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COMMISSION STAFF WORKING DOCUMENT

The New Trans-European Transport Network Policy
Planning and implementation issues

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1. A strategic framework for the trans-European transport network policy

Within a Union of 27 Member States, the internal market can only properly function – and generate further economic growth and prosperity for its citizens – when goods can flow and workers can move smoothly and safely between all regions, on an all-encompassing trans-European transport network. Social and economic cohesion between all regions of the Union territory – including peripheral and ultra-peripheral ones – can only be achieved with efficient transport infrastructure that connects them with each other. The development and progressive completion of a trans-European transport network, as the infrastructure basis for the flows of goods and the free movement of people in the Internal Market, remains therefore a vital policy objective for Europe that will bring together the Western and Eastern part of the Union together, shaping the future Single European Transport Area.

Within the framework of the Europe 2020 strategy, the further development of Europe's transport infrastructure network needs should be geared at the emergence of a resource efficient transport system that builds on innovation and addresses climate change and environmental challenges, as well as territorial cohesion. It should notably be marked by the combination and integration of transport modes as well as broad deployment of traffic management systems within and across the modes to optimise the use of infrastructure. Such a European infrastructure policy should be driven by actual and future transport service needs and support the emergence of innovative infrastructure development that contributes to and enables a clean and low-carbon transport system as well as advanced operational and governance concepts.

Appropriate transport connections to all neighbouring regions, at the Union's vast land and maritime border are vital for the integration of Europe's neighbours as well as Europe's external trade. Strong global competitiveness of the European economy, mobility of citizens and an increasing political weight of the Union require transport infrastructure that links Europe well with the rest of the world.

2. A broad consensus building for the way ahead

The new dimension of the policy framework, notably the need to boost genuine integration in an enlarged internal market, the need to decarbonise transport, Europe's reinforced global role and the global challenge to fight climate change – led the Commission in 2009 to launch a substantial review of the TEN-T policy. For the first time, TEN-T policy has been subject to a broad consultation process which was met with great interest on the side of stakeholders, EU institutions and national authorities at all levels. Two consultation documents published by the Commission in 2009 and 2010 generated a great amount of valuable contributions from stakeholders and public authorities, and thereby decisively contributed to the quality and comprehensiveness of the process.

At the level of TEN-T planning, many respondents clearly support the approach towards: more resource efficiency; the identification of infrastructural needs (removal of bottlenecks and missing links, efficient infrastructure management) from a genuinely European perspective and with a stronger view to meeting service requirements; continuity with past developments in combination with forward-looking technological solutions; strengthening accessibility and enhancing the connection between long-distance and urban traffic; due attention for the specific needs of passenger and freight traffic where necessary. Most importantly, the proposed dual layer planning approach with a comprehensive network and the core network was broadly endorsed – an approach which builds on complementarity between the two layers for the benefit of cohesion, further economic growth and a clean and low-carbon future in transport.

Concerning implementation, respondents place particular importance on the coherence between planning scope and implementation instruments. They highly appreciate past benefits and future potential of European coordinators as an instrument for TEN-T implementation, and they largely share the Commission's ideas about a funding framework that better coordinates resources and builds on innovative instruments where appropriate. Annex 1 includes a summary of the results of the public "Consultation on the Future of the trans-European transport network policy", published in May 2010[1]. The summary results of the public consultation on the Green Paper[2], which was published in February 2009, have been included in the TEN-T policy review – background papers of May 2010[3].

The review process has now entered into its final phase. Following an appropriate impact assessment the submission of a Commission Proposal for new TEN-T Guidelines is expected by mid 2011, which will include provisions for both network planning and implementation, and which will be accompanied by corresponding funding proposals. These proposals will set out an innovative and integrated European framework, bringing more effectively together European and national efforts, infrastructure and transport policy, strategic planning and efficient implementation as well as proposing an investment strategy pooling European and national, public and private sources of funding and financing.

Successes and lessons of the past: A challenging base for the future

A snapshot of the development of the TEN-T and in particular the 30 Priority Projects, gives an ambiguous picture. On the one hand, today’s TEN-T is being implemented: projects such

1 COM/2010/0212 final
2 COM(2009)44 final
3 SEC(2010) 613 final

as the high-speed line PBKAL (PP02), Betuwe Line (PP05), Malpensa Airport (PP10), Øresund fixed link (PP11) and the West Coast Main Line (PP14) have been finalised. Furthermore, numerous sections and large parts of other Priority Projects have been finalised, such as Nürnberg-Munich, Madrid-Barcelona or Milano-Naples, to name a few. However, they are not sufficiently contributing to the deployment of the TEN-T as these sections are not effectively interlinked.

In fact, it appears that today's TEN-T rather consists of an assembly of national sections that are only poorly interlinked. In many cases the cross-border sections, most difficult to realise, are missing. The same applies for some severe bottlenecks across geographical barriers that would link up wider networks on either side of the barrier. However, in this overall picture road, air and to a lesser extent maritime transport, are performing rather well in comparison with rail and inland waterways.

The cross-border sections and bottlenecks that constitute missing infrastructure links in the network are however only a part of the problem. Just as serious is the lack of interoperable networks, which is notably a problem in the railway sector and in the application of intelligent transport systems for all modes of transport. Important interoperability programs have been set up but their implementation is still partial only. ERTMS[4], RIS[5], SESAR[6], VTMIS[7], and ITS[8] (for the road sector) should be deployed at a network-wide scale, in order to optimise the use of the TEN-T.

Furthermore, sets of operational rules and standards, often based on longstanding traditions and legislation of individual Member States, multiply barriers and bottlenecks in the transport system. The effectiveness of huge investments in infrastructure alone could be severely hampered if such rules as train length, axle loads, document handling, language regimes, and so forth are not tackled at the same time.

Finally, the lack of intermodal integration, in particular the absence of integrated physical networks and well-functioning intermodal exchange points, make that capacities for allowing intermodal transport operations to be organised are insufficient.

This leads to a general problem of reliability, insufficient service levels and absence of one stop shop applications. For the Union to benefit from a functional, interoperable and intermodal TEN-T,, the main issues to be addressed are very clear: realise a high quality network in all Member States paying particular attention to cross-border sections, bottlenecks and nodes, facilitating co-modal operations through the integration of all transport modes and a smooth functioning through the harmonisation of the operational rules. Such an integrated approach, would also allow addressing wider transport policy objectives, supporting Europe's resource efficiency and climate challenges.

The efforts put in place by the EU, notably the nomination of European Coordinators to enhance the international cooperation, but also an increased focus on long term support for the most critical infrastructure projects and the implementation of an executive agency, have led to more transparency and are seen to have positively contributed to the development of the

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4 ERTMS: European Rail Traffic Management System
5 RIS: River Information Services
6 SESAR: Single European Sky Air Traffic Management Research Programme
7 VTMIS: Vessel Traffic Monitoring and Information System
8 ITS: Intelligent Transport Systems

trans-European network since 2005. However, the analysis of the European Coordinators and the results of the multi-annual portfolio review both confirm that the progress achieved so far has been so fragmented because of the lack of cooperation and coordination amongst Member States.

It is therefore clear that a business as usual scenario is not an alternative to be considered and a step change is required to deliver a true trans-European network that will be resource efficient, sustainable, safe and secure.

3. The centre piece of the policy: An integrated multi-modal network spanning the continent, triggering further economic growth and competitiveness and mitigating environmental impacts

Two network layers: complementarities and connections

EU institutions and a broad stakeholders' community have supported the proposed dual layer planning approach, consisting of a comprehensive network as the basic layer and a core network, overlaying the latter and representing the strategically most important part of the trans-European transport network.

The comprehensive network would, essentially, result from an updating and adjustment of the current TEN-T and directly reflect the relevant existing and planned infrastructure in Member States. The core network, on the other hand, would be drawn up on the basis of a European planning methodology.

Community instruments – both of financial and non-financial nature – should support the implementation of the core network, where it has the highest European added value. The development of the comprehensive network should also be supported, but with a particular focus on innovative and "intelligent" infrastructure use, CO_2 abatement, safety and security, multi-modal connection as well as access functions. In Member States benefiting from Cohesion Fund, support for infrastructure investments on the comprehensive network should also be possible, as long as core network priorities are properly addressed.

The planning concept of the future Trans-European transport network has been subject to broad discussion – with European Institutions[9] and Consultative Bodies[10], stakeholders, technical experts and not least Member States – since the beginning of the review process in 2009. During this process (involving two public consultations[11] and two large conferences[12]), the approach for the future TEN-T planning has been evolving, and the methodology for the

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9 Council Conclusions of 15 June 2009 on the Commission's Green Paper "TEN-T Policy review – Towards a better integrated TEN-T at the service of the common transport policy"; European Parliament Resolution of 22 April 2009 on the Green Paper on the future TEN-T policy;

10 Opinion of the European Economic and Social Committee on the Green Paper "TEN-T Policy review – Towards a better integrated TEN-T at the service of the common transport policy", adopted on 30 September 2009; Opinion of the Committee of the Regions "Green Paper TEN-T – a policy review, adopted in the Plenary Session on 5 – 7 October 2009

11 Results of 2009 consultation on the Green Paper published in SEC(2010) 613 final; Results of 2010 consultation included in Annex 1

12 TEN-T Days 2009: The future of Trans-European Networks: Building bridges between Europe and its neighbours in Naples, Italy, on 21-22 October 2009 and TEN-T Days 2010: Trans-European Transport Networks: Drawing up the EU Core Network for an integrated, efficient and environmentally friendly transport system, in Zaragoza, Spain, on 8-9 June 2010

two network layers has gradually taken shape. In accordance with the Council Conclusions of 15 June 2009, Member States' experts have been involved in this work – notably via the work of expert groups[13] and the Committee for monitoring the Guidelines and exchanging information.

With the present Working Document, the Commission services present a possible methodology for the establishment of a "coherent priority network" (i.e. the core network) as it was called on in the Council Conclusions of 15 June 2009 (see Annex 2).

The comprehensive network: accessibility for citizens and economic operators and broad base for an efficient, safe and sustainable transport system

The comprehensive network should ensure accessibility of all regions of the Union. It is expected to include road, rail, inland waterways, maritime and air infrastructure network components, as well as the connecting points between the modes. It should feature minimum infrastructure standards, to be set out in the TEN-T Guidelines, and aim at interoperability wherever necessary for seamless traffic flows across the network. All European citizens and economic operators would then be able to access the core network, via this comprehensive network, at comparable terms.

Its planning would be brought forward in cooperation between the Commission and Member States, pursuant to the rule that any project of common interest relating to the territory of a Member States requires the approval of the latter.

The core network, which would include "selected" infrastructure from the comprehensive network, would therefore be necessarily in accordance with Member States infrastructure development plans.

The core network: supporting key traffic flows across the EU

The multi-modal core network, should enable a concentration of trans-national traffic and long-distance flows – both for freight and passengers – and, as a result of their integration, provide for a highly resource efficient infrastructure use. Innovative information and management systems that form part of the network, would support logistic functions, inter-modal integration and sustainable operation in order to establish competitive door-to-door or, at least, terminal-to-terminal transport chains, according to the needs of the users.

The long-term concept of the core network should be established on the basis of a planning methodology which, besides trans-national traffic flows, takes account of criteria such as territorial cohesion and economic development, spatial planning, environmental and climate change objectives (including adaptation) as well as connections to neighbouring countries. It should be formed of nodes and multi-modal links between these nodes. Nodes should encompass selected urban nodes, economic centres and major connecting points between modes, including core network ports and airports that should have such multimodal links. These links should rest on the corresponding infrastructure – as a general rule road, rail and inland waterway – established in the comprehensive network.

[13] Final Report of Expert Groups published on the internet site: http://ec.europa.eu/transport/infrastructure/tent_policy_review/expert_groups/expert_groups_en.htm

While representing the long term infrastructure ambition for Europe, the Core Network should also be set up to make available in the short and medium term the infrastructure needed to serve the internal market. In most cases the Core network should therefore be formed of existing infrastructure. However, missing geographical links, mostly cross-border between national networks and bottlenecks and new infrastructure in the new Member States, as well as missing modal links connecting modes of transport, should equally be a priority under the Core Network.

In the medium term, the priority would therefore not be to make available high capacity links on the entire core network but to adjust the infrastructure capacity to real traffic needs. In that context, increased capacity stemming from modal integration as well as from the intelligent use of the infrastructure through deployment of traffic management systems, will also limit the need to build new and costly infrastructure to the above priorities.

The core network will be subject to an assessment of its economic, social and environmental impact.

The core network: a matter of continuity and innovation

Today, several priorities have been developed under the current TEN-T Guidelines and through corridor concepts like rail freight corridors, ERTMS corridors or "green corridors". The new Guidelines should merge these different concepts into multi-modal corridors. Within this context, the current Project of European Interest "Motorways of the Sea" ought to be a building block of the maritime dimension of the future TEN-T. While ports and their hinterland connections will merge into the multi-modal corridors (notably for freight), maritime corridors between EU ports will be important infrastructure components, subject to relevant transport policy objectives (such as maritime safety).

The whole core network should be subject to advanced traffic management solutions within and between the modes. Standards would need to reach a high level and go beyond the minimum, as ensured in the comprehensive network: core network infrastructure – and the selected core network corridors in particular – could notably be subject to enhanced technological and environmental standards.

This applies also to air transport and the air traffic management infrastructure addressed in the Single European Sky (SES), including its gate-to-gate approach. The Single European Sky Research Project (SESAR) will play a vital role in order to ensure a high degree of efficiency and sustainability of air transport and shall constitute an integral part of the Core Network. Air transport infrastructure is an indispensable component of the multi-modal TEN-T that contributes to enabling transport chains for passengers and, increasingly, for high-value freight. Within the multi-modal TEN-T, it is particularly important for external transport connections as well as for ensuring access to peripheral and ultra-peripheral regions.

The core network: a matter for efficient preparation and binding implementation

TEN-T infrastructure is planned and built by Member States, in accordance with their national planning and on the basis of their relevant procedures. This entails that, in planning and implementing TEN-T projects, Member States have to comply with relevant Union legislation – notably in the fields of environmental protection and transport policy. For the planning of the network as a whole, it is of particular importance to assess the environmental effects at a

strategic level. In this respect, Member States have the obligation to comply with Directive 2001/42/EC on Strategic Environmental Impact Assessment[14]

The core network should be given a prescriptive status. For this purpose, Member States and the Union would agree on common provisions to ensure that all projects contributing to the completion of this core network are implemented within the foreseen period of time.

Building and maintaining transport infrastructure is extremely costly, and considerable amounts of money need to be mobilised. In line with the Union's "Europe 2020" Strategy, the Commission is working on a funding framework that will help pull together EU, national and private funding. This funding framework will better coordinate the available sources of financing and simplify their use in line with the Financial Regulation. The Commission has started an in-depth analysis on how to better coordinate the Cohesion and Structural Funds with the transport policy objectives, aimed at tackling the lack of a truly European single transport network. Equally important is the consistency between funding priorities between at EU and national levels. This framework should therefore provide guidance to national investments on the basis of EU priorities and could comprise other sources of funding, such as revenues from transport activities.

As a general rule, the infrastructure of highest strategic importance for the trans-European transport network and the European transport system as a whole, as it is concentrated in the core network, should be given priority for implementation. At the same time, the need to complete, mostly in the new Member States, the comprehensive network that ensures access to the Core network cannot be ignored and should be continued.

In order to generate effective progress in the short and medium term, existing infrastructure needs to be used as efficiently as possible. A number of multi-modal corridors should be selected on the basis of pre-established criteria. Infrastructural projects, of smaller or larger scope as appropriate (e.g. removal of bottlenecks, interconnection of modes, filling of missing links, intelligent and innovative solutions for greener, safer and more efficient transport) should be identified and coordinated along the whole corridor, with a view to ensuring sufficient capacity and good quality at any point in time.

To achieve this objective, a number of issues should be dealt with at corridor level, which should correspond to the main traffic flows across the EU.

4. Implementation of the Core network and corridor approach

The corridor approach as an instrument for core network implementation

Designing the right governance structure and identifying the sources of financing for complex cross-border projects is a problem that applies to all Member States. Therefore, organising the coordination structures for such projects – or corridors – could help to resolve the various problems, ranging from getting a proper environmental impact assessment, both at strategic and project level, done to the arrangement of appropriate financing.

These "corridor" structures could bring together the Commission, Member States, the regions, the local authorities, neighbouring countries where appropriate, but also the infrastructure

[14] Directive 2001/42/EC of the European Parliament and the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197, 21.7.2001, p. 30-37

managers, transport operators, and of course the financiers. They could facilitate the creation of Special Purpose Vehicles, anchors of any financing arrangement, which could take loans or issue project bonds to finance partly or fully the cost of construction.

For the most important traffic flows, corridors would be determined top-down starting from important entry points into the network, integrating the main cross-border sections and physical bottlenecks still to be realised.

Corridors would be set up under the aegis of a European Coordinator with a Commission services' secretariat.

Corridors could be accompanied by a Multi-annual corridor Development plan that should identify, within a binding timetable; the major investments needed and smaller scale short term improvements that address interoperability and operational bottlenecks. Such Development plans could facilitate long term availability of public funding and would allow creating and implementing at project level the synergies and added value between EU funds, between EU and national sources of funding.

Beyond these development objectives, the Corridors could also address wider transport policy objectives facilitate modal integration and co-modal operations. Shippers and transport operators should be involved and commit themselves to reducing their carbon and environmental footprint on operations using the corridor.

Permit granting procedures

Today, between the moment that the initial design of a project is at the drawing table and the execution of that project is launched, so many years are passing by that projects that were judged indispensable at the beginning may look redundant or overhauled when the works start. In many cases, the studies phase takes twice as long as the construction phase. This can lead to acceptance problems which sometimes become really conflictual: projects which are approved after having made the whole procedural cycle are challenged because those involved directly feel not consulted, simply because the procedures took years or even decades.

The problem appears to be twofold: on the one hand there are the time limits for completing the whole cycle of procedures and on the other hand the communication that is felt to be insufficient in many cases. Both should go hand in hand really. Procedures should be allowed to be completed including the necessary consultation in compliance with the EU acquis, and, at the same time, public interest should lead to a continuous communication that implies a true involvement and would avoid the problems described.

Without prejudice to the subsidiarity principle, the Commission services are considering measures applying to the Core Network and projects on the selected Corridors to streamline, better coordinate and improve the current process while respecting safety and security standards and ensuring full compliance with the EU environmental legislation. The aim of these procedures would be to ensure the timely implementation of the identified infrastructure projects. They would provide transparency for all stakeholders involved and facilitate participation of the public in the decision-making process by ensuring open and transparent debates at local, regional and national level to enhance public trust and acceptance of the installations.

Improved decision-making could be addressed through the establishment of a contact authority ("one-stop shop") per project of European interest, the introduction of an indicative, best endeavours time limit for a final positive or negative decision (to be taken while fully respecting relevant law), the development of guidelines to increase the transparency and predictability of the process for all parties involved, the possibility of providing rewards and incentives, including of a financial nature, to regions or Member States that facilitate timely authorisation of projects of European interest.

The commission recalls that the introduction of co-ordinated or joint environmental assessment procedures of plans and projects (e.g. between the EIA, water framework and habitats/birds directives) could facilitate their implementation. Such co-ordination and joint procedures are especially relevant in the case of transboundary projects where EU co-ordinators could have an important role.

ANNEX 1

Report on the Commission Working Document "Consultation on the Future Trans-European Transport Network Policy"

Introduction

The Commission launched the review process of the Trans-European Transport Network (TEN-T) policy with the Green Paper in February 2009. Taking account of the reactions of more than 300 stakeholders and of EU institutions and consultative bodies to this Green Paper, the Commission has deepened a range of specific issues with the assistance of external experts in six Working Groups. The results of this working phase were summarized in a Working Document which invited stakeholders and institutions to express their views in a second public consultation: on 4th May 2010, the Commission adopted the Commission Working Document "Consultation on the future Trans-European transport network policy" (COM (2010) 212 final). Besides a number of issues related to general policy objectives and project implementation, the consultation document put particular emphasis on the methodology for the planning of the future TEN-T.

The focus of the methodological part was laid on the concept of a dual layer approach, which was widely agreed upon in the consultation of the Green Paper in 2009:

- the Comprehensive Network as a broad reference for Community legislation and technological innovation and as a means for further promoting territorial cohesion and ensuring access, and

- the Core Network as the carrier of the strategically most important transport infrastructure. This Core Network should cover major nodes (cities, agglomerations, ports, airports and intermodal platforms) and links, integrate all transport modes and enable sustainable, efficient, safe and secure transport services across the modes for passengers and freight flows. It should build on past decisions and achievements (such as in the areas of the 30 TEN-T Priority Projects, major European projects for intelligent transport systems or interoperability), strengthen the link between the Community's transport and infrastructure policies and be open for technical, technological and organisational innovation.

To stimulate the effective and timely implementation of such a Core Network, it was considered to be essential to concentrate relevant instruments, both financial and non-financial. The consultation asked which measures are appropriate to achieve this goal.

The results of the consultation should support the Commission's work towards the elaboration of relevant legislative and non-legislative proposals. A key proposal shall be new TEN-T Guidelines, foreseen to be presented in spring 2011, which will include the trans-European network based on the methodological approach presented in the Commission Working Document.

The contributions to the Commission Working Document were requested by 15th September 2010.

By organising an open consultation, the European Commission sought the opinion of organisations involved in the TEN-T programme on a review of the current TEN-T Policy. In

the public consultation a broad range of organisations, public authorities and citizens from EU Member States and outside the EU participated. Altogether, the European Commission received around 230 contributions. The contributions respond to all or parts of the seven questions posed in the Commission Working Document, but several go beyond these questions and raise new issues and ideas. The Commission welcomes 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 social partners.

This report is intended to be a reflection of what has been received by emails and letters; according to the structure of the Commission Working Document this report is structured as follows:

(1) in a first part it provides a statistical overview,

(2) in a second part an overview on contributions concerning general questions is given,

(3) in the third part contributions concerning the TEN-T implementation are presented,

(4) in the fourth part the comments on the legal and institutional framework of the TEN-T policy review are summarised,

(5) followed by the revised approach for the planning methodology and

(6) a presentation of the contributions received which address a revision of the Motorways of the Sea concept,

(7) in the last part some overall conclusions for the TEN-T policy review are drawn up.

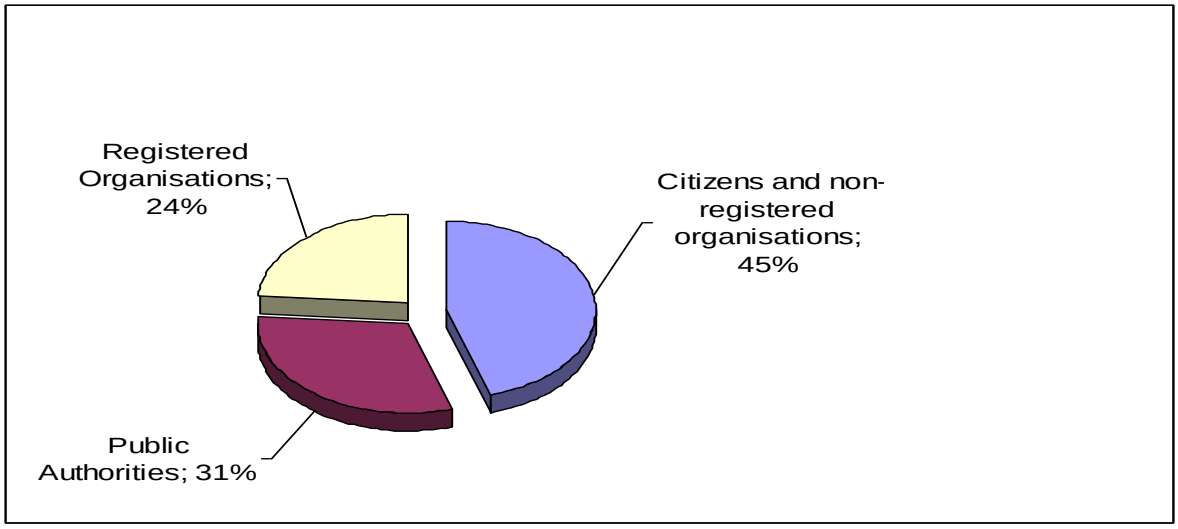
The ideas put forward in the various contributions are summarised in chapters 2 to 4 without any interpretation. Opinions outlined in the report do not represent the views of the Commission. This summary cannot present each of the individual views and opinions, but details can be found by reference to the various contributions published on the website. It is intended solely to assist interested stakeholders to obtain an overview of the results of the consultation.

1. Categories of respondents

The European Commission received 228 replies via E-Mails or letters. For the purpose of analysis, the answers have been grouped as follows:

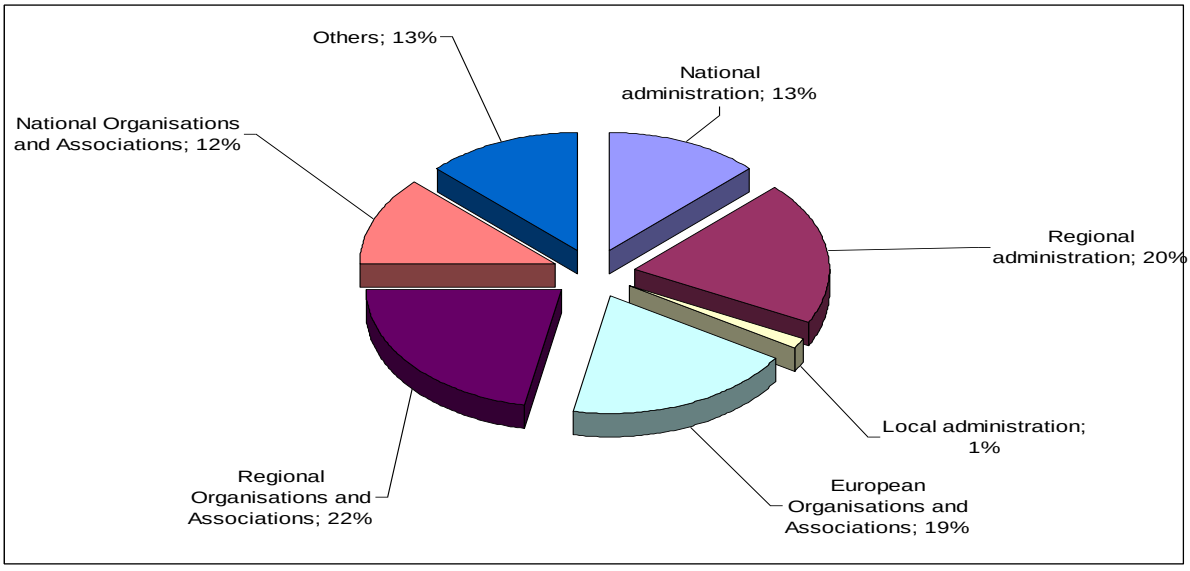
A: By European Status

Citizens and non-registered organisations	103
Public Authorities	71
Registered Organisations	54
Grand Total	**228**



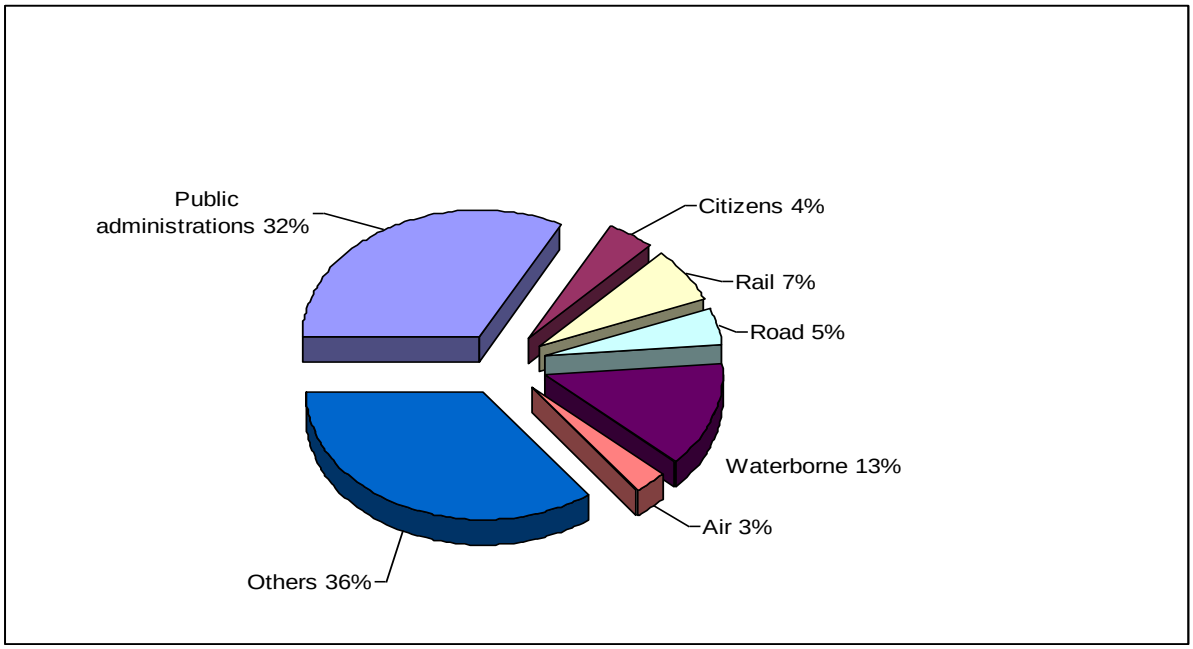
B: By type of organisation

National administration	29
Regional administration	45
Local administration	3
European Organisations and Associations	44
Regional Organisations and Associations	50
National Organisations and Associations	28
Others	29
Grand Total	**228**



C: By Sector of Activity

Public administrations	74
Citizens	10
Rail	16
Road	11
Waterborne	30
Air	7
Others	80
Grand Total	**228**



2. Analysis of the contributions concerning the general policy

It is widely agreed that TEN-T network should be developed in a sustainable way with regards to decarbonisation. In this respect, several contributors are also calling for a policy to enhance economic growth, cohesion and job creation by

- promoting less energy demanding transport modes,
- introducing new technologies including use of new energy sources,
- promoting intermodality with a focus on rail-, waterborne transport,
- internalisation of external costs ("polluter pays principle").

Some contributors, especially from environmental organisations, some Member States, rail companies/infrastructure mangers and contributors from the waterborne transport sector call for a stronger priority to rail and waterborne transport as low-carbon transport modes. For the rail sector, a balanced approach on the development of existing and new conventional and high-speed rail is asked for.

The environmental organisations point out that in the current funding period (2007-2013) less then 1/3 of the EU funding for transport infrastructure in the new Member States is foreseen to be invested in railway infrastructure and only one-tenth in urban public transport, while 55% goes to road construction (including motorways, national, regional and local roads). They call for a change especially in favour of rail transport.

Some environmental organisations want to focus on "smart growth" which includes in their view the reduction of unsustainable emissions, costly congestion and less road accidents for a more energy efficient and cleaner transport.

Many contributions, notably institutional stakeholders (e. g. Member States, regional administrations, local employers associations), stressed the importance of ports in connecting the future Core Network to the global market.

One additional point was made on a focussed implementation of high-speed rail as a lesson learned from the ash cloud crisis.

A few sectoral contributions focus on the improvement of road transport, for example to support maritime transport in order to combat congestion, push economical growth and the competitive position of this sector.

A number of special-interest groups used the consultation to put forward their views on specific corridors and projects, which according to them, should be taken into account in the discussion on the TEN-T policy and the development of the TEN-T network.

3. Analysis of the contributions regarding the TEN-T implementation

The Commission Working Document stated that the scope of network planning and the means and instruments for its implementation must be as effective as possible. In order to allow implementing the projects with the highest European added value, it was considered to be of great importance to define the way those projects are identified and to implement them in a

coordinated way. The contributions adressed several aspects namely on the improvement of the implementation, funding aspects and the role of the Coordinators.

Better implementation

The question how to improve the implementation of projects was addressed by several contributors. The need to focus national funding especially on investments in the Core Network and on cross-border projects was pointed out. The role of bi- or multilateral agreements was emphasised in this context. In order to enhance the effectiveness of TEN-T projects' planning, financing and implementation, the future Guidelines should include provisions inviting the Member States concerned to conclude relevant agreements.

Knowing that the implementation of large infrastructure projects usually takes longer than a funding period and sometimes the national commitment is subject to changing political majorities some contributors asked for individual project contracts setting project design, mandatory implementation deadlines and financing shares for the whole implementation cycle, which might go beyond the usual 7 years budgetary planning period. These contracts should ensure a higher commitment of all project partners such as the European Commission, Member States, regional authorities, operators, infrastructure managers, EIB, ERBD, private investors.

Some environmental organisations judge the TEN-T policy goals being inadequate to deal with climate change goals and Europe 2020 strategic objectives. They criticise a lack of demand-side measures and investments into the maintenance of the network. Additionally, they recommend the execution of a SEA or "SEA-like process" of the entire TEN-T network not only with regards to biodiversity and NATURA2000 but also to the contribution of the planned measures to decarbonisation, the compliance with the Europe 2020 goals and to spatial planning (e.g. eliminating noise, fragmentation) to facilitate the implementation.

The corridor approach including high-speed rail, ERTMS-, green- and freight corridors into the Core Network and a joint management involving infrastructure mangers is seen as key for the development of TEN-T by some contributors.

Specific attention should be given to the introduction of standards (safety, security, passenger rights, environmental, social).

Funding and Financing

The majority of contributors, especially at Member State and regional level, support better coordination between different financial instruments that fund TEN-T at Community level, namely Cohesion and Structural Funds (CSF), research funding, the TEN-T programme and the EIB's interventions. However, there is little support for the idea of merging the TEN-T programme and the part of CSF funding transport investments in a single fund. Some reject it as immature and putting transparency at risk, while some Member States emphasise the need to focus on the development needs of cohesion regions. One Member state asks for clarifying the role and the goals of the different funding instruments available. One environmental organisation sees the possibility of a merging the different funds as a possible chance to achieve climate change goals and to assure greater coherence of the different projects.

There is strong support among the respondents, including some Member States, for the idea of an integrated financial framework, guiding investments in TEN-T across the different funding

instruments. Such a framework could contribute to an optimisation of the use of EU funding and remove the confusion that is sometimes felt when it comes to EU support. Moreover, a funding strategy should aim at better coordinating the available sources of financing and concentrating available EU resources on projects of strategic importance and high European added value. The support for an integrated financial framework goes often together with the emphasis on demonstrating stronger EU added value for projects financed with EU funds, i.e. focus on the Core Network on cross-border projects. The concept of EU added value should be objective, clear and transparent, with considerable attention paid to the cross-border aspect (at both internal and external borders).

There is support for maintaining the option of co-financing different parts of big infrastructure projects from different sources (e.g. CSF and TEN-T). Some support the idea of increased co-financing when the projects considered make a particular contribution to environmental or innovation objectives.

There is limited support for generating additional sources for funding from infrastructure charges or revenues from emission trading schemes and earmarking them to be reinvested by the Member States for their infrastructure. However, some Member States support the reinvestment of all revenues coming from the application of Eurovignette in the transport field, while tolls and revenues generated by road transport should be entirely earmarked to transport investments and not destined to other purposes. Some local authorities are in favour of introducing congestion charging. Some Member States feel that user financing is also an important way to generate revenue for national infrastructure investments and at the same time internalise external costs caused by transport.

Although, most Member States clearly point out that planning and implementation has to be done by them, some associations and European organisations prefer a centralised approach led by the EU level.

There is a wide range of diverse proposals concerning the focus future funding should have:

- focus on cross-border sections or – in other contributions - on sections crossing natural barriers,

- focus on projects of strategic importance and high EU added value (e. g. projects being part of several TEN-T sections/ nodes and/or connecting TEN-T with regional feeder and distribution networks),

- focus on demand management projects, like road pricing schemes and traffic avoidance projects,

- focus on low-carbon energy infrastructure and projects to improve transport efficiency,

- focus on existing infrastructure and capacities (e. g. upgrades, maintenance) and less focus on building new infrastructure.

A contributor from the private sector reminds of possible distortion of competition effects which have to be checked in advance. Others are calling for an approach also including important sections of Trans-European axis within a Member State, especially in transit countries. One proposal comments the different cost-benefit analysis and calls for a common

approach for assessing them. One Member State is also asking for funding possibilities for maintenance of existing routes.

As regards the role of public-private partnerships (PPP), contributions are contrasted: some appreciate the "just-in-time, just-in-cost" contribution to infrastructure investments and therefore propose the promotion of PPPs, while others see private involvement in infrastructure development as problematic because of the inherent risks to be borne by public administrations (e. g. difficult negotiations to conclude contracts, possibly higher investments costs, financing risks). PPPs do not make extra money available, but help spread out the payments over a longer period of time. Therefore PPPs are seen as useful for very specific sections, but could neither be a systematic solution nor an alternative to the scarcity of public funds.

One contributor proposes coordination and grouping of the EU funding for financing Priority Projects and calling for an adjustment of time horizons of the EU programmes and funding schemes to pay attention to the more long-term planning horizons and implementation horizons of the projects to gain security for planning and financing.

Role of the EU-Coordinators

Several contributers highlighted the role of the European Coordinators for major cross-border projects: they facilitated the implementation and worked as catalyst. Some agreed on extending their mandate to cover also “packages” of smaller infrastructure and operational measures on a corridor basis. Some suggested appointing an EU-Coordinator for each priority axis. Environmental organisations proposed additionally that the Coordinators should ensure that high quality SEA or "SEA-like process" should be carried out for all international corridors to safeguard the protection of biodiversity and good living conditions. One MS emphasised that the concrete mandate for "packages" should be defined together with the MS concerned. One MS asked for a European Coordinator for the Baltic Sea Region.

4. Analysis of the comments on the legal and institutional framework of the TEN-T policy review

There are only few contributions commenting on the questions which way to follow on the legal basis and the institutional framework. Some are proposing a combination of the current TEN-T guidelines and the financial regulation in a single document others do not see the need to change existing legal instruments. The legal instrument framing the future TEN-T policy should be binding, but should not lead to transfer additional competence from the Member States to the EU. Some contributions include an appeal to reduce bureaucracy and red tape.

5. Analysis of the contributions regarding the planning methodology

Regarding the network planning methodology, the dual layer approach with the Comprehensive Network as a broad reference basis for Community legislation and the Core Network as a carrier of the strategically most important transport infrastructure was widely accepted, with some additional proposals. There are some contributions calling for more flexibility, others pointing to a lack of concreteness and practical applicability. Some plead for a stronger role for ports, some for more emphasis to peripheral regions, some for focusing on traffic volumes.

A number of contributions point to the different needs of passengers and freight and also a different geographical pattern of nodes for passengers and freight. Nodes should not be understood only as urban but also as mining or industrial clusters. With respect to nodes, the importance of multimodality is stressed in many contributions. There are also a few reflecting on the classification of urban nodes, with particular reference to the ESPON concept of "MEGAs" (Metropolitan Growth Areas) and "FUAs" (Functional Urban Areas).

While some contributions point to the importance of border-crossing sections, others emphasize the European added value also of national sections. There should be no preference for a particular geographical orientation of the links. For defining the threshold of long-distance transport, one of the contributions proposes to use NUTS 2 classification, which would best reflect different space structures and population densities in different parts of the Union.

Commission's proposed approach of connecting the TEN-T and networks in the European Neighbourhood countries, is welcomed both by public authorities and industry representatives as a means to enhance the economic development of the EU's neighbours. Several contributions emphasise the importance of the core network connecting with the transport networks of EU neighbouring countries, especially its Eastern neighbours that are transit countries for freight flows to Europe.

Environmental aspects play an important role as well. While there are some contributions pointing to the fact that sustainability should also be understood in its economic and social dimension, there is also some emphasis on climate change issues and environmental protection. EU funding should be made fully conditional upon maximum effort to avoid areas of high nature and biodiversity value.

Regarding supplementary infrastructure, an extension of the understanding of "new technologies" beyond traffic management was brought up, mainly to tracking and tracing, the quality of service, propulsion technologies, security, maintenance and others. Including ITS (ETRMS, telematic tools …) into the Core Network to support conventional infrastructure is a major concern. ITS and ICT could be a good supplement to classical infrastructure investment, to boost energy efficiency and environmental sustainability.

With respect to the Europe 2020 strategy, contributions focused on issues like removing of bottlenecks and improving cross-border sections, supporting the deployment of new technologies, making freight corridors more efficient and sustainable, to achieve the 20/20/20 climate and energy goals.

6. Revision of the Motorways of the Sea concept

The revision of the Motorways of the Sea concept was not explicitly raised in the Commission's consultation document. Nevertheless, a large number of stakeholders with a direct or indirect stake in the promotion of maritime transport used the opportunity of the consultation to express their views on the role of the Motorways of the Sea in the European transport policy and on its implementation. Stakeholders which contributed to the consultation include Member States, neighbouring states, (associations of) regions, (associations of) ports or port cities, (associations of) maritime or logistics operators and representatives of research and study projects. They expressed almost unanimously support for the Motorways of the Sea concept. They also supported the integration of Motorways of the Sea into the TEN-T

network at a level which goes beyond the mentioning of the concept as one out of 30 Priority Projects.

Many stakeholders advocated that Motorways of the Sea should be part of the TEN-T Core Network, setting the underlying framework (Sea, Ports and Hinterland connections) for the maritime transport network of the European Union: some emphasised the intermodal nature of Motorways of the Sea, arguing that Motorways of the Sea should go beyond the port-to-port connections and encompass the hinterland connection as a natural continuation of the maritime transport flows. In this context, certain stakeholders made the link between the Motorways of the Sea and the application of ITS technology in support of the integration of various transport services which form part of logistical chains within transport corridors.

With respect to the scope of the Motorways of the Sea, certain stakeholders went as far as labelling the Motorways of the Sea as the maritime dimension of the TEN-T network. Many qualified the external dimension of the network (including the northern dimension) as a very important part which will contribute to trade facilitation and political regional integration. Others argued that Motorways of the Sea links should be based upon real maritime routes, possibly examined at the level of a sea basin.

A number of stakeholders specifically pointed to the potential of Motorways of the Sea to lower transport costs and to reduce CO2 emissions. As such, Motorways of the Sea are often cited in conjunction with green corridors, and the use of LNG as an alternative to marine bunker is cited as a promising development.

Stakeholders have also expressed their views on the implementation of the Motorways of the Sea concept. They considered the current implementation mechanism gives rise to fragmentation of funding associated with complexity and unnecessary bureaucracy and lack of synergy.

Certain respondents pointed to the friction between the objective of modal shift and cohesion, considering that the cohesion criterion (contrary to modal shift) has proved difficult to be expressed in concrete terms, which has made it difficult to support the contribution of the Motorways of the Sea to the cohesion objective.

A few stakeholders pointed to the ship as a certain type of infrastructure, implying that investments in ships should be included as targets of public financial support. On the other hand, distortion of competition, linked to the provision of public funding in support of Motorways of the Sea services was raised by many stakeholders as a concern that should be addressed in the framework of the review of the concept. Alternative approaches are suggested to address the problem of distortion of competition, for instance by concentrating public support on general infrastructure on the land or by introducing operator-neutral demand stimulation schemes.

7. Conclusions

The public consultation shows a wide range of opinions on the revision of TEN-T reflecting the variety of Member States' and stakeholders' perceptions. Looking for common views shared by several contributors it is widely agreed that

(1) the TEN-T network should be developed in a sustainable way with regards to low carbon transport systems;

(2) the TEN-T policy should enhance economic growth, cohesion and job creation;

(3) the future TEN-T network should include a Comprehensive Network and a Core Network thus the dual layer approach was supported by all contributors commenting on the methodology. There was no single contribution opposing this approach;

(4) including ITS (e.g. ETRMS, telematic tools) and ICT could be a good supplement to classical infrastructure investment, to boost energy efficiency and environmental sustainability;

(5) the TEN-T should include nodes on NUTS2 level which shall also integrate industrial mining or industrial clusters, ports and airports;

(6) the TEN-T shouldl link with infrastructure in the EU's neighbouring countries;

(7) ports should have an important role in connecting the future Core Network to the global market;

(8) a better coordination between different financial instruments funding TEN-T at Community level like an integrated financial framework could improve implementation and performance;

(9) European Coordinators for major cross-border projects facilitated the implementation and worked as catalyst. The extension of the mandate to cover also “packages” of smaller infrastructure and operational measures on a corridor basis is seen as an option to improve implementation;

(10) the ongoing revision of the Motorways of the Sea concept shall be integrated as part of the revised TEN-T policy with special criteria being developed.

ANNEX 2

The planning methodology for the trans-European transport network

This Annex sets out a possible planning methodology for the new trans-European transport network (TEN-T). The future TEN-T is planned to feature a dual layer network structure, comprising a comprehensive network and a core network. This dual layer approach was supported by two public consultations and by the results of the work of external expert groups as referred to above, as well as of several specific studies, in particular: the "TEN-T Planning Methodology" and "Ports and their Connections within TEN-T".

The objective of this Annex is to describe in detail the suggested criteria, in which the Commission services are considering for shaping both layers of the future TEN-T. The ideas draw on the observations made by the above-mentioned sources and helped to steer the debate on TEN-T revision. These criteria and their impacts will be assessed in the context of the review of TEN-T policy and TEN-T guidelines proposal scheduled for mid-2011.

1. The Comprehensive Network

The comprehensive network would represent the basic layer of the TEN-T and include components for all transport modes – rail, road, inland waterway, air and maritime as well as their connecting points and corresponding traffic information and management systems.

The comprehensive network would, essentially, result from an updating and adjustment of the current TEN-T, as defined in Decision N° 661/2010/EU of the European Parliament and the Council of 7 July on Union guidelines for the development of the trans-European transport network.

Updating and adjustment would need to abide by a number of rules. The Commission services are considering rules that would:

- Update the current TEN-T to reflect progress in its implementation and adjust it where necessary to changes in national planning, in coherence with EC planning;
- Add selected and well-defined missing links and nodes, especially in Member States which have acceded the EU since 2004, where necessary to ensure a homogeneous network planning, a sound modal balance and the interconnection of national networks, and to contribute significantly to TEN-T objectives. Special attention should be given in this context to network density which in principle should correspond to NUTS 2 zones[15] and reflect spatial distribution of population and of economic and industrial activities.
- Eliminate dead ends and isolated links in the current TEN-T if not justified by geographical particularities.

[15] Regulation (EC) N° 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS), http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction

- Ensure that minimum standards for infrastructure and equipment are met in accordance with relevant legislation currently in place (e.g. rail interoperability, road tunnel safety, inland waterway categorisation).
- Revise the selection of seaports according to at least one of the following specific criteria:

Passenger transport: seaports connected to the land component of the comprehensive network with an annual traffic volume exceeding 1‰ of the total annual EU maritime passenger traffic. This annual traffic volume should represent the average of the latest three-years totals for which data are available from EUROSTAT[16].

Freight transport: seaports connected to the land component of the comprehensive network with an annual traffic volume – either for bulk or non-bulk cargo handling - that exceeds 1‰ of the corresponding total annual cargo handled in EU ports. This annual traffic volume should represent the average of the latest three-years totals for which data are available from EUROSTAT[17].

Seaports located on islands, on condition that they are open for commercial traffic and provide accessibility at NUTS 3 or archipelagos level.

Seaports located in outermost regions or peripheral areas, provided that they are open to commercial traffic and their distance from another TEN-T port is at least 200 km.

- Revise the selection of airports according to the following specific criteria:

Passenger traffic: Airports with an annual traffic volume exceeding 1 ‰ of the total annual EU air passenger traffic. This annual traffic volume shall represent the average of the latest three-years totals for which data are available from EUROSTAT[18].

Freight transport: Airports with an annual traffic volume exceeding 2 ‰ of the corresponding total annual cargo handled in EU airports. This annual traffic volume shall represent the average of the latest three-years totals for which data are available from EUROSTAT[19].

Airports located on islands, on condition that they are open to commercial traffic.

Airports located in peripheral or landlocked areas, provided their distance from another TEN-T airport is at least 100 km or, in case they are connected to a high-speed railway line, at least 200 km.

- For inland ports, the volume threshold set out in Decision N° 661/2010/EU would remain unchanged. Inland ports must be open to commercial traffic, located on a TEN-T inland waterway and be interconnected with other TEN-T road or rail infrastructure.
- Add a network component consisting of multimodal platforms which must be provide free access to any logistics operator. These platforms would fulfil one of the following specific criteria:

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16 For the elaboration of the new TEN-T proposal, the Commission will use the data for the years 2006, 2007 and 2008. In absolute terms, this initial threshold amounts to 411223 passengers per year.

17 For the elaboration of the new TEN-T proposal, the Commission will use the data for the years 2006, 2007 and 2008. In absolute terms, this initial threshold amounts to 2434402 tons per year for bulk cargo and 1341406 tons per year for non-bulk cargo.

18 For the elaboration of the new TEN-T proposal, the Commission will use the data for the years 2006, 2007 and 2008. In absolute terms, this initial threshold amounts to 780810 passengers per year.

19 For the elaboration of the new TEN-T proposal, the Commission will use the data for the years 2006, 2007 and 2008. In absolute terms, this initial threshold amounts to 24456 tons per year.

The multimodal platform constitutes the main platform of a NUTS 2 region and is connected to two TEN-T modal network components.

Multimodal platforms may be included in the network in a NUTS 2 region, provided their transhipment volume exceeds 1 % of the total national volume.

The multimodal platform is connected to three out of the five TEN-T modal network components (land transport modes, air and sea).

The multimodal platform serves a primary or secondary node of the TEN-T core network (see point 2 below).

2. The Core Network

The core network would be a subset of the comprehensive network overlaying it, to represent the strategically most important nodes and links of the trans-European transport network. It would be multi-modal – i.e. include all transport modes and their connections as well as relevant traffic management systems, and the infrastructure included in this network shall be a subset of the comprehensive network.

The draft planning steps and criteria set out below aim at selecting nodes and links which serve passenger and/or freight traffic. Steps 1 to 3 should be carried out separately for passengers and freight.

2.1. Possible Components and Planning Steps

(1) Identification of "primary nodes":

These are the nodes (cities, conurbations, airports, ports etc.) of highest strategic importance in the EU – either for passenger traffic, or for freight traffic or for both types of traffic. They will be identified at the very beginning of the planning process and define the overall Core Network configuration.

(2) Identifying the links between the "primary nodes" and determining "secondary nodes":

The “primary nodes” will be connected through multimodal links. The branching and/or crossing points, resulting from such combination, may turn into “secondary nodes”, provided they represent adequate cities and/or multi-modal connections.

(3) Routing of links and identification of "tertiary nodes":

To optimise the effectiveness and efficiency of the Core Network, the multi-modal links will also string smaller cities and connections between modes where appropriate. Such cities and connecting points will become "tertiary nodes".

(4) Merging the network parts for passengers and freight to the Core Network:

As an intermediary step, the two components would be overlaid. This would then be followed by a detailed investigation of a possible superimposition of passengers' and freight traffic. Which links are dedicated passengers’ or freight lines, and which ones will be foreseen for mixed traffic would then be decided on this basis.

Technical infrastructure parameters of the Core Network nodes and links (including their equipment with smart infrastructure for traffic management) would be determined depending on the respective service requirements in relation to traffic demand (traffic volumes, shares of passengers and freight traffic, distribution of transport distances, requirements regarding transport times).

The "Motorways of the Sea", which are the maritime dimension of the TEN-T, would be connected in the ports selected as "primary nodes" of the Core Network. They should also provide the connection to insular states and/or a maritime alternative to land transport.

2.2. The Nodes of the Core Network

In the framework of this dual layered approach urban nodes (notably "primary" and, depending on their size, also "secondary") would play an important role within the multimodal Core Network, with regard to their infrastructure both for passengers and for freight Apart from their wide range of economic, social and cultural functions, for the Union's transport system, they are particularly relevant in the following respect:

- they accommodate network links – both of the core and the comprehensive networks;
- they interconnect transport modes, thus enhancing multimodality;
- they connect long distance and/or international transport with regional and local transport.

Selection criteria for primary nodes

A. Nodes would be classified as primary nodes - either for passenger or for freight traffic, or for both - if they meet one of the following criteria:

1. They are a capital city of an EU Member State. (During the planning process only, the capitals of some third countries (candidate countries, Norway, Switzerland and the Western Balkans states) will be considered, without however including network elements outside the EU into the TEN-T.)

2. They are categorised as a "MEtropolitan Growth Area" (MEGA in the ESPON[20] Atlas 2006. "Weak MEGAs" with less than 0.5 million inhabitants are excluded from the primary nodes.

3. They form a conurbation or a city cluster which exceeds 1 million inhabitants, including their corresponding environs as defined by the corresponding NUTS 3[21] zones (as far as there is a direct functional interrelation).

4. An airport or group of airports, located in a city or conurbation which qualifies as a "primary node", is also classified as "primary node".

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[20] ESPON = European Spatial Planning Observatory Network:
MEGA = Metropolitan European Growth Areas (Cf. ESPON Atlas 2006)

[21] NUTS = Nomenclature des unités territoriales statistiques (EUROSTAT)
NUTS 0 = Member states
NUTS 1 = major socio-economic regions
NUTS 2 = basic regions fort he application of regional policies
NUTS 3 = small regions for specific diagnoses (districts)

5. Unless there are new arrangements; they mark a point where a Major Axis specified in the Commission Communication[22] –"Extension of the major trans-European transport axes to the neighbouring countries" – crosses an external border of the EU.

B. Nodes would be classified as primary nodes for freight traffic if they meet the following criteria:

1. They represent a port with an annual transhipment volume of at least 1 % of the total transhipment volume of all EU seaports, either bulk or non-bulk.

2. In insular Member States or NUTS 1 regions with access to the sea, where no ports are classified according to above 2.3.B.1, as a general rule, only one seaport along each continuous coastline would be classified as primary node. A second port may be classified as primary node if the corresponding hinterland covers landlocked NUTS 1 regions and the cumulative transhipment volume exceeds the 1 % threshold set out in point 2.3.B.1. The size and the hinterland connectivity of the ports would be taken into account when considering two ports along a continuous coastline or in an insular Member State for classification as primary nodes. Ports on islands which are not Member States on their own, in general would not qualify as primary nodes since their hinterland connections, if in the TEN-T at all, typically belong to the Comprehensive Network.

3. Any port classified as a "primary node" must be directly connected with a multi-modal link of the Core Network, i.e. with road and rail (in countries where railways exist) and/or an inland waterway.

4. Inland ports, which mark the crossing point of a core network inland waterway and another Core network link**,** are classified as primary nodes for freight traffic, provided they are located in a "primary" node as defined in 2.2.A.1-3 or in a "secondary" node as defined in 2.2.C.1.

Selection criteria for secondary nodes

C. Nodes would be classified as secondary nodes if they meet one of the following criteria:

1. They represent a city or a conurbation which does not fulfil the criteria set out in point 2.2.A1-3 if their geographical location – at a branching or crossing point of "optimised" links between primary nodes (see point 2.1.2) – qualifies them however as core network nodes. Furthermore, they are equipped with multimodal platforms, according to their importance for passenger and freight transport.

2. As ports, they represent the two main bridgeheads of a ferry link which forms an integral part of a direct link between two primary nodes. One of these primary nodes may be located on an island, or a bay may interrupt the land link (road and/or ail) between the two primary nodes.

3. The Links of the Core Network

[22] "Extension of the major trans-European transport axes to the neighbouring countries" - Guidelines for transport in Europe and neighbouring regions {SEC(2007) 98} {SEC(2007) 99} /* COM/2007/0032"

Given the principle of multimodality of the Core Network, all links should be multimodal. Accordingly, this network planning methodology would be applicable to road, rail and inland waterway links. The land-based Core Network links (road, rail and inland waterways) would be complemented by the "Motorways of the Sea" which aim at offering a sustainable alternative to land transport, in particular to road, at giving due access to insular states and shortcutting connections to peninsulas.

The selection of Core Network links should be guided by the following general principles: Links shall be of highest importance for long-distance traffic, and they should play a strategic role for the overcoming of topographical or political barriers. They should thereby contribute to a more homogenous and balanced accessibility structure throughout the Union.

Selection criteria for links

Core network links should meet the following criteria:

1. The links of the Core Network shall connect each "primary node" with its neighbouring "primary nodes", including the points where a Major Axis specified in the Commission Communication[23] –"Extension of the major trans-European transport axes to the neighbouring countries" – crosses an external border of the EU.

   More distant "primary nodes" will thus be indirectly connected with each other. In certain cases, the chains thus constituted may however entail detours which are "rejected" by long-distance traffic flows. If, in such cases, a more direct link exists between two farer-away nodes which corresponds to the principles of the core network links, it may be included. Whether or not such a direct link will be included should be assessed, in each individual case, according to the relevant traffic flows which depend on the sizes of the "primary nodes" and the real – not crow flow – distances between them.

2. The structure of the Core Network and the selection of "secondary nodes" would allow bundling connections along certain sections, to enhance its efficiency, however taking into account acceptance of detours and capacity constraints. Cities or conurbations located at branching or crossing points would become "secondary nodes".

3. If, between two "primary nodes", no appropriate link does exist, or if there is a link which does not include all three modes, the link would be included in the core network only if the following conditions are fulfilled:

   - the link is justified by its geographical function (e.g. as a "missing link" within a potential trans-European transport corridor),
   - the implementation is feasible within the time horizons of Core Network planning (2030/2050**)**
   - the link is economically viable

[23] "Extension of the major trans-European transport axes to the neighbouring countries" - Guidelines for transport in Europe and neighbouring regions {SEC(2007) 98} {SEC(2007) 99} /* COM/2007/0032"

- the link is environmentally sustainable.

Applying these criteria separately for the individual modes will allow deviating from the principle of multimodality at the level of links. In such cases, links may consist of infrastructure for only one or two modes of transport. There will inevitably be many links that do not feature inland waterways, but there might also be a few that exclude rail or road.

Within the freight part of the Core Network, seaports would be connected only to their corresponding hinterland, according to the relevant traffic flows. However, connections between ports may result from the overall itinerary of a Core Network link. In countries where railways exist, hinterland connections of ports of the Core Network must include road and rail.

Rail links of the core network in particular may include parallel branches[24], for instance as a result of the merging of the passengers and freight parts. Separating traffic flows with major differences in their characteristics, such as high speed passenger and heavy haul freight traffic, would allow better exploitation of rail capacities or avoid excessive gradients for freight and might even reduce overall investment needs.

4. Wherever no more recent agreements have been reached, the Core Network connections to neighbouring and third countries will be the Major Axes specified by the Communication from the Commission, "Extension of the major trans-European transport axes to the neighbouring countries - Guidelines for transport in Europe and neighbouring regions"[25].

5. Main airports, i.e. the airports of Core Network "primary nodes“, should be connected to both road and rail (except in those countries where no railway network is available).

6. "Motorways of the Sea" will be a building block of the maritime dimension of the future TEN-T. While ports and their hinterland connections will merge into the multi-modal corridors (notably for freight), maritime corridors between EU ports will be important infrastructure components, subject to relevant transport policy objectives (such as maritime safety).

Suggested criteria for the routing of the links:

1. The links should be as straight and direct as possible, to follow the relevant long-distance traffic flows, to enhance effectiveness ad efficiency of transport, to support territorial cohesion and to contribute to minimum greenhouse gas and polluting emissions as well as to sustainable land use.

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[24] For instance, as the result of separate consideration of passenger and freight, or based on case-to-case investigations.

[25] Communication from the Commission, "Extension of the major trans-European transport axes to the neighbouring countries - Guidelines for transport in Europe and neighbouring regions" {SEC(2007) 98} {SEC(2007) 99} /* COM/2007/0032

2. Detours would be justified to bypass unavoidable obstacles and ecologically sensitive spaces (such as Natura 2000 sites) and to string additional "tertiary nodes" (smaller cities, airports, freight terminals, etc.), if not too distant from the direct line and if the disadvantages due to additional detours do not exceed the benefits of improved regional or local accessibility.

   However, detours that would not be justified by benefits greater than corresponding disadvantages, e.g. to integrate additional nodes such as smaller cities, airports, industrial clusters, freight terminals, etc. into the Core Network, should be avoided.

   Removal of existing detours should be considered where possible, in particular if the traffic effectiveness of a corridor and/or cohesion is seriously affected by existing detours because of "missing links".

3. The links should follow, as far as possible, already existing infrastructure, under construction or planned. Traffic flows shall be bundled wherever possible, taking into account topographical conditions, environmental impacts, users' needs and potential capacity constraints.

4. Core Network inland waterways, which shall be of Category IV as a minimum, will mainly follow existing rivers and canals, connecting the economically most relevant regions and river basins of Europe with the most important seas around the continent.

4. Merging Passengers' and Freight Network Parts and Technical Parameters

The multimodal network parts for passengers and freight obtained after applying the methodology as described above should be overlaid to form the complete Core Network. In many cases this will lead to nodes and links common for passengers and freight; however there might be some network elements attributed to either passengers or freight.

Roads are generally used for both types of transport, so that no further distinction will be necessary. However for the choice of the appropriate technical parameters, there might be an impact from a high share of trucks, including on traffic safety.

The situation is more complex on rail. High differences in running speeds on the same track would strongly affect its capacity. Furthermore, there are quite different requirements for high speed passenger and heavy haul freight transport, with regards to radii of bends and gradients of slope. It may be taken into consideration using parallel lines for passengers and freight if their existing or planned technical parameters would correspond with such separation. This could in particular be applied in the case of new high-speed implemented parallel to existing conventional lines, where beside freight also regional passenger traffic might be foreseen.

Whereas the strategic importance at European level of a link is clearly determined by its geographical functionality and the volumes of long distance or international traffic flows, the design of the total capacity of the infrastructure should consider overall present and future transport volumes, including regional and local traffic.

4.1. Standards

Technical or geometrical parameters of the individual network elements, such as curve radii, gradients, cross section (number of lanes or tracks, etc.) determine traffic speed and capacity,

but also impacts on landscape, energy consumption, emissions, safety and construction and maintenance costs.

Apart from these geometrical parameters, high attention should be paid to the technical equipment of the network, in order to enhance smooth, efficient ad sustainable operation and integration of users' information. This issue is would be by the bundle of measures subsumed under "supplementary infrastructure".

Basically, the selection of technical standards would need to follow real needs, which mainly depend on traffic demand, including the shares of passengers' and freight transport and the intended transport times or target timetable. That means that rather functional or operational standards should be specified, while the selection of the corresponding technical standards is left to project planning, however taking into account the required level of service, the needs of technical interoperability and homogeneous conditions along a certain corridor.

According to the high strategic importance of the Core Network, technical standards to be applied should be at the level of those for the Comprehensive Network as a minimum, however in addition, all smart infrastructure for traffic management, monitoring and interoperability within and across nodes shall be foreseen, as well as the provisions to enable de-carbonisation and sustainable co-modal transport.

In this context, all relevant legislation, e.g. in particular for rail, the "Technical Specifications for Interoperability" (TSI) have to be taken into account, as well as the fact that within the TEN-T all inland waterways have to correspond to Category IV, at least.