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**COMMISSION STAFF WORKING DOCUMENT**

**TEN-T Policy Review – background papers**

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### TEN-T Policy Review – background papers

With its Green Paper on the future development of the trans-European transport network, published on 4<sup>th</sup> February 2009, the Commission had launched a review of the TEN-T policy. The main innovation put forward in the Green Paper was the concept of a “core network” as part of a dual layer planning approach. This approach was broadly supported by the stakeholders, as well as the EU institutions and consultative bodies. Their views were justified with a range of technical, economical, environmental, social or political arguments.

The purpose of this Staff Working Document is firstly to reflect the messages of stakeholders and EU institutions on the future development of the TEN-T policy.

Secondly, the Staff Working Document includes an ex post evaluation of the TEN-T policy since the adoption of the first TEN-T Guidelines in 1996, which supports this policy review and aims at providing background information. It accompanies the Commission Working document “Consultation on the future trans-European transport network policy” (COM(2010)212/7).

The document consists of two main parts - A and B, where Part A is intended to reflect a main results of the Public Consultations on TEN-T Policy Review, which took place on 4<sup>th</sup> February – 30<sup>th</sup> April 2009 and Part B intended to be a ex-post evaluation of the TEN-T policy.

#### **PART A: RESULTS OF THE PUBLIC CONSULTATIONS ON TEN-T POLICY REVIEW**

By organising an open consultation on the Green Paper on the future development of the trans-European transport network<sup>1</sup>, published on 4<sup>th</sup> February 2009, the European Commission sought the opinion of organisations involved in the TEN-T programme on a review of the current TEN-T Policy. The public consultation elicited much interest from a broad range of organisations, public authorities and citizens from EU Member States and outside the EU. Altogether, the European Commission received around 300 contributions. The contributions respond to all or part of the 13 questions asked in the Green Paper, but several go beyond the questions and cover a broader range of issues. The Commission is very grateful for such active participation, which testifies to the great importance of further developing the Community’s transport infrastructure policy for Member States, regions, infrastructure managers, transport operators, users, NGOs and so on.

The PART A of the Staff Working Document “TEN-T Policy Review – background papers” is intended to be a reflection of what has been received in the form of responses to questionnaires and letters.

The positions expressed by the EU institutions on the Green Paper are mainly in conformity with the stakeholders positions.

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<sup>1</sup> COM (2009) 44 final

## 1. THE GREEN PAPER: KEY MESSAGES FROM THE CONSULTATION<sup>2</sup>

### *Over 300 stakeholders broadly support Commission ideas*

In the public consultation on the Green Paper, more than 300 stakeholders expressed their views. Most of them advocated the idea of an integral policy review. While appreciating the progress and major achievements of 15 years of TEN-T policy development, and at the same time aware of difficulties in policy conception and implementation, they broadly supported the Commission's main directions for the future policy development:

- meeting new political challenges such as globalisation, climate change, technological innovation and social developments;
- a critical review of the TEN-T planning concept with a view to strengthening its Union dimension;
- ensuring a strong link between TEN-T and transport policy so as to facilitate efficient, safe, high-quality services across the transport modes;
- strengthening the instruments to support completion of the network within the agreed timescale.

### *Other EU institutions support further TEN-T development*

Other EU institutions and the consultative bodies expressed positions on the Green Paper<sup>3</sup>. All agreed on the role played by the TEN-T in the achievement of various Community policy objectives and the need to ensure its further development consistent with the broader political, economical and societal framework.

The **key messages**, from the consultation can be summarised as follows:

### *General policy framework*

#### **Low carbon transport**

Future TEN-T policy must be oriented toward reducing the climate impacts of transport and contribute effectively to realising low carbon transport services as well as being designed to cope with changing climatic conditions. The integrated TEN-T for the next decades must be able to accommodate the most advanced vehicle and energy technologies and to encourage low-carbon operational concepts. Efficient co-modal transport services for freight and passengers must be supported through relevant infrastructure measures. TEN-T infrastructures may be able to contribute to reducing transport's climate impacts through appropriate infrastructure and modal choices as well as infrastructure design features.

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<sup>2</sup> More details on the results of the consultation can be found at [http://ec.europa.eu/transport/infrastructure/tent\\_policy\\_review/tent\\_policy\\_review\\_en.htm](http://ec.europa.eu/transport/infrastructure/tent_policy_review/tent_policy_review_en.htm)

<sup>3</sup> European Parliament resolution of 22 April 2009 on the Green Paper on the Future TEN-T policy (2008/2218(INI); Council Conclusions on the Commission Green Paper: TEN-T policy review "Towards a better integrated trans-European transport network at the service of the common transport policy" – 10971/09; Opinion of the European Economic and Social Committee on the Commission Green Paper: TEN-T policy review "Towards a better integrated trans-European transport network at the service of the common transport policy" (2009/C 318/20); Opinion of the Committee of the Regions - COTER-IV-025

## **Territorial cohesion**

A greener, more competitive and better connected economy for the EU of 27 Member States depends critically on the availability of an efficient TEN-T network spanning the Union. Alongside continuing efforts to connect national networks and accelerate the implementation of current TEN-T priorities, social, economic and territorial cohesion also needs to be further stimulated. Regional, ultra-peripheral and local communities would like to see their position strengthened.

### **A planning tool, not just a funding instrument**

TEN-T policy needs to become more than simply a basis for EU funding decisions. This means that network planning should be based on clearly defined strategic policy objectives and generate effective added value at European level, additional to benefits at national level. It should also be realistic in terms of available resources.

#### *Planning structure and integration of transport and TEN-T policy*

### **A clear methodology is needed**

Independently of the final choice of a TEN-T planning option, there is a need for a transparent and comprehensive planning methodology, to be applied coherently throughout the EU. While taking account of regional and economic disparities where necessary, such a methodology needs to pay particular attention to better modal integration (both physical and "intelligent"); nodes and terminals as well as their connections; a reinforced link between TEN-T and common transport policies with a strong "service/user needs drive" for infrastructure development; efficiency, safety and security as important planning parameters; standardisation and benchmarking;

### **Planning Option 3 preferred**

In its Green Paper, the Commission had proposed three planning options. Respondents saw the following advantages and disadvantages of these options:

Option 1 - the structure currently in place (dual layer: comprehensive network and priority projects) - was seen by a minority of respondents as preferable because it permitted a strong concentration of Community funding on the current priority projects. Expanding priorities, coupled with a risk of ongoing budget scarcity, could in those respondents' view, jeopardize the accelerated completion of the current priority projects.

The few proponents of the proposed Option 2 (single layer: priority projects, possibly linked up in a priority network) welcomed in particular the potential for broadening strategic network priorities, for example by seeking a better modal balance and covering major nodes. They also saw benefits in the channelling of Community funds into a limited range of priorities – especially through the elimination of the comprehensive network. A possible shift from disconnected priority projects towards a priority network was seen as an opportunity, enhancing the "natural link" with major traffic flows and strengthening cohesion objectives. Opponents of this option saw the removal of the comprehensive network as a major shortcoming.

Option 3 (dual layer: comprehensive network and "core network") was favoured by about 85 percent of the respondents, some of whom accompanied their opinion by recommendations for adjustment or ideas on the planning methodology. Overall, the main strengths of this option were seen in the synergies resulting from the combination of comprehensive and core networks. The former was seen as constituting in particular the reference basis for various current and future Community legislation, opening the door for broad innovation, further

promoting cohesion and providing access; the latter as representing the part of the network of the highest strategic importance. The core network, to be established through a stronger "European planning dimension", should bring together all modes, link up key nodes and constitute the integrated infrastructure basis for the implementation of European transport policy objectives. It should incorporate the existing priority projects insofar as they were compliant with the newly developed methodology. At the same time, it should include provision for more flexibility to respond to evolving needs and developments (whether technological, legal or policy-oriented). Furthermore, this approach was seen as enabling a forward-looking link between TEN-T policy, on the one hand, and common transport and other policy areas on the other.

A number of the perceived shortcomings of the current TEN-T policy approach were seen as only soluble through this approach. Only the core network, combining and integrating all transport modes and state-of-the-art intelligent transport systems, would be in a position to address the future problems of the Union's transport and infrastructure policy in a sustainable way.

### **Connecting neighbours and third countries**

The future TEN-T should be linked – in a more strategic way – with key infrastructure in third countries. This should imply action at three levels:

- the integration of networks of accessing countries into the TEN-T, taking on the current acquis of bilateral negotiations and preparing for the new planning methodology;
- the connection between the TEN-T and networks in third countries, in particular countries in the European Neighbourhood with whom the EU is engaged in a regular infrastructure dialogue covering also the identification of priority projects along the main axes, and
- an appropriate coordination of infrastructure development going beyond merely connections at common State borders.

### ***TEN-T management and implementation***

#### **Maintain continuity**

Firm solutions to implementation problems – with regard to both a more effective use of available instruments and the development of innovative solutions - should remain very high on the future TEN-T agenda. The completion of previously decided projects needs to be pushed.

## But ensure greater commitment and effectiveness by all involved

A harmonised cost-benefit analysis, and recourse to an assessment of European added value, would enhance the objectivity of Community funding for TEN-T projects; a stronger link with the specific financial need of the project at stake would make funding more effective; a combination of funding from all sources – national and Community sources – would make it as target-oriented as possible. Member States should step up with their commitments to completing TEN-T projects under their respective responsibility on time. Some respondents proposed the introduction of sanctions for non-compliance with commitments resulting from the TEN-T Guidelines.

Besides funding, coordination activities at EU level, which have been beneficial over the last few years, should be expanded. In this respect, respondents proposed the creation of a European entity for TEN-T monitoring (parameters like traffic flows, interoperability, capacity shortages, safety and security standards), as well as the wider use of European Coordinators.

## 2. CATEGORIES OF RESPONDENTS

The European Commission received 300 replies to the open consultation, 248 of which were received in the form of letters, and the remaining 52 in the form of questionnaires. For the purpose of analysis, the answers received in the form of letters have been grouped as follows:

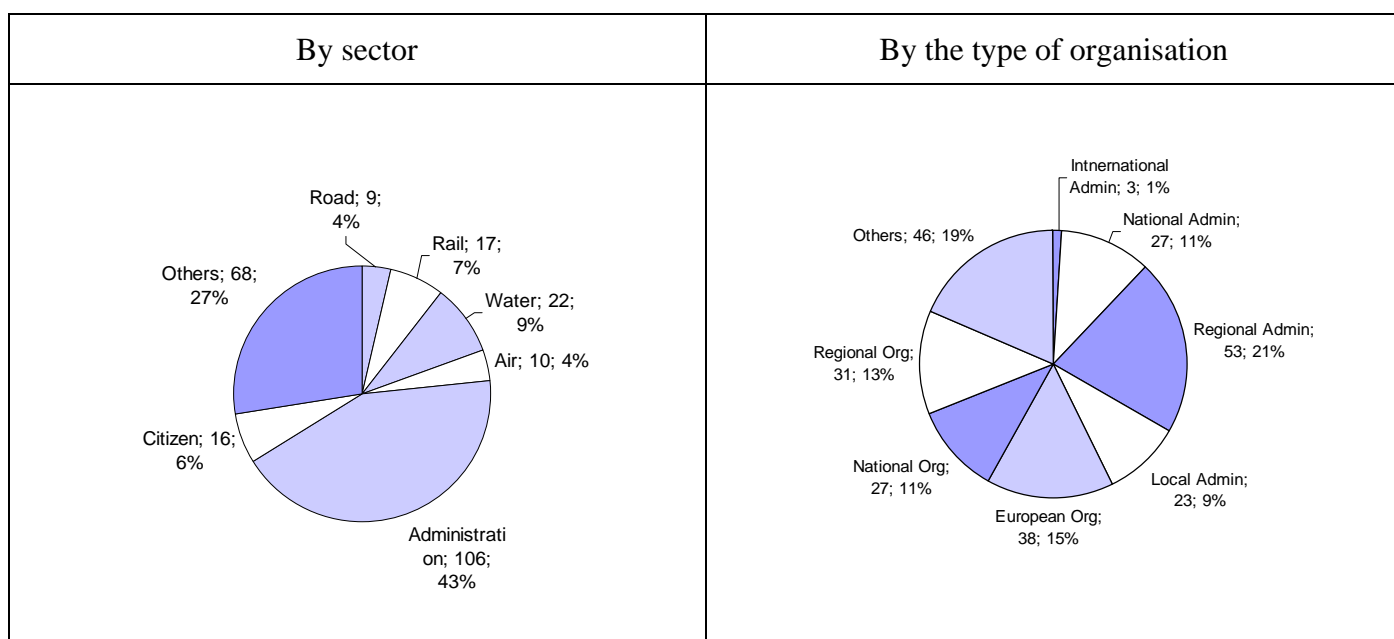
### a) By sector (see graphic, page 7)

<i>Category</i>	<i>Replies</i>	<i>Description</i>
<b>Public administrations</b>	106	National governments, regional, local administrations and any other public authorities.
<b>Organisations related to rail transport</b>	17	Railway authorities, rail associations and rail service providers.
<b>Organisations related to road transport</b>	9	Road associations, automotive undertakings.
<b>Organisations related to waterborne transport</b>	22	Ship owners, port authorities, both inland waterways and maritime transport.
<b>Organisations related to air transport</b>	10	Airlines, airports, air transport associations.
<b>Citizens</b>	16	Individuals.
<b>Others</b>	68	Labour organisations, environmental and special-interest organisations and all other organisations.

### b) By type of organisation (see graphic, page 7)

<i>Category</i>	<i>Replies</i>	<i>Description</i>
<b>International administration</b>	3	At European level and worldwide

<b>National administration</b>	27	Member State ministries, agencies
<b>Regional administration</b>	53	Regional ministries, agencies
<b>Local administration</b>	23	Municipalities, agglomerations
<b>European Organisations and Associations</b>	38	At EU- level
<b>National Organisations and Associations</b>	27	At national level
<b>Regional Organisations and Associations</b>	31	At regional level
<b>Others</b>	46	Private companies, local special-interest organisations, organisations advocating specific corridors, international organisations





### 3. ANALYSIS OF THE RESPONSES

The questionnaire on the TEN-T policy review contained thirteen questions.

#### *Question 1: Should the Commission's assessment of TEN-T development to date cover any other factors?*

A number of special-interest groups used this question to put forward their views on specific corridors and projects, which according to them, should have been mentioned in the Green Paper. One respondent suggested creating coefficients (benchmark indicators) on construction progress in order to push for completion of lagging parts of current TEN-T projects. Another called for a meaningful performance benchmarking standard and public, independently verified figures on rates of return, levels of congestion, average journey times, turnaround times in ports etc. This would bring transparency to the process of project evaluation. Priority should then be given to bottlenecks at lagging parts of the infrastructure. These are often small missing links with huge repercussions for the network. Some contributors wanted the Commission to mention specifically that, in the interests of continuity, projects and plans undertaken to date should not be abandoned.

To exert pressure upon Member States, some contributors wanted penalty mechanisms to form part of the TEN-T policy review; Member States would otherwise have no incentives to mobilise themselves at political and project management level. One respondent would welcome a report on project development. Another commented that more attention should be paid to administrative bottlenecks, mentioning the example of the EU and Russia, where delays and costs are not only caused by inadequate infrastructure but by an organisational mismatch.

A number of respondents highlighted the lack of emphasis on the external dimension of the TEN-T network. One member state proposed that the Commission take account of future accession of the Western Balkans and appoint a facilitator on this issue. Some respondents felt that the long-term integration of new Member States was not specified and that links to Eastern Europe, Asia and Mediterranean were missing. One contributor felt that the needs of ultra-peripheral regions were not sufficiently addressed in the paper.

Some respondents cited the lack of a specific definition of city growth and increased urban transport and the so-called 'last-mile'. A suggestion was made to address demographic change and the growing role of metropolitan areas in the policy review.

A number of regional and local planning authorities and stakeholders expressed an interest in participating in the planning process. More interaction between different governing levels (multi-level governance) was proposed and coordination between Member States should be stepped up. Some Member States did not agree with the Commission's opinion on discrepancies between community planning and implementation at national level. According to one respondent, the European Commission should give more attention to project initiation and support. One Member State said that the Commission's review should take on board the EC Court of Auditors recommendations, particularly regarding governance and administration of TEN-T funding.

Some contributors cited the lack of a specific mention to shift to environmentally friendly modes. In contrast, other contributors criticised the lack of a commitment not to privilege any mode of transport. Respondents from the road transport sector said that Commission policy should not address modes of transport but efficiency of transport; demand management should be left to the users, not to planners.

Railway undertakings requested that the prioritising methodology should take more account of projected traffic flows and be more aligned with other corridors like ERTMS. One respondent also proposed to integrate the Trans-European Networks for energy, telecommunication and transport.

Transport and the Environmental Reporting Mechanism should be part of the selection procedure, according to an environment-related organisation. Some contributors felt that the selection methodology should focus more on congestion avoidance and environmental benefits. Congestion issues should prevail over the connection of remote areas, according to one local administration. Similarly, another respondent suggested looking into the efficient use of existing infrastructure instead of creating new extensions.

A number of contributions from the environmental sector and citizens asked the Commission to address traffic avoidance in the policy review. The issue of traffic avoidance remains controversial, however. Traffic avoidance is not a feasible solution according to a number of contributors from the transport industry. One citizen proposed revising the hypothesis of transport growth over the next 20 years. Scepticism about current traffic forecasts was also expressed in contributions from some environmental groups and regional administrations. One contributor criticised the lack of reference to the EC Communication in June 2009 on the future of transport

***Question 2: What further arguments are there for or against maintaining the comprehensive network, and how could the respective disadvantages of each approach be overcome?***

Most contributors took a positive attitude to maintaining the comprehensive network. The most prominent argument was access. Having a comprehensive network is also a way to ensure connectivity in remote peripheral areas, hence improving social and territorial cohesion. It helps make progress on a wide range of issues e.g. rail interoperability and road safety. One contributor pointed to synergy by having a comprehensive network in conjunction with a priority network. Another contributor suggested applying an ‘excellence’ corridor approach to the comprehensive network, i.e. using examples of best practice to improve infrastructure performance. Another contributor welcomed the creation of a monitoring database with Member States’ input. This database would help boost the commitment of Member States. One contributor suggested using the comprehensive network as a testing ground for new solutions (including ITS applications). Regarding inland waterways, one respondent said it supports maintaining the comprehensive network because every single part of the network would be important, given the low network density.

Opponents to maintaining the comprehensive network argued that the comprehensive network consists of purely national projects and should therefore be left entirely to Member States’ responsibility. TEN-T policy should instead focus exclusively on priority projects, cross-border interoperability and port connections. The lack of penalties for Member States’ failure to complete it would render the comprehensive network inefficient. One contribution suggested dispensing with the comprehensive network as long as cohesion, structural and national funding are disbursed independently, citing the principle of subsidiarity.

***Question 3: Would the priority network approach be better than the current priority projects approach? If not, why not and what are the particular strengths of the latter? If so, what (further) benefits could it bring, and how should it be developed?***

An overwhelming majority of contributors were in favour of a network approach. This approach would help concentrate scarce resources and ensures connectivity, reduces frictions in international traffic and thereby improves cohesion. The priority network should

be truly multi-modal, interoperable, coherent, sustainable and have ‘European value’ and it should address inter-modal connections (airports, ports, intermodal terminals), urban nodes and connections to third countries. Connections between long- and short-distance traffic should also be addressed, according to a public transport organisation and respondents from the rail sector. Some respondents from the railway (manufacturing) industry were in favour of a fully interoperable network with high-speed mega-corridors and mandatory ERTMS or at least with ERTMS as a backbone.

A number of respondents insisted on a network that gives equal priority to all modes of transport. One road transport organisation suggested that the policy review address the principle of performance optimisation for each mode of transport. Some respondents suggested that concentrating funding to remove soft or cross-border bottlenecks could yield huge positive network effects. This approach would focus on more efficient use of existing infrastructure. Respondents from the construction industry also saw the need for adequate funding of major infrastructure projects in the priority network. One intermodal organisation proposed creating a new entity in charge of the priority network, which would be responsible for supervising safety, security standards, traffic flow and interoperability design.

Opponents to the priority network approach argued that a priority network would be artificial. This approach would be risky because the effects of individual investment projects on the entire European network would be difficult to measure. They said that the network approach favoured countries in the geographical centre of Europe, which could be counter to cohesion objectives. As an alternative to a priority network, it was proposed that priority projects could form a coherent network of main routes. The air traffic management (ATM) stakeholders seem to prefer a network approach to a priority project approach. If a priority project approach should continue, it should include the European ATM Master Plan.

Concerning the method used to develop a network, many respondents wanted modern project evaluation techniques to be applied to identify projects with the highest added value in terms of economic, social and environmental benefits. According to some respondents, it is very important to use tools for project appraisal and comparison and a multicriteria analysis that takes into account economic, energy, social and environmental criteria. Some contributors stated that the concept of European added value should be the method used, rather than a Cost-Benefit-Analysis (CBA). Others favoured a transparent and harmonised CBA approach, possibly including real environmental costs.

Clarifying the assessment criteria would offer more visibility to the TEN-T policy. A rigorous method of identifying and selecting priority projects, including socio-economic evaluation, was proposed by automotive manufacturers. The road sector welcomed the approach of major traffic flows as an indicator of priority. One Member State proposed basing the priority network on current corridors and basing it on either real or projected traffic flows. Furthermore, it was proposed to create three categories according to their level of completion to assess suitability for financing. One port operator wanted not only current traffic flows but also their environmental and socio-economic impact to be considered.

Organisations and companies from peripheral regions said that the core network must consider the needs of (ultra-) peripheral regions with low population density. One European association said that more reliable data was needed to devise a proper methodology. Some respondents wanted the network effect to be the main selection criterion. One contribution from the aviation sector suggested using capacity standards, whilst minimum service levels were proposed by the inland waterway sector. Concerning railways, some regional administrations wanted to focus on node capacity, not only on the capacity of routes between nodes.

Some respondents wanted the priority network approach to be based on existing priority projects. Similarly, one local administration insisted that completing the current 30 priority projects should remain a priority. A new priority network should not put the old 30 priority projects into question. Some respondents wanted business demands to be taken into account; others feared that too much focus on business needs would undermine cohesion objectives. Planning should also take into account invulnerability to natural disasters and environmental assessments should involve many stakeholders at all levels, according to an environmental organisation.

The integration of long-distance traffic and urban traffic was important to the rail and partly the air transport industry. Respondents from the inland waterway sector suggested not funding projects where parallel alternative connections exist (e.g. rail vs. water). A shift from modal priority projects to cross-modal green corridors would be needed. Some community groups against the Brenner project expressed their aversion to high-speed corridors. They argued that in countries with a high-speed rail network, the modal share would typically be dominated by road, whereas in countries without a high-speed network, there would be a high modal share of rail.

***Question 4: Would the flexible approach to identifying projects of common interest as proposed with the 'conceptual pillar', be appropriate for a policy that, traditionally, largely rests on Member States' individual infrastructure investment decisions? What further advantages and disadvantages could it have, and how could it best be reflected in planning at Community level?***

The contributions received were pretty much divided as to whether or not to support the idea of a conceptual pillar. A significant number of respondents did not fully understand the concept, its principles and its added value, which should accordingly be clarified further. Arguments in favour were that the conceptual pillar would strengthen the bridge between the TEN-T review and other EU proposals. It would, for example, address co-modality, interoperability, inter-modality, ITS, environment and energy in the TEN-T framework. It would combine freight, ERTMS and Green Corridors in one single network and it would make it possible to monitor trends in demand and technology.

ATM stakeholders see the "conceptual pillar" as the basis for the link between Community Transport policy objectives as set out in the Single European Sky policy including SESAR and its infrastructure policy. Through a "conceptual pillar" the focus would shift from national level to a network concept considering the needs of all users. Some contributors asked for objectives of the conceptual pillar to be spelled out and criteria laid down in the TEN-T Guidelines. Those sceptical to the conceptual pillar argued that it could undermine the selection and funding of main routes in the priority network. One respondent proposed not including a conceptual pillar into the core network but rather into the comprehensive network, as a testing ground for new solutions.

***Question 5: How can future challenges in the sectors of waterborne and air transport (especially ports, inland waterways and airports) as well as the freight logistics be best taken into account within the overall concept of the future TEN-T development? Do different requirements for freight and passenger transport require different treatments in the TEN-T policy? What further aspects relating to different transport sectors/common transport policy issues should be given attention?***

For airports the priority was seen in establishing airports as truly multimodal interconnection points, thus reinforcing inter-modality and the integration of airports in the inter-regional, but also regional and local transport networks. The TEN-T policy should allow for the development of airports in line with the Community Policy on Airport Capacity and support

the implementation of Community security policy. According to respondents from the maritime and the aviation sector, it is important to improve hinterland connections of ports and airports, notably rail and waterways. According to many respondents, ports and airports should also be the connecting points to include the external dimension of the TEN-T.

The inland waterway sector and a high number of administrations are keen on promoting investment in waterways in order to improve hinterland connection of ports. Their main argument is that rivers offer huge capacity for both passenger and cargo traffic and the investment needed to benefit from this potential is low. The road sector cautions against favouring one mode of transport over others.

According to an environment-related group, the TEN-T analysis should not only focus on current traffic flows but also on future modal shifts. The Commission could do so by using environmental assessments when setting up a priority network. One respondent identified possible conflicts of interests between infrastructure optimisation under NATURA 2000 aspects and CO<sub>2</sub> emission reduction aspects. In this case, the respondent felt that CO<sub>2</sub> emission reduction considerations should prevail.

A high number of contributors, especially rail industry operators, remain divided on the issue of separate treatment of passenger and freight traffic. Although most contributors deemed a separation to be desirable, an argument against separation is that in dense networks, co-existence of both freight and passenger traffic on tracks cannot be avoided. Two contributors highlighted the fact that the policy goal should be to build infrastructure at the least cost for a maximum usage. Costs for separate infrastructure would be high and separation is therefore unrealistic. An argument in favour of separate treatment was put forward by one business undertaking which wrote that the role of the public sector would be much stronger in passenger transport, whereas in goods transport the public sector is just providing for the prerequisites of freight business, which is almost solely operated by the private sector. Hence, the two sectors should be treated separately in some cases.

Some contributors from the maritime sector stated that infrastructure should be prepared for the use of gigaliners and long trains. Another from the public transport sector suggested using extra-reserved lanes for buses on motorways. Some contributors, especially the rail industry but also some administrations, called for integration of urban transport into the TEN-T policy. Other contributors, however, explicitly dismissed focusing on urban traffic. Urban policy should respect the subsidiarity principle, according to Chambers of Commerce. According to a respondent from the rail sector, the connection between long- and short-distance traffic would be improved by the installation of more parking space at train stations. The road freight sector points to the necessity to install further rest areas on corridors. Special focus should be given on the transport of hazardous goods, notably in urban areas, according to local administrations.

***Question 6: How can ITS, as a part of the TEN-T, enhance the functioning of the transport system? How can investment in Galileo and EGNOS be translated into efficiency gains and optimum balancing of transport demand? How can ITS contribute to the development of a multi-modal TEN-T? How can existing opportunities within the framework of TEN-T funding be strengthened in order to best support the implementation of the ERTMS European deployment plan during the next period of the financial perspectives?***

Most contributors share the Green Paper's position on infrastructure management and the role of Information Technology Systems (ITS), including Information and Communications Technology (ICT). ITS would be a good supplement to classical infrastructure investment but should not become an alternative according to some respondents. Other respondents asked the Commission to give preference to ITS and traffic management over hard infrastructure.

However, there seems to be a general consensus among respondents that ITS remain very important for improving the functioning of all transport systems and to boost the importance of energy efficiency and environmental sustainability. If ITS could be used for all modes, and if they were able to operate swiftly across modes, this would lead to cleaner, safer and more efficient transport. ITS are necessary for the efficient connection of intermodal nodes with the various transport modes in order to guarantee efficient flows without administrative constraints. ITS would help achieve high utilisation rates on corridors and reduce congestion.

A number of respondents asked the Commission to provide guidance on harmonising ITS standards. Other respondents, however, wanted to let the market decide which technology loses or wins, citing technology neutrality. According to these respondents, it would be risky for States to embrace a one-sided approach favouring a single technology. In this context, some respondents favoured a bottom-up approach to ITS deployment in TEN-T to be economically viable. A high number of contributors discussed liability, access and ownership of data. Many respondents thought that these issues should be further discussed.

One railway undertaking suggested paying more attention to the application of Open Source solutions to ERTMS (unbundling of hard- and software). In general, many contributors thought that traffic management information should be made available to users. This would then require standardised multimodal information systems for both freight and passenger transport, and possibly a new management structure. The EC would then have to address users' fear of losing control of their data. The comprehensive network should be the geographical basis for selecting ITS pilot projects, according to one contributor. Some respondents said it was important to support interaction of ITS between hard and soft infrastructure. Harmonisation of ITS across Europe and across modes of transport would be desirable to ensure interoperability. One business organisation wanted TEN-T funds to be concentrated on major ITS, such as EGNOS, GALILEO, ERTMS and SESAR.

According to respondents from the air transport sector, the TEN-T needs to take full account of the Single Sky policy, including the ATM Master Plan and SESAR. One railway company highlighted the benefits of ERTMS/ETCS (European Train Control System) level 3, which would ensure the optimum functionality of the ETCS. Works to implement the Single European Sky (SES) and SESAR were fully supported by most respondents from the aviation industry and a chamber of commerce. Some respondents from the rail sector stated that ITS in the railway sector should not be reduced to ERTMS, but should equally include research into tracing wagons and optimising traffic systems. One railway company stated that ERTMS should not be a goal in itself. The Commission should therefore not set technological feasibility as a target but economic efficiency.

ITS should be developed for connections throughout the whole mobility chain to support the effectiveness of public transport. This could include mobile phone user information systems, integrated ticketing and optimised timetable systems for interchanges. ITS should be used for communication to connect TEN-T with public transport through passenger information, disruption messages etc.

Connections of long- and short-distance traffic would support co-modality in passenger transport, according to one respondent from the public transport sector. According to an organisation from the road sector, exemplary ITS applications are eCall, Real-Time Passenger Information, Road User Charging, Fleet Tracking Systems, and other land-based ITS applications. Concerning road infrastructure, many respondents saw a high potential for ITS in facilitating road user charging schemes. This would in turn improve demand management and have positive environmental effects, especially if external costs are internalised, according to one national administration. One regional administration suggested that ITS

development within the road sector should be financed by users themselves rather than publicly.

The waterborne and rail transport sector have had a positive experience of ITS in the past. According to one respondent from the inland waterway sector, implementation of RIS contributed to efficiency of waterborne transport. As far as the rail sector is concerned, ERTMS is said to have fostered interoperability and harmonisation. One respondent asked to make tracking and tracing freight systems compulsory in the EU.

***Question 7: Do shifting borderlines between infrastructure and vehicles or between infrastructure provision and the way it is used call for the concept of an (infrastructure) project of common interest to be widened? If so, how should this concept be defined?***

Some contributors suggested that shifting borderlines between infrastructure and vehicles should not be made a priority in either the short or the long-run. One Member State says that innovation should be stimulated but not duplicate the objectives of other European programmes such as Research & Development. A road association suggested developing cooperative systems between infrastructure and vehicle (V2I) and between infrastructure and users. One Chamber of Commerce suggested extending the concept of infrastructure to include vehicles and technological components associated to the infrastructure.

The road sector wanted the Commission to foster ITS development through policies to remove legal barriers (liability issues), common standards and free access to data. One respondent from the aviation sector presented its current vehicle-infrastructure project (AIM — Application platform for Integrated Mobility) in Brunswick, Germany. One railway undertaking said that ERTMS equipment consists of 70% on-board equipment and 30% track-side equipment. Therefore, they argued, ERTMS on-board equipment should be able to benefit from TEN-T and national funds. Similarly, other respondents from the rail sector said that the shift of control technology from infrastructure to the vehicles calls for more funding for vehicles. One Member State wanted to focus on the interrelation between GALILEO and ITS in all modes of transport. It believes that integrated intelligent in-vehicle safety systems should be used more.

A new idea was expressed by a regional organisation, which stated that technological innovations also foster the creation of new organisations that aim to optimise technology. Creating a network or centres to control traffic could be a useful proposal, according to one respondent from the construction industry. Some contributors did not see any fundamental shifting borderlines at all. One respondent viewed the whole discussion as semantic and perceived a risk in mixing up the railway liberalisation concept with the concept of ‘shifting borderlines’. The first concept promoted the separation of infrastructure provision and operational use whilst the latter focused on bringing infrastructure and operational users closer.

***Question 8: Would this kind of core network be ‘feasible’ at Community level, and what would its advantages and disadvantages be? What methods should be applied at the design stage?***

In general, Option three, namely the two-layer option for the TEN-T network, was perceived as the most feasible of the three options. A remaining question is the right balance between a bottom-up and a top-down approach. One regional administration suggested letting Member States propose projects for the priority network as this would increase acceptability of the network. Other contributions strictly opposed the existing system of project proposals by Member States, citing inefficiency. Many respondents perceived the risk of an ‘Europa der zwei Geschwindigkeiten’.

Peripheral and rural areas must be taken account of. If the issue of peripheries is properly addressed, the core network would be feasible according to a high number of respondents. A transparent and comprehensive methodology for selecting corridors is equally important to one respondent. One Member State deemed the problematic part of the core network to be its conceptual pillar as it hinders the continuity of planning and implementation of traditional infrastructure projects. For some respondents, feasibility of the core network may be increased by involving stakeholders and experts in policy forums that interlink politicians, public and specialists at an early stage. According to ATM stakeholders, a feasible network policy would need to consider that infrastructure investment across all sectors of the industry is to be reflected in the TEN-T guidelines, including both ground and airborne assets and all user groups, including general/business aviation and also the military.

***Question 9: How can the financial needs of TEN-T as a whole in the short, medium and long term be established? What form of financing — public or private, Community or national — best suits what aspects of TEN-T development?***

A high number of contributors suggested meeting the financial needs of TEN-T through increased participation of users in the costs of construction and operation. Proposals suggested earmarking revenue by including transport sectors in the EU ETS, the Eurovignette, EIB loans, infrastructure charging or kerosene tax, the latter being proposed by only one contribution. The harmonisation of track access charging systems in the rail sector is deemed highly desirable by some respondents. The structuring and the multiannual contracting of track access charges would be needed to mobilise private funds.

Regarding the involvement of the private sector, responses were fairly divided. Those advocating the involvement of private investment mainly pointed to insufficient public spending behaviour. Private investment would be an ideal supplement to public funds. One Member State was very much in favour of using private investment. Sharing knowledge and expertise in designing major transport projects or setting up and running PPPs.

Private-sector involvement would be a useful method of delivering TEN-T projects. A clear scope and risk definition would be needed to attract private investment. One business organisation said that the contribution of private investment and private risk capital in terms of asset provision was not recognised in the Green Paper. Those sceptical about private involvement cited the inability of peripheral regions to attract private investment and the inexperience of several countries. Similarly, some argued that PPPs were not suitable for all projects as if they were a ‘passe-partout’ but needed to be assessed on a case-by-case basis.

PPPs may even raise the overall price of project, according to one respondent from the rail sector. Respondents sceptical about private-sector participation stated that private involvement within the rail sector would only be effective in a few specific projects, e.g. high-speed rail. One respondent suggested taking into account the fact that socio-economic costs and benefits often differed from a private investor’s evaluation. One Baltic Member State proposed that where infrastructure is based on business needs, a high share of private involvement is possible and desirable. One local administration stated that shifting borderlines between infrastructure and vehicles increases the opportunities for PPP financing. An aviation research institute said that private-sector investment would be limited to business cases with marketability. In cases such as Galileo, where a long phase of preparation precedes market penetration, private investment would be hard to attract.

Project financing through Eurobonds remains controversial. Whereas some respondents view this possibility as incentive for strengthening the existing financial platforms, others argue that the EU would go beyond its mandate and escape parliamentary control. Issuance through



Eurozone States would weaken the stability and growth pact. Such borrowing would benefit States with poor budgetary discipline.

Respondents from the rail sector suggested addressing the difference in construction life cycle between road and rail projects. Road projects would usually need 2 to 3 years, whereas rail projects would typically need 6 to 8 years for completion. Thus, rail projects would often be impeded because they did not fit into the 7-year budget period of TEN-T.

Other new ideas included:

- Establishing a European infrastructure fund/supranational body to coordinate funding;
- Devising a European scoreboard to record year by year the state of implementation of Priority Projects and the funds committed and disbursed by Member States and the EU on each project. This tool would aim to fine tune investment from EU and Member States;
- Taking into account the amounts of funds per capita that each Member State has invested over the past years for evaluating eligibility and performance of future projects (a Member State proposal);
- Distance-related charging should be avoided as this approach entails geographic discrimination, according to one business organisation.

***Question 10: What assistance can be given to Member States to help them fund and deliver projects under their responsibility? Should private-sector involvement in infrastructure delivery be further encouraged? If so, how?***

Generally, a huge number of contributors proposed increasing the rates of co-funding. One Member State asked for more flexibility regarding the total amount of support to projects. Similarly, a high number of contributors reiterated the need for combined funding from Cohesion, Structural, EIB, and TEN-T funds where possible to maximise the effect of overall Community funding. But combining cohesion, regional, EIB funds with TEN-T funds was also criticised by some respondents as this could blur the specific goals of each programme. A number of respondents were in favour of lowering the administrative burden linked to the disbursement of TEN-T funds.

One organisation suggested that Community funding should only be disbursed when a Member State faces higher costs than other Member States. One regional administration and one Member State underlined the benefits of a credit with preferential interest rates and guarantees via commercial banks. One respondent suggested that the EU create a ‘sovereign European debt’ from which Member States could receive loans. The EU should be more flexible towards MS with a ratio of debt: GDP over 60%. Some contributors proposed to generally improve instruments of the European Investment Bank. Others proposed to take on board only projects which are economically feasible. A railway organisation suggested creating a European scoreboard to record year by year the state of implementation of Priority Projects and the funds committed and disbursed by Member States and the EU on each project. One member state welcomed an exchange of knowledge and experience within NETLIPSE project on managing large projects.

Regarding private-sector participation, a number of contributors made constructive proposals on how to encourage private involvement. One respondent from the private sector identified the lack of guarantee mechanisms and clear rules of risk sharing under PPPs. In this context, one Member State wanted to encourage States to launch small-scale PPPs as pilot projects and to draft European standardised PPP guidelines on experience, selection, negotiation and implementation in a European standardised toolkit for PPPs.

A business organisation suggested that projects could be advised by private companies to make private financing more likely. One Member State proposed benefitting from leverage effects and mobilising private capital by launching PPP projects. More specifically, by increasing the rate of support from EU funds for PPPs, private investors could be attracted. A railway organisation deemed PPP projects to be linked to long-term visibility and guarantees given over return on investments, which necessitates use of the user-pays principle. Another respondent from the railway sector stated that the LGTT (Loan Guarantee for the Trans-European Transport Network) was very useful but should be adapted to the complexity of rail PPPs.

***Question 11: What are the strengths and weaknesses of existing Community financial instruments, and are new ones needed (including ‘innovative’ instruments)? How could the combined use of funds from various Community resources be streamlined to support TEN-T implementation?***

Respondents considered the fixed 7-year budget, clear project eligibility rules, higher subsidisation thresholds from Cohesion Fund and Structural Funds and the focus on prioritised transport infrastructure to be an advantage. The inability to combine financing from different funds was cited as a weakness (*Remark from the EC: This is probably based on a misunderstanding of the rules, see the TEN-T financing regulation EC/680/2007, Article 7(2) and Article 13(2b)*). In this respect, the concept of a one-stop shop for financing is cited in one contribution. As further weaknesses were cited low TEN-T subsidisation thresholds and the fact that subsidies do not increase along with cost.

A few respondents found the incentives for investment coordination between neighbouring countries to be insufficient. Furthermore, some Member States pointed to problems in securing national funding by the beneficiary of the EU grant. One local administration believed that, in addition to the costs of infrastructure provision, variable costs (cost of infrastructure operation) should also be taken account of in the Cost-Benefit-Analysis. One respondent from the rail industry believed that, while TEN-T budget prioritises the rail sector, ERDF, cohesion and Member State funds seem to prioritise road transport; they therefore perceive a lack of complementarity and coordination. A railway undertaking stated that EIB loan rates do not appear to be enough of an incentive to create leverage. One regional administration deemed the consideration of peripheral regions under the CF and ERDF to be inadequate.

Although two regional administrations saw no need for new financial mechanisms, but instead suggested extending and reviewing current EIB mechanisms and easing and supporting PPP, many respondents made proposals for new financial instruments. An intermodal organisation proposed tax relief for investment completed in advance, a bonus scheme for projects resolving bottlenecks and penalties/bonuses/peer pressure for Member States lagging behind. Another proposal was to divide funds between study research phase and real infrastructure building.

One environment-related organisation proposed a system of ex-ante certification of projects in view of their TEN-T status, which could be based on criteria such as the contribution to climate change objectives. In general, some respondents proposed creating new guarantee mechanisms. One railway undertaking proposed issuing ‘project bonds’ with EIB guarantee of payment. Another new instrument could be a national ‘sustainable transport fund’ funded by revenue from the internalisation of external costs of transport. Two citizens suggested that maximum funding thresholds should be fixed on a unit basis. This would provide an incentive to build the cheapest infrastructure. One railway organisation deemed a PPP expertise centre (EPEC) to be a useful platform for exchange on PPP issues. One organisation from the road

sector proposed establishing a PPP fund, managed by PPP experts, which would give higher value for money. This fund would allocate support directly to PPP schemes.

One organisation from the maritime sector suggested that a strategic ‘corridor management body’ (or what is referred to as the ‘Governance body’ in the rail freight corridor proposal of the European Commission) would be best to manage or coordinate the allocation of funds and grants according to a cost-benefit analysis, with the Commission overseeing. One regional administration thought that the various existing funds could be combined, which would allow a more efficient allocation of support (taking account of the objectives and the sector concerned).

***Question 12: How could existing non-financial instruments be improved and what new ones might be introduced?***

A common consensus seems to be to boost the role of European Coordinators as they have proven valuable in the past. One local administration proposed assigning one coordinator to each TEN-T project. Other local administrations proposed choosing a single coordinator for two corridors when there is a crossing point. However, one Member State opposed more EC coordination; project delays would not be solved by stronger coordination. According to an intermodal association, the EC should be directly involved, especially on cross-border projects, to make coordinators’ work more effective. One Member State proposed that Coordinators extend their mandate to the comprehensive network. One environmental organisation expressed the view that coordinators could ensure that high-quality environmental impact assessments are conducted. Representatives of the railway sector recommended appointing a European manager for rail infrastructure.

Corridor coordination is largely viewed positively. However, one Member State opposed public financial support to such business-driven projects, as these projects should be able to attract private investors instead. The Open Method of Coordination was deemed useful as a governance approach by many contributors, as it helps to inform the public better on the progress of projects.

Transparency of data, sharing best practices and establishing performance data were called for. Better accessibility of TEN-T and Natura 2000 GIS data and transparency of information on traffic data forecasts would also improve environmental assessments, according to an environmental organisation. One railway undertaking proposed facilitating access to technical data describing technical and economic parameters of TEN-T corridors. Progress reports on corridors or an observatory on implementation were desirable according to a regional administration. The TEN-T-EA was proposed as a platform for best practice by the rail infrastructure industry. This would serve to increase communication on the progress made by different projects.

Regarding new non-financial instruments, the Commission’s proposal for benchmarking was largely supported. Several respondents proposed mandatory deadlines for project implementation to be imposed on Member States. Technical assistance, such as the JASPERS initiative, was also proposed. This could help the Commission to rank projects by their European value-added in view of receiving Community funding. One Member State suggested that all projects of common interest should be subject to a harmonised cost-benefit analysis. They indicated certain national CBA and HEATCO guidelines as an appropriate basis for TEN-T wide application.

According to one municipality, coordination at the level of urban regions should be given more attention. One intermodal organisation proposed creating a new entity in charge of the

priority network. This entity would be responsible for supervising safety, security standards, traffic flow, interoperability design etc.

***Question 13: Which option preferred?***

This question is dealt with in the following paragraph 4.

#### **4. STRUCTURAL OPTIONS FOR SHAPING TEN-T**

A preference for Option 3, hence for a dual layer structure consisting of a comprehensive and a core network, has been expressed by the majority of the respondents. This is notably reflected in the answers to questions n° 2-4 (a broad range of comments and proposals regarding the comprehensive network, the geographical priority network and the conceptual pillar), as well as n° 8 and 13 (concerning the core network).

With regard to the core network approach, respondents underlined the particular importance that should be paid to issues such as an independent planning at European level along with a due consideration of national planning procedures, environmental objectives and multi-modality of transport. The core network should reflect strategic Community objectives. It should, on the one hand, address major transport flows and on the other allow for due consideration of the specific situation in different parts of the Community; territorial, social and economic cohesion, including the connection to peripheral and ultra-peripheral regions, shall thus be given the necessary attention too. Infrastructure that supports trade flows between the EU, its neighbours and third countries should be appropriately considered.

Many respondents expressed the opinion that the proposed "conceptual pillar" would be beneficial in integrating the various aspects of the common transport policy and the transport infrastructure policy. The possibility for more flexibility was appreciated while the need was stressed by many respondents to provide for further specification of this part of the core network. The core network was seen as a good opportunity, especially by the large number of responding local and regional authorities and organisations, to better integrate long-distance and urban transport and integrate urban nodes.

There was a clear call for a coherent European planning methodology as the basis for the actual planning of the future TEN-T – a methodology aligned with implementation capacities, both national and at Community level, both financial and non-financial.

#### **5. POSITIONS WITHIN DIFFERENT TRANSPORT MODES**

Although the revised TEN-T network ought to be an integrated network, we break down the positions by transport mode to analyse the differences and common opinions.

##### **5.a) Road**

The road sector was represented by major contributions from the European Road Assessment Programme, European Road Federation, International Road Federation, European Automotive Manufacturers Association, International Road Transport Union, National Union of Road Hauliers from Romania, AB Volvo, EARPA and AISCAT.

The sector called for a methodology for network planning based on socio-economic evaluation, not solely on environmental aspects. A forced modal shift away from the road should be avoided. All transport modes should have equal priority. PPPs were generally viewed in a positive light by the road sector. Few contributions stressed the need for support of innovative systems such as new propulsion systems.

Safety issues were a major concern. One contribution proposed evaluating TEN-T road infrastructure by road safety standards and establishing a ranking of roads by benefits from improvements in safety standards. Regarding ITS, it was proposed to develop cooperative systems between infrastructure and vehicles (V2I) and between infrastructure and users. One international federation proposed that ITS development should be accompanied by policies to remove legal barriers (liability issues), common standards and free access to data. In any case,

ITS could not fully replace traditional infrastructure investment, as underlined by one respondent.

The creation of a European Roads Agency to manage funding for road infrastructure (safety, ITS, etc.) was suggested by one European Federation. The contribution also proposed appointing a single person to oversee all problems related to road safety, referred to as 'Mr/Mrs Road Safety'. Another major concern of the road freight sector seems to be the provision of parking space and rest areas along roads and in urban areas.

Contributions favoured Option 3 if any option was favoured. Some respondents had no preference.

## **5.b) Rail**

Respondents from the rail sector included major undertakings such as PKP, DB, SNCF, NMBS/SNCB, FDS, Finnish Main Railways, Caminhos de Ferro Portugueses, SZDC and ALSTOM as well as national and European organisations such as Rail Freight Group, ASTOC, UNIFE, CER, European Rail Infrastructure Managers and the European Railway Agency.

In general, the sector was very positive about the comprehensive network apart from two undertakings. The positive attitude was partly due to the sector's past experience with the comprehensive network, as it is said the comprehensive network had fostered interoperability and harmonisation in the railway sector.

There was no general consensus in the rail industry on whether or not to promote ERTMS within the TEN-T network, with some undertakings highlighting economic aspects to be taken into account where necessary. ERTMS should be the backbone of the future core network or even mandatory, according to the rail manufacturing industry.

Connections between urban and long-distance traffic were important to the rail sector. ITS could play a major role here by means of user-information systems. All rail operators called for more funding into vehicles in addition to funding for hard infrastructure. On-board equipment should therefore be eligible for TEN-T funding (*Remark from the European Commission: this funding is already possible, see Regulation EC/680/2007, Article 6(2)(ii)*).

Some respondents were sceptical about handling passenger and freight transport separately, whilst others were positive.

Some respondents called on the Commission to take account of differences in construction life cycles between transport modes regarding TEN-T funding. At present, the relatively short-term planning for EU funding would favour the financing of road projects as these projects typically have shorter completion periods than railway projects. The Commission was also asked to take steps on the issue of harmonising infrastructure user charging. Revenues generated by internalising external costs should be used to finance TEN-T projects, possibly by creating a new 'Sustainable Transport fund'. A 'Sovereign European Debt' was proposed by a French undertaking. It considered it necessary to be more flexible in funding terms for Member States with high debt/GDP ratios. The rail sector did not express overwhelming support but remained sceptical about PPPs.

The various stakeholders in the industry remain divided regarding their preferences for one of the three planning options, although a large majority preferred Option 3. One undertaking hesitated between options 1 and 3. Another undertaking did not indicate any preference.

## **5.c) Aviation**

Ten replies were received from different air transport stakeholders. The response given by the Industry Consultation Body should be highlighted (the official advisory body for the Single Sky policy, advising the Commission on behalf of all air transport stakeholder groups). In addition, contributions were received from CANSO (International Association of Air Navigation Service Providers), the Association of European Airlines, the European Regional Airlines association, the Airport Council International, Deutsches Zentrum fuer Luft- und Raumfahrt and others, including one manufacturer, airports, a national air navigation authority and one environmental group.

The sector for air transport should be included in TEN-T policy, reflecting the importance it has for European economic prosperity and global competitiveness. Stakeholders would also like to see that reflected in adequate (=more) funding for air transport, considering the difficulty to reach the set policy and performance objectives through private financing only.

ATM and airports remain the focal points for air transport in the TEN-T. The TEN-T would need to take full account of the Single Sky policy, including the ATM Master Plan and SESAR. All aspects were already set out there, including the European network approach, the performance scheme, including efficiency and environmental objectives. ATM is seen as part of the conceptual pillar, with the ATM Master Plan and the functional air space blocks as priority projects. Public support was requested to implement the ATM Master Plan in order to respect the need for synchronisation and consideration of negative business cases to achieve network benefits. On-board equipment for ATM infrastructure and the needs of all user groups, including general/business aviation and the military should be explicitly included.

For airports, the emphasis was placed on intermodality, and on integrating urban, regional and long-distance networks at airports. Overall the TEN-T should include hubs as well as regional airports, given the importance of airports for regional development, cohesion and international cooperation and competitiveness. Regional airports are said to be especially important for the transport of perishable products produced in peripheral regions.

One respondent asked to favour rail infrastructure and to apply demand-led measures together with the internalisation of external costs and environmental assessment of projects.

There was general support for the proposed third option regarding the TEN-T concept: a comprehensive network approach together with a core network, comprising a geographic pillar (the ‘physical network’) and a conceptual pillar (‘business approach’ and ITS). This was viewed in the context of creating a successful European network through regional/local implementation.

#### **5.d) Waterborne transport**

This summary report takes the waterborne transport sector as a whole because some contributions could not be clearly associated to either inland waterways or maritime transport. Waterborne transport is the best represented mode of transport in terms of number of contributions. Major contributions from ports were submitted by Marseille Port, Duisport, Bundesverband oeffentlicher Binnenhaefen, Zentralverband der deutschen Seehafenbetriebe, European Sea Ports Organisation, Federation of European Private Ports Operators, Nationale Havenraad, Union des Ports de France, Unione Interporti Riuniti, Port Authority of the Bay of Algeciras, Port of Gijon and Port of Valencia. Shippers were represented by the European Shipper’s Council and the Swedish Shipper’s Council. We also received contributions from European Barge Union, European Community’s Shipowners Associations, CPMR North Sea Commission, North Channel Partnership, BIMCO, DG MARE/CPMR and the MIF Group Transport Shipping Services. Voies navigables de France and Inland Navigation Europe were representing the inland waterway sector, together with some ports organisations.

In general, the sector took a very positive view of further developing the concept of Motorways of the Sea within the TEN-T planning network. One association considered the comprehensive network as unsuccessful in the past and therefore not worth maintaining. Some respondents stressed the need to pay more attention to intermodal connections for freight transport, notably rail and inland waterways to ports, when revising the comprehensive network. The priority network was seen positively, especially by the inland waterway sector. This priority network would ease the integration of inland waterways into the European transport network. Intermodal hubs were seen as an important part of this network.

Almost all contributions wanted ports (in the same way as hub airports) to be nodes of the priority network. One port operator and its affiliated national port organisation did not want the current market situation to determine a priority network but instead wanted criteria such as environmental and socio-economic impacts and the North-South equilibrium to be considered.

In order to achieve a better integration of transport and environmental policy objectives, it should be acknowledged that projects that have been granted TEN-T status fulfil 'Imperative Reasons of Overriding Public Interest' (IROPI) criteria, according to a European organisation. *(Remark from the Commission: TEN-T planning shall be done in full respect of all relevant Community legislation on the environment, including Council Directive [92/43/EEC](#) on the Conservation of natural habitats and of wild fauna and flora).*

Most respondents, especially from the maritime sector, stressed that no preference should be given to any mode of transport but a fully co-modal priority network should be established. Congestion avoidance was identified as an important issue. One national inland ports organisation suggested considering eco-efficiency by improving existing infrastructure rather than developing new infrastructure. The use of longer and heavier vehicles/trains was suggested to address the underperformance of specific corridors. ITS deployment was viewed very positively.

The implementation of RIS (River Information Services) is said to have contributed to efficiency improvements of waterborne transport. User charging would become easier and more uniform with ITS. ITS would equally improve efficient connections between European ports and rail and inland waterways and thereby guarantee efficient flows without administrative constraints. One port authority even suggested making tracking and tracing freight systems compulsory in the EU.

PPPs were not seen as a solution to tackle funding scarcity by some contributions. Motorways of the Sea would require public financial intervention in order to be viable. However, PPPs may be used to support public investment. Financial resources could be generated by internalising external costs, according to some contributors.

Regarding preferences for the proposed options, one contribution favoured option 2, whereas most others preferred Option 3. Some contributors were either indifferent or did not indicate any preference.

## **6. TAKING THE PROCESS FORWARD**

The results of the open and forward-looking contributions to the public consultation will feed into the TEN-T policy review process, both at the network planning and implementation stages. In the course of the next few years, this process may lead to legislative proposals and proposals for other Community action in this field. It will be linked to relevant transport policy action within and across the different transport sectors. One of the main legislative proposals planned as a follow-up to the Green Paper is Commission proposal for a revision of the Community Guidelines for developing a trans-European transport network (publication



foreseen for the first half of 2011). At a later stage, this proposal is expected to be supplemented by legislative proposals on Community funding.

## **PART B: AN EVALUATION OF TEN-T POLICY**

In the context of the TEN-T policy review launched in February 2009, the Commission has undertaken to analyse a number of issues of particular relevance for future TEN-T development. This ex post evaluation has to be seen in the context of this policy review and accompanies the Commission's second public consultation opened with the adoption of the Commission Working document "Consultation on the future trans-European transport network policy" (COM(2010)212/7). It recalls the development of TEN-T policy since its inception at the beginning of the 1990s and identifies its main outcomes and key issues.

### **1. INTRODUCTION**

Trans-European transport network (TEN-T) policy came into being as a consequence of the 1992 single market project. It was thought that the creation of the internal market necessitated not only legal texts, but also physical infrastructure to become a reality. As a consequence, the Commission adopted in 1990 its first action plan on trans-European networks. In 1992, the Maastricht Treaty provided the legal basis for trans-European networks in the areas of transport, telecommunications and energy infrastructure.

In its title XII, (articles 129b to 129d), the Maastricht Treaty defined Trans-European Networks policy and its contribution to achieving the objectives of the internal market, social and economic cohesion for the benefit of all its citizens, economic operators and regional and local communities, inter alia by targeting Community action to promote interconnection and interoperability of national networks, and access to such networks.

In 1993, in its White Paper 'Growth, Competitiveness, Employment' the Commission proposed the acceleration of investment into trans-European networks as one of the major development themes to overcome the recession of 1992-93. The Brussels European Council in December 1993 decided that "in order to implement the infrastructure programmes efficiently, consistently and as soon as possible, the Commission, assisted by a group of personal representatives of the Heads of State and Government, will be responsible for leadership and co-ordination." This group, chaired by Henning Christophersen, Vice-President of the Commission, presented an interim report to the Corfu European Council in June 1994, which agreed a first list of 11 priority projects in the transport area. This list was the result not only of the Christophersen Group's emphasis on removing cross-border bottlenecks to facilitate traffic flows, but also on the tendency for Member States to prioritise first projects of national importance. Six months later, the Essen European Council endorsed the recommendations in the final report of the Christophersen Group, and finalised the list of priority projects by extending to 14 the list agreed in Corfu.

In 2003, in view of the imminent enlargement of the European Union, a High-Level Group on the trans-European transport network (TEN-T) chaired by Mr Karel Van Miert, reviewed TEN-T policy as well as the list of priority projects to cover the new Member States. This High-Level Group submitted a report to the Commission in June 2003, which was endorsed by the Brussels European Council of December 2003.

#### **The TEN-T Guidelines**

Mandated by the Maastricht Treaty, TEN-T guidelines were subsequently developed to identify projects of common interest and mobilise Community support. From the outset, the implementation was dependent on what amounted effectively to a right of veto given to the Member States where the infrastructure needs to be built ("guidelines and projects of common interest which relate to the territory of a Member State shall require the approval of the Member State concerned.")

The TEN-T guidelines were established by a Decision of the European Parliament and the Council in 1996, and last amended in 2004<sup>4</sup>. They have helped complete a large number of projects of common interest, interconnecting national networks and overcoming technological barriers across national borders. As such, the guidelines have been a key driver to deliver the objectives of the Lisbon Strategy for Growth and Jobs. However, given the long-term nature of the projects involved, there is still a long way to go to fully implement the initial plans, especially the priority projects agreed in Essen.

Almost a third of the amount invested so far has come from Community sources,<sup>5</sup> even if European citizens may not recognise easily the results of the overall TEN-T policy or identify readily the European added value of the projects financed by the Community. Often objectives have been rather broad, which has made it difficult to meet them in full with the instruments available.

The TEN-T Guidelines aim to facilitate the establishment of a single, multimodal network covering traditional infrastructure and equipment as well as the deployment of innovative and intelligent transport systems to enable safe, efficient, and sustainable traffic.

Projects of common interest within TEN-T differ considerably from each other in many respects: planning processes, geographical extension and cost, implementation periods and life span, as well as investment, implementing and operating structures. TEN-T policy has to adapt to the different approaches of the Member States who play a leading role in traditional infrastructure provision and work alongside the private sector. The nature of the TEN-T network itself is fully dependent on all of the actors involved sharing common objectives and playing their respective parts in order to achieve those objectives.

Across the European Union, positive changes resulting from the implementation of TEN-T policy are already visible.<sup>6</sup> National rail and road networks have become interconnected at many points and railways across borders are beginning to become interoperable on some priority axes. Community funding has concentrated on major high-speed rail projects, opening up a new generation of passenger traffic that can compete successfully with air traffic and passenger cars. Community funding has been made available into major projects connecting Member States and regions with differing levels of development, reinforcing economic and social cohesion. It has had a significant catalytic effect and has enabled some of the most challenging projects (geologically, technically, financially, legally/administratively) to be realised. TEN-T policy has promoted innovative public-private partnership solutions, which could be usefully extended to other projects. TEN-T policy has also facilitated the development of intelligent transport systems. Apart from Galileo, innovation in road, rail, air and waterborne transport made significant progress through TEN-T projects at EU or regional level, many of which would otherwise not have been implemented or launched. TEN-T policy has also started to impact freight transport, with the completion of projects that have addressed inter-modality and cross-border linkages, providing freight transport with effective alternatives to the traditional air and road modalities.

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<sup>4</sup> Decision No 1692/96/EC of the European Parliament and of the Council on Community guidelines for the development of the trans-European Transport Network, as last amended by Decision No 884/2004/EC of 29 April 2004

<sup>5</sup> Grants from the TEN-T budget, the Cohesion Fund and the European Regional Development Fund, plus loans from the European Investment Bank.

<sup>6</sup> Green Paper: TEN-T: a Policy Review: Towards a better integrated trans-European transport network at the service of the common transport policy, COM(2009) 44

However, TEN-T policy overall has focused disproportionately on passenger traffic, especially high-speed rail projects to the detriment of freight transport. This has prevented TEN-T policy from delivering one of its major goals, which is to facilitate the free movement of goods in an internal market perspective. Moreover, transport infrastructure planning has continued to be mostly driven by national priorities, instead of EU ones. This has resulted in a lack of cross-border integration of the network, which remains sub-optimal and continues to prevent the internal market from yielding all its potential benefits.

## 7. EVALUATION OF TEN-T POLICY

First and foremost, the TEN-T Guidelines are the Community's instrument for policy definition and network planning. The projects of common interest identified in these Guidelines can be defined through their location on outline plans and/or through their characteristics. The Guidelines, as adopted in 1996 and last amended in 2004, include two planning layers: a comprehensive network layer (outline plans for rail, road, inland waterway, combined transport, airport and port networks) and a second layer of priority axes on which certain sections are marked as 30 priority projects – i.e. selected projects of common interest.

### **Some priority projects have been completed<sup>7</sup>...**

One way to assess the success of the TEN-T policy is of course to quantify the realised infrastructure, starting with Priority Projects agreed in Essen. Here, the picture is mixed with the completion of only 5 priority projects at the end of 2009. However, some of these projects have had a major impact on cross-border traffic flows, provided a real alternative to other modes of transport such as air and road, and made a significant contribution to the development of intermodality.

For example, the priority project no. 11, the fixed rail/road link between Denmark and Sweden (Øresund fixed link) was completed in 2000. It has led to a very significant increase in traffic flows and has served as a powerful lever of economic development, linking up two regions on each side of the Øresund. The emergence of a common labour market between Copenhagen and Malmö (facilitated by cultural and linguistic proximity) has been one of the most important benefits of the completion of the project.

Another example of the success of TEN-T policy is the completion in 2009 of the high-speed railway axis Paris-Brussels-Köln-Amsterdam-London (PBKAL, priority project No. 2). This is Europe's first cross-border high-speed passenger rail project, linking major cities in France, Belgium, Germany, the Netherlands and the United Kingdom. The PBKAL network offers substantial reductions in travel times between these major cities and has produced some significant modal shifts when it comes to passenger traffic. For example, air connection between Paris and Brussels has been phased out. In particular, the completion of the section between London and the Channel Tunnel in 2007 has continued to impact heavily cross-border traffic and provide a real alternative to air travel between London and cities in continental Europe. As with the Øresund fixed link, the economic impact of the completion of the PBKAL has not been limited to a shift in transport modes, but has created a new class of frequent commuters between Paris, London and Brussels. The PBKAL has not only interconnected national networks and marked a breakthrough of a new generation of railway traffic across borders; it has also allowed citizens and business travellers to experience the benefits of free movement within Europe.

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<sup>7</sup> TEN-T Implementation of the Priority Projects: Progress Report, October 2009.

Other completed projects have been priority projects No. 10, the Malpensa Airport in Milano, which was finished in 2001, No. 5, the Betuwe line, linking Rotterdam to the German border, which completed in 2007, and No. 9. Cork-Dublin-Belfast-Larne-Stranraer Rail Link.

### **Some major parts of priority projects have been completed...**

Given the length and the complexity of the priority projects, it is not surprising that their actual completion takes a very long time. Therefore, another way to evaluate the progress achieved by the TEN-T policy is to look at the degree of advancement of the other priority projects. Often, the completed sections of other projects have been limited to national sections, but have had also a major beneficial impact. For example, the Nürnberg-Ingolstadt rail line, part of PP 1, which went into service in 2006, or the first phase of the high-speed rail line named “TGV Est” in France, part of PP 4 and 17, which went into service in 2007. The impact on passenger traffic of these sections has exceeded all forecasts.

Other examples of successful projects are the Madrid-Barcelona high-speed rail link, which was completed in March 2008 and where service is increasing rapidly and the high-speed line Milano-Bologna-Firenze-Roma, which was completed at the end of 2009. Progress has also been realised in the new Member States. Several sections of rail infrastructure have been realised on Priority Project 22 (Dresden-Praha-Brno-Breclav (CZ) and Campina-Bucharest (RO)), on Priority Project 23 (south of Warszawa until Katowice (PL), between Prerov and CZ/PL border and between Brno and Breclav (CZ)) and on Priority Project 27 (between Tluszcz-Bialystok). Highway sections have been upgraded/realised on Priority Project 7 (Budapest-Szeged (HU), Pitesti-Bucharesti-Cernavoda (RO) and Sofia-Botergand (BG)) and on Priority Project 25 (Gdansk and Tczew, Czestochowa and Katowice (PL), Ostrava-Frydek-Mistek, Brno-Pohorelice, Trencin-Bratislava (SK)).

As regards the deployment of intelligent transport systems, progress has also been realised. The deployment of ERTMS along six rail freight corridors of European importance has been accelerated by the signature of a Memorandum of understanding by the main European rail organisations and the Commission in July 2008. Furthermore, ITS projects have fostered an EU realisation of ITS needs and the EASYWAY programme will guarantee integration of the road network.

### **Community funding has become more concentrated...**

Recently, in the recent multi-annual programming exercise for the period 2007-2013, the Commission has attempted to concentrate funding on a limited number of projects, where the leverage effect of the funding provided could be more significant. For example, the Commission proposed to fund the Brenner tunnel and its access routes to the tune of over €900m, the Lyon-Turin base tunnel for €672m, the Fehmarn Belt for €351m, the Seine Escaut inland waterway project for €420m, or the Rail Baltica for €125m. This approach has been successful in mobilising very significant amounts of national funding. It has complemented by the programming of Community structural funds, with up to €15bn earmarked for the priority projects, and the growing involvement of the European Investment Bank in TEN-T projects.<sup>8</sup>

### **Considerable investments have already been made...**

By 2009, nearly 39% of the necessary investments in priority projects had already been made. The total costs of the priority projects were estimated to amount to €415bn at the end of 2009. It has to be noted that the estimate of the total costs of the priority projects has a tendency to be revaluated upwards every year. Apart from inflation, this is also largely caused by the

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<sup>8</sup> TEN-T Implementation of the Priority Projects: Progress report, May 2008.

natural process of project preparation where more accurate investment costs emerge when studies and technical preparations come to fruition. However, delays and cost overruns tend also to increase the overall cost of projects. Moreover, the remaining investment for the period after 2013 has increased considerably from nearly 30% to 35%. The economic crisis has had a major impact on infrastructure, and this should be considered as a critical obstacle for the successful advancement and implementation of the priority projects.

### **The comprehensive network has been progressing...**

Today the comprehensive network comprises altogether 95 700 km of road links, 106 000 km of railway links (including 32 000 km of high-speed links), 13 000 km of inland waterways, 411 airports and 404 sea ports. It has to be noted that most of these links and nodes already exist. However, almost 20 000 km of the road links, over 20 000 km of railway links (overwhelmingly high-speed lines) and 600 km of inland waterway links remain to be built or substantially upgraded.

### **Impacting positively economic, social, and territorial cohesion...**

The TEN-T planning has often been instrumental in furthering economic, social, and territorial cohesion. Finance has been channelled, under the Cohesion Fund, into major projects connecting countries and regions with differing levels of development, thereby helping to reduce disparities. Community funding under the Cohesion Fund has supported project implementation in eligible Member States, and has thus also contributed to the access function (including access to ultra-peripheral regions).

### **The conceptual pillar has reinforced the link with the common transport policy...**

The "conceptual pillar" has complemented the geographical part of the TEN-T network. Its aim is to help integrate the various aspects of the common transport policy and the transport infrastructure projects. It has been defined in the TEN-T Guidelines by way of a conceptual approach setting out objectives and procedures for identifying projects of common interest. This has helped the Community to develop practical application of co-modal transport solutions aimed at improving accessibility and reducing emissions from road freight transport. The Motorways of the Sea priority project has been covering infrastructure, facilities, procedures, technologies and services and is intended to foster quality and high-capacity integrated multi-modal, door-to-door transport services with a maritime leg. However, the complexity of procedures for obtaining public financial support and the lack of clear objectives and criteria have however prevented a broad implementation of the concept so far.

### **However, the TEN-T infrastructure is still incomplete...**

However, some eighteen years after the introduction of TEN-T in the Maastricht Treaty, and fifteen years after the Essen European Council agreed a list of 14 priority projects, there is still no fully operational TEN-T network today.

On the one hand, the TEN-T infrastructure is still incomplete, especially with essential sections of rail and inland waterways still missing that constitute important bottlenecks.<sup>9</sup> As regards the road network, some important stretches are still missing in the new Member States which are either under construction or planned and a few missing links also exist in the old Member States. The air and sea transport networks are available, but priorities as regards interconnection are missing.

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<sup>9</sup> Evaluation of the Common Transport Policy (CTP) of the EU from 2000 to 2008 and analysis of the evaluation and structure of the European transport sector in the context of the long-term development of the CTP, Final Report, May 2009.

On the other hand, the nodal points between the different modes, which often are not part of the TEN-T network, are still not operating efficiently. As far as regards ports and airports, some of the biggest ports and airports are not well linked into the TEN-T network.

**But most importantly, the network does not function as an operational network today...**

The road network is the one that offers best functionalities today: it is very accessible and interoperability problems are reduced. However, the road transport mode does not easily combine with the other transport modes because of problems of intermodality. At the same time, other modes still have major interoperability issues to be resolved. The TEN-T network still needs to be made more operational and functional through combining the various initiatives and dealing with the issue of interoperability. Moreover, the lack of interoperability, both physical and operational, reduces the effectiveness of transport services.

**TEN-T network deficiencies lead to important diseconomies of scale ...**

This situation leads to diseconomies of scale and to a sub-optimal functioning of the internal market as well as the world market in a global economy, given the weight of the European market in the world economy and the importance of traffic flows within Europe. This is one of the reasons which imply that most exchanges are realised in the internal market by the most polluting transport mode, hence the problem that transport is not making the contribution it should on the climate change objectives of reducing CO<sub>2</sub> emissions.

**Important infrastructure bottlenecks need to be addressed ...**

There are still a few dozen important infrastructure and operational bottlenecks that need to be urgently addressed through the appropriate investments. These are the well known projects such as the Brenner, Lyon-Torino, Fehmarn, Seine-Scheldt, or Stuttgart-Ulm. However, also other projects will have to be included into the TEN-T network, such as the infrastructural works for the inclusion of the most important intermodal nodes.

**The consequences of enlargement have been not fully integrated...**

The consequences of the 2004 and 2007 enlargements have not been fully integrated in the Guidelines. This is due to the fact that the first Guidelines and Priority Projects were approved well before the two rounds of enlargement. This situation has partly been addressed by the 2004 Guidelines and an increase in the number of Priority Projects to 30. However, since building infrastructure has long lead times, especially in the case of complex projects such as inland waterways, seaways and railways, in practice an imbalance between old and new Member states continues to endure. This is occurring to the detriment of harmonious economic development in Europe, preventing the internal market from realising its full potential. This situation could act as a drag on economic development, and perpetuate economic disparities as most of the growth in trading volumes can be expected to come from the new Member States as well as the European Union's immediate neighbourhood.

**Member States continue to prioritise their national planning...**

The planning of the TEN-T network has created a European multimodal planning for infrastructure development, which had not existed in all Member States. However, in practice, the planning of the TEN-T network has essentially meant adding together significant parts of national networks for the different modes and connecting them at national borders. While certainly appropriate in the early days of TEN-T policy, the adequacy of this approach became progressively weaker with each enlargement. TEN-T network planning has not been driven by genuine European objectives that would ensure that the whole is greater than the sum of its parts. Without questioning Member States' sovereign responsibility in the field of infrastructure planning and implementation on their territories, the question of how national

planning can be combined with a European level of planning that takes account of objectives outside each individual Member State's perspective becomes more and more relevant as the EU expands and networks become increasingly complex.<sup>10</sup>

Therefore, one major problem has been the fact that Member States tend to give priority to national transport sections which link up centres of national interest. This is at least partly due to the fact that volumes are often higher on national than on cross-border sections, which is reflected in unfavourable cost-benefit ratios. The consequence is that investment in cross-border sections is severely affected. Member States do not consider reducing travel times and rebalancing the modal split on cross border sections as important a target as improving them on national sections. Moreover, costs and benefits are unequally distributed among the relative countries and at the European level. Hence, there is a tendency to procrastinate the undertaking of more complex cross-border projects, which require good coordination between the project countries and are often also more expensive to realise. Therefore, there is a risk that the TEN-T network remains a badly connected agglomeration of 27 national network plans.

### **Strategic and project assessment needs to be improved...**

Assessment should be improved and extended: over a whole international corridor linking major European centres, both at an economic (e.g. by looking at the impact of improving rail links) and at a technical level (e.g. by looking at the impact of improving intermodality). The analysis should also take better account of environmental dimension of the projects and their monitoring. The experience has shown that compliance with EU environmental legislation, in particular with the Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), and Habitats directive, is extremely important for the smooth implementation of TEN-T projects. The environmental issues, in particular the likely significant impacts on the Natura 2000 sites should be properly identified and assessed at an early stage of the transport infrastructure planning. Special attention should be paid to the SEA, which allows identifying and assessing the full scale of environmental impacts of the whole projects and/or corridors, essential for the effective planning process of TEN-T projects. The SEA is a useful tool for the early identification of environmental conflicts and assessment of the alternatives in relation to alignments.

For instance, the potential linked to enhancing interoperability at cross-border sections has often been underestimated and cohesion effects have been neglected due to a narrow scoping of cost-benefit analyses. Secondly, these analyses need to be more closely related to long term economic forecasts that integrate Member States together with regional and local added value of TEN-T projects. Finally, the unit costs of various types of infrastructure projects are lacking at EU level and prevent the full comparability of projects across Member States.

### **Network planning needs to be improved...**

The TEN-T priority projects cover major rail, road and inland waterway axes that cross several Member States. Chosen for their high relevance to transnational traffic flows, cohesion and sustainable development objectives, they were subjected to a socio-economic evaluation. However, questions still arise, for example, as to the methodology used to select them, the potential for interconnection and extension (both geographically and modally), the approach to coherent capacity and quality standards, and the means of better stimulating their completion within the planned timeframe.

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<sup>10</sup> Position paper of the European Transport Coordinators on the Future of TEN-T Policy, 6 October 2009.



In addition to defining projects of common interest through their location in outline plans and inclusion in the list of priority projects, the Guidelines set out "characteristics" and specify objectives and criteria for identifying projects of common interest. In the field of intelligent transport systems, this kind of conceptual approach has formed the basis for the definition of projects of common interest.

The current priority projects approach reflects major traffic flows between a starting and an end point, without taking account of their continuity, and fails therefore to capture successfully any additional 'network benefits'.

### **Technical standards are missing in TEN-T guidelines...**

Currently, the TEN-T Guidelines only include target standards in the inland waterway sector. Member States have not been under the obligation under TEN-T policy to implement all EU-level technical specifications in the railway sector; implementation of the Single Sky policy and the ATM Master Plan; interoperability in other ITS sectors and, furthermore, target agreed capacity standards for all infrastructure components involved. This situation has prevented the TEN-T policy to serve as a useful lever to accelerate the deployment of much needed intelligent equipment on the network. Moreover, there is a close relationship existing between certain TEN-T instruments such as adopting legally binding interoperability and safety standards, and transport market opening. They strongly encourage further initiatives similar to those taken in the field of rail interoperability. As a result, infrastructures are underused due to market arrangements reflecting the situation before market opening.

## **8. EVALUATION OF IMPLEMENTATION**

### **Current instruments have not been sufficient to deliver completion of the comprehensive network...**

The TEN-T policy uses several instruments to facilitate the implementation of projects identified as being of common interest. These instruments are a) various financial instruments based on the relevant legislation, including the TEN Financial Regulation<sup>11</sup> and the Cohesion Fund, ERDF and loans from the European Investment Bank, and b) non-financial instruments, such as coordination initiatives taken by the Commission.

So far, the instruments available have not been sufficient to deliver the full completion of projects of common interest within the timeframe agreed in the Guidelines. This applies especially to the comprehensive network. Responsibility for completing the large numbers of projects concerned rests almost entirely with the Member States, whose investment decisions are essentially driven by national objectives. Community funding has not been visible enough in relation to the comprehensive TEN-T as a whole. Investment efforts by Member States on their respective territories are mostly seen as national investments rather than as contributions to a Community objective.

The situation has been different with priority projects, which have been at the centre of Community efforts – both financially and in terms of coordination. Although the Community financial resources available are still not sufficient to meet the needs of these projects in full, action – directed towards more limited and commonly agreed objectives – has been far more effective and visible.

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<sup>11</sup> Regulation (EC) No 680/2007 of the European Parliament and of the Council of 20 June 2007 laying down general rules for the granting of Community financial aid in the field of trans-European transport and energy networks

### **Implementation of innovative concepts has been mixed...**

As regards intelligent transport systems, TEN-T policy has helped in particular to prepare Galileo and the Single European Sky Air Traffic Management Research (SESAR), which are expected to make the use of transport infrastructure far more efficient. In road, rail and air transport, as in Vessel Traffic Management and River Information Services, ITS projects have been developed in a flexible way, on the basis of characteristics set out in the TEN-T Guidelines. This conceptual approach makes it possible to incorporate technological developments, market needs and cooperation initiatives between partners from different Member States and, combined with the 50% funding possibility for project preparation, has had a significant impact on the development of cross-border projects which might not have existed otherwise. This kind of flexible approach to project development, based on pre-established objectives and criteria, should also lend itself to achieving other transport policy objectives – the provision of efficient (both economically and environmentally), safe, secure and high quality transport services.

### **Many bottlenecks remain...**

However, many bottlenecks remain. For example, ports figure on the TEN-T maps but their connection with the most environmentally friendly transport modes is not guaranteed, especially not in the very important last mile, for instance bringing the railway tracks into the harbour itself. Some major airports are now linked within the network (for example Charles De Gaulle, Frankfurt, Schiphol, all three on Priority Project 2), but other major airports have not been interlinked directly on the long distance network which leads to suboptimal situations when a relevant number of citizens has to change between transport modes. The interconnection of city hubs is sometimes very poor, even when they are planned today. Such interconnections between international, regional and local transport is crucial for modal shift.

### **Project implementation has been costly...**

Implementation of TEN-T so far has been marked by enormous cost increases. These have been caused by difficult geological conditions, challenging technical solutions, changes in alignment for reasons of public acceptance, uncertainty about capacity standards at the outset, measures to ensure compliance with environmental legislation or pro-active environmental measures, implementation delays and various other problems. Often measures needed to gain public acceptance of projects as well as the need to deal with environmental aspects are systematically underestimated and a prominent feature in the cost increase of project implementation. Moreover, these problems are compounded in many Member States drawing from the Cohesion and Structural Funds, with limited administrative and absorption capacity.

### **The creation of the TEN-T Executive Agency has improved implementation...**

The Trans-European Transport Network Executive Agency (TEN-T EA) was established by the Commission in October 2006. Its mission is to provide an efficient and effective service in realising the technical and financial implementation of the TEN-T Programme. Since 1 January 2009 TEN-T EA has been fully responsible for the management of all open TEN-T projects under the TEN-T Programme 2001-2006 (€4.875bn) and the 2007-2013 TEN-T Programme (€8.013bn). The Agency has been working towards improving both the technical and financial implementation of the TEN-T projects by making significant improvements in both the budget execution and the payment delays.

### **Coordination between Member States remains difficult...**

Project coordination on cross border sections is often the most complex aspect of TEN-T. It demands active cooperation among a wide range of stakeholders. Such cooperation between

Member States is usually ensured through bilateral treaties for shared infrastructure as has been the case for the Brenner, the Mont Cenis base tunnel and the Strasbourg-Kehl Bridge. Memoranda of Understanding or Letters of Intent have been used in the cases of cross-border sections Munich-Salzburg, Vienna-Bratislava and between the Baltic States and Poland and for the six freight corridors to which priority has been given for the deployment of ERTMS. Generally speaking, adopting a legally binding bilateral treaty is a lengthy process. However, they are useful in improving the situation on some major cross border bottlenecks. Memoranda of Understanding and Letters of Intent are mostly easier and quicker to conclude, but they are also less useful at providing longer term stability around a project.

In general, the experience of international cooperation processes on cross-border project coordination has revealed that Member States often lacked joint traffic forecasts, which leads to differing investment plans. There is also a lack of investment planning coordination leading to disconnected or even contradictory timelines, capacity planning, alignment, technical and interoperability characteristics, and environmental assessments. Member States do not arrive at the same investment calculation, which leads to significant differences in investment implementation depending on different priority settings in the Member States involved in cross border sections. Often the joint management of the finished infrastructure has been insufficient.

### **Involvement of stakeholders is growing...**

Regional and local authorities and other stakeholders have gained in importance in the decision making processes surrounding infrastructure investment planning, financing and realisation. European infrastructure projects have significant effects on local and regional economies, and local stakeholders have logically striven to have more say on decisions affecting them. New infrastructure provides local economies with an access to wider national and European networks and thus to broader markets, while generating time and efficiency benefits for both freight and passengers. Moreover, regions have more often been requested to contribute to the financing of infrastructure projects. In order to accompany these developments, local stakeholders should be able to find their relevant place in national decision-making processes.

### **A success story: the European coordinators...**

In order to accelerate implementation, especially in cross-border projects, European coordinators appointed by the Commission in 2005, to cover the Priority Projects Nos. 1, 3, 6, 17, 21, 18 and 30, as well as ERTMS. These European coordinators, who help prepare and implement certain priority projects, have proven to be effective in a number of instances and, have played a major role in advancing the Priority Projects.

The Coordinators have developed a comprehensive project approach for the Priority Projects which they follow up, indicating which conditions should logically be met for EU co-funding. These extensive Priority Projects need to bring real added value at European level. In many cases, the conditions the Coordinators recommend in their annual activity reports go beyond the legal obligations that stem from EU law or financial Decisions. They include aspects such as the coherence of the timing of works on different sections along the Priority Project, the use that will be made of the infrastructure, capacity issues and interoperability aspects. The Coordinators recommend that this approach and the conditions they express in their individual reports are taken on board by the European Institutions, the Member States and the other stakeholders in the Priority Projects.

## 9. EVALUATION OF FUNDING INSTRUMENTS

The funding of TEN-T projects draws from mostly from the national budgets of the Member States (€196bn in the period 2007-2013) while the EU contribution is provided through the TEN-T programme (€8bn) and the Cohesion and Structural Funds (€43bn). Both Community-level instruments should contribute to fulfilling the objectives set out in the TEN-T guidelines. However, different rules apply to the different instruments. While funding under the Cohesion and Structural Funds can go up to 85% in the eligible Member States (cohesion countries), it is capped at 30% in the case of the TEN-T programme for works involving cross-border sections, and 50% for studies. Moreover, while the TEN-T programme is under direct management, which means that the Commission selects projects to be supported in line with TEN-T policy priorities, the Cohesion and Structural Funds are managed under shared management, which means that the transport projects to be financed are actually chosen by the Member States after the Commission agrees to the overall budget of a given programme. This situation has led to a lack of focus in the setting of priorities within the Member States. Consequently, funding has often been spread over too many projects and this has affected the effectiveness and visibility of Community action on TEN-T.

Moreover, the importance of national funding for TEN-T projects and the relatively low rate of Community co-financing available outside Cohesion countries, which does not reflect the real European added value of a project, has often resulted in stronger national priority-setting than EU priority-setting. A dilution in the impact of EU funding occurs when Member States select projects with weak EU added value. Therefore, the lack of integrated funding strategy at EU level, encompassing both Member State and Community contribution and integrating fully private sources, is a major impediment to the completion of the TEN-T network. This situation has to be compared with investment needs, which remain considerable. One study puts the overall cost of completing 50,000 km of road axes and 50,000 km of freight and passenger rail axes at approximately €10bn per year for 25 years.<sup>12</sup>

### **Infrastructure investments are difficult to finance...**

Infrastructure investments needed to create a fluid logistics chain – such as rail, inland terminals, port infrastructure and signalling equipment across borders – are notoriously difficult to finance. Road infrastructure projects and airports that generate significant cash flow are easier to finance. This leaves most of the financing burden on the State and other public authorities. They have difficulty prioritising investments that require multi-annual investment efforts and small returns over periods which may even exceed 50 years, such as in the case of rail infrastructure.

### **The EU contribution has been significant, but limited...**

EU support has occurred so far through EU programmes, mainly grants (TEN-T programme, Cohesion and Structural Funds) or loans and guarantees from the European Investment Bank (EIB) and is expected to amount to approximately 27% of total TEN-T costs for the period 2007-2013 (see table in annex 3). Regarding the present financial perspectives 2007-2013, the EU has made an important effort to concentrate its investments on the Priority Projects and in particular on cross-border sections, bottlenecks and access routes to both such sections. This strategic attention has increased the leverage effect of the TEN-T budget. The multi-annual calls for proposals 2007-2013 confirmed the enormity of the financing needs of project promoters. For Priority Projects alone, the proposals received for the multi-annual program

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<sup>12</sup> Traffic flow: Scenario, Traffic Forecast and Analysis of Traffic on the TEN-T, Taking into Consideration the External Dimension of the Union, Final report, December 2009.

2007-2013 represented a total investment of more than €5bn, and a total requested Community contribution of €1.5bn. The EU budget available for multiannual funding for the Priority Projects was limited to €5.1bn.

### **The role of the EIB has been increasing...**

The EIB has increased its lending activity to TEN-T projects from €7.9bn in 2007 to €11.9bn in 2009, a 50% increase. In addition to EIB loans for TEN-T projects, the EIB participates in several joint initiatives with the Commission, contributing not only funding, but also knowledge and best practice sharing, marketing and administrative support. Although, with the exception of the Loan Guarantee for TEN-T projects (LGTT), not exclusively designed for TEN-T projects, these joint initiatives have assisted in the further development of TEN-T projects either through provision of financing or consultation services:

- Structured Finance Facility (SFF): The purpose of SFF is to create value added by financing riskier parts of selected transactions, particularly important for the financing of construction risks.
- LGTT: An EIB guarantee programme jointly funded with €1bn capital by the EIB and the European Commission. LGTT mitigates the revenue risk in the early years of TEN-T projects that are being financed based on user-pay, (traffic) revenues.
- European PPP Expertise Centre (EPEC): EPEC is a collaboration between the EIB, EU Member and Candidate States and the European Commission which is designed to strengthen the organisational capacity of the public sector to engage in PPP transactions
- Joint Assistance to Support Projects in the European Regions (JASPERS): A joint initiative of the Commission, the EIB, the EBRD and KfW to provide technical and consultative assistance to Member States to improve the absorption of Structural and Cohesion Funds.

The EIB has increased its cooperation with national authorities to set up financing schemes for infrastructure projects. The European coordinators have offered mediation and facilitation support as these contacts have developed. These schemes are based on commitments by national authorities on future financing, both from the national budget and from 'Eurovignette' enabled revenues. The EIB is able to assist in the modelling of such schemes, using their well-developed market survey data, in addition to financial support, when appropriate.

### **Earmarking of transport revenue could be improved...**

The possibilities that the current Eurovignette Directive offers authorities could be better used, as well as the use of any revenue from greenhouse gas emissions savings. They can already now enable cross-financing from revenues from road infrastructure, such as tolls, to investments into infrastructure with higher European added value in terms of economic effectiveness and environmental impact.

### **Public private partnerships (PPP's) have become more important...**

The participation of private firms in infrastructure projects, particularly under Public Private Partnerships (PPP) schemes, has increased recently for delivery of key transport infrastructure. The constraints on public budgets in the aftermath of the financial crisis, has emphasised the reality that public authorities are not in a position to provide for constantly growing infrastructure needs. Consequently many governments pursue the use of alternative models, characterised by increasing the participation of the private sector, with the aim of leveraging the comparative advantage of the private sector to implement infrastructure projects that would otherwise be unaffordable and hence unrealised. The benefits of PPPs go beyond simply mobilising complementary financing sources or shifting financing burden

from taxpayers to infrastructure users in the case of projects financed with user-pay schemes. Partnership models can and should lower infrastructure costs, introduce innovative design and technology, efficient infrastructure management and improved risk management as well as providing appropriate incentives to ensure on-time and on-budget project delivery. Spreading the costs of investment over the lifetime of the asset often allows the investment decision to be brought forward by years. It is the acceleration in the rate of implementation of needed transportation infrastructure in a cost effective manner without compromising on quality that is perhaps the most persuasive feature of PPPs.

However, PPP schemes are complex and more difficult to set up than traditionally procured projects. Successful PPPs require rigorous preparation and planning followed by an often complex procurement process, as well as ongoing contract management once the PPP is established. Also key to successful PPPs are appropriate design output specifications and risk allocation to give private partners the opportunity to generate profit in line with their allocated risks. The promotion of successful PPP schemes has always been an implicit element of TEN-T policy, and for this reason the Commission continues to sponsor the EPEC initiative to help address collaborative approaches to addressing the issues, which have made PPPs complex for the public sector. In addition, in 2007, the Commission took an important step to make it more explicit with the new TEN Financing Regulation 680/2007. The regulation introduced three financial instruments specifically tailored for projects which aim to increase the participation of private capital:

- PPPs for TEN-T projects in which the private sector takes on risk relating to the possible variations in demand (e.g. concessions) often face difficulties in attracting competitively priced private financing. The Loan Guarantee Instrument for TEN-T projects (LGTT) is a guarantee facility which helps by partially covering these risks and therefore improves the financial viability of a project and its overall credit quality. The subsequent savings to the borrower are typically greater than the cost of the guarantee, thereby resulting in a substantial decrease of the overall financing cost. Individual LGTT guarantees are available through the European Investment Bank which is the Commission's partner in this initiative. The instrument was officially launched in 2008 and three PPP schemes have already benefited – motorway schemes "IP4 Amarante – Villa Real12" and "Baixo Alentejo" in Portugal, and the A5 Autobahn A-model PPP in Germany. Most of the TEN-T infrastructure currently tendered as user based PPPs are under consideration for the use of the LGTT instrument in order to improve the robustness of the financial structures and attract private financing sources.
- A risk capital participation for investment funds with a priority focus on providing risk capital for TEN projects and involving substantial private sector investment. The Marguerite Fund is a recently established joint initiative sponsored by both private and public sector partners with the aim of investing equity in greenfield transport and energy projects. The Marguerite Fund is expected to be a model for the future: a fund operating on private sector principles for public policy objectives. The leverage effect of investments in such funds are significant.
- Grants for works in the framework of availability payment schemes. This is a scheme that works particularly well for projects in which user-pay financing is less feasible. Under this scheme, construction risk is allocated to the private sector. The private sector is compensated with a payment that commences upon availability of the infrastructure (ie. post-construction). Payment is continued over the useful life of the asset, contingent on the ongoing maintenance of the facility to agreed-upon standards. The private sector has the

incentive to complete the construction quickly, but to a high standard and the public sector is able to spread the cost of the infrastructure over its useful life.

## **10. CONCLUSION**

The Commission launched the TEN-T policy review in February 2009 with a Green Paper on the future development of the trans-European transport network. In order to analyse a number of issues of particular relevance for future TEN-T development, the Commission has also set up expert groups which have been working since November 2009.

## **ANNEX 1: The Priority Projects agreed in Essen, 1994**

1. High Speed Train Combined Transport North South I/A/D  
Brenner axis Verona-München- -Nürnberg-Erfurt-Halle/Leipzig-Berlin
2. High Speed Train Paris-Bruxelles-Köln-Amsterdam-London  
Belgium: F/B border-Bruxelles-Liège-B/D border B  
Bruxelles-B/NL border  
United Kingdom: London-Channel Tunnel Acces UK  
Netherlands: B/NL border-Rotterdam-Amsterdam NL  
Germany: Aachen-Cologne-Rhein/Main D
3. High Speed Train South  
Madrid-Barcelona-Perpignan-Montpellier E/F  
Madrid-Vitoria-Dax E/F
4. High Speed Train East  
Paris-Metz-Strasbourg-Appenweier-Karlsruhe F  
with junctions to Metz-Saarbrücken-Mannheim F/D and Metz-Luxemburg F/L
5. Betuwe line: Combined Transport/Conventional Rail NL/D  
Rotterdam-NL/D border-Rhein/Ruhr (<sup>1</sup>)
6. High Speed Train/combined transport France-Italy  
Lyon-Turin F/I
7. Motorway Patras-Greek/Bulgarian border/ GR  
jointly with the West-East motorway corridor: Via Egnatia Igoumenitsa-Thessaloniki-Alexandroupolis-Ormenio/kipi
8. Motorway Lisbon-Valladolid P/E
9. Cork-Dublin-Belfast-Larne-Stranraer Rail Link IRL/UK
10. Airport Malpensa (Milano) I
11. Fixed Rail/Road link between Denmark and Sweden (Øresund fixed link) DK/S including access routes.
12. Nordic Triangle (rail/road) FIN/S
13. Ireland/United Kingdom/Benelux Road link UK/(IRL)
14. West Coast Main Line (rail) UK



## **ANNEX 2: The Priority Projects added in 2004**

15. Galileo
16. Freight railway axis Sines-Madrid-Paris
17. Railway axis Paris-Strasbourg-Stuttgart-Vienna-Bratislava
18. Rhine/Meuse-Main-Danube inland waterway axis (1)
19. High-speed rail interoperability on the Iberian peninsula
20. Fehmarn Belt railway axis
21. Motorways of the sea
22. Railway axis Athina-Sofia-Budapest-Vienna-Prague-Ntrnberg/Dresden
23. Railway axis Gdansk-Warsaw-Brno/Bratislava-Vienna
24. Railway axis Lyon/Genoa-Basel-Duisburg-Rotterdam/Antwerp
25. Motorway axis Gdansk-Brno/Bratislava-Vienna
26. Railway/road axis Ireland/United Kingdom/continental Europe
27. .Rail Baltica. axis Warsaw-Kaunas-Riga-Tallinn-Helsinki
28. .Eurocaprail. on the Brussels-Luxembourg-Strasbourg railway axis
29. Railway axis of the Ionian/Adriatic intermodal corridor
30. Inland waterway Seine-Scheldt

### **ANNEX 3: The Comprehensive Network and Priority Projects in figures**

Comprehensive Network EU 27, 2020 horizon, estimates for 2007-13

<b>Transeuropean Transport Network</b>	<b>1996 – 1999 EU 27</b>	<b>2000 – 2006 EU 27</b>	<b>2007 – 2013 EU 27</b>
Cost (€billion)	106	302	390
TEN-T Basic Network	5	27	72
– New Member States (EU 12)	101	275	318
– Old Member States (EU 15)			
Community contribution (€billion)			
– Programme TEN-T	2.23	4.43	8.0
– Cohesion Fund	8.23	16.50	34.0
– ERDF (regions convergence )	7.51	8.6	9.0
– EIB Loans and guarantees	26.50	41.4	65.00
Total Community contribution (€billion)	18.06 (17%)	29.53 (9.8%)	51 (13.0%)
– Grants	44.56 (41 %)	70.93 (22.5%)	116 (29.7%)
– Grants and Loans			
Other resources (national)	63.4 (59%)	231.1 (76.5%)	274 (70.3%)

Priority projects (excluding Galileo) 30 priority projects (2020 horizon), estimates for 2007-13

<b>TEN-T Priority projects</b>	<b>1993/96 – 1999 EU 15</b>	<b>2000 – 2006 EU 27</b>	<b>2007 – 2013 EU 27</b>
Cost (€billion)			
TEN-T 30	32.65	93.7	154
– New Member States (EU 12)			16
– Old Member States (EU 15)			138
Community contribution (€billion)			
– Programme TEN-T	1.35	2.80	5.4
– Cohesion Fund	3.83	7.0	12.3
– ERDF	1.46	4.81	4.7
– EIB Loans and guarantees	9.78	16.1	25
Total Community contribution (€billion)			
– Grants	6.64 (20.3%)	14.61 (15.6%)	22.4 (14.5%)
– Grants and loans	16.42 (50.3%)	30.71 (32.8%)	47.4 (30.8%)
Other resources (national)	16.23 (49.7 %)	63 (67.2 %)	106.6 (69.2 %)