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THE ROLE OF TRANSPORT INFRASTRUCTURES FOR COHESION AND DEVELOPMENT OF AN ENLARGED EUROPE

TEN-T and Pan-European corridors implementation: assessment of the repercussions at national and regional levels, a comparison between the Channel tunnel/PBKAL project and Corridor V From Trieste to Kiev.

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Introduction

Since the publication of the White Paper presented by Mr. Jacques Delors in 1993 on growth, competitiveness and employment, a list of 26 priority transport projects has been set up (E.C., 1993). This list has been shortened to 11 during the European council of Corfu and fixed to 14 projects in the Essen one in December 1994. In a parallel demarche from the first Pan-European transport conference of Prague in 1991 to the Crete declaration after the second Pan-European conference, needs have been expressed for an extension of the T-TEN towards Eastern and Central Europe. (E. C., 1994). Some multimodal corridors are drawn on the Eastern European map and the third Pan-European transport conference held in Helsinki fixes 10 corridors of which 7 are mainly West to East and 3 North to South (E.C., 1997). We show the evolution of the 14 T-TEN "Essen" priorities associated with their funding, and the state of progress of these projects. The Pan-European corridors projects are examined with a particular development on Corridor V.

The necessity of economic convergence limits the possibilities of using public funds for the implementation of all those projects in the Europe at 15. This could cancel some funding and thus priorities of some projects (Heddebaut, Joignaux, 1995). Where are we in 2003? The High-level group on Public Private Partnership (PPP) for the realisation of TEN's presided over by Mr. Neil Kinnock confirms the funding difficulties of the missing keys of the network (Kinnock, 1997). That situation lead to the expression of the need for PPP which is then described (part I).

Taking into account the Channel tunnel and the T.G.V. North experiences, we examine what could be the regional consequences like overall construction effects of making such links. We particularly put forwards the necessity to realise transport investments on secondary networks linked with the large scale infrastructure as one of the changes introduced in the Transport Policy (E. C., 1999), impulse by the European Parliament which is now more and more involved in decisions related to TEN-T realisation (E. C. Guidelines, 1998).

We focus on the amount of public funds involved in transport investments because of the Channel tunnel realisation through an ex-post assessment of the back up strategy, which recommended the construction of complementary transport infrastructures. We analyse the TGV high speed rail system reorganisation and its role at regional level highlighted with the changing legislative context in France and in Europe which recommends the setting up of a unique inter-modal service transport scheme. We examine the regional commitment at each end of the link towards a new cross-border development ladder called the Euroregion. (part II).

Then we examine especially the links between the number 6 T-TEN Lyon Turin-Trieste project and the fifth corridor project Trieste to Kiev enlighten by the Channel tunnel and TGV North PBKAL experiences. The terms of public policy references may be different and even contradictory between the different scales of planning transport infrastructures in these different case studies (part III).

I IMPLEMENTATION AND PROGRESS OF THE 14 "ESSEN" PRIORITY TEN-T PROJECTS AND THE PLANIFICATION OF 10 PAN-EUROPEAN TRANSPORT CORRIDORS.

The Maastricht Treaty is giving a specific section on Trans-European Network in title XII. The Treaty announces in the 129b article that the community will enhance the construction and the development of Trans European Networks in transport and energy domains in order to allow the Union citizens, the economic agents and the regional and local communities to benefit entirely from the advantages of the settlement of a space without inland borders.

In the same line, the White Paper inspired by Jaques Delors President of the Commission, considers that transport infrastructure projects can play a key role in boosting the economy, both directly, through the stimulation of demand which can be expected from major project decisions, and in the longer term, through the increase in the level of economic competitiveness which can be expected from practical and organizational improvements in the mobility of people and goods (E. C., 1993).

1.1 Traffic evolution

The evolution of traffic is an important concern in the decision process of implementing Transport TEN projects. Effectively, the average annual growth in the European Union is +3,2% for passenger traffic and +2,8% for goods transport traffic. The share of road in the modal split grew from 48,5% in 1970 up to 72,3% in 1995. Road traffic volumes for both passengers and freight have increased enormously in the last 25 years and are still growing. Passenger transport has grown by 110% and goods transport by 70% since 1970, and the modal share for freight is dominated by road in 1998 with 72% of the overall traffic against 14% for rail and 7% each for canals and pipelines (see figures 1,2,3).

If we consider the modal repartition of the total amount of passengers - kilometres for all the 15 Member States of the European Union, we register a share of road of 75% against 6% for rail. This has been taken into account in order to boost rail investments or inter-modal corridors to allow more sustainable traffic and mobility in Europe (see figure 4).

On the Eastern part of Europe, Mr. Christian Reynaud, Resarch Director at INRETS, involved in the CODE TEN research consortium precise at the ECMT conference in 2001 that one can observe "new ways of organising transport and new behaviour on the part of the users, whether individuals or companies". Trade flows were rapidly redirected towards the West, which resulted in a very significant fall in the internal trade of the Central and Eastern Europe Countries (CEEC) (Reynaud, 2001). Data show "an explosion in the level of motorisation, the increase in the number of cars per household is higher than might have been expected if the criteria based on income per inhabitant is used. This is particularly true in Poland, Hungary, the Czech and Slçovak Republics and Slovenia (Reynaud, 2001)."

1.2 The "14 Essen priority projects"

Initially, a list of 26 transport infrastructure projects was identified for an estimated cost of 81 BECU, which was then expanded to 34 projects, of which 11 were designated as priority projects to be carried out by 2010 at the Corfu Summit in June 1994. The Group presided over by Mr. Henning Christophersen, Member of the Commission, reported its conclusions at the Essen Summit in December 1994. The list of major transport projects was rearranged according to progress with the financial arrangements. The list of the 14 priorities counts another three projects which were added to the previous list of 11 Corfu projects, including the Ireland/United Kingdom/Benelux road link which was previously put at sixteenth place in the Corfu list, the high speed Milan-Rome-Naples rail link designed to complete the Brenner axis, which was previously classified as number 31, and the Nordic triangle, subject to their accession to the Union. (E. C., 1995).

It takes into account firstly works begun or to begin before the end of 1996 which are subdivided into five categories. That is to say projects with financing guaranteed by a public/private sector partnership, projects which are publicly funded on the basis of user charges with State guarantees, conventionally funded rail projects, projects benefiting from large E.U. subsidies for reasons of cohesion, projects with an open financial package. (See table 1). Secondly a list of the other major infrastructure projects is announced and is subdivided into two categories. Projects which can be speeded up so that work can begin within two years or so and projects which need to be examined more closely. The majority of projects are rail or combined multimodal projects 10 above 14 and the 6 first priorities are rail projects. In its White Paper on transport policy called "time to decide" the European Commission has added six new projects to complete the Essen list. It has also divided the number 6 Essen previous project Lyon-Turin-Trieste in two parts. Firstly the cross-border link Lyon-Turin and it confirms the necessity to achieve the second part Turin-Milan-Venice-Trieste line. (E.C., 2001b).

1.3 The 10 Pan-European corridors and the V Corridor

The second Pan-European Transport Conference held in Crete in March 1994 identified 9 priority corridors for trans-European transport networks in Central and Eastern Europe, of which the fifth Trieste-Ljubljana-Budapest-Lvov-Kiev corridor. This second Pan-European transport conference encourages the development of "multimodal transport by a collaboration on implementing trans-European Networks with due consideration being given to their interconnexion. and interoperability with economically weaker regions being supported where necessary" (E. C., 1994 Crete). It

gives some indicative guidelines which cover the need for the various modes of transport within 9 main infrastructure corridors. That represents a "starting point for future work on coherent infrastructure development at Pan-European level" and particularly for the countries in line for accession to the European Union (EU). Priority is given in order to identify "missing links, bottlenecks and poor integrated regions along these corridors in cooperation with the international financial institution (E. C., 1994 Crete).These 9 Pan-European corridors were inserted in a "Europe-wide transport policy" vision for the Europe at 15 and the Countries of Central and Eastern Europe (CEEC). The fifth corridor was yet programmed with a total length of about 1 900 km and started from Trieste to Kiev via Slovenia and Hungary with its two branches from Slovakia to Ukraine (Branch A) and from Croatia to Hungary (Branch B). It is interesting to note that the section between Venice and Trieste was planned in the number 6 project of the 14 Essen projects namely the Lyon-Turin-Trieste one supposing its entire achievement before 2010.

These decisions have been revised during the third Pan-European Transport Conference held in Helsinki in June 1997 by adjunction of a "Balkan corridor" to obtain with this 10th corridor an other North to South axis. These ten corridors are concerning the CEEC and moreover countries located at their Eastern borders the as shown in table 3 and on figure 5. The 5th corridor has also been modified by the adjunction of a third branch (Branch C) from the Croatian port of Ploce to Sarajevo in Bosnia-Herzegovina. Corridor V has been extended to Venice from Trieste as the beginning of this new transport axis see figure 6. As shown in part III it could "influence" delays of construction on the Italian part of that Corridor.

1.4 The need for Public Private Partnerships (PPP)

The combination between the low growth rate and the budgetary stabilisation of the State economies during the considered period have come to a lowest investment than it was in the last decades. In the period 1985 to 1994, investments in road, rail and inland waterway projects had increased by + 45% but it has fallen to - 7% in 1995 (E. C., 1998a). The decision of implementing a Trans-European Transport Network and the realisation of the different links represent a great cost which could not be endorsed solely by public funding.

Previously in the Corfu Summit the total cost of the 11 priority projects was estimated ECU 68.5 billion (BECU) up to 2010 from which 32 billion were to be financed during the first five years. The repartition of the financial sources for the first period was 11 BECU for the State Members, 1.6 to 2 BECU for the railway companies and 7 to 8 BECU coming from the private investors. The rest of more than 10 BECU was to be filled by loans of the European Investment Bank (EIB). The EIB has created a new financial instrument, the European Investment Fund (EIF) in order to guarantee the loans dedicated to large scale transport infrastructures. The new list of the 14 "Essen priority projects" raises the amount up to 91 BECU for all the projects, the half of which to be financed by the end of 1999. This total has been reassessed up to 111 BECU by including access works to some projects (E.C., 1998b). Considering these projects, progresses have been made: 3 are completely achieved, 8 are under construction or already planned. All of them should be constructed in 2005 (see table 2).

The involvement of European funding has increased. During the 1994-1999 period, BECU 16 have been invested on transport through the European Regional

Development Fund (ERDF), BECU 7.5 through the Cohesion Fund for Spain, Portugal, Greece, and Ireland, BECU 1.8 through the Ten-T Budget Line, BECU 19.8 through the EIB from which 8.4 for the 14 Essen priorities, and BECU 0.48 through the EIF (40% of 1.2 dedicated for transport sector) (E. C., 1999). It is far from filling the gap given the amount needed for the realisation of the BECU 111 Essen 14 projects. These facts have encouraged works on PPP to facilitate the implementation of the T-TEN projects. The PPP approach is also seen as an appropriate way to help to liberate public-sector resources for use on projects most in need or to invest on secondary networks in the regions served by the new links.

Concerning the construction of the Pan-European transport multimodal corridors, costs have been estimated for each of them at the Crete conference without counting all the sections that were not yet cost estimated (E.C. 1995). The total costs of Corridor V were estimated up to BECU 7.99 for road and rail improvements and/or new constructions. The estimated cost for the motorway project amounted to ECU 3 491 million (MECU). On Slovenian territory it represents MECU 99.2 with loans from the European Bank for Regional Development (EBRD) and the European Investment Bank (EIB) for an amount of MECU 48.5 for the improvement of the main East-West road network. On The estimated cost for the Hungarian motorway programme was MECU 1 891 for M3 and M7 motorways. From the Hungarian border up to Kiev on the Ukrainian territory the estimated cost for road improvement was MECU 1 500 (see table 5).

The railway projects total cost was estimated at MECU 4 500 at the Crete conference. The most important works to realise is the construction of the missing rail-link between Slovenia and Hungary. The estimated costs were MECU 74 on Slovenian territory and MECU 89 on Hungarian territory. The modernisation and up grading of the Slovenian railway network benefits from loans of the EIB for an amount of MECU 60 and from the EBRD that support the railway projects up to MECU 50.5 (E.C., 1995).

The research CODE TEN consortium have made new estimations that grew up the total cost of Corridor V up to BECU 11.52 because of the adjunction of new branches or projects but this amount does not take into account all the necessary funding for sea-port enhancement and modernisation (CODE TEN, 1999a). This estimation lay on work made by the Transport Infrastructure Needs Assessment (TINA) secretariat set up in 1997 that aims to expand the European Union network to include associate countries.

The criterion whereby projects are designated as priority projects seems to be the method of financing the project and whether or not financial arrangements are more or less complete. This serves to emphasise even more the acute problem of methods of evaluating the repercussions of these large-scale projects and the possibilities for making comparisons between these various projects in order to determine an order of priority for implementation, and the possibility of including European funds in their financial packages. The questions are how to finance all the projects in order to realise an integrated space providing economic development and cohesion, and how determine the priority criteria for these projects.

Nevertheless, everyone agree that there will be a necessity to found available budget and alternative sources of financing to be invented. The European Union recognises in its White Paper on transport policy that “while ¾ of the road network has already been built, this is true of only 20% of the high speed rail network” taking into account

the 14 Essen priority projects scheduled by 2010. Moreover the EU faces the fact that "transfrontier projects are suffering increasing delays" (E.C., 2001a). The experience shows that for "cross-border projects concerned by rail infrastructures the current level of support of 10% is not enough to encourage the public or private investment that is needed". This is the reason why it has decided in 2001 "to increase to 20% the maximum funding under the trans-European network budget for "critical" rail projects with high Community added value crossing natural barriers, the main bottlenecks including those remaining on the Union's frontiers with the accession candidate countries, and then introduce conditionality rules" (E.C., 2001b). Furthermore, it plans to establish a Community framework for allocation revenue from charges on competing routes to the construction of new infrastructure, especially rail infrastructure (E.C., 2001a).

In France, in March 2003, Mr. Gilles de Robien, the Transport Minister has declared after the presentation of the results of the last audit on transport infrastructures that there are new questions about the construction of these infrastructure road or rail projects. Questions about financial possibilities under budget constraints, environmental questions on pollution and noise due to transports and democratic questions about the decision process of these projects. As a result of this audit it seems that cross-border projects such as the Eastern TGV, the trans-Alpine or trans-Pyrenees rail projects will have some funding difficulties. Time is to financial engineer solutions as described by Sengès (2003). At the European Commission level, Mrs. Loyola de Palacio, the Vice-President responsible for Transport and Energy "has set up a High-level Group chaired by former Commission Vice-President Mr. Karel Van Miert to assist the Commission with preparation, by the end of 2003, of a proposal for far-reaching revision of the guidelines for the Trans-European Transport network. This group is made up of one representative from each Member States, with one representative from each of the 12 countries set to join the Union by 2007 and a representative of the EIB. They have to sort out in spring 2003 new priorities. The projects selected will have to contribute to substantially improving traffic conditions on the major transfrontier corridors, to removing bottlenecks on the main routes or to promoting interoperability between the regional networks, taking due account of the environment". The objective of economic and social cohesion is clearly affirmed and also the integrating of outlying regions and the whole of the territory of the candidate countries (E.C., 2003).

This play in favour of giving sub-national levels of decision and authorities more weight in the transport policy decision process against their funding contributions. The Channel tunnel and TGV North section of the PBKAL project experiences show how regional and sub-regional levels have developed specific strategies with special commitment in order to benefit from the European projects implementation.

II REGIONAL IMPACTS ASSESSMENT OF T-TENs HIGHLIGHTED BY THE CHANNEL TUNNEL AND THE T.G.V. NORTH EXPERIENCES

2.1 Employment effects

Work done for the Cohesion Fund points to a positive correlation between spending on TEN and private business investment suggesting a "very favourable impact from new infrastructure investment, including a strong positive effect on employment in the long term." (E. C., 1998a). The first employment effect is the amount of direct jobs procured by these big construction projects. Estimation has been made on the basis of

direct jobs needed for the Channel tunnel link on the assumption that the 14 Essen priority projects represent an amount of about 13 projects of the same scale. On the French side, the Channel tunnel has generated for its construction 25 250 man x year during 8 years. We suppose we can double these figures by adding the British side, even if it seems to having employed more people there than on the French side, (Transmanche Link announced in 1994 that manpower has reached its peak at 5 608 persons in June 1991 on the French side and 8 449 persons in October 1990 on the English side). We obtain a total amount of 50 500 man per year, that is to say an average annual flow of 6 312 man per year (Heddebaut, Joignaux, 1995).

The whole 14 Essen projects, if we multiply the tunnel works amount by 13, could induce an average annual flow of 82 056 direct jobs between 1995 and 2010 without counting indirect jobs in complementary equipments or furnishing sector. This approximation is on line with the works of the Christophersen group who announce 100 000 to 200 000 direct jobs for the 34 projects.

2.2 Complementary transport infrastructures investments in secondary network

These major infrastructure projects complete sections from "missing networks" or "missing links" between national and/or physical borders. The transformation of a discontinuous space into a continuous space by constructing large scale transport infrastructures is a definition which includes all aspects of time saving, border effects linked with physical, cultural, language and financial barriers. The Maastricht Treaty in the 129b article aims at "to enhance economic and social cohesion by ensuring that peripheral regions are well connected to E.U. Networks."

All agree in stating the need to take into account the support measures, which may be decided for the geographic area accommodating a new large-scale transport infrastructure, or on the scale of "missing links" of cross-European networks (E.C., 1997a).

If we take the example of the Channel tunnel project, we see that the Nord-Pas-de-Calais region and the county of Kent have implemented support plans, which are genuine strategies for the enhancement of this major transport infrastructure. *The cross-channel support strategy developed by the Nord-Pas-de-Calais region* is concerned with the repercussions of the tunnel both in the short and long term, and gives all the conditions for maximizing the effects of its construction and operation. In fact, the regional development plan must enable the region's new development to be stimulated and structured. This plan's originality rests securely in the fact that the building of a transport infrastructure serves as a starting-off point and aid to operations covering, firstly, the social and economic domains and the building of other transport infrastructures for transport modes complementarities.

The ways of re-organization of all the region's means of communication in order to favour traffic distribution and the fixed link's effects on the Nord-Pas-de-Calais region relate to transport infrastructures having a concern for the different types of transport complementarities, but also having a policy of compensation in terms of infrastructure equipment. Investments in *port infrastructure* are planned, with the creation of new berths at Calais, the restructuring of Boulogne sur Mer , the extension of Dunkirk's West Port basins. The *railway infrastructures* must enable privileged access to the North with the building of the Northern European High Speed Train (T.G.V.) network, the completion of which is required simultaneously with that of the

Channel tunnel. The electrification of intermediate sections and the construction of specific junctions to the TGV line in order to serve "regional high speed" are demanded to assist access to regional towns in relation to the national and international TGV network. *Road infrastructures* are programmed to be completed at the same time as the tunnel with the completion of the A26 Calais-Dijon motorway, the construction of the coastal highway linking Dunkirk, Calais and Boulogne which will form part of the motorway A16 connecting Paris to the Belgian border and the construction of the East Calais by-pass.

The cross-Channel support strategy ex-post assessment shows that an amount of more than Francs 10 billion was spent by the State, regional and local authorities on the French side for the realisation of complementary and compensatory transport infrastructure for supporting the completion of the Channel tunnel (Heddebaut, Laudren, 1998), without counting the T.G.V. North infrastructure realisation from Paris to Calais estimated at 13 billion Francs (see table 7).

The county of Kent has also implemented a Channel tunnel support strategy. In Great Britain, the building of major transport infrastructures does not come under the development and planning divisions of counties, but in 1986, the British government set up the Joint Consultative Committee, responsible for assessing the impact of such an infrastructure for the county of Kent. The Kent Impact Study Team, was responsible in particular for assessing the impacts of the Channel Tunnel on Kent and for developing a support strategy in order to soften the negative effects and maximize the positive effects for the county of Kent. A part of this strategy was integrated into the Tunnel Habilitation law in 1987, which will lay down the State's commitments relating mainly to complementary transport infrastructure building.

Road infrastructures are requested from the government to absorb new traffic created by the tunnel entering service and to control their diffusion to secondary routes. It concerns the corridor developments formed by the M25-M20-A20 motorways in a direct line with the tunnel, and the M25-M2-A2 motorways in a secondary line. The county of Kent is responsible for minor roads for which it provides financing. For this reason, work on cross-country trunk roads is programmed in order to provide better link-up of the region mainly towards the East of the county and provide possibilities to travel between the M20 and M2 corridors.

Concerning *rail infrastructures*, the county stresses the importance, firstly, of developing existing lines to carry trains from the continent, namely the Eurostar for passenger traffic and direct freight trains for goods. Secondly, it confirms the need to build a high speed train line to connect the entrance of the tunnel to London. For this purpose, it is requested to build the Ashford International railway station which must become an economic and business development pole, and also ease international access to the population of East Kent, avoiding the need to travel into London where airport accessibility is difficult. The *diversification of sea ports* is requested in order to continue to provide a port activity, which is the main source of employment in the coastal area, mainly in Dover, Folkestone and Ramsgate. The county intends to continue the development of cross-channel traffic by ferry but also to develop tourist traffic using sea crossings (Heddebaut, 1999a).

If we admit that a similar amount of works have been done on each side of the Channel tunnel, they totalise more than 20 billion Francs of public funds without counting the High Speed railway sections. The 110 km Channel Tunnel Rail Link (CTRL) is estimated at £ 5.8 billion under the terms of the project agreed in October

1998 between the British Government and the promoter " London & Continental Railways" (Financial Times, 12-13/12/1998). That is to say an equal amount of funds as the initial foreseen cost of the Channel tunnel estimated at 27 Billions Francs in 1985 for the tender choice.

This give a good example for illustrating the need of public funding in order to ensure good connections with a large scale transport infrastructure provided with investments on secondary transport networks. The question is how to find public money to be put in those regional and local operations and in the same time finance the T-TEN projects themselves with public funds by participating into Public Private Partnerships ?

2.3 From the emergence of a new cross-border development ladder to the settlement of the EUROREGION

One of the most obvious regional impact is that the building of the Channel Tunnel has developed new relationships between these two regions of Kent and Nord-Pas-de-Calais, which must aim towards the emergence of a new cross-border "Cross-channel Euroregion". Effectively, the decision taken by the governments to build the Channel Tunnel has contributed to the rapprochement between the two regions accommodating this new transport infrastructure. In fact, the need to strengthen officially the ties between these two institutions made itself felt from 1986. These two regions carried out the installation of major work-sites and will experience similar disruptions, even if the solutions chosen on either side in order to soften their effect may be different. This rapprochement resulted in the twinning of the two regions in 1987 under the name of cross-channel Euroregion, concerning initially the two regional coastal areas of Kent and the Nord-Pas-de-Calais (see figure 10). Beyond the solving of problems associated with the tunnel's construction, such as the accommodation and training of work-site staff and the organization of subcontractors' contracts, the two regions have jointly developed a cross-border co-operation programme for which they were seeking European financing.

This concerns the first Interreg I document covering the period 1991-1994. It outlines five major strategic poles, where the first concerns the implementation of appropriate transport and telecommunication infrastructures to serve the different parts of this Euroregion. The second co-operation initiative concerns economic development in order to encourage expansion of local companies. The third one concerns teaching and training programs, the fourth pole recommends help for promoting tourism and the culture of the Euroregion. Finally, the last pole concentrates mainly on the development of exchanges of planning experiences between the two regions and the pooling of environmental protection measures. This first programme was aimed to encourage the creation and the development of co-operation networks at European border level, and also with the rest of the Community. This co-operation structure also creates new areas of dialogue between the partners. In fact, the co-operation programmes, which benefit from the Interreg fund, are being continued. The second Interreg document (1997-1999) focus on the need of more combined and integrated actions on both territories.

The co-operation programmes want to give a new impetus to local development in direct relation to inhabitants. The links between the regions are extended and integrated into neighbouring regions of Belgium, Flanders, Wallonia and the capital city of Brussels in 1991 into a larger Euroregion (see figure 11). This EUROREGION

is the first one organised as a European Economic Interest Group and aims at enhance economic and social development on this new regional scale. Within this new area, the impact of the achievement of the Belgian section of the PBKA between Brussels and the French border must be assessed. It has reduced the journey time between Paris and Brussels by 50% and Lille is now at 38 minutes from the Belgian capital. The market share of rail has risen from 25% at the beginning of 1996 to around 40% at the end of 1997 (European Commission, 1998a). Furthermore, according to the SNCF, the French national railway company, 48% of this market is under the control of Thalys the railway company running this line against 43% for the road (SNCF, 1999).

This seems to contribute to the objectives of cohesion and transport which aim to improve regional economic development prospects, create conditions favourable to the integration of the European territory, and promote sustainable mobility (E. C., 1999). Effectively, they all observe and foreseen a growing mobility of persons for work and tourism reasons and goods on their territory. An aspect of the integration effect can also be seen in the global increase of travels trough the Euroregion borders and studies appreciate the phenomenon of excursionnisme, particularly the cross-Channel one, where traffic have increased from 6.5 million to 19 million passengers in 1997. The share of this traffic which was 20% in 1980 has climbed up to 53% in 1997 (Joan, 1998). The first results show that most people travel on short visits within the EUROREGION – it represents a potential area of 157 million excursion visits per year primarily by its own residents (CRT NPdC, 1999b). The tourism mobility augmentation observed in these cross-border regions have stressed the importance to develop specific policies in order to preserve tourism resorts particularly the coastal beaches and the main town accessibility for the benefice of not only regional and local populations but also nationals and foreigners with an objective of outstanding environmental quality.

Are similarities to be found between the linkage of the Channel tunnel and the PBKAL projects and the Lyon-Turin-Trieste (number 6 of the Essen priorities) and the Corridor V?

III SIMILARITIES BETWEEN ACHIEVED PROJECTS SUCH AS CHANNEL TUNNEL AND TGV NORTH AND THE NORTHERN ITALY TGV PROJECT LYON TURIN AND CORRIDOR V

3.1 The transport policy goals at several planning scales

As seen in the first part, the Essen summit designed the 6th priority project Lyon-Turin Milan-Venice-Trieste that "will link the French and Italian High Speed Networks and would permit the construction of an Atlantic – Adriatic route with possible eastward developments towards CEEC countries" (E.C., 1995). It added that "this new axis will free capacity on existing rail lines which are already saturated on several sections. This will help indirectly to improve freight, local and urban services". The realisation of this project, has yet benefited about MECU 95 granted by the EU from 1991 to 1997 for studies and preparatory works. Total investment costs for the entire link amount to MECU 6.75 of which 2.1 concern the first phase Turin-Milan (E.C., 1995).

When facing the Channel tunnel project, the regional and local authorities in Nord-Pas-de-Calais were setting up strategies for regional development that could be contradictory with the European goals of accelerating goods and people movements without stopping in intermediate towns. The region wanted to inscribe itself within the

TGV network to combine three levels of accessibility. Firstly to give access to the international high speed network between the EU capitals and to be an "obliged spot" on the network by the mean of the "through station" of Lille Europe on the Eurostar route that lead to the Thalis network in Brussels. Secondly to give access to the national high speed network that links all the main French cities and give the possibility to avoid the previous "obliged stop" of Paris. Effectively, since the construction of the rail section by-pass around Paris the Nord-Pas-de-Calais inhabitants can go strait on to the East, the South or the Western part of France. Moreover, the region has increased its world accessibility by its position on the TGV network and the possibility of its combination with the Roissy Charles de Gaulle airport at the same name station in France or the Zaventen Brussels international airport on the Thalis network.

In the case of the realisation of the high speed network in Italy, the "natural route" is more from the North to the South rather than from West to East where traffic are the most dense and some sections saturated. Created in 1991, the Treno Alta Velocità (TAV) is a company wholly owned by Ferrovie delle Stato (FS) and is in charge of the development of the High Speed Network in Italy. The State will provide 40% of the funds whilst the remainder should come from financial institutions on the basis of a project finance scheme. The entire Italian high speed network line from Turin to Naples represents 630 km and will concern 9 regions, 23 provinces and more than 220 municipalities.

What are the chances to achieve before 2010 the entire Turin – Trieste n°6 Essen project? As said by Mr. Antonio Savini Nicci, the managing Director of TAV in 2002, the most advanced project is the Turin-Milan 124.5 km section that benefited of a 1994-2000 Programme contract. In July 2000 this section obtained the agreement of public enquiry members and the first objective is to achieve the Turin-Novarra section in time for the 2006 Winter Olympic Games. Connexions are foreseen on the line to integrate the network and also a station at the Malpensa international airport.

The 30th of October 2000, the Conferenzia di Servizito examined the preliminary project of Milano-Verona. It represents an amount of BECU 2.4 for 110 km and concerns 31 communes. Furthermore, the 22 March 2000, the institutional Committee has chosen a corridor in the Verona and Padova regions and two possible alternative corridors for Vicenza, the Verona-Venezia section representing an estimated cost of BECU 1.9 (Savini Nicci, 2002). The Mr. Antonio Savini Nicci article is not mentioning the Venezia –Trieste section at all. That can be an effect of its report into the Corridor V Pan-European transport project as described in part I.

When considering the Corridor V project, the CODE TEN research consortium show that transport policy goals are different when dealing with transport infrastructures in the Corridor V countries. Effectively, if all the countries sort out the need of intermodality of all the transport modes they develop different priorities in transport policies and strategies. "The corridor V preference lie with construction and upgrading of motorways and not so much as development of the rail infrastructure(CODE TEN 1999a)." This fear was expressed by the International Union of Railways (UIC) East-West Task Force members who claim that railway crucial sections for the overall linkage of Europe-wide rail network would not be narrowly assessed only on the basis of their economic viability of investments but also in a system and organisation one (UIC, 1999).

Intermodality aspects concern also sea and land ports strategies to be combined with rail and road policies. The ports and inland terminals play a major role for corridor V and the development of transport and logistic services is a key issue on the agenda of the corridor V countries. The corridor is endowed with the three main Adriatic ports Trieste, Koper and Rijeka. Besides this the port of Ploce and the land port of Zahony also form a part of the corridor. The port of Trieste is considered to be the most important Adriatic port (see table 7). The problem is how to make these ports work together behind economic competition. In the Nord-Pas-de-Calais region the question of bringing the three sea-ports of Dunkerque, Boulogne sur Mer and Calais and the land port of Lille to work together is not yet solved despite the fact they belong to the same country. An other question is the place of these ports as feedering spots for the different Essen projects and Pan-European corridor projects.

Slovenia and Croatia have ambitious environmental policies. They both want to improve standards of transport infrastructures and vehicles in order to reduce accidents and reduce pollution. Effectively, these two countries possess "areas with outstanding natural resources as valuable tourism resorts such as the Alpine valleys in Slovenia and the whole coastal area in Istria and Dalmatia, most of which in Croatian territory". They put priority on preserving these natural resources. Slovakia wants to promote interoperability as it hosts also several corridor projects. Hungary seeks to promote accessibility because of its size and its central position in the Pan-European transport corridor System. Italy considers transport infrastructures as a mean of regional development. These positions are made in an overall context of decentralisation and the decision to transfer transport decision from central to regional governments (CODE TEN, 1999 pp. 5-6).

3.2 The Cross-border problems

All the countries from the Franco-Italian border to the Hungarian-Ukrainian border via the border problems between Slovenia and Italy and Slovenia and Hungary are confronted to either physical or historical border effects. The traffic flows are oriented from North to South through the Alps but are facing barrier constraints. The northern part of Italy is located on the cross-road of high level of flows with France (via Lyon-Turin), Switzerland (via the Saint Gotthard and Lötschberg passes), Austria (via the Brenner pass) and in a less important measure with the Slovenian border (see figure 9 for rail passenger flows. On all these axis works are under way (E.C., 1997 COST 317). "A unique case is that there is no direct connection between Slovenia and Hungary. After the second world war the existing line was dismantled by the Soviet Union as a reaction to the decision of Yugoslavia to maintain a neutral position between Western Europe and the COMECON. At present the traffic between Hungary and Italy is operated on the Croatian rail between Sredisce (HR-SLO) and Murakerestur (HUN). However a new line is being constructed between Slovenia and Hungary" (CODE TEN 1999a p.61).

These countries are belonging to several Pan-European transport projects on the Eastern part or to several Essen projects (for Italy) and they must make choices in order to reorganise their traffic flows.

The further step in TEN-T projects planning and Pan-European transport corridors will be to provide transport services for a better use of existing and foreseen transport infrastructures. Effectively, the combination of modes may reduce their overall need

of new infrastructure construction by playing on specific actions on the Trans-European wide transport networks.

Conclusion

The implementation of TEN-T projects has progressed since the definition of 14 priorities in the Essen Council in December 1994. The national and regional impact of their construction must be carefully assessed because of the realisation of other secondary projects on the same territories which host the big projects. The overall impacts can be interlocked.

We have seen that TEN-T projects need a great amount of funding which can been raised by the settlement of PPP, combining State Members investments, European Union funding and private investors. But these projects often lead to the implementation of support strategies which also need to be funded.

We have examined the case of the Nord-Pas-de-Calais region and the county of Kent which have planned Channel tunnel support strategies. Similarities can be found between these projects and the implementation of the 6th Essen priority project Lyon Turin and the Corridor V.

The question is to find a way of linkage for all these transport infrastructures projects and from the biggest to the little ones in order to ensure their funding and their mutual benefit repercussions. Another issue is the solving of the multiple interests by the combination between all the different political, economic and territorial scales involved into the transport policy decision process when programming and funding transport infrastructure.

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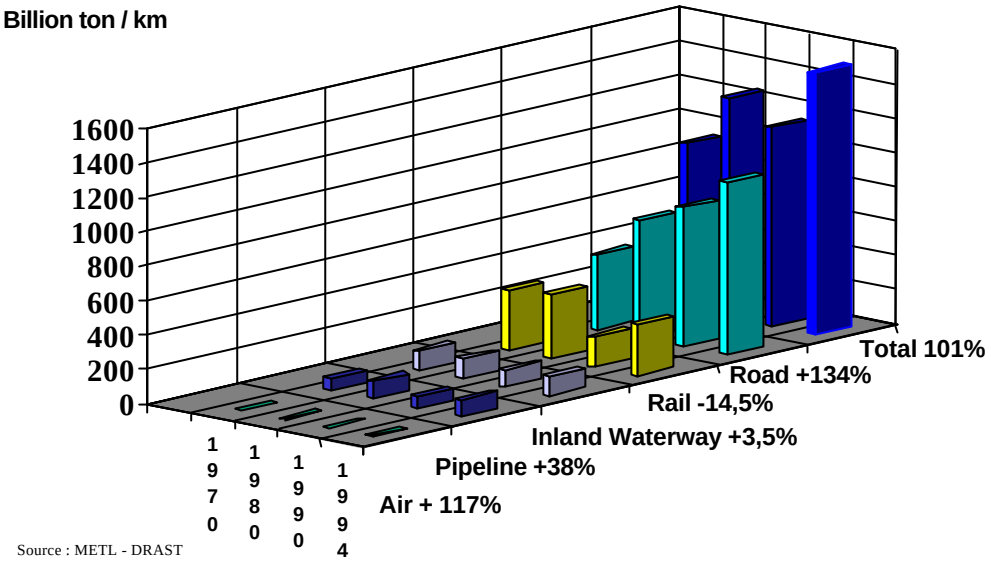
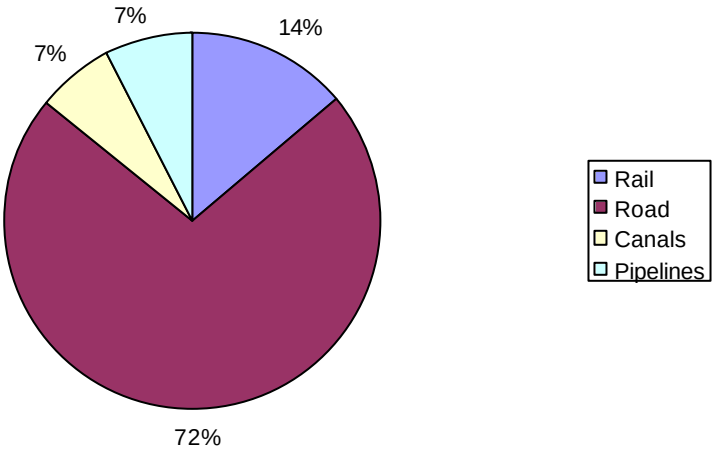
Figure 1: Freight transport evolution in Europe



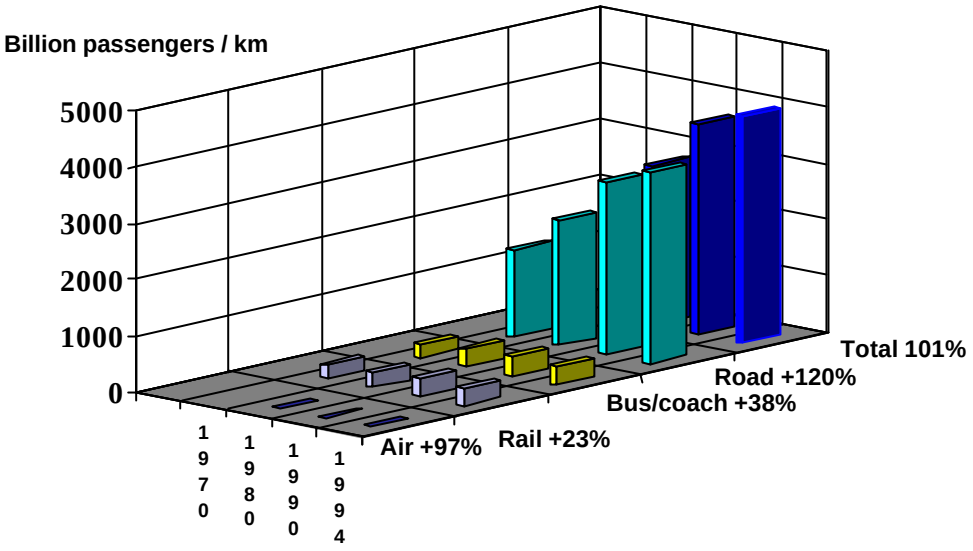
Source : METL - DRAST

Figure 2: Modal share of freight transport in Europe (West ECMT) in billion tons-km 1998



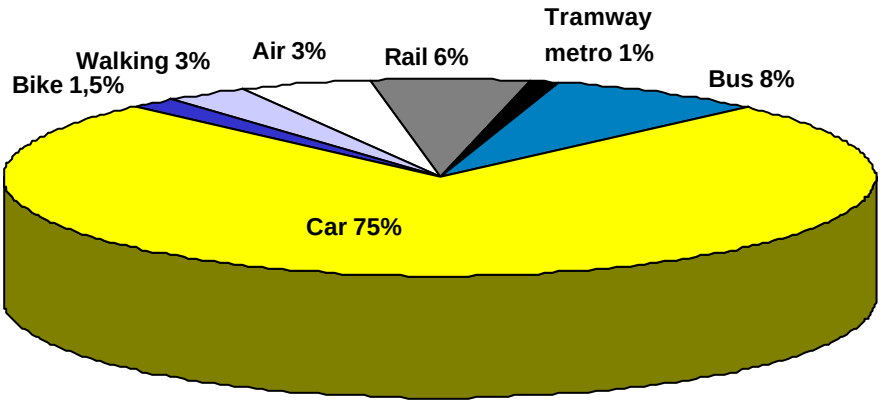
Source: ECMT

Figure 3: Passenger mobility evolution in Europe



Source METL - DRAST

Figure 4: Modal share relying on passengers-kilometres (European Union of 15 in 1993)



Source METL - DRAST

Table 1 : Classification of the list of the 14 priority projects approved by the European Council in Essen in function of their funding possibilities, December 1994

Work begun or to begin before the end of 1996	Cost (Million ECUs) Horizon up to:	
	1999	2010
1. Projects with financing guaranteed by a public/private sector partnership.		
. High speed train (PBKAL) (Dutch section) (project n°2)	950	2 740
. High speed train (PBKAL) -(British section) (project n°2)	3 420	5 360
. Betuwe line. Combined transport/conventional rail (project n°5)	2 340	3 290
. Malpensa airport (Milan). (project n°10)	990	1 050
. Ireland/United Kingdom/Benelux road link. (project n°13)	1 580	2 680
Total	*9 280*	*15 120*
2. Projects which are publicly funded on the basis of user charges with State guarantees.		
. Øresund link : fixed rail/road link between Denmark and Sweden. including swedish access (project n°11)	3 370	3 370
3. Conventionally funded rail projects		
. High speed train (PBKAL) (Belgian section) (project n°2)	3 070	3 700
. German High speed train/combined transport North-South : Nurember -Berlin, linked with TGV-Est (project n°1)	4 470	8 790
. High speed train East : Paris-Metz-Strasburg-Appenweier (Karlsruhe), Metz-Mannheim, Metz-Luxembourg (project n°4)	2 900	4 100
Total	*10 440*	*16 590*
4. Projects benefiting from large EU subsidies for reasons of cohesion.		
. Greek motorways : Pathe and	3 010	3 890
Via Egnatia. (project n°7)	2 460	2 480
. Motorway Lisbon-Valladollid (project n°8)	770	1 070
. Conventional rail link Cork-Dublin-Belfast-Larne-Stranraer. (project n°9)	240	240
Total	*6 480*	*7 680*
5. Projects with an open financial package.		
. Brenner axis high speed / conventional train (project n°1)	860	12 400
. High speed train/combined transport France-Italy : Lyon-Turin (project n°6)	1 820	6 800
. High speed train South : (project n°3)		
Madrid-Barcelona-Perpignan-Montpellier,	3 250	8 370
Madrid-Vitoria-Dax.	1 130	4 500
. High speed train (PBKAL) (German section) (project n°12)	3 320	3 950
. Nordic triangle (subject to accession). (project n°2)	1 400	4 400
. Main west coast rail link. (project n°14)	880	880
. Turin-Milan-Venice-Trieste (project n°6)	2 100	6 750
Total	*14 760*	*48 050*
TOTAL	***44 330***	***90 810***

Source: European Commission, (1995), Trans-European Networks "The group of Personnal representatives of the Heads of States or Government" Report, 249 p.

Table 2 :State of progress and revised total investment of the 14 "Essen" priority projects

Project N°	PROJECT	State of progress June 1998	Total Investment (MECU)
1	High Speed train/Combined transport North-South	under construction	15 102
2	High-Speed train PBKAL	partly completed, under construction/study or study/planning	17 232
3	High-Speed Train South	under construction and study/planning	14 072
4	High-Speed Train East	under study/planning	4 777
5	Betuwe Line, Conventional rail/combined transport	under construction and study/planning	4 094
6	High-Speed Train Combined transport France-Italy	under construction/study or study/planning	18 260
7	Greek Motorways	partly completed, under construction/study or study/planning	9 242
8	Multimodal link Portugal-Spain-Central Europe	road: partly completed rail: under construction/ study or study/planning	6 212
9	Conventional rail Cork-Dublin-BelfastLarne-Stranraer	partly completed or study/planning	357
10	Malpensa Airport, Milano	first phase completed, under construction	1 047
11	Øresund fixed rail/road link between Denmark and Sweden.	partly completed or under construction	4 158
12	Nordic Triangle Multimodal Corridor	partly completed or under construction and study/ planning	10 070
13	Ireland/United Kingdom/Benelux road link	partly completed or under construction and study/ planning	3 629
14	West Coast Main Line	under construction/ study	3 000
		Total	111 252

Source : European commission, (1998 b)

Table 3: The 10 priority inter-modal and multi-modal transport infrastructure corridors in Central and Eastern Europe.

Corridor 1:	Tallinn-Riga- Warsaw,
Corridor 2:	Berlin Warsaw-Minsk-Moscow,
Corridor 3:	Berlin/Dresden-Wroclaw-Lvov-Kiev,
Corridor 4:	Berlin/Nuremberg -Prague-Budapest-Constanta/Thessaloniki/Istambul,
Corridor 5:	Trieste-Ljubljana-Budapest-Bratislava-Uzgorod-Lvov-Kiev
Corridor 6:	Gdansk-Warsaw-Zilina
Corridor 7:	Danube (waterway corridor)
Corridor 8:	Durres-Triana-Skopje-Sofia-Varna
Corridor 9:	Helsinki-Kiev-/Moscow-Odessa/Kishinev/Bucharest-Plodiv
Corridor 10:	Munich-Salzburg-Zagreb-Ljubljana-Belgrade -Thessaloniki

Source: ECMT and Office Belge du Commerce extérieur

Figure 5: the 10 Pan-European transport corridors as defined during the Helsinki Conference in 1997

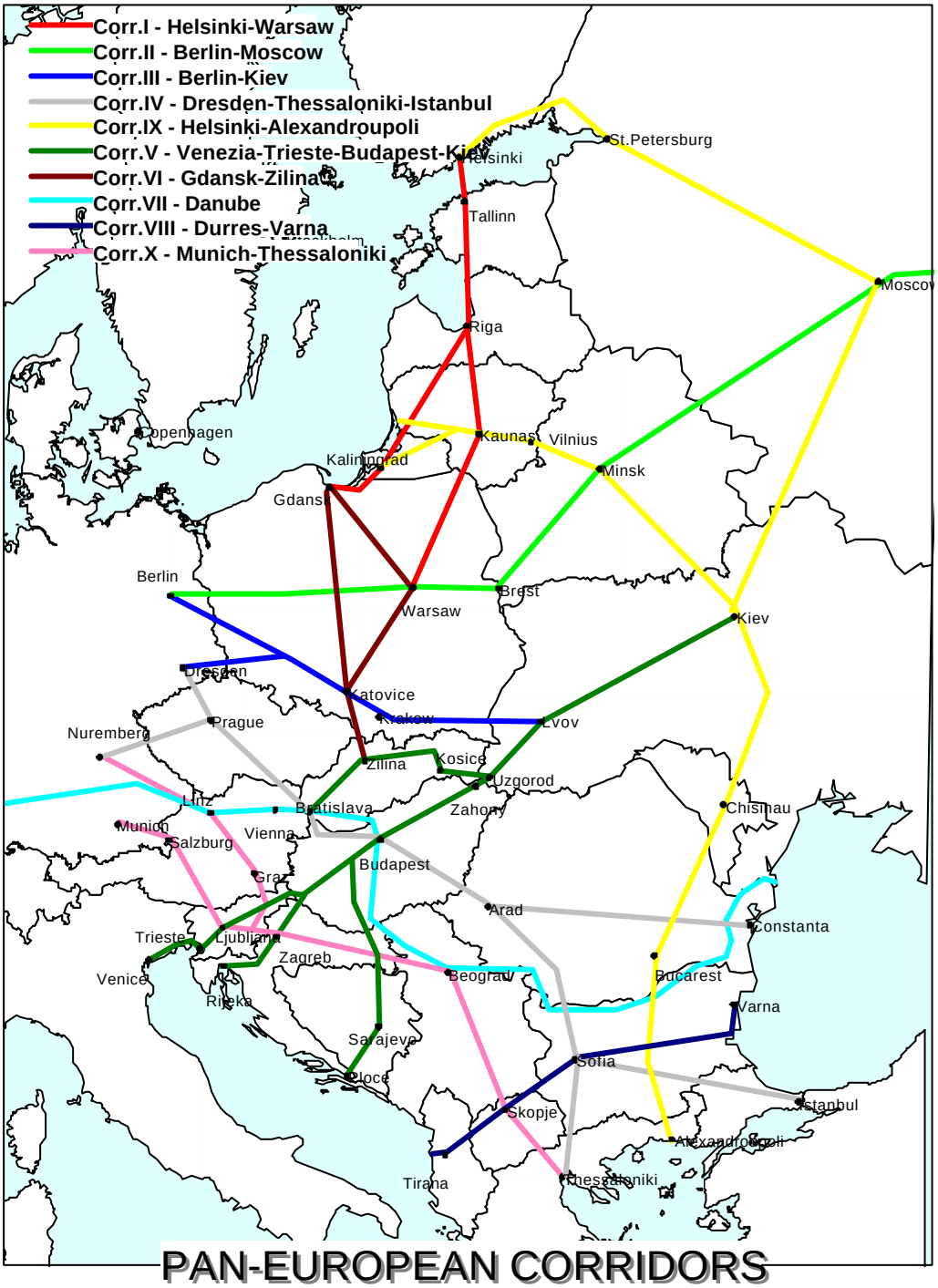
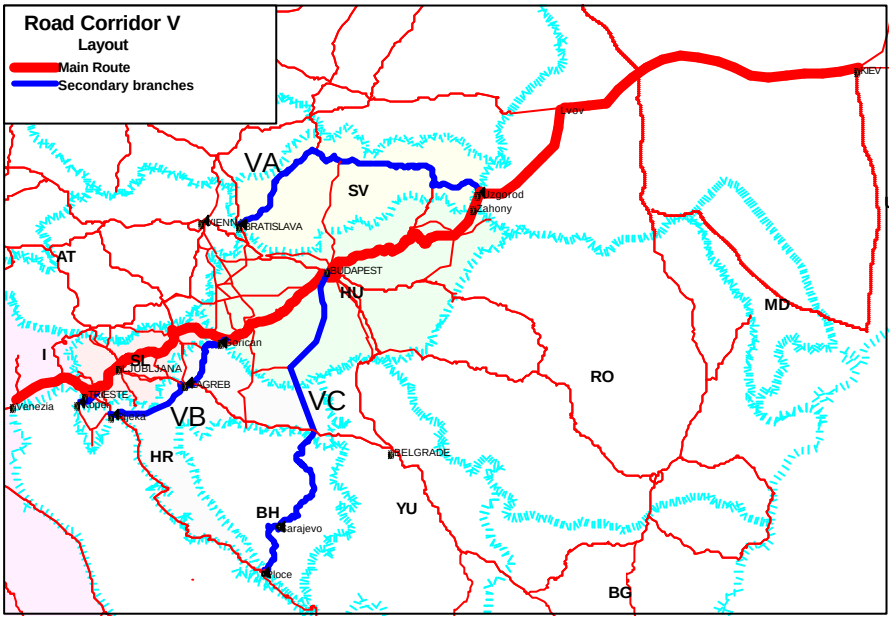


Table 4: Description of Corridor V by countries and their main involved towns

Corridor V: Road; rail. Total length: 1.600 km	
Venice - Trieste	Italy
Kopar - Ljubljiana - Maribor	Slovenia
Budapest	Hungary
Uzgorod - Lvov - Kiev	Ukraine
Bratislava - Zilina - Kosice	Slovak Republic
Rijeka - Zagreb - Osijek	Croatia
Ploce - Sarajevo	Bosnia-Herzegovina

Source: ECMT 2002

Figure 6: Road Corridor V: Main layout Venice to Kiev and secondary branches



Source: CODE-TEN Project Leader: The Interdisciplinary Centre for Comparative Research in the Social Sciences, Wien 1999

Table 5: Corridor V Road Programme – Main components

Country	Total length (km)	Targeted for works (km)	Type of action	Costs (MECU)	Completion date
Italy (*)	150	2	Station / Trieste	N/A	N/A
Slovenia (*)	358	146	Construction	99/1757	N/A
Croatia (*)	268	139	Construction	N/A	N/A
Hungary (*)	517	320	Construction	1890/2250	N/A
Slovakia (*)	525	380	Construction	40 BKrs/3472	N/A
Ukraine	N/A	N/A	Construction/Upgrading	1500	N/A

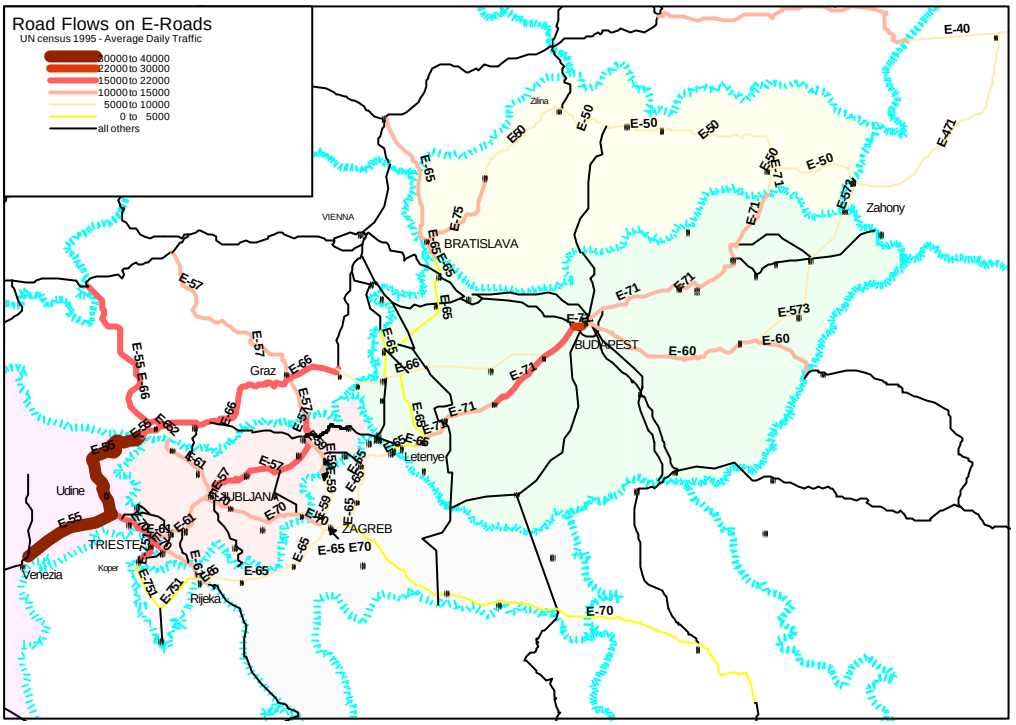
Source: CODE-TEN Project : Case Study Report Corridor V (TRT, KTI, CTC, ICCR) in CODE TEN (1999 a) deliverable 3 main report p. 60. Notes:

(1) N/A: 'not available';

(2) Major projects in terms of development are indicated with an asterisk: these can also be found in the Project Database (Technical Annex A)

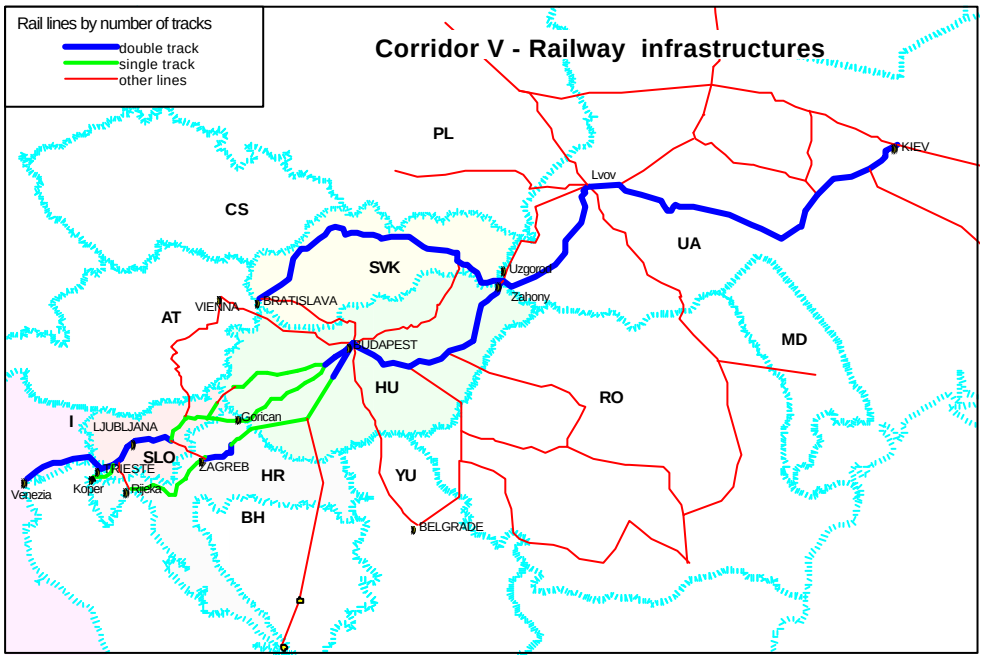
(3) Two cost estimation are reported; the second are those reported by TINA; the first, those estimated by other studies.

Figure 7: Road flows on E-roads



Source: CODE-TEN Project Leader: The Interdisciplinary Centre for Comparative Research in the Social Sciences, Wien 1999

Figure 8: Corridor V: Rail lines by number of tracks



Source: Report of the status and future of Crete Corridor V, ZSR, AM Sudpod Spol Bratislava 1997

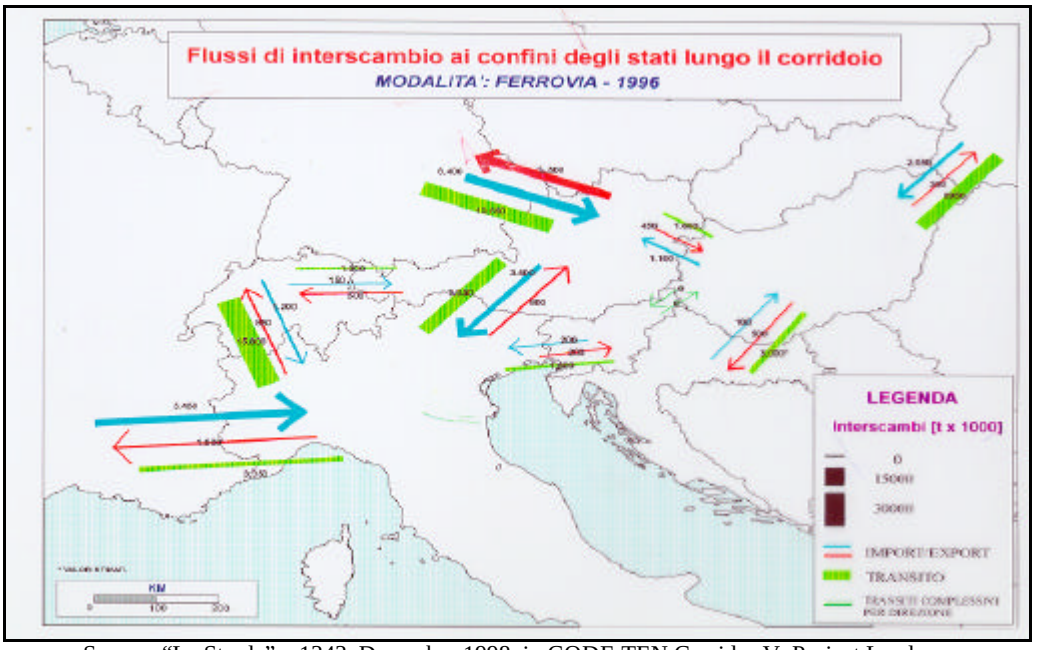
Table 6: Corridor V Rail Programme – Main components

Country	Total length (km)	Targeted for works (km)	Type of action	Costs (MECU)	Completion date
Italy	177	None	----	----	----
Slovenia (*)	419	419	Upgrading	1420/757	2010
Croatia (*)	371	371	Upgrading / New line	300	N/A
Hungary (*)	1063	1063	Upgrading	152 HF/179	1997/2001
Slovakia (*)	544	544	Upgrading	450/1142	1997/2003
Ukraine (*)	276	276	Upgrading/New line	N/A	N/A
Slovenia-Hungary (*)	282	282	New line 45/Upgrade	160	N/A

Source: Case Study Report Corridor V (TRT, KTI, CTC, ICCR) in CODE TEN (1999 a) deliverable 3 main report p. 60 Notes:

(1) N/A: 'not available';
(2) Major projects in terms of development are indicated with an asterisk: these can also be found in the Project Database (Technical Annex A)
(3) Two cost estimation are reported; the second are those reported by TINA; the first, those estimated by other studies.

Figure 9: Rail Traffic Flows at selected borders



Source: "Le Strade" n.1343, December 1998, in CODE-TEN Corridor V, Project Leader: The Interdisciplinary Centre for Comparative Research in the Social Sciences, Wien, 1999

Table 7: Corridor V: Ports of the Adriatic Sea Region

Ports	1994 tons (1.000)	TEUs (1995)	Shipments
Trieste	37700	150000	Oil, general cargo
Koper	6700	58000	General cargo
Rijeka	11500	40000	Oil, general cargo
Ploce	268	----	General cargo

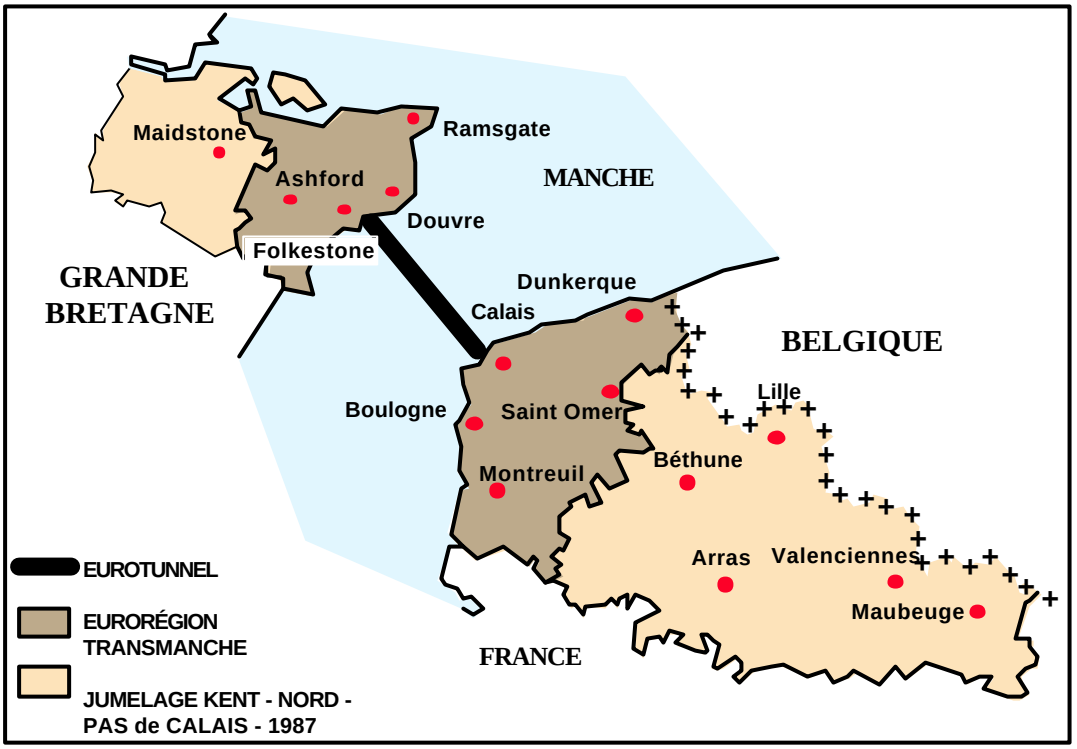
Source: Case Study Report Corridor V (TRT, KTI, CTC, ICCR)

Table 8: Ex-post assessment of transport infrastructures realization in the regional Fre nch part of the cross-Channel support strategy in Million Francs

Transport Modes	Complementary Investments linked to the Channel crossing	" Compensatory " Investments linked to negative effects of the Channel tunnel
Road *Total*	-"Rocade Littorale" 3060.19MF -A26 Calais-Nordausques 530 MF	Harbour connecting: 436.4 MF Inland connecting: 1015.42MF intersections A26: 85MF supplementary intersections A16 35MF Lightning (investment) 112.63MF
5 273.26 MF	*3590.19 MF*	*1 684.07MF*
Rail *Total*	-Lille crossing by T.G.V. : 925MF -Electrification of Calais line 509MF -Investments on Calais Access 1380MF	Accompanying T.G.V. measures: 568.99
3 389.99MF	*2 814 MF*	*568.99 MF*
Harbour *Total*	Calais: berth VI (cross-channel) 90.93MF - VII berth (jumbo-ferries) 129.5 MF - berth for catamarans 42.98MF	Calais : 516.25MF Boulogne : 407.34MF Dunkerque : 227.2 MF
1 414.2 MF	*263.41MF*	*1 150.79 MF*
Haulage *211.57 MF*	Calais : Trans-marck 63.19MF Boulogne : Garromanche 143.3 MF Dunkerque : "Centre Tertiaire": 5.08MF	
10283,40MF	**6 879.17 MF**	**3 404.23 MF**

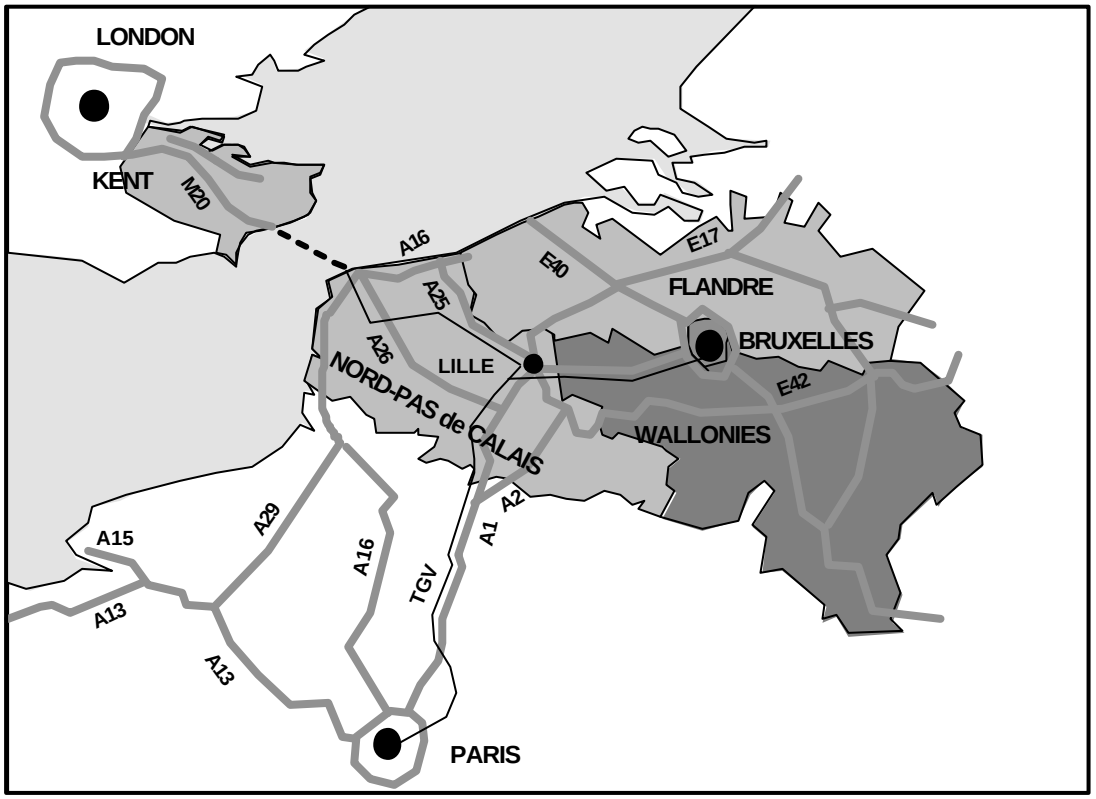
Source : Nord Pas-de-Calais Regional Council, DRE, SANEF, SNCF, littoral Chambers of Commerce and Industry (table O. Heddebaut)

Figure 10: The Cross-Channel region



Source: Regional Council of Nord-Pas-de-Calais, scheme: Hypace C.

Figure 11 : The EUROREGION whith 5 regions



Source: INRETS and Regional Council of Nord-Pas-de-Calais, Scheme: Hypace C.