the same way as the strategies carried out in places-nodes and places-segments are different. Indeed, all places want to reach the status of node or increase their importance within the hierarchy of nodes. Obviously, negative externalities are also created in nodes, such as congestion, but as a whole, the advantages outweigh the disadvantages. In terms of an infrastructural network, the territorial spheres (at different levels: national, regional and local) end up competing among themselves in order to obtain, consolidate or improve their node status and at the same time, are encouraged to form alliances ("to establish networks") with other territorial spheres that can be found in the same directive. In short, from the point of view of the node, the problem consists of attracting the network, establishing it or dismantling it, in terms of its own requirements.

The situation is radically different for the segments. Any place wants to become a segment: being a segment involves "being crossed," which entails a great deal of disadvantages and any or very few advantages. As a consequence, territorial spheres try to resist becoming segments, by blocking or hindering flows in the network, increasing costs and/or prolonging intervention times.

As a consequence, nodes and segments have opposing interests, in the same way as the strategies they implement are opposed: as an outline, we have an "opening strategy" of place-nodes and a "closing strategy," which is often considered in a reductionist manner as "localism" of place-segments.

4. Reconsidering the relationship between infrastructures and territory

While transport infrastructure is defined as a territorial work within the cross-scale perspective mentioned above and the territory in which it is located is considered as an active operator at different levels, with its own specific nature and rationality, consideration of the infrastructures/territory relationship involves not so much carrying out a detailed assessment of the effects and/or impacts instead of the causality of more consolidated ways of thinking, but rather a discovery of the types of interaction between network logics (usually without a context) and node logics (local and contextual) (Dematteis, 1996).

4.1. The perspective of territorial congruence

In order to make this change, Offner (1993) proposes replacing the concept of structuring effect, which in substantial terms is inadequate for conceiving the relationship between infrastructures and territory in terms of non-determinist and non-linear interactions, with the concept of territorial congruence. By this, the author means the range of changes in a specific economic and territorial organisation which arises from the union between two systems, the transport system and the social-territorial system, which are both considered in terms of their complexity as a whole. The problem of the infrastructures/territory relationship can thereby be looked at in a completely different light than in terms of the simplistic interpretations and triple determinism (technological, economic and sociological) which support them (Offner, 2000). From the point of view of territorial congruence, the relationship between infrastructures and territory can no longer be described in terms of direct causality, and is considered mainly as a process of "structural pairing" in which "networks make possible the creation or strengthening of interdependencies between places, which can be considered as belonging to a territory. In other words, it is thanks to networks that territories make up a system." (Offner, 2000, p. 170). This is no longer interpreted by merely adopting the point of view of infrastructure and then subsequently studying the impact or the effects on the territory; it is mostly considered in terms of processes and sequences of actions found in the origin of infrastructural intervention and its anchorage in the territory. The relationship between infrastructure and territory is thereby studied from a procedural perspective, underlining the potentially difficult relationships between network logics and node logics and the interactions that infrastructural interventions establish with the many territorial spheres at different levels that are affected by the intervention, each one with their multiple logics and interests.

4.2. Interconnection and territorialisation of infrastructural interventions

If we adopt the viewpoint of territorial congruence, the relationship between infrastructural interventions and the territory, whether it is a purely technicalorganisational, political-social or urban-territorial relationship, becomes more complex than the usual way in which it is considered. In order to try and minimise this complexity, and to improve our understanding of what territorial congruence of transport infrastructures consists of, we can break down the relationship between transport infrastructures and territory into two different processes. There is one process in which transport infrastructures establish a relationship with territorial networks, i.e. the process of *interconnection*, and another process in which transport infrastructures establish a relationship with territorial contexts, that is *territorialisation*.

Initially, the concept of interconnection was used to describe the way in which a new infrastructural intervention establishes a relationship –by interconnection or not– with the pre-existing infrastructural system (Margail, 1995). Based on this conception, which studies the relationship with the existing system from a point of view that is technical-organisational above all, the concept of interconnection has undergone a profound evolution. The approaches relating to this concept have multiplied and there has been a gradual increase in the complexity of the phenomena that it can be described. In basic terms, two areas of innovation have been introduced: the increase in the type and level of the networks which interconnect and the attention paid to the result on the territory of such a process (Pucci, 1996). In this recent sense, interconnection is understood not only in a technical sense, i.e. as an intermodal connection or a connection between transport networks of various territorial scopes (for example, high speed and regional trains), but also as a connection between technical networks and immaterial networks acting in a given node (such as commercial and services networks, logistics networks, business networks, etc.). This also covers both the horizontal connection between networks belonging to the same territorial level and the vertical connection networks on different territorial levels (local, supralocal and global). In short, this does not lead to a simple merging or connection of networks, but mainly to an overall change in infrastructural and territorial systems which are interconnected (Governa, 2001). Thus, the process of interconnection describes the spatial articulation of multiple technical and territorial networks, multiple subjects, and multiple logics and organisational principles.

In order to define the process of territorialisation, it is useful to refer to the various ways of considering the relationship with territorial contexts. An initial means of understanding territorialisation is the intuitive one: territorialisation is the process of locating the infrastructural intervention in a certain and specific territory. In this case, the infrastructural intervention establishes a relationship with the territory exclusively from the physical point of view

and is limited to the exploitation of the location factors (such as the presence of areas) in it. A second way of considering territorialisation is the one in which the infrastructural intervention is territorialised in a local context, and not simply located inside it, but is instead linked to the projects and with the intentions expressed by the local subjects, establishing the same synergies and interactions, acknowledging and valuing the local territorial capital in terms of its intangible features (contextual knowledge, social capital, institutional capacity, etc.) (Governa, 2001; Dematteis and Governa, 2005). The infrastructural intervention, although it arises from logics that are external to each particular context, forms part of the territorial logics, has roots in the specific features of the place, starts up specific territorial potentialities, contributes to the construction of new territorialities (partly in the same places and in the same territories where it is located, and partly not).

5. Policies for the interconnection and territorialisation of infrastructure: the challenge of *multilevel governance*

The objective of interconnection and territorialisation processes for infrastructural interventions is to integrate the sectorial logics of infrastructural interventions, the urban and territorial planning logics and the local development logics. Integration, co-ordination and interoperability are the keywords for the common European transport policy (EC, 2001). However, it should be taken into account that these words have been interpreted in various ways. In transport policies, the potential for integration may be understood by referring to the integration between organisations, between various means of transport, between various actions, between various policies (infrastructure, transport, land use, environment, education, health, etc.) (Hull, 2005). The multiple facets of integration, and in particular the more complex ones, which according to Hull (2005) denote the highest "steps" of the "range of integration" (which goes from the minimum level of physical and operational integration of transport to the maximum level of intersectorial integration between policies and measures), are not reached spontaneously and cannot come about by market automatisms; they nevertheless require territorial governance initiatives which enable the strategies adopted by the various actors to be interlinked (ESPON, 2006).

As a consequence, the interconnection and territorialisation of infrastructural interventions do not take place spontaneously; they both happen for at least two reasons. The first reason is related to the nature of infrastructural interventions: to produce transport infrastructures, action must not be augmentative, based on trial and errors; instead, choices of a territorial nature with irreversible consequences are necessary. The second reason concerns the fact that infrastructural interventions are not restricted to assessing territorial situations such as the presence of a local production system or territorial and real estate resources, but may instead activate cumulative development processes (Dematteis, 2001).

The convergence of the sectorial logics typical of infrastructures with the territorial logic of local contexts is a problem that arises at all levels. It is therefore not only present at local level, but also in terms of institutional support and organisational management by intermediate territorial bodies and co-ordination with the state government. To be able to interconnect and territorialise infrastructural interventions, while complying with sectorial logics and supralocal interests, and to transform them into resources for development and reassessment at local level, it is necessary to construct synergies and interactions with projects and both active resources and those that can be activated at these scales, as part of a project which involves many subjects and interests[6]. As a result, in order to promote the interconnection and territorialisation of interventions, a transport infrastructures policy which complies with the logics of multilevel governance is essential. As part of this logic, the role of the public subject is modified but remains essential, despite having the mission of playing a role of pilotage, of direction or "accompaniment" of the interactions between subjects, rather than exerting direct regulation and control of transformations.

Faced with an infrastructural intervention project, the public subject shows a wide range of reactions, which obviously arise from the way in which the intervention has been considered, programmed and managed (Fig. 1). This behaviour ranges from a totally negative and defensive attitude up to a creative and active attitude. In the former case, the infrastructural project is considered as an external input with determinist effects on the local context where it is applied. The role of the public subject in this case is to anticipate and manage these effects, trying to minimise the negative ones, to obtain any possible financial compensation and redistribute the positive effects, reaching a balanced whole, without profits or losses. On the other hand, the creative and active attitude rejects a view of the territory as an "ordinary machine" and sees it as a complex system, able to organise itself and, consequently, able to interact with supralocal promoter subjects or mediators in infrastructural intervention. The latter is seen as a stimulus and an opportunity to value the specific features of the territory, by mobilising the project and self-organised resources characteristic of local subjects and implementing strategic visions and actions for internal integration (construction of the subjects' local network for the territorialisation of the intervention) and for external integration (negotiation of interconnection conditions with the supralocal promoters)[7].

6. Conclusions

In conclusion, it may be useful to try to summarise the lessons arising from the change of viewpoint in the way that programming, projecting and managing infrastructure works are considered. In fact, we have defined various methods of describing and interpreting the relationship between infrastructures and territory, whose differences depend firstly on the different way of defining the two key concepts. If various conceptions of infrastructure and territory are adopted, it will be possible to understand the diversity of processes and results defined in this relationship. The conception of infrastructure as a territorial work, and of the many territorial levels in which it is involved as dynamic and active institutions, describes the relationship between infrastructures and territory in interactive terms: a process of interconnection and territorialisation of interventions, the result of which may form a winning strategy.

This way of looking at the problem changes the most common interpretation of transport infrastructures and its relationship with territory, as well as the normal procedures for analysis and assessment of interventions. If we no longer consider infrastructural interventions as sectorial works arising from a technical rationality which relates to transport, in order to conceive them as territorial works within a cross-scale outlook, we must consider the technical-functional nature of infrastructures not as permanent, but as data which must interact with the rationalities and specific projects of various contexts. In fact, considering them as unchangeable leads to consideration of the problem of the relationship with territory only with hindsight, and it is therefore dealt with in terms of mitigating its impact. Furthermore, if we adopt this interpretation, the rationality of sectors cannot impose itself on local contexts (even if this is only due to reasons of efficiency and the speed of decision-making processes, which are in fact totally neglected in practice), but the specific characteristics of different places and the various rationalities present in each one must be included among the initial variables of the projects. The involvement of and the agreement on strategic choices by the various actors involved requires clearly defined ways and procedures to be found and action taken in the initial phases of the decision-making process. This way of looking at and dealing with the relationship with the transport infrastructures territory also changes the ways that infrastructural interventions are assessed. This should not be seen as the end of the decision-making process, as the final word enabling to validate or not the choices already made, as a tool subsequently mitigating

the impact of a work that was decided on beforehand; it should rather be seen as part of the process of definition and carrying out of interventions. As a result, the approximate outline is not built as a procedure of agreement with parameters defined beforehand, but is instead a procedure relating to features, which as described by A. Zeppetella (1999) "refuses to define general and abstract rules for decisionmaking and places the particular context and its specific features at the heart of the reasoning" (p. 158).

Obviously, these suggestions are not conclusive. There are still many unresolved problems, especially if the objective is to meet the practical needs of how to programme and project interconnected and territorialised transport infrastructures as part of a constructive relationship with characteristics, specific features and actors in the various contexts in which they are going to be introduced. As a consequence, the need to face with the practices is an increasing priority in order to be able to answer very pressing questions and clarify the operational aspects of the relationship between infrastructures and territory.

1 For the opportunities and limits on models of governance, which are taken to be public policy models stressing the horizontal and vertical coordination of projects, actors and territorial levels in the management of network infrastructures, see Offner (2000). The institutional framework situation with regard to the programming, projection and management of infrastructural interventions in some European countries is described in Dematteis and Governa (2001).

2 The debate on the role of local and regional economies in development processes is illustrative of this (Storper, 1997; Crouch *et al.*, 2001; Scott and Storper, 2003), in the debate on the crisis of legitimacy and efficiency of the central levels of decision making in many European countries, with the consequent beginning of the so-called regional "renaissance" (Keating, 1998; Le Galès and Lequesne, 1997) or even in the debate on the redefinition of territoriality levels brought about by globalisation processes (Brenner, 1999)

3 The difference between impact and effects is not strictly a terminological one. According to Offner (1993), impact is the direct negative consequences caused by the detonation and explosion of a previous balance; However, effects should be related to certain choices, whether these are the consequences, the collateral relapses - whether positive or negative, desired or undesired - of an action, of a policy, or of a project.

4 The structuring effect is considered to be a true "operational myth" which "authorises and legitimises the action of the person taking the decisions; this enables the production of sectorial projects, despite evidence of interrelations between public policies" (Offner, 1993, p. 241).

5 However, the local/global relationship is not the only area of confrontation and conflict. It is enough to remember the many varied and ultimately conflicting interests presented by the various actors involved, more or less directly, while the interventions take place, as a result of which possible conflicts also arise in the local framework and between the various territories involved.

6 That apart, the *European Spatial Development Perspective* (CEC, 1999) also covers this problem in one of the first chapters and highlights the importance of appropriate co-ordination of sectorial policies with a territorial connotation on various scales.

7 Among the main aspects of a territorial *governance* action, Le Galès (1998) acknowledges the change in the role of public action, internal integration, external integration and orientation towards strategy, all of which are basic factors in carrying out the territorialisation of infrastructural interventions.

INFRASTRUCTURE AND TERRITORIAL PLANNING. Governance and management of multi-scale dynamics

Joaquín Farinós Dasí

1. Infrastructures, the basic element for regional development policies at any scale

By infrastructures I understand the part of an economy's global capital which, while embodying the characteristics of a public asset, is not supplied by the market or else is supplied inefficiently, being the reason why it has been mainly managed by the public sector. It is a key factor for and in Sustainable Territorial Development and the reason why it must be treated as a public asset and with public participation.

There are many different types of infrastructures. According to the tree diagram classification put forward by Gil, Pascual and Rapún (1998, pp. 462-463), infrastructures can be broken down into two main types: natural infrastructures deriving from the physical environment (such as rivers or valleys, etc.) and infrastructures deriving from anthropical endeavours. From among the latter, we need to distinguish between institutional and physical infrastructures. The physical ones break down into "social" infrastructures (education, public health, welfare and cultural centres, and buildings and installations used by governments or administrations) and "economic" infrastructures, also known as "basic infrastructures". The latter comprise public services (such as the supply of water, electricity, natural gas, refuse collection and waste treatment), telecommunication services (telephone systems, mail, cable, etc.), land management (improvements to drainage systems, flood preventions and other natural or technological hazards) and, finally, transport infrastructures (road, rail, waterways, ports and airports). In this article I shall focus on this last group.

I need hardly dwell on the idea that transport infrastructures continue to be considered a priority strategic element for territorial development and cohesion, be it at a European or regional scale. Transport infrastructures are a key factor, albeit still requiring development, in regional policies arising from the 1988 Structural Funds reform, the document on European Spatial Development Perspective (the second of its three basic guidelines)[1] and from the objective of territorial integration in the enlarged EU, which attempts to make growth and cohesion compatible. Infrastructures alone do not generate development, but their lack of development (either non-existent or inadequate in terms of quantity and quality) can impede appropriate exploitation of the potential of each territory (Biehl and Muenzer, 1986).

The attention given over to infrastructures, or rather to mobility and accessibility within the EU territory, is still a current issue. But infrastructures themselves also continue to be a fundamental consideration to the degree of constituting a priority not only for the European Investment Bank and the European Commission, but also for the member states as a whole[2]. The "Guiding Principles for Sustainable Spatial Development of the European Continent" (CEMAT, 2000, p. 16) also notes in its recommendation (35) that a more balanced policy of town and country planning must ensure improvements to the inter-connection of small and medium-sized towns, rural spaces and island regions to the main transport centres and axes (railways, motorways, ports, airports, intermodal centres) and eliminate intra-regional link deficiencies[3].

There is no doubt that the present-day approach to infrastructures reveals a new focus, such as the importance of sustainability, which is now associated with intermodality as a way of: alleviating road traffic congestion and at the same time the consumption of fossil energy and release of greenhouse gas emissions into the atmosphere following the Kyoto protocol guidelines; reducing costs and improving quality of life in grid spaces (with incentives to use the railway for transporting passengers and freight); and even promoting alternative development projects for coastal areas in decline by reclaiming the role of ports[4].

The importance which the member states continue to give to transport infrastructures is reflected in a recent final report from the ESPON project 2.4.2 "*Integrated analysis of transnational and national territories based on ESPON results*". In an attempt to bridge the gap between existing territorial policies developed at a state and European community level, questions were addressed to experts participating in the project and to representatives from Member States themselves in the ESPON programme Monitoring Committee (generally speaking experts from, or closely associated with, government departments), namely, what were the present and future policy priorities of each state *vis a vis* territorial development objectives. Their response is clearly illustrated in figures 1 and 2: the priority issue which concerns Member States regarding territorial development is, overwhelmingly, accessibility and transport, much more

than other territory related matters such as systems for settlement, land use or environmental issues.

2. Reinterpreting the relations between town and country development and infrastructure planning: some territorial governance-based considerations

As I pointed out in a previously published article in reference to the European sphere (Farinós, 2004), along the lines pointed out by Tarroja (2000), there has been a changing focus in sectorial territorial policies in which attempts are being made to move towards the objective of sustainable territorial development, greater environmental sustainability, greater social cohesion and socio-economic endogenous development. The very objective of territorial planning is to ensure and improve the socio-economic and socio-ecological functioning of the territories bearing in mind the principles of sustainable development. Territorial planning is linked to a wide range of local, regional, national and EU policies, and from among these especially regional, urban and housing development, and infrastructures.

The influence of transport networks and infrastructures is becoming increasingly more relevant for both territorial structures and models as well as for visions of the future, to the extent that they impede or promote radical transformations in territorial organisation, promoting dynamics or helping to compensate for territorial imbalances (see figures 3 and 4).

Although horizontal cooperation between policies is not limited to infrastructures alone, what is certain is that its impact on territorial organisation is a prime consideration. This is true to the degree that in the case of Spain, in accordance with the STC 61/1997, the Spanish central government is no longer authorised to design or develop Town and Country planning at a national level; such decisions now come under the National Infrastructure Plan. Thus, town and country planning is subordinate to infrastructure planning which in turn has few links to regional economic planning, except in Objective 1 regions where a Regional Development Plan is mandatory at an Autonomous Community level; incidentally, without taking into consideration infrastructure networks other than interregional infrastructure networks. This situation is a far cry from what should be expected from good territorial governing or, put another way, from sustainable territorial development governance.

In one of the meetings between experts which took place during the process of drawing up the "Strategic Plan for Transport Infrastructures" by the Spanish Ministry for Economic Development (2005)[5], namely "*Infrastructures, Territory and Countryside*",[6] Benabent (2005) dealt with the relationship between planning infrastructures and town and country planning. Based on a meticulous analysis of the different Spanish laws related to transport[7], he refers to the prevalence of sectorial interests and jurisdiction over horizontal territorial interests and jurisdiction[8]. After due territorial analysis, town and country planning attempts to define a territorial model whose outcome, in the author's opinion, "… is the result of a proposal for land use distribution… and defining the infrastructures which are going to favour the functioning of the territory as a whole". He goes on to say that, "… If there is no combining of sectorial policies with town and country planning, the result is that the impact of territorial infrastructures leads to the failure of territorial policies." (Benabent, 2005, p. 12); and, one could add, vice versa.

At any given moment there has been no shortage of declarations which more and more focus on the need for strategic territorial planning, and which have arrived at the same conclusions as Benabent, but inverting the order of the terms (despite the reticence of those who continue to see the "Plan" as an adequate supreme instrument). The question, then, is whether one can design a transport infrastructure plan without having previously defined territorial planning. If priority is given to coherence then the answer is obvious. But, as tends to happen, more pragmatic considerations take precedence: the influence exerted by pressure groups with important vested financial interests, the absence to date of attempts by the Spanish state to provide an overall structure of inter-administrative relations and the reproduction of this model (allowing for the odd exception) in the autonomous communities, not forgetting that in each case there is a different conception of town and country planning. With this in mind, it is easy to explain the order in which these terms appear today. Here one should add that sectorial policies are absolutely necessary, but these policies need to follow general principles, which here I call operational coherence.

I believe that territorial planning is the best path to follow to be able to achieve this objective of operational coherence. Here, I interpret Planning of Sustainable Spatial Development in the terms proposed by CEMAT: as a geographical expression of the economic, social, ecological and cultural policies of society, being at the same time a scientific discipline, an administrative and political policy where the merging of interdisciplinary understanding leads to balanced regional development and guides physical spatial organisation according to a global strategy.

Planning territorial development is of an integrated or mutually comprehensive nature and needs to articulate the different sectorial policies which have an impact on the territory. This planning requires vertical inter-institutional communication (multi-level) and also horizontal communication (multi-sectorial, between territories and between involved parties). It is here where the development of new territorial governance practices can prove to be particularly useful, where the objective is not only to enhance coherence but also operational efficiency; in short, to derive greater benefits from policies and public investment. The following closing paragraphs to the second part of this article focus on reinterpreting the relations between town/country planning and transport infrastructures from the perspective of strategic territorial planning, leaving for the third part, the implications of a new territorial governance.

The key to these new relations between infrastructure and territorial planning seen from a strategic approach, is knowing whether the planning of physical transport infrastructures (by definition a "rigid" kind of planning) can be carried out by adopting a "softer" strategic approach, or not; whether "flexible planning" is possible in the case of infrastructures, accepting the fact that this is possible in other fields. This brings us to the discussion on the need and pertinence of the "Plan", or in Indovina's words (2004, p. 6), the path from "Plan" to "Planning", the latter understood as a coordinating element between the plan and the rest of the policies.

How efficient a plan is does not strictly depend on faithfully adhering to regulations and the programme of operations, but rather on being adaptable to the changing conditions of its setting during "implementation" in accordance with the results from continuous assessment. To quote Indovina, planning means building the future, and this is no easy task in a situation where changes take place at breakneck speed. If a plan needs to be flexible to adapt to changes, it loses its vocation of building the future. However, if it is not adaptable then one enters into a technical and policy contradiction of leaving the problems of today for the future; a dilemma with no easy solution. In fields other than transport infrastructure planning, it has been said that today planning is to govern rather than produce transformations, from the perspective of general interests and with an eye to the future. But, is this possible here given the fact that we are dealing with a public asset.

Here we are dealing with planning transport infrastructures with limited flexibility, long term execution (prolonged operations which require high levels of investment), sequential in time (not all of them can be built at the same time), selective as regards which territories are chosen (in all decisions regarding plans and deadlines there are always winners and losers), and with very long-lasting repercussions. Therefore, if this situation corresponds more to the philosophy of the "Plan" rather than "Planning" mentioned earlier, then one would have to incorporate the infrastructures plan into territorial planning[9], and during the process of drawing up

the "Plan", foster greater participation (reconciliation of different points of view or options) with the objective of ensuring the best option[10].

In the case of infrastructures, this same lack of flexibility makes ex-ante evaluation even more necessary as well as giving priority to secondary networks that connect to the principal national and trans-European networks, which brings us to the vertical, multi-level dimension of territorial governance. For these secondary networks, re-designing is easier, self-sufficiency greater, and consequently also their level of "flexibility"[11].

3. Managing multi-scale dynamics for cohesion in the enlarged EU: trans-European infrastructures for new developing areas and axes

In the new territory-network framework, understood as a combined spatial structure comprising nodes and channels (material or otherwise) of traffic flows, each territory, each local space and each city must design their own strategy to form part of the new networks. There are no networks without infrastructures, or without transport or telecommunication corridors, but there are no networks either without interrelations between the different parties involved. So, in the new globalisation context infrastructures and governance (new territorial government) emerge interrelated.

Earlier I made two points regarding transport networks. The first is their importance for territorial structures (impeding or promoting radical transformations in territorial organisation) when it comes to promoting existing dynamics or countering territorial imbalances, thus playing an active role in achieving the objective of territorial cohesion. The second point is their sequential nature (not all of them can be built at the same time), long-term implementation and the fact that they require heavy investment. But the fact is that once defined and implemented, they also pose risks, both from the perspective of sustainability (increase in traffic, levels of greenhouse gas emissions and costs, making transport more expensive), as well as efficacy (for example, the so-called "tunnel" effect).

With reference to the first point, intermodality is proposed as the most suitable method to achieve a balanced, polycentric and sustainable model. The combination of modes differs depending on the objective - this is particularly relevant in the case of freight transport. But, in accordance with the objective of accessibility and the reduction of periphicity, which kinds of infrastructures turn out to be the most effective or the most strategic? On this matter the results of the reports are quite clear. From the continental Europe perspective, the most important effects for the Iberian peninsula are in the sphere of air transport; in second place, although with far less impact, rail transport, while road transport appears to be of little relevance at this scale level (MOPTMA[12], 1996).

The same conclusion can be drawn from the maps presented by Hervé et al. (2003, pp. 103, 105, 107 and 110). Therefore, from a strategic point of view, of accessibility at a continental level, the most efficient intermodality is air-rail. Logically it has its limitations as it basically refers to transporting passengers, and, to a lesser degree, small-volume goods with a high unit value. For freight, as we well know, the most commonly used means is road, although railway networks and their links to ports can regain an important role following the recommendations of the European Community's documents such as the ETS or the White Book on transport (EC, 2002).

In short, the most efficient intermodality for passenger transport is the air-rail combination, for freight the port-rail combination. Clearly road traffic is the most efficient from the point of view of territorial coverage. For intermodal freight transport, the regional space is usually considered as a whole with the objective of offering those services necessary to guarantee an adequate level of traffic (market threshold)[13]. For the transport of passengers, however, it is the urban and suburban spaces that are most relevant (Hervé et al., 2003, p. 49). The new territorial structure that will derive from establishing new modes and new inter-modal connections opens up a field of important possibilities in which each local space will have to try and situate itself. Regarding the impact of territorial models, the current situation is not that far removed from what was, in its day, the division of Spain into provinces and, more recently, the division into a state of autonomous regions.

In the second case, turning to efficacy, the solution lies in a greater integration of territorial infrastructures, which brings us to the concept of local territorial development (see the article by Francesca Governa in this publication), characterised by the coordination of territorial policies and infrastructures, and cooperation between territories and their representatives. When it comes to designing, assessing and financing infrastructures, these territories and representatives share common needs and strategies through territorial cooperation, the formation of partnerships and the involvement of local and regional representatives, including public authorities[14]. This territorial and citizen cooperation (for example, agreeing on itineraries, transit stops, transport chain breakpoints or potential nodes) contributes to anchoring the influence of infrastructures in the territories they cross; moderates excessive polarisation and discontinuities between points (be they well communicated or not) insomuch as it promotes an integration of the different levels of networks, from local to supranational, combining these networks so as to share the benefits.

As the *ESPON 1.2.1.* project points out (Hervé, B. et al., 2003), trans-European transport networks are first and foremost interregional networks. This is a further reminder that territories need to establish networks of territorial collaboration, both horizontally and vertically (EC, 1999, p. 39). As regards EC territory, Davoudi (2003a) typifies vertical cooperation as that which is established between the European Union, member states, regions, and local authorities; while horizontal collaboration is that between cities, regions, or neighbouring states. Both axes of collaboration need to be considered together, from an integrated perspective, because whether vertical or horizontal, all infrastructures form part of the network, which in turn poses the need for inter-administration cooperation, now known as multilevel governance. This is acknowledged as such by the European states themselves, as illustrated in figure 5. Shared views have two advantages: to begin with there are less barriers, which increases their effectiveness; and they are more durable, or at any rate less vulnerable to changes resulting from political / policy cycles, which has a direct bearing on greater efficiency and also on the effective use of investments. One should not forget that when it comes to financing, the most important role in trans-European transport networks is that of the territories themselves (states and regions).

So, territorial cooperation becomes a key element in territorial cohesion[15]. The Third Report on Economic and Social Cohesion (EC, 2004), as well as the subsequent "*Strategic Community Guidelines for Cohesion 2007-2013*" (EC, 2005), envisage territorial cooperation as one of the priorities for cohesion policy, and this territorial cooperation is explicitly focused on the objective of territorial development at a European level, bearing in mind the idea of "petites Europe" (see figure 6) and a long term perspective. Territorial cooperation has become one of the three objectives of future cohesion policies for the next programming period, alongside the objectives of convergence (traditional Objective 1) and competitivity (Objective 2)[16].

In the light of the Lisbon objectives, the key challenge for reinforcing Territorial Cohesion is to increase the territorial capital of all the EU regions and to promote territorial integration; that is, to foster trans-European synergies and competitive and innovative clusters. Grouping regions with an adequate level of infrastructures will contribute to providing the necessary critical mass to compete in a global economy.

In practical terms territorial cohesion implies, among other things, putting the regions of

Europe in a better position by reinforcing their profile and facilitating their territorial connectivity and integration through trans-European cooperation. In effect, what is being said in the European documents is that the EU perspective needs to be reinforced in national and regional strategies, taking into account territorial identity, specialisation and position. Put another way, each territory must identify its own unique and individual development potential and place within the EC, and locate their territorial development strategies within a context of trans-national and European development. In order to do this, and bearing in mind the objectives of the Lisbon and Gothenburg Agendas, one needs to ensure the active involvement of national and regional planning authorities. To this end one attempts to promote a "… greater use of transnational cooperation in planification and decision making at the regional and national levels, as well as for the structural programmes, and a more extended legal base for transnational and trans-frontier cooperation combined with a better UE management. (Council of Ministries, Rotterdam, 2004)[17].

4. The Western Mediterranean Arc: the case for an end to a stalemate

When it comes to applying a strategy through which a wide range of European peripheral cities attempt to better their chances of competing in a global market through the polycentric integration of their neighbouring towns and cities, the most difficult challenge is to develop economic links and functional specialisation, because without these a polycentric urban region would be reduced to a mere symbolic image rather than an integrated functional space (Davoudi 2003b). And for this, infrastructures constitute a fundamental element.

As Davoudi points out, there are two key areas in which political intervention is particularly useful: the development of physical infrastructures (efficient transport and telecommunication networks) and "soft" infrastructures, particularly a regulatory capacity (institutional infrastructures) and regional identity. This is the very dual challenge for the western European Mediterranean space (also known as the "Arco Latino"), especially in the Spanish part of the Mediterranean Arc and its link to the French part. Although cooperation is easier between dynamic territories able to find interests in common, territorial policy options can lead to another direction. For example, from an exclusively Spanish perspective, the priority of a radial model has prevailed for many years, allowing for the evident differences from a polycentric point of view and from the system of cities (demographic and economic) between the Murcia-Valencia-Girona and Alicante/Valencia-Madrid axes, and bearing in mind that cooperation is easier between dynamic territories able to find interests in common. However, in the new context of networked territories there are no grounds for monopolistic territorial strategies (rather the complete opposite) that would mean excluding other present alternatives or any other possible options that might offer potential for the involved territories as a whole.

Therefore, one could say that the Western Mediterranean Arc has not been a real priority in the different plans at the level of European states, and consequently neither has it been a real priority for the EU[18]. In fact, despite the fact that this is clearly reflected in the polycentrism maps[19], and is acknowledged as one of the new megalopolis of the 21st century (Boira, 2006 –quoting Richard Florida), what is certain is that the Mediterranean Arc is not recognised clearly and neatly as a world area of economic integration. In a recent document from the ESPON network, it appears broken up into two spaces (or even four if one takes into account the European Mediterranean Basin) clearly differentiated, not only from each other but also from the rest of the EU spaces (as in the case of the Iberian and Hellene limits). These are two unique spaces that lack intersection with other areas (see figure 7).

To be able to meet future challenges with a major guarantee of success, the Mediterranean Arc needs a territorial vision to truly become one of the "petites Europe" and an integrated functional space, with a sense of identity but has to avoid running the risk of becoming a mere symbolic image. Three requisites are necessary for this task: technical capacity, mobilisation of interest groups and citizens, and political leadership. From these three, only the first seems to be assured, while the situation appears to be progressively more complicated as we approach the third, which in turn has repercussions for the second, especially in a political and territorial culture such as the Mediterranean.

As I have previously stated on a number of occasions (Plaza, Romero and Farinós, 2003; Farinós and Payá, 2006) the implication and leadership, or rather the commitment, of the different political-administrative levels (especially the sub-state level) becomes a crucial factor. New forms of territorial cooperation must be tried and tested at all levels (regional, state, trans-frontier), without exclusivity (it is possible to arrive at multiple co-partnership agreements) but with a clear definition of shared objectives and priorities. The framework envisaged by Interreg IIIB, or rather the philosophy with which it is impregnated, should be the basis from which to delve further into this test of new shared forms of territorial information and exchange of experiences that are to lead to a combined territorial strategy built over that of each of the territories concerned (Farinós, 2006). Only in this way, with the introduction and putting into practice of new forms of territorial governance, or if you prefer new governance practices in territorial and infrastructure planning, does it seem viable to me, in the mid-term, to put an end to the present stalemate.

1 Access equivalent to infrastructures and knowledge, by means of "Promotion of integrated transport and communication concepts, which support the polycentric development of the EU territory and are an important pre-condition for enabling European cities and regions to pursue their integration into EMU. Parity of access to infrastructure and knowledge should be realised gradually. Regionally adapted solutions must be found for this." (EC, 1999, p. 20)

2 In 2005 the Regio Directorate General published issue 18 of *Inforegio panorama*, a monographic article titled, "Transport, a driving force for regional development", 27 pp. On the 22 of June 2006 the European Commison adopted the orientation laid out in "Keep Europe moving - Sustainable mobility for our continent" (EC, 2006a), a mid-term review of the 2001 "White Paper on Transport", which included new guidelines for future transport policies. The measures foreseen in the aforementioned White Paper (such as promoting sea and rail connections for long distance freight transport) are to be complemented with new measures (such as the inclusion of new technologies and intelligent systems that would improve efficiency, greater interoperability of equipment, encourage use of "green" fuels, a revision of mobility models in cities, and so on), to help offset the negative consequences of energy dependence and protect the environment. And, all of this without forgetting that mobility is the driving force behind prosperity and freedom of movement of citizens and European merchandise within the common European space. Therefore, one can conclude that transport has not ceased to be an important part of the EU's political agenda, as is also the case for regional policies and structural funds, especially in the Objective 1 regions. One should bear in mind that the territorial Cohesion Fund is exclusively reserved for transport and environmental infrastructures.

3 The text reads as follows: "(35) In the interests of achieving a regionally more balanced development, links between small and medium-sized towns as well as rural and island areas and the trans-European networks and transport centres (railways, motorways, navigable waterways and ports, airports or intermodal centres) should be improved. Regional accessibility must also be increased through the elimination of missing intra-regional links. Considering the on-going growth of traffic flows, integrated strategies taking into account the various transport modes and – on an equal basis – spatial planning policy requirements are necessary. The lower environmental impact of railways, waterways and maritime transportation should be taken into account in doing this."

4 Taking transport intermodality into consideration, especially freight transport, can contribute better to the objective of a balanced, polycentric and sustainable territorial model.

5 "Plan Estratégico de Infraestructuras de Transporte" (Ministerio de Fomento, 2005).

6 '*Infraestructuras, territorio y paisaje*'.

7 Ley 16/1987, de 30 de julio de Ordenación de los Transportes Terrestres, Ley 25/1988 de 29 de julio de Carreteras, Ley 27/1992, de 24 de noviembre, de Puertos del Estado y de la Marina Mercante.

8 His appraisal is of particular interest. He quotes the contributions by emminent jurists interested in territorial matters such as Luciano Parejo and Pérez Andrés, concerning the important limitations of developing horizontal and vertical relations of cooperation and coordination between policies and the three State levels. As I point out in this article, the mechanisms for inter-administrative

collaboration and coordination here in Spain is an issue which still needs to be resolved and has hardly been developed. On the subject of problems coordinating policies which have a bearing on the territory and the limited expectations faced by the Spanish composite state model, I would also like to make note of two publications by Romero (2005 and 2006).

9 Territorial policy is a public matter; the objective is to produce a territorial model (a physical configuration of the territory) in accordance with the needs and requirements of the population. The realisation of this policy must fall mainly to the instruments of territorial planning themselves, but also to other types of plans, basically regional, infrastructure and environmental development plans. After the various parties have diagnosed and defined the desired future vision, strategic territorial planning must set out the general lines of operation and the means with which to achieve and assess them. As for plans, these are the instruments used to pursue given objectives concerning certain fundamental aspects that will contribute to reaching the global goal (for example, infrastructures as a way of ensuring the functioning of the required settlements' model and land use). In the case of territorial plans of a more integrated nature, they tend to be more "tactical", renouncing bearing more operative and setting out their proposals, a degree of specificity which is more present in the case of sectorial plans.

10 When I say the best option I am not referring to the one which technically might be the most advisable, but rather the one that correlates and forges agreement between the different interested parties, even though the administration might be the body which directs and ensures the process. If, according to mathematical logic, the shortest distance between two points is a straight line, obviously orography and the (until now given a lower priority) interests of the inhabitants of the territories through which the infrastructure has to pass can mean that a "technically perfect" route is not viable. A good example of this is the controversy that arose when it came to deciding the route for the last stretch that finalised the Madrid-Valencia motorway which resulted in a confrontation between central, autonomous (Castile-La Mancha and Valencia) and local governments. This conflict leads to an excessive hold up in the completion of the motorway and also had corresponding political repercussions (within the political parties and in the elections).

11 "There is a risk that investments in secondary networks and their integration into the TENs cannot be carried out in time, or cannot be carried out at all, if the completion of higher ranking networks is given greater priority. To avoid a relative deterioration of service quality in those EU areas which are not directly integrated into the Trans-European Networks, the extension of secondary networks should not be treated as less important. This also includes the modernisation of regional transport services. In doing this, the utilised means of transport should be adapted to the specific local and regional circumstances (conventional rail network, buses, regional airports, etc.). Apart from this, the secondary networks can contribute to managing the traffic flows on the TENs and tapping the critical potential for large scale links. In this respect, the timetable for linking the secondary networks to the trans-European networks can be crucial for their development." (recommendation 113 of the European Spatial Development Perspective, p.27)
As regards this issue the very same document defined two clear policy options: "24. Strengthening secondary transport networks and their links with TENs, including development of efficient regional public transport systems." and "28. Improvement of co-operation between transport policies at EU, national and regional level". (ESDP, p. 28)

12 MOPTMA = Ministerio de Obras Públicas, Transporte y Medio Ambiente (Spanish Ministry for Public Works, Transport and the Environment).

13 Transport network nodes become a reference point for both industry strategies (at the level of production and logistics) as well as territorial organisation by administrations that have jurisdiction in matters of town and country planning.

14 The issue of financing infrastructure plans opens up other questions of major importance, such as the role that has to be played by private initiatives, the relations between the public and private sectors, and also, in the public sphere, of the relations between the different levels of government (financing models, fiscal federalism, etc).

15 For further details regarding territorial cooperation initiatives at a European level, see Farinós and Payá (2004). On relations between territorial cooperation and cohesion, see Farinós and Payá (2005). Regarding the concept of territorial cohesion, see Farinós (2005).

16 Although the future Objective 3 "*European territorial cooperation: promoting the harmonious and balanced development of the Union territory*" (EC, 2004), only represents 4% of the funds (to be distributed between trans-frontier, trans-national and inter-regional cooperation), it translates as the opportunity to receive additional financing in the new programming period as well as the possibility of modifying not only the objective but also territorial development planning methods. If we remember that one of the ETS guidelines was precisely that of consolidating these kinds of spaces by promoting territorial and, in particular, trans-national cooperation, and we relate this idea to the objective of territorial competitivity, then we can better understand the nature of the future Objective 3.
When it comes to trans-frontier cooperation and those regions where the conditions for trans-frontier cooperation already exist, funds will have to be directed towards priorities that could generate added value to trans-frontier operations by bringing about a transition from simple economic penetration from both sides of the border to a true trans-frontier economic system. To achieve this aim the following are considered necessary: improving competitivity resulting from innovation, R+D, setting up material networks (infrastructures) and non-material networks (services), and developing the feeling of belonging to a trans-frontier community (redesigning the mental maps). Territorial connectivity and integration are thus variables positively related to territorial cohesion. In turn, trans-national cooperation provides a strategic profile for achieving major EU territorial objectives, contributing to better EU territorial integration. One of the EU tasks is to facilitate trans-European integration stimulating the development or conservation of zones and networks which are important for Europe. The mid-term evaluation by Interreg IIIB, carried out in 2004, already emphasised the crucial role of trans-national cooperation programmes and projects for European territorial integration and cohesion. It has also been stated that cities and regions make use of trans-national cooperation as a siting factor, attracting investments and integrating them into the networks (Conference on Trans-national Cooperation, Berlin, November 2004). In these spaces a series of structuring projects would be developed, among which the Commision proposes: trans-European transport corridors, natural hazard prevention, water management at river basin level, integrated maritime cooperation and R+D networks /Innovation.

17 To achieve this greater legal base referred to in the document, the Third Report on Economic and Social Cohesion (EC, 2004) envisaged creating two new instruments, the New Neighbourhood Instrument (NNI) and the Cross-border Regional Authority, later renamed as the European grouping of territorial Cooperation (EGTC) to make it clear that it not only dealt with trans-frontier cooperation but also transnational and interregional cooperation. The EGTC is seen as "…a cooperation instrument at Community level for the creation of cooperative groupings in Community territory, invested with legal personality, ... An EGTC should be able to act, either for the purpose of implementing territorial cooperation programmes or projects co-financed by the Community, ... or for the purpose of carrying out actions of territorial cooperation which are at the sole initiative of the Member States and their regional and local authorities with or without a financial contribution from the Community." (Regulation (EC) 1082/2006)

18 The recent decision by the French government serves as a good example: they have decided to postpone until 2030 the link construction work that would connect high speed trains from both sides of the Pyrenees (Serra Ramoneda, 2006), despite the many, diverse and reiterated efforts (Arco Latino, Comunidad de los Pirineos, meetings and agreements between cities on both sides of the frontier) to stress this situation.

19 See the ESPON 1.1.1 Project Final Report;

THE MEDITERRANEAN AXIS AND THE TRANS-EUROPEAN TRANSPORT NETWORKS (TEN-T): A HISTORY OF FAILING TO MEET. From the Essen summit (1994) to the external dimension (2006)

Josep Vicent Boira Maiques

Introduction

The focus of this article is to provide a critical review of the role of the Mediterranean axis (essentially comprising the autonomous region of Valencia, Catalonia and the Balearic Isles, with the addition of Murcia, Andalusia and the French region of Languedoc-Roussillon) in the overall trans-European transport networks' (TEN-T) map; its role and how it has been integrated -if in fact this is the case. In addition, I shall evaluate the reaction of a number of public and private governing bodies, companies and institutions in these regions, to the European Union's plans to extend trans-European networks to neighbouring countries.

Therefore, I shall begin with an overall view of the European transport networks and how they have evolved since the mid 1990s, and end with an analysis of the relationship between these networks and their evolution, particularly in the light of the latest developments: the external dimension of the TEN-T (2006) (that is its extension to EU neighbouring countries), and the allegations in documents and

opinions that were stirred up among specific bodies and institutions from the Mediterranean axis.

To begin with I have to point out that the Mediterranean axis as such does not exist. It does not exist from an administrative or bureaucratic point of view, yet it does have a very real economic basis, with a demonstrable flow of exchanges and shared geo-economic interests (Boira, 2003 a, b, c). This distinction between an "imagined" territory but with "tangible" bases, and a "potential" territory with "real" economic dynamics, is one of its weaknesses and, perhaps, one of the explanations for its near insignificant role and influence on the map drawn up by the proposal for trans-European transport networks (TEN-T), at least up until 2010, when it will be reviewed. This explains the reality of the Mediterranean axis' exclusion from the trans-European transport network, however it also explains its predicament. The inability to articulate a combined response to transport network designs that do not take into account the needs of this macro-region is illustrated by the corpus of allegations and reports put before Europe by different administrations and institutions from the autonomous communities concerned (in particular Catalonia and Valencia, but also Murcia and Andalusia), as we shall see later. Thus, the Mediterranean axis has materialised as a result of an accumulation of testimonies, but there are no stable structures (not even of an interim nature) to provide it with a tangible form or support.

1. Trans-European Networks and the Mediterranean Axis

The concept of Trans-European Networks (TEN) was already acknowledged in the Maastricht Treaty (1992) as an instrument designed to strengthen economic and social cohesion and allow the free movement of goods and people. It was later taken up again in the 1997 Treaty of Amsterdam and the 2001 Treaty of Niza and other official documents that modified the basic European Union treaty.

In 1993, the Copenhagen European Council gave a major political boost to TENs by recognising their potential to create employment and promote economic growth. Decisions were made to promote trans-European networks in three areas: energy, telecommunications and transport. European policy continued to give importance to the TENs through periodically revised Community guidelines, and in 2003 launched the growth initiative whose objective was to accelerate public and private investment in network infrastructures with programmes such as "*Quick-Start*" for priority projects. As for transport networks (TEN-T), its history is relatively easy to establish (see table 1), at least regarding the most relevant milestones. In 1990, the possibility of coordinating European high-speed train networks had already been explored, and first-draft plans adopted for combined transport networks (road transport and navigable waterways). However, it was not until the 1994 Essen European Council that a list of 14 major priority projects in this field was not drawn up. From this point on, the path embarked upon has not been an easy one, with agreements reached by the Commission and reports from the *ad-hoc* groups it has created.

2. From the first document on European high-speed rail systems (1990) to the Essen priority projects (1994)

On December 17, 1990, the European Community Council passed a resolution[1] which included various considerations on the European high-speed train network, ruling in favour of the need to set up an inter-operative network and pointing out, for the first time, what it considered to be key stretches in this new European network (see table 2). Two of the fourteen stretches included are relevant to the Iberian Peninsula: Madrid-Barcelona-Perpignan and Oporto-Lisbon-Madrid and Vitoria-Dax (two options of the same stretch). According to Ellwanger and Wilckens (1994), together with this proposal, a "*Master Plan for the European High-speed rail Network 2010*" was approved, part of which is illustrated by map 1.

Although this document and list refer only to high-speed rail systems, some of these ended up being added to later lists used by the High Level Groups and Councils. It was in this way that a fact was consolidated: the influence of high-speed transport in subsequent European infrastructure maps, perhaps at the cost of overlooking to a certain degree less visible yet key passenger and merchandise transport infrastructures, and, in the case of the Mediterranean axis, even more useful than high-speed passenger transport.

The next step was at the Brussels European Council in December 1993, when two High Level Groups (HLG) were created: one dedicated to information networks presided over by Commissioner Bangemann, and the other dedicated to transport and energy networks, under the charge of Vice-President Henning Christophersen. The latter drew up a report which was used to define the first formal list of strategic projects for trans-European transport networks; a list which was ratified in 1994 by the European Councils of Corfu (June) and Essen (December). In effect, on the island of Corfu in 1994, the go-ahead was given for eleven strategic projects for Europe plus three originating from initiatives already begun, or about to begin, in Northern EC countries, Ireland and the UK. The origin of the eleven projects that were approved in Corfu (and later in Essen) set out by the HLG of 2003 and 2005 thus had their precedent, i.e. the Christophersen Group. Resorting to this kind of ad hoc commission (three in ten years) has been a feature of the development of the TEN-Ts.

In effect, this High Level Group, which last met on June 3, 1994, drew up a report which served as a basis and model for restructuring projects in later years. Created at the request of the European Council of 1993 to the Commission, this group brought together a representative from each member state; acting on behalf of Spain were J.A. Zaragoza, Secretary of State for Territorial Policies and Public Works, and the minister José Borrell (who held the post of Public Works since 1991). The ensuing report listed 34 projects classified into three groups according to which stage they were at. The first group (11 projects) comprised those projects which were almost completed or were going to begin within two years. The second group (10 projects) comprised initiatives whose acceleration seemed possible and would not go beyond 1997, while the last group (13 projects) comprised plans that required more time to be carried out or further studies. As regards Spain, there were three projects in this list: the high-speed train Madrid-Barcelona-Perpignan and Madrid-Vitoria-Dax and the Lisbon-Valladolid motorway (first group) and the Valencia-Saragossa-Somport road corridor (third group). It should be noted that the high-speed project had already appeared in 1990 in the Council document relating to the development of a European high-speed train network. As I see it, the Christophersen document is of key importance, as the inclusion at the highest priority level of the high-speed train beginning in Madrid and running both to the Mediterranean and to the Atlantic (along with the Valladolid motorway also "central") has subsequently determined all the European Union's lists of priorities regarding TEN-Ts in Spain practically until 2006.

As the Christophersen report reflects, the final list came as much from a small list drawn up in the 1993 *White Paper* on growth, competitivity and employment, as, and especially, the priorities promoted by the member states[2]. In effect, some priorities appeared succinctly in the 1993 *White Paper* on growth: "new strategic trans-frontier (Brenner rail link, Lyons-Turin rail link, Paris-Barcelona-Madrid rail link, Berlin-Warsaw-Moscow motorway link), improving connections between the various transport modes (…) and improving interoperability and efficiency of networks…"[3].

Based on the Christophersen Report, the European Councils of Corfu and Essen (both held in 1994) ratified the lists of priorities mentioned above. That is they limited themselves to those selected in the first group and, therefore, focused on, in the case for Spain, the high-speed links from Madrid and on the Lisbon-Valladolid motorway. As of Corfu 1994, the Valencia-Aragon axis disappeared from the official documents published by the European Union.

3. From the EC Decision 1.692 (1996) to the De Palacio High-Level Group (2006)

There were two important events in 1996 when it comes to understanding the

development of the TEN-Ts. Firstly, in July of the same year, the European Parliament and the Council adopted Decision 1.692/96/EC concerning EC strategic guidelines for the development of the trans-European transport network, which comprised a long list of projects of common interest. This Decision was amended in May 2001 to include European inland ports and intermodal terminals, as well as to modify one or other specific priority project. Decision 1.692 was once again subject to amendment in October 2001 and April 2004.

Among the modified projects in 1996 we find number 8, which affects Spain. At the Dublin European Council in December 1996, and at the request of the governments of Portugal and Spain (the latter then under the José María Aznar administration as of May the same year), priority project number 8 (the Lisbon-Valladolid motorway) becomes a "multi-modal link between Portugal and Spain and the rest of Europe", thus adding to the project's aspirations and magnitude.

The 1996 Decision 1.692 clearly increases the number of projects for the first time since Essen to 30, with a series of inherent ramifications for each one. As regards Spain (see table 3), we now find two already familiar projects: number 3 (the High-Speed train running from Madrid to the Atlantic and the Mediterranean) and number 8 (the old connexion between Lisbon and Valladolid - extensively modified). In the case of the former, new connexions were specified, i.e. Lisbon/Oporto-Madrid. The Mediterranean axis as such —understood as running from the French border to Murcia or Andalusia— only features as a general note about the Mediterranean sea motorways and the inter-operability of the high-speed rail system in the Iberian Peninsula Madrid-Levante and Mediterranean, with no further references.

As I have stated before, the 1996 Decision 1.692 was amended in 2001 (May and October) and in 2004. In May 2001 sea ports, inland ports and intermodal terminals were added to the list of projects and some of the criteria for defining priorities were modified. In October 2001, the Commission once again proposed some modifications in the light of White Paper on Transport and the Gottenberg European Council proceedings. In the document that was approved the following were definitively incorporated as a specific project: the high-capacity rail network crossing the Pyrenees, the transformation of the Iberian network to a European scale and the incorporation of project number 3 (Madrid-Barcelona-Montpellier) concerning a high-speed mixed line of transport of freight/rail between Montpellier and Nîmes. The arguments put forward by the Commission left no doubt about the idea of establishing a rail axis leaving aside the Mediterranean corridor: "This extension (…) will improve the viability of project number 3 and will put an end to the rail bottleneck between Montpellier and Nîmes, which will allow for *guaranteeing the continuity of a rail motorway between Seville and the north of Europe*" (italics are mine)[4] (see map 2). In April 2004, Decision 1.692 was modified again extending the period for implementing some of the projects to 2020 (it had previously stated 2010) and defining 30 priority projects in the light of the Van Miert report which I shall look at next.

In effect, the most important revision of the TEN-T was carried out when, at the end of 2002 and the beginning of 2003, a second High Level Group on transport infrastructures was created by the European Commissioner Loyola de Palacio, presided over by the ex-Commissioner Karel Van Miert. Its objective was clear: "to identify the priority projects for the trans-European transport networks in an enlarged European Union".

The results of the research by the Van Miert Group was presented in the summer of 2003 and classified priorities into four major lists: List 0, List 1, List 2 and List 3. The first group, List 0, comprised those projects already underway and which were forecast to be completed before 2010 (in essence, the projects defined in Essen 1994 and Dublin 1996). List 1 comprised the priority projects forecast to begin before 2010 (including the Galileo satellite communication project). List 2 comprised the long-term priority projects, and List 3 comprised other important projects for territorial cohesion in Europe. None of these lists included the Mediterranean corridor as such (see map 3). As I pointed out earlier, in April 2004, the European Parliament and the Council modified the 1996 Decision 1.692 to establish the 30 definitive projects, approved based on the recommendations of the Van Miert Group. It was the confirmation of the priority projects that had emerged more than ten years earlier and in which the Mediterranean axis did not figure in a unitary or cohesive manner.

The last step to date which affects the Mediterranean axis and the TEN-T is the 2005 proposed extension of the European networks to the neighbouring countries[5]. This is not really a modification of the priorities, but it is a clear basic reaffirmation regarding strategic thinking that extends these networks towards the countries bordering on the European Union. The decision to create a new High Level Group (the third, after the 1994 Christophersen Group and the 2002-2003 Van Miert Group) was adopted by the European Commission after a ministerial seminar in Santiago de Compostela in June 2004. The group was created in September of the same year with the mission of studying "the extension of the major trans-European transport axes to the neighbouring countries and regions". The person named as president was the ex-Commissioner for Transport, Loyola de Palacio. Although, as I stated earlier, the De Palacio Group was not assigned the mission of reforming the TEN-T, the establishment of axes of communication between the European Union and its neighbouring countries (especially the north of Africa as regards how it affects the Mediterranean axis), meant a consolidation of the "map" that defines the future of transport in Europe and documentary evidence of the corresponding insignificant role of the Mediterranean axis since the 1990s. The De Palacio Group presented its report on December 7, 2005, which clearly established some connexions between the TEN-T projects and initiatives to be carried out in the north of Africa to improve communications. Analysis of the maps included in this report once again revealed the non-inexistent role of the Mediterranean axis (see map 4). Among the work carried out by this group, in April 2005 a meeting had been called with external assistance to evaluate the strategic lines of this report. When the report was presented there was a second public comment period, and it was then that a wave of criticism arose from a variety of bodies and institutions from the communities that comprise the Mediterranean axis.

4. The reactions to the 2003 and 2005 High Level Groups reports

The reports published by the Van Miert and De Palacio HLGs generated an irregular range of reactions. In the summer of 2003, the Valencian press —in particular the Valencian newspaper *Levante-El Mercantil Valenciano* and the magazine *El Temps*—, published articles on this subject, including the opinions of experts on the subject and underlining the risk resulting from the marginalisation of the Mediterranean axis in these published reports[6]. The resulting controversy, for example in the Catalan weekly magazine El Temps, prompted the publication of a letter aimed at clarifying the situation sent by Gilles Gantelet, spokesperson for Loyola de Palacio, which attempted to demonstrate that the Van Miert report did not marginalise the Mediterranean axis[7]. It should be pointed out that there were no major reactions either from among those governments affected or corporate associations. It was a very different matter, however, in 2005 regarding the report released by the HLG chaired by De Palacio and, particularly, what happened in the time period allocated for public debate in 2006.

In the latter case it is important to point our how in 2005, and in reference to the report on the extension of the TEN-T to EU neighbouring countries, only six people from the Spanish State, representing five institutions or associations, took part in the public debate sessions on the report that the De Palacio Group was drawing up at that time. It is somewhat curious to note that these six people came from the Mediterranean axis communities: Catalonia, the Autonomous Community of

Valencia and Murcia. In fact, the institutions or associations that were present at the debate in April 2005 were the Tarragona Port Authority, the Barcelona Provincial Council, the Valencian Autonomous Community Government (via its delegation in Brussels), the region of Murcia (also via its representative in the European capital) and the private association FERRMED, which promotes a high-capacity freight railway corridor which runs from the Mediterranean coast to the heart of Europe.

It is interesting to observe that less than a year later (with the De Palacio report already published and approved), 32 people actively participated in the debate on March 28, 2006 (after the public comment period which had ended on March 10), of which 27 were representatives from regions of the Spanish Mediterranean Area: Catalonia, the Valencian Autonomous Community, the Balearic Isles, Murcia and Andalusia. Clearly there was a somewhat untimely reaction from the Mediterranean axis. This reaction was evidently late, albeit energetic. Those thirty odd people assigned to take part in the sessions to be held in Brussels represented institutions such as the Chamber of Commerce of Valencia, the Autonomous Community of Murcia, the association FERRMED, various representatives from the Autonomous Governments of Valencia and Catalonia, the Council of the Valencian Chambers of Commerce, the Alicante Port Authority, the Government of the Balearic Isles, the Government of Andalusia, the Port Authorities of Valencia, Castellon and Andalusia , and so on.

But even more interesting than the specific individuals or institutions that attended that debate were the allegations or reports that different institutions sent to Brussels within the Commission's public comment period on the De Palacio Report[8]. A simple list of those who presented allegations provides us with a real panorama of the reactions generated in the Mediterranean area. In table 4 we can see the breakdown of the origin of those who presented allegations. As can be seen, of the 19 reports sent to Brussels within the public comment period, only one (the report sent by the Gijón Port Authority) originated from an institution, association or citizen from regions which do not make up part of the Mediterranean axis.

To facilitate readability I have grouped them by autonomous community (figure 1) and by organisation (figure 2).

After analysing these reports, one can arrive at some conclusions. The first is a concern openly expressed by all the documents submitted by regions from the Mediterranean axis concerning the marginalisation of the Mediterranean axis in the De Palacio report, with the exception of the Government of Andalusia which (as opposed to the Andalusian Chambers of Commerce Council) made no expressed demand regarding this matter. At this point I would like to take the liberty of quoting some of the documents sent to Brussels in view of the European Commission request:

" ...A fundamental connexion has not been included: the Mediterranean Corridor, which presently directly links the North of Africa (via Algeciras) to the trans-European transport network, running along the entire Mediterranean coastal strip of the Spanish Peninsula to France, then continuing to the rest of Europe." (Chamber of Commerce of Barcelona).[9]

" ...the Spanish Mediterranean Axis has been totally overlooked (...) [this] has a bearing and a negative impact on the radial nature of Spanish communications (...) [this] rules out the possibilities offered by multi-modality."[10] (Chamber of Commerce of Murcia).

" ...it cannot be understood why there is no development of a Mediterranean axis that would run from Barcelona to Algeciras passing through Valencia, Alicante, Almería, Granada and Malaga (...) there is no justification for why the TEN has only one axis of penetration in Andalusia, the one running from Madrid to Seville, when in Portugal there are three lines of penetration networks and a number of others in Benelux" (Andalusian Chambers of Commerce Council).[11]

" ...[the] Mediterranean corridor has no importance for the European Union (...) The Group has undervalued the Mediterranean corridor as a bias for the division of development and cooperation with the North African countries (...) it does not provide any solution for the macro-region of the Mediterranean Spanish Arc (...) the proposals of the Group damage the interests of the Mediterranean macro-region." (Valencian Community Chambers of Commerce Council).

" ...the non-inclusion of the project [the Mediterranean axis railway] would represent a threat to the territorial competitivity of the regions it crosses..."[12] (CIERVAL-CEOE)

" Following the priority rail axes in the report, the continuity of this network through the Spanish Mediterranean is interrupted, being re-routed towards the centre of the country [Spain] and Portugal, leaving the periphery ports and regions in the East and Northeast of Spain isolated (...) what is missing is that the HLG (*High Level Group*) has not considered in its totality the stretch of the FERRMED axis, which in addition to connecting the north of Europe with the south (...) addresses the sea and inland ports (...) We consider the study by this HLG concerning motorways of the sea to be insufficient..."[13] (Alicante Port Authority).

" ...the five major trans-national axes stated [by the High Level Group] have devastating implications for the Valencian Community, as they discriminate unacceptably against our region."[14] (Castellón Port Authority).

" With regard to this matter it is our consideration that throughout the successive revisions of the TEN network there has been a consolidation of a radial philosophy and concentration of axes which has taken shape since the beginning of the 1990s in this area of transport policies."[15] (Valencia Port Authority).

" Surprisingly, there are not TEN-T priority projects including intermodality requirements for other important Mediterranean ports such as Marseille and Valencia, in spite of their enormous traffic volumes (...) The Eastern Region of Spain seems to be mis-considered in the European guidelines for [the] next transport planning..." (Spanish Road Association-European Union Road Federation).

" Examination of the list of the European Union's 30 infrastructure priority projects reveals that goods shipped by rail in the Mediterranean Corridor has not been sufficiently taken into account and as a whole is not considered as a trans-European network priority project."[16] (Autonomous Government of Catalonia)

" The list of eligible stretches has to be re-opened with the aim of including projects which, although not included in the 30 that were selected in due course, are now crucial (...) and it seems unquestionable that the enormous impact that the rail connection with the Maghreb via the Straits would have (...) would be seriously diminished if there were no fast exit towards Europe via the Mediterranean corridor."[17] Valencian Community-European Region Foundation]

" The southeast axis proposed by the High Level Group does not include the Spanish Mediterranean Axis, which is a constantly developing economic area of vital importance..."[18] (Government of Murcia).

" This document creates a major vacuum regarding the European Mediterranean Arc (...) between Barcelona and Algeciras (...) by fragmenting the Spanish Mediterranean Arc it contradicts all the previous European Union recommendations."[19] (Valencia City Council).

" A number of aspects of the proposals put forward by the High Level Group are insufficient and inadequate (...) what is necessary is a review of the omission of possible axes that would favour communication between the south and east of Europe without the need to pass through the centre of the continent."[20] (Autonomous Government of Valencia).

As can be seen, the common denominator in these arguments reinforces my idea of a Mediterranean axis macro-region *de facto*

put into operation as a result of a series of reports which marginalise its territory from the major European axes, but whose weakness is due precisely to the lack of a minimal communication structure and contact between the parties involved.

In a logical fashion, practically all of the reports reviewed, highlight the need to:

1. incorporate into the priority projects defined by the European Union, a rail axis at an international level with a high level of facilities running along the Mediterranean coast from Barcelona to Algeciras, either as part of a higher level axis Rhin-Rhône-Western Mediterranean (position defended by CIERVAL-CEOE and FERRMED, for example), or as a an extension of project number 3 towards the south (defended by Autonomous Government of Catalonia);

2. to define to a large extent the Sea Motorways with explicit references to intermodality, to the connection of the Mediterranean ports to the land communications network and relationships with North Africa. Other noteworthy proposals were arguments in favour of the Kiev-Lisbon axis as a westerly continuation of the Mediterranean corridor (Port of Alicante and the Valencia City Council) and the Valencia-Madrid-Lisbon connexion with the Mediterranean corridor (Port of Valencia).

Faced with this deluge of information and allegations, the European Commission has been answering the individuals and institutions concerned on an individual basis (June 2006). In the Commission response it specifies that the De Palacio Report could in no way "intervene concerning the trans-European Transport Networks that had been defined in Decision 884/2004/CE, on April 29, 2004, by the European Parliament and the Council"[21], although it points out that "the European Commission makes note, however, of their arguments regarding the orientations of the trans-European networks that will have to be carried out in 2010".

In reality, and strictly speaking, it is true that the extension of the TEN-Ts to neighbouring countries (the subject of the De Palacio HLG report) could not amend the TEN-T itself, but it is also clear, as highlighted by the allegation sent by the Autonomous Government of Catalonia to the Commission in March 2006, that both documents could have been dealt with and worded differently: "...the CE argues along the lines that the document only reflects the 30 priority projects already defined in due course by Europe. Since the Spanish Mediterranean rail axis is not included, it doesn't appear in the proposal to extend the network either. Nevertheless, it is our consideration that the major European transport axes for international commerce do not necessarily correspond to the 30 trans-European priority projects."[22].

The document put forward by the Autonomous Government of Catalonia made a pertinent point by proposing a more flexible way of considering the issue: "It is our consideration that, as such, this document reflects a lack of coherence due to the fact that for Europe the projects in question are based on internal European relations, whilst for the countries in the south those axes under consideration are those which are at the service of relations with their neighbouring countries. This lack of coherence could be redressed by defining European projects that effectively contribute to extending the trans-European network and to relations with neighbouring countries. The Spanish Mediterranean freight rail axis would then be an option to be taken into account."[23] What is apparent is that the fact that the Mediterranean corridor was not among the TEN-T list of 30 projects hardly justifies that it should not be considered ideal for other purposes, as for example the connexion with North Africa. This very argument was put forward by the Valencian Autonomous Government, via its Valencian Community-European Region Foundation in Brussels, citing the document itself: "Now when attempting to design an intercontinental axis which links the North of Africa and Europe, a constraint emerges, as the Mediterranean corridor, not numbering among the 30, is not an option. This brings us to the absurd situation in which trains arriving at Algeciras from Morocco (...) would have to follow a route to Figueres via the Meseta."[24].

5. Consequences of the TEN-T design: investments from 1986 to 2002

The design of the TEN-Ts, in addition to marginalising the Mediterranean axis as seen in the projects maps and lists, has had a further (albeit logical) worrying consequence: focusing investment from Europe destined for TEN-Ts in regions of Spain other than the Mediterranean axis, particularly Madrid. Based on my calculations in an internal document drawn up in 2003 at the *Càtedra Ignasi Villalonga de l'Institut d'Economia i Empresa Ignasi Villalonga* I was able to conclude that 43 % of the funds and subsidies related to the TEN-Ts destined for Spain in the period 1986-2002 ended up exclusively in projects related to the Madrid Community infrastructures, 7.8 % for Catalonia and 5.6 % for Madrid. By extension, 37 % of the TEN-T subsidies for Spain ended up being used on radial rail axes (Madrid-Valencia or Madrid-Barcelona) and only 6.5% used for the Mediterranean rail corridor, Valencia-Barcelona. In short, the Madrid Community was directly or indirectly, rewarded by to the extent of 80% of the funds designated for the TEN-Ts in Spain in the period 1986-2002. Of these amounts designated extraordinarily to the centre of the peninsula both the high-speed axes Madrid-Seville and the radial axis to Valladolid, Valencia and Saragossa took precedence. Clearly, the TEN-T policy has increased the concentration of funds in operations that has not tempered, not even by a stretch of the imagination, the traditional radial the design of Spanish infrastructures.

6. Conclusion: the change of the "bottom up" methodology and the 2010 revision horizon

As we have seen, the construction of the Trans-European Transport Network from 1990 to 2006 has slowly adhered to a methodology which has faithfully reflected the spirit of European unification in recent decades: an attempt to increase cohesion – in this case, territorial–, of Europe, but from bases and employing methods in which the influence of the member states has been a decisive and determining factor. The development of the TEN-T and subsequent lists or priority projects has responded to practical "confederal" thinking rather than a federal spirit. The 1994 Essen decision and that of the Commission ten years later (2004) to establish a series of priority projects (fourteen in the former and thirty in the latter) has determined subsequent development up until today. The priority, as we have seen, has been based on aspects that, in spite of statements and criteria put forward, was much more a response to the interests of the member states and a reflection of their particular view of "national" territory than to construct real territorial cohesion at a European level. This is the only explanation for the marginalisation of the TEN-T from a space such as the Mediterranean axis which concentrates a major nucleus of economic activity to which one can add its role as a sea outlet linked to the North of Africa.

I am not alone in my criticisms based on the maps and distribution of funds related to the TEN-T. The Van Miert Report of 2003 itself (page 70) recommended modifying the methodology for defining priorities in a paragraph which, unfortunately, has had few repercussions (italics are mine): "In view of the integration of the trans-European transport network, the bottom up approach is no longer sufficient on its own in order to determine the priority projects. *No single Member State can claim to have an overall picture of transport needs on the scale of the enlarged Union.*" It therefore defended the creation of a European Transport Observatory that, among other duties, "would assist the Commission (...) by making proposals for the choice of the priority projects..." (page 70).

The state perspective, that of each member state, which the Van Miert Report defines as "a bottom up approach", has been that which has taken precedence in this process and the one that has marginalised the Mediterranean axis from the TEN-Ts. And this is not only the case in the European Councils, to some degree a matter of logic, given that these are meetings of member states, but also in the initiatives of the Commission itself. It is significant that the three High Level Groups created in 1994 and 2004 to deal

with the issue of TEN-Ts were set up by means of adding representatives from the states. In the case of the Van Miert High Level Group (created at the end of 2002), the representative from the Spanish state was Antonio López-Corral, Director General for Economic Programmes – Ministry of Public Works, who at that time counted on the minister Francisco Álvarez Cascos (from the conservative Partido Popular). Each member state was entitled to one representative, and in addition we can add observers from acceding countries plus one representative from the European Investment Bank. Similarly in the setting up of the Loyola de Palacio High Level Group (autumn 2004), once again there was a designated representative for each member state, plus others from acceding countries or those geographically neighbouring on the European Union. Once again, a representative from the Spanish Ministry of Public Works, this time under the ministry of Magdalena Álvarez (from the PSOE – Spanish Socialist Party), namely Pablo Vázquez (Director of Transport Forecasts and Studies), was elected to represent Spain, and accompanied by Pilar Castro, Ministry chief. With this kind of methodology, and that of the Commission's initiatives it was left in the hands of member states and, consequently, to their territorial logic. It is hardly necessary to point out that in states such as Spain, with a strong centralist tradition and radial perspective of infrastructures, there was a faithful continuation of these very principles when transposing to a European scale. There is no other way to explain why not even List 2 of the Van Miert Report included the Mediterranean corridor from Algeciras to France (and beyond both towards the south and north) linked to the dynamic ports of the West Mediterranean. Let us not forget that this list identified projects with "a particularly high European added value".

The fact is that the much sought after economic, social and territorial cohesion of the European Union, which the TEN-T attempted to achieve, has rested on the articulation, sometimes forced, of individual projects presented by the various member states. Whenever Europe has proposed a list of priority projects or has drawn up a map, it has done so based on material provided by high-ranking civil servants or public officials from the member states' central governments. In my view, this fact reveals, on the one hand, the weakness of the European Union to achieve a structure that is not just a mere appending of states (and of their interests), and on the other hand, explains the scant relevance the Mediterranean corridor has had in this history of the TEN-Ts. All in all, the TEN-Ts have been established in a way that is closely related and linked to the view that each state has contributed to the Commissions, European Councils or High Level Groups. In this way, in the case of Spain, as we have seen in this analysis of the projects selected as well as the investments made up until 2002, TEN-Ts have meant the marginalisation of the Mediterranean corridor (with the corresponding doubts as to whether its inherent high-orbit standing with respect to the European centre of gravity will be addressed in the future), the transposition to a European level of the principles of radiality of the traditional Spanish conception as regards infrastructures and the increase of the "…radial character of Spanish communications, increasing the well-established existing concentration of Spanish transport…" (as stated in the document by the Murcia Chamber of Commerce[25] during the public comment period for the De Palacio Report in 2006). Only thus can one understand why the Mediterranean corridor, which hosts a major part of economic activity, logistics and transport in Spain, has not been taken into consideration in any of the TEN-T priority projects from 1990 to 2006, with the exception of a general mention about the sea motorways and the convertibility of Spain's railway network into high-speed systems, issues which, not being of a minor nature, have not reached the same degree of realization as other projects that have been singled out for special treatment.

Looking ahead to the review in 2010, nobody could now argue that there is a lack of strategic objectives regarding the Mediterranean corridor. What is needed is a coordination between all the governments, associations and institutions within the Mediterranean axis, from Andalusia to Catalonia in this case, embracing the Valencia Autonomous Community, Murcia and the Balearic Isles (and which does not rule out the French regions affected), so that this economic macro-region can rely on, as of then, priority projects for the cohesion of the European Union and the development of the economy of this façade of the Mediterranean. The coordination of efforts, a clear definition of strategic objectives and priority projects at the level of the Mediterranean corridor and a decisive policy of information directed towards Madrid and Brussels must be objectives that guide the actions of the societies and economies implicated in the years that remain until the review of the TEN-T.

1 *Official Journal* num. C033 08/02/1991, pp. 1-3.
2 *Trans-European networks. Interim report of the chairman of group of personal representatives of Heads of State or Government to the Corfu European Council (Christophersen group) (1994).*
3 *White Paper on growth, competitiveness and employment.* COM (43) 700. Final. December 5, 1993.
4 Proposal resulting from the decision by the European Parliament and Council by which modifications were made to Decision 1.692/96/CE. Brussels, 2.10.2001 COM (2001) 544 final. 2001/0229 (COD), p.18.
5 "Networks for peace and development. Extension of the major trans-European transport axes to the neighbouring countries and regions". November, 2005.
6 This can be seen, for example, in articles that appeared in *Levante-El Mercantil Valenciano on July* 2, 16 and 17 2003, *El País* (July 3, 2003), in *El Temps* (weeks 8 to 14, 15 to 21 and 22 to 28 of July 2003), and in *El Temps d'Economia* (20-26, January 2004).
7 This letter prompted my own reply, published the following week in the same magazine.
8 At the time of writing this article (July 2006), these documents can be found at the following web address: http://ec.europa.eu/ten/transport/external_dimension/hlg/2006_02_17_tent_consultation/index_en.htm
9 You will find the original quoted text into the Spanish version.
10 to 20 *ibid.*
21 Letter by Edgar Thielmann dated June 12, 2006. Director of the Office for TENs and technological development. Directorate B - Transeuropean Networks Energy and Transport. Directorate General for Energy and Transport. European Commission.
22 Contribution by the Autonomous Government of Catalonia to the public comment period in reference to the HLG report on the extension of the major trans-European transport axes. The Spanish Mediterranean rail axis and the feasability of the sea motorways, Barcelona, March 1, 2006.
23 You will find the original quoted text into the Spanish version.
24 Public consultation on the extension of the major trans-European axes. Contribution by the Valencia Community-European Region Foundation, Brussels, March 1, 2006.
25 Allegations by the Murcia Chamber of Commerce addressed to the HLG concerning the network for peace and development of November 2005. Murcia.

PROSPECTS FOR DEVELOPMENT OF THE TRANSPORT SYSTEM IN THE MEDITERRANEAN

Jean-Claude Tourret

1. The challenges in southern Europe

The European Spatial Development Perspective (ESDP) recommends the establishment of an international "economic integration zone" in southern Europe, integrating the major European poles from Seville, through Valencia, Barcelona, Lyons, Marseilles, Genoa, Milan, Rome to Naples, which could act as a counterweight to the regions of central Europe. In specific terms, this strategy involves the implementation of a competitive transport system in this area, which can provide an effective and long-lasting guarantee for the circulation of people and goods.

However the problem of transport has become an obstacle in the Mediterranean today. Mountain ranges (the Apennines, the Alps, the Massif Central and the Pyrenees) divide the region and are a significant hindrance to the circulation of flows. As a consequence, land networks are discontinuous, have very little continuity and are highly saturated, which is a disadvantage compared to northern Europe, an area which is much better equipped from this point of view. As a consequence, the costs of north-south or east-west transport in this region are among the highest in the world.

This area also lacks an organised waterway system like those with a structural function in exchanges in Europe in the Rhine and Danube regions. For this reason, rail transport needs to be much more important. However, as we will see below, this transport sector suffers from considerable deficiencies in terms of infrastructure. This means that road transport is the most frequently chosen option, leading to disadvantages in environmental terms which are even more important due to the concentration of networks in corridors as a result of the region's geographic fragmentation.

As a result, the consolidation of transport networks is a basic challenge for the Mediterranean area. In specific terms, this consolidation entails the development of east-west, transalpine, air and sea links. To that end, it is necessary to overcome the physical barriers of the Alps and Pyrenees, among others, as well as to make the essential reinforcements of communications between the coastal and inland zones, which are much less accessible.

Maritime transport is still much more predominant in international trade thanks to the development of containerisation. However, Europe's Mediterranean coast has yet to obtain an important niche in this respect. Coastal traffic acts as a very useful complement to land corridors. Furthermore, it is an essential tool in island transport services, whether for their links with the mainland or for the connections between islands. As the Mediterranean is one of the most heavily used sea routes in the world, the subject of security in this means of transport is obviously of interest to coastal countries and regions.

Improving the organisation of logistics is also a very important challenge in the Mediterranean region. Transport will only be fully functional to the extent that it is possible to integrate, interconnect and operate the various air, sea and land modes linking this geographical area within a single system. The use of computers, telematics and control and security technologies will contribute extensively to this, as well as the integrated management of transport data and documents.

2. A substantial increase in traffic in all modes of transport

As mentioned above, exchanges and flows of people and goods in the Mediterranean region will increase at a rapid rate over the next few years due to the combined effect of European integration (the effects of which are still far from being complete), the expansion of Europe with ten new member countries, and the strong dynamism of the Asian economies. A great deal of this trade with Europe will pass through the Mediterranean. In the future, the southern Mediterranean economies could also contribute to this dynamic, making the Mediterranean area the centre of new flows of globalisation.

European integration continues to be a significant vector of developments in land traffic. However, as we have seen previously, European construction has not yet eliminated frontiers. Far from it, they remain a significant obstacle to exchanges, which basically continue to take place at domestic level. We can also see that frontiers frequently divide flows by ten, which shows the work that remains to be done before a complete unification of the internal market is achieved, and the pressure on the European transport system that this will entail.

As a consequence, flows of people and of goods around the Mediterranean arc and in particular, on the Barcelona - Lyons - Marseilles - Turin - Genoa axis, is undergoing heavy expansion. The increase in all types of traffic is around 10 percent annually, i.e. it doubles every seven years.

This dynamism of flows also affects touristic activities. The pleasure cruise industry in the Mediterranean has thus developed substantially. The number of passengers increased from 7.5 million in 1997 to 11 million in 2005, i.e. an annual increase of 6%.

3. A problematic modal distribution

The main hindrance to the improved circulation of traffic in southern Europe is not so much a problem of capacity but rather a problem of the modal distribution of transport, which is dominated by roads.

The railways linking Italy and France are not very competitive in terms of either cost or service. The journey between Marseilles and Milan currently takes 8 hours. The cost is also unattractive compared to aeroplanes. The situation is particularly bad in the Southern Alps. The networks are poorly connected, operations on the Italian side are problematic (except for intermodal transport, which is very competitive), and there are no links between Modane and Menton. As a consequence, railway goods traffic between France and Italy is approximately seven times less than that which goes by road, and is declining.

The railway links between Spain and France are also extremely weak. This is due above all to the different gauge used on the Spanish network, which means that a change of train is necessary at frontier stations (except for direct trains such as the Talgo Express). The Barcelona/Perpignan train journey currently takes more than three hours, and the journey between Barcelona and Marseilles takes more than six. For this reason, 85% of goods traffic between Spain and France travels by road.

The road links between the two countries are only efficient at either end of the Pyrenees mountain range. The coastal route between Perpignan and Barcelona is the only transit axis between the east and west. This axis, which is still far from being saturated, is nonetheless recording an annual rate of increase in traffic of around 8%. The routes through frontier points are not yet saturated. However, traffic across the Spanish and French frontier is increasing at an annual rate of around 10%.

4. Towards a gradual saturation of transport axes

A recent French report auditing major transport infrastructure projects confirms the risk of saturation on the roads in the Mediterranean arc between Barcelona and Genoa within a period of fifteen years.

The Languedoc corridor is a particularly good example of this situation. This axis, which runs between Nimes and Narbonne, is used by 75,000 vehicles every day (the State Highways Office says that the problem threshold is an annual daily average of 65,000 vehicles) and by more than 41,000 vehicles a day up to the Spanish frontier.

The main bottlenecks will arise:

- In Spain, on the outskirts of the Barcelona Metropolitan Region;

- In France, at the intersection of the A61 and A9 motorways (Narbonne), on the A9 between Nimes and Montpellier, and on the A8 between Aix-en-Provence and Nice;

- In Italy, on the coastal motorway (mainly Savona-Genoa) and in the Milan area, where the road network is particularly overcrowded.

The points of overcrowding also tend to be concentrated around the main towns, where local traffic converges with transit traffic.

5. Major East-West railway projects

New infrastructure projects such as Lyons-Turin, the Franco-Spanish TGV[1], the Rhine-Rhone TGV, the Provence-Alps-Cote d'Azur, Genoa-Milan LGV[2] and its connections will have a profound effect (if they are built) on the high speed scenario, leading to a lasting change in the type and volume of exchanges.

The Lyons-Turin line is an essential missing link in the European "Axis 5" between Lisbon and Kiev, on which there will be a great increase in traffic as a consequence of the expansion of the European Union. Obviously, this link is strategic for the MEDOC[3] space as a whole, because it is an opportunity to transfer part of the growth in traditional freight to railways, or to carry out transport on lorries using the rail expressway.

The completion of the Barcelona-Marseilles- Genoa high speed line is also

strategic, making the PACA TGV line on the French side[4] a link in the international segment.

The new "Languedoc-Roussillon" railway line, to be used for passenger and goods traffic, is a solution that should, in terms of its impact, enable the high-speed line between Perpignan and Montpellier to be completed. This is anticipated in the best case scenario for 2025.

Taken as a whole, the high speed line projects in Spain, France and Italy will make a considerable improvement to the "major accessibility" by railway to cities in the MEDOC area. As a result, in around 2030, Marseilles could be, in the best case situation:

- thanks to the PACA TGV: approximately 2 hours 45 minutes from Genoa and 3 hours 30 minutes from Milan, and the journey time between Genoa and Milan could be reduced by an extension of the CA TGV[5] towards Ventimiglia1;

- thanks to Lyons-Turin: around 3h from Turin – a service offer should be sought in this regard;

- with the Languedoc-Roussillon TGV: just under three hours from Barcelona (and 3 hours from Toulouse) providing that the Montpellier-Perpignan section is completed, which currently seems optimistic (the date of 2030 is the most frequently mentioned), without which these journey times would be 45 minutes longer.

The dates announced for the completion of the East-West links are, as we shall see, a long way off (between 2025 and 2030). Experience has also shown that postponements of deadlines are common in this field. The fear is that during this period there will be a gradual saturation of the railway and road routes, which is a very significant disadvantage for the integration of this space.

6. A rail project structuring the North with the South: FERRMED

An association called FERRMED, the objective of which is to promote the Rhine - Rhone - Western Mediterranean goods rail axis, is currently promoting the creation of a railway axis linking northern and southern Europe. The main branch of the FERRMED Axis begins in Duisberg, fans out to connect Scandinavia, Great Britain, all the North Sea ports and those on the western Baltic Sea, links the main river ports, passes through the Rhine and Rhone valleys and along the entire western Mediterranean coast from Marseilles to Algeciras, and links up the most important east-west axes in the European Union.

Indeed, a large proportion of trans-European goods traffic is currently concentrated on the roads and motorways of the Rhine-Rhone-western Mediterranean axis, which are now on the verge of saturation.

The Spanish and French Mediterranean coast and the Rhine and Rhone valleys are areas with no significant geographical obstacles. For this reason, the transport and communication routes between northern and southern Europe have been along this axis for centuries. The North Sea ports have always been very important economic and trading centres for Europe. Furthermore, due to the economic emergence of Asian countries and the proximity to Africa, trade in the Mediterranean ports is increasing at a spectacular rate year after year.

The FERRMED Axis is the fastest inter-connection route between the North Sea, the western Baltic Sea and the Mediterranean. This axis links the north and south of Europe and is also a compulsory transit point for goods transport between the east and the west.

In 2005, land traffic on this axis on the Pyrenees route exceeded 40 million tonnes and all forecasts suggest that it will increase by 50% by 2010.

However, the economic importance of the FERRMED axis goes beyond the areas crossed by its main line and the interconnection range of the northern sector with the Spanish and French Mediterranean coast, the Rhine and Rhone valleys, north-eastern Germany, Benelux and the southern half of Scandinavia. It is also important to numerous regions in Germany, Austria, Belgium, Denmark, Spain, France, the Netherlands, Italy, Luxembourg, Poland, Portugal, the Czech Republic, the United Kingdom, Sweden, Switzerland, Morocco, Algeria and Tunisia.

A revitalisation of the FERRMED axis according to European directives would lead to improved interconnection between the European regions and would as a consequence ensure a consistent planning of Europe as a whole.

Finally, the revitalisation of the FERRMED axis would enable balanced intermodal development of the land-based network, river lines and maritime lines of the North Sea, the western Baltic Sea and the western Mediterranean basin. Its revitalisation would also promote coastal traffic.

7. Sea highways

In recent years, the gradual saturation of the transport axes in the Latin Arc has led to the establishment of maritime links which compete with the existing land motorways for the use of a mode of transport that is less pollutant and less expensive in infrastructure terms. Connections of this type already exist, especially between Spain and Italy, and are managed by private companies that operate over distances of 1,000 km and more. The European Commission aims to promote the development of this type of connection in the Mediterranean over shorter distances and has applied several consecutive programmes in this area. However, these connections, known as "sea highways," which are part of a logic that could be defined as maritime transport of lorries, have some difficulties with their development. In 2003, a connection was projected between Fos and Savona, but this has yet to be established. Another connection between Toulon and Rome has been operating since 2004 with European aid, but its results are not very encouraging.

However, it is important to take into account that the true concept of maritime transport of lorries has yet to be implemented and the various actors, and the road hauliers in particular, are especially worried by it. Indeed, this project has run into several obstacles, some of which were identified by the European Commission in its report of 2nd July 2004; according to this document, coastal traffic is not fully integrated in the door to door supply chain, it is subject to complex administrative procedures and it requires a high level of efficiency in the ports.

The existence of a commercial and technical hinterland, port passage costs, the lack of frequency and regularity, and the major inclination towards roads should be taken into account.

As a result, it is necessary to tackle this situation. Firstly, it is obvious that states must intervene heavily, providing special guarantees with regard to the duration for the various actors, dockers, shipowners and hauliers who take the risk of investing in these projects. Furthermore, according to the Commission's recommendations, it seems necessary to establish "single ticket offices," covering all those with a role in the logistics chain (dockers, road, railway and river hauliers). These could offer clients management of all the operations.

Finally, the modernisation of ports and the improvement of their transport service - especially rail transport - is an essential condition for the success of these lines. It should be noted that the cost of transporting a container by land over distances of five hundred kilometres may be five or six times more expensive than going through ports. For this reason, those ports without competitive services will become secondary ports in terms of container transport. Opening up the European railway companies is also a very important challenge for the major French ports, which, unlike their competitors, do not have a major European river network.

8. An intermediate airport space in Europe

The European airport situation is characterised above all by a concentration of activities in a limited number of airports located in northern Europe. The major

hubs in northern Europe (like the ports of Antwerp and Rotterdam) provide the structure for the organisation of European skies. For the major European air companies, and especially for intercontinental companies, the airports in the Medocc space[6] act mainly as feeders for the hubs of Amsterdam-Schiphol, Roissy–Charles de Gaulle, London Heathrow, Frankfurt etc.

Mediterranean Europe certainly has large airports, especially those located in its capital cities (Madrid, Rome, Athens) but in comparative terms, activity in these airports is at a lower level. Apart from these, there is a more extensive network consisting of smaller airports (Barcelona, Malaga, Marseilles, Lyons, Genoa and Seville). While Barcelona airport is the same size as the airports in Rome and Madrid, the other five must be classified as intermediate airports. Within the network of European airports, Barcelona is a second level one (behind those in London and Paris, and on the same level as those in Madrid and Rome). Three airports (Malaga, Marseilles and Lyons) are on the third level, while those in Genoa and Seville are on the fourth level.

Furthermore, the cities do not have an identical communications service in terms of railway connections. The city of Lyons is the only one with an interconnection between the airport and the high speed train. Although this articulation has yet to be optimised, it is a very important opportunity for the future.

Accessibility between the cities in the Medocc space is highly variable: it is good in Barcelona, average in Lyons and Marseilles and low in Genoa and Málaga. Given that these airports are not directly connected to each other, some are further away than others in terms of time. As a result, between three and seven hours are needed to connect Genoa and Marseilles, and Seville has three connections from other Medocc cities of over four hours.

Finally, the Medocc space suffers from a lack of intercontinental gateway airports, which remain exclusively located in capital city airports. However, intercontinental traffic to and from these cities is significant. Since the major air companies prefer a concentration of intercontinental connections in a very limited number of airports, it will only be possible to make their "hub" strategies evolve through the coordination promoted by different airport platforms.

9. An inactive European transport policy

European transport policy has never been very favourable towards the development of major transport axes in the Mediterranean. Political mobilisations and major investments supported by the European Commission continue to be destined to the north. As a result, most of the major projects accepted by the Commission concern northern Europe. The northern ports have also attracted most of the traffic which in geographical terms should go to the south.

Those States which are responsible for major transport infrastructure implement their own strategies and only use European policy as a benchmark when it benefits their interests.

In the Mediterranean, structural projects are dealt with by Franco-Spanish and Franco-Italian intergovernmental committees. In general, these committees solve the problems arising from cross-frontier sections, such as on the Lyons-Turin line or the Perpignan-Figueres high speed line. However, they do not interfere in national projects.

This situation of a lack of connection between European policies and national policies will no doubt persist. Indeed, the Directorate General of Transportation should not receive funds for the next budget programme (2007-2013) of 7.000 million euros, when it had asked for more than 20.000. As a result, its room for manoeuvre is limited, which suggests that private financing will play an increasingly major role in major European structures. For this reason, opportunities will be increasingly assessed on a project by project basis. Given this situation, there is a risk that reference to the major European priorities enacted by the Commission will decrease. In specific terms, this fear refers to the numerous projects in the Mediterranean that can be considered important within a perspective of European integration, but that are not profitable enough to be at least partially financed by the private sector.

1 High speed train
2 High speed line
3 Western Mediterranean
4 The Provence-Alps-Cote d'Azur high speed line
5 The Cote d'Azur high speed line
6 Western Mediterranean

Papers

Regió Metropolitana de Barcelona
Territori·Estratègies·Planejament

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Papers
44

Regió Metropolitana de Barcelona
Territori·Estratègies·Planejament

Papers 44

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